1. The research of applied analysis method on shaped charge detonation parameters

Accession number: 20150300431160
Authors: Chen, Bing (1); Yu, Gang (1); Zhou, Xu Guo (1); Dou, Yi Hua (2); Qu, Zhong Ren (1); Li, Ming Fei (2)
Author affiliation: (1) Western Drilling Logging Company, Karamay; Xinjiang, China; (2) School of Mechanical Engineering, Xi'an Petroleum University, Xi'an; Shaanxi, China
Corresponding author: Chen, Bing
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 678
Volume title: Advances in Mechatronics and Control Engineering III
Part number: 1 of 1
Issue date: 2014
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Language: English
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Conference name: 3rd International Conference on Mechatronics and Control Engineering, ICMCE 2014
Conference date: August 27, 2014 - August 28, 2014
Conference location: Zhuhai, China
Conference code: 108689
Sponsor: Hong Kong Industrial Technology Research Centre; Inha University, Korea; Korea Maritime University, Korea; Queensland University of Technology
Publisher: Trans Tech Publications Ltd
Abstract: For avoid the perforation accident, oil perforating urgent need to calculate accurately shaped charge detonation parameters to guide the design and construction of perforation. According to the charge type and characteristics of shaped charge, based on traditional detonation theory and detonation parameters calculated method, this paper first determining shaped explosive detonation reaction equation, then analysis the shaped charge detonation heat, detonation temperature, detonation tolerance and detonation pressure and detonating velocity, extract the analytical methods of shaped charges detonation parameters suitable for oil at last. The specific practices: determined the reaction equation of shaped charges explosive with a maximum heat release rule; determined detonation heat, detonation temperature and detonation tolerance with law of Hess, internal energy value method and Avogadro law; calculated detonation velocity and pressure by Kamlet law; use engineering calculation method to analyze the detonating velocity as to the non-C-H-N-O composition shaped charges which containing feeling agent, bonding agent, flammable agent, plasticizer and other active agent; by revision Kamlet formula, get detonation pressure calculation formula. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Detonation
Controlled terms: Shaped charges
Uncontrolled terms: Analytical method - Applied analysis - Design and construction - Detonation parameter - Detonation pressure - Detonation velocity - Engineering calculation - Reaction equations
Classification code: 731.1 Control Systems - 901.3 Engineering Research
DOI: 10.4028/www.scientific.net/AMM.678.666
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

2. Compact Octa-band PIFA for LTE/GSM/UMTS/WLAN operation in the mobile

Accession number: 20145200381067
Authors: Jianli, Feng (1, 2); Jie, Ma (3); Xiaomin, Zhang (1)
Author affiliation: (1) College of Marine Engineering, Northwest Ploytechnical University, Xi'an; 710072, China; (2) School of Computer Sinence, Xi'an Shiyou University, Xi'an; 710065, China; (3) National Key Laboratory of Electromechanical Engineering and Control, Xi'an Institute of Electromechanical Information Technology, Xi'an; 710065, China
Corresponding author: Jianli, Feng

Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 296-299
Article number: 6977601
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In this letter, a novel compact octa-band Planar Inverted F-shapeed Antenna (PIFA) with a single feed capable of LTE/ GSM/UMTS/WLAN operation in the mobile phone is presented. Various techniques are used for creating the antenna's multiband/broadband characteristic. A U-shaped slit is etched on the driven patch which forces the current to flow around the slit hence, reducing the resonant frequency and a quarter-wave resonator is connected to the feed strip in parallel with the ground plane to improve the performance at 900MHz resonant mode. Two slots are etched on the ground plane to improve the impedance matching at middle frequencies (GSM1800/1900/ UMTS/LTE2300/2500) and to act as a parasitic radiator at high frequencies (f=5500MHz) respectively. Finally, the proposed antenna which occupies a small-size of 30257 mm3 or 5.25cm3 can cover the GSM900/1800/1900/UMTS/ LTE2300/2500/ HIPERLAN/2/IEEE 802.11a operation. A prototype of PIFA was fabricated and tested. The measured and simulated results are in excellent agreement. Details of the antenna design are described and its far-field radiation performances are studied too. © 2014 IEEE.
Number of references: 13
Main heading: Cellular telephones
Controlled terms: Microstrip antennas - Mobile antennas - Slot antennas - Universal Mobile Telecommunications System - Antenna feeders - Antenna grounds - Natural frequencies
Uncontrolled terms: Far-field radiation - High frequency HF - Inverted-F - Octa-band - Parasitic radiator - Quarter wave resonators - Simulated results - U-shaped slits
Classification code: 716 Telecommunication; Radar, Radio and Television - 718.1 Telephone Systems and Equipment
Numerical data indexing: Frequency 9.00e+08Hz, Volume 3.03e-05m3, Volume 5.25e-06m3
DOI: 10.1109/ISDEA.2014.73
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

3. Genesis of tight sand gas in the Ordos Basin, China

Accession number: 20143318056787
Authors: Zhao, Jingzhou (1, 2); Zhang, Wenzheng (3); Li, Jun (1, 2); Cao, Qing (1, 2); Fan, Yuanfang (1, 2)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an, Shaanxi 710065, China; (2) Shaanxi Provincial Key Laboratory of Petroleum Accumulation Geology, Xi'an, Shaanxi 710065, China; (3) Research Institute of Exploration and Development, Changqing Oilfield Company, PetroChina, Xi'an, Shaanxi 710029, China
Corresponding author: Zhao, J.(jzzhao@xsyu.edu.cn)
Source title: Organic Geochemistry
Abbreviated source title: Org. Geochem.
Volume: 74
Issue date: September 2014
Publication year: 2014
Pages: 76-84
Language: English

ISSN: 01466380
CODEN: ORGEDE
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: Based on molecular and stable carbon isotope composition of a large collection of gas samples and integrated with the geological context, this article discusses the genesis and migrational characteristics of natural gases from the giant tight sand gas fields of the Upper Paleozoic strata, Ordos Basin (UPOB). Our results show that the UPOB gas is mostly derived from coaly source rocks, with a minor contribution of oil-associated gas probably from the interbedded carbonate source rocks. Gas isotope data suggest that the Yulin-Zizhou gas field was likely formed from a single gas charge with no significant alteration, whereas the Sulige field contains a mixture of gases from successive charges with multiple maturity levels. The geographical variation in the observed gas composition is attributed primarily to the effect of source rock maturity, with no explicit geochemical fractionation caused by long distance lateral migration. © 2014 Elsevier Ltd.
Number of references: 49
Main heading: Gases
Controlled terms: Gas industry - Exploratory geochemistry - Natural gas fields - Tight gas - Geochronology - Isotopes - Metamorphic rocks
Uncontrolled terms: Carbonate source rocks - Genesis - Geochemical fractionations - Geographical variations - Ordos Basin - Stable carbon isotope compositions - Tight sand gas - Upper Paleozoic strata
Classification code: 481.1 Geology - 481.2 Geochemistry - 481.3 Geophysics - 512.2 Natural Gas Deposits - 512.2.1 Natural Gas Fields - 522 Gas Fuels
DOI: 10.1016/j.orggeochem.2014.03.006
Funding Details: Number: 2011ZX05007-004, Acronym: -, Sponsor: National Science and Technology Major Project;
Funding text: We are grateful for the support by the Key Project of China National Sciences and Technologies "Formation and Distribution Law of Large Gas Fields in China" (Project No. 2011ZX05007-004) and by Changqing Oilfield Company of PetroChina. We also thank Drs. Li Maowen, Lloyd Snowdon and two anonymous reviewers for their constructive reviews of this manuscript.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

4. Design and fabrication of tapered microfiber waveguide with good optical and mechanical performance

Accession number: 20142117754540
Authors: Ma, Cheng-Ju (1, 2, 3); Ren, Li-Yong (1); Xu, Yi-Ping (1, 2); Wang, Ying-Li (1); Liang, Jian (1); Qu, En-Shi (1)
Author affiliation: (1) State Key Laboratory of Transient Optics and Photonics, Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences, Xi'an, China; (2) University of Chinese Academy of Sciences, Beijing, China; (3) School of Science, Xi'an Shiyou University, Xi'an, China
Corresponding author: Ren, L.-Y.(renliy@opt.ac.cn)
Source title: Journal of Modern Optics
Abbreviated source title: J. Mod. Opt.
Volume: 61
Issue: 8
Issue date: May 4, 2014
Publication year: 2014
Pages: 683-687
Language: English
ISSN: 09500340
E-ISSN: 13623044
CODEN: JMOPEW
Document type: Journal article (JA)
Publisher: Taylor and Francis Ltd.
Abstract: In this paper, the inherent dependence of optical and mechanical characteristics of tapered microfiber waveguide on its contour profile is studied. Both theoretical analysis and experimental investigation are given. In theory, the optimal profile parameters of the tapered microfiber are proposed to improve the microfiber performance, where it is better to make the tapered microfiber keep two longer than 5-mm-long transition regions which have a decaying exponential profile. And the uniform waist diameter of the tapered microfiber should be more than 600 nm and less than 1 μm. In this case, the microfiber indicates several favorable advantages, such as low loss, strong

evanescent field and relatively shorter transition region. In experiment, according to the profile parameters we proposed, we successfully fabricated a tapered microfiber with a low loss of 0.05 dB in air and 0.8 dB on a MgF 2 substrate at the wavelength of 1550 nm, and it has low surface roughness. © 2014 Taylor & Francis.
Number of references: 29
Main heading: Waveguides
Controlled terms: Fluorine compounds - Surface roughness - Evanescent fields - Fabrication - Magnesium compounds
Uncontrolled terms: contour profile - Experimental investigations - Low surface roughness - Mechanical characteristics - Mechanical performance - Micro-fiber - Profile parameters - Transition regions
Classification code: 701 Electricity and Magnetism - 714.3 Waveguides - 931.2 Physical Properties of Gases, Liquids and Solids
Numerical data indexing: Decibel 5.00e-02dB, Decibel 8.00e-01dB, Size 1.00e-06m, Size 1.55e-06m, Size 6.00e-07m
DOI: 10.1080/09500340.2014.909541
Funding Details: Number: 51207159,61240028,61275149, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Funding text: This work was supported in part by the National Natural Science Foundation of China under [grant number 61275149], [grant number 51207159] and [grant number 61240028], and the Advanced Programs of Technological Activities for Overseas Scholars.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

5. A new technological study on synthesis of bis(2-Chloroethoxy)methane

Accession number: 20150300428483
Authors: Bai, Yan (1); Tang, Xuan (2); Zhou, Kui (1); Zhang, Cun She (1)
Author affiliation: (1) Shaanxi Research Design Institute of Petroleum and Chemical Industry, Shaanxi Key Laboratory of Petroleum Fine Chemicals, XiYan Road No. 61, Xi'an; Shaanxi, China; (2) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an; Shaanxi, China
Corresponding author: Bai, Yan
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 1033-1034
Volume title: Advances in Chemical Engineering and Advanced Materials IV
Part number: 1 of 1
Issue date: 2014
Publication year: 2014
Pages: 7-11
Language: English
ISSN: 10226680
E-ISSN: 16628985
ISBN-13: 9783038352693
Document type: Conference article (CA)
Conference name: 4th International Conference on Chemical Engineering and Advanced Materials, CEAM 2014
Conference date: June 24, 2014 - June 27, 2014
Conference location: Shenzhen, China
Conference code: 108719
Sponsor: Far East University; Hong Kong Industrial Technology Research Centre; Inha University; Korea Maritime University; University of New Brunswick
Publisher: Trans Tech Publications Ltd
Abstract: bis(2-chloroethoxy)methane was synthesized by the reaction of ethylene chlorohydrin and Oligopolyformaldehyde under sulfuric acid catalysis. optimum reaction conditions obtained were as follows: the molar ratio of Oligopolyformaldehyde and ethylene chlorohydrin of 1.2:2, catalyst dosage was 5‰mass fraction of ethylene chlorohydrin, toluene were chose as water-carrying agent, All reactant were refluxed on temperature of 110C until no water generated. Under the optimum conditions the yield of bis(2-chloroethoxy)methane was 97.7%. The structure of bis(2-chloroethoxy)methane were conformed by ATR IR. The purity of bis(2-chloroethoxy)methane were 99% by gas chromatographic detection. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Ethylene

Controlled terms: Gas chromatography - Methane - Environmental technology
Uncontrolled terms: Acid catalysis - Mass fraction - Molar ratio - Oligopolyformaldehyde - Optimum conditions - Optimum reaction conditions
Classification code: 454 Environmental Engineering - 802.3 Chemical Operations - 804.1 Organic Compounds
Numerical data indexing: Percentage 9.77e+01%, Percentage 9.90e+01%
DOI: 10.4028/www.scientific.net/AMR.1033-1034.7
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

6. Reservoir diagenetic facies and porosity evolution pathways of Chang 8 formation in Huachi, Ordos basin

Accession number: 20142117744139
Authors: Zhang, Chuang (1); Sun, Wei (2); Gao, Hui (3); Xi, Tiande (1); He, Qingyang (1)
Author affiliation: (1) Research Institute of Shanxi Yanchang Petroleum (Group) Corp. Ltd., Xi'an 710075, China; (2) State Key Laboratory of Continental Dynamics, Department of Geology, Northwest University, Xi'an 710069, China; (3) College of Petroleum Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Zhang, C.(zhangchuang530@126.com)
Source title: Diqiu Kexue - Zhongguo Dizhi Daxue Xuebao/Earth Science - Journal of China University of Geosciences
Abbreviated source title: Diqiu Kexue Zhongguo Dizhi Daxue Xuebao
Volume: 39
Issue: 4
Issue date: April 2014
Publication year: 2014
Pages: 411-420
Language: Chinese
ISSN: 10002383
CODEN: DIKEEL
Document type: Journal article (JA)
Publisher: China University of Geosciences
Abstract: In order to analyze the genetic relationship between diagenesis and reservoir porosity evolution process and the formation process of physical property difference in different diagenetic facies, diagenesis types and facies of Chang 8 formation are studied in Huachi, Ordos basin. Furthermore, porosity evolutions of different diagenesis facies are simulated quantitatively, and their pathways are analyzed. According to the diagenesis characteristics, the reservoirs can be divided into four diagenesis facies, namely, grain-coating chlorite cementation, corrosion of unstable components, intense compaction with packing and dense carbonate cementation. COPL (compactional porosity loss) of them are 17.6%, 20.5%, 25.8% and 11.4% respectively; CEPL (cementational porosity loss) by early quartz overgrowth, grain-coating chlorite, and carbonate are 4.5%, 4.9%, 5.6% and 24.9% respectively; CRPI (corrosional porosity increase) are 1.4%, 2.3%, 0.2% and 0 respectively; CEPL by late pore-filling chlorite, kaolinite, illite, ferrocalcite and ferrodolomite are 7.8%, 9.7%, 3.2% and 0 respectively. The porosity evolution pathways of different diagenesis facies show that the differences of OP (original porosity) caused by the sediment components and structures are tiny, but the diagenesis types and grades are controlled by sedimentary processes to a great extent. It is concluded that the reservoirs with diagenesis facies have different diagenetic changes and porosity evolution pathways, which results in differences of components, structures and physical properties.
Number of references: 26
Main heading: Kaolinite
Controlled terms: Porosity - Sedimentology - Cementing (shafts) - Corrosion - Coatings - Compaction
Uncontrolled terms: Carbonate cementation - Diagenesis - Genetic relationships - Ordos Basin - Physical property differences - Porosity evolutions - Reservoir porosity - Sedimentary process
Classification code: 481.1 Geology - 482.2 Minerals - 813.2 Coating Materials - 931.2 Physical Properties of Gases, Liquids and Solids
Numerical data indexing: Percentage 1.14e+01%, Percentage 1.40e+00%, Percentage 1.76e+01%, Percentage 2.00e-01%, Percentage 2.05e+01%, Percentage 2.30e+00%, Percentage 2.49e+01%, Percentage 2.58e+01%, Percentage 3.20e+00%, Percentage 4.50e+00%, Percentage 4.90e+00%, Percentage 5.60e+00%, Percentage 7.80e+00%, Percentage 9.70e+00%
DOI: 10.3799/dqkx.2014.039
Compendex references: YES

Database: Compendex
Data Provider: Engineering Village

7. A coordination polymer consisting of two different one-dimensional copper(II) chains

Accession number: 20143318053347
Authors: Wu, Yang (1); Wang, Wen-Zhen (1); Ismayilov, Rayyat Huseyn (2); Lee, Gene-Hsiang (3); Peng, Shie-Ming (4)
Author affiliation: (1) School of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) Institute of Chemical Problems, Azerbaijan Academy of Sciences, Baku, Azerbaijan; (3) Instrumentation Centre, National Taiwan University, Taipei 106, Taiwan; (4) Department of Chemistry, National Taiwan University, Taipei 106, Taiwan
Corresponding author: Wang, W.-Z.(wzwang@xsyu.edu.cn)
Source title: Acta Crystallographica Section C: Structural Chemistry
Abbreviated source title: Acta Crystallogr., C Struct. Chem.
Volume: 70
Issue: 3
Issue date: March 2014
Publication year: 2014
Pages: 285-288
Language: English
E-ISSN: 20532296
CODEN: ACSCEE
Document type: Journal article (JA)
Publisher: International Union of Crystallography, 5 Abbey Road, Chester, CH1 2HU, United Kingdom
Abstract: The title compound, catena-poly[[[diaqua(methanol-#O)copper(II)]- μ-N-(4-methylpyrimidin-2-yl-#N1)pyrazin-2-amine- $\kappa 2$ N1:N4] [[aqua(aqua/methanol-#O) (perchlorato-#O)copper(II)]-μ-N-(4-methylpyrimidin-2-yl-#N 1)pyrazin-2-amine-$\kappa 2$ N1:N4] tris(perchlorate) methanol monosolvate 1.419-hydrate], {[Cu(C9H 9N5)(CH3OH)(H2O)2] [Cu(C9H9N5)(ClO4)(CH 3OH)0.581 (H2O)1.419](ClO 4)3 CH3OH 1.419H2O}n, is a one-dimensional straight-chain polymer of N-(4-methylpyrimidin-2-yl)pyrazin-2- amine (L) with Cu(ClO4)2. The complex consists of two crystallographically independent one-dimensional chains in which the Cu II atoms exhibit two different octahedral coordination geometries. The L ligand coordinates to two CuII centres in a tridentate manner, with the pyrazine ring acting as a bridge linking the CuII coordination units and building an infinite one-dimensional chain. Extensive hydrogen bonding among perchlorate anions, water molecules and L ligands results in three-dimensional networks. © 2014 International Union of Crystallography.
Number of references: 21
Main heading: Crystal structure
Controlled terms: Copper compounds - Hydrogen bonds - Complex networks - Inorganic compounds - Ligands - Methanol - Molecules - Chains
Uncontrolled terms: Coordination Polymers - Coordination unit - Copper complexes - Ligand coordinates - Octahedral coordination geometry - One-dimensional chains - Perchlorate anions - Three-dimensional networks
Classification code: 602.1 Mechanical Drives - 722 Computer Systems and Equipment - 801.4 Physical Chemistry - 804.1 Organic Compounds - 804.2 Inorganic Compounds - 931.3 Atomic and Molecular Physics - 933.1.1 Crystal Lattice
DOI: 10.1107/S2053229614002472
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

8. Research and application progress of Ti alloy oil country tubular goods

Accession number: 20142917960697
Authors: Lü, Xianghong (1); Shu, Ying (2); Zhao, Guoxian (1); Xie, Junfeng (3); Xue, Yan (4)
Author affiliation: (1) School of Material Science and Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) Western Titanium Technologies Co., Ltd, Xi'an 710201, China; (3) Petroleum Engineering Institute, Petrochina Tarim Oilfield Company, Kuerle 841000, China; (4) Xi'an Maurer Petroleum Engineering Laboratory, Co., Ltd, Xi'an 710065, China
Corresponding author: Lü, X.(lxhong71@sina.com.cn)
Source title: Xiyou Jinshu Cailiao Yu Gongcheng/Rare Metal Materials and Engineering

Abbreviated source title: Xiyou Jinshu Cailiao Yu Gongcheng
Volume: 43
Issue: 6
Issue date: June 2014
Publication year: 2014
Pages: 1518-1524
Language: Chinese
ISSN: 1002185X
CODEN: XJCGEA
Document type: Journal article (JA)
Publisher: Science Press
Abstract: The research and application progress of Ti alloy oil country tubular goods (OCTGs) at home and abroad were reviewed, and the chemical composition, microstructure and mechanical properties of Ti alloy OCTGs were also referred. The resistance to uniform corrosion, local corrosion, erosion, corrosion fatigue and stress corrosion cracking (SCC) of Ti alloy OCTGs in the environments of the completion fluid, the acidizing fluid and the production conditions were discussed. Moreover, the gap in the research and development of the Ti alloy OCTGs between China and foreign countries was pointed out, and the application prospect and the development trend of Ti alloy OCTGs in the well of high pressure and high temperature (HPHT) oil and gas field were also forecasted.
Number of references: 22
Main heading: Corrosion resistance
Controlled terms: Gas industry - Titanium alloys - Corrosion resistant alloys - Localized corrosion - Stress corrosion cracking - High temperature corrosion - Corrosion fatigue
Uncontrolled terms: Application prospect - Chemical compositions - Development trends - High pressure and high temperature - Microstructure and mechanical properties - Oil country tubular goods - Research and application - Research and development
Classification code: 522 Gas Fuels - 531 Metallurgy and Metallography - 539.1 Metals Corrosion - 542.3 Titanium and Alloys
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

9. Interpretation of fault system in the Tana Sag, Kenya, using edge recognition techniques and Euler deconvolution

Accession number: 20143518103677
Authors: Chen, Qing (1); Dong, Yunpeng (1); Cheng, Shunyou (1); Han, Li (2); Xu, Hai-hong (3); Chen, Hao (1)
Author affiliation: (1) State Key Laboratory of Continental Dynamics, Department of Geology, Northwest University, Xi'an 710069, China; (2) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an 710065, China; (3) Xi'an Center of Geological Survey, China Geological Survey, Xi'an 710054, China
Corresponding author: Chen, Q.(chenqing.geo@gmail.com)
Source title: Journal of Applied Geophysics
Abbreviated source title: J. Appl. Geophys.
Volume: 109
Issue date: October 2014
Publication year: 2014
Pages: 150-161
Language: English
ISSN: 09269851
Document type: Journal article (JA)
Publisher: Elsevier B.V., Netherlands
Abstract: The recognition of fault structures in g1) ^ReloadFigure=Yesravity anomaly data is the most important step in the interpretation of geological and geophysical data. Edge detection and edge enhancement are commonly used for researching the edge locations of geological bodies. The edge recognition techniques applied in this paper are the tilt angle (TA) and its horizontal derivative (TA-THDR), as well as the normalized vertical derivative of the total horizontal derivative (NVDR-THDR), in which higher order derivative was involved. The results of TA and its total horizontal derivative provide detailed information to reflect the deeper sources boundaries more accurately and effectively. The information outside the geological body edges obtained from the NVDR-THDR results is eliminated by using a threshold value greater than 0, which improves the horizontal resolution to detect the fault structures with smaller scale or deeper depth. However, tilt angle and its horizontal derivative are found to be sensitive to noise, as the higher

order derivative is. The noise effect is reduced by using upward continuation during the processing of the measure gravity data.To better recognize the fault system, we have compared the results obtained from the derivative mode of Euler deconvolution technique with those from TA and its total horizontal derivative and NVDR-THDR. Application to the Tana Sag demonstrates that the results correspond well with those inferred from previous work. The faults within Tana Sag can be divided into large-scale NW (NWW) trending and small-scale NE (NEE) trending, with the latter generally cutting off the former. And we also have found that the comparative analysis of edge recognition techniques and the ED method can extract richer information on source body edges and identify more horizontal fault locations than previous methods. These three techniques have agreed closely in detecting the edge boundaries of the deeper sources with clear precision. © 2014 Elsevier B.V.
Number of references: 45
Main heading: Edge detection
Controlled terms: Fault detection - Gravitation - Faulting
Uncontrolled terms: Edge recognition - Euler deconvolution - Fault structure - Gravity anomalies - Tana Sag
Classification code: 484.1 Earthquake Measurements and Analysis - 931.5 Gravitation, Relativity and String Theory
DOI: 10.1016/j.jappgeo.2014.07.020
Funding Details: Number: 10DZSY017, Acronym: -, Sponsor: -; Number: -, Acronym: DAAD London, Sponsor: German Academic Exchange Service London; Number: 41190074,41225008, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: -, Acronym: NWU, Sponsor: Northwest University; Number: -, Acronym: OEAD, Sponsor: OeAD-GmbH; Number: -, Acronym: -, Sponsor: State Key Laboratory of Continental Tectonics and Dynamics;
Funding text: We are grateful to Professor Yuan Bing-qiang, who provided us with the gravity data. Financial support was jointly provided by the National Natural Science Foundation of China (Grants 41190074 and 41225008), the Eurasia-Pacific Uninet , the Austrian Academic Exchange Service (OeAD) , and the Graduate Scientific Research Fund (Grants 10DZSY017) from the State Key Laboratory of Continental Dynamics, Northwest University .
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

10. Interpretation of fault system in the Tana Sag, Kenya, using edge recognition techniques and Euler deconvolution

Accession number: 20143900069045
Authors: Chen, Qing (1); Dong, Yunpeng (1); Cheng, Shunyou (1); Han, Li (2); Xu, Hai-hong (3); Chen, Hao (1)
Author affiliation: (1) State Key Laboratory of Continental Dynamics, Department of Geology, Northwest University, Xi'an; 710069, China; (2) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an; 710065, China; (3) Xi'an Center of Geological Survey, China Geological Survey, Xi'an; 710054, China
Corresponding author: Chen, Qing
Source title: Journal of Applied Geophysics
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Volume: 109
Issue date: August 06, 2014
Publication year: 2014
Pages: 150-161
Language: English
ISSN: 09269851
Document type: Journal article (JA)
Publisher: Elsevier B.V., Netherlands
Abstract: The recognition of fault structures in gravity anomaly data is the most important step in the interpretation of geological and geophysical data. Edge detection and edge enhancement are commonly used for researching the edge locations of geological bodies. The edge recognition techniques applied in this paper are the tilt angle (TA) and its horizontal derivative (TA-THDR), as well as the normalized vertical derivative of the total horizontal derivative (NVDR-THDR), in which higher order derivative was involved. The results of TA and its total horizontal derivative provide detailed information to reflect the deeper sources boundaries more accurately and effectively. The information outside the geological body edges obtained from the NVDR-THDR results is eliminated by using a threshold value greater than 0, which improves the horizontal resolution to detect the fault structures with smaller scale or deeper depth. However, tilt angle and its horizontal derivative are found to be sensitive to noise, as the higher order derivative is. The noise effect is reduced by using upward continuation during the processing of the measure gravity data.To better recognize the fault system, we have compared the results obtained from the derivative mode of Euler deconvolution technique with those from TA and its total horizontal derivative and NVDR-THDR. Application to the Tana Sag demonstrates

that the results correspond well with those inferred from previous work. The faults within Tana Sag can be divided into large-scale NW (NWW) trending and small-scale NE (NEE) trending, with the latter generally cutting off the former. And we also have found that the comparative analysis of edge recognition techniques and the ED method can extract richer information on source body edges and identify more horizontal fault locations than previous methods. These three techniques have agreed closely in detecting the edge boundaries of the deeper sources with clear precision. © 2014 Elsevier B.V.
Number of references: 45
Main heading: Edge detection
Controlled terms: Gravitation - Faulting - Fault detection
Uncontrolled terms: Edge recognition - Euler deconvolution - Fault structure - Gravity anomalies - Tana Sag
Classification code: 484.1 Earthquake Measurements and Analysis - 931.5 Gravitation, Relativity and String Theory
DOI: 10.1016/j.jappgeo.2014.07.020
Funding Details: Number: 10DZSY017, Acronym: -, Sponsor: -; Number: -, Acronym: DAAD London, Sponsor: German Academic Exchange Service London; Number: 41190074,41225008, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: -, Acronym: NWU, Sponsor: Northwest University; Number: -, Acronym: OEAD, Sponsor: OeAD-GmbH; Number: -, Acronym: -, Sponsor: State Key Laboratory of Continental Tectonics and Dynamics;
Funding text: We are grateful to Professor Yuan Bing-qiang, who provided us with the gravity data. Financial support was jointly provided by the National Natural Science Foundation of China (Grants 41190074 and 41225008), the Eurasia-Pacific Uninet , the Austrian Academic Exchange Service (OeAD) , and the Graduate Scientific Research Fund (Grants 10DZSY017) from the State Key Laboratory of Continental Dynamics, Northwest University .
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

11. Numerical simulation and comparison on the inner-flow field in hydraulic feedback pump

Accession number: 20140317210756
Authors: Xiao, Shu Qin (1); Zhu, Duan Yin (2); Liu, Shuang Quan (3)
Author affiliation: (1) Oil and Gas Technology Institute, Changqing Oil Field Company, Xi'an 710018, China; (2) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an, Shaanxi province, 710065, China; (3) National Engineering Laboratory for Exploration, Development of Low-Permeability Oil and Gas Fields, Xi'an 710018, China
Corresponding author: Zhu, D. Y.(zhudy@xsyu.edu.cn)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 483
Issue title: Mechanical Engineering, Materials and Energy III
Issue date: 2014
Publication year: 2014
Pages: 219-222
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859834
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Mechanical Engineering, Materials and Energy, ICMEME 2013
Conference date: November 9, 2013 - November 10, 2013
Conference location: Changsha, China
Conference code: 101960
Sponsor: BOSI EDU; Trans Tech Publications inc.
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: Existing hydraulic feedback pump from the structure type can be divided into three kinds, big on the small,small on the big,big up and down. This paper focuses on the inner-flow field of three structural pumps about oil import and export of analyzing and comparing the velocity field and pressure field, chooses more suitable for hollow sucker rod oil production of hydraulic feedback pump. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Numerical models

Controlled terms: Velocity - Flow fields - Pumps
Uncontrolled terms: Fluent - Hollow sucker rods - Hydraulic feedback - Inner-flow field - Optimal design - Pressure field - Structure type - Velocity field
Classification code: 618.2 Pumps - 631.1 Fluid Flow, General - 921 Mathematics
DOI: 10.4028/www.scientific.net/AMM.483.219
Database: Compendex
Data Provider: Engineering Village

12. Analysis of factors of affecting pump efficiency in low permeability oil field

Accession number: 20141717624693
Authors: Yang, Xu Dong (1); Zhu, Duan Yin (2); Wei, Ya Ming (3)
Author affiliation: (1) Oil and Gas Technology Institute, Changqing Oil Field Company, Xi'an 710018, China; (2) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an, Shaanxi province, 710065, China; (3) National Engineering Laboratory for Exploration, Development of Low-Permeability Oil and Gas Fields, Xi'an 710018, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 543-547
Issue title: Vehicle, Mechatronics and Information Technologies II
Issue date: 2014
Publication year: 2014
Pages: 420-424
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038350606
Document type: Conference article (CA)
Conference name: International Conference on Vehicle and Mechanical Engineering and Information Technology, VMEIT 2014
Conference date: February 19, 2014 - February 20, 2014
Conference location: Beijing, China
Conference code: 104672
Sponsor: INTIEA Information and Engineering; Scientific.Net; Trans Tech publications inc.; National Institute of Technology Rourkela; Universitatea Politehnica Din Bucuresti; et al
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: Aiming at the characteristics of the production in low permeability oil field, the pump efficiency mathematic model is built. Then the factors of affecting the pump efficiency are analyzed, which include the liquid production, diameter of pump, pump depth, immerse depth of pump, stroke and stroke per time, gas oil ratio, inclined angle of pump and discontinuous production efficiency. Through the theoretical calculation, the main factors of affecting the pump efficiency is determined, which are the liquid production, diameter of pump, stroke per minute, pump depth, inclined angle and discontinuous production efficiency. According to the calculation results, it can supply the theoretical foundation for the oil production. © (2014) Trans Tech Publications, Switzerland.
Number of references: 6
Main heading: Pumps
Controlled terms: Oil well flooding - Production efficiency
Uncontrolled terms: Calculation results - Low permeability - Low permeability oil - Mathematic model - Production efficiency - Pump efficiency - Theoretical calculations - Theoretical foundations
Classification code: 511.1 Oil Field Production Operations - 618.2 Pumps - 913 Production Planning and Control; Manufacturing - 913.4 Manufacturing
DOI: 10.4028/www.scientific.net/AMM.543-547.420
Database: Compendex
Data Provider: Engineering Village

13. Landslide fuzzy reliability evaluation based on improved response surface method and optimization research

Accession number: 20142617873760
Authors: Wang, Yu (1, 2); Li, Xiao (1); Xu, Rong-Zhong (3); Wu, Yan-Fang (1)

Author affiliation: (1) Key Laboratory of Engineering Geomechanics, Institute of Geology and Geophysics, Chinese Academy of Science, Beijing 100029, China; (2) Graduate University of Chinese Academy of Sciences, Beijing 100049, China; (3) Xi'an Shiyou University, School of Earth Sciences and Engineering, Xi'an 710065, China
Corresponding author: Wang, Y.(good541571889@126.com)
Source title: Shuili Xuebao/Journal of Hydraulic Engineering
Abbreviated source title: Shuili Xuebao
Volume: 45
Issue: 5
Issue date: May 2014
Publication year: 2014
Pages: 595-606
Language: Chinese
ISSN: 05599350
CODEN: SLHPBI
Document type: Journal article (JA)
Publisher: International Research and Training Center on Erosion and Sedimentation and China Water and Power Press
Abstract: This paper aims at proposing an improved response surface model (IRSM), combining with the fuzzy random theory to calculate the reliability index of the landslides. First of all, considering the fuzzy randomness character of the soil mechanics parameters, the nonlinear degree is much higher, the normal fuzzy membership function is used to dispose the soil sample, and put them as constraint functions of optimization model. Then, to transfer the explicit function into second order approximation function using IRSM, the constraint function of cohesion and angle of internal friction are transferred to linear function. Based on the quadratic programming method, the rational motion limit calculation method is used to find a reasonable, effective and stable optimization strategy, so as to obtain the performance function, then using JC method to calculate the reliability index of landslides. ISRM through the center point during iteration, the optimization process can be exactly converged to the local optimal point, the optimal space is becoming narrower each time in establishing approximate explicit function expansion point or structure point, which avoiding the drawbacks of iteration vibration and slow convergence, improving the optimization speed and ensuring the effectiveness and accuracy of the results. The precision of ISRM is ensured, the reliability index is calculated considering the fuzzy uncertainty of rock-soil parameters. The research results can provide a basis for extending the application of the IRSM to the reliability evolution of landslides.
Number of references: 18
Main heading: Landslides
Controlled terms: Membership functions - Soil mechanics - Soils - Iterative methods - Rational functions - Reliability theory - Quadratic programming - Site selection - Surface properties
Uncontrolled terms: Angle of internal friction - Quadratic programming method - Rational move limit - Reliability Index - Response surface method - Response surface modeling - Second-order approximation - Target functions
Classification code: 483.1 Soils and Soil Mechanics - 921 Mathematics - 921.6 Numerical Methods - 922.2 Mathematical Statistics - 931.2 Physical Properties of Gases, Liquids and Solids - 951 Materials Science
DOI: 10.13243/j.cnki.slxb.2014.05.011
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

14. Oil reservoir forming mechanisms and main controlling factors of tight oil of Chang-9 member in Ansai area, Ordos Basin

Accession number: 20144800253912
Authors: Bai, Yubin (1); Zhao, Zilong (1); Zhao, Jingzhou (1); Liu, Peng (2); Li, Shuyao (1)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Petroleum University, Xi'an; 710065, China; (2) Technology Center of CNPC Logging, Xi'an ; 710018, China
Corresponding author: Bai, Yubin
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Abbreviated source title: Zhongnan Daxue Xuebao (Ziran Kexue Ban)
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Pages: 3127-3136
Language: Chinese
ISSN: 16727207
CODEN: ZDXZAC
Document type: Journal article (JA)
Publisher: Central South University of Technology
Abstract: The Chang-9 member tight oil of Yanchang Formation of Triassic in Ordos Basin in Ansai area was discovered in recent years, and initial studies suggested that it does not possess the forming conditions to form a large area of distribution of the quasi-continuous tight sandstone reservoir. Taking the Chang-9 reservoir as an example of Ansai area in mid-eastern Shanbei slope, the non quasi-continuous tight sandstone reservoir forming mechanism and main controlling factors were discussed. The results show that Chang-9 reservoir source rock quality is good, and it has big area distribution but thinner thickness, widespread distribution reservoir and hydrocarbon source rocks interbedded touch but very compact, the integrated accumulation conditions are good-medium. In the early Cretaceous (120-100 Ma), the Chang-9 dark mudstone reaches the stage of maturity, and then a large scale of oil and gas generated and injected into the Chang-9 tight sandstone reservoir, finally migrates to nearby reservoir at a short distance and forms an unconventional oil & gas accumulation. The distribution of the Chang-9 oil reservoir is mainly controlled by its source rock, reservoir and the background of nose-shaped uplift. A distribution range of the effective hydrocarbon source rock controls the reservoir distribution, reservoir spreading and the heterogeneity control the enrichment area of oil and gas and the oil bearing intervals, and the background of nose-shaped uplift plays an important role in the control of the oil & gas accumulation and production.
Number of references: 25
Main heading: Sandstone
Controlled terms: Tight gas - Hydrocarbons - Metamorphic rocks - Petroleum reservoir engineering - Petroleum reservoirs - Gases - Oil bearing formations
Uncontrolled terms: Accumulation mechanisms - Ansai area - Chang-9 member - Main controlling factors - Ordos Basin - Tight oil
Classification code: 482.2 Minerals - 512.1.1 Oil Fields - 512.1.2 Petroleum Deposits : Development Operations - 512.2 Natural Gas Deposits - 522 Gas Fuels - 804.1 Organic Compounds
Numerical data indexing: Age 1.20e+08yr to 1.00e+08yr
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

15. A genesis analysis of the regional gravity and magnetic anomalies in the northern part of eastern xinjiang, Northwest china

Accession number: 20142817932507
Authors: Zhang, C. (1, 2); Dong, Y. (1); Yuan, B. (2); Li, Y. (3)
Author affiliation: (1) State Key Laboratory of Continental Dynamics, Department of Geology, Northwest University, Xian, Shaanxi, China; (2) School of Earth Science and Engineering, Xi'an Shiyou, Petroleum University, Xi'an Dianzi 2 Road, Xi'an 710065, China; (3) Xian Center of Geological Survey, China Geological Survey, Xian, Shaanxi, China
Corresponding author: Zhang, C.(chunguan-zhang@163.com)
Source title: Petroleum Science and Technology
Abbreviated source title: Petrol Sci Technol
Volume: 32
Issue: 17
Issue date: September 2, 2014
Publication year: 2014
Pages: 2075-2085
Language: English
ISSN: 10916466
E-ISSN: 15322459
CODEN: PSTEFV
Document type: Journal article (JA)
Publisher: Bellwether Publishing, Ltd.
Abstract: The authors discuss the genesis of the regional gravity and magnetic anomalies in the northern part of Eastern Xinjiang, a correlation analysis was carried out between the regional gravity anomaly and the regional magnetic anomaly. Through data processing and integrated interpretation of the gravity and magnetic data in the study area, the Bouguer gravity anomaly and the magnetic anomaly by reduction to the pole were separated. Then, the

regional gravity and magnetic anomalies across multiple scales were extracted; in addition, the correlation coefficients between the regional gravity anomaly and the regional magnetic anomaly at different scales were calculated. Finally, the features of the gravity and magnetic fields, their geological significance, and the origins of these regional gravity and magnetic anomalies were analyzed. The results showed that the regional negative gravity anomaly in the Turpan-Hami basin and the Santanghu basin was mainly caused by Cenozoic and Mesozoic strata; the regional positive magnetic anomaly was mainly caused by the Precambrian metamorphic basement. The study revealed that the regional positive gravity and magnetic anomalies resulted from the crust and the mantle substances in the eastern part of the Junggar basin. While the regional positive gravity anomaly was mainly caused by Pre-Mesozoic strata, and the regional negative magnetic anomaly by the sedimentary formation and intermediate acid rocks in the Bogeda-Harlike folded zone and the Jueluotage anticlinorium. The regional negative gravity and magnetic anomalies in the active zone of the northern margin of Tarim were mainly caused by the sedimentary formation and intermediate acid rocks. © Taylor & Francis Group, LLC.
Number of references: 11
Main heading: Sedimentary rocks
Controlled terms: Magnetism - Sedimentology - Buildings - Data handling - Correlation methods - Metamorphic rocks
Uncontrolled terms: Correlation analysis - Genesis analysis - Geologic interpretation - Gravity and magnetic anomalies - Metamorphic basements - Xinjiang
Classification code: 402 Buildings and Towers - 481.1 Geology - 482.2 Minerals - 701.2 Magnetism: Basic Concepts and Phenomena - 723.2 Data Processing and Image Processing - 922.2 Mathematical Statistics
DOI: 10.1080/10916466.2013.767274
Funding Details: Number: 1212011085499, Acronym: -, Sponsor: -; Number: -, Acronym: CGS, Sponsor: China Geological Survey;
Funding text: The work was supported by a Geology and Mineral Resources grant (No. 1212011085499) from China Geological Survey.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

16. Novel thermo thickening smart gel with interpenetrating polymer and surfactant network

Accession number: 20142917954230
Authors: Yang, Jiang (1, 2); Zhou, Yi Ning (2); Lu, Yong Jun (1); Cui, Wei Xiang (1); Qiu, Xiao Hui (1); Guan, Bao Shan (1); Ding, Yun Hong (1)
Author affiliation: (1) Research Institute of Petroleum Exploration and Development-Langfang, PetroChina, Hebei, China; (2) Department of Petroleum Engineering, Xi'an Petroleum University, Xi'an, Shaanxi, China
Corresponding author: Yang, J.(jyang98@126.com)
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 983
Issue title: Advanced Materials and Engineering
Issue date: 2014
Publication year: 2014
Pages: 7-10
Language: English
ISSN: 10226680
E-ISSN: 16628985
ISBN-13: 9783038351573
Document type: Conference article (CA)
Conference name: Annual International Conference on Intelligent Materials and Nanomaterials, AIMN 2014
Conference date: April 18, 2014 - April 19, 2014
Conference location: Seoul, Korea, Republic of
Conference code: 106261
Sponsor: International Association for Materials Research
Publisher: Trans Tech Publications Ltd
Abstract: A novel smart gel based on interpenetrating network of anionic polymer and surfactant was investigated. A supramolecular assembly structured gel is formed by associating polymer side chain with wormlike micelle of surfactant. The physical interaction of val der vaal and hydrogen bonding force between surfactant and polymer gives a strong viscoelastic gel at evaluated temperature. The viscoelastic properties and gel structure were characterized by dynamic rheometer and cryo-TEM. The polymer and VES complex gel is highly elastic, which elastic moduli G

′ is higher than loss moduli G″ at low angular frequency, 0. 1 rad/s, in high temperature. The total concentration of surfactant and polymer is low which is economically to use in industries. © (2014) Trans Tech Publications, Switzerland.
Number of references: 14
Main heading: Surface active agents
Controlled terms: Hydrogen bonds - Supramolecular chemistry - Viscoelasticity - Micelles
Uncontrolled terms: Angular frequencies - Associating polymers - Dynamic rheometers - Interpenetrating polymers - Physical interactions - Supramolecular assemblies - Viscoelastic properties - Worm-like micelles
Classification code: 801.3 Colloid Chemistry - 801.4 Physical Chemistry - 803 Chemical Agents and Basic Industrial Chemicals - 931.2 Physical Properties of Gases, Liquids and Solids
Numerical data indexing: Angular_Velocity 1.00e+00rad/s
DOI: 10.4028/www.scientific.net/AMR.983.7
Funding Details: Number: 51174163, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Database: Compendex
Data Provider: Engineering Village

17. Transfer and conversion of images based on EIT in atom vapor

Accession number: 20141917699675
Authors: Cao, Mingtao (1); Zhang, Liyun (1); Yu, Ya (1); Ye, Fengjuan (1); Wei, Dong (1); Guo, Wenge (2); Zhang, Shougang (3); Gao, Hong (1); Li, Fuli (1)
Author affiliation: (1) Department of Applied Physics, Xi'an Jiaotong University, Xi'an 710049, China; (2) MOE Key Laboratory for Electricity Gas and Oil Logging, Xi'an Shiyou University, Xi'an 710065, China; (3) CAS Key Laboratory Time and Frequency Primary Standard, National Time Service Center, Xi'an 710600, China
Corresponding author: Wei, D.(weidong@mail.xjtu.edu.cn)
Source title: Optics Letters
Abbreviated source title: Opt. Lett.
Volume: 39
Issue: 9
Issue date: May 1, 2014
Publication year: 2014
Pages: 2723-2726
Language: English
ISSN: 01469592
E-ISSN: 15394794
CODEN: OPLEDP
Document type: Journal article (JA)
Publisher: Optical Society of America (OSA)
Abstract: Transfer and conversion of images between different wavelengths or polarization has significant applications in optical communication and quantum information processing. We demonstrated the transfer of images based on electromagnetically induced transparency (EIT) in a rubidium vapor cell. In experiments, a 2D image generated by a spatial light modulator is used as a coupling field, and a plane wave served as a signal field. We found that the image carried by coupling field could be transferred to that carried by signal field, and the spatial patterns of transferred image are much better than that of the initial image. It also could be much smaller than that determined by the diffraction limit of the optical system. We also studied the subdiffraction propagation for the transferred image. Our results may have applications in quantum interference lithography and coherent Raman spectroscopy. © 2014 Optical Society of America.
Number of references: 19
Main heading: Optical communication
Controlled terms: Diffraction - Optical systems - Quantum optics - Light modulators
Uncontrolled terms: Diffraction limits - Electromagnetically-induced transparency - Quantum interference - Quantum-information processing - Rubidium vapor cell - Spatial light modulators - Spatial patterns - Sub-diffraction
Classification code: 717.1 Optical Communication Systems - 741.1 Light/Optics - 741.3 Optical Devices and Systems - 931.4 Quantum Theory; Quantum Mechanics
DOI: 10.1364/OL.39.002723
Funding Details:
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

18. High resolution seismic sequence and seismic sedimentary facies in Lishu fault depression of southern Songliao Basin

Accession number: 20143017975565
Authors: Gong, Xue (1, 2); Shen, Wuxian (2); Pang, Haiming (3)
Author affiliation: (1) State Key Laboratory of Continental Dynamics, Department of Geology, Northwest University, Xi'an 710069, China; (2) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an 710065, China; (3) Exploration and Development Research Institute, Northeast Oil and Gas Branch, SINOPEC, Changchun 130062, China
Corresponding author: Gong, X.(yuluoo@sohu.com)
Source title: Zhongnan Daxue Xuebao (Ziran Kexue Ban)/Journal of Central South University (Science and Technology)
Abbreviated source title: Zhongnan Daxue Xuebao (Ziran Kexue Ban)
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Issue date: May 2014
Publication year: 2014
Pages: 1566-1573
Language: Chinese
ISSN: 16727207
CODEN: ZDXZAC
Document type: Journal article (JA)
Publisher: Central South University of Technology
Abstract: Based on the termination relationship between seismic reflection, the top surface of bedrock, the strata erosional unconformity surface, the strata overlying unconformity surface and the strata parallel unconformity surface on the seismic profiles of the study area were identified. The rift formations were divided into five seismic sequence units (SQ1-SQ5), and the Lishu rift high precision seismic sequence stratigraphic framework was established. According to the external geometry, internal reflection structure, amplitude, continuity, frequency, waveform, velocity and other parameters, nine seismic facies types were identified in the study area including weak amplitude-medium continuous- sub-parallel type, medium amplitude-well continuous-parallel type, medium amplitude- medium continuous-messy state type, medium amplitude-well continuous-ultra filling type, strong amplitude-poor continuous-messy state type, imbricated forward accretion type, wedge type, erosional watercourse type and hummocky type. Combined with three-dimensional seismic attributes (root mean square amplitude and average energy) the regional seismic sedimentary facies distribution were analysed with high accuracy and reasonableness. The results show that in each sequence system of seismic sedimentary facies, the northern and southeastern sources are stable and sustain significant inheritance during each period, and the spatial distribution range own shifting periodic features.
Number of references: 10
Main heading: Seismology
Controlled terms: Erosion - Sedimentology - Stratigraphy - Seismic waves
Uncontrolled terms: High resolution seismic - Internal reflections - Lishu fault depression - Sedimentary facies - Seismic attributes - Seismic profiles - Seismic reflections - Seismic sequence
Classification code: 481.1 Geology - 484 Seismology - 484.1 Earthquake Measurements and Analysis
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

19. Demonstration of CNOT gate with Laguerre Gaussian beams via four-wave mixing in atom vapor (*Open Access*)

Accession number: 20143618134301
Authors: Cao, Mingtao (1); Yu, Ya (1); Zhang, Liyun (1); Ye, Fengjuan (1); Wang, Yunlong (1); Wei, Dong (1); Zhang, Pei (1); Guo, Wenge (2); Zhang, Shougang (3); Gao, Hong (1); Li, Fuli (1)
Author affiliation: (1) Department of Applied Physics, School of Science, Xi'an Jiaotong University, Xi'an 710049, China; (2) MOE Key Laboratory for Electricity Gas and Oil Logging, Xi'an Shiyou University, Xi'an 710065, China; (3) CAS Key Lab Time and Frequency Primary Standard, National Time Service Center, Xi'an 710600, China
Corresponding author: Wei, D.(weidong@mail.xjtu.edu.cn)
Source title: Optics Express

Abbreviated source title: Opt. Express
Volume: 22
Issue: 17
Issue date: August 25, 2014
Publication year: 2014
Pages: 20177-20184
Language: English
E-ISSN: 10944087
Document type: Journal article (JA)
Publisher: Optical Society of America (OSA)
Abstract: We present an experimental study of controlled-NOT (CNOT) gate through four-wave mixing (FWM) process in a Rubidium vapor cell. A degenerate FWM process in a two level atomic system is directly excited by a single diode laser, where backward pump beam and probe beam are Laguerre Gaussian mode. By means of photons carrying orbital angular momentum, we demonstrate the ability to realize CNOT gate with topological charges transformation in this nonlinear process. The fidelity of CNOT gate for a superposition state with different topological charge reaches about 97% in our experiment. © 2014 Optical Society of America.
Number of references: 26
Main heading: Four wave mixing
Controlled terms: Mathematical transformations - Pumping (laser) - Topology - Logic gates
Uncontrolled terms: Four-wave-mixing process - Laguerre Gaussian beams - Laguerre-Gaussian modes - Orbital angular momentum - Rubidium vapor cell - Superposition state - Topological charges - Two-level atomic systems
Classification code: 721.2 Logic Elements - 744.1 Lasers, General - 921.3 Mathematical Transformations - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory
Numerical data indexing: Percentage 9.70e+01%
DOI: 10.1364/OE.22.020177
Funding Details: Number: 11074198,11204235,11374238,61127901,91336101, Acronym: -, Sponsor: -;
Compendex references: YES
Open Access type(s): All Open Access, Bronze
Database: Compendex
Data Provider: Engineering Village

20. Generation of Airy beams by four-wave mixing in Rubidium vapor cell

Accession number: 20143218024183
Authors: Wei, Dong (1); Yu, Ya (1); Cao, Mingtao (1); Zhang, Liyun (1); Ye, Fengjuan (1); Guo, Wenge (2); Zhang, Shougang (3); Gao, Hong (1); Li, Fuli (1)
Author affiliation: (1) Department of Applied Physics, School of Science, Xi'an Jiaotong University, Xi'an 710049, China; (2) MOE Key Laboratory for Electricity Gas and Oil Logging, Xi'an Shiyou University, Xi'an 710065, China; (3) CAS Key Laboratory Time and Frequency Primary Standard, National Time Service Center, Xi'an 710600, China
Corresponding author: Wei, D.(weidong@mail.xjtu.edu.cn)
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Publication year: 2014
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Language: English
ISSN: 01469592
E-ISSN: 15394794
CODEN: OPLEDP
Document type: Journal article (JA)
Publisher: Optical Society of America (OSA)
Abstract: We report on an experimental generation of Airy beams by four-wave mixing (FWM) in atomic vapor cells. This is achieved by using a non-degenerate FWM process, which occurs with two Gaussian pump beams and one Airy signal beam in hot Rubidium vapor. After satisfying the phase matching condition, a FWM field with the profile of an Airy beam can be generated. In our experiment, the diffraction-free and self-healing behaviors of the generated FWM beam are examined. The results shown that the generated FWM beam is an Airy beam. The nonlinear generation process can be extended to other configurations in the atomic medium, which will be useful for manipulation and application of Airy beams in atomic systems. © 2014 Optical Society of America.

Number of references: 27
Main heading: Phase matching
Controlled terms: Rubidium - Gaussian beams - Four wave mixing - Atoms
Uncontrolled terms: Atomic medium - Atomic system - Atomic vapor cell - Nonlinear generation - Phase matching conditions - Rubidium vapor - Rubidium vapor cell - Self-healing
Classification code: 549.1 Alkali Metals - 711 Electromagnetic Waves - 713 Electronic Circuits - 931.3 Atomic and Molecular Physics
DOI: 10.1364/OL.39.004557
Funding Details: Number: 11204235,11374238,61127901,91336101, Acronym: -, Sponsor: -;
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

21. The advances and problems in the study of the characteristics and formation of hydrocarbon-rich sag

Accession number: 20140817349636
Authors: Liu, Chiyang (1); Zhao, Junfeng (1); Ma, Yanping (2); Wang, Jianqiang (1); Xiong, Linfang (1); Chen, Jianjun (2); Mao, Guangzhou (3); Zhang, Dongdong (1); Deng, Yu (1)
Author affiliation: (1) State Key Laboratory of Continental Dynamics, Northwest University, Xi'an 710069, China; (2) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an 710065, China; (3) Shandong Provincial Key Laboratory of Depositional Mineralization and Sedimentary Minerals, Shandong University of Science and Technology, Qingdao 266590, China
Corresponding author: Liu, C.(lcy@nwu.edu.cn)
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Document type: Journal article (JA)
Publisher: Science Frontiers editorial department
Abstract: According to present hydrocarbon exploration situation and survey at home and abroad, it is showed that the heterogeneity of hydrocarbon distribution not only occurred among different basins, but also appeared just in the same basin. Oil and gas mainly originated from a few petroliferous sags within the same basin, which is called hydrocarbon-rich sag. As to continental basins, the existence and the characteristics of hydrocarbon-rich sag control the quantity and size of petroleum resource in the basin, meanwhile significantly control and influence the formation and relatively concentrated distribution of large-medium scale oil and gas fields(reservoirs). The theory that hydrocarbon-rich sag controls the formation and distribution of oil and gas extends and deepens the previous theory that sedimentary basin and hydrocarbon source rocks control petroleum resources, which combined the integrity of macroscopic evaluation and prediction in the "Basin Control Theory" and the source relevance of localized evaluation in the "Source Control Theory". The theory of hydrocarbon-rich sag emphasizes that the identification and selection of hydrocarbon-rich sag in basins are the important and core content of petroleum exploration, evaluation and prediction. For hydrocarbon-rich sag, whether purposes of the frontiers of science exploration, basic theory research, oil and gas exploration or resource evaluation, it is all required to know the major geological conditions, dynamic environment and main controlling factors. This paper summarizes current research advances of hydrocarbon-rich sag in aspects as follows: (1) high production of organic matter in water body, (2) preservation and burial of abundant depositing organic matter, (3) characteristics of high quality source rocks, and (4) geological processes and effects on the formation of hydrocarbon-rich sag and high quality source rocks, including relationships between deposition and filling, geothermal field and thermal evolution, salinization of lakes, global/regional climate change and sea-level fluctuations, geological event and tectonic change, regional tectonic setting, etc. The current studies of the formation and main controlling factors of the hydrocarbon-rich sag, have many weak links and controversial problems, which are mainly as follows: (1) in the aspect of research content and their importance, there are too many studies highlighting the characteristics and development of high quality source rocks, too few studies emphasizing the formation and characteristics of the hydrocarbon-rich sag itself; (2) about the approaches and forms of researches, too many works on "proceeding from the one to the other", too few works on the mechanism "from surface to inner essence" or "from

results to causes"; (3) as to research area and types, too many works focus on eastern China, especially based on hydrocarbon-rich sag in offshore faulted-type basins, too few works mentioned hydrocarbon-rich sags in continental depression-type basins; (4) the studies about microbial contribution to high quality source rocks should be enhanced; (5) inorganic processes need to be emphasized; (6) the research on deep geologic processes and effects is weak; (7) the research results are influenced distinctly by appearance features of studied object and limitation of local conditions. Hydrocarbon-rich sag typically represents the partial enrichment of hydrocarbon resources distribution. Compared to marine basin, the forming of continental hydrocarbon-rich sag and high quality source rocks inside are more likely to be influenced by local geological environment and controlled by peculiar deep geological process. However, some main controlling factors or conditions that are necessary and sufficient are still unknown. Researching these especial phenomena demand not only a breakthrough in traditional thinking and pattern but also innovation in exploration for virtual achievement.
Number of references: 133
Main heading: Hydrocarbons
Controlled terms: Gases - Oil fields - Biogeochemistry - Gas industry - Climate change - Geothermal fields - Sedimentary rocks - Tectonics - Sedimentology - Forecasting - Natural gas fields - Biological materials - Petroleum prospecting - Sea level - Quality control
Uncontrolled terms: Dynamic environments - Evaluation and predictions - Formation condition - High-quality source rocks - Hydrocarbon source rocks - Main controlling factors - Partial enrichment of minerals distribution - Petroliferous basins
Classification code: 443.1 Atmospheric Properties - 461.2 Biological Materials and Tissue Engineering - 471.1 Oceanography, General - 481.1 Geology - 481.2 Geochemistry - 481.3.1 Geothermal Phenomena - 482.2 Minerals - 512.1.1 Oil Fields - 512.1.2 Petroleum Deposits : Development Operations - 512.2.1 Natural Gas Fields - 522 Gas Fuels - 615.1 Geothermal Energy - 801.2 Biochemistry - 804.1 Organic Compounds - 913.3 Quality Assurance and Control
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

22. An adaptive wavelet transformation used on interference hyperspectral image compression

Accession number: 20144500160817
Authors: Wen, Jia (1, 2); Ma, Caiwen (2); Zhao, Junsuo (1); Wang, Cailing (3)
Author affiliation: (1) Science and Technology on Integrated Information System Laboratory, Institute of Software, Chinese Academy of Sciences, Beijing; 100190, China; (2) Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences, Xi'an; 710119, China; (3) School of Computer Science, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Wen, Jia
Source title: Harbin Gongye Daxue Xuebao/Journal of Harbin Institute of Technology
Abbreviated source title: Harbin Gongye Daxue Xuebao
Volume: 46
Issue: 7
Issue date: July 30, 2014
Publication year: 2014
Pages: 112-117
Language: Chinese
ISSN: 03676234
CODEN: HPKYAY
Document type: Journal article (JA)
Publisher: Harbin Institute of Technology
Abstract: To get better performance of interference hyperspectral image compression, according to the imaging principle ofinterference hyperspectral image, we propose an adaptive direction prediction wavelet transform forLWT (Lifting Wavelet Transformation), to get the best predicted values through adaptive direction in the LWT on the frame direction, and change the order of the traditional wavelet transform. The experiment results prove that the proposed method can get higher SNR at the same bpppb compared with the traditional method, and can get smaller MSE in the recovered spectral curve.
Number of references: 12
Main heading: Wavelet transforms
Controlled terms: Spectroscopy - Image compression - Hyperspectral imaging

Uncontrolled terms: Adaptive wavelets - Imaging principle - LASIS - Lifting wavelet - Spectral curves - Spectrum compression
Classification code: 746 Imaging Techniques - 921.3 Mathematical Transformations
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

23. A Mach-Zehnder interferometric humidity sensor based on waist-enlarged tapers

Accession number: 20133616696965
Authors: Shao, Min (1, 3); Qiao, Xueguang (2); Fu, Haiwei (3); Li, Huidong (3); Zhao, Jianlin (1); Li, Yan (3)
Author affiliation: (1) Shaanxi Key Laboratory of Optical Information Technology, School of Science, Northwestern Polytechnical University, Xi'an 710072, China; (2) Physics Department, Northwest University, Xi'an 710069, China; (3) Ministry of Education Key Laboratory on Photoelectric Oil-Gas Logging and Detecting, School of Science, Xi'An Shiyou University, Xi'an 710065, China
Corresponding author: Shao, M.(shaomin@xsyu.edu.cn)
Source title: Optics and Lasers in Engineering
Abbreviated source title: Opt Lasers Eng
Volume: 52
Issue: 1
Issue date: 2014
Publication year: 2014
Pages: 86-90
Language: English
ISSN: 01438166
CODEN: OLENDN
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: A novel humidity sensor based on an in-fiber Mach-Zehnder interferometer (MZI) is proposed and demonstrated. The sensor head is formed by a single-mode-multimode-single-mode (SM-MM-SM) fiber structure through arc fusion splicing. The intermodal interference is achieved by two waist-enlarged fiber tapers at the coupling points of the multimode fiber and single-mode fibers. The sensor has a linear response to humidity with enhanced sensitivity of -0.119 dB/%RH in the range of 35-90%RH. Additionally, the sensor exhibited excellent temperature immunity in the temperature test. Such easily fabricated, cost-effective and temperature-immune fiber interferometer could be used for high sensitivity humidity sensing applications. © 2013 Elsevier Ltd.
Number of references: 22
Main heading: Multimode fibers
Controlled terms: Cost effectiveness - Interferometers - Humidity sensors - Single mode fibers
Uncontrolled terms: Enhanced sensitivity - Fiber interferometers - Fiber structures - Fiber taper - Humidity sensing - Intermodal interferences - Mach-Zehnder - Temperature test
Classification code: 443.2 Meteorological Instrumentation - 741.1.2 Fiber Optics - 911.2 Industrial Economics - 941.3 Optical Instruments
DOI: 10.1016/j.optlaseng.2013.07.023
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

24. A magnetic and conductive study on a stable defective extended cobalt atom chain

Accession number: 20141417542808
Authors: Wang, Wen-Zhen (1); Wu, Yang (1); Ismayilov, Rayyat H. (2); Kuo, Juao-Hui (3); Yeh, Chen-Yu (4); Lee, Hsuan-Wei (4); Fu, Ming-Dung (3); Chen, Chun-Hsien (3); Lee, Gene-Hsiang (3); Peng, Shie-Ming (3)
Author affiliation: (1) School of Chemistry and Chemical Engineering, Xi'An Shiyou University, 18 Dian-zi-er Road, Xi'an Shaanxi, China; (2) Institute of Chemical Problems, Azerbaijan Academy of Sciences, Baku-1143, Azerbaijan; (3) Department of Chemistry, National Taiwan University, Taipei, Taiwan; (4) Department of Chemistry, National Chung Hsing University, Taichung, Taiwan
Corresponding author: Wang, W.-Z.(wzwang@xsyu.edu.cn)
Source title: Dalton Transactions
Abbreviated source title: Dalton Trans.

Volume: 43
Issue: 16
Issue date: April 28, 2014
Publication year: 2014
Pages: 6229-6235
Language: English
ISSN: 14779226
E-ISSN: 14779234
CODEN: DTARAF
Document type: Journal article (JA)
Publisher: Royal Society of Chemistry
Abstract: Two pentacobalt(ii) EMACs were synthesized. A pyrazine-modulated tripyridyldiamine resulted in an EMAC with fully delocalized Co-Co bonds along molecules. From a pyrazine- and naphthyridine-containing ligand, a defective cobalt linear EMAC with an 8-coordinated cobalt(ii) in the center was obtained for the first time. An electrochemistry study on the defective pentacobalt chain compound showed redox peaks at E1/2 = -1.00, +0.76, and +0.98 V (versus EAg/AgCl), indicating that it is quite stable and very resistant to both oxidation and reduction. Research on magnetism revealed that the fully delocalized Co EMAC is a spin mixture, and the defective cobalt EMAC showed a high-spin mononuclear cobalt(ii) behaviour with a magnetic moment of 2.63μB per molecule at room temperature. Measurement on molecular electric conductance by STM bj showed a single-molecular resistance of 15.4 (±3.1) M# for defective and 12.3 (±2.6) M# for delocalized pentacobalt complexes. This journal is © the Partner Organisations 2014.
Number of references: 40
Main heading: Molecules
Controlled terms: Binary alloys - Magnetic moments - Chains - Cobalt alloys - Oxidation resistance - Cobalt compounds
Uncontrolled terms: Chain compounds - Cobalt atoms - High spins - Molecular electric conductance - Naphthyridine - Oxidation and reduction - Pyrazines - Redox peaks
Classification code: 539.1 Metals Corrosion - 549.3 Nonferrous Metals and Alloys excluding Alkali and Alkaline Earth Metals - 602.1 Mechanical Drives - 701.2 Magnetism: Basic Concepts and Phenomena - 802.2 Chemical Reactions - 931.3 Atomic and Molecular Physics
DOI: 10.1039/c3dt53080a
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

25. Distribution prediction for tight marlstone reservoirs in lower 3rd Member of the Shahejie Formation in central and southern Shulu sag, Bohai Bay Basin

Accession number: 20143900069282
Authors: Cao, Jianhua (1); Wang, Sicheng (2); Lai, Shenghua (3); Xiong, Congcong (1)
Author affiliation: (1) Tianjin University of Science and Technology, Tianjin ; 300222, China; (2) Huabei Oilfield Company, PetroChina, Renqiu; Hebei ; 062552, China; (3) Xi'an Petroleum University, Xi'an; Shaanxi ; 710065, China
Corresponding author: Cao, Jianhua
Source title: Oil and Gas Geology
Abbreviated source title: Oil Gas Geol.
Volume: 35
Issue: 4
Issue date: August 1, 2014
Publication year: 2014
Pages: 480-485
Language: Chinese
ISSN: 02539985
Document type: Journal article (JA)
Publisher: Use me
Abstract: This paper focuses on the tight marlstone reservoir in lower 3rd Member of the Shahejie Formation in central and southern Shulu sag, Bohai Bay Basin. The reservoir is of great economic potential, and has the same characteristics as tight oil reservoir, such as reservoir-source coexisting, continuous distribution, oil-bearing but unclear boundary. Owing to its tight physical property and complex sedimentary environment, it is challenging to precisely predict distribution of the marlstone reservoir. In this paper, we presented a comprehensive geophysical workflow for prediction of tight marlstone reservoir. Firstly, the geological and geophysical features of the reservoir are studied.

Secondly, multiple wells correlation and well-to-seismic calibration are carried out. Thereafter seismic-based sequential stratigraphy frameworks are established, and depositional units are identified. Then qualitative interpretation for the target reservoir is carried out by using techniques including geophysical modeling, basic seismic attributes analysis and post-stack impedance inversion. Finally, spatial and temporal reservoir distribution is analyzed with the integration of strata slicing technique, seismic attributes analysis and sequential boundary constraints. The results show that the lower 3rd Member of Shahejie Formation can be considered as a complete third-order sequence, and the distribution range of the target reservoir becomes wider as the depositional stages changes from low system tract, to transgressive system tract and finally to high system tract. The reservoir is thickest in central sag, while it is relatively pure and the most extensive in late stage of transgressive system tract. The inner slope has well-developed faults with NEE strike, and interbedded conglomerate and marlstone, thus is a favorable area for further exploration.
Number of references: 19
Main heading: Deposition
Controlled terms: Oil bearing formations - Petroleum reservoir engineering - Stratigraphy - Forecasting - Petroleum reservoirs - Seismology
Uncontrolled terms: Bohai Bay Basin - Marlstone - Reservoir distribution - Shulu sag - Tight oil
Classification code: 481.1 Geology - 484.1 Earthquake Measurements and Analysis - 512.1.1 Oil Fields - 512.1.2 Petroleum Deposits : Development Operations - 802.3 Chemical Operations
DOI: 10.11743/ogg201406
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

26. Revisit on the distributions of electric field and electric displacement in a three-layer beam-like piezoelectric harvester

Accession number: 20150500464903
Authors: Cui, Zhi-Jian (1); Wang, Yu-Xi (2); Hu, Hong-Ping (2); Hu, Yuan-Tai (2)
Author affiliation: (1) School of Oil and Natural Gas Engineering, Xi'An Petroleum University, Xi'an; 710065, China; (2) Department of Mechanics, Huazhong University of Science and Technology, Wuhan; 430074, China
Corresponding author: Wang, Yu-Xi(wangyuxi@mail.hust.edu.cn)
Source title: Proceedings of the 2014 Symposium on Piezoelectricity, Acoustic Waves and Device Applications, SPAWDA 2014
Abbreviated source title: Proc. Symp. Piezoelectricity, Acoust. Waves Dev. Appl., SPAWDA
Part number: 1of1
Issue date: December 24, 2014
Publication year: 2014
Pages: 102-105
Article number: 6998536
Language: English
ISBN-13: 9781479964253
Document type: Conference article (CA)
Conference name: 2014 Symposium on Piezoelectricity, Acoustic Waves and Device Applications, SPAWDA 2014
Conference date: October 30, 2014 - November 2, 2014
Conference location: Beijing, China
Conference code: 109853
Sponsor: IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society (UFFC-S); The Acoustic Society of China (ASC); The Chinese Society of Theoretical and Applied Mechanics (CSTAM)
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In this paper, the distributions of electric field and electric displacement in a three-layer beam-like piezoelectric harvester are revisited from the accurate piezoelectricity theory. The electric displacement D3 is obtained from the Gauss theorem in electrostatics and found to be uniformly distributed along the thickness direction. The electric field is observed linearly dependent on x3. The efficiency is calculated finally and found to be always less than one, which eliminates a paradox that may appear for piezoelectric harvesters with large electromechanical coupling coefficients when calculated from the assumption of uniform electric field. © 2014 IEEE.
Number of references: 8
Main heading: Piezoelectricity
Controlled terms: Piezoelectric devices - Crystallography - Electromechanical coupling - Energy harvesting
Uncontrolled terms: Electric displacement - Electromechanical coupling coefficients - Gauss theorem - Output power density - Piezoelectric bimorphs - Piezoelectric harvester - Thickness direction - Uniform electric fields

Classification code: 525.5 Energy Conversion Issues - 701.1 Electricity: Basic Concepts and Phenomena - 933.1 Crystalline Solids
DOI: 10.1109/SPAWDA.2014.6998536
Funding Details: Number: 11272127, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

27. Origin mechanism of tightness of chang 6 sandstone reservoir in Zhiluo oilfield, Ordos Basin (*Open Access*)

Accession number: 20151700775471
Authors: Zhang, Rongjun (1); Zhang, Qian (1); Geng, Qian (2); Wei, Hu (3)
Author affiliation: (1) State Key Laboratory of Continental Dynamics, Northwest University, Xi'an, China; (2) College of Petroleum Engineering, Xi'an Petroleum University, Xi'an, China; (3) Research Institute of Shaanxi YanChang Petroleum (Group) CO., Xi'an, China
Source title: 2014 International Conference on Mechatronics, Electronic, Industrial and Control Engineering, MEIC 2014
Abbreviated source title: Int. Conf. Mechatronics, Electron., Ind. Control Eng., MEIC
Part number: 1of1
Issue date: 2014
Publication year: 2014
Pages: 878-882
Language: English
ISBN-13: 9789462520424
Document type: Conference article (CA)
Conference name: 2014 International Conference on Mechatronics, Electronic, Industrial and Control Engineering, MEIC 2014
Conference date: November 15, 2014 - November 17, 2014
Conference location: Shenyang, China
Conference code: 111681
Publisher: Atlantis Press
Abstract: By the use of basic geological data, properties, cash thin section, SEM, particle size, high mercury injection and other core analysis experiments are completed to make a detail study on the Chang 6 group characteristics of Zhiluo oil field in diagenesis perspective. The results reveals that sandstone's petrography types are mainly gary or dark gray fine grain arkosic, the pore of which mainly consists of primary remanent intergranular pore and secondary induced pore. The mainly types of pore structure are subtle throat-coarser skewness and subtle throat-finer skewness. The type of reservoir is extra-low porosity and ultra-low permeability lithologic reservoir. Porosity have bad correlation with permeability. The density of lithologic reservoir is controlled by both deposition and diagenesis, and the later is the internal cause of the improvement of reservoir's property. Compaction and cementation reduces primary porosity 19.2% and 13.61%, respectively. Secondary induced pore due to dissolution increases porosity about 3.64% and make the property of reservoir better. The study provides a reliable basis for similar reservoir further exploration and development. © 2014. The authors - Published by Atlantis Press.
Number of references: 14
Main heading: Porosity
Controlled terms: Particle size analysis - Sandstone - Higher order statistics - Particle size - Sedimentology - Petroleum reservoir engineering - Petrography
Uncontrolled terms: Diagenesis - Exploration and development - Intergranular pores - Lithologic reservoirs - Mercury injection - Property - Sandstone reservoirs - Ultra low permeability
Classification code: 481.1 Geology - 481.1.2 Petrology (Before 1993, use code 482) - 482.2 Minerals - 512.1.2 Petroleum Deposits : Development Operations - 922.2 Mathematical Statistics - 931.2 Physical Properties of Gases, Liquids and Solids - 951 Materials Science
Numerical data indexing: Percentage 1.36e+01%, Percentage 1.92e+01%, Percentage 3.64e+00%
DOI: 10.2991/meic-14.2014.194
Compendex references: YES
Open Access type(s): All Open Access, Gold
Database: Compendex
Data Provider: Engineering Village

28. Characteristics and geological significance of fluid inclusions in Mesozoic reservoirs in Dingbian area, Ordos Basin

Accession number: 20150100402958
Authors: Shi, Baohong (1); Zhang, Yan (2, 3); Chen, Jie (2, 3); Zhang, Lei (2, 3)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an ; Shaanxi ; 710065, China; (2) National Engineering Laboratory for Exploration and Development of Low-Permeability Oil & Gas Fields, PetroChina Changqing Oilfield Company, Xi'an ; Shaanxi ; 710018, China; (3) Research Institute of Exploration and Development, PetroChina Changqing Oilfield Company, Xi'an ; Shaanxi ; 710021, China
Corresponding author: Shi, Baohong
Source title: Shiyou Xuebao/Acta Petrolei Sinica
Abbreviated source title: Shiyou Xuebao
Volume: 35
Issue: 6
Issue date: November 1, 2014
Publication year: 2014
Pages: 1087-1094
Language: Chinese
ISSN: 02532697
CODEN: SYHPD9
Document type: Journal article (JA)
Publisher: Science Press
Abstract: The Mesozoic Yan'an and Yanchang formations provide new fields for oil exploration in Dingbian area, Ordos Basin. This paper systematically analyzed the characteristics of inclusions in Mesozoic reservoirs in Dingbian area using the measurements of Fourier transform infrared spectroscopy, fluorescence spectroscopy, and homogenization temperature, further to determine the phases and periods of hydrocarbon migration and accumulation in the target reservoirs. Results show that mainly liquid hydrocarbon and gas-bearing liquid hydrocarbon are accumulated in hydrocarbon-bearing inclusions in the Mesozoic reservoirs. According to their lithological features, the hydrocarbon inclusions can be divided into two phases, respectively corresponding to the peak intervals of homogenization temperature at 60-70 and 90-100 in the Yan'an Formation, and 80-90 and 100-120 in the Yanchang Formation. These characteristics are indicative of two major phases of oil migration and accumulation in the study area. Consistently, fluorescence spectroscopy and Fourier transform infrared spectroscopy data indicate that the Mesozoic reservoirs have undergone two phases of hydrocarbon filling with different maturity. Crude oil accumulated in the early phase features a lower maturity with yellow-green and green fluorescence, corresponding to the fluorescence spectrum of 495 nm, while the oil charged in the late phase has a higher maturity with blue-green and blue-white fluorescence, corresponding to the fluorescence spectrum of 470 nm. Combined with the analysis of burial and thermo-evolutionary history of Yan'an and Yanchang formations, the two periods of crude oil filling in Mesozoic reservoirs in Dingbian area were determined, i.e., the Late Jurassic - early stage of Early Cretaceous and the mid-late stage of Early Cretaceous, respectively.
Number of references: 21
Main heading: Hydrocarbons
Controlled terms: Crude oil - Fluid inclusion - Fluorescence - Fluorescence spectroscopy - Petroleum reservoir engineering - Lithology - Fourier transform infrared spectroscopy - Oil bearing formations - Metamorphic rocks
Uncontrolled terms: Charge phase - Dingbian area - Fluid inclusion - Homogenization temperatures - Ordos Basin
Classification code: 481.1 Geology - 512.1 Petroleum Deposits - 512.1.1 Oil Fields - 512.1.2 Petroleum Deposits : Development Operations - 631 Fluid Flow - 741.1 Light/Optics - 741.3 Optical Devices and Systems - 801 Chemistry - 804.1 Organic Compounds - 941.3 Optical Instruments - 941.4 Optical Variables Measurements
Numerical data indexing: Size 4.70e-07m, Size 4.95e-07m
DOI: 10.7623/syxb201406006
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

29. Improved process for pilot-scale synthesis of danshensu ((±)-DSS) and its enantiomer derivatives

Accession number: 20145200368429

Authors: Bai, Yajun (1); Zhang, Qunzheng (2); Jia, Pu (1); Yang, Lingjian (1); Sun, Yuhong (1); Nan, Yefei (2); Wang, Shixiang (1); Meng, Xue (1); Wu, Yizhen (1); Qin, Fanggang (1); Sun, Zhe (1); Gao, Xiaokang (1); Liu, Pei (1); Luo, Kai (4); Zhang, Yajun (1); Zhao, Xinfeng (1); Xiao, Chaoni (1); Liao, Sha (1); Liu, Jianli (1); Wang, Cuiling (1); Fang, Jiacheng (1); Wang, Xiaoxiao (1); Wang, Jing (5); Gao, Rong (1); An, Xuexia (1); Zhang, Xunli (3); Zheng, Xiaohui (1)
Author affiliation: (1) Key Laboratory of Resource Biology and Biotechnology in Western China, College of Life Sciences, Northwest University, Xian; 710069, China; (2) College of Chemistry and Chemical Engineering, Xian Shiyou University, Xian; 710065, China; (3) Faculty of Engineering and the Environment, University of Southampton, Southampton; SO17 1BJ, United Kingdom; (4) Key Laboratory of Synthetic and Natural Functional Molecule Chemistry, Ministry of Education, Northwest University, Xian; 710069, China; (5) Shaanxi Institute of Zoology, Xian; 710032, China
Corresponding author: Zhang, Xunli
Source title: Organic Process Research and Development
Abbreviated source title: Org. Process Res. Dev.
Volume: 18
Issue: 12
Issue date: December 19, 2014
Publication year: 2014
Pages: 1667-1673
Language: English
ISSN: 10836160
E-ISSN: 1520586X
CODEN: OPRDFK
Document type: Journal article (JA)
Publisher: American Chemical Society
Abstract: A pilot-scale process has been developed for green and scalable synthesis of (±)-β-(3,4-dihydroxyphenyl) lactic acid ((±)-DSS) and their two important derivatives, namely, (±)-IDHP [(±)-isopropyl 2-hydroxy-3-(3,4-dihydroxyphenyl)propanoate] and (±)-DBZ [(±)-bornyl 2-hydroxy-3-(3,4-dihydroxyphenyl)propanoate]. Subsequent hydrogenation has been carried out by employing Raney Ni as catalyst. The improved process results in higher yields of 47.5% for (±)-DBZ and 49.2% for (±)-IDHP compared to the initial process with a yield of 12% for (±)-DBZ and 18% for (±)-IDHP in our original medicinal chemistry route. Furthermore, kilograms of optical DBZ [(-)-S-DBZ and (+)-R-DBZ, >99% ee] and IDHP [(-)-S-IDHP and (+)-R-IDHP, >99% ee] have been produced by chiral high-performance liquid chromatography in good yield (>84%). © 2013 American Chemical Society.
Number of references: 47
Main heading: Lactic acid
Controlled terms: High performance liquid chromatography - Stereochemistry
Uncontrolled terms: Chiral high-performance liquid chromatographies - Higher yield - Improved process - Initial process - Medicinal chemistry - Pilot scale - Propanoate - Scalable synthesis
Classification code: 801 Chemistry - 804.1 Organic Compounds
Numerical data indexing: Percentage 1.20e+01%, Percentage 1.80e+01%, Percentage 4.75e+01%, Percentage 4.92e+01%
DOI: 10.1021/op4002593
Funding Details:
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

30. Exploring host-guest interactions of sulfobutylether-β-cyclodextrin and phenolic acids by chemiluminescence and site-directed molecular docking

Accession number: 20201908624846
Authors: Xiong, Xunyu (1, 2); Zhao, Xinfeng (3); Song, Zhenghua (1)
Author affiliation: (1) Key Laboratory of Synthetic and Natural Functional Molecule Chemistry of Ministry of Education, College of Chemistry and Materials Science, Northwest University, Xi'an 710069, China; (2) College of Chemistry and Chemical Engineering, Xi'An Shiyou University, Xi'an 710065, China; (3) Key Laboratory of Resource Biology and Biotechnology in Western China, Ministry of Education, Northwest University, Xi'an 710069, China
Corresponding author: Song, Z.(songzhenghua@hotmail.com)
Source title: Analytical Biochemistry
Abbreviated source title: Anal. Biochem.
Volume: 460

Issue date: September 1, 2014
Publication year: 2014
Pages: 54-60
Language: English
ISSN: 00032697
E-ISSN: 10960309
CODEN: ANBCA2
Document type: Journal article (JA)
Publisher: Academic Press Inc.
Abstract: We have developed a rapid method that allows us to characterize the binding interaction of sulfobutylether-β–cyclodextrin (SBE-β–CD) with five therapeutically important phenolic acids: ferulic acid, caffeic acid, gallic acid, protocatechuic acid, and vanillic acid. The method utilizes a flow-injection chemiluminescence (FI-CL) technique that relies on the inhibition of a cyclodextrin-luminol chemiluminescence (CL) by increasing amounts of the phenolic acids (PAs). This loss of CL with increasing amounts of PAs fits the equation lg[(I0 - Is)/Is] = lgKPAs + nlg[PAs], allowing calculation of the binding constant (KPAs) and stoichiometric ratio (n). The five phenolic acids and SBE-β–CD formed complexes with a stoichiometric ratio of 1:1. The binding constants were on the order of 107 M-1. These results showed a good correlation with the scores calculated by molecular docking. Further investigation by site-directed molecular docking and linear correlation analysis revealed that PAs entered the larger cavity of SBE-β–CD and the formation constants mainly depended on the number of hydrogen bond acceptors in the PAs structures. All these results indicate that the CL-based affinity method can be used for direct determination of host-guest inclusion interactions and has great potential to become a reliable alternative for quantitatively studying host-guest binding and drug-protein interactions. © 2014 Elsevier Inc. All rights reserved.
Number of references: 32
Main heading: Cyclodextrins
Controlled terms: Binding energy - Molecular modeling - Organic acids - Drug interactions - Hydrogen bonds - Chemiluminescence
Uncontrolled terms: Drug-protein interactions - Flow injection chemiluminescence - Host-guest inclusion interaction - Linear correlation analysis - Luminol chemiluminescence - Luminols - Molecular docking - Phenolic acids
Classification code: 461.6 Medicine and Pharmacology - 741.1 Light/Optics - 801.4 Physical Chemistry - 802.2 Chemical Reactions - 804.1 Organic Compounds - 931.3 Atomic and Molecular Physics
DOI: 10.1016/j.ab.2014.05.016
Funding Details: Number: 21005060,21275118, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: -, Acronym: MOE, Sponsor: Ministry of Education of the People's Republic of China;
Funding text: The authors gratefully acknowledge Professor Jiang Ru in Fourth Military University for providing DS software. This work received financial support from the National Nature Science Foundation of China (No. 21275118, 21005060), and the Open Funds from the Key Laboratory of Synthetic and Natural Functional Molecule Chemistry of the Ministry of Education, China .
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

31. 186 MHz low amplitude noise erbium-doped-fiber femtosecond laser

Accession number: 20143900069693
Authors: Yan, Lulu (1, 2); Zhang, Yanyan (2); Zhao, Wenyu (2, 3); Meng, Sen (4); Zheng, Enrang (1); Guo, Wenge (2, 4); Jiang, Haifeng (2); Zhang, Shougang (2)
Author affiliation: (1) College of Electrical and Information Engineering, Shaanxi University of Science and Technology, Xi'an; Shaanxi; 710021, China; (2) Key Laboratory of Time and Frequency Primary Standards, Chinese Academy of Sciences, Xi'an; Shaanxi; 710600, China; (3) University of Chinese Academy of Sciences, Beijing; 100049, China; (4) College of Science, Xi'an Shiyou University, Xi'an; Shaanxi; 710065, China
Corresponding author: Jiang, Haifeng
Source title: Zhongguo Jiguang/Chinese Journal of Lasers
Abbreviated source title: Zhongguo Jiguang
Volume: 41
Issue: 8
Issue date: August 10, 2014
Publication year: 2014
Article number: 0802004
Language: Chinese
ISSN: 02587025

CODEN: ZHJIDO
Document type: Journal article (JA)
Publisher: Science Press
Abstract: Femtosecond laser is the most important part of an optical frequency comb, whose performance is mainly determined by the laser's noise level, repetition rate, pulse width, spectrum and other parameters. A home-made erbium-doped-fiber femtosecond laser with ring structure and a repetition rate of 186 MHz is reported. This laser is designed for 9.2 GHz ultra-stable photonics microwave generation. The laser has an output power of 120 mW, and its spectrum center wavelength is in the range from 1550 nm to 1600 nm. The double-sideband relative intensity noise of the laser is -118 dBc/Hz at 1 Hz measured with a signal dynamic analyzer. From 10 Hz to 100 kHz, the relative intensity noise level is well below -130 dBc/Hz.
Number of references: 20
Main heading: Fiber lasers
Controlled terms: Pulse repetition rate - Erbium - Femtosecond lasers
Uncontrolled terms: Amplitude noise - Center wavelength - Erbium doped fibers - Mode-locked laser - Optical frequency combs - Relative intensity noise - Ring structures - Signal dynamics
Classification code: 547.2 Rare Earth Metals - 744.1 Lasers, General - 744.4 Solid State Lasers
Numerical data indexing: Frequency 1.00e+00Hz, Frequency 1.00e+01Hz to 1.00e+05Hz, Frequency 1.86e+08Hz, Frequency 9.20e+09Hz, Power 1.20e-01W, Size 1.55e-06m to 1.60e-06m
DOI: 10.3788/CJL201441.0802004
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

32. Prediction of production in multiple clusters stages fracturing horizontal well by support vector machine

Accession number: 20145200380877
Authors: Liupeng, Wang (1, 2); Qi, Li (1, 2); Hui, Ran (2); Yuanchao, Pen (3)
Author affiliation: (1) Key Laboratory of Petroleum Engineering of the Ministry of Education, China University of Petroleum, Beijing; 102249, China; (2) Institute of Petroleum Engineering, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China; (3) Drilling and Production Engineering and Technology Research, Institute of Chuan Qing Drilling and Exploration Corporation, Development of the National Engineering Laboratory, Xi'an, Shaanxi; 710021, China
Corresponding author: Liupeng, Wang
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 722-725
Article number: 6977699
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Conventional production prediction of multi-cluster stages fractured horizontal well is based on numerical simulation technology. While using this method, a large number of parameters needed, such as the reservoir parameters, fracturing treatment parameters, geological parameters etc. The huge computational time consuming of numerical method makes it too difficult for quick filed application. Against these deficiencies, the paper gives full consideration to the effects of reservoir, geology, and multi-cluster stages fractured parameters on productivity. A production prediction model of multi-cluster stages fractured horizontal wells is built by using SVM based on statistical theory and kernel function. First, its training algorithm is used to train the model. Then, samples are used to predict the

production. Finally, production data is used to verify the model. Analysis the results show that the SVM model does not only have the advantage of quick prediction application, but also the prediction results obtained by the model have high consistency with the actual production data. It indicates that this method has good engineering practicability in production prediction of multi-cluster stages fractured horizontal wells. © 2014 IEEE.
Number of references: 5
Main heading: Forecasting
Controlled terms: Geology - Numerical methods - Support vector machines - Computation theory - Productivity - Horizontal wells
Uncontrolled terms: Fractured horizontal wells - Fracturing treatments - Geological parameters - Production prediction - Reservoir parameters - Simulation technologies - Statistical theory - Training algorithms
Classification code: 481.1 Geology - 512.1.1 Oil Fields - 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 723 Computer Software, Data Handling and Applications - 921.6 Numerical Methods
DOI: 10.1109/ISDEA.2014.164
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

33. A study of plasma inactivation effects on Desulfovibrio bastinii in liquid using dielectric barrier discharge

Accession number: 20142517847972
Authors: Ma, Yun (1, 2); Chen, Jierong (3); Yang, Bo (1); Pu, Sichuan (4); Yu, Qingsong (5)
Author affiliation: (1) Key Laboratory of Shanxi Province for Environmental Pollution Control Technology, College of Chemistry and Chemical Engineering, Xi'An Shiyou University, Xi'an 710065, China; (2) School of Life Science and Technology, Xi'An Jiaotong University, Xi'an 710049, China; (3) Department of Environmental Science and Engineering, Xi'An Jiaotong University, Xi'an 710049, China; (4) Environmental and Chemical Engineering College, Xi'An Polytechnic University, Xi'an 710072, China; (5) Center for Surface Science and Plasma Technology, Department of Mechanical and Aerospace Engineering, University of Missouri, Columbia, MI 65211, United States
Source title: IEEE Transactions on Plasma Science
Abbreviated source title: IEEE Trans Plasma Sci
Volume: 42
Issue: 6
Issue date: June 2014
Publication year: 2014
Pages: 1607-1614
Article number: 6813633
Language: English
ISSN: 00933813
CODEN: ITPSBD
Document type: Journal article (JA)
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Sulfate-reducing bacteria (SRB) can lead to severe environmental and industrial problems, especially in the oil and gas industry, because of they produce corrosive, reactive, and toxic sulfide. In this paper, dielectric barrier discharge (DBD) plasma was used to inactivate Desulfovibrio (D. bastinii, a common SRB) in liquid. The influences of different parameters including discharge gases (e.g., oxygen, air, nitrogen, and argon), change of pH value and temperature, the produced hydrogen peroxide and ozone, on the inactivation were investigated in details. Our experimental results showed that the germicidal efficiency (GE) of oxygen plasma was superior to those from others gases such as air, nitrogen, and argon. With oxygen as the discharge gas, almost 100% SRB were killed in less than 4-min plasma exposure. The GE reached to 6.20, 6.01, and 2.82 after the same exposure period under air, nitrogen, and argon discharging, respectively. It was found that plasma reactive species including hydroxyl radical, oxygen radicals, N atom, NO, and NO2 had profound effects on plasma inactivation of SRB by reacting with various macromolecules in only minutes such as cellular envelope and even the intracellular organization of SRB. Leakage of intracellular proteins, nucleic acid, the production of malondialdehyde, and damages to the cell microstructure structure of SRB after plasma treatment were observed to prove the inactivation mechanisms. These results showed that the DBD plasma is an efficient way in the inactivation of SRB in liquid. On the other hand, the change of pH value and temperature, produced hydrogen peroxide or ozone themselves played far less roles in plasma inactivation of SRB. In addition, the pulsed electric field and ultraviolet photons also made a little contribution to SRB inactivation. © 2014 IEEE.

Number of references: 42
Main heading: Dielectric barrier discharge
Controlled terms: Dielectric materials - Ionization of gases - Nitrogen - pH - Hydrogen peroxide - Refractive index - Plasma applications - Sulfur compounds - Dielectric devices - Flow control - Bacteria - Oxidation - Liquids - Nucleic acids - Gases
Uncontrolled terms: Cell microstructures - Dielectric barrier discharge plasmas - Dielectric barrier discharges - inactivation - Inactivation mechanisms - Intracellular proteins - Pulsed electric field - Sulfate reducing bacteria
Classification code: 461.2 Biological Materials and Tissue Engineering - 631.1 Fluid Flow, General - 701.1 Electricity: Basic Concepts and Phenomena - 708.1 Dielectric Materials - 731.3 Specific Variables Control - 741.1 Light/Optics - 801.1 Chemistry, General - 801.2 Biochemistry - 802.2 Chemical Reactions - 804 Chemical Products Generally - 804.1 Organic Compounds - 804.2 Inorganic Compounds - 932.3 Plasma Physics
Numerical data indexing: Percentage 1.00e+02%, Time 2.40e+02s
DOI: 10.1109/TPS.2014.2320217
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

34. Pressure buildup or falloff test analysis for a well in commingled reservoirs with flow rate profile logging

Accession number: 20152701004908
Authors: Lin, Jiaen (1)
Author affiliation: (1) Xi'an Petroleum University, China
Corresponding author: Lin, Jiaen
Source title: Society of Petroleum Engineers - International Petroleum Technology Conference 2014, IPTC 2014 - Innovation and Collaboration: Keys to Affordable Energy
Abbreviated source title: Soc. Pet. Eng. - Int. Pet. Technol. Conf., IPTC - Innov. Collab.: Keys Afford. Energy
Volume: 5
Volume title: Society of Petroleum Engineers - International Petroleum Technology Conference 2014, IPTC 2014 - Innovation and Collaboration: Keys to Affordable Energy
Part number: 5of5
Issue date: 2014
Publication year: 2014
Pages: 4449-4464
Language: English
ISBN-13: 9781634398350
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Conference name: International Petroleum Technology Conference 2014 - Innovation and Collaboration: Keys to Affordable Energy, IPTC 2014
Conference date: December 10, 2014 - December 12, 2014
Conference location: Kuala Lumpur, Malaysia
Conference code: 112331
Sponsor: American Association of Petroleum Geologists (AAPG); et al.; European Association of Geoscientists and Engineers (EAGE); Petronas; Society of Exploration Geophysicists (SEG); Society of Petroleum Engineers (SPE)
Publisher: Society of Petroleum Engineers
Abstract: Description of layered reservoirs is important from a reservoir evaluation and management standpoint because layering affects primary and secondary oil recovery and large variations in permeability-thickness product or skin in different layers have great influence on well performance and production. Commingled reservoirs, where each layer has the same initial pressure without crossflow and layers may have distinct values for thickness, permeability, porosity, fracture half length and skin factor, have been investigated by many authors. Most of research work in multilayered well test analysis focus on estimating individual layer permeabilities, skin factors, fracture half length and formation pressures from well test data. But previous research work indicated that conventional buildup and drawdown(or falloff and injection) testing for wells in commingled reservoirs is only used for determining average reservoir parameters and could not be used for determining individual layer parameters in the absence of the use of the entire history of wellbore pressure and layer production. This paper presents new testing and analysis techniques without using entire history of wellbore pressure and layer production to obtain individual layer permeabilities, skin factors, racture half length and formation pressures for a well in commingled reservoirs by using stabile flow rate data from flow profile tests acquired with production logging tools at the top of each layer before shutting-in the well and conventional pressure buildup or falloff data from the well. Before making any multilayer analysis, conventional well

test analysis or type-curve analysis using log-log and derivative methods should be performed to estimate average permeability, fracture half length and skin factors of the total system. It can then be used as initial input values for simultaneous interpretation using an analytical model combined with nonlinear least squares estimation and type curves to estimate individual-layer permeabilities, skin factors, fracture half length and reservoir pressures. But If we use entire history of wellbore pressure and layer production, we can reduce the multiple solutions, to enhance the reliability of interpretation results. Copyright © 2014, International Petroleum Technology Conference.
Number of references: 29
Main heading: Factor analysis
Controlled terms: Fracture - Petroleum reservoir evaluation - Well testing - Oil well flooding - Oil field equipment - Boreholes - Reservoir management - Well logging
Uncontrolled terms: Average permeability - Fracture half-length - Non-linear least squares - Permeability-thickness - Production logging tools - Secondary oil recoveries - Type curve matching - Well-test analysis
Classification code: 511.1 Oil Field Production Operations - 511.2 Oil Field Equipment - 512.1.2 Petroleum Deposits : Development Operations - 922.2 Mathematical Statistics - 951 Materials Science
DOI: 10.2523/iptc-18232-ms
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

35. Refractive index sensing of sMS fiber structure based mach-Zehnder interferometer

Accession number: 20140817360807
Authors: Shao, Min (1); Qiao, Xueguang (1); Fu, Haiwei (2); Li, Huidong (2); Jia, Zhenan (2); Zhou, Hong (2)
Author affiliation: (1) School of Science, Shaanxi Key Laboratory of Optical Information Technology, Northwestern Polytechnical University and xi'An Shiyou University, Xi'an 710072, China; (2) School of Science, Ministry of Education Key Laboratory on Photoelectric Oil-Gas Logging and Detecting, Xi'An Shiyou University, Xi'an 710065, China
Corresponding author: Shao, M.(shaomin@xsyu.edu.cn;)
Source title: IEEE Photonics Technology Letters
Abbreviated source title: IEEE Photonics Technol Lett
Volume: 26
Issue: 5
Issue date: March 1, 2014
Publication year: 2014
Pages: 437-439
Article number: 6701384
Language: English
ISSN: 10411135
CODEN: IPTLEL
Document type: Journal article (JA)
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: A Mach-Zehnder interferometer based on single-mode-thin-core-multimode- single-mode (STMS) fiber structure for refractive index (RI) measurement is proposed and experimentally demonstrated. It works on the basis of interference between the core mode and cladding mode. Using the multimode fiber core, the transmission spectrum of STMS structure is very sensitive to RI variations of the surrounding medium. The experimental results show that the sensor possesses a high sensitivity of 148.27 nm/RIU in the RI range of 1.333-1.403 and has a good linear response to the SRI. © 2014 IEEE.
Number of references: 8
Main heading: Mach-Zehnder interferometers
Controlled terms: Multimode fibers - Refractometers - Refractive index
Uncontrolled terms: High sensitivity - Multimodes - Refractive index measurement - Refractive index sensing - Refractive index sensor - Thin-core fibers - Transmission spectrums - Zehnder interferometers
Classification code: 741.1 Light/Optics - 741.1.2 Fiber Optics - 741.3 Optical Devices and Systems - 941.3 Optical Instruments
DOI: 10.1109/LPT.2013.2295375
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

36. User interest based text classification: A novel feature extraction method

Accession number: 20141217483520
Authors: Zhang, Liumei (1, 2); Jianfeng, M. (1); Wang, Yichuan (1); Lu, Di (1)
Author affiliation: (1) School of Computer Science and Technology, Xidian University, Xi'an, China; (2) School of Computer Science, Xi'an Shiyou University, Xi'an, China
Source title: WIT Transactions on Engineering Sciences
Abbreviated source title: WIT Trans. Eng. Sci.
Volume: 87
Issue title: Advanced Materials and Information Technology Processing
Issue date: 2014
Publication year: 2014
Pages: 739-746
Language: English
ISSN: 17433533
ISBN-13: 9781845648534
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Advanced Materials and Information Technology Processing, AMITP 2013
Conference date: October 1, 2013 - October 2, 2013
Conference location: Los Angeles, CA, United states
Conference code: 103187
Sponsor: WIT Transactions on Engineering Sciences
Publisher: WITPress
Abstract: Text communication is an important means for network and mobile terminal users. Spam text brings great distress to the user and the service provider. Traditional text classification method failed to consider the influence of user interest toward text classification and spam filtering. It brutally analyzed and classified the content of text communication of the user. The paper proposed a user interest feature extraction algorithm access frequency-inverse class frequency (AF-ICF) based on TF-IDF algorithm. It utilizes operate behaviour of the user of the text communication to summarize the degree of a text item that the user concerns. Compared with the existing text classification method, AF-ICF effectively described the interest distribution of the user. It provides an important reference for other text classification algorithms and has very high practical value. © 2014 WIT Press.
Number of references: 9
Main heading: Classification (of information)
Controlled terms: Behavioral research - Feature extraction - Extraction - Text processing - Inverse problems
Uncontrolled terms: Feature extraction algorithms - Feature extraction methods - Mobile terminal - Service provider - Spam text - Text classification - Text classification methods - User interests
Classification code: 461.4 Ergonomics and Human Factors Engineering - 716.1 Information Theory and Signal Processing - 802.3 Chemical Operations - 903.1 Information Sources and Analysis - 903.3 Information Retrieval and Use - 971 Social Sciences
DOI: 10.2495/AMITP20130881
Database: Compendex
Data Provider: Engineering Village

37. First-principle study of adhesion, wetting and bonding on Al/Al 3V(001) interface

Accession number: 20141417539677
Authors: Li, Jian (1, 4); Qi, Yuning (2); Zhang, Ming (3); Zhou, Yong (1); Li, Xiao (1)
Author affiliation: (1) School of Materials Science and Engineering, Xi'An Shiyou University, Xi'an 710065, China; (2) Xi'An Research Institute, China Coal Technology and Engineering Group Corp., Xi'an 710054, China; (3) School of Petroleum Engineering, Xi'An Shiyou University, Xi'an 710065, China; (4) School of Materials, Northwestern Polytechnical University, Xi'an 710072, China
Corresponding author: Li, J.(lijian@xsyu.edu.cn)
Source title: Surface Science
Abbreviated source title: Surf Sci
Volume: 624
Issue date: June 2014
Publication year: 2014
Pages: 1-7
Language: English

ISSN: 00396028
CODEN: SUSCAS
Document type: Journal article (JA)
Publisher: Elsevier B.V., Netherlands
Abstract: The adhesion, wetting, and bonding on fcc-Al(001)/D022-Al 3V(001) interface were investigated using density functional calculations. Considering different terminations of Al3V(001) (Al- and Al + V-terminated) and stacking sites (center-, hollow- and top-sites), six Al/Al3V(001) models were calculated. For the models with same stacking site, Al + V-terminated model has larger work of adhesion (W ad) than the Al-terminated one. For the models with same termination, the work of adhesion decreases, and the interface energy (γ int) increases as the order of top-, bridge- and center-sites. Al-terminated-center-sited and Al + V-terminated-center-sited models are more stable among six models. After complete structure relaxation, both models have the same epitaxial stacking style. Therefore, the both models can be regarded as of the same and most stable one (noted as CSI model), but separating along Al-Al and Al-Al+V inter-planes. Based on the perfect wetting and strong adhesion in CSI model, the heterogeneous nucleation of α–Al on Al 3V(001) was interpreted in terms of crystallography and thermodynamics. The interfacial bonding was discussed with analysis of valence electron density distribution and partial density of states (PDOS). The bonding is mainly contributed from AlV covalent bonds and AlAl metallic interactions. © 2014 Elsevier B.V.
Number of references: 54
Main heading: Density functional theory
Controlled terms: Binary alloys - Chemical bonds - Wetting - Nucleation - Adhesion - Thermodynamics
Uncontrolled terms: First-principle study - Heterogeneous nucleation - Interface energy - Interfacial bonding - Partial density of state - Structure relaxation - Valence electron density - Work of adhesion
Classification code: 641.1 Thermodynamics - 801.4 Physical Chemistry - 922.1 Probability Theory - 931.3 Atomic and Molecular Physics - 931.4 Quantum Theory; Quantum Mechanics - 933.1.2 Crystal Growth - 951 Materials Science
DOI: 10.1016/j.susc.2014.01.017
Funding Details: Number: Z08038, Acronym: XSYU, Sponsor: Xi'an Shiyou University; Number: 2013JK0896, Acronym: -, Sponsor: Education Department of Shaanxi Province;
Funding text: The authors acknowledge the financial support for the research from the Scientific Research Program Funded by Shaanxi Provincial Education Department (Program No. 2013JK0896) and Technology Creative Foundation of Xi'an Shiyou University (Z08038).
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

38. Preliminary experimental results along a horizontal path for adaptive rate-controlled FSO

Accession number: 20144700236459
Authors: Yang, Changqi (1); Zhao, Juan (1); Liu, Anqi (2)
Author affiliation: (1) School of Science, Xi'An Shiyou University, Xi'an; 710065, China; (2) Advanced Technology Institute, Hubei University, Hubei; 430062, China
Source title: Progress in Electromagnetics Research Symposium
Abbreviated source title: Prog. Electromagn. Res. Symp.
Part number: 1of1
Issue date: 2014
Publication year: 2014
Pages: 948-951
Language: English
ISSN: 15599450
E-ISSN: 19317360
ISBN-13: 9781934142288
Document type: Conference article (CA)
Conference name: Progress in Electromagnetics Research Symposium, PIERS 2014
Conference date: August 25, 2014 - August 28, 2014
Conference location: Guangzhou, China
Conference code: 108821
Sponsor: Development and Research Academy for Global Optical Neo-technology (DRAGON); et al.; JORCEP (Sino-Swedish Joint Research Center of Photonics); South China Normal University; South China Normal University, Centre for Opt. and Electromagn. Res., South China Academy of Advanced Optoelectronics; ZJU Institute for Opto-Electronic Technology Commercialization (IOTEC)
Publisher: Electromagnetics Academy, United States

Abstract: Free-space optical communication is a focus in recent research. Because of the influence of weather conditions, the transmission channel of free-space optical communication dramatically changes. This paper describes the design of a new adaptive rate-controlled optical communication system. The rate adaptively changes through the estimation of the received signal strength. Usually estimate the channel conditions with a low rate of radio frequency feedback. Previously the author used a new technique to design an adaptive rate-controlled optical communication system. It used beacon calibration instead of radio frequency feedback. In this paper an outdoor experiment is performed along a 186 meters horizontal path. On-off Keying modulation is used. The preliminary results with adaptive rate control are compared with that of without adaptive rate control. It appears to be at least an order of magnitude decrease of the bit-error rate.
Number of references: 4
Main heading: Feedback
Controlled terms: Bit error rate - Adaptive optics - Optical communication - Radio waves
Uncontrolled terms: Adaptive rate control - Channel conditions - Free Space Optical communication - On-off keying modulations - Outdoor experiment - Received signal strength - Recent researches - Transmission channels
Classification code: 711 Electromagnetic Waves - 717.1 Optical Communication Systems - 723.1 Computer Programming - 731.1 Control Systems - 741.1 Light/Optics
Numerical data indexing: Size 1.86e+02m
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

39. Some results on fuzzy sub positive implicative filters of non-commutative residuated lattice

Accession number: 20175004523290
Authors: Wang, Wei (1, 2); Xu, Yang (1)
Author affiliation: (1) College of Electrical Engineering, Southwest Jiaotong University, Chengdu, China; (2) College of Sciences, Xi'an Shiyou University, Xi'an, China
Source title: Decision Making and Soft Computing - Proceedings of the 11th International FLINS Conference, FLINS 2014
Abbreviated source title: Decis. Mak. Soft Comput. - Proc. Int. FLINS Conf., FLINS
Part number: 1 of 1
Issue title: Decision Making and Soft Computing - Proceedings of the 11th International FLINS Conference, FLINS 2014
Issue date: 2014
Publication year: 2014
Pages: 221-226
Language: English
ISBN-13: 9789814619967
Document type: Conference article (CA)
Conference name: Decision Making and Soft Computing - 11th International Fuzzy Logic and Intelligent Technologies in Nuclear Science Conference, FLINS 2014
Conference date: August 17, 2014 - August 20, 2014
Conference location: Joao Pessoa, Paraiba, Brazil
Conference code: 131625
Sponsor: Belgian Nuclear Research Centre; Brazilian Federal Agency for the Support and Evaluation of Graduate Education (CAPES); European Society for Fuzzy Logic and Technology (EUSFLAT); National Council for Scientific and Technological Development (CNPq); Tropical Hotels and Resorts; Waine Formiga Brand Design
Publisher: World Scientific
Abstract: The theory of filters and fuzzy filters in logical algebras play a vital role in reasoning mechanism in information sciences, computer sciences, theory of control, artificial intelligence and many other important fields. We introduce the concept of fuzzy sub positive implicative filters of residuated lattice and investigate the properties of it, and further characterize the fuzzy sub positive implicative filters by proposing the equivalent conditions that a fuzzy filters to be a fuzzy sub positive implicative filters. © 2014 by World Scientific Publishing Co. Pte. Ltd. All rights reserved.
Number of references: 8
Main heading: Fuzzy filters
Controlled terms: Soft computing - Fuzzy logic - Decision making

Uncontrolled terms: Equivalent condition - Non-classical logic - Non-commutative - Reasoning mechanism - Residuated lattices
Classification code: 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 723 Computer Software, Data Handling and Applications - 912.2 Management - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory
DOI: 10.1142/9789814619998_0038
Funding Details: Number: 2011FZ0051, Acronym: -, Sponsor: -; Number: 2011BS017, Acronym: -, Sponsor: -; Number: 2013M540716, Acronym: -, Sponsor: China Postdoctoral Science Foundation; Number: [2011]146, Acronym: -, Sponsor: -; Number: 2012JQ1023, Acronym: -, Sponsor: Natural Science Foundation of Shaanxi Province; Number: TIN-2009-0828, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Funding text: This work is partially supported by China Postdoctoral Science Foundation funded project (Grant No.2013M540716); the National Natural Science Foundation of China (Grant No. 60875034, 61175055); the project TIN-2009-0828; Sichuan Key Technology Research and Development Program of China (Grant No. 2011FZ0051); Wireless Administration of Ministry of Industry and Information Technology of China ([2011]146); the Natural Science foundation of Shaanxi Province (Grant No. 2012JQ1023) and doctor initial fund of Xi'an Shiyou University of China (Grant No. 2011BS017)
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

40. Test studies of toughness characteristics and fracture laws of X100 line pipes with different notch types

Accession number: 20143017985317
Authors: Bi, Zongyue (1); Zhang, Xiaoyong (2); Li, Kui (1); Yang, Zhongwen (1); Niu, Hui (1); Gao, Huilin (2)
Author affiliation: (1) National Petroleum and Gas Tubular Goods Engineering Technology Research Center, Baoji Petroleum Steel Pipe Co. Ltd., Baoji, Shaanxi 721008, China; (2) Xian Shiyou University, Xi'an, Shaanxi 710065, China
Corresponding author: Bi, Z.(bsgbzy@petrochina.com.cn)
Source title: Natural Gas Industry
Abbreviated source title: Natur. Gas Ind.
Volume: 34
Issue: 6
Issue date: June 2014
Publication year: 2014
Pages: 111-116
Language: Chinese
ISSN: 10000976
CODEN: TIGOE3
Document type: Journal article (JA)
Publisher: Natural Gas Industry Journal Agency
Abstract: The accurate determination of the crack-arrest toughness, an important property of a line pipe, is of a vital significance to the guarantee of safe operation of pipelines. The energy features of X100 line pipes with Chevron Notch (CN) and Pressed V-type Notch (PN) were investigated by the Drop Weight Tear Test (DWTT) under different temperatures in the following aspects: absorption energy, shear fracture area, total absorbed energy, fracture initiation energy, and propagation energy. The variations of the DWTT energy density and Charpy V-type Notch (CVN) energy density were compared among X100 line pipes with different notches through the CVN impact tests under different temperatures. The following results were obtained. First, compared with CN specimens, PN specimens have higher total fracture energy, lower ductile-to-brittle transition temperature, higher energy density, lower ratio of propagation energy to total energy. Second, the total fracture energy and propagation energy can be more sensitive to temperature, but fracture initiation energy is not sensitive to temperature. Third, the linear relationship exists not only between the initiation energy density, propagation energy density and total energy density, but between the initiation energy density and CVN total energy density. Fourth, the ductile-to-brittle transition temperature from DWTT is higher than that from CVN. Through a comparative analysis between DWTT and CVN, the Battelle energy relation was recommended suitable for the establishment of the DWTT and CVN energy relationship.
Number of references: 13
Main heading: Temperature
Controlled terms: Drops - Fracture toughness - Ductile fracture - Brittle fracture - Charpy impact testing
Uncontrolled terms: Charpy impact energy - Chevron Notch - Drop weight tear tests - Ductile-to-brittle transition temperature - Initiation energy - Line pipes - Pressed Notch - Propagation energy

Classification code: 422.2 Strength of Building Materials : Test Methods - 641.1 Thermodynamics
DOI: 10.3787/j.issn.1000-0976.2014.06.018
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

41. The designs of iron roughneck working torque real time monitoring scheme and the hardware system

Accession number: 20152300908956
Authors: Wu, Hao (1); Peng, Yong (2)
Author affiliation: (1) Mechanical Engineering School, Xi'an Shiyou University, Xi'an, China; (2) National Engineering Technology Research Centre, Oil and Gas Drilling Equipment, Xi'an, China
Corresponding author: Wu, Hao
Source title: Computer Modelling and New Technologies
Abbreviated source title: Comput. Model. New Technol.
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Issue: 12
Issue date: 2014
Publication year: 2014
Pages: 145-149
Language: English
ISSN: 14075806
E-ISSN: 14075814
Document type: Journal article (JA)
Publisher: Transport and Telecommunication Institute, Lomonosova street 1, Riga, LV-1019, Latvia
Abstract: The iron roughneck, a full automatic making-up or breaking-out device instead of the traditional hydraulic tongs, has been applied in production practice and become the essential equipment in automatic pipe handling system on marine drilling platform. When the iron roughneck is at working, real time monitoring and controlling of the working torque is necessary. It can ensure the torque value is under control when drilling tools are made up or broken out so as to protect the drill screw threads and prolong the service life of drills. Based on the measurement and control of the working torque of the iron roughneck, the scheme, which treats testing hydraulic cylinder working pressure as the measurement information, is determined. The hardware circuit including sensors, single chip microcomputer, alarm, feedback control and so on is designed to provide hardware conditions for the test and control of the iron roughneck working torque. Finally, the simulation experience used to test alarm function of the system is carried out.
Number of references: 9
Main heading: Iron
Controlled terms: Computer hardware - Design - Drilling equipment - Drilling platforms - Drills - Hardware - Hydraulic machinery - Screw threads - Torque
Uncontrolled terms: Essential equipments - Iron roughneck - Measurement and control - Measurement information - Production practice - Real time monitoring - Real-time monitoring and controlling - Single chip microcomputers
Classification code: 408 Structural Design - 421 Strength of Building Materials; Mechanical Properties - 511.2 Oil Field Equipment - 545.1 Iron - 601.2 Machine Components - 603.2 Machine Tool Accessories - 604.2 Machining Operations - 605 Small Tools and Hardware - 632.2 Hydraulic Equipment and Machinery - 722 Computer Systems and Equipment
Database: Compendex
Data Provider: Engineering Village

42. The study of electrochemical noise on 316 stainless steel in the cooling system atmospheric tower of oil refineries

Accession number: 20142317785684
Authors: Chen, Bing (1); Li, Li-Xin (1); Wu, Chang-Jiang (2)
Author affiliation: (1) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an, China; (2) Guiyang Shenglei Gypsum Equipment Technology Ltd, Guizhou Guiyang, China
Corresponding author: Wu, C.-J.(184615796@qq.com)
Source title: Energy Education Science and Technology Part A: Energy Science and Research

Abbreviated source title: Energy Educ. Sct. Technol. Part A. Energy Sci. Res.
Volume: 32
Issue: 3
Issue date: May 2014
Publication year: 2014
Pages: 2047-2056
Language: English
ISSN: 1308772X
Document type: Journal article (JA)
Publisher: Sila Science, University Mah Mekan Sok, No 24, Trabzon, Turkey
Abstract: This paper analyzed the heat exchanger corrosion in the cooling system atmospheric tower of the oil refineries, and determined the main factors which caused the corrosion failure were temperature, PH, the concentration of S2+, the concentration of NH4+, the concentration of Cl-. Using the orthogonal design method to design the test program of main factors which affecting the corrosion, to determine the optimal test combinations. The electrochemical noise curve test information can be got through electrochemical tests of 316 stainless steel heat exchanger material. The analysis results provided protective measures for operating reliably.
Number of references: 8
Main heading: Cooling systems
Controlled terms: Steel corrosion - Heat exchangers - Software testing - Thermoelectric equipment - Cooling - Testing
Uncontrolled terms: 316 stainless steel - Affectingfactors - Corrosion failures - Electrochemical noise - Electrochemical test - Heat exchanger materials - Orthogonal design method - Protective measures
Classification code: 539.1 Metals Corrosion - 545.3 Steel - 615.4 Thermoelectric Energy - 616.1 Heat Exchange Equipment and Components - 641.2 Heat Transfer - 723.5 Computer Applications
Database: Compendex
Data Provider: Engineering Village

43. A density functional theory study of small bimetallic PtnAl (n = 1-8) clusters (*Open Access*)

Accession number: 20140917382753
Authors: Wen, Jun-Qing (1); Xia, Tao (1); Wang, Jun-Fei (2)
Author affiliation: (1) College of Science, Xi'an Shiyou University, Xi'an 710065, China; (2) Institute of Modern Physics, Northwest University, Xi'an 710069, China
Corresponding author: Wen, J.-Q.(wenjq2013@163.com)
Source title: Wuli Xuebao/Acta Physica Sinica
Abbreviated source title: Wuli Xuebao
Volume: 63
Issue: 2
Issue date: January 20, 2014
Publication year: 2014
Article number: 023103
Language: Chinese
ISSN: 10003290
CODEN: WLHPAR
Document type: Journal article (JA)
Publisher: Institute of Physics, Chinese Academy of Sciences
Abstract: The geometries, stabilities and electronic properties of PtnAl (n = 1-8) clusters are calculated using density functional theory at BPW91/LANL2DZ level. The stabilities of the ground states of PtnAl (n = 1-8) clusters are discussed by means of the binding energy, the second difference in energy and energy gaps, and the magnetic properties. Mulliken charges are studied. The growth patterns for different sized PtnAl (n = 1-8) clusters are of Al-substituted Ptn+1 clusters and they keep a similar framework of the most stable Ptn+1 clusters except Pt2Al. Al atoms in the ground state PtnAl isomer tend to occupy the most highly coordinated positions. The analyses of stabilities show that PtAl and Pt4Al are more stable than other clusters. Mulliken population analysis shows that charges are transferred from Al atoms to Pt atoms, which indicates that Al atom acts as electron donor in all PtnAl clusters. The analysis of magnetic property shows that doping an Al atom reduces the average atomic magnetic moment of the host Pd cluster. Pt-rich clusters which have a strong nonlinear optical effect and are easy to polarize by external electromagnetic field.
Number of references: 31

Main heading: Atoms
Controlled terms: Magnetic moments - Binary alloys - Aluminum - Ground state - Electromagnetic fields - Electronic properties - Aluminum alloys - Density functional theory - Magnetic properties - Platinum alloys
Uncontrolled terms: Atomic magnetic moment - Density functional theory studies - External electromagnetic field - Functional theory - Geometric structure - Mulliken charges - Mulliken population analysis - Nonlinear optical effects
Classification code: 541.1 Aluminum - 541.2 Aluminum Alloys - 547.1 Precious Metals - 701 Electricity and Magnetism - 701.2 Magnetism: Basic Concepts and Phenomena - 922.1 Probability Theory - 931.3 Atomic and Molecular Physics - 931.4 Quantum Theory; Quantum Mechanics
DOI: 10.7498/aps.63.023103
Compendex references: YES
Open Access type(s): All Open Access, Hybrid Gold
Database: Compendex
Data Provider: Engineering Village

44. A virtual machine migration scheme toward green cloud

Accession number: 20144300127082
Authors: Zhang, Liu-Mei (1, 2); Ma, Jian-Feng (1); Lu, D. (1); Wang, Yi-Chuan (1, 3)
Author affiliation: (1) School of Computer Science and Technology, Xidian University, Xian, China; (2) School of Computer Science, Xian Shiyou University, Xian, China; (3) Science and Technology on Communication Information Security Control Laboratory, Jiaxing, China
Corresponding author: Zhang, Liu-Mei
Source title: WIT Transactions on Information and Communication Technologies
Abbreviated source title: WIT Trans. Inf. Commun. Tecnol.
Volume: 59
Part number: 1 of 1
Issue date: March 1, 2014
Publication year: 2014
Pages: 163-168
Language: English
ISSN: 17433517
ISBN-13: 9781845649203
Document type: Conference article (CA)
Conference name: 2013 5th International Conference on Advanced Computer Control, ICACC 2013
Conference date: December 14, 2013 - December 15, 2013
Conference location: Singapore, Singapore
Conference code: 108099
Sponsor: BOSI EDU; WIT Transactions on Information and Communication Technologies
Publisher: WITPress
Abstract: As Cloud computing is growing, severe energy consumption of the cloud cluster poses new challenges for environmental protection. In this paper, we present a novel algorithm to support the concept of Green Cloud computing. The algorithm is able to calculate the stability of all virtual machine (VM) instances using statistical data derived from VM instance subscription data of VM Cloud service provider. By referencing the result of calculation, it is feasible to justify VM instances for whether or not to migrate instances onto stable physical machines that always switched on. Accordingly, the rest of the physical machines can be powered off, and then much energy is saved. © 2014 WIT Press
Number of references: 9
Main heading: Virtual machine
Controlled terms: Energy utilization - Cluster computing - Energy conservation - Network security - Cloud computing - Green computing
Uncontrolled terms: Cloud clusters - Cloud service providers - Green Clouds - Novel algorithm - Statistical datas - Virtual machine migrations - Virtual machines - Vm migrations
Classification code: 454 Environmental Engineering - 525.2 Energy Conservation - 525.3 Energy Utilization - 722.4 Digital Computers and Systems - 723 Computer Software, Data Handling and Applications - 723.5 Computer Applications
DOI: 10.2495/ICACC130221
Database: Compendex
Data Provider: Engineering Village

45. Research on downhole pressure and temperature tester for hydraulic fracturing

Accession number: 20140117158839
Authors: Wu, Heng (1); Peng, Yong (1); Wang, Li Ping (2); Yan, Wen Hui (1)
Author affiliation: (1) Mechanical Engineering School, Xi'an Shiyou University, Xi'an, Shaanxi, 710065, China; (2) Basis Department, Xijing University, Xi'an, Shaanxi, 710123, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 441
Issue title: Machinery Electronics and Control Engineering III
Issue date: 2014
Publication year: 2014
Pages: 351-355
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859032
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Machinery Electronics and Control Engineering, ICMECE 2013
Conference date: November 29, 2013 - November 30, 2013
Conference location: Jinan, Shandong, China
Conference code: 101724
Sponsor: Shandong University
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: The measuring system of the tester is consisted of the downhole measuring tester and ground replaying system, structure and parameters of the tester has been designed, of the testing circuit part in super high pressure environment, sealing redundancy design has been adopted by using downhole sealing plug technology for the security, the stress of the protection shell has been calculated and analysed to insure that strength is enough. The parameter calibration testing has been finished, the result shows that the linearity, stability, and reliability of the tester are preferable, the tester can satisfy the requirement of hydraulic fracturing in super high pressure and temperature environment. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Hydraulic fracturing
Uncontrolled terms: Downhole pressure - High-pressure and temperatures - High-pressure environment - Measuring systems - Parameter calibration - Redundancy design - Tester - Testing circuits
Classification code: 512.1.2 Petroleum Deposits : Development Operations
DOI: 10.4028/www.scientific.net/AMM.441.351
Database: Compendex
Data Provider: Engineering Village

46. A density functional theory study of small bimetallic PdnAl (n=1-8) clusters

Accession number: 20140617273387
Authors: Wen, Jun-Qing (1); Xia, Tao (1); Zhou, Hong (1); Wang, Jun-Fei (2)
Author affiliation: (1) College of Science, Xi'An Shiyou University, Xi'an 710065, China; (2) Institute of Modern Physics, Northwest University, Xi'an 710069, China
Corresponding author: Wen, J.-Q.(wenjq2013@163.com)
Source title: Journal of Physics and Chemistry of Solids
Abbreviated source title: J Phys Chem Solids
Volume: 75
Issue: 4
Issue date: April 2014
Publication year: 2014
Pages: 528-534
Language: English
ISSN: 00223697
CODEN: JPCSAW
Document type: Journal article (JA)

Publisher: Elsevier Ltd
Abstract: The geometries, stabilities, and magnetic properties of PdnAl (n=1-8) neutral clusters are studied using density functional theory with generalized gradient approximation. The growth pattern for different sized PdnAl (n=1-8) clusters is Al-substituted Pdn+1 clusters and it keeps the similar framework of the most stable Pdn+1 clusters except n=6 and 8. Al atoms in the ground state PdnAl isomers tend to occupy the most highly coordinated position. The analysis of stabilities shows that doping an Al atom can enhance the stabilities of the host Pd clusters and the magic number characteristic of Pd4 cluster cannot be changed, the Pd3Al cluster has a higher stability. Charges are transferred from Al atom to Pd atoms in all PdnAl clusters, so the Al atom is the electron donor, and Pd atoms are the electron accepters. Doping an Al atom decreases the average atomic magnetic moments of the host Pd clusters. © 2013 Elsevier Ltd.
Number of references: 34
Main heading: Atoms
Controlled terms: Aluminum - Palladium alloys - Density functional theory - Magnetic moments - Palladium - Binary alloys - Ground state - Isomers
Uncontrolled terms: Analysis of stability - Atomic magnetic moment - Density functional theory studies - Electron donors - Generalized gradient approximations - Growth patterns - Magic numbers - Neutral clusters
Classification code: 541.1 Aluminum - 547.1 Precious Metals - 701.2 Magnetism: Basic Concepts and Phenomena - 804 Chemical Products Generally - 922.1 Probability Theory - 931.3 Atomic and Molecular Physics - 931.4 Quantum Theory; Quantum Mechanics
DOI: 10.1016/j.jpcs.2013.12.018
Funding Details: Number: 11247229,61240028, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 2013JK0629, Acronym: -, Sponsor: Education Department of Shaanxi Province;
Funding text: The project was supported by the National Natural Science Foundation of China (Nos. 11247229 and 61240028), the Scientific Research Program Fund by Shaanxi Provincial Education Department (No. 2013JK0629) and the Innovation and Entrepreneurship Training Project of Provincial College Students.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

47. Study on collapse-proof effect and parametric design of cable-unseating prevention devices

Accession number: 20140217181300
Authors: Zhang, Yu-Min (1); Qin, Xing-Xu (2)
Author affiliation: (1) Xi'an ShiYou University, Shaanxi Province 710061, China; (2) Communications 2nd Navigational Bureau 2nd Engineering Co., Chong Qing 401121, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 838-841
Issue title: Civil, Structural and Environmental Engineering
Issue date: 2014
Publication year: 2014
Pages: 1130-1134
Language: English
ISSN: 10226680
ISBN-13: 9783037859261
Document type: Conference article (CA)
Conference name: 2013 2nd Global Conference on Civil, Structural and Environmental Engineering, GCCSEE 2013
Conference date: September 28, 2013 - September 29, 2013
Conference location: Shenzhen, China
Conference code: 101775
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: The collapse-proof effect of unseating prevention devices are influenced by the design parameters under earthquake. Combine with existing relational design standards of unseating prevention devices at home and abroad, the dynamical analysis has been used to get the seismic response of bridges with different parameter cable-unseating prevention devices. The influence of design parameters on the collapse-proof effect and internal force of unseating prevention devices are been analyzed. The result show that the unseating prevention devices can play the role to proof the collapse, and it can enhance the anti-pushing rigidity and integrity of structure. The effect of collapse-proof decrease as the cable length and primary clearance increase, the internal force of unseating prevention devices is

larger than the design bearing capacity while the parameters are both smaller, even some has exceed its yield tension.
Number of references: 5
Main heading: Cables
Controlled terms: Rigid structures - Seismic design
Uncontrolled terms: Bridge structures - Collapse-proof effect - Design parameters - Dynamical analysis - Internal forces - Parametric design - Relational designs - Unseating prevention devices
Classification code: 408 Structural Design - 484.3 Earthquake Resistance
DOI: 10.4028/www.scientific.net/AMR.838-841.1130
Database: Compendex
Data Provider: Engineering Village

48. Identifying lithology and matrix for unconventional reservoir based on geochemical elements logs

Accession number: 20145200381127
Authors: Xi, Cheng (1); Xinai, Song (2); Pingyang, Jin (3); Bin, Han (4); Jiang, Li (5)
Author affiliation: (1) School of Earth Science and Engineering, Xi'an Shiyou University, Xian, Shaanxi; 710065, China; (2) School of Computer Science, Xi'an Shiyou University, Xian, Shaanxi; 710065, China; (3) Petroleum Industry Press Co, Beijng; 100011, China; (4) China Petroleum Logging CO. LTD, Xian, Shaanxi; 710021, China; (5) Chuanqing Drilling Exploration Engineering Co.LTD, Chengdu, Sichuan; 400021, China
Corresponding author: Xi, Cheng
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 528-532
Article number: 6977655
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: With the importance of unconventional oil and gas resources become increasingly apparent that these unconventional reservoirs identified as challenges facing the industry, this paper proposes a new application of geochemical elements with combining other logging to identify the matrix of unconventional reservoir. Verified by the actual log processing and interpretation of geochemical elements in the complex composition, methods for litho logy identification of limestone reservoir logging, tight sandstone gas reservoirs and igneous reservoir has an obvious advantage. © 2014 IEEE.
Number of references: 9
Main heading: Lithology
Controlled terms: Energy resources - Petroleum deposits - Lime
Uncontrolled terms: Complex compositions - Geochemical elements - New applications - Tight sandstone gas - Unconventional oil and gas - Unconventional reservoirs
Classification code: 481.1 Geology - 512.1 Petroleum Deposits - 525.1 Energy Resources and Renewable Energy Issues - 804.2 Inorganic Compounds
DOI: 10.1109/ISDEA.2014.125
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

49. Effect of heat treatment on microstructure and properties of a carbon steel resistance electric welded pipe

Accession number: 20150400457615
Authors: Wang, Rong (1); Zheng, Jiao (1); Luo, She-Ji (1); Yang, Zhong-Wen (2); Zhao, Kun (2)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an, China; (2) Baoji Petroleum Steel Pipe Co Ltd, Baoji, China
Corresponding author: Wang, Rong
Source title: Cailiao Rechuli Xuebao/Transactions of Materials and Heat Treatment
Abbreviated source title: Cailiao Rechuli Xuebao
Volume: 35
Issue date: December 30, 2014
Publication year: 2014
Pages: 124-128
Language: Chinese
ISSN: 10096264
CODEN: JRXUDO
Document type: Journal article (JA)
Publisher: Editorial Office of Transactions of Materials and Heat Treatment
Abstract: Microstructure and properties of welding zone of a carbon-steel electric resistance-welded pipe were investigated by optical microscopy, microhardness measurement and corrosion test. The results show that martensite formed in the welding zone due to rapid cooling after the pipe was welded such that there was very high microhardness. Selective corrosion existed in the welding zone so as to form grooves along the weld direction. The welded pipe has higher grooving corrosion susceptibility. Phase transformation of post-weld heat treatment can eliminate the martensite in the welding zone such that microstructure close to that of the pipe body can be obtained. However, the fusion line is mainly characteristic of ferrite and has slightly lower microhardness than the pipe body. Selective corrosion only occurs at the fusion line. The grooving corrosion susceptibility is reduced. ©, 2014, Editorial Office of Transactions of Materials and Heat Treatment. All right reserved.
Number of references: 12
Main heading: Microstructure
Controlled terms: Carbon steel - Martensite - Heat resistance - Steel corrosion - Pipeline corrosion - Corrosive effects - Corrosion resistance - Heat treatment - Microhardness - Welds
Uncontrolled terms: Effect of heat treatments - Electric resistance welded - Electric-welded pipes - Grooving Corrosion - Microhardness measurement - Microstructure and properties - Post weld heat treatment - Selective corrosion
Classification code: 531.2 Metallography - 537.1 Heat Treatment Processes - 538.2 Welding - 539.1 Metals Corrosion - 545.3 Steel - 951 Materials Science
Database: Compendex
Data Provider: Engineering Village

50. Synthesis of pillared MCM-36 zeolites with tetramethylammonium silicate as pillaring reagent

Accession number: 20143600063280
Authors: Zhang, Jun-Tao (1); Qiu, Li-Min (2); Liang, Sheng-Rong (1); Su, Tong (1); Ding, Li-Qin (1)
Author affiliation: (1) Research Center of Petroleum Processing & Petrochemicals, Xi'an Shiyou University, Xi'an ; 710065, China; (2) SINOPEC Beijing Yanshan Company, Beijing ; 102500, China
Corresponding author: Zhang, Jun-Tao
Source title: Ranliao Huaxue Xuebao/Journal of Fuel Chemistry and Technology
Abbreviated source title: Ranliao Huaxue Xuebao J. Fuel Chem. Technol.
Volume: 42
Issue: 7
Issue date: July 1, 2014
Publication year: 2014
Pages: 858-864
Language: Chinese
ISSN: 2097213X
E-ISSN: 18725813

CODEN: RHXUD8
Document type: Journal article (JA)
Publisher: Science Press
Abstract: Pillared MCM-36 zeolites of MWW type were hydrothermally synthesized by pillaring swollen layered MCM-22P precursor, with tetramethylammonium silicate as the pillaring reagent; the synthesized zeolites were characterized by different physico-chemical techniques such as XRD, N2 adsorption, TEM, 27Al-MAS, NMR and NH3-TPD. The results showed that the swollen MCM-22P without drying was successfully pillared in an aqueous solution system; the MCM-36 zeolites with an uniform interlayer distance were then readily obtained. The suitable synthesis conditions for MCM-36 are 80 for 24 h for the interlayer swelling of MCM-22P at high pH value (13.5), and then at 100 for 24 h for the formation of the intercalating pillars. The MCM-36 zeolites obtained exhibit a typical MWW topology structure, with a composite pore system of both micropores in the crystalline layers and mesopores in the interlayer space, and a large specific surface area (especially external specific surface area). Compared with HMCM-22, the HMCM-36 zeolites show lower acid amount; however, a larger amount of structurally accessible Br#nsted acid sites located in the interlayer space of MCM-36 zeolites are exposed due to the formation of mesopores in the interlayer space, which should be favorable to the reaction involving bulky molecules.
Number of references: 26
Main heading: Hydrothermal synthesis
Controlled terms: Solutions - Specific surface area - Zeolites
Uncontrolled terms: Characterization - Hydrothermally synthesized - Interlayer spaces - MCM-36 - Mesopore - Physicochemical techniques - Pillared zeolite - Pillaring agents - Synthesized zeolite - Tetramethylammonium
Classification code: 802.2 Chemical Reactions - 804.2 Inorganic Compounds
Numerical data indexing: Time 8.64e+04s
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

51. Local spatiotemporal time-frequency peak filtering method for seismic random noise reduction

Accession number: 20144300124348
Authors: Liu, Yanping (1); Dang, Bo (1); Li, Yue (2); Lin, Hongbo (2)
Author affiliation: (1) College of Electronic Engineering, Xi'an Shiyou University, Xi'an; 710065, China; (2) College of Communication Engineering, Jilin University, Changchun; 130012, China
Corresponding author: Liu, Yanping
Source title: Journal of Applied Geophysics
Abbreviated source title: J. Appl. Geophys.
Volume: 111
Issue date: December 01, 2014
Publication year: 2014
Pages: 76-85
Language: English
ISSN: 09269851
Document type: Journal article (JA)
Publisher: Elsevier B.V., Netherlands
Abstract: To achieve a higher level of seismic random noise suppression, the Radon transform has been adopted to implement spatiotemporal time-frequency peak filtering (TFPF) in our previous studies. Those studies involved performing TFPF in full-aperture Radon domain, including linear Radon and parabolic Radon. Although the superiority of this method to the conventional TFPF has been tested through processing on synthetic seismic models and field seismic data, there are still some limitations in the method. Both full-aperture linear Radon and parabolic Radon are applicable and effective for some relatively simple situations (e.g., curve reflection events with regular geometry) but inapplicable for complicated situations such as reflection events with irregular shapes, or interlaced events with quite different slope or curvature parameters. Therefore, a localized approach to the application of the Radon transform must be applied. It would serve the filter method better by adapting the transform to the local character of the data variations. In this article, we propose an idea that adopts the local Radon transform referred to as piecewise full-aperture Radon to realize spatiotemporal TFPF, called local spatiotemporal TFPF. Through experiments on synthetic seismic models and field seismic data, this study demonstrates the advantage of our method in seismic random noise reduction and reflection event recovery for relatively complicated situations of seismic data. © 2014 Elsevier B.V.
Number of references: 21
Main heading: Radon

Controlled terms: Seismic waves - Mathematical transformations - Noise abatement - Seismic response
Uncontrolled terms: Different slopes - Filtering method - Irregular shape - Local spatiotemporal TFPF - Radon Transform - Random noise reductions - Regular geometry - Time frequency
Classification code: 484 Seismology - 484.2 Secondary Earthquake Effects - 622.1 Radioactive Materials, General - 751.4 Acoustic Noise - 804 Chemical Products Generally - 921.3 Mathematical Transformations
DOI: 10.1016/j.jappgeo.2014.09.018
Funding Details: Number: 41130421, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Funding text: We would like to thank Pengfei Nie of the Qingdao Institute of Marine Geology, Dr. Qian Zeng, Dr. Ning Wu, and Master Guanghai Zhuang of the college of Communication Engineering, Jilin University, for their inspiring suggestions and help. This work is supported by the National Natural Science Foundation of China under Grants 41130421 and 41274118 .
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

52. The designs of iron roughneck working torque real time monitoring scheme and the hardware system

Accession number: 20152100864192
Authors: Wu, Hao (1); Peng, Yong (1, 2)
Author affiliation: (1) Mechanical Engineering School, Xi'an Shiyou University, Xi'an, China; (2) National Engineering Technology Research Centre for Oil and Gas Drilling Equipment, Xi'an, China
Corresponding author: Wu, Hao
Source title: Computer Modelling and New Technologies
Abbreviated source title: Comput. Model. New Technol.
Volume: 18
Issue: 12
Issue date: 2014
Publication year: 2014
Pages: 145-149
Language: English
ISSN: 14075806
E-ISSN: 14075814
Document type: Journal article (JA)
Publisher: Transport and Telecommunication Institute, Lomonosova street 1, Riga, LV-1019, Latvia
Abstract: The iron roughneck, a full automatic making-up or breaking-out device instead of the traditional hydraulic tongs, has been applied in production practice and become the essential equipment in automatic pipe handling system on marine drilling platform. When the iron roughneck is at working, real time monitoring and controlling of the working torque is necessary. It can ensure the torque value is under control when drilling tools are made up or broken out so as to protect the drill screw threads and prolong the service life of drills. Based on the measurement and control of the working torque of the iron roughneck, the scheme, which treats testing hydraulic cylinder working pressure as the measurement information, is determined. The hardware circuit including sensors, single chip microcomputer, alarm, feedback control and so on is designed to provide hardware conditions for the test and control of the iron roughneck working torque. Finally, the simulation experience used to test alarm function of the system is carried out.
Number of references: 9
Main heading: Torque
Controlled terms: Drilling equipment - Drills - Hydraulic machinery - Iron
Uncontrolled terms: Essential equipments - Iron roughneck - Measurement and control - Measurement information - Production practice - Real time monitoring - Real-time monitoring and controlling - Single chip microcomputers
Classification code: 545.1 Iron - 603.2 Machine Tool Accessories - 632.2 Hydraulic Equipment and Machinery - 931.2 Physical Properties of Gases, Liquids and Solids
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

53. Road slope estimation algorithm and safety analysis of mountainous road

Accession number: 20142317791654

Authors: Ren, Zhiping (1); Wang, Huili (2)
Author affiliation: (1) School of Electronic Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) School of Automation, Northwestern Polytechnical University, Xi'an 710072, China
Corresponding author: Ren, Z.(renzp@xsyu.edu.cn)
Source title: Journal of Information and Computational Science
Abbreviated source title: J. Inf. Comput. Sci.
Volume: 11
Issue: 7
Issue date: May 1, 2014
Publication year: 2014
Pages: 2253-2265
Language: English
ISSN: 15487741
Document type: Journal article (JA)
Publisher: Binary Information Press
Abstract: Considering the three-dimension variation of the road surface, a new method to estimate road slope and turning radius of mountainous road is presented in this paper. In this method, the vehicle state equation, based on GPS expression in geographic Cartesian coordinate system, is presented directly. This avoids the approximation that Earth's surface is assumed to be a plane. Then the road surface is described and fitted in subparagraph combined the measurement information from GPS and IMU. By going forward the road sections piecewise, the whole road surface can be obtained. Based on the obtained road surface, longitudinal road slope and turning radius can be estimated. This management reduces the effects of random and cumulative error during the measurement. What is more, this method can deal with the condition that when the GPS record is missing by splining interpolation for the established state equations. The effectiveness of this method is verified by the experiment on some mountainous road in Shaanxi Province. Finally, the critical velocity and critical acceleration for safety driving on mountainous road is discussed. 1548-7741/Copyright © 2014 Binary Information Press.
Number of references: 18
Main heading: Roads and streets
Controlled terms: Equations of state
Uncontrolled terms: Cartesian coordinate system - Critical acceleration - Critical velocities - Measurement information - Road slope - State equations - Traffic safety - Turning radius
Classification code: 406.2 Roads and Streets
DOI: 10.12733/jics20103349
Database: Compendex
Data Provider: Engineering Village

54. Halftone image watermarking with block-directed parity-matched error diffusion

Accession number: 20150400441161
Authors: Xie, Kun (1); Zheng, Hai-Hong (1); Zeng, Ping (1, 2); Guo, Tao (1)
Author affiliation: (1) School of Computer and Science, Xidian University, Xi'an; 710071, China; (2) College of Computer Science, Xi'an Shiyou University, Xi'an; 710065, China
Source title: Tongxin Xuebao/Journal on Communications
Abbreviated source title: Tongxin Xuebao
Volume: 35
Issue: 12
Issue date: December 1, 2014
Publication year: 2014
Pages: 153-161
Language: Chinese
ISSN: 1000436X
Document type: Journal article (JA)
Publisher: Editorial Board of Journal on Communications
Abstract: A robust halftone image watermarking method was proposed. The method was developed in parity domain based on pixel block. Especially, the parity sum of a pixel block was defined by comparing the average of the pixel block with an image-dependent threshold. By altering the pixel block's parity based on noise-balanced block error diffusion, watermark was spread into the host image. Watermark was retrieved by employing each pixel block's parity and majority voting strategy, not referring to the original image. Compared with the state-of-the-art method in parity domain, the results indicate that the proposed method has high watermark rate and watermark rate flexibility. Moreover, it is capable of extracting watermark directly from the attacked watermarked image without quantizing it into

a halftone image. And it can achieve high robustness against common attacks and print-and-scan attack of different types of printers and scanners.
Number of references: 17
Main heading: Pixels
Controlled terms: Errors - Image watermarking - Diffusion - Watermarking
Uncontrolled terms: Block errors - Extracting watermarks - Halftone images - Parity-match - Print-and-scan attacks - State-of-the-art methods - Watermarked images - Watermarking methods
Classification code: 723.2 Data Processing and Image Processing - 811.1.1 Papermaking Processes
DOI: 10.3969/j.issn.1000-436x.2014.12.018
Funding Details: Number: 61100156, Acronym: -, Sponsor: -;
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

55. Treatment introduction of oily sewage methods

Accession number: 20140217192805
Authors: Qiu, Xiao Cui (1); Qu, Cheng Tun (1); Yang, Bo (1); Li, Bing Bing (1)
Author affiliation: (1) Key Laboratory of Environmental Pollution Control Technology, Reservoir Protection in Shaanxi Province, Xi'an Shiyou University, Xi'an, Shaanxi Province, 710065, China
Corresponding author: Qiu, X. C.(qxcalinach@163.com)
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 864-867
Issue title: Environmental Engineering
Issue date: 2014
Publication year: 2014
Pages: 1449-1453
Language: English
ISSN: 10226680
ISBN-13: 9783037859735
Document type: Conference article (CA)
Conference name: 3rd International Conference on Energy, Environment and Sustainable Development, EESD 2013
Conference date: November 12, 2013 - November 13, 2013
Conference location: Shanghai, China
Conference code: 101754
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: With the development of the oil industry, oilfield sewage, as a big pollutant, treatment has become an important issue. Since the complex components of oily sewage, untreated oily sewage may lead to serious environment problem if discharged at will. So it must be treated before discharged or returned into the layer. In this study, some treatment methods is introduced, and their treatment effects are illustrated. © (2014) Trans Tech Publications, Switzerland.
Number of references: 12
Main heading: Oil fields
Controlled terms: Sewage treatment
Uncontrolled terms: Complex components - Oil industries - Treatment effects - Treatment methods
Classification code: 452.2 Sewage Treatment - 512.1.1 Oil Fields
DOI: 10.4028/www.scientific.net/AMR.864-867.1449
Database: Compendex
Data Provider: Engineering Village

56. Emergency Decision-supporting System based on multi-agents negotiation

Accession number: 20151700775543
Authors: Gong, Qian-Sheng (1, 2)
Author affiliation: (1) Security Management Institute, Xi'an University of Science and Technology, Xi'an, China; (2) College of Economics and Business Management, Xi'an Shiyou University, Xi'an, China
Corresponding author: Gong, Qian-Sheng(gongqiansheng1979@126.com)

Source title: Proceedings of the 5th International Asia Conference on Industrial Engineering and Management Innovation, IEMI 2014
Abbreviated source title: Proc. Int. Asia Conf. Ind. Eng. Manag. Innov., IEMI
Part number: 1of1
Issue date: 2014
Publication year: 2014
Pages: 49-53
Language: English
ISBN-13: 9789462390997
Document type: Conference article (CA)
Conference name: 5th International Asia Conference on Industrial Engineering and Management Innovation, IEMI 2014
Conference date: July 21, 2014 - July 22, 2014
Conference location: Xi'an, China
Conference code: 111672
Sponsor: Chinese Industrial Engineering Institution (CIEI)
Publisher: Atlantis Press
Abstract: In light of the high complexity of the Emergency Decision-making, this paper introduced the Agent technology in artificial intelligence theory on the basis of the traditional Emergency Decision-supporting System. Taking into full consideration of such aspects as the function structure and systematic structure, and the negotiation mechanism among Agents, an Emergency Decision-supporting System is built on the basis of Multi-Agent negotiation. The negotiation and calculation is achieved through the combination of the scenario analysis and case reasoning. © Atlantis Press and the authors 2015.
Number of references: 10
Main heading: Decision making
Controlled terms: Indium compounds - Decision theory - Multi agent systems - Case based reasoning
Uncontrolled terms: Consultation - Decision supporting systems - Emergency decision makings - Function structures - Multi agent - Multiagent negotiation - Negotiation - Negotiation mechanism
Classification code: 912.2 Management - 961 Systems Science
DOI: 10.2991/978-94-6239-100-0-9
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

57. Modeling of integrated pollution in P2P system

Accession number: 20144600203689
Authors: Kong, Jie (1); Zhong, Dong (2)
Author affiliation: (1) School of Computer Science and Engineering, Xi'an Shiyou University, Xi'an, China; (2) School of Computer Science and Engineering, Northwestern Polytechnical University, Xi'an, China
Corresponding author: Kong, Jie
Source title: Proceedings - 2014 8th International Conference on Complex, Intelligent and Software Intensive Systems, CISIS 2014
Abbreviated source title: Proc. - Int. Conf. Complex, Intelligent Softw. Intensive Syst., CISIS
Part number: 1of1
Issue date: October 1, 2014
Publication year: 2014
Pages: 191-197
Article number: 6915516
Language: English
ISBN-13: 9781479943258
Document type: Conference article (CA)
Conference name: 2014 8th International Conference on Complex, Intelligent and Software Intensive Systems, CISIS 2014
Conference date: July 2, 2014 - July 4, 2014
Conference location: Birmingham, United kingdom
Conference code: 114706
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In this paper, a P2P pollution method named integrated pollution is proposed. It integrates the characteristic of fake-block-attack and index pollution to solve the limitation of each. The mathematic model of integrated pollution

is built to discuss the factors which influence the effect of integrated pollution. The simulation of this model shows that the effect of integrated pollution depends on the amount of attackers, the amount of invalid peer information and the maximum connection of downloading peers. The influence of these 3 factors to the effect of integrated pollution is analyzed. © 2014 IEEE.
Number of references: 12
Main heading: Pollution
Controlled terms: Distributed computer systems - Peer to peer networks
Uncontrolled terms: fake-block-attack - integrated - Mathematic model - P2P system
Classification code: 722 Computer Systems and Equipment - 722.4 Digital Computers and Systems
DOI: 10.1109/CISIS.2014.27
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

58. On determination of thresholds in three-way approximation of many-valued NM-logic

Accession number: 20142817925496
Authors: She, Yanhong (1, 2)
Author affiliation: (1) College of Science, Xi'an Shiyou University, Xi'an 710065, China; (2) Department of Computer Science, University of Regina, Regina, SK S4S 0A2, Canada
Corresponding author: She, Y.(yanhongshe@gmail.com)
Source title: Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)
Abbreviated source title: Lect. Notes Comput. Sci.
Volume: 8536 LNAI
Issue title: Rough Sets and Current Trends in Soft Computing - 9th International Conference, RSCTC 2014, Proceedings
Issue date: 2014
Publication year: 2014
Pages: 136-143
Language: English
ISSN: 03029743
E-ISSN: 16113349
ISBN-13: 9783319086439
Document type: Conference article (CA)
Publisher: Springer Verlag
Abstract: Approximation of a many-valued logic by a logic with less number of truth values is an important topic. Three-way approximation based on a pair of thresholds is an example considered by Yao. However, the determination of thresholds has not been investigated yet. In this paper, we aim to study this issue in the context of many-valued NM-logic with the standard valuation domain {0, 1/n-1, 2/n-1, , n-2/n-1, 1}. The main result is that when n is odd, the thresholds for three-way decision is uniquely determined. When n is even, there is actually no three-way decision, but two-way decision. © 2014 Springer International Publishing.
Number of references: 14
Main heading: Many valued logics
Controlled terms: Computer circuits
Uncontrolled terms: NM-logic - three-way decision - thresholds - Truth values - Two ways
Classification code: 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 721.3 Computer Circuits
DOI: 10.1007/978-3-319-08644-6_14
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

59. The radar target recognition research based on improved neural network algorithm

Accession number: 20145200380926
Authors: Peipei, Duan (1, 2); Hui, Li (1)
Author affiliation: (1) School of Electronics and Information, Northwestern Polytechnical University, Xi'an; 710129, China; (2) School of Computer Science, Xi'An Shiyou University, Xi'an; 710065, China

Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 1074-1077
Article number: 6977782
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: High range resolution profile(HRRP) has been a hotspot in the field of radar target recognition. But there are still many problems. This paper focuses on one-dimensional range target recognition based on an improved BP algorithm. There are a large number of samples used to learn the distribution characteristics of radar targets. The BP neural network algorithm is applied to match the template. Though standard BP algorithm has many advantages, it sometimes can not even be trained. Here, the influence of activation function is analyzed and a new algorithm is improved based on the biological learning process. The simulations show that the new method is feasible and can save the training time of the neural network. On the other hand, the generalization ability of this revised algorithm is improved too. © 2014 IEEE.
Number of references: 10
Main heading: Radar target recognition
Controlled terms: Learning algorithms - Bioinformatics - Neural networks - Chemical activation
Uncontrolled terms: Activation functions - Biological learning - Distribution characteristics - Generalization ability - High range resolution profile - High resolution range profiles - Improved BP algorithms - Neural network algorithm
Classification code: 461.8.2 Bioinformatics - 716.2 Radar Systems and Equipment - 723.4.2 Machine Learning - 802.2 Chemical Reactions - 804 Chemical Products Generally
DOI: 10.1109/ISDEA.2014.237
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

60. Natural gas consumption forecasting based on combinatorial optimization model

Accession number: 20143218027657
Authors: Wang, Jun Qi (1); Chen, Lei (1); Li, Li (2); Wang, Yi Xu (2)
Author affiliation: (1) School of Petroleum Engineering, Xi'an Shiyou University, Xi'an, Shaanxi 710065, China; (2) Xi'an Middle School of Shaanxi Province, Xi'an, Shaanxi 710018, China
Corresponding author: Wang, J. Q.(wjq_xasy@163.com)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 596
Issue title: Mechatronics and Industrial Informatics II
Issue date: 2014
Publication year: 2014
Pages: 174-178
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038351764
Document type: Conference article (CA)
Conference name: 2nd International Conference on Mechatronics and Industrial Informatics, ICMII 2014
Conference date: May 30, 2014 - May 31, 2014

Conference location: Guangzhou, China
Conference code: 106674
Sponsor: Hong Kong Industrial Technology Research Centre; Inha University; Korea Maritime University
Publisher: Trans Tech Publications Ltd
Abstract: As the estimating of natural gas consumption can provide a better guidance target to gas production and market development, its accuracy is playing an extremely important role in both the reasonable programming of oil and gas field development management and the promotion of economic benefits. This article builds a mathematical model of combinatorial optimization based on the natural gas consumption data of China, and solves it then by means of MATLAB.Compared with the actual value, the deviation of the combinatorial optimization worked out less than that in the single calculating method. When applied to the real production, this model can provide theoretical evidence to the programming of oil and gas development management and the adjustment of development project as well. © (2014) Trans Tech Publications, Switzerland.
Number of references: 6
Main heading: Combinatorial optimization
Controlled terms: MATLAB - Sustainable development - Economic and social effects - Gases - Gas industry - Natural gas - Natural gas fields
Uncontrolled terms: Calculating methods - Combination - Consumption - Development project - Economic benefits - Market development - Natural gas consumption - Oil and gas fields
Classification code: 512.2.1 Natural Gas Fields - 522 Gas Fuels - 723.5 Computer Applications - 921 Mathematics - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory - 921.5 Optimization Techniques - 971 Social Sciences
DOI: 10.4028/www.scientific.net/AMM.596.174
Database: Compendex
Data Provider: Engineering Village

61. Numerical solution of high-order differential equations by using periodized Shannon wavelets (*Open Access*)

Accession number: 20141217481092
Authors: Shi, Zhi (1); Li, Fumin (2)
Author affiliation: (1) School of Science, Xi'an University of Architecture and Technology, Xi'an 710055, China; (2) School of Science, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Shi, Z.(shizhi8201@sina.com)
Source title: Applied Mathematical Modelling
Abbreviated source title: Appl. Math. Model.
Volume: 38
Issue: 7-8
Issue date: 2014
Publication year: 2014
Pages: 2235-2248
Language: English
ISSN: 0307904X
CODEN: AMMODL
Document type: Journal article (JA)
Publisher: Elsevier Inc.
Abstract: In this paper, periodized Shannon wavelets are applied as basis functions in solution of the high-order ordinary differential equations and eigenvalue problem. The first periodized Shannon wavelets are defined. The second the connection coefficients of periodized Shannon wavelets are related by a simple variable transformation to the Cattani connection coefficients. Finally, collocation method is used for solving the high-order ordinary differential equations and eigenvalue problem. Some equations are solved in order to find out advantage of such choice of the basis functions. © 2013 Elsevier Inc.
Number of references: 14
Main heading: Eigenvalues and eigenfunctions
Controlled terms: Functions - Ordinary differential equations
Uncontrolled terms: Approximation - Basis functions - Collocation method - Connection coefficients - Eigenvalue problem - Numerical solution - Shannon wavelet - Variable transformation
Classification code: 921 Mathematics - 921.2 Calculus
DOI: 10.1016/j.apm.2013.10.030
Compendex references: YES

Open Access type(s): All Open Access, Bronze
Database: Compendex
Data Provider: Engineering Village

62. A point-based tracking algorithm for vehicle trajectories in complex environment

Accession number: 20145200381014
Authors: Shengnan, Lu (1, 2); Huansheng, Song (1); Hua, Cui (1); Guofeng, Wang (3)
Author affiliation: (1) Chang'an University, Xian, Shaanxi; 710064, China; (2) Xi'an Shiyou University, Xian, Shaanxi; 710065, China; (3) China Highway Engineering Consulting Corporation, Beijing; 100097, China
Corresponding author: Shengnan, Lu
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 69-73
Article number: 6977548
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In this paper, a point-based tracking algorithm is presented, which can be used in traffic jams and complex weather conditions. The main approaches for tracking vehicle trajectories are based on accurately segment for the moving vehicles, while uneven illumination, shadows and vehicle overlapping are difficult to handle. The main contribution of this paper is to propose a point tracking algorithm for vehicle trajectories without a difficult image segmentation procedure. In the proposed algorithm, feature points are extracted using an improved Moravec algorithm. A specially designed template is used to track the feature points through the image sequences. Then trajectories of feature points can be obtained, while unqualified track trajectories are removed using decision rules. The experiment results show that the algorithm is robust enough for vehicle tracking in complex weather conditions. © 2014 IEEE.
Number of references: 11
Main heading: Tracking (position)
Controlled terms: Edge detection - Traffic congestion - Image segmentation - Trajectories - Vehicles
Uncontrolled terms: Complex environments - Corner detection - Moravec algorithms - Segmentation procedure - Tracking algorithm - Uneven illuminations - Vehicle overlapping - Vehicle trajectories
Classification code: 701.1 Electricity: Basic Concepts and Phenomena - 723.4 Artificial Intelligence
DOI: 10.1109/ISDEA.2014.24
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

63. Analysis on water sources in a CBM gas well and forecast of water yield quantity: A case study from the Hancheng Mine at the eastern edge of the Ordos Basin

Accession number: 20143900069318
Authors: Liu, Zhidi (1); Zhao, Jingzhou (1); Xu, Fengyin (2); Yang, Xiuchun (2); Zhang, Jikun (2)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an; Shaanxi; 710065, China; (2) PetroChina Coalbed Methane Co., Ltd., Beijing; 100028, China
Corresponding author: Liu, Zhidi
Source title: Natural Gas Industry
Abbreviated source title: Natur. Gas Ind.

Volume: 34
Issue: 8
Issue date: August 25, 2014
Publication year: 2014
Pages: 61-67
Language: Chinese
ISSN: 10000976
CODEN: TIGOE3
Document type: Journal article (JA)
Publisher: Natural Gas Industry Journal Agency
Abstract: Pressure reduction by water drainage in a CBM gas well is a key to accelerating the coalbed methane (CBM) desorption, so it is contributive to the reasonable formulation of a CBM development program to find out water sources of drainage and effectively forecast water yield quantity. According to drainage and logging data, based on the principle of "static conditions determined by dynamic conditions while hydraulic conditions forecasted with static conditions", and in combination with the comprehensive analysis on water sources and water yield quantity in coal bed mining, four assessment indicators (the distance from a CBM well to the fault, relative structure amplitude, water-yield grade respectively of a coal bed and its roof and floor) were used as main influencing factors of water yield quantity in CBM production to figure out a water-yield forecasting model and work out plane distribution characteristics of water yields of a CBM gas well in the research area according to the forecasting results. The comprehensive assessment shows that the water yield in CBM production is from the close fault zone, the structure low-amplitude zone, sandstones of roof and floor, or coal beds themselves; most wells with a great water yield are usually situated close to the fault zone, the structure low-amplitude zone, or the area with sandstone aquifers at roof and floor, but a water yield from coal beds is relatively low. A great amount of water is found at the south, north and middle around Well H3-2-025 of No. 5 coal bed in the research area, showing that the water yield is increasing gradually from the fault zone, the structure low-amplitude zone to thick sandstones of coal bed roof and floor, which is consistent with that in actual CBM production with water drainage.
Number of references: 14
Main heading: Coal bed methane
Controlled terms: Coal - Coal deposits - Hydrogeology - Roofs - Floors - Forecasting - Metamorphic rocks - Natural gas wells - Aquifers - Firedamp - Drainage - Sandstone - Catchments - Methane - Natural gas well production
Uncontrolled terms: Development programs - Fault zone - Low-amplitude - Ordos Basin - Water source - Water yield
Classification code: 402 Buildings and Towers - 444.2 Groundwater - 481.1 Geology - 482.2 Minerals - 503 Mines and Mining, Coal - 512.2 Natural Gas Deposits - 512.2.1 Natural Gas Fields - 522 Gas Fuels - 524 Solid Fuels - 804.1 Organic Compounds
DOI: 10.3787/j.issn.1000-0976.2014.08.009
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

64. Atomic simulation of mechanical behavior of Mg in a super-lattice of nanocrystalline Mg and amorphous Mg-Al alloy

Accession number: 20145000312930
Authors: Song, H.Y. (1, 2); An, M.R. (1); Li, Y.L. (1); Deng, Q. (1)
Author affiliation: (1) School of Aeronautics, Northwestern Polytechnical University, Xi'an; 710072, China; (2) College of Material Science and Engineering, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Song, H.Y.
Source title: Journal of Applied Physics
Abbreviated source title: J Appl Phys
Volume: 116
Issue: 21
Issue date: December 7, 2014
Publication year: 2014
Article number: 214305
Language: English
ISSN: 00218979
E-ISSN: 10897550

CODEN: JAPIAU
Document type: Journal article (JA)
Publisher: American Institute of Physics Inc.
Abstract: The mechanical properties of a super-lattice architecture composed of nanocrystalline Mg and Mg-Al amorphous alloy are investigated using molecular dynamics simulation. The results indicate that deformation mechanism of nanocrystalline Mg is obviously affected by the amorphous boundary spacing and temperature. The strength of the material increases with the decrease of amorphous boundary spacing, presenting a Hall-Petch effect at both 10K and 300 K. A stress platform and following stiffness softening, as well as a linear strengthening in the plastic stage, are observed when the amorphous boundary spacing below 8.792 nm at 10 K. The implying reason may be that the amorphous boundary acts as the dislocations emission and absorption source. However, the second stress peak is not observed for the models at 300 K. Instead, the flow stress in plastic stage is a nearly constant value. The simulation demonstrates the emergence of the new grain, accompanied by the deformation twins and stacking faults associated with the plastic behaviors at 300 K. The general conclusions derived from this work may provide a guideline for the design of high-performance hexagonal close-packed metals. © 2014 AIP Publishing LLC.
Number of references: 44
Main heading: Nanocrystals
Controlled terms: Deformation - Stacking faults - Magnesium alloys - Aluminum alloys - Molecular dynamics - Nanocrystalline alloys - Amorphous alloys - Binary alloys
Uncontrolled terms: Atomic simulations - Deformation mechanism - Deformation twin - Hall-Petch effects - Hexagonal close packed - Mechanical behavior - Molecular dynamics simulations - Plastic behavior
Classification code: 531 Metallurgy and Metallography - 541.2 Aluminum Alloys - 542.2 Magnesium and Alloys - 549.2 Alkaline Earth Metals - 761 Nanotechnology - 801.4 Physical Chemistry - 933.1 Crystalline Solids - 933.1.1 Crystal Lattice
Numerical data indexing: Size 8.79e-09m, Temperature 1.00e+01K, Temperature 3.00e+02K
DOI: 10.1063/1.4903526
Funding Details: Number: 10902083,11372256, Acronym: -, Sponsor: -;
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

65. An image compression improved algorithm based on the combination of fractal and ant colony algorithm

Accession number: 20145200381032
Authors: Li, Lou (1, 2); Tianshi, Liu (2); Yong, Li (1)
Author affiliation: (1) School of Electronics and Information, Northwest Polytechnical University, Xi'an; 710072, China; (2) College of Computer Science, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Li, Lou
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 149-152
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Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: A new image coding improved algorithm based on the combination of fractal and ant colony is proposed in this paper. The algorithm combines the feature of multi-resolution analysis of wavelet transformation and segments

the original image to construct the searching space. After the class matching based on ant colony matching probability of range block and domain block, the average number of matching is reduced greatly. We apply the fractal predicting by the different block size according to the different texture feature of different orientation sub images. That makes improvement of fractal coding speeding up and realizes image compression. The experimental results indicate that the improved algorithm can decrease the fractal coding time greatly and achieve a higher compression rate. © 2014 IEEE.
Number of references: 12
Main heading: Wavelet decomposition
Controlled terms: Ant colony optimization - Fractals - Image enhancement - Image compression - Codes (symbols) - Image coding
Uncontrolled terms: Ant colonies - Ant colony algorithms - Average numbers - Compression rates - Original images - Searching spaces - Texture features - Wavelet transformations
Classification code: 723.2 Data Processing and Image Processing - 921 Mathematics - 921.3 Mathematical Transformations - 921.5 Optimization Techniques
DOI: 10.1109/ISDEA.2014.41
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

66. Geological characteristics and main controlling factors of hydrocarbon accumulation in Chang 7 tight oil of Yanchang Formation of Xiasiwan area, Ordos Basin

Accession number: 20151200650897
Authors: Zhao, Weiwei (1); Yang, Yunxiang (2); Song, Heping (2); Li, Delu (1)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an; 710065, China; (2) Xiasiwan Oil Production Plant, Yanchang Oilfield Co., Ltd., Yan'an, China
Corresponding author: Zhao, Weiwei(zhaowei3028@163.com)
Source title: Zhongnan Daxue Xuebao (Ziran Kexue Ban)/Journal of Central South University (Science and Technology)
Abbreviated source title: Zhongnan Daxue Xuebao (Ziran Kexue Ban)
Volume: 45
Issue: 12
Issue date: December 26, 2014
Publication year: 2014
Pages: 4267-4276
Language: Chinese
ISSN: 16727207
CODEN: ZDXZAC
Document type: Journal article (JA)
Publisher: Central South University of Technology
Abstract: Based on the analysis of massive data about well drilling, well logging, geological log, production test, combined with the core observation and thin section analysis, through comprehensive study of reservoir and source rock distribution, petrology and geochemistry, the geological characteristics, hydrocarbon distribution laws and main controlling factors of Chang 7 tight oil in Xiasiwan area of Ordos Basin were studied. The results show that Chang 7 in Xiasiwan area contains abundant tight oil resources, and they accumulate in source rocks in tight sandstones or adjacent to source rocks. Generally, this oil accumulation has not yet experienced a large-scale, long-distance migration. Tight oil in Xiasiwan area is characterized by a wide distribution, superior conditions of source rocks, tight sandstone reservoirs, complex pore-throat structure, abundant fractures and oil saturation, better crude property, low fluid pressure coefficient and low oil yield. The formation of large-scale superimposed tight oil reservoirs is controlled by the interbeded lithologic combination of extensive source rocks and reservoirs and the strong hydrocarbon generation and expulsion during geological history. This type of pool is an important potential resource, revealing the huge potential and good exploration prospect. ©, 2014, Central South University of Technology. All right reserved.
Number of references: 18
Main heading: Hydrocarbons
Controlled terms: Oil well drilling - Sandstone - Metamorphic rocks - Oil well logging - Petroleum reservoir engineering - Petroleum reservoirs - Tight gas
Uncontrolled terms: Chang 7 Member - Main controlling factors - Ordos Basin - Tight oil - Xiasiwan area
Classification code: 482.2 Minerals - 512.1.1 Oil Fields - 512.1.2 Petroleum Deposits : Development Operations - 512.2 Natural Gas Deposits - 522 Gas Fuels - 804.1 Organic Compounds
Funding Details: Number: 41102083, Acronym: -, Sponsor: -;

Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

67. Study on fiber-optic hydrogen sulfide gas sensor (*Open Access*)

Accession number: 20150800560369
Authors: Zhou, Hong (1); Wen, Jun-Qing (1); Zhang, Xiao-Zhen (1); Wang, Wei (1); Feng, De-Quan (1); Wang, Qi (1); Jia, Fei (2)
Author affiliation: (1) College of Science Xi'an Shiyou University, Dian zi er road No.18, Xi'an; 710065, China; (2) University of Bern, Sidlerstrasse 5, Bern; 3012, Switzerland
Source title: Physics Procedia
Abbreviated source title: Phys. Procedia
Volume: 56
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Issue date: 2014
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Pages: 1102-1106
Language: English
ISSN: 18753884
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Document type: Conference article (CA)
Conference name: International Conference on Laser Assisted Net Shape Engineering, LANE 2014
Conference date: September 8, 2014 - September 11, 2014
Conference location: Rosenstrasse 50, Furth, 90762, Germany
Conference code: 108428
Sponsor: Bayers Photonics; Cambridge Technology; European Laster Institution ELI; LPKF Laser and Electronics; SAOT
Publisher: Elsevier B.V.
Abstract: We describe a novel fiber-optic gas sensor which hydrogen Sulfide (H2S) gas can be detected by a silver coated fiber bragg grating (FBG). The H2S sensitive material Ag can be coated on the cladding surrounding surface of FBG by conventional silver mirror reaction. The scanning electron microscope (SEM) was applied to analysis the Ag film structure before and after the interaction with H2S gas. By conducting the experiment of Ag-coated optical sensor (AOS), the relation between the H2S gas concentration and absorption spectrum was built. Result shows that while the concentration alters from 0 to 9.32%, a linear response of AOS signal to H2S concentration was observed with the response sensitivity of 0.332 dBm/% and linearity R2=0.9966. Such H2S sensor is suitable for monitoring the H2S hazard as a one time disposable logging-while-drilling sensor. © 2014 The Authors. Published by Elsevier B.V.
Number of references: 4
Main heading: Fiber Bragg gratings
Controlled terms: Absorption spectroscopy - Fiber optics - Fibers - Gas detectors - Gases - Hydrogen sulfide - Infill drilling - Metal forming - Mirrors - Scanning electron microscopy - Silver - Sulfur compounds - Sulfur determination
Uncontrolled terms: H2S gas sensors - Hydrogen sulfide gas - Logging while drilling - Response sensitivity - Sensitive materials - Silver coated fibers - Silver mirror reactions - The scanning electron microscopes (SEM)
Classification code: 511.1 Oil Field Production Operations - 535.2 Metal Forming - 547.1 Precious Metals - 741.1.2 Fiber Optics - 741.3 Optical Devices and Systems - 801 Chemistry - 804.2 Inorganic Compounds - 914.1 Accidents and Accident Prevention
Numerical data indexing: Percentage 0.00e+00% to 9.32e+00%
DOI: 10.1016/j.phpro.2014.08.023
Funding Details: Number: 11247229,61240028, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 2011JM8028, Acronym: -, Sponsor: Natural Science Foundation of Shaanxi Province; Number: 12JK0683, Acronym: -, Sponsor: Education Department of Shaanxi Province;
Funding text: This work was financially supported by the National Natural Science Foundation of China (61240028 and 11247229), the Natural Science Foundation of Shaanxi Province (2011JM8028), the Foundation of Education Department of Shaanxi Province (12JK0683).
Compendex references: YES
Open Access type(s): All Open Access, Gold
Database: Compendex
Data Provider: Engineering Village

68. Cationization and application of polysaccharide as high inhibitive drilling fluid additive

Accession number: 20140517248922
Authors: Zhang, Jie (1); Zhang, Qiang (1); Chen, Gang (1); Zhao, Jing-Rui (2); Xu, Ren-Jun (2)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) Shaanxi Yanchang Petroleum Oilfield Chemical Technology Co., LTD, Yan'an 717400, China
Corresponding author: Zhang, J.(zhangjie@xsyu.edu.cn)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 488
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Publication year: 2014
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Language: English
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Conference name: 2014 International Conference on Advanced Engineering Materials and Architecture Science, ICAEMAS 2014
Conference date: January 4, 2014 - January 5, 2014
Conference location: Xi'an, Shaanxi, China
Conference code: 102252
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: To improve the solubility of a kind of plant polysaccharide derivative (SJ) in drilling fluid system, it was modified by cationization with GTA as cationic etherifying agent. The reaction conditions were investigated by orthogonal designed experiments, and the optimized conditions were as follows: the mass ratio of GTA to SJ is 0.6g/1g with pH 12 at the temperature of 90°C. The viscosity of cationic SJ (CSJ) drilling fluid system was greatly improved and the temperature had a slight effect on rheological properties below 100°C. The inhibitive property of CSJ is evaluated by clay-swelling tests and the mud ball immersing tests, which is obviously stronger than SJ and even more effective than 4%wt KCl solution. © (2014) Trans Tech Publications, Switzerland.
Number of references: 10
Main heading: Viscosity
Controlled terms: Potassium compounds - Swelling - Chlorine compounds - Drilling fluids
Uncontrolled terms: Cationization - Drilling fluid additives - Drilling fluid systems - Inhibitive properties - Modification - Optimized conditions - Plant polysaccharides - Rheological property
Classification code: 631.1 Fluid Flow, General - 931.2 Physical Properties of Gases, Liquids and Solids - 951 Materials Science
Numerical data indexing: Temperature 3.63e+02K, Temperature 3.73e+02K
DOI: 10.4028/www.scientific.net/AMM.488-489.795
Database: Compendex
Data Provider: Engineering Village

69. Semi-active optimization control of space truss model with piezoelectric friction damper

Accession number: 20143900075383
Authors: Zhan, Meng (1); Wang, Sheliang (1); Zhu, Xiyu (2); Zhu, Junqiang (1)
Author affiliation: (1) School of Civil Engineering, Xi'an University of Architecture and Technology, Xi'an; 710055, China; (2) College of Mechanical Engineering, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Wang, Sheliang
Source title: Jianzhu Jiegou Xuebao/Journal of Building Structures
Abbreviated source title: Jianzhu Jiegou Xuebao
Volume: 35
Issue: 8
Issue date: August 1, 2014
Publication year: 2014
Pages: 50-56

Language: Chinese
ISSN: 10006869
CODEN: JJXUD2
Document type: Journal article (JA)
Publisher: Science Press
Abstract: Based on the piezoelectric effect of piezoelectric materials, a new piezoelectric friction damper was designed by combining the piezoelectric ceramic with passive friction damper. The sliding friction damping force was changed between the friction plate by applying voltage, and real-time semi-active control to structure was realized. Working principle and construction method of the damper was analyzed and the corresponding damping force model was derived. Different numbers of piezoelectric friction damper layout optimization was researched for space truss structure by using genetic algorithm. And through adopting the semi-active control strategy based on LQR algorithm, different numbers of piezoelectric friction damper control effect of seismic response was analyzed at random layout and optimized layout of dampers. The results show that the piezoelectric friction damper has good mitigation effect to seismic response of the space truss model. After using genetic algorithm to optimize damper layout, the biggest control effect reaches 57%, and the control effect is improved by 8% compared with the random setting damper.
Number of references: 13
Main heading: Genetic algorithms
Controlled terms: Piezoelectric ceramics - Piezoelectricity - Damping - Friction - Seismic response - Trusses - Tribology
Uncontrolled terms: Construction method - Layout optimization - Optimization control - Optimized layout - Piezoelectric friction damper - Semiactive control - Space truss - Space truss structure
Classification code: 408.2 Structural Members and Shapes - 484.2 Secondary Earthquake Effects - 701.1 Electricity: Basic Concepts and Phenomena - 708.1 Dielectric Materials - 812.1 Ceramics - 931 Classical Physics; Quantum Theory; Relativity - 931.1 Mechanics
Numerical data indexing: Percentage 5.70e+01%, Percentage 8.00e+00%
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

70. Effect of pH on characterization and coagulation performance of poly-silicic-cation coagulant

Accession number: 20143218044439
Authors: Li, Ran (1); Pan, Jie (1); Qin, Wenlong (1); Yang, Jiang (1); He, Yanling (2)
Author affiliation: (1) College of Petroleum Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) School of Human Settlement and Civil Engineering, Xi'an Jiaotong University, Xi'an 710049, China
Corresponding author: Li, R.(liran0511@stu.xjtu.edu.cn)
Source title: Desalination
Abbreviated source title: Desalination
Volume: 351
Issue date: October 15, 2014
Publication year: 2014
Pages: 37-42
Language: English
ISSN: 00119164
CODEN: DSLNAH
Document type: Journal article (JA)
Publisher: Elsevier B.V., Netherlands
Abstract: Poly-silicic-cation coagulants (PSiCs) with different pH were prepared by synchronous-polymerization. The characteristics and coagulation performances of the coagulants were analyzed. The results show that the crystal, structure and morphology of PSiC are influenced by pH and the optimal preparation pH is 1.5. The crystal analysis shows that some new complex compounds are formed in PSiC. The polymerization form and complexation degree of PSiC with pH of 1.5 are better than at other pH values. The structure and morphology analyses imply that the contents of ionic polymerized bonds, high polymers and irregular PSiC units decrease, and cross-copolymerization of Fe (III) and Al (III) hydroxyl polymers is weakened when pH is too low or too high. Coagulation experiments also indicate that the PSiC with pH value of 1.5 exhibits better coagulation performance in removing turbidity, COD and chroma of paper mill wastewater. © 2014 Elsevier B.V.
Number of references: 28
Main heading: Industrial wastes

Controlled terms: Positive ions - Crystal structure - pH - Aluminum compounds - Iron compounds - Polymerization - Coagulation
Uncontrolled terms: Coagulation performance - Complex compounds - Complexation degree - Effect of pH - Paper mill wastewater - Poly-silicic-cation coagulant - Preparation pH - Structure and morphology
Classification code: 452.3 Industrial Wastes - 801.1 Chemistry, General - 802.3 Chemical Operations - 815.2 Polymerization - 933.1.1 Crystal Lattice
DOI: 10.1016/j.desal.2014.07.017
Funding Details: Number: 51304159,51304160, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: -, Acronym: XSYU, Sponsor: Xi'an Shiyou University;
Funding text: This study was supported by the National Natural Science Foundation of China (No. 51304160 and No. 51304159) and the PhD Start-up Fund of Xi'an Shiyou University "Treatment and Reuse of Oily Wastewater" .
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

71. Estimation of rock drillability based on a Bayesian multi-branch model

Accession number: 20143017975520
Authors: Sha, Lin-Xiu (1); Shao, Xiao-Hua (2); Zhang, Qi-Zhi (1); Li, Lin (1)
Author affiliation: (1) Key Laboratory of Drilling Rigs Controlling Technique, Xi'an Shiyou University, Xi'an 710065, China; (2) The First Drilling Company, Daqing Drilling Corporation, Daqing 710072, China
Corresponding author: Sha, L.-X.(shalinxiu@xsyu.edu.cn)
Source title: Zhongguo Shiyou Daxue Xuebao (Ziran Kexue Ban)/Journal of China University of Petroleum (Edition of Natural Science)
Abbreviated source title: Zhongguo Shiyou Daxue Xuebao (Ziran Kexue Ban)
Volume: 38
Issue: 3
Issue date: June 2014
Publication year: 2014
Pages: 73-79
Language: Chinese
ISSN: 16735005
Document type: Journal article (JA)
Publisher: University of Petroleum, China
Abstract: A two-level model was established for predicting rock's drillability based on a Bayesian multi-branch model in order to improve the real-time calculating capability of the model and increase its generalization ability for intelligent optimization control. By using the Bayesian method for lithology classification, the correlations of different rock samples and their drillability can be refined, and consequently the rock drillability model can be improved. Using an optimized back-propagation neural network (BPNN) with an improved double-chain quantum genetic algorithm (IDCQGA), the new model of IDCQGA_BPNN can be modified according to the lithology type of rocks. The results show that this method can not only enhance the generalization ability of the model, which is optimized by an intelligent algorithm, but also can accelerate its calculation speed and improve its accuracy. The simulation results indicate that the model is satisfied for the use in real-time intelligent optimization control process for predicting the rock drillability while drilling.
Number of references: 25
Main heading: Lithology
Controlled terms: Bayesian networks - Rocks - Barium compounds - Chains - Neural networks - Genetic algorithms
Uncontrolled terms: Back-propagation neural networks - Bayesian classifier - Intelligent Algorithms - Intelligent optimization - Levenberg-Marquardt algorithm - Lithology classification - Quantum genetic algorithm - Rock drillability
Classification code: 481.1 Geology - 602.1 Mechanical Drives - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory
DOI: 10.3969/j.issn.1673-5005.2014.03.012
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

72. Rock classification based on image processing and neural networks

Accession number: 20142717908438
Authors: Wei, Xin Shan (1); Rong, Chun Long (1); Nan, Jun Xiang (1); Cheng, Guo Jian (2); Liu, Ye (2)
Author affiliation: (1) Research Institute of Exploration and Development, Changqing Oilfield Co, CNPC, Xi'an, 710021, China; (2) School of Computer Science, Xi'an Shiyou University, Xi'an, 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 568-570
Issue title: Measurement Technology and its Application III
Issue date: 2014
Publication year: 2014
Pages: 685-690
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038351382
Document type: Conference article (CA)
Publisher: Trans Tech Publications Ltd
Abstract: For the identification complexity of rock microstructure, based on numerical analysis of rock section images, an automatic rock texture classification method and identification system is proposed in this paper. Digital grey image processing of rock thin section is used for features extraction, the features are then as inputs to the neural network model, the model output is the rock microstructure classification. 100 pieces of rock section images from Sulige region in Changqing Oilfield are used for the experiment; the whole dataset is randomly divided into 70 images for training datasets, 15 images for validation datasets and 15 images for testing datasets. It is shown that the correct classification rate for automatic identification of rock microstructure is about 93.3%. Therefore, the proposed method for solving geological problem is effective and can get a good identification performance for rock microstructure classification quickly and accurately. © (2014) Trans Tech Publications, Switzerland.
Number of references: 9
Main heading: Neural networks
Controlled terms: Microstructure - Image analysis - Oil fields - Rocks - Automation - Image classification - Image texture - Numerical methods
Uncontrolled terms: Automatic identification - Classification rates - Features extraction - Neural network model - Rock classification - Rock microstructure - Rock textures - Training data sets
Classification code: 512.1.1 Oil Fields - 723.2 Data Processing and Image Processing - 731 Automatic Control Principles and Applications - 921.6 Numerical Methods - 951 Materials Science
Numerical data indexing: Percentage 9.33e+01%
DOI: 10.4028/www.scientific.net/AMM.568-570.685
Database: Compendex
Data Provider: Engineering Village

73. Modification of punica granatum Linne husk extract as eco-friendly corrosion inhibitors in oil fields

Accession number: 20140517248804
Authors: Zhang, Jie (1); Zhang, Qiang (1); Chen, Gang (1); Zhao, Jing-Rui (2); Tang, De-Yao (2)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) Shaanxi Yanchang Petroleum Oilfield Chemical Technology Co., LTD, Yan'an 717400, China
Corresponding author: Zhang, J.(zhangjie@xsyu.edu.cn)
Source title: Applied Mechanics and Materials
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Volume: 488
Issue title: Materials Science, Civil Engineering and Architecture Science, Mechanical Engineering and Manufacturing Technology
Issue date: 2014
Publication year: 2014
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ISBN-13: 9783037859766

Document type: Conference article (CA)
Conference name: 2014 International Conference on Advanced Engineering Materials and Architecture Science, ICAEMAS 2014
Conference date: January 4, 2014 - January 5, 2014
Conference location: Xi'an, Shaanxi, China
Conference code: 102252
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: The pomegranate husk extract is modified by formaldehyde and diethylamine, the products have been investigated as corrosion inhibitors for Q235A steel used in oil fields. The inhibition efficiency of products have been measured by weight loss method with the concentration range from 10 mg/L to 1,000 mg/L in 1wt% HCl at different temperture. The inhibition efficiency of the modification product shows good inhibition efficiency after modified by formaldehyde and diethylamine, which is up to 89.31% at 60°C. The inhibitory effect of modification products is in accord with Langmuir adsorption equation. © (2014) Trans Tech Publications, Switzerland.
Number of references: 12
Main heading: Corrosion inhibitors
Controlled terms: Oil well flooding - Plants (botany) - Chlorine compounds - Extraction - Formaldehyde - Efficiency - Environmental protection - Environmental technology - Steel corrosion - Sustainable development
Uncontrolled terms: Extract - Inhibition efficiency - Inhibitor - Modification - Punica granatum
Classification code: 454 Environmental Engineering - 454.2 Environmental Impact and Protection - 511.1 Oil Field Production Operations - 539.1 Metals Corrosion - 539.2.1 Protection Methods - 545.3 Steel - 802.3 Chemical Operations - 803 Chemical Agents and Basic Industrial Chemicals - 804.1 Organic Compounds - 913.1 Production Engineering
Numerical data indexing: Mass_Density 1.00e-02kg/m3 to 1.00e+00kg/m3, Percentage 8.93e+01%, Temperature 3.33e+02K
DOI: 10.4028/www.scientific.net/AMM.488-489.273
Database: Compendex
Data Provider: Engineering Village

74. Research of machining process on 17-4PH stainless steel superfine deep-hole drilling

Accession number: 20145000306602
Authors: Liu, Zhan Feng (1); Wang, Han Chen (1)
Author affiliation: (1) The College of Mechanical Engineering, Xi'an Petroleum Institute, China
Corresponding author: Liu, Zhan Feng
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 633-634
Volume title: Advanced Materials and Processes IV
Part number: 1 of 1
Issue date: 2014
Publication year: 2014
Pages: 688-692
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038352563
Document type: Conference article (CA)
Conference name: 4th International Conference on Advanced Design and Manufacturing Engineering, ADME 2014
Conference date: July 26, 2014 - July 27, 2014
Conference location: Hangzhou, China
Conference code: 107689
Publisher: Trans Tech Publications Ltd
Abstract: Through the analysis of superfine deep-hole drilling process, we used the combination of gun drill and BTA deep-hole drilling process for 17-4PH (0Cr17Ni4Cu4Nb) stainless steel deep-hole drilling test. We measured wall thickness point by point, and calculated the conversion of the eccentricity in a deviation axis line. Which fully embodies the advantage of this process for stainless steel 17-4PH, and provides a new method in super hardness material deep-hole drilling field. © (2014) Trans Tech Publications, Switzerland. All rights reserved.
Number of references: 3
Main heading: Stainless steel
Controlled terms: Machining - Niobium alloys - Chromium alloys - Hardness - Copper alloys

Uncontrolled terms: 17-4 PH stainless steel - Axis lines - Deep-hole drilling - Gun drills - Machining Process - Superfine deep-hole - Superhardness - Wall thickness
Classification code: 543.1 Chromium and Alloys - 544.2 Copper Alloys - 545.3 Steel - 549.3 Nonferrous Metals and Alloys excluding Alkali and Alkaline Earth Metals - 604.2 Machining Operations - 951 Materials Science
DOI: 10.4028/www.scientific.net/AMM.633-634.688
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

75. Interlaminar shear strength of SiC matrix composites reinforced by continuous fibers at 900°C in air

Accession number: 20133216589686
Authors: Zhang, Chengyu (1); Gou, Jianjie (1); Qiao, Shengru (1); Wang, Xuanwei (1); zhang, Jun (2)
Author affiliation: (1) State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an 710072, China; (2) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Zhang, C.(cyzhang@nwpu.edu.cn)
Source title: Materials and Design
Abbreviated source title: Mater. Des.
Volume: 53
Issue date: January 2014
Publication year: 2014
Pages: 93-98
Language: English
ISSN: 02613069
E-ISSN: 18734197
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: To reveal the shear properties of SiC matrix composites, interlaminar shear strength (ILSS) of three kinds of silicon carbide matrix composites was investigated by compression of the double notched shear specimen (DNS) at 900. °C in air. The investigated composites included a woven plain carbon fiber reinforced silicon carbide composite (2D-C/SiC), a two-and-a-half-dimensional carbon fiber-reinforced silicon carbide composite (2.5D-C/SiC) and a woven plain silicon carbon fiber reinforced silicon carbide composite (2D-SiC/SiC). A scanning electron microscope was employed to observe the microstructure and fracture morphologies. It can be found that the fiber type and reinforcement architecture have significant impacts on the ILSS of the SiC matrix composites. Great anisotropy of ILSS can be found for 2.5D-C/SiC because of the different fracture resistance of the warp fibers. Larger ILSS can be obtained when the specimens was loaded along the weft direction. In addition, the SiC fibers could enhance the ILSS, compared with carbon fibers. The improvement is attributed to the higher oxidation resistance of SiC fibers and the similar thermal expansion coefficients between the matrix and the fibers. © 2013 Elsevier Ltd.
Number of references: 25
Main heading: Silicon carbide
Controlled terms: Fracture - Oxidation resistance - Fracture toughness - Reinforced plastics - Scanning electron microscopy - Carbon silicon carbide composites - Thermal expansion - Weaving - Ceramic materials - Carbon fibers - Shear strength
Uncontrolled terms: Carbon fiber reinforced silicon carbide composites - Continuous fibers - Double notched shears - Fracture morphology - Inter-laminar shear strengths - Interlaminar shear strength - SiC matrix composites - Thermal expansion coefficients
Classification code: 539.1 Metals Corrosion - 641.1 Thermodynamics - 802.2 Chemical Reactions - 804 Chemical Products Generally - 804.2 Inorganic Compounds - 812.1 Ceramics - 817.1 Polymer Products - 819.5 Textile Products and Processing - 951 Materials Science
Numerical data indexing: Temperature 1.17e+03K
DOI: 10.1016/j.matdes.2013.06.080
Funding Details: Number: 51172182, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: SKLSP201218, Acronym: SKLSP, Sponsor: State Key Laboratory of Solidification Processing; Number: B08040, Acronym: -, Sponsor: Higher Education Discipline Innovation Project;
Funding text: This work has been supported by National Science Foundation of China (Grant No. 51172182), the fund of the State Key Laboratory of Solidification Processing in NWPU (Grant No. SKLSP201218) and the 111 Project (B08040).
Compendex references: YES

Database: Compendex
Data Provider: Engineering Village

76. Effect of magnetron-sputtered Al film on low-temperature pack-aluminizing coating for oil casing steel N 80

Accession number: 20151800800215
Authors: Huang, Min (1, 2); Wang, Yu (1); Zhang, Meng-Xian (1); Huo, Yan-Qiu (1); Gao, Peng-Jin (1)
Author affiliation: (1) Zhejiang Provincial Key Laboratory for Cutting Tools, TaiZhou University, TaiZhou; 318000, China; (2) School of Materials Science and Engineering, Xi'An Shiyou University, Xi'an; 710065, China
Source title: Surface Review and Letters
Abbreviated source title: Surf. Rev. Lett.
Volume: 21
Issue: 4
Issue date: 2014
Publication year: 2014
Article number: 1450053
Language: English
ISSN: 0218625X
CODEN: SRLEFH
Document type: Journal article (JA)
Publisher: World Scientific
Abstract: Low-temperature aluminizing coating was prepared onto the surface of oil casing steel N80 with a magnetron-sputtered Al film to improve its corrosion resistance. Results show that magnetron-sputtered Al film is able to form gradient aluminide coating, composed of iron aluminide FeAl3, Fe2Al5 and Fe3Al with different contents of aluminum. Both the density and continuity of iron aluminide layer for oil casing steel N80 with magnetron-sputtered Al film can be improved. Under the same corrosion condition, aluminized oil casing steel N80 with a magnetron-sputtered Al film shows an outstanding corrosion resistance than those of original and aluminized ones without magnetron-sputtered Al film. The positive effect of Al film is considered as the concentration change of active Al atom for diffusion to form the aluminizing coating during the pack processing. © 2014 World Scientific Publishing Company.
Number of references: 16
Main heading: Corrosion resistance
Controlled terms: Steel corrosion - Aluminum coated steel - Magnetron sputtering - Aluminum corrosion - Binary alloys - Aluminum coatings - Diffusion coatings - Iron - Corrosion resistant coatings - Temperature - Aluminum - Aluminum alloys
Uncontrolled terms: Al films - Aluminide coating - Concentration change - Iron aluminides - Low temperatures - Oil casing steel N 80
Classification code: 539.1 Metals Corrosion - 539.2 Corrosion Protection - 541.1 Aluminum - 541.2 Aluminum Alloys - 545.1 Iron - 545.3 Steel - 641.1 Thermodynamics - 813.2 Coating Materials
DOI: 10.1142/S0218625X1450053X
Funding Details: Number: SKLSP201210, Acronym: -, Sponsor: -; Number: 2012D-5006-0607, Acronym: -, Sponsor: PetroChina Innovation Foundation;
Funding text: This work was supported in part by the PetroChina Innovation Foundation (Grant No. 2012D-5006-0607) and the fund of the State Key Laboratory of Solidi-¯cation Processing in NWPU (SKLSP201210). We acknowledge the assistance from Drs. Xianghong Lv and Yani Zhang in Xi'an Shiyou University.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

77. Effect of magnetron-sputtered al film on low-temperature pack-aluminizing coating for oil casing steel N80

Accession number: 20143318073642
Authors: Huang, Min (1, 2); Wang, Yu (1); Zhang, Meng-Xian (1); Huo, Yan-Qiu (1); Gao, Peng-Jin (1)
Author affiliation: (1) Zhejiang Provincial Key Laboratory for Cutting Tools, TaiZhou University, TaiZhou 318000, China; (2) School of Materials Science and Engineering, Xi'An Shiyou University, Xi'an 710065, China
Source title: Surface Review and Letters
Abbreviated source title: Surf. Rev. Lett.

Volume: 21
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Issue date: August 2014
Publication year: 2014
Article number: 1450053
Language: English
ISSN: 0218625X
CODEN: SRLEFH
Document type: Journal article (JA)
Publisher: World Scientific
Abstract: Low-temperature aluminizing coating was prepared onto the surface of oil casing steel N80 with a magnetron-sputtered Al film to improve its corrosion resistance. Results show that magnetron-sputtered Al film is able to form gradient aluminide coating, composed of iron aluminide FeAl3, Fe 2Al5 and Fe3Al with different contents of aluminum. Both the density and continuity of iron aluminide layer for oil casing steel N80 with magnetron-sputtered Al film can be improved. Under the same corrosion condition, aluminized oil casing steel N80 with a magnetron-sputtered Al film shows an outstanding corrosion resistance than those of original and aluminized ones without magnetron-sputtered Al film. The positive effect of Al film is considered as the concentration change of active Al atom for diffusion to form the aluminizing coating during the pack processing. © 2014 World Scientific Publishing Company.
Number of references: 16
Main heading: Corrosion resistance
Controlled terms: Aluminum - Temperature - Aluminum coatings - Aluminum corrosion - Binary alloys - Corrosion resistant coatings - Diffusion coatings - Magnetron sputtering - Steel corrosion - Aluminum coated steel - Aluminum alloys - Iron
Uncontrolled terms: Al films - Aluminide coating - Concentration change - Iron aluminides - Low temperatures - Oil casing steel N80
Classification code: 539.1 Metals Corrosion - 539.2 Corrosion Protection - 541.1 Aluminum - 541.2 Aluminum Alloys - 545.1 Iron - 545.3 Steel - 641.1 Thermodynamics - 813.2 Coating Materials
DOI: 10.1142/S0218625X1450053X
Funding Details: Number: SKLSP201210, Acronym: -, Sponsor: -; Number: 2012D-5006-0607, Acronym: -, Sponsor: PetroChina Innovation Foundation;
Funding text: This work was supported in part by the PetroChina Innovation Foundation (Grant No. 2012D-5006-0607) and the fund of the State Key Laboratory of Solidi-¯cation Processing in NWPU (SKLSP201210). We acknowledge the assistance from Drs. Xianghong Lv and Yani Zhang in Xi'an Shiyou University.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

78. Study on monitoring of glucose concentration with optical coherence tomography

Accession number: 20145000326201
Authors: Li, Dong-Ming (1, 2); Jia, Shu-Hai (3)
Author affiliation: (1) School of Physics and Information Technology, Shaanxi Normal University, Xi'an, China; (2) School of Science, Xi'an Shiyou University, Xi'an , China; (3) School of Mechanical Engineering, Xi'an Jiaotong University, Xi'an , China
Corresponding author: Li, Dong-Ming
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Issue date: November 15, 2014
Publication year: 2014
Pages: 2259-2262
Language: Chinese
ISSN: 10050086
CODEN: GUJIE9
Document type: Journal article (JA)
Publisher: Board of Optronics Lasers
Abstract: Optical coherence tomography (OCT) is one of the rapidly developed techniques for bio-tomography in the last few decades. It can acquire the high resolution cross-section image of micro mechanism in the interior organism tissue. Due to its advantages, including rapid imaging, non-invasive detecting and high resolution, it has been widely

applied in biomedical fields, especially in early diagnosis and dynamic monitoring for the systems of eyes, skin, oral cavity and cardiovascular. The Michelson interferometer for optical coherence tomography technology is uesed, an OCT system is designed and combined. The physical level concentrations of glucose solutions are measured. The relationship between the distance of the interference wave images on the highest and the lowest and the sample concentration is explored. In the laboratory, the samples on physiological level are obtained from the compound 5% glucose solution. The results show that the linear coefficient is 0.999 8, and the standard deviation is 0.003 9. Using OCT system by the related features between sample concentration and the distance of interference image wave from the highest to the lowest can measure the concentration of glucose solution accurately and rapidly. This new method can be used for the study of non-invasive blood glucose measurement instrument.
Number of references: 16
Main heading: Glucose
Controlled terms: Michelson interferometers - Optical tomography - Diagnosis
Uncontrolled terms: Blood glucose measurements - Cross-section images - Diabetes mellitus - Glucose concentration - Glucose solution - Linear coefficients - Physiological levels - Sample concentration
Classification code: 461.6 Medicine and Pharmacology - 741.3 Optical Devices and Systems - 804.1 Organic Compounds - 941.3 Optical Instruments
Numerical data indexing: Percentage 5.00e+00%
Database: Compendex
Data Provider: Engineering Village

79. A review of dynamic fluid level detection for oil well

Accession number: 20134717004535
Authors: Jia, Wei (1); Zhou, Wei (2); Li, Tai Fu (2)
Author affiliation: (1) School of Electronic Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) School of Electrical and Information Engineering, Chongqing University of Science and Technology, Chongqing 401331, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 456
Issue title: Research in Mechanical Engineering and Material Science
Issue date: 2014
Publication year: 2014
Pages: 582-586
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859285
Document type: Conference article (CA)
Conference name: 2013 International Conference on Mechanical, Material Engineering, MME 2013
Conference date: November 23, 2013 - November 24, 2013
Conference location: Shiyan, Hubei, China
Conference code: 100878
Sponsor: Hubei University of Automotive Technology; Hubei University of Mechanical Engineering; University of Teesside; Wuhan University; Wuhan University of Technology; et al
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: It is of great significance for analyzing well supply capacity, determining the reservoir pressure and thus enhancing oil production rate to detect dynamic fluid level depth for oil well. How to detect the fluid level depth accurately is the difficulty of the current study, based on the issue that hitherto detection of dynamic fluid level depth is not precise enough. Plenty of technical personnels have tried to solve this problem by various kinds of methods. In this study, we illustrate several approaches to determining the fluid level in a dynamic environment. This paper presents a review of dynamic fluid level detection for oil well. Moreover, this review will provide an overview of the potentially detection method of dynamic fluid level for oil well. © (2014) Trans Tech Publications, Switzerland.
Number of references: 19
Main heading: Oil well flooding
Controlled terms: Petroleum reservoir engineering
Uncontrolled terms: Detection methods - Dynamic environments - Dynamic fluids - Fluid level - Oil-production rates - Reservoir pressures - Supply capacity - Technical personnel
Classification code: 511.1 Oil Field Production Operations - 512.1.2 Petroleum Deposits : Development Operations
DOI: 10.4028/www.scientific.net/AMM.456.582
Database: Compendex

Data Provider: Engineering Village

80. Output feedback linearization of servo platform for rotary steering drilling system

Accession number: 20144300128856
Authors: Wang, Yuelong (1); Wang, Haijiao (2); Kang, Simin (1); Tang, Nan (1); Huo, Aiqing (1)
Author affiliation: (1) Shaanxi Key Laboratory of Oil-Drilling Rigs Controlling Technique, Xi'an Shiyou University, Xi'an ; Shaanxi ; 710065, China; (2) China Petroleum Pipeline Burean International, Langfang ; Hebei ; 065000, China
Corresponding author: Wang, Yuelong
Source title: Shiyou Xuebao/Acta Petrolei Sinica
Abbreviated source title: Shiyou Xuebao
Volume: 35
Issue: 5
Issue date: September 1, 2014
Publication year: 2014
Pages: 952-957
Language: Chinese
ISSN: 02532697
CODEN: SYHPD9
Document type: Journal article (JA)
Publisher: Science Press
Abstract: When controlled by a simple PID strategy, the performance of servo platform for rotary steerable drilling systems is related to the given value of its tool-face angle. At certain angular positions, the platform would oscillate or rotate and fails to maintain the stability of tool-face angle, leading to the loss of steerable tool's control ability. Simulation results show that the primary cause of platform oscillation or rotation is nonlinear eccentric torque present in the platform system, which has a sine function relationship with tool-face angle. Based on the feedback linearization theory, an output feedback linearizing control method of the platform system is proposed to eliminate the effect of nonlinear eccentric torque and change the closed-loop system into a linear one. Simulation data indicate that the proposed method enables to control the platform system stably at any angular positions during the drilling process under strong disturbance. To address the problem of directly measuring nonlinear eccentric torque, an online estimating method based on motion attitude measurement is proposed. This estimation method can effectively attenuate the deterioration of control performance caused by estimation errors, and an application example of online estimation is given. The validity of output feedback linearization based on the proposed online estimation method of nonlinear eccentric torque is verified via a control test under hydraulic driven condition.
Number of references: 17
Main heading: Torque
Controlled terms: Estimation - Closed loop systems - Digital storage - Feedback linearization - Nonlinear analysis
Uncontrolled terms: Angular positions - Application examples - Control performance - Feedback linearization theory - On-line estimation - Output feedback linearization - Rotary-steerable drilling - Steerable drillings
Classification code: 722.1 Data Storage, Equipment and Techniques - 921 Mathematics - 931.2 Physical Properties of Gases, Liquids and Solids - 961 Systems Science
DOI: 10.7623/syxb201405016
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

81. Performance assessment of a polyamine swelling inhibitor for clays and shales

Accession number: 20143017985313
Authors: Zhang, Jie (1); Cai, Dan (1); Chen, Gang (1); Tang, Deyao (2); Zhao, Jingrui (2)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an, Shaanxi 710065, China; (2) Shaanxi Yanchang Petroleum Oilfield Chemical Technology Co., Ltd., Yan'an, Shaanxi 717400, China
Corresponding author: Zhang, J.(zhangjie@xsyu.edu.cn)
Source title: Natural Gas Industry
Abbreviated source title: Natur. Gas Ind.
Volume: 34
Issue: 6

Issue date: June 2014
Publication year: 2014
Pages: 85-90
Language: Chinese
ISSN: 10000976
CODEN: TIGOE3
Document type: Journal article (JA)
Publisher: Natural Gas Industry Journal Agency
Abstract: Borehole instability caused by mudstone hydrous disintegration has always been a technical difficulty in drilling operation, so it is necessary to improve the inhibitive capability of water-based drilling fluid used in shale formation drilling to minimize the incidence of downhole problems. For this purpose, dicarboxylic acids and amines were used as raw materials to synthesize the polyamine shale inhibitor, of which the inhibitive capability was evaluated through clay-swelling test, anti-expansion test, mud-making inhibition experiment, drilling fluid property evaluation, and other experiments. The evaluation results indicate that the product from oxalic acid, succinic acid, adipic acid and tetraethylenepentamine with a mole ratio of acid and amine at 1:2 shows the best inhibitive capability, and the inhibitive capability of the solution with a concentration of 0.1% is equal to the potassium chloride solution with a concentration of 4.0%; the dynamic shear value will be significantly reduced after selected inhibition is added into the drilling fluid and the value change will be more obvious if the soil volume is larger. The linear bentonite swelling ratio in 0.1% dicarboxylic acid-tetraethylenepentamine solution within 90 min is similar to that in the 4.0% potassium chloride solution under the same conditions, and the anti-swelling rate also reaches up to 34.41%. The polyamine inhibitor enhances the viscosity of water-based drilling fluid with low dosage and shows a strong inhibitive capability to bentonite hydration swelling and dispersion at room temperature.
Number of references: 12
Main heading: Bentonite
Controlled terms: Oxalic acid - Potassium chloride - Soil testing - Shale - Potash - Swelling - Drilling fluids - Hydration
Uncontrolled terms: Assessment - Dicarboxylic acid - Inhibitive capability - Inhibitor - Polyamines
Classification code: 482.2 Minerals - 483.1 Soils and Soil Mechanics - 804.1 Organic Compounds - 804.2 Inorganic Compounds - 951 Materials Science
Numerical data indexing: Percentage 3.44e+01%, Percentage 4.00e+00%, Time 5.40e+03s, Percentage 1.00e-01%
DOI: 10.3787/j.issn.1000-0976.2014.06.014
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

82. Deformation and fracture behavior of X80 pipeline steel with excellent deformability

Accession number: 20141517566441
Authors: Zhang, Xiao-Yong (1, 2); Gao, Hui-Lin (1, 2); Xu, Xue-Li (1, 2); Bi, Zong-Yue (2)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) National Petroleum and Gas Tubular Goods Engineering Technology Research Center, Baoji 721008, China
Corresponding author: Zhang, X.-Y.(xyzhang@xsyu.edu.cn)
Source title: Cailiao Rechuli Xuebao/Transactions of Materials and Heat Treatment
Abbreviated source title: Cailiao Rechuli Xuebao
Volume: 35
Issue: 2
Issue date: February 2014
Publication year: 2014
Pages: 75-81
Language: Chinese
ISSN: 10096264
CODEN: JRXUDO
Document type: Journal article (JA)
Publisher: Editorial Office of Transactions of Materials, 18 Xueqing Road, Beijing, 100083, China
Abstract: The deformation and fracture behaviors of the X80 pipeline steel with excellent deformability were investigated by optical microscope and scan electronic microscope (SEM). The results indicate that plastic deformation is preferentially occured in ferrite during the deformation process for the experimental steel with dual-phases microstructure of bainite and ferrite. With the increase of the amount of plastic deformation, the morphology of the dual-phases microstructure shows a more obviously orientated distribution along the direction of applied force. Usually, the nucleation of crack in dual-phases microstructure has three typical ways such as inclusion nucleation, phase interface

nucleation and nucleation in the matrix of ferrite or bainite. The propagation of cracks is related to the stress state of the steel. When the stress is low, the propagation of crack is mainly occurred in ferrite, and when the stress is high, the crack can propagate through the bainite phase. Finally, the deformation and fracture model of the dual-phases pipeline steel is established based on the studies above.
Number of references: 21
Main heading: Ferrite
Controlled terms: Bainite - Cracks - Plastic deformation - Fracture mechanics - Microstructure - Nucleation - Pipelines - Steel pipe - Fracture - Phase interfaces
Uncontrolled terms: Applied forces - Deformation and fracture - Deformation process - Dual phase microstructure - Pipeline steel - Propagation of cracks - Scan electronic microscopes - X80 pipeline steels
Classification code: 531.2 Metallography - 545.3 Steel - 619.1 Pipe, Piping and Pipelines - 801.4 Physical Chemistry - 931.1 Mechanics - 933.1.2 Crystal Growth - 951 Materials Science
Database: Compendex
Data Provider: Engineering Village

83. Reference point-based evolutionary multi-objective optimization for reversible logic circuit synthesis

Accession number: 20154001325883
Authors: Wang, Xiaoxiao (1, 2)
Author affiliation: (1) Key Laboratory of Intelligent Perception and Image, Understanding of Ministry of Education of China, Xidian University, Xi'an, China; (2) School of Computer Science, Xi'An Shiyou University, Xi'an, China
Corresponding author: Wang, Xiaoxiao
Source title: Proceedings - 2014 7th International Conference on BioMedical Engineering and Informatics, BMEI 2014
Abbreviated source title: Proc. - Int. Conf. BioMed. Eng. Informatics, BMEI
Part number: 1of1
Issue title: Proceedings - 2014 7th International Conference on BioMedical Engineering and Informatics, BMEI 2014
Issue date: 2014
Publication year: 2014
Pages: 955-959
Article number: 7002910
Language: English
ISBN-13: 9781479958382
Document type: Conference article (CA)
Conference name: 2014 7th International Conference on BioMedical Engineering and Informatics, BMEI 2014
Conference date: October 14, 2014 - October 16, 2014
Conference location: Dalian, China
Conference code: 109991
Sponsor: Liaoning Technical University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In this paper, Reversible logic circuit synthesis is formulated as a quantum cost-minimization problem with equality constraint. A new reference-point based evolutionary multi-objective method R-EMO-RLC is specially designed to attack the equality constraint. First, the reference point is determined dynamically according the distribution of solutions. Then, a new crowding comparative operator is fabricated to adapt the uncertainty of constraint violation and objective value aroused by variable length encoding. Experimental results show that R-EMO-RLC can increase the feasible ratio and obtain savings in quantum cost for some benchmarks from recent publications comparing with previously known circuits. © 2014 IEEE.
Number of references: 19
Main heading: Multiobjective optimization
Controlled terms: Computer circuits - Timing circuits - Logic circuits - Logic gates - Logic Synthesis
Uncontrolled terms: Constraint violation - Equality constraints - Evolutionary Multi-objectives - Evolutionary multiobjective optimization - Quantum costs - Reference points - Reversible logic circuits - Variable-length encoding
Classification code: 713.4 Pulse Circuits - 721.2 Logic Elements - 721.3 Computer Circuits - 723.5 Computer Applications - 921.5 Optimization Techniques
DOI: 10.1109/BMEI.2014.7002910
Funding Details: Number: 61 271 301, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 61 273 317, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Compendex references: YES

Database: Compendex
Data Provider: Engineering Village

84. An improved UKFNN based on square root filter and strong tracking filter for dynamic evolutionary modeling of aluminum reduction cell

Accession number: 20141517560340
Authors: Li, Tai-Fu (1); Yao, Li-Zhong (2); Yi, Jun (1); Hu, Wen-Jin (1); Su, Ying-Ying (1); Jia, Wei (2)
Author affiliation: (1) Department of Electrical and Information Engineering, Chongqing University of Science and Technology, Chongqing 401331, China; (2) School of Electronic Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Yao, L.-Z.(yaolizhong225@163.com)
Source title: Zidonghua Xuebao/Acta Automatica Sinica
Abbreviated source title: Zidonghua Xuebao Acta Auto. Sin.
Volume: 40
Issue: 3
Issue date: March 2014
Publication year: 2014
Pages: 522-530
Language: Chinese
ISSN: 02544156
CODEN: ZIXUDZ
Document type: Journal article (JA)
Publisher: Science Press
Abstract: The aluminum electrolysis process has multiple characteristics including multivariate, strong coupling, strong interference and time-varying parameters. Therefore, its model development is technically difficult. According to the characteristics of the process, an improved unscented Kalman filter neural network based on strong tracking filter and square root filter (STR-UKFNN) is proposed in this paper. Then, the STR-UKFNN is used to create the dynamic evolutionary model for energy consumption of aluminum reduction cell. Firstly, the state covariance matrix of the UKFNN algorithm is replaced by its square root to participate in recursive operations; Secondly, the filter gain matrice in the algorithm of UKFNN is adjusted by introducing the time-varying fading factor and the diminishing factor. A series of experiments have been conducted by using the daily samples from the 170 kA new pre-baked cell. The experimental results show that the method improves the precision of the energy model and the real-time tracking ability for the abrupt state change of the aluminum reduction cell. So the method is helpful to guide the optimization of operating parameters in the aluminum electrolysis process. Copyright © 2014 Acta Automatica Sinica. All rights reserved.
Number of references: 24
Main heading: Energy utilization
Controlled terms: Electrolytic cells - Cells - Covariance matrix - Ore reduction - Evolutionary algorithms - Cytology - Kalman filters - Aluminum - Bandpass filters
Uncontrolled terms: Aluminum electrolysis - Aluminum reduction cells - Evolutionary models - Multiple characteristics - State-covariance matrix - Strong tracking filter - Time-varying fading factors - Unscented Kalman Filter
Classification code: 461.2 Biological Materials and Tissue Engineering - 461.9 Biology - 525.3 Energy Utilization - 533.1 Ore Treatment - 541.1 Aluminum - 703.2 Electric Filters - 802.2 Chemical Reactions - 921 Mathematics
Numerical data indexing: Electric_Current 1.70e+05A
DOI: 10.3724/SP.J.1004.2014.00522
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

85. Case agent contained product packaging design solution generation system

Accession number: 20145200381059
Authors: Zheng, Wang (1); Jiang, Yu (2)
Author affiliation: (1) College of Computer Science, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China; (2) College of Printing and Packaging Engineering, Xi'an University of Technology, Xi'an, Shaanxi; 710048, China
Corresponding author: Zheng, Wang
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014

Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 263-266
Article number: 6977593
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Based upon the analyzing of the defects existing in the traditional product packaging design solution generation system, this paper propose the new system-PSGS which contains packaging case Agent. The packaging case Agent can self-Aware the packaging design requirement of the system, so as to further interact with customer based on the requirement circumstance. It can also self-selecting the most appropriate indexing method which its contains based on the known conditions. Further more, the packaging case Agent can also collaborate with decoration design Agent, structure design Agent which exceed the range of PSGS system to achieve all the tasks of the product packing design. © 2014 IEEE.
Number of references: 7
Main heading: Case based reasoning
Controlled terms: Product design - Packaging
Uncontrolled terms: Design agents - Generation systems - Indexing methods - Packaging designs - Packing design - Product packaging - Structure design - Traditional products
Classification code: 694.1 Packaging, General - 913.1 Production Engineering
DOI: 10.1109/ISDEA.2014.65
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

86. Image segmentation using FCM optimized by quantum immune clone algorithm

Accession number: 20145200381129
Authors: Li, Yu (1); Tong, Fei (2); Cheng, Guojian (1)
Author affiliation: (1) College of Computer Science, Xi'an Shiyou University Of, Xian, Shaanxi, Xian, Shaanxi; 710065, China; (2) China Arms Industrial Company No 206 Institute, Xian, Shaanxi; 710001, China
Corresponding author: Li, Yu
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 537-540
Article number: 6977657
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University

Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: The traditional Fuzzy C-Means (FCM) clustering algorithm is usually based on the image intensity, so the segmentation results are unsatisfactory when the images are impacted by noise. Considering this shortcoming, in this paper the FCM objective function is improved by adding two kinds of spatial information: the relative position information and the intensity information of the neighborhood. Moreover, Quantum Immune Clone algorithm (QICA) is used to optimize the spatial impact factors in the objective function. The proposed algorithm has been tested in synthetic and real synthetic aperture radar (SAR) images segmentation. Experimental results demonstrate that the proposed algorithm is feasible and effective, and it can lead to higher accuracy. © 2014 IEEE.
Number of references: 20
Main heading: Image segmentation
Controlled terms: Clustering algorithms - Synthetic aperture radar - Cloning
Uncontrolled terms: Fuzzy c-means clustering algorithms - Immune clone algorithm - Intensity information - Objective functions - Relative positions - Segmentation results - Spatial informations - Synthetic aperture radar (SAR) images
Classification code: 461.8.1 Genetic Engineering - 716.2 Radar Systems and Equipment - 903.1 Information Sources and Analysis
DOI: 10.1109/ISDEA.2014.127
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

87. Modified EEMD de-noising method and its application in multiphase flow measurement

Accession number: 20144800253743
Authors: Li, Lipin (1, 2); Dang, Ruirong (1); Fan, Yangyu (2)
Author affiliation: (1) Key Laboratory of Photoelectric Logging and Detecting of Oil and Gas, Ministry of Education Xi'an Shiyou University, Xi'an ; 710065, China; (2) Northwestern Polytechnical University, Xi'an ; 710072, China
Corresponding author: Li, Lipin
Source title: Yi Qi Yi Biao Xue Bao/Chinese Journal of Scientific Instrument
Abbreviated source title: Yi Qi Yi Biao Xue Bao
Volume: 35
Issue: 10
Issue date: October 1, 2014
Publication year: 2014
Pages: 2365-2371
Language: Chinese
ISSN: 02543087
CODEN: YYXUDY
Document type: Journal article (JA)
Publisher: Science Press
Abstract: Aiming at the problem that EEMD causes mode mixing that leads to poor noise reduction effect under complex noise background a modified EEMD de-noising method is proposed. In this method, an optimal band pass filter is firstly designed to filter out much of the pulse interference in the analyzed signal, and then the filtered signal is decomposed with EEMD. The selected IMFs are filtered again with SG filter, and the filtered IMFs are reconstructed. The proposed modified EEMD method and EEMD method were applied in the measurement signal filtering of multiphase flow and the measurement of water content percentage, respectively. Experiment results show that compared with EEMD method, the proposed modified EEMD method improves the SNR by about 2-3dB, has better filtering performance; and the average measurement accuracy of water content percentage is improved by about 3%, the measurement error is smaller. ©, 2014, Science Press. All right reserved.
Number of references: 19
Main heading: Empirical mode decomposition
Controlled terms: Bandpass filters - Mixing - Signal denoising - Signal to noise ratio - Multiphase flow - Flow measurement
Uncontrolled terms: Denoising methods - Ensemble empirical mode decomposition - Filtering performance - Measurement accuracy - Mode mixing - Noise reduction effect - Pulse interferences - Signal de-noising
Classification code: 631.1 Fluid Flow, General - 703.2 Electric Filters - 716.1 Information Theory and Signal Processing - 802.3 Chemical Operations - 943.2 Mechanical Variables Measurements
Numerical data indexing: Decibel 2.00e+00dB to 3.00e+00dB, Percentage 3.00e+00%
Compendex references: YES
Database: Compendex

Data Provider: Engineering Village

88. Heat transfer characteristics of supercritical pressure water in vertical upward annuli

Accession number: 20142017720185
Authors: Gang, Wu (1); Pan, Jie (1); Bi, Qincheng (2); Yang, Zhendong (2); Wang, Han (2)
Author affiliation: (1) College of Petroleum Engineering, Xi'an Shiyou University, Xi'an 710065, Shaanxi, China; (2) State Key Laboratory of Multiphase Flow in Power Engineering, Xi'an Jiaotong University, Xi'an 710049, China
Corresponding author: Gang, W.(wugang@xsyu.edu.cn)
Source title: Nuclear Engineering and Design
Abbreviated source title: Nucl Eng Des
Volume: 273
Issue date: July 1, 2014
Publication year: 2014
Pages: 449-458
Language: English
ISSN: 00295493
CODEN: NEDEAU
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: Heat transfer characteristics of supercritical pressure water in vertical-upward annuli with annular gaps of 4 mm and 6 mm were investigated experimentally. The inner heated rod has an outer diameter of 8 mm with an effective heated length of 1400 mm. Experimental parameters covered the pressures of 23-28 MPa, mass fluxes of 350-1000 kg/m2s, heat fluxes of 200-1000 kW/m2 and inlet bulk temperature up to 400 °C. According to the experimental data, the effects of heat flux and mass flux on heat transfer of supercritical water were analyzed. Experimental results showed that heat transfer of various heat fluxes and mass fluxes in annuli are similar with those in tubes. Compare the heat transfer differences in the two annular gaps, it was found that heat transfer in 6 mm gap channel is better than that in 4 mm gap channel, especially in the pseudo-critical enthalpy region. Experimental results also showed that the spiral spacer, which was arranged on the outer surface of the heated rod, has a positive effect on enhancing local heat transfer. However, this enhanced phenomenon seems stronger in 4 mm gap compared to that in 6 mm gap. The criterion of Jackson-Hall was selected to distinguish the effect of buoyancy in annular channels. Predicted results demonstrated that this criterion achieves good agreements against the experimental data at various mass fluxes and pressures. The present paper compared the experimental data with eight heat transfer correlations for supercritical pressure water. It was found that the correlations of Jackson, Bishop and Cheng are most close to the test data for normal heat transfer region, whereas only the correlation of Cheng seems acceptable when heat transfer deterioration occurs. © 2014 Elsevier B.V. All rights reserved.
Number of references: 32
Main heading: Heat transfer
Controlled terms: Heat flux - Buoyancy
Uncontrolled terms: Annular channels - Buoyancy effect - Experimental parameters - Heat transfer characteristics - Heat transfer correlation - Heat transfer deterioration - Spiral spacers - Supercritical pressure waters
Classification code: 641.2 Heat Transfer - 931.2 Physical Properties of Gases, Liquids and Solids
Numerical data indexing: Pressure 2.30e+07Pa to 2.80e+07Pa, Size 1.40e+00m, Size 4.00e-03m, Size 6.00e-03m, Size 8.00e-03m, Surface_Power_Density 2.00e+05W/m2 to 1.00e+06W/m2, Temperature 6.73e+02K
DOI: 10.1016/j.nucengdes.2014.03.038
Funding Details: Number: 51304160, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 252451, Acronym: AECL, Sponsor: Atomic Energy of Canada Limited;
Funding text: This research was supported by Atomic Energy of Canada Limited (AECL) (no. 252451) and National Natural Science Foundation of China (no. 51304160). The author would also like to give sincere gratitude to Dr. Romney B. Duffey and Laurence Leung of AECL.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

89. Two lifetime estimation models for steam turbine components under thermomechanical creep-fatigue loading

Accession number: 20134817037296
Authors: Cui, L. (1, 2); Wang, P. (2)

Author affiliation: (1) School of Mechanical Engineering, Xi'An Shiyou University, Dianzi Erlu 18#, 710065 Xi'an, Shaanxi, China; (2) Institut für Werkstoffkunde (IfW), Technische Universität Darmstadt, Grafenstrasse 2, 64283 Darmstadt, Germany
Corresponding author: Cui, L.(cuiluxa@hotmail.com)
Source title: International Journal of Fatigue
Abbreviated source title: Int J Fatigue
Volume: 59
Issue date: 2014
Publication year: 2014
Pages: 129-136
Language: English
ISSN: 01421123
CODEN: IJFADB
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: The flexibility of steam turbine components is currently a key issue in terms of the fluctuations in the power supply due to regenerative energy. Conventional steam power plants must run at varying utilization levels. Life estimation methods according to standards, e.g. ASME Code N47 and TR, assess the influences of creep and fatigue separately under the assumption of isothermal conditions at the maximum operating temperature. The influence of thermomechanical fatigue (TMF) loading still requires a significant number of experimental studies. Further, the interaction of creep and fatigue is not adequately taken into account. Thus, new lifetime estimation methods are required for the monitoring, re-engineering and new design of power plant components. In this paper, both a phenomenological and a constitutive crack initiation lifetime estimation model for steam turbine components are introduced. The effectiveness of each method is shown by recalculation of uniaxial as well as multiaxial service-type creep-fatigue experiments on high-chromium 10%Cr stainless rotor steel. Finally, the two models are compared with respect to different aspects, such as the type and number of necessary experiments to determine model parameters, the prerequisite for the application and the limitations of each model.
Number of references: 32
Main heading: Steam turbines
Controlled terms: Steam power plants - Fatigue damage - Creep - Steam
Uncontrolled terms: Creep fatigue - Creep-fatigue loading - Damage accumulation - Isothermal conditions - Lifetime estimation - Operating temperature - Power plant components - Thermo mechanical fatigues (TMF)
Classification code: 614 Steam Power Plants - 617.2 Steam Turbines - 951 Materials Science
DOI: 10.1016/j.ijfatigue.2013.09.007
Funding Details: Number: 608 951,609 250,A 242, Acronym: -, Sponsor: -;
Funding text: Thanks are due to the "Forschungsvereinigung der Arbeitsgemeinschaft der Eisen und Metall verarbeitenden Industrie e.V." (AVIF No. A 232 and A 242), and the "Forschungsvereinigung Verbrennungskraftmaschinen e.V." (FVV No. 608 951 and 609 250) for financial support, and to the working group W10 of the German power plant industry for their accompaniment.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

90. Analysis on temperature effect of typical structure of lens in vision measurement

Accession number: 20141217474314
Authors: Jiang, Guangwen (1); Wu, Ziqian (2); Chao, Zhichao (3); Fu, Sihua (1)
Author affiliation: (1) College of Opto-Electronic Science and Engineering, National Univ. of Defense Technology, Changsha, 410073, China; (2) Xi'an Shiyou University, Xi'an, 710065, China; (3) Chongqing Communication College, Chongqing, 400035, China
Source title: Proceedings of SPIE - The International Society for Optical Engineering
Abbreviated source title: Proc SPIE Int Soc Opt Eng
Volume: 9142
Issue title: Selected Papers from Conferences of the Photoelectronic Technology Committee of the Chinese Society of Astronautics: Optical Imaging, Remote Sensing, and Laser-Matter Interaction 2013
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Conference name: Conferences of the Photoelectronic Technology Committee of the Chinese Society of Astronautics: Optical Imaging, Remote Sensing, and Laser-Matter Interaction 2013
Conference date: October 20, 2013 - October 29, 2013
Conference location: SuZhou, China
Conference code: 103125
Sponsor: Chinese Society of Astronautics; ducation, Shanghai Jiaotong University; Education and Training Department, China; Key Laboratory for Laser Plasmas, Ministry of E; Ordnance Society; Photoelectronic Technology Professional Committee,
Publisher: SPIE
Abstract: When the videometric method is working during a long period, the temperature effects on cameras and lens will cause changes in optical axis, focal length and aberration coefficients, so as to influence the accuracy and reliability of measurement results. The features of typical structure of camera lens when it is applied by thermal stress are analyzed in this paper. The model of key parts of camera lens which influence the measure accuracy mostly is built firstly, then the thermal stress is calculated and the influence of thermal transmutation to the measure accuracy is analyzed. Finally, suggestion to improve the structure of camera lens is proposed. © 2014 Copyright SPIE.
Number of references: 8
Main heading: Temperature
Controlled terms: Thermal stress - Optical instruments - Thermoanalysis - Reliability analysis - Thermal effects - Lenses
Uncontrolled terms: Aberration coefficients - Focal lengths - Key parts - Measure-accuracy - Optical axis - Typical structures - Vision measurement
Classification code: 641 Heat and Mass Transfer; Thermodynamics - 641.1 Thermodynamics - 741.3 Optical Devices and Systems - 801 Chemistry - 931.2 Physical Properties of Gases, Liquids and Solids - 941.3 Optical Instruments - 951 Materials Science
DOI: 10.1117/12.2054295
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

91. Effect of sputtering parameters on photoluminescence properties of Al doped ZnO films deposited on Si substrates

Accession number: 20140117169442
Authors: Chen, Haixia (1); Ding, Jijun (2); Guo, Wenge (1)
Author affiliation: (1) School of Science, Xi'An Shiyou University, Xi'an, Shaanxi 710065, China; (2) Electronic Materials Research Laboratory, Key Laboratory of Ministry of Education, Xi'An Jiaotong University, Xi'an, Shaanxi 710049, China
Corresponding author: Chen, H.(chxia8154@163.com)
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Abbreviated source title: Ceram Int
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Publication year: 2014
Pages: 4847-4851
Language: English
ISSN: 02728842
CODEN: CINNDH
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: Al-doped ZnO (ZnO:Al) films were deposited on glass and Si substrates using radio frequency reactive magnetron sputtering technique. Crystal structure, surface morphology and optical properties of ZnO:Al films on the different substrates were studied. Subsequently, effects of sputtering parameters, such as the substrate temperature, annealing temperature, sputtering power and ratio of oxygen to argon gas flow, on photoluminescence (PL) properties of ZnO:Al films on Si substrates were systematically investigated. The results indicated that high substrate temperature

will create more defects resulting in the Auger effect and then the quenching of the light emission in ZnO films. However, annealing treatment and appropriate sputtering power can improve light emission efficiencies. ZnO:Al thin films grown on Si substrates are very important for improving the efficiencies of optoelectronic devices fabricated utilizing ZnO/Si heterostructures. © 2013 Elsevier Ltd and Techna Group S.r.l.
Number of references: 22
Main heading: Optical properties
Controlled terms: Zinc oxide - Flow of gases - Crystal structure - Glass substrates - Optoelectronic devices - Efficiency - II-VI semiconductors - Photoluminescence - Silicon - Thin films - Magnetron sputtering - Metallic films - Optical films
Uncontrolled terms: Annealing temperatures - High substrate temperature - Light emission efficiency - Photoluminescence properties - Radio frequency reactive magnetron sputtering - Sputtering parameters - Substrate temperature - ZnO:Al thin films
Classification code: 549.3 Nonferrous Metals and Alloys excluding Alkali and Alkaline Earth Metals - 631.1.2 Gas Dynamics - 712.1 Semiconducting Materials - 741.1 Light/Optics - 741.3 Optical Devices and Systems - 804.2 Inorganic Compounds - 813.2 Coating Materials - 913.1 Production Engineering - 933.1.1 Crystal Lattice
DOI: 10.1016/j.ceramint.2013.09.034
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Funding text: This work was supported by Special Program for Scientific Research of Shaanxi Educational Committee (Grants 12JK0426) and the Doctoral Scientific Research Startup Foundation of Xi'an Shiyou University (Grants YS29031223).
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

92. Simulated annealing spectral clustering algorithm for image segmentation

Accession number: 20143017972451
Authors: Yang, Yifang (1, 3); Wang, Yuping (2)
Author affiliation: (1) School of Mathematics and Statistics, Xidian University, Xi'an 710071, China; (2) School of Computer Science and Technology, Xidian University, Xi'an 710071, China; (3) College of Science, Xi'An Shiyou University, Xi'an 710065, China
Corresponding author: Yang, Y.(yangyifang@xsyu.edu.cn)
Source title: Journal of Systems Engineering and Electronics
Abbreviated source title: J Syst Eng Electron
Volume: 25
Issue: 3
Issue date: June 2014
Publication year: 2014
Pages: 514-522
Article number: 6850231
Language: English
ISSN: 10044132
CODEN: JSEEFQ
Document type: Journal article (JA)
Publisher: Beijing Institute of Aerospace Information
Abstract: The similarity measure is crucial to the performance of spectral clustering. The Gaussian kernel function based on the Euclidean distance is usually adopted as the similarity measure. However, the Euclidean distance measure cannot fully reveal the complex distribution data, and the result of spectral clustering is very sensitive to the scaling parameter. To solve these problems, a new manifold distance measure and a novel simulated annealing spectral clustering (SASC) algorithm based on the manifold distance measure are proposed. The simulated annealing based on genetic algorithm (SAGA), characterized by its rapid convergence to the global optimum, is used to cluster the sample points in the spectral mapping space. The proposed algorithm can not only reflect local and global consistency better, but also reduce the sensitivity of spectral clustering to the kernel parameter, which improves the algorithm's clustering performance. To efficiently apply the algorithm to image segmentation, the Nyström method is used to reduce the computation complexity. Experimental results show that compared with traditional clustering algorithms and those popular spectral clustering algorithms, the proposed algorithm can achieve better clustering performances on several synthetic datasets, texture images and real images. © 1990-2011 Beijing Institute of Aerospace Information.
Number of references: 31
Main heading: Image segmentation

Controlled terms: Clustering algorithms - Genetic algorithms - Simulated annealing - Photomapping - Computational efficiency
Uncontrolled terms: Computation complexity - Euclidean distance measure - Gaussian kernel functions - M method - Similarity measure - Spectral clustering - Spectral clustering algorithms - Traditional clustering
Classification code: 405.3 Surveying - 537.1 Heat Treatment Processes - 742.1 Photography - 903.1 Information Sources and Analysis
DOI: 10.1109/JSEE.2014.00059
Funding Details: Number: 61272119, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

93. Effect of particle frictional sliding during collisions on modeling the hydrodynamics of binary particle mixtures in bubbling fluidized beds

Accession number: 20140517250163
Authors: Zhong, Hanbin (1, 2); Lan, Xingying (1); Gao, Jinsen (1); Xu, Chunming (1)
Author affiliation: (1) State Key Laboratory of Heavy Oil Processing, China University of Petroleum, Beijing 102249, China; (2) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an, Shaanxi 710065, China
Corresponding author: Lan, X.(lanxy@cup.edu.cn)
Source title: Powder Technology
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Volume: 254
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Publication year: 2014
Pages: 36-43
Language: English
ISSN: 00325910
E-ISSN: 1873328X
CODEN: POTEBX
Document type: Journal article (JA)
Publisher: Elsevier B.V., Netherlands
Abstract: When modeling the hydrodynamics of binary particle mixtures differing in size and density in gas-solid bubbling fluidized beds by the multi-fluid Eulerian model incorporating the kinetic theory of granular flow, the momentum exchange between two different particle species should be accounted by the particle-particle drag. The parametric studies of the particle-particle friction coefficient in the Syamlal particle-particle drag model were performed to evaluate the particle frictional sliding effect during collisions on the segregation and mixing behavior of binary particle mixtures. The predicted jetsam concentration distributions were compared with the available experimental data in both the axial and radial directions. The results indicate that the particle frictional sliding behavior during collisions influences the segregation and mixing process in different ways. The particle frictional sliding effect during collisions should be accurately considered when modeling the hydrodynamics of binary particle mixtures, especially for the segregation process. © 2014.
Number of references: 35
Main heading: Fluidization
Controlled terms: Bubble formation - Density of gases - Granular materials - Hydrodynamics - Fluidized beds - Friction - Mixing - Drag - Segregation (metallography) - Binary mixtures - Particles (particulate matter)
Uncontrolled terms: Binary particle mixtures - Bubbling fluidized bed - Concentration distributions - Frictional effects - Kinetic theory of granular flow - Multi-fluid Eulerian models - Segregation and mixing - Simulation
Classification code: 531.2 Metallography - 631.1.2 Gas Dynamics - 802.3 Chemical Operations - 804 Chemical Products Generally - 931.2 Physical Properties of Gases, Liquids and Solids - 951 Materials Science
DOI: 10.1016/j.powtec.2014.01.016
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Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

94. Algorithm based on heuristic strategy to infer lossy links in wireless sensor networks (*Open Access*)

Accession number: 20143900076727
Authors: Ma, Wen-Qing (1, 2); Zhang, Jing (1)
Author affiliation: (1) School of Computer Science and Engineering, Xi'an University of Technology, Xi'an, Shaanxi; 710048, China; (2) School of Material Science and Engineering, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Ma, Wen-Qing
Source title: Algorithms
Abbreviated source title: Algorithms
Volume: 7
Issue: 3
Issue date: 2014
Publication year: 2014
Pages: 397-404
Language: English
E-ISSN: 19994893
Document type: Journal article (JA)
Publisher: MDPI AG
Abstract: With the maturing of the actual application of wireless sensor networks, network fault management is eagerly demanded. Severe link packet loss affects the performance of wireless sensor networks, so it must be found and repaired. Subject to the constraints on limited resources, lossy link is inferred using end to end measurement and network tomography. The algorithm based on heuristic strategy is proposed. This maps the problem of lossy links inferences to minimal set-cover problems. The performance of inference algorithms is evaluated by simulation, and the simulation results indicate feasibility and efficiency of the method. © 2014 by the authors.
Number of references: 11
Main heading: Wireless sensor networks
Controlled terms: Tomography - Inference engines
Uncontrolled terms: End-to-end measurement - Heuristic strategy - Inference algorithm - Lossy links - Network fault management - Network tomography - Set cover problem
Classification code: 716.3 Radio Systems and Equipment - 722.3 Data Communication, Equipment and Techniques - 723.4.1 Expert Systems - 746 Imaging Techniques
DOI: 10.3390/a7030397
Compendex references: YES
Open Access type(s): All Open Access, Gold, Green
Database: Compendex
Data Provider: Engineering Village

95. Vehicle behavior analysis using target motion trajectories

Accession number: 20144400137629
Authors: Song, Huan-Sheng (1); Lu, Sheng-Nan (1, 2); Ma, Xiang (1); Yang, Yuan (1); Liu, Xue-Qin (1); Zhang, Peng (3)
Author affiliation: (1) School of Information Engineering, Chang'An University, Xi'an; 710064, China; (2) School of Computer, Xi'An Shiyou University, Xi'an; 710065, China; (3) China Highway Engineering Consulting Group Company Ltd., Beijing; 10088, China
Corresponding author: Song, Huan-Sheng
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Abbreviated source title: IEEE Trans. Veh. Technol.
Volume: 63
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Issue date: October 1, 2014
Publication year: 2014
Pages: 3580-3591
Article number: 6763064
Language: English
ISSN: 00189545
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CODEN: ITVTAB
Document type: Journal article (JA)
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In this paper, a real-time vehicle behavior analysis system is presented, which can be used in traffic jams and under complex weather conditions. In recent years, many works based on background estimation and foreground extraction for traffic event detection have been reported. In these studies, the vehicle images need to be accurately segmented, although uneven illumination, shadows, and vehicle overlapping are difficult to handle. The main contribution of this paper is to make a point tracking system for vehicle behavior analysis without a difficult image segmentation procedure. In the proposed system, feature points are extracted using an improved Moravec algorithm. A specially designed template is used to track the feature points through the image sequences. Then, trajectories of feature points can be obtained, whereas unqualified track trajectories are removed using decision rules. Finally, the vehicle behavior analysis algorithms are applied on the track trajectories for traffic event detection. The proposed system has been used widely by Chinese highway management departments. The application performances show that the newly developed system and its algorithms are robust enough for vehicle behavior analysis under complex weather conditions. © 2014 IEEE.
Number of references: 22
Main heading: Trajectories
Controlled terms: Target tracking - Image segmentation - Vehicles - Highway administration - Traffic congestion - Edge detection - Meteorology
Uncontrolled terms: Application performance - Background estimation - Corner detection - Foreground extraction - Segmentation procedure - Traffic event - Uneven illuminations - Vehicle behavior
Classification code: 432.1 Highway Transportation, General - 912.2 Management
DOI: 10.1109/TVT.2014.2307958
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

96. Research on high sensitivity temperature sensor based on Mach-Zehnder interferometer with waist-enlarged fiber bitapers

Accession number: 20142617864742
Authors: Zhao, Na (1); Fu, Hai-Wei (1, 2); Shao, Min (1, 2); Li, Hui-Dong (1); Liu, Ying-Gang (1); Qiao, Xue-Guang (2)
Author affiliation: (1) Key Laboratory of Photoelectric Gas and Oil Logging and Detecting of Ministry of Education, Xi'an Shiyou University, Xi'an 710065, China; (2) Department of Physics, Northwest University, Xi'an 710069, China
Corresponding author: Fu, H.-W.(hwfu@xsyu.edu.cn)
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Abbreviated source title: Guang Pu Xue Yu Guang Pu Fen Xi
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Issue date: June 2014
Publication year: 2014
Pages: 1722-1726
Language: Chinese
ISSN: 10000593
CODEN: GYGFED
Document type: Journal article (JA)
Publisher: Science Press
Abstract: Optical fiber sensing technology is one of the very promising techniques in sensing fields. A high sensitivity high temperature sensor based on inline optical fiber Mach-Zehnder(M-Z) interferometer by using standard single mode fiber with two waist-enlarged bitapers is proposed in the present paper. The waist-enlarged bitapers are considered as couplers, the distance between the two bitapers is the sensing arm. The light in the lead-in fiber core couples into the sensing arms' fiber core and cladding by the first bitaper, and then propagate in them. The phase difference between core mode and cladding mode is produced when the light reaches the second bitaper. Then the second bitaper couples the light into the lead-out single-mode fiber to get the interference spectrum. The sensors with different length were fabricated. The relationship between the sensor length and interference period, and the temperature response of the sensor were studied by experiments. The results show that the 35 mm long sensor has a high sensitivity of 0.115 nm·°C-1 in the range of 30~400°C. The transmission spectrum of the sensor was also analyzed by the fast Fourier transform. It shows that only LP01 mode and LP08 mode propagate in the sensor. The sensor has advantages of small size, high precision, and immunity to electromagnetic inteference. In addition, it is

of easy fabrication, high signal-to-noise ratio, light weight, and high sensitivity, and could be operated under high temperature. This kind of sensor is a good candidate for high temperature measurement of hot gas, oil and gas well logging and other areas.
Number of references: 14
Main heading: Signal to noise ratio
Controlled terms: Mach-Zehnder interferometers - Optical fiber fabrication - Single mode fibers - Fast Fourier transforms - Temperature measurement - Temperature sensors
Uncontrolled terms: Fiber Mach-Zehnder interferometers - Fiber Sensor - High signal-to-noise ratio - High temperature measurement - Mach zehnder interferometers (M Z) - Optical fiber sensing technology - Standard single mode fibers - Temperature sensing
Classification code: 716.1 Information Theory and Signal Processing - 741.1.2 Fiber Optics - 741.3 Optical Devices and Systems - 921.3 Mathematical Transformations - 941.3 Optical Instruments - 944.5 Temperature Measuring Instruments - 944.6 Temperature Measurements
Numerical data indexing: Size 3.50e-02m, Temperature 3.03e+02K to 6.73e+02K
DOI: 10.3964/j.issn.1000-0593(2014)06-1722-05
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

97. Study of fiber sensor for simultaneous measurement of refractive and temperature based on a core-mismatch mach-zehnder interferometer

Accession number: 20145100353808
Authors: Fu, Haiwei (1); Yan, Xu (1); Li, Huidong (1); Shao, Min (1); Zhao, Na (1); Liu, Qinpeng (1); Gao, Hong (1); Jia, Zhen'an (1); Qiao, Xueguang (2)
Author affiliation: (1) Key Laboratory on Photoelectric Oil-Gas Logging and Detecting, School of Science, Xi'an Shiyou University, Xi'an; Shaanxi; 710065, China; (2) Department of Physics, Northwest University, Xi'an; Shaanxi ; 710069, China
Corresponding author: Fu, Haiwei
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Publication year: 2014
Article number: 1106001
Language: Chinese
ISSN: 02532239
CODEN: GUXUDC
Document type: Journal article (JA)
Publisher: Chinese Optical Society
Abstract: A fiber-optic Mach-Zehnder interferometer (MZI) based on single-mode -multimode-thin-core-single-mode fiber structure is proposed and demonstrated for measuring refractive index and temperature simultaneously. The multimode fiber (MMF) and the thin core fiber-single mode fiber (TCF-SMF) spliced point serves as mode coupler. When the light is launched into the MMF through the lead-in SMF, at the MMF-TCF spliced point, the core mode and cladding modes are excited and propagate in the core and cladding region of the TCF respectively. The optical path difference can be produced between different modes propagating within the TCF. Then, at the TCF-SMF spliced point, the excited cladding modes coupled back into the core of lead-out SMF interfere with the TCF core mode. When the surrounding refractive index (SRI) and temperature change, the transmission spectrum of the sensor shifts. On this basis, the simultaneous measurement of SRI and temperature can be completed by monitoring the dips with different interference orders. The intermodal interference mainly occurs between the core mode LP01 and the cladding mode LP16 based on a fast Fourier transformation analysis for the transmission spectrum of the sensor. The sensitivities of the sensor response to the change of SRI and temperature are theoretically achieved. The SRI and temperature theoretical sensitivities of the interference dips at 1535 nm and 1545 nm are -55.90 nm/RIU, 0.0501 nm/, and -56.26 nm/RIU, 0.0505 nm/, respectively, where RIU is refractive index unit. The responses of the sensor are experimentally studied at the SRI range from 1.3449 to 1.3972 and temperature range from 20 to 90, and the sensitivities -53.03 nm/RIU, 0.0465 nm/ and -54.24 nm/RIU, 0.0542 nm/ for the two selected interference orders. The theoretical analysis of the sensor is in good agreement with that obtained in the experiment. This kind of sensor can offer attractive applications in biomedical sensing. ©, 2014, Chinese Optical Society. All right reserved.

Number of references: 14
Page count: 6
Main heading: Temperature measurement
Controlled terms: Cladding (coating) - Refractive index - Multimode fibers - Single mode fibers - Mach-Zehnder interferometers
Uncontrolled terms: Core diameters - Fast Fourier transformations - Fiber Mach-Zehnder interferometers - Fiber optic Mach Zehnder interferometer - Intermodal interferences - Multi-mode fibers (MMF) - Simultaneous measurement - Surrounding refractive indices (SRI)
Classification code: 741.1 Light/Optics - 741.1.2 Fiber Optics - 741.3 Optical Devices and Systems - 941.3 Optical Instruments - 944.6 Temperature Measurements
Numerical data indexing: Size 1.54e-06m, Size 1.55e-06m
DOI: 10.3788/AOS201434.1106001
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

98. Synthesis of reversible logic circuit using a species conservation method

Accession number: 20151500739951
Authors: Wang, Xiaoxiao (1, 2); Jiao, Licheng (1)
Author affiliation: (1) Key Laboratory of Intelligent Perception and Image, International Research Center for Intelligent Perception and Computation, Xidian University, Xi'an, Shaanxi Province, China; (2) School of Computer Science, Xi'an Shiyou University, Xi'an, Shaanxi Province, China
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Part number: 1of1
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Article number: 6975910
Language: English
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Document type: Conference article (CA)
Conference name: 2014 10th International Conference on Natural Computation, ICNC 2014
Conference date: August 19, 2014 - August 21, 2014
Conference location: Xiamen, China
Conference code: 111723
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: This paper aims to propose a modified species conservation technique for reversible logic circuits synthesis which is characterized by multimodal and large search space. The species conservation technique is tailored to adapt the uncertainty caused by the variable length representation. The different species is divided according to a new similarity definition and the similarity threshold is dynamically adjusted with the increasing of the chromosome length to ensure the search space exploring. A species elimination and restart search are conducted to avoid redundant search when a species converged. The same reproduction probability, other than that proportionate to its ranking, is given to different species. Experiments have been performed on a series of benchmark test functions. Comparison is primarily conducted to show the superior performance different to the basic evolutionary algorithm without species conservation mechanism and the original species conservation method. © 2014 IEEE.
Number of references: 19
Main heading: Timing circuits
Controlled terms: Computer circuits - Benchmarking - Conservation - Logic circuits - Logic Synthesis - Logic gates
Uncontrolled terms: Benchmark tests - Multi-modal optimization - Reversible logic circuits - Search spaces - Similarity threshold - Species conservations - Variable length - Variable-legnth representation
Classification code: 713.4 Pulse Circuits - 721.2 Logic Elements - 721.3 Computer Circuits - 723.5 Computer Applications
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Natural Science Foundation of China; Number: 61 273 317, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

99. Study of treatment process and development of oily sludge

Accession number: 20140217181587
Authors: Li, Hui (1); Song, Shao Fu (1); Qu, Cheng Tun (1); Xie, Qian (2); Yang, Bo (1)
Author affiliation: (1) Key Laboratory of Environmental Pollution Control Technology and Reservoir Protection, Shaanxi Province (Xi'an Shiyou University), Xi'an, Shaanxi, 710065, China; (2) Tuha Oilfield Technology Monitoring Center, Turpan, Xinjiang,838202, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
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Issue title: Civil, Structural and Environmental Engineering
Issue date: 2014
Publication year: 2014
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Language: English
ISSN: 10226680
ISBN-13: 9783037859261
Document type: Conference article (CA)
Conference name: 2013 2nd Global Conference on Civil, Structural and Environmental Engineering, GCCSEE 2013
Conference date: September 28, 2013 - September 29, 2013
Conference location: Shenzhen, China
Conference code: 101775
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: Oily sludge is a mixture of oil and sludge, produced during the process of crude oil production and gathering, contains crude oil, heavy metal and organic toxic and harmful substances, and with the characteristics of high moisture content, poor liquidity and big volume. The recycling and disposal of it has been one of the most important aspects of environmental protection in oil industry. In this paper the origin, nature and hazards of oil sludge were described, the existing oily sludge treatment process from the aspects of quenched separation, heat treatment, extraction, biological treatment were introduced, and looks forward to the development of the oil sludge treatment technology. © (2014) Trans Tech Publications, Switzerland.
Number of references: 21
Main heading: Extraction
Controlled terms: Biochemical engineering - Crude oil - Heat treatment - Heavy metals
Uncontrolled terms: Biological treatment - Development - Oily sludges - Profile - Quenched
Classification code: 512.1 Petroleum Deposits - 531 Metallurgy and Metallography - 537.1 Heat Treatment Processes - 802.3 Chemical Operations - 805.1.1 Biochemical Engineering
DOI: 10.4028/www.scientific.net/AMR.838-841.2667
Database: Compendex
Data Provider: Engineering Village

100. Mineral characteristics and their geological significance of black shales in southeastern Ordos Basin by X-ray diffraction analysis

Accession number: 20140717320023
Authors: Yao, Zhigang (1); Yang, Yang (1); Ying, Huawei (1); Dong, Yunpeng (1)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Petroleum University, Xi'an, 710065, China
Corresponding author: Yao, Z.(yzg123-68@163.com)
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Abbreviated source title: Chin. J. Geochem.
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Issue date: March 2014
Publication year: 2014

Pages: 119-124
Language: English
ISSN: 10009426
CODEN: CJGEEV
Document type: Journal article (JA)
Publisher: Science Press
Abstract: X-ray diffraction analysis of black shale of Upper Triassic Member Chang 7 of the Yanchang Formation in southeastern Ordos Basin showed that black shales were deposited in brackish, strongly reducing, semi-deep-deep lacustrine facies, and mainly composed of quartz, feldspar, carbonate (dolomite), clay minerals (illite and illite/smectite) and a certain amount of pyrite. The mineral composition characteristics of this set of black shales are similar to those of highly productive shale gas in North America, for example shallow burial, low clay mineral and abundant brittle mineral, so the strata are conducive to the development of cracks and fractures. Thus, this area is favorable for shale oil/gas exploration and development. © 2014 Science Press, Institute of Geochemistry, CAS and Springer-Verlag Berlin Heidelberg.
Number of references: 28
Main heading: X ray diffraction analysis
Controlled terms: Shale gas - Metamorphic rocks - Shale oil - Clay minerals - Feldspar - Pyrites
Uncontrolled terms: Black shales - Geological significance - Mineral composition - Oil/gas exploration - Ordos Basin - Shallow burial - Upper Triassic - Yanchang Formation
Classification code: 482.2 Minerals - 512.2 Natural Gas Deposits - 522 Gas Fuels - 523 Liquid Fuels
DOI: 10.1007/s11631-014-0666-2
Funding Details: Number: 1212011120963, Acronym: MLR, Sponsor: Ministry of Land and Resources of the People's Republic of China; Number: -, Acronym: CGS, Sponsor: China Geological Survey;
Funding text: Acknowledgements This research project was financially supported by China Geological Survey and the Ministry of Land and Resources of China (No. 1212011120963). X-ray diffraction analysis of all samples was carried out at the State Key Laboratory of Continental Dynamics. The field work in Tong-chuan, Ordos Basin, was greatly assisted by Li Yu-hong, Li Jinchao and Zhang Huiyuan. The paper has benefited from instructive discussion with Prof. Wu Fuli. Thanks are due to the reviewers for their helpful suggestions.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

101. Identification, calculation and main controlling factors of overpressure transferred by fault in Kelasu thrust belt of Kuqa depression

Accession number: 20143017975513
Authors: Fan, Chang-Yu (1, 2); Wang, Zhen-Liang (1, 2); Zhang, Feng-Qi (3)
Author affiliation: (1) State Key Laboratory for Continental Dynamics, Northwest University, Xi'an 710069, China; (2) Department of Geology, Northwest University, Xi'an 710069, China; (3) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Fan, C.-Y.(fancy@nwu.edu.cn)
Source title: Zhongguo Shiyou Daxue Xuebao (Ziran Kexue Ban)/Journal of China University of Petroleum (Edition of Natural Science)
Abbreviated source title: Zhongguo Shiyou Daxue Xuebao (Ziran Kexue Ban)
Volume: 38
Issue: 3
Issue date: June 2014
Publication year: 2014
Pages: 32-38
Language: Chinese
ISSN: 16735005
Document type: Journal article (JA)
Publisher: University of Petroleum, China
Abstract: Overpressure can be transferred vertically by fault. Studies of identification, calculation and prediction of overpressure transferred by fault, however remain currently underdeveloped. The origin of this type of overpressure was analyzed, and earlier identification methods of the overpressure were modified. Taking an example of the fault development stratum bearing overpressure under salinastone in Kelasu thrust belt of Kuqa depression, overpressure transferred by fault was identified under salinastone after applying corrections due to acoustic velocity by gas bearing and buoyancy. The amount of transferred overpressure was calculated. Finally, the major controlling factors of

transferred overpressure were analyzed in the study area. The results show that variable degrees of overpressure transferred by fault exist in Dabei and Kelasu area of Kelasu thrust belt. The amount of overpressure transferred by fault is about 24.10 MPa in well Dabei 3, 26.35 MPa in well Tubei 2, and 16.47 MPa in well Kela 2. The overpressure transferred by fault accounts for 50 percent of the total measured overpressure, and is mainly influenced by multiplied effects of fault throw, fault dip angle and overpressure gradient in the stratum cut by faults.
Number of references: 14
Main heading: Acoustic wave velocity
Uncontrolled terms: Controlling factors - Fault development - Fault dip angle - Identification method - Kuqa depression - Main controlling factors - Overpressure - Thrust belts
Classification code: 751.1 Acoustic Waves
Numerical data indexing: Percentage 5.00e+01%, Pressure 1.65e+07Pa, Pressure 2.41e+07Pa, Pressure 2.64e+07Pa
DOI: 10.3969/j.issn.1673-5005.2014.03.005
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

102. Development of an Er:Fiber-based femtosecond laser at NTSC

Accession number: 20143718147749
Authors: Zhang, Yanyan (1); Zhao, Wenyu (1, 2); Meng, Sen (3); Yan, Lulu (1); Guo, Wenge (3); Zhang, Shougang (1); Jiang, Haifeng (1)
Author affiliation: (1) Key laboratory of Time and Frequency Standards, National Time Service Center, Xi'an, China; (2) Graduate University of Chinese Academy of Sciences, Beijing, China; (3) School of Science, Xi'an Shiyou University, Xi'an, China
Source title: IFCS 2014 - 2014 IEEE International Frequency Control Symposium, Proceedings
Abbreviated source title: IFCS - IEEE Int. Freq. Control Symp., Proc.
Issue title: IFCS 2014 - 2014 IEEE International Frequency Control Symposium, Proceedings
Issue date: 2014
Publication year: 2014
Article number: 6859967
Language: English
ISBN-13: 9781479949168
Document type: Conference article (CA)
Conference name: 2014 IEEE International Frequency Control Symposium, IFCS 2014
Conference date: May 19, 2014 - May 22, 2014
Conference location: Taipei, Taiwan
Conference code: 107273
Sponsor: IEEE UFFC
Publisher: IEEE Computer Society
Abstract: Femtosecond mode-locked lasers are key parts of optical frequency combs which allows a directly link from microwave frequency standards to optical frequencies. In this paper, we report on a 186 MHz mode-locked Erbium-doped fiber femtosecond laser developed for 9.2 GHz ultra-low-noise signal generation. This laser keeps mode-locked states within a large pump power dynamic range (from 300 mW to 1000 mW), and the relative intensity noise of the laser is about -118 dBc/Hz@1 Hz, below -130 dBc/Hz for frequencies higher than 10 Hz. © 2014 IEEE.
Number of references: 14
Main heading: Femtosecond lasers
Controlled terms: Optical materials - Natural frequencies - Pumping (laser) - Frequency standards - Locks (fasteners) - Mode-locked fiber lasers
Uncontrolled terms: Erbium doped fibers - Femtosecond mode-locked laser - Mode-locked laser - Optical frequency - Optical frequency combs - Relative intensity noise - tunable - Ultra low noise
Classification code: 741.3 Optical Devices and Systems - 744.1 Lasers, General
Numerical data indexing: Frequency 1.00e+01Hz, Frequency 1.86e+08Hz, Frequency 9.20e+09Hz, Power 3.00e-01W to 1.00e+00W
DOI: 10.1109/FCS.2014.6859967
Funding Details: Number: 2013ZD02, Acronym: CAS, Sponsor: Chinese Academy of Sciences; Number: 61025023, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 61127901, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 91336101, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Compendex references: YES

Database: Compendex
Data Provider: Engineering Village

103. A new type of accelerometer based on Fiber Bragg Grating

Accession number: 20142317786121
Authors: Feng, De Quan (1); Qiao, Xue Guang (2); Shao, Min (1); Luo, Xiao Dong (1); Fan, Wei (1)
Author affiliation: (1) Ministry of Education Key Laboratory on Photoelectric oil-gas Logging and detecting, School of Science, Xi'an Shiyou University, Xi'an, 710065, China; (2) Physics Department, Northwest University, Xi'an, 710069, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 551
Issue title: Design, Manufacturing and Mechatronics
Issue date: 2014
Publication year: 2014
Pages: 210-213
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038351016
Document type: Conference article (CA)
Conference name: 2014 International Conference on Design, Manufacturing and Mechatronics, ICDMM 2014
Conference date: March 21, 2014 - March 23, 2014
Conference location: Changsha, Hunan, China
Conference code: 105341
Sponsor: Beijing Technology and Business University; Chengdu University; Hebei University
Publisher: Trans Tech Publications
Abstract: Fiber Bragg Grating has advantages of high resistance to electromagnetic interference and high accuracy, which could obtain high-precision detection of the vibrations. A new type of accelerometer based on Fiber Bragg Grating (FBG) is proposed in this paper. The mechanical model of the accelerometer is designed as a single-degree-of-freedom system. The experiments show FBG accelerometer system has excellent stability and high durability. The acceleration sensitivity of the FBG accelerometer is 31.2pm/G. © (2014) Trans Tech Publications, Switzerland.
Number of references: 6
Main heading: Fiber Bragg gratings
Controlled terms: Accelerometers - Degrees of freedom (mechanics) - Electromagnetic pulse
Uncontrolled terms: Acceleration sensitivity - Fiber-optical sensors - High durability - High resistance - High-precision - Mechanical model - Single degree of freedom systems
Classification code: 701 Electricity and Magnetism - 931.1 Mechanics - 943.1 Mechanical Instruments
DOI: 10.4028/www.scientific.net/AMM.551.210
Database: Compendex
Data Provider: Engineering Village

104. Temperature compensation method for FBG using the thermo-optic effect of liquid

Accession number: 20141917703864
Authors: Liu, Ying-Gang (1); Zhang, Wei (2); Jia, Zhen-An (1); Fu, Hai-Wei (1); Feng, De-Quan (1)
Author affiliation: (1) Shaanxi Key Laboratory of Photoelectric Sensing Logging, Xi'an Shiyou University, Xi'an 710065, China; (2) School of Environmental and Municipal Engineering, Xi'an University of Architecture and Technology, Xi'an 710055, China
Corresponding author: Liu, Y.-G.(ygliu@xsyu.edu.cn)
Source title: Guangdianzi Jiguang/Journal of Optoelectronics Laser
Abbreviated source title: Guangdianzi Jiguang
Volume: 25
Issue: 4
Issue date: April 2014
Publication year: 2014
Pages: 637-641
Language: Chinese

ISSN: 10050086
CODEN: GUJIE9
Document type: Journal article (JA)
Publisher: Board of Optronics Lasers, No. 47 Yang-Liu-Qing Ying-Jian Road, Tian-Jin City, 300380, China
Abstract: In order to reduce the sensitivity of wavelength-temperature dependence for fiber Bragg grating (FBG), we demonstrate an innovative temperature compensation method. Through packaging a thinner silica-cladding FBG with a quartz glass tube, in which the liquid with certain refractive index and negative thermo-optic coefficient, acting as ambient cladding, is filled, the temperature stability of Bragg wavelength shift is enhanced by utilizing the characteristic of Bragg wavelength blue shift, which is caused by the thermo-optic effect of ambient cladding liquid, to compensate the wavelength red shift resulting from the thermal expansion of fiber and its thermo-optic effect. In the temperature range from 25°C to 55°C, the coefficient of 0.0022 nm/°C is achieved, which means the temperature insensitivity is enhanced by more than 5 times and the feasibility of this kind of temperature compensation method is verified simultaneously. Further theoretical and experimental researches also demonstrate that the temperature stability of Bragg wavelength can be enhanced through decreasing the silica-cladding thickness or selecting the liquid with larger refractive index and thermo-optic coefficient. Compared with the conventional compensation method, the innovative method is easy to operate and avoids the chirps of FBG in packaging and curing process, which will supply guides for the functional applications of FBG in fiber sensing and communications.
Number of references: 19
Main heading: Fiber Bragg gratings
Controlled terms: Silica - Liquids - Refractive index - Cladding (coating) - Thermal expansion - Temperature distribution
Uncontrolled terms: Bragg wavelength shift - Experimental research - Functional applications - Temperature compensation - Temperature insensitivity - Temperature stability - Thermo-optic coefficients - Thermooptic effects
Classification code: 641.1 Thermodynamics - 741.1 Light/Optics - 951 Materials Science
Numerical data indexing: Temperature 2.98e+02K to 3.28e+02K
Database: Compendex
Data Provider: Engineering Village

105. Study and improvement of oilfield sewage corrosion test methods

Accession number: 20140217181554
Authors: Jiao, Kun (1); Qu, Chengtun (1); Yang, Bo (1); Xie, Qian (2)
Author affiliation: (1) Key Lab. of Environmental Pollution Control Technology and Reservoir Protection Shaanxi Province, Xi'an Shiyou University, Shaanxi, Xi'an 710065, China; (2) Tuha Oilfield Technology Monitoring Center, Turpan, Xinjiang, 838202, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 838-841
Issue title: Civil, Structural and Environmental Engineering
Issue date: 2014
Publication year: 2014
Pages: 2488-2493
Language: English
ISSN: 10226680
ISBN-13: 9783037859261
Document type: Journal article (JA)
Conference name: 2013 2nd Global Conference on Civil, Structural and Environmental Engineering, GCCSEE 2013
Conference date: September 28, 2013 - September 29, 2013
Conference location: Shenzhen, China
Conference code: 101775
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: The corrosion status and results in a certain water injection station in Shanbei oilfield were monitored and evaluated by flow corrosion test (FCT) (with homemade corrosion test device), static corrosion test (SCT), and water tank corrosion test (WTCT). The coupons after corrosion tests were observed by Scanning Electron Microscope (SEM). It was found that: the corrosion rates of SCT, FCT and WTCT were 0.0469~0.0552 mm/a, 0.5126~0.5299 mm/a, and 0.3250~0.3414 mm/a respectively; the corrosion rates SCT were much smaller than actual. The severity of pitting corrosion, pointed corrosion and other forms of local corrosion cannot be reflected by SCT. The corrosion rates and behaviors tested by homemade corrosion test device are more close and similar to the real © (2014) Trans Tech Publications, Switzerland.
Number of references: 12

Main heading: Corrosion rate
Controlled terms: Scanning electron microscopy - Water tanks - Sewage - Pitting - Oil well flooding - Testing - Water injection
Uncontrolled terms: Corrosion tests - Flow corrosion - Local corrosion - Oily water - Static corrosion tests
Classification code: 446.1 Water Supply Systems - 452.1 Sewage - 511.1 Oil Field Production Operations - 539.1 Metals Corrosion - 612.1 Internal Combustion Engines, General - 619.2 Tanks
DOI: 10.4028/www.scientific.net/AMR.838-841.2488
Database: Compendex
Data Provider: Engineering Village

106. Backstepping based direct power control for rectifier

Accession number: 20143218039564
Authors: Huang, Jingjing (1); Zhang, Aimin (2); Sun, Yuangang (3); Zhang, Hang (1); Zhang, Chao (1); Ren, Zhigang (2)
Author affiliation: (1) School of Electrical Engineering, Xi'An Jiaotong University, Xi'an 710049, China; (2) School of Electronics and Information Engineering, Xi'An Jiaotong University, Xi'an 710049, China; (3) College of Electronic Engineering, Xi'An Shiyou University, Xi'an 710065, China
Source title: 26th Chinese Control and Decision Conference, CCDC 2014
Abbreviated source title: Chin. Control Decis. Conf., CCDC
Issue title: 26th Chinese Control and Decision Conference, CCDC 2014
Issue date: 2014
Publication year: 2014
Pages: 3125-3129
Article number: 6852712
Language: English
ISBN-13: 9781479937066
Document type: Conference article (CA)
Conference name: 26th Chinese Control and Decision Conference, CCDC 2014
Conference date: May 31, 2014 - June 2, 2014
Conference location: Changsha, China
Conference code: 106637
Publisher: IEEE Computer Society
Abstract: A backstepping based direct power control (DPC) method is proposed for the three-phase voltage-source rectifier. In the proposed backstepping based controller, the feedback control laws associated with the Lyapunov functions are constructed recursively to lower the dimension of the overall system. The stability of the system is ensured by the designed power controller which provides the best switching states. The proposed DPC is verified with the simulation and experiment. The results show that, compared with the conventional DPC, the current Total Harmonic Distortion (THD) of the proposed DPC is less than 45% of that of the conventional DPC in the steady state, and the phase error between the voltage and current is reduced by 66.7%. The transient setting time of the proposed DPC is only half of that of the conventional DPC. © 2014 IEEE.
Number of references: 10
Main heading: Backstepping
Controlled terms: Harmonic distortion - Wave filters - Controllers - Lyapunov functions - System stability - Electric rectifiers - Power control - Rectifying circuits
Uncontrolled terms: Direct power control - Feedback control law - Phase error - Power controllers - Setting time - Steady state - Three phase voltage - Total harmonic distortion (THD)
Classification code: 703.2 Electric Filters - 716.1 Information Theory and Signal Processing - 731.1 Control Systems - 731.3 Specific Variables Control - 732.1 Control Equipment - 921 Mathematics - 961 Systems Science
Numerical data indexing: Percentage 4.50e+01%, Percentage 6.67e+01%
DOI: 10.1109/CCDC.2014.6852712
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

107. Thermal shock resistance of a two-dimensional silicon carbon fiber reinforced SiC matrix composite

Accession number: 20140817337453

Authors: Zhang, Chengyu (1); Wang, Yuntao (1); Liu, Yongsheng (1); Qiao, Shengru (1); Zhang, Jun (2)
Author affiliation: (1) Science and Technology on Thermostructural Composite Material Laboratory, Northwestern Polytechnical University, No. 547 Postbox, Xi'an 710072, China; (2) School of Materials Science and Engineering, Xi'An Shiyou University, Xi'an 710065, China
Corresponding author: Zhang, C.(cyzhang@nwpu.edu.cn)
Source title: Advanced Engineering Materials
Abbreviated source title: Adv. Eng. Mater.
Volume: 16
Issue: 1
Issue date: January 2014
Publication year: 2014
Pages: 65-71
Language: English
ISSN: 14381656
E-ISSN: 15272648
Document type: Journal article (JA)
Publisher: Wiley-VCH Verlag
Abstract: A two dimensional SiC/SiC (2D-SiC/SiC), which contains different fiber density in two reinforcing direction, were prepared by chemical vapor infiltration (CVI) to understand the effects of the fiber bundle density on the thermal shock resistance of SiC/SiC. The 2D-SiC/SiC was reinforced by a two-dimensional plain woven Hi-Nicalon silicon carbide fiber. There are 11 fiber bundles per unit centimeter in X (0°) direction and 7 bundle cm-1 in Y (90°) direction. The composite was fabricated by a CVI process. The thermal shock resistance of the 2D-SiC/SiC was characterized by the mass variation and retained tensile properties. It can be found that the mass loss increases with increasing thermal shock cycles for both directions. The mass loss rate was gradually slow down after 300 thermal shock cycles. Few cracks could be found on the coating due to the similar coefficient of thermal expansion (CTE) between the SiC coating and the matrix.
Abstract type: (Edited Abstract)
Number of references: 32
Main heading: Silicon carbide
Controlled terms: Coatings - Thermal expansion - Fibers - Reinforcement - Thermal shock
Uncontrolled terms: Fiber bundles - Mass loss rate - Mass variations - SiC matrix composites - Silicon carbide fiber - Silicon carbon - Similar coefficient - Thermal shock resistance
Classification code: 641.1 Thermodynamics - 804.2 Inorganic Compounds - 813.2 Coating Materials - 951 Materials Science
DOI: 10.1002/adem.201300214
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

108. Mining correlation patterns of taxa, pathways and environmental factors with an improved weighted network community detection algorithm

Accession number: 20150200407239
Authors: Yan, Xiao-Ying (1, 2); Zhang, Shao-Wu (1); Wei, Ze-Gang (1); Guo, Wei-Feng (1)
Author affiliation: (1) College of Automation, Key Laboratory of Information Fusion Technology of Ministry of Education, Northwestern Polytechnical Univerwsity, Xi'an; 710071, China; (2) College of Computer Science, Xi'An Shiyou University, Xi'an; 710065, China
Corresponding author: Zhang, Shao-Wu
Source title: International Conference on Systems Biology, ISB
Abbreviated source title: Int. Conf. Syst. Biol.
Part number: 1of1
Issue date: December 17, 2014
Publication year: 2014
Pages: 141-145
Article number: 6990746
Language: English
ISSN: 23250704
E-ISSN: 23250712
ISBN-13: 9781479972944

Document type: Conference article (CA)
Conference name: 8th International Conference on Systems Biology, ISB 2014
Conference date: August 24, 2014 - August 27, 2014
Conference location: Qingdao, China
Conference code: 109794
Sponsor: Academy of Mathematics and Systems Sciences of CAS (AMSS); et al.; National Natural Science Foundation of China (NSFC); Qingdao Institute of Bioenergy and Bioprocess Technology of CAS (QIBEBT); Qingdao University; Shanghai Institutes for Biological Sciences of CAS (SIBS)
Publisher: IEEE Computer Society
Abstract: With the development of high-throughput and low-cost sequencing technology, a large amount of marine microbial sequences is generated. So, it is possible to research more uncultivated marine microbes. Generally, the functional capability and taxa structure are highly related with environment factors in microbial communities, which are hidden in these large amount sequences. However, most works used the canonical correlation analysis (CCA) method to research the correlative relationship among taxa, pathways and environmental factors. CCA is difficult to find which environmental factors are the major determinants of some special taxa and pathway. In this paper, we integrated 14 ocean metagenomes with geographical, meteorological and geophysicochemical data to construct the correlative weighted networks with Spearman correlation. By using an improved weighted network community detection algorithm, named as IWNCD, we find some special correlation patterns among taxa, pathways and environmental factors. Analysis of these patterns shows that the climatic factors such as temperature, sunlight, and correlated CO2, and the nutrients such as chlorophyll and primary production are the main determining factors of the functional community composition; The growth and development of some special taxa are dependent on some main environmental factors such as sunlight, temperature, CO2, primary production, dissolved oxygen, dissolved silicate; In addition, sampling sites more similar in geographic location have a greater tendency to be closer together based on their metabolic pathways. © 2014 IEEE.
Number of references: 23
Main heading: Silicates
Controlled terms: Bacteria - Signal detection - Population dynamics - Factor analysis - Carbon dioxide - Dissolved oxygen
Uncontrolled terms: Correlation patterns - Marine microbe - pathway - taxa - Weighted networks
Classification code: 716.1 Information Theory and Signal Processing - 804.2 Inorganic Compounds - 922.2 Mathematical Statistics - 971 Social Sciences
DOI: 10.1109/ISB.2014.6990746
Funding Details: Number: 61170134, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

109. Microscopic space types of Lower Paleozoic marine shale in southern Sichuan Basin

Accession number: 20143600063239
Authors: Pu, Boling (1); Dong, Dazhong (2); Wu, Songtao (3); Er, Chuang (1); Huang, Jinliang (2); Wang, Yuman (2)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an; 710065, China; (2) CNPC Research Institute of Petroleum Exploration & Development, Beijing; 100083, China; (3) PetroChina Research Institute of Petroleum Exploration & Development, Beijing; 100083, China
Corresponding author: Pu, Boling
Source title: Zhongguo Shiyou Daxue Xuebao (Ziran Kexue Ban)/Journal of China University of Petroleum (Edition of Natural Science)
Abbreviated source title: Zhongguo Shiyou Daxue Xuebao (Ziran Kexue Ban)
Volume: 38
Issue: 4
Issue date: August 20, 2014
Publication year: 2014
Pages: 19-25
Language: Chinese
ISSN: 16735005
Document type: Journal article (JA)
Publisher: University of Petroleum, China
Abstract: To ascertain the contribution of different pores to shale gas reservoir, pore types, size and distribution of Lower Paleozoic marine shale in southern Sichuan Basin were studied using a variety of analytical testing methods. Pore space characteristics and influencing factors were discussed. The results show that Lower Paleozoic shale

reservoir space can be divided into three main types, including mineral matrix pores, organic pores and micro-fractures, and can be further subdivided into nine types. Organic pores and interlayer pores between clay minerals are mainly developed in Longmaxi shale. Organic pores, dissolution pores and fractures are mainly developed in Wufeng shale. Organic pores are rarely in Jiulaodong shale, where dissolution pores and fractures are well distributed. Pore types and distributions show differences in Lower Paleozoic shales, which are mainly affected by mineral composition, the abundance of organic matter and diagenetic evolution. Micro-pores are developed in Lower Longmaxi shale, with high specific surface area, providing a bulk of reservoir spaces for shale gas adsorption, which makes it a beneficial shale reservoir.
Number of references: 19
Main heading: Dissolution
Controlled terms: Fracture - Gas adsorption - Shale gas - Geochronology - Minerals - Testing
Uncontrolled terms: Abundance of organic matters - Diagenetic evolution - Genetic type - High specific surface area - Lower Paleozoic - Microscopic space types - Shale gas reservoirs - Sichuan Basin
Classification code: 481.1 Geology - 481.3 Geophysics - 482.2 Minerals - 512.2 Natural Gas Deposits - 522 Gas Fuels - 802.3 Chemical Operations - 951 Materials Science
DOI: 10.3969/j.issn.1673-5005.2014.04.003
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

110. A density functional theory study of small bimetallic PdnAl± (n = 1-8) clusters (*Open Access*)

Accession number: 20142517852794
Authors: Wen, Jun-Qing (1, 2); Zhang, Jian-Ming (1); Zhou, Hong (2); Yao, Pan (2); Wang, Jun-Fei (3)
Author affiliation: (1) College of Physics and Information Technology, Shaanxi Normal University, Xi'an 710062, China; (2) College of Science, Xi'an Shiyou University, Xi'an 710065, China; (3) Institute of Modern Physics, Northwest University, Xi'an 710069, China
Corresponding author: Wen, J.-Q.(wenjq2013@163.com)
Source title: Wuli Xuebao/Acta Physica Sinica
Abbreviated source title: Wuli Xuebao
Volume: 63
Issue: 11
Issue date: May 6, 2014
Publication year: 2014
Article number: 113101
Language: Chinese
ISSN: 10003290
CODEN: WLHPAR
Document type: Journal article (JA)
Publisher: Institute of Physics, Chinese Academy of Sciences
Abstract: Geometries, stabilities, and polarizations of PdnAl±(n = 1-8) have been calculated using the density functional theory at BPW91/LANL2DZ level. The growth pattern for different sized PdnAl(n = 1-8)clusters is of Al-substituted Pdn+1 clusters, which shows the similar configuration of most stable Pdn+1 clusters except that of Pd6Al and Pd8Al. Geometries of ground state PdnAl± (n = 1-8) clusters keep the same structures of PdnAl clusters except that of Pd2Al± and Pd6Al+. Al atoms in the ground state PdnAl and PdnAl± isomers tend to occupy the most highly coordinated position. Analysis of stabilities shows that Pd4, Pd3Al and Pd3Al± are more stable than other clusters. Study of polarizations shows that Pd-rich clusters have a strong nonlinear optical effect and are easy to be polarized by external electromagnetic field. © 2014 Chinese Physical Society.
Number of references: 37
Main heading: Polarization
Controlled terms: Density functional theory - Electromagnetic fields - Aluminum alloys - Ground state - Geometry - Palladium alloys - Binary alloys - Isomers
Uncontrolled terms: Analysis of stability - Density functional theory studies - External electromagnetic field - Functional theory - Geometric structure - Growth patterns - Nonlinear optical effects
Classification code: 541.2 Aluminum Alloys - 547.1 Precious Metals - 701 Electricity and Magnetism - 804 Chemical Products Generally - 921 Mathematics - 922.1 Probability Theory - 931.3 Atomic and Molecular Physics - 931.4 Quantum Theory; Quantum Mechanics
DOI: 10.7498/aps.63.113101

Compendex references: YES
Open Access type(s): All Open Access, Hybrid Gold
Database: Compendex
Data Provider: Engineering Village

111. A sensitive hydrogen peroxide sensor based on leaf-like silver

Accession number: 20140517251928
Authors: Meng, Zuchao (1, 2); Zhang, Mingyin (1); Zhang, Hongfang (1); Zheng, Jianbin (1)
Author affiliation: (1) Institute of Analytical Science, Shaanxi Provincial Key Labortary of Electroanalytical Chemistry, Northwest University, Xi'an, Shaanxi 710069, China; (2) College of Chemistry and Chemical Engineering, Xi'An Shiyou University, Xi'an, Shaanxi 710065, China
Source title: Measurement Science and Technology
Abbreviated source title: Meas. Sci. Technol.
Volume: 25
Issue: 2
Issue date: February 1, 2014
Publication year: 2014
Article number: 025301
Language: English
ISSN: 09570233
E-ISSN: 13616501
CODEN: MSTCEP
Document type: Journal article (JA)
Publisher: IOP Publishing Ltd
Abstract: A novel non-enzymatic hydrogen peroxide sensor based on leaf-like silver was constructed. The leaf-like silver was synthesized on the surface of L-cysteine (L-cys) by electrodeposition. Scanning electron microscopy and electrochemical techniques were used to characterize the leaf-like silver nanoparticles. The sensor showed high electrocatalytic activity towards the reduction of hydrogen peroxide. A wide linear range of 2.5-1.5 mM with a low detection limit of 0.7 μM was obtained. Excellent electrocatalytic activity, large surface-to-volume ratio and efficient electron transport properties of leaf-like silver have enabled stable and highly sensitive performance for the non-enzymatic hydrogen peroxide sensor. © 2014 IOP Publishing Ltd.
Number of references: 38
Main heading: Hydrogen peroxide
Controlled terms: Scanning electron microscopy - Amino acids - Oxidation - Silver nanoparticles - Electron transport properties - Electrocatalysis
Uncontrolled terms: Electrocatalytic activity - Electrochemical techniques - Enzyme-free sensors - Hydrogen peroxide sensor - Large surfaces - Low detection limit - Online journals - Wide-linear range
Classification code: 761 Nanotechnology - 801.4.1 Electrochemistry - 802.2 Chemical Reactions - 804.1 Organic Compounds - 804.2 Inorganic Compounds
DOI: 10.1088/0957-0233/25/2/025301
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

112. First-principles study on the elastic and electronic properties of 2H-CuGaO2

Accession number: 20140117159007
Authors: Liu, Wen Ting (1); Liu, Zheng Tang (2)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) State Key Lab of Solidification Processing, School of Materials Science and Engineering, Northwestern Polytechnical University, Xi'an 710072, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 446-447
Issue title: Advanced Research in Material Science and Mechanical Engineering
Issue date: 2014
Publication year: 2014
Pages: 3-7

Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859087
Document type: Conference article (CA)
Conference name: 2013 2nd International Conference on Mechanics and Control Engineering, ICMCE 2013
Conference date: September 1, 2013 - September 2, 2013
Conference location: Beijing, China
Conference code: 101725
Sponsor: Southwest Jiaotong University, China
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: The structure, elastic and electronic properties of 2H-CuGaO2 are calculated using the plane-wave ultrasoft pseudopotential technique based on the first-principles density functional theory. The calculated equilibrium lattice parameters is in good agreement with experimental and reported values. The elastic coefficients, bulk, shear and Young's modulus, Poisson's ratio and elastic anisotropy ratio of 2H-CuGaO2 were calculated. The electronic properties of 2H-CuGaO2 have been calculated and the results show that 2H-CuGaO2 has an indirect band gap. © (2014) Trans Tech Publications, Switzerland.
Number of references: 25
Main heading: Density functional theory
Controlled terms: Energy gap - Transparent conducting oxides - Gallium compounds - Copper compounds - Elastic moduli - Electronic properties
Uncontrolled terms: 2H-CuGaO2 - Elastic and electronic properties - Elastic anisotropy - Elastic coefficient - First-principles density functional theory - First-principles study - Transparent conducting oxide - Ultrasoft pseudopotentials
Classification code: 708.2 Conducting Materials - 922.1 Probability Theory - 931.3 Atomic and Molecular Physics - 931.4 Quantum Theory; Quantum Mechanics - 951 Materials Science
DOI: 10.4028/www.scientific.net/AMM.446-447.3
Database: Compendex
Data Provider: Engineering Village

113. Transmission-type plano-concave lens using in the range of extreme ultraviolet wavelength

Accession number: 20142417806886
Authors: Li, Yan (1); Xu, Xiangyan (2); Li, Xiao-Li (1)
Author affiliation: (1) School of Science, Xi'an Shiyou University, Xi'an 710065, China; (2) State Key Laboratory of Transient Optics and Photonics, Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences, Xi'an 710119, China
Source title: IEEE Photonics Technology Letters
Abbreviated source title: IEEE Photonics Technol Lett
Volume: 26
Issue: 12
Issue date: June 15, 2014
Publication year: 2014
Pages: 1239-1242
Article number: 6807675
Language: English
ISSN: 10411135
CODEN: IPTLEL
Document type: Journal article (JA)
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: A one-dimensional photonic crystal consisting of the fourth-order Fibonacci multilayer films has been studied by the finite-difference time-domain method and transfer matrix method. The refractive indices for two layers of the Fibonacci multilayer films are similar with that of manganese and silicon in the extreme ultraviolet (EUV) band. The simulation result shows that there is an isotropic negative refractive index for the one-dimensional photonic crystal. Based on the character above, a kind of transmission-type plano-concave lens, which can be used in the EUV band (or soft X-ray), is designed. The distributions of the electromagnetic field for the lens and transimissivity of the Fibonacci multilayers films have also been calculated. The result demonstrates that the lens can focus the incoming EUV radiation, and its transmissivity is bigger than 5%-9% compared with that of the Fibonacci multilayers films, having the

same structure with the lens. This letter has potential applications in the tansmission-type lens for EUV lithography. © 2014 IEEE.
Number of references: 11
Main heading: Photonic crystals
Controlled terms: Finite difference time domain method - Multilayers - Extreme ultraviolet lithography - Multilayer films - Transfer matrix method - Electromagnetic fields - Optical multilayers - Refractive index
Uncontrolled terms: EUV radiation - Extreme Ultraviolet - Extreme ultraviolets - Fibonacci multilayers - Fourth order - Negative refractive index - One dimensional photonic crystal - Transmissivity
Classification code: 701 Electricity and Magnetism - 741.1 Light/Optics - 741.3 Optical Devices and Systems - 921 Mathematics
Numerical data indexing: Percentage 5.00e+00% to 9.00e+00%
DOI: 10.1109/LPT.2014.2320551
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

114. Image classification recognition for rock micro-thin section based on probabilistic neural networks

Accession number: 20143518112884
Authors: Wei, Xin Shan (1); Qin, Xiao Hua (2); Rong, Chun Long (1); Nan, Jun Xiang (1); Cheng, Guo Jian (3)
Author affiliation: (1) Research Institute of E and D, Changqing Oilfield Company, CNPC, Xi'an, 710021, China; (2) Communication Branch of Changqing Oilfield Company, CNPC, Xi'an, 710021, China; (3) School of Computer Science, Xi'an Shiyou University, Xi'an, Shaanxi, 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 602-605
Issue title: Advanced Manufacturing and Information Engineering, Intelligent Instrumentation and Industry Development
Issue date: 2014
Publication year: 2014
Pages: 2147-2152
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038351948
Document type: Conference article (CA)
Conference name: 2nd International Conference on Precision Mechanical Instruments and Measurement Technology, ICPMIMT 2014
Conference date: May 30, 2014 - May 31, 2014
Conference location: Chongqing, China
Conference code: 107117
Publisher: Trans Tech Publications Ltd
Abstract: In order to implement the recognition automation of rock section pore images, a method combined K-means clustering with probabilistic neural network is proposed and applied to rock thin section images. Firstly, K-means clustering is used as segmentation algorithm, the rock images are divided into two types and extracted enough features and it is shown good classification recognition effect on testing dataset. Secondly, 100 pieces of rock image section are used as validation dataset, including 20 groups, each group has 5 images and 200 data samplings. Experiments show that the probabilistic neural network can be used as rock texture classifier, the average correct classification rate is around 95.12%, which can meet the practical application needs. © (2014) Trans Tech Publications, Switzerland.
Number of references: 13
Main heading: Neural networks
Controlled terms: Statistical tests - Image classification - Image segmentation - Rocks - Classification (of information)
Uncontrolled terms: Classification rates - Color image segmentation - Image section - K-means clustering - Probabilistic neural networks - Section-based - Segmentation algorithms - Thin section
Classification code: 716.1 Information Theory and Signal Processing - 723.2 Data Processing and Image Processing - 903.1 Information Sources and Analysis - 922.2 Mathematical Statistics

Numerical data indexing: Percentage 9.51e+01%
DOI: 10.4028/www.scientific.net/AMM.602-605.2147
Database: Compendex
Data Provider: Engineering Village

115. Multiaxial thermomechanical creep-fatigue analysis of heat-resistant steels with varying chromium contents

Accession number: 20142917958304
Authors: Wang, P. (1); Cui, L. (2); Scholz, A. (1); Linn, S. (1); Oechsner, M. (1)
Author affiliation: (1) Institut für Werkstoffkunde (IfW), Technische Universität Darmstadt, Grafenstrasse 2, 64283 Darmstadt, Germany; (2) IfW Darmstadt, Since July 2011 School of Mechanical Engineering, Xi'An Shiyou University, Dianzi Erlu 18, 710065 Xi'an, Shaanxi, China
Corresponding author: Wang, P.(wp168@hotmail.com)
Source title: International Journal of Fatigue
Abbreviated source title: Int J Fatigue
Volume: 67
Issue date: October 2014
Publication year: 2014
Pages: 220-227
Language: English
ISSN: 01421123
CODEN: IJFADB
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: Steels with varying chromium contents are widely used in steam turbine components and have been introduced steadily in the last decades. The initial aim in the development of such steels is to achieve high performance in creep resistance. Due to the fluctuations of electrical power demand nowadays, power plants are increasingly forced to run at varying utilization levels, which can shift the critical load to the fatigue domain by superimposed creep on the heated surface of components. In the current paper, the creep fatigue behavior of 1%-, 2%- and 10%Cr steels under multiaxial loading is described. The experimental investigation was conducted on steels of the types 1Cr-1Mo-Ni-V, 2Cr-1Mo-W-V and 10Cr-1Mo-1 W-V-Nb-N as representative samples for each of the three steel grades. The experimental database consists of uniaxial as well as biaxial creep fatigue experiments which were conducted on a biaxial cruciform testing machine. Of special interest was a lifetime comparison of experiments under thermomechanical and isothermal loading at the maximum application temperature. A unified viscoplastic constitutive material model with an incorporated damage variable was applied for lifetime assessment. Finally, metallographic investigations contribute to a better knowledge of the evolution of damage and its modeling. The investigation shows slightly different effects on lifetime, dependent on the three steel grades. © 2014 Elsevier Ltd. All rights reserved.
Number of references: 20
Main heading: Creep
Controlled terms: Creep resistance - Damage detection - Nickel compounds - Steel testing - Creep testing - Steam turbines
Uncontrolled terms: Biaxial testing - Constitutive materials - Creep fatigue - Electrical power demand - Experimental investigations - Multi-axial fatigue - Representative sample - Thermo mechanical fatigues (TMF)
Classification code: 545.3 Steel - 617.2 Steam Turbines - 951 Materials Science
DOI: 10.1016/j.ijfatigue.2014.01.016
Funding Details: Number: 608 904,608 951,A232,A239, Acronym: -, Sponsor: -;
Funding text: Thanks are due to the "Forschungsvereinigung der Arbeitsgemeinschaft der Eisen und Metall verarbeitenden Industrie e.V." (AVIF Nos. A232 and A239) and the "Forschungsvereinigung Verbrennungskraftmaschinen e.V." (FVV Nos. 608 951 and 608 904) for financial support, and to the working group W10 of the German power plant industry for material supply.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

116. Optical fiber core-mismatched Mach-Zehnder refractive sensor

Accession number: 20144300128965
Authors: Fu, Hai-Wei (1, 2); Yan, Xu (1); Shao, Min (1); Li, Hui-Dong (1); Zhao, Na (1)

Author affiliation: (1) Key Laboratory of Photoelectric Oil-Gas Logging and Detecting of the Ministry of Education, School of Science, Xi'an Shiyou University, Xi'an; 710065, China; (2) Department of Physics, Northwest University, Xi'an; 710069, China
Corresponding author: Fu, Hai-Wei
Source title: Guangxue Jingmi Gongcheng/Optics and Precision Engineering
Abbreviated source title: Guangxue Jingmi Gongcheng
Volume: 22
Issue: 9
Issue date: September 1, 2014
Publication year: 2014
Pages: 2285-2291
Language: Chinese
ISSN: 1004924X
CODEN: GJGOF4
Document type: Journal article (JA)
Publisher: Chinese Academy of Sciences
Abstract: According to the principle of Mach-Zehnder interferometers, an optical in-fiber Mach-Zehnder sensor for Surrounding Refractive Index (SRI) is designed and prepared based on single mode fiber/multimode fiber/single mode fiber/misallied fusion spliced point/single mode fiber structures by misallied fusion spliced technology. The multimode fiber and misallied fusion spliced point in this sensor are served as optical couplers. The light from leading in single mode fiber is coupled into a core mode and cladding modes and propagates in the fiber. Because different modes have different effective refractive indices when the light reaches the misallied fusion spliced point, different modes have different optical path lengths, and the intermodal interference will occur. The dip power of the transmission spectral response to the SRI is theoretically analyzed and experimentally studied. The experimental results show that the dip power at wavelength of 1 530 nm increases monotonically with the SRI in a Refractive Index (RI) range of 1.3720-1.3922. Moreover, the response curve of the sensor achieves a good linearity of 0.998 at the RI range of 1.3720-1.3922, which is corresponding to a high sensitivity of 252.06 dB/RIU. This compact size, low-cost and highly sensitive SRI sensor is easy to be fabricated, and offers attractive applications in biomedical sensing.
Number of references: 14
Main heading: Single mode fibers
Controlled terms: Mach-Zehnder interferometers - Optical fiber fabrication - Refractometers - Multimode fibers - Refractive index
Uncontrolled terms: Core diameters - Effective refractive index - Fiber Mach-Zehnder interferometers - Intermodal interferences - Optical fiber sensing - Optical path lengths - Refractive index sensor - Surrounding refractive indices (SRI)
Classification code: 741.1 Light/Optics - 741.1.2 Fiber Optics - 741.3 Optical Devices and Systems - 941.3 Optical Instruments
Numerical data indexing: Size 1.53e-06m
DOI: 10.3788/OPE.20142209.2285
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

117. Joint supervised-unsupervised nonlinear unmixing of hyperspectral images using kernel method

Accession number: 20145200381139
Authors: Xiao, Hong (1); Liu, Hui (2); Chen, Jie (3)
Author affiliation: (1) School of Computer Science, Xi'an 2 Shiyou University, Xi'an, Shaanxi; 710065, China; (2) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China; (3) Laboratoire Lagrange, Observatoire de Cote D'azur, Universite de Nice Sophia-Antipolis, France
Corresponding author: Xiao, Hong
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 582-585

Article number: 6977667
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In hyper spectral images pixels are mixtures of spectral components associated to pure materials. Nonlinear unmixing of observed pixels is a challenging task in hyper spectral imagery. In this paper, a joint supervised unsupervised nonlinear unmixing scheme is proposed based on the recent advance of kernel based regression and analysis techniques. The proposed scheme takes advantage of high quality training data from the unsupervised kernel algorithm and fast learning and inference speed of the supervised learning algorithm. Experiments on synthetic and real data show the effectiveness of the proposed method. © 2014 IEEE.
Number of references: 12
Main heading: Spectroscopy
Controlled terms: Pixels - Inference engines - Learning algorithms
Uncontrolled terms: Coherence criterion - Hyper-spectral imageries - Hyper-spectral images - Hyperspctral Image - Kernel based regression - Kernel methods - Non-linear unmixing - Synthetic and real data
Classification code: 723.4.1 Expert Systems - 723.4.2 Machine Learning
DOI: 10.1109/ISDEA.2014.136
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

118. Electrostatic probe analysis of current-carrying region in constricting TIG arc with insulating sheet

Accession number: 20143700064056
Authors: Li, Yuanbo (1, 2); Zhu, Liang (1)
Author affiliation: (1) State Key Laboratory of Advanced Processing and Recycling of Non-ferrous Metals, Lanzhou University of Technology, Lanzhou ; 730050, China; (2) Key Laboratory of Materia1 Processing Engineering, Xi'an Shiyou University, Xi'an ; 710065, China
Corresponding author: Zhu, Liang
Source title: Hanjie Xuebao/Transactions of the China Welding Institution
Abbreviated source title: Hanjie Xuebao
Volume: 35
Issue: 7
Issue date: July 25, 2014
Publication year: 2014
Pages: 55-58
Language: Chinese
ISSN: 0253360X
CODEN: HHPAD2
Document type: Journal article (JA)
Publisher: Harbin Research Institute of Welding
Abstract: The shape and current density of current-carrying region in constricting TIG arc with insulating sheet were analyzed by the low disturbance electrostatic probe. The floating potential and ion saturation current of probe were obtained separately in sections at different location along arc axial direction. The results show that the insulating sheet is over the arc root to make the arc not be constricted; with the constriction of insulating sheet, the current-carrying region pinches in the direction of constriction and potential gradient increase. When the constriction effect on arc root is intensified, both of the current density and temperature of current-carrying region are enhanced, and the heat is much moreconcentrated near the center of current-carrying region section.
Number of references: 5
Main heading: Probes

Controlled terms: Insulation - Electrostatics
Uncontrolled terms: Arc roots - Axial direction - Constriction effects - Electrostatic probe - Floating potentials - Ion saturation current - Potential gradients - TIG arc
Classification code: 413 Insulating Materials - 701.1 Electricity: Basic Concepts and Phenomena
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

119. Numerical simulation analysis of the influence on underlying sandstone seismic reflection characteristics from coal seam in member 2 of Shanxi formation, Ordos Basin

Accession number: 20142617873717
Authors: Lai, Shenghua (1); Liang, Quansheng (2); Yuan, Tonglu (1)
Author affiliation: (1) Xi'an Petroleum University, Xi'an 710065, China; (2) Shanxi Yanchang Petroleum(Group) Co., Ltd, Yan'an 716000, China
Corresponding author: Lai, S.
Source title: Geophysical Prospecting for Petroleum
Abbreviated source title: Geophys. Prospect. Pet.
Volume: 53
Issue: 3
Issue date: May 2014
Publication year: 2014
Pages: 351-359
Language: Chinese
ISSN: 10001441
Document type: Journal article (JA)
Publisher: Science Press
Abstract: Coal seam in coal-bearing series has intensive interference on underlying sandstone reservoir. Two geological models are built for numerical simulation, and the impacts of thickness and location of overlapping coal seam on seismic reflection characteristics of underlying sandstone are theoretically studied, which is based on coal-bearing series sedimentary sequence of member 2 of Shanxi formation in Ordos Basin. The results show that thickness and location of coal seam, frequency of seismic wavelet result in large difference of seismic reflection characteristics of top and bottom of sandstone layer. Polarity of seismic reflection of underlying sandstone will be changed because of interference of overlying coal seam; moreover, amplitude of seismic reflection from the top and bottom of sandstone will be changed along with the change of thickness and location of coal seam. Amplitude of seismic reflection can not indicate the change of thickness for sandstone if the thickness or location of overlying coal seam is unstable, thus the thickness of thin layer sandstone (<#/4)cannot be predicted using seismic reflection amplitude from the top and bottom of sandstone stratum.
Number of references: 22
Main heading: Sandstone
Controlled terms: Coal - Coal deposits - Metamorphic rocks - Seismic waves - Location - Numerical models - Seismology
Uncontrolled terms: Coal seams - Intensive interference - Numerical simulation analysis - Ordos Basin - Ricker wavelets - Sandstone reservoirs - Sedimentary sequence - Seismic reflection characteristics
Classification code: 482.2 Minerals - 484 Seismology - 484.1 Earthquake Measurements and Analysis - 503 Mines and Mining, Coal - 524 Solid Fuels - 921 Mathematics
DOI: 10.3969/j.issn.1000-1441.2014.03.014
Database: Compendex
Data Provider: Engineering Village

120. Evaluation experiments on gas reservoir water-blocking damage in Ke-Yi structural belt

Accession number: 20143017972782
Authors: Zhang, Ming (1, 2); Li, Tiantai (2); Tang, Liping (3)
Author affiliation: (1) China University of Petroleum, College of Petroleum Engineering, Beijing 102249, China; (2) Xi'an Shiyou University, College of Petroleum Engineering, Xi'an 710065, China; (3) CCDC Drilling and Production Engineering Technology Research Institute, Xi'an 710018, China
Corresponding author: Zhang, M.(zm9792@163.com)
Source title: Energy Education Science and Technology Part A: Energy Science and Research

Abbreviated source title: Energy Educ. Sct. Technol. Part A. Energy Sci. Res.
Volume: 32
Issue: 4
Issue date: 2014
Publication year: 2014
Pages: 2197-2202
Language: English
ISSN: 1308772X
Document type: Journal article (JA)
Publisher: Sila Science, University Mah Mekan Sok, No 24, Trabzon, Turkey
Abstract: In gas development process, condensed water, formation water, especially drilling fluid, fracturing fluid and acidizing fluid will cause water-blocking, thereby seriously affecting the permeability of lowpermeability reservoirs. Testing indicates that there is a more serious water-blocking problem in Ke-Yi belt, so water-blocking factor analysis and experiments are carried out, which show that there exists a negative relationship between damage degree and original water saturation, the smaller the displacement pressure gradient, the more serious water-blocking; reservoir damage caused by hydroscopicity of rock is determined by absorption depth. This paper put forward specific control measures and suggestions for water-blocking damage, providing a scientific basis for reservoir protection. © Sila Science. All Rights Reserved.
Number of references: 9
Main heading: Drilling fluids
Controlled terms: Petroleum reservoir engineering - Water absorption - Fracturing fluids
Uncontrolled terms: Damage - Gas reservoir - Protection - Structural belt - Water-blocking
Classification code: 512.1.2 Petroleum Deposits : Development Operations - 802.3 Chemical Operations
Database: Compendex
Data Provider: Engineering Village

121. Efficient heterogeneous catalyst for biodiesel production from soybean oil over modified CaO

Accession number: 20144000079782
Authors: Tang, Ying (1); Wang, Shanshan (1); Cheng, Xitong (1); Lu, Yong (2)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'An Shiyou University, Xi'an Shaanxi; 710065, China; (2) Shanghai Key Laboratory of Green Chemistry and Chemical Processes, Department of Chemistry, East China Normal University, Shanghai; 200062, China
Corresponding author: Tang, Ying
Source title: Progress in Reaction Kinetics and Mechanism
Abbreviated source title: Prog. React. Kinet. Mech.
Volume: 39
Issue: 3
Issue date: 2014
Publication year: 2014
Pages: 273-280
Language: English
ISSN: 14686783
E-ISSN: 1471406X
CODEN: PRKNAZ
Document type: Journal article (JA)
Publisher: Science Reviews 2000 Ltd
Abstract: Biodiesel production by transesterification of soybean oil with methanol was carried out efficiently over modified CaO by using octadecyltrichlorosilane as surface modifier. It was found that the fatty acid methyl esters (FAME) yield was significantly enhanced from 35.4% to 93.5% over modified CaO with a methanol/oil ratio of 15 : 1 at 65°C after 3 h. Furthermore, good catalytic activity, i.e. 82.8% yield of FAME, remains even with a 2% water-content condition over modified CaO. The higher catalytic activity and good stability of modified CaO should be mainly attributed to the organic layer formed by the modifier over the CaO surface, which promotes the absorption of grease to CaO surface and protects CaO from water at the same time.
Number of references: 23
Main heading: Biodiesel
Controlled terms: Water absorption - Synthetic fuels - Methanol - Catalyst activity - Fatty acids - Soybean oil - Transesterification

Uncontrolled terms: Biodiesel production - Fatty acid methyl ester - Good stability - Heterogeneous catalyst - Octadecyltrichlorosilane - Organic layers - Surface modifiers
Classification code: 523 Liquid Fuels - 802.3 Chemical Operations - 803 Chemical Agents and Basic Industrial Chemicals - 804 Chemical Products Generally - 804.1 Organic Compounds - 822.3 Food Products
Numerical data indexing: Percentage 2.00e+00%, Percentage 3.54e+01% to 9.35e+01%, Percentage 8.28e+01%, Temperature 3.38e+02K, Time 1.08e+04s
DOI: 10.3184/146867814X14043731662828
Funding Details: Number: 21306149, Acronym: -, Sponsor: -;
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

122. Game optimization for RSA signature scheme

Accession number: 20141117457742
Authors: Wang, Yi Chuan (1); Ma, Jian Feng (1, 2); Lu, Di (1); Zhang, Liu Mei (1, 3)
Author affiliation: (1) School of Computer Science and Technology, Xidian University, Xi'an, 710071, China; (2) Science and Technology on Communication Information Security Control Laboratory, Jiaxing 314033, China; (3) School of Computer Science, Xi'an Shiyou University, Xi'an, 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 513-517
Issue title: Applied Science, Materials Science and Information Technologies in Industry
Issue date: 2014
Publication year: 2014
Pages: 969-972
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038350125
Document type: Conference article (CA)
Conference name: 2014 International Conference on Advances in Materials Science and Information Technologies in Industry, AMSITI 2014
Conference date: January 11, 2014 - January 12, 2014
Conference location: Xian, China
Conference code: 102941
Sponsor: Engineering Village; INTIEA; ISI Proceedings; Scientific.Net; Trans Tech Publications inc.
Publisher: Trans Tech Publications
Abstract: Security and efficiency for using RSA signature scheme are critical requirements for many network applications. In this paper, we present a Game Model for RSA Signature Scheme (GMRS). By analyzing our model with information and game theory, we prove that the Nash-equilibrium is existent in GMRS. Accordingly, we propose an optimization scheme for updating the private key. The experiment result shows that, our scheme can significant promote the efficiency and ensure the security, even in the lowest risk-level case and for an adversary with unlimited computing power. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Game theory
Controlled terms: Authentication - Computation theory - Computing power - Efficiency
Uncontrolled terms: Computing power - Information and game theory - Network applications - Optimization scheme - Re-keying - RSA - RSA signature schemes - Signature
Classification code: 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 722.2 Computer Peripheral Equipment - 722.4 Digital Computers and Systems - 723 Computer Software, Data Handling and Applications - 913.1 Production Engineering - 922.1 Probability Theory
DOI: 10.4028/www.scientific.net/AMM.513-517.969
Database: Compendex
Data Provider: Engineering Village

123. Effects of twist twin boundary and stacking fault on crack propagation of nanocrystal Al

Accession number: 20144200107334
Authors: Gao, L. (1); Song, H.Y. (1, 2, 3); Sun, Y. (1); Zhang, Y.G. (1)
Author affiliation: (1) School of Science, Xi'An University of Posts and Telecommunications, Xi'an; 710121, China; (2) College of Materials Science and Engineering, Xi'An Shiyou University, Xi'an; 710065, China; (3) School of Aeronautics, Northwestern Polytechnical University, Xi'an; 710072, China
Corresponding author: Song, H.Y.
Source title: Computational Materials Science
Abbreviated source title: Comput Mater Sci
Volume: 95
Issue date: December 2014
Publication year: 2014
Pages: 484-490
Language: English
ISSN: 09270256
CODEN: CMMSEM
Document type: Journal article (JA)
Publisher: Elsevier B.V., Netherlands
Abstract: The effect of twin boundary (TB) and stacking fault (SF) with different twist angles subjected to tension loading on crack propagation of nanocrystal Al is investigated using molecular dynamics simulation. The study reveals that the twist angle of grain boundary (GB) may have particular effect on crack growth, and that the GB with an appropriate twist angle may hinder the propagation of crack effectively. The results also indicate that for the models with twist TBs, the TBs with negative twist angles are more effective on obstructing crack propagation. Meanwhile, we found that the SF with positive twist angles hinder crack propagation more effectively than that of negative twist angles. It also shows that the GB disappeared during the deformation of the samples with SF twisted at -25° and -35°. Moreover, it is investigated from the results that the crack propagation rate varies with different temperatures, while the deformation mechanism is nearly unchangeable with the influence of the temperature. The study also demonstrates that the crack growth is related to nucleation of dislocations and twinning, as well as the deformation of GB.
Number of references: 32
Main heading: Molecular dynamics
Controlled terms: Grain boundaries - Stacking faults - Deformation - Crack propagation - Nanocrystals - Grain growth
Uncontrolled terms: Crack propagation rate - Deformation mechanism - Molecular dynamics simulations - Propagation of cracks - Tension loading - Twin boundaries - Twist angles
Classification code: 761 Nanotechnology - 801.4 Physical Chemistry - 933.1 Crystalline Solids - 933.1.1 Crystal Lattice - 933.1.2 Crystal Growth - 951 Materials Science
DOI: 10.1016/j.commatsci.2014.08.016
Funding Details: Number: 2014JQ1036, Acronym: -, Sponsor: -; Number: 2012KJXX-39, Acronym: -, Sponsor: -; Number: 10902083, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: NCET-12-1046, Acronym: MOE, Sponsor: Ministry of Education of the People's Republic of China;
Funding text: This work is supported by National Natural Science Foundation of China (Grant No. 10902083), the Program for New Century Excellent Talent in University of Ministry of Education of China (Grant No. NCET-12-1046), the Program for New Scientific and Technological Star of Shaanxi Province (Grant No. 2012KJXX-39), and the Project Supported by Natural Science Basic Research Plan in Shaanxi Province of China (Grant No. 2014JQ1036).
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

124. Attribute clustering based collaborative filtering

Accession number: 20141117457741
Authors: Zhang, Liu Mei (1, 2); Ma, Jian Feng (1, 3); Lu, Di (1); Wang, Yi Chuan (1)
Author affiliation: (1) School of Computer Science and Technology, Xidian University, Xi'an, 710071, China; (2) School of Computer Science, Xi'an Shiyou University, Xi'an, 710065, China; (3) Science and Technology on Communication Information Security Control Laboratory, Jiaxing 314033, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 513-517
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Issue date: 2014

Publication year: 2014
Pages: 965-968
Language: English
ISSN: 16609336
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ISBN-13: 9783038350125
Document type: Conference article (CA)
Conference name: 2014 International Conference on Advances in Materials Science and Information Technologies in Industry, AMSITI 2014
Conference date: January 11, 2014 - January 12, 2014
Conference location: Xian, China
Conference code: 102941
Sponsor: Engineering Village; INTIEA; ISI Proceedings; Scientific.Net; Trans Tech Publications inc.
Publisher: Trans Tech Publications
Abstract: The paper proposed an attribute clustering based collaborative filtering algorithm for recommendation. It utilizes similarity to filter out redundant attributes by feature selection. Then by incorporating K-Means clustering, it is able to effectively solve the rating scale problems existing in the traditional collaborative filtering recommendation algorithm. The algorithm is verified by real data sets. Experiments use location information for clustering the restaurant data. By integration of users rating on restaurant service and external impression the experiment study combined the collaborative filtering philosophy to provide recommendation service for users. Experimental results show that compared with the item rating based recommended algorithm, the algorithm has ideal recommended quality and improved accuracy, and then it has reduced the data sparsity. © (2014) Trans Tech Publications, Switzerland.
Number of references: 8
Main heading: Collaborative filtering
Controlled terms: Feature Selection - Clustering algorithms - Location based services
Uncontrolled terms: Attribute clustering - Attributes clustering - Collaborative filtering algorithms - Collaborative filtering recommendations - K-means clustering - Location information - Recommendation algorithms - Score predicts
Classification code: 716 Telecommunication; Radar, Radio and Television - 903.1 Information Sources and Analysis
DOI: 10.4028/www.scientific.net/AMM.513-517.965
Database: Compendex
Data Provider: Engineering Village

125. Amperometric sensors for detection of phenol in oilfield wastewater using electrochemical polymerization of zincon film

Accession number: 20143017965308
Authors: Qin, Wenlong (1, 2); Liu, Xuan (1); Chen, Huapeng (1); Yang, Jiang (1)
Author affiliation: (1) College of Petroleum Engineering, Provincial Key Laboratory of Unusual Well Stimulation, Xi'An Petroleum University, Xi'an 710065, China; (2) MOE Eng. Res. Center for Western Low and Ultra-low Permeability Oilfield Development and Management, Xi'An Petroleum University, Xi'an Shaanxi 710065, China
Corresponding author: Qin, W.(wlqin@xsyu.edu.cn)
Source title: Analytical Methods
Abbreviated source title: Anal. Methods
Volume: 6
Issue: 15
Issue date: August 7, 2014
Publication year: 2014
Pages: 5734-5740
Language: English
ISSN: 17599660
E-ISSN: 17599679
Document type: Journal article (JA)
Publisher: Royal Society of Chemistry
Abstract: Phenol and its derivatives are common organic contaminants, which are known to have adverse impacts on humans, thus the detection of phenol is very important. Herein, an amperometric sensor was fabricated based on electrochemical polymerization of zincon onto a carbon paste electrode (CPE) surface. The cyclic voltammogram of phenol on the sensor exhibited a well-defined anodic peak at 0.640 V in 0.1 mol L-1 phosphate buffer solution (PBS, pH 7.0). The sensor was characterized by scanning electron microscopy (SEM) and electrochemical impedance

spectroscopy (EIS). Meanwhile, the influence of various parameters such as pH and scan rate on the analytical performance of the sensor was evaluated. Under the optimized conditions, the oxidation peak current was proportional to the phenol concentration change in the range from 21 μmol L-1 to 292 μmol L-1 and 357 μmol L-1 to 922 μmol L-1 with correlation coefficients of 0.9911 and 0.9966, respectively. The limit of detection was estimated to be 9 × 10-6 mol L-1 (S/N = 3). Furthermore, the fabricated sensor was successfully applied to determine phenol in oilfield wastewater. © 2014 The Royal Society of Chemistry.
Number of references: 36
Main heading: Electrochemical impedance spectroscopy
Controlled terms: Oil well flooding - Polymerization - Amperometric sensors - Phenols - Scanning electron microscopy
Uncontrolled terms: Analytical performance - Correlation coefficient - Cyclic voltammograms - Oilfield wastewaters - Optimized conditions - Organic contaminant - Phenol concentration - Phosphate buffer solutions
Classification code: 511.1 Oil Field Production Operations - 801 Chemistry - 804.1 Organic Compounds - 815.2 Polymerization - 942.1 Electric and Electronic Instruments
Numerical data indexing: Molar_Concentration 1.00e+02mol/m3, Molar_Concentration 2.10e-02mol/m3 to 2.92e-01mol/m3, Molar_Concentration 3.57e-01mol/m3 to 9.22e-01mol/m3, Voltage 6.40e-01V
DOI: 10.1039/c3ay41855c
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

126. Effect of elemental sulfur on corrosion behavior of super 13Cr martensitic stainless steel

Accession number: 20142417825190
Authors: Zhu, Shi Dong (1, 2); Ma, Hai Xia (1); Li, Jin Ling (3); Yang, Zhi Gang (2)
Author affiliation: (1) School of Chemical Engineering, Northwest University, Xi'an 710069, China; (2) Research Institute of Shaanxi Yanchang Petroleum (Group) Co. Ltd., Xi'an 710075, China; (3) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 556-562
Issue title: Mechatronics Engineering, Computing and Information Technology
Issue date: 2014
Publication year: 2014
Pages: 162-165
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038351153
Document type: Conference article (CA)
Conference name: 2014 International Conference on Mechatronics Engineering and Computing Technology, ICMECT 2014
Conference date: April 9, 2014 - April 10, 2014
Conference location: Shanghai, China
Conference code: 105616
Sponsor: Engineering Village; et al; INTIEA; National Institute of Technology Rourkela; trans tech publications inc.; Universitatea Politehnica Din Bucuresti
Publisher: Trans Tech Publications
Abstract: Effects of elemental sulfur on corrosion behavior of super 13Cr martensitic stainless steel were investigated by utilizing weight loss test, and the micro morphologies and chemical elements of corrosion scales were characterized by using SEM and EDS. The results showed that corrosion resistance of super 13Cr stainless steel was aggravated by the hydrolytic action of sulfur, the corrosion rate of super 13Cr stainless steel increased with the increasing of sulfur content, and firstly increased and then decreased with the increasing of temperature due to the activated adsorption and existential state of sulfur at the different temperatures. © (2014) Trans Tech Publications, Switzerland.
Number of references: 10
Main heading: Martensitic stainless steel
Controlled terms: Steel corrosion - Sulfur - Corrosion rate - Corrosion resistance - Scanning electron microscopy - Corrosive effects

Uncontrolled terms: Corrosion behavior - Corrosion scale - Elemental sulfur - Micromorphologies - Sulfur contents - Weight loss tests
Classification code: 539.1 Metals Corrosion - 545.3 Steel - 804 Chemical Products Generally
DOI: 10.4028/www.scientific.net/AMM.556-562.162
Database: Compendex
Data Provider: Engineering Village

127. Erosion resistance of CO2 corrosion scales formed on API P110 carbon steel

Accession number: 20142717897159
Authors: Li, J.L. (1); Ma, H.X. (2); Zhu, S.D. (2, 3); Qu, C.T. (1); Yin, Z.F. (3)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) School of Chemical Engineering, Northwest University, Xi'an 710069, China; (3) Research Institute of Shaanxi Yanchang Petroleum (Group) Co. Ltd., Xi'an 710075, China
Corresponding author: Zhu, S.D.(zhusdxt@126.com)
Source title: Corrosion Science
Abbreviated source title: Corros. Sci.
Volume: 86
Issue date: September 2014
Publication year: 2014
Pages: 101-107
Language: English
ISSN: 0010938X
CODEN: CRRSAA
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: The erosion resistance of CO2 corrosion scales formed on carbon steel was investigated in water-sand two-phase flow utilizing weight loss test, scanning electron microscopy, and X-ray diffraction. The effects of CO2 partial pressure, stirring speed, test time, and grain size on the erosion resistance of the scales were analysed. Results show that several characteristics of CO2 corrosion scales are key factors affecting erosion resistance. Cubic polynomials are used to fit the erosion rate data, and effectively evaluate the ability of CO2 corrosion scales to resist erosion. An erosion mechanism, based on fluid dynamics and CO2 corrosion scales characteristics, is discussed. © 2014 Elsevier Ltd.
Number of references: 30
Main heading: Scanning electron microscopy
Controlled terms: Steel corrosion - Two phase flow - Carbon dioxide - Erosion - Carbon steel - Corrosion resistance - Acid resistance - X ray diffraction
Uncontrolled terms: Acid corrosion - CO2 corrosion - Cubic polynomials - Erosion mechanisms - Erosion resistance - Stirring speed - Weight loss - Weight loss tests
Classification code: 539.1 Metals Corrosion - 545.3 Steel - 631.1 Fluid Flow, General - 802.2 Chemical Reactions - 804.2 Inorganic Compounds
DOI: 10.1016/j.corsci.2014.04.051
Funding Details: Number: -, Acronym: -, Sponsor: China Postdoctoral Science Foundation; Number: 2014JQ2056, Acronym: -, Sponsor: Natural Science Foundation of Shaanxi Province; Number: 21376189, Acronym: -, Sponsor: National Natural Science Foundation of China;
Funding text: The Project Supported by Natural Science Basic Research Plan in Shaanxi Province of China (2014JQ2056), the Project Funded by China Postdoctoral Science Foundation (55 th batch) (2481), and National Natural Science Foundation of China (21376189) are gratefully acknowledged. The authors would like to thank Prof. J.Z. Zhang (Department of Chemistry and Biochemistry, University of California, Santa Cruz, USA) for help in revising the manuscript.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

128. Pattern synthesis of array antennas using multi-objective invasive weed optimization based on decomposition

Accession number: 20150400441092
Authors: Liu, Yan (1); Jiao, Yongchang (1); Zhang, Yaming (2, 3); Cheng, Wei (3)

Author affiliation: (1) National Key Lab of Antennas and Microwave Technology, Xidian University, Xi'an ; 710071, China; (2) School of Electronics Engineering, Xi'an Shiyou University, Xi'an ; 710065, China; (3) Department of Electronics Engineering, Northwestern Polytechnical University, Xi'an ; 710129, China
Source title: Xibei Gongye Daxue Xuebao/Journal of Northwestern Polytechnical University
Abbreviated source title: Xibei Gongye Daxue Xuebao
Volume: 32
Issue: 6
Issue date: December 1, 2014
Publication year: 2014
Pages: 981-986
Language: Chinese
ISSN: 10002758
CODEN: XGDUE2
Document type: Journal article (JA)
Publisher: Northwestern Polytechnical University
Abstract: The traditional pattern synthesis of array antennas is analyzed and solved as a multi-objective optimization problem, and a new algorithm called multi-objective invasive weed optimization based on decomposition(MOEA/D-IWO) is proposed by integrating the improved invasive weed optimization algorithm into the framework of the multi-objective evolutionary algorithm based on decomposition. The proposed algorithm completes the parallel calculations efficiently, through making good use of the powerful searching ability and robustness of invasive weeds. Compared with multi-objective differential evolution based on decomposition (MOEA/D-DE), synthesis results for a 20 element linear array show that the array obtained by the proposed algorithm has 1.582 2~2.115 1 dB sidelobe level reduction, 4.429 6 dB nulls reduction and 4.665 7 dB notches reduction. Through the experiments, MOEA/D-IWO shows better performance in computation accuracy, convergence speed and solution diversity.
Number of references: 10
Main heading: Invasive weed optimization
Controlled terms: Fuzzy set theory - Computation theory - Multiobjective optimization - Convergence of numerical methods - Evolutionary algorithms - Membership functions - Antenna arrays
Uncontrolled terms: Invasive weed optimization - Notches - Nulls - Pattern synthesis - Side-lobe reduction
Classification code: 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 921 Mathematics - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory - 921.5 Optimization Techniques - 921.6 Numerical Methods
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

129. Redundant method for measuring downhole posture of the steering drilling tool

Accession number: 20142717896722
Authors: Liu, Zi Li (1); Yan, Wei Sheng (1); Xiao, Wei Wei (2)
Author affiliation: (1) College of Marine Engineering, Northwestern Polytechnical University, Xi'an, China; (2) College of Electronic Engineering, Xi'an Petroleum University, Xi'an, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 945-949
Issue title: Advances in Manufacturing Science and Engineering V
Issue date: 2014
Publication year: 2014
Pages: 2170-2174
Language: English
ISSN: 10226680
E-ISSN: 16628985
ISBN-13: 9783038351221
Document type: Conference article (CA)
Publisher: Trans Tech Publications Ltd
Abstract: Exact downhole posture measurement of steering drilling tool can provide reliable control parameters for downhole control system, so as to ensure the accurate control of hole trajectory. How to ensure the reliability of the posture measurement system while it works in harsh environment is a key technique in the engineering process of steering drilling system. A redundant measurement method based on multi-accelerometers has been put

forward according to the analysis of the working environment and measurement reliability requirements of posture measurement system. Then the posture parameter solution formulas were given. According to the linear relationship between measurement signals, a reconfiguration method of the redundant measurement system was put forward to ensure the fault-tolerant operation of the system. © (2014) Trans Tech Publications, Switzerland.
Number of references: 13
Main heading: Reliability analysis
Uncontrolled terms: Drilling tool - Fault tolerant operations - Linear relationships - Measurement methods - Measurement reliabilities - Posture measurement - Reconfiguration - Redundant measurement systems
Classification code: 511.1 Oil Field Production Operations
DOI: 10.4028/www.scientific.net/AMR.945-949.2170
Database: Compendex
Data Provider: Engineering Village

130. Abrasion resistances of CO2 corrosion scales formed at different temperatures and their relationship to corrosion behaviour

Accession number: 20140717304040
Authors: Li, J.L. (1); Zhu, S.D. (2, 3); Qun, C.T. (1)
Author affiliation: (1) School of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) Research Institute of Shaanxi Yanchang Petroleum (Group) Co. Ltd., Xi'an 710075, China; (3) School of Chemical Engineering, Northwest University, Xi'an 710069, China
Corresponding author: Zhu, S.D.(zhusdxt@126.com)
Source title: Corrosion Engineering Science and Technology
Abbreviated source title: Corros. Eng. Sci. Technol.
Volume: 49
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Issue date: February 2014
Publication year: 2014
Pages: 73-79
Language: English
ISSN: 1478422X
E-ISSN: 17432782
Document type: Journal article (JA)
Publisher: Maney Publishing
Abstract: The abrasion resistances of CO2 corrosion scales formed on API P110 grade carbon steel at different temperatures and CO2 corrosion behaviour of P110 carbon steel have been investigated utilising weight loss method, scanning electron microscope (SEM) and X-ray diffraction (XRD). The results showed that as the film forming temperature increased, the abrasion rate of CO2 corrosion scales increased firstly and then decreased, the variation trend was similar to that of the corrosion rate, and the maximal abrasion rate was present at 70°C rather than 100°C, at which the maximal corrosion rate was obtained and CO2 corrosion scales were loose and porous and were composed of FeCO3, Fe3C and CaCO3. The abrasion resistances of CO2 corrosion scales formed at 100°C was reinforced by the sand particles embedded easily in the loose and porous layer, together with a very hard residual skeleton, Fe 3C. In addition, CaCO3 was worn out easily and substituted by SiO2 during abrasive wear. © 2014 Institute of Materials, Minerals and Mining.
Number of references: 26
Main heading: X ray diffraction
Controlled terms: Carbon dioxide - Iron compounds - Silica - Abrasion - Calcium carbonate - Scanning electron microscopy - Wear resistance - Calcite - Corrosive effects - Steel corrosion - Carbon steel - Corrosion rate - Tribology
Uncontrolled terms: Abrasion rates - Corrosion behaviour - Corrosion scale - Film forming temperature - Porous layers - Sand particles - Tubular steels - Weight loss method
Classification code: 482.2 Minerals - 539.1 Metals Corrosion - 545.3 Steel - 804 Chemical Products Generally - 804.2 Inorganic Compounds - 931 Classical Physics; Quantum Theory; Relativity - 931.2 Physical Properties of Gases, Liquids and Solids - 951 Materials Science
Numerical data indexing: Temperature 3.43e+02K, Temperature 3.73e+02K
DOI: 10.1179/1743278213Y.0000000117
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

131. Hybrid magnetic nanoparticle/nanogold clusters and their distance-dependent metal-enhanced fluorescence effect via DNA hybridization

Accession number: 20143017969695
Authors: Gu, Xuefan (1, 2); Wu, Youshen (1); Zhang, Lingze (1); Liu, Yongchun (1); Li, Yan (1); Yan, Yongli (2); Wu, Daocheng (1)
Author affiliation: (1) Key Laboratory of Biomedical Information Engineering of the Ministry of Education, School of Life Science and Technology, Xi'An Jiaotong University, China; (2) College of Chemistry and Chemical Engineering, Xi'An Shiyou University, Xi'an 710065, China
Corresponding author: Wu, D.(wudaocheng@mail.xjtu.edu.cn)
Source title: Nanoscale
Abbreviated source title: Nanoscale
Volume: 6
Issue: 15
Issue date: August 7, 2014
Publication year: 2014
Pages: 8681-8693
Language: English
ISSN: 20403364
E-ISSN: 20403372
Document type: Journal article (JA)
Publisher: Royal Society of Chemistry
Abstract: To improve the metal-enhanced fluorescence (MEF) effect of nanogolds (AuNPs) and accurately detect specific DNA sequences via DNA hybridization, novel hybrid magnetic nanoparticles/nanogold clusters (HMNCs) were designed based on finite-difference time-domain simulation results and prepared by using Fe3O4 and nanogolds. The nanogolds outside the HMNC were then conjugated with thiol-terminated DNA molecules, thus DNA modified-HMNCs (DNA-HMNCs) were obtained. The size distributions of these nanostructures were measured by a Malvern size analyzer, and their morphology was observed via transmission electron microscopy (TEM). The ultraviolet (UV)-visible (vis) absorption spectra of the samples were recorded with a UV-2600 spectrophotometer. Fluorescence spectra and the MEF effect were recorded using a spectrophotofluorometer, and lifetimes were determined using a time-correlated single photon counting apparatus. The prepared HMNCs were stable in aqueous solutions and had an average diameter of 87 ± 3.2 nm, with six to eight AuNPs around a single Fe3O4 nanoparticle. Fluorescein isothiocyanate (FITC) tagged DNA-HMNC conjugates exhibited a significant MEF effect and could accurately detect specific DNA sequences after DNA hybridization. This result indicates their various potential applications in sensors and biomedical fields. This journal is © the Partner Organisations 2014.
Number of references: 54
Main heading: DNA
Controlled terms: Gold nanoparticles - Magnetite - Solutions - DNA sequences - Finite difference time domain method - Fluorescence - Metal nanoparticles - Particle beams - High resolution transmission electron microscopy - Nanomagnetics
Uncontrolled terms: DNA hybridization - Fe3O4 nanoparticles - Finite difference time domain simulations - Fluorescein isothiocyanate - Fluorescence spectra - Metal enhanced fluorescence - Spectrophotofluorometer - Time-correlated single photon counting
Classification code: 461.2 Biological Materials and Tissue Engineering - 701.2 Magnetism: Basic Concepts and Phenomena - 741.1 Light/Optics - 741.3 Optical Devices and Systems - 761 Nanotechnology - 921 Mathematics - 932.1 High Energy Physics
Numerical data indexing: Size 3.20e-09m
DOI: 10.1039/c4nr00648h
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

132. Electrostatic spraying preparation and characterization of MWCNTs/polyurethane functional coatings

Accession number: 20150300425996
Authors: Feng, La-Jun (1); Li, Shan-Jian (1, 2); Shen, Wen-Ning (1); Zhai, Zhe (1); Luo, Hong (3); Tong, Pei-Ru (1)

Author affiliation: (1) School of Materials Science and Engineering, Xi'an University of Technology, Xi'an , China; (2) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an , China; (3) College of Materials and Chemical Engineering, Sichuan University of Science & Engineering, Zigong , China
Corresponding author: Shen, Wen-Ning
Source title: Gongneng Cailiao/Journal of Functional Materials
Abbreviated source title: Gongneng Cailiao
Volume: 45
Issue: 24
Issue date: December 30, 2014
Publication year: 2014
Pages: 24140-24143 and 24152
Language: Chinese
ISSN: 10019731
CODEN: GOCAEA
Document type: Journal article (JA)
Publisher: Journal of Functional Materials
Abstract: In order to solve the problems that the corrosion resistance, electrical conductibility and adhesive strength of conductive and corrosion resistance coating are poor, MWCNTs/polyurethane functional coatings were prepared by electrostatic spraying, using polyurethane powders as binder and multi-walled carbon nanotube(MWCNTs) as electrically conductive additive. The prepared coatings were characterized by double-configuration four-point probe meter, FT-IR, SEM, tensile testing and static immersion method. The results showed that the adhesive strength between prepared MWCNTs/polyurethane functional coatings and matrix was larger than 14.38 MPa. The specific resistance of the functional coatings increased with decreasing carbon nanotube content. When the content of carbon nanotube was lower than 0.5%, the specific resistance of the functional coating was 1.11×103 #·m, far lower than that for static electricity conductive coatings stated by national standard. The corrosion resistance of functional coatings was stronger than that of polyurethane coating, and that of the functional coating with the carbon nanotube content of 0.5% was the highest.
Number of references: 23
Main heading: Polyurethanes
Controlled terms: Electric conductivity - Electrostatics - Corrosion resistance - Corrosion resistant coatings - Multiwalled carbon nanotubes (MWCN) - Tensile testing - Yarn
Uncontrolled terms: Conductive coatings - Electrical conductivity - Electrically conductive - Electrostatic spraying - Functional coating - MWCNTs - Polyurethane coatings - Specific resistances
Classification code: 539.1 Metals Corrosion - 539.2 Corrosion Protection - 701.1 Electricity: Basic Concepts and Phenomena - 761 Nanotechnology - 815.1.1 Organic Polymers - 819.4 Fiber Products - 933.1 Crystalline Solids
Numerical data indexing: Percentage 5.00e-01%, Pressure 1.44e+07Pa
DOI: 10.3969/j.issn.1001-9731.2014.24.029
Database: Compendex
Data Provider: Engineering Village

133. Assessment for safety capability of mine team leader based on AHP and GRA

Accession number: 20141117442715
Authors: Liu, Can (1, 2); Tian, Shui Cheng (1); Liu, Jie (3)
Author affiliation: (1) Energy School, Xi'an University of Science and Technology, Xi'an, 710054, China; (2) School of Electronic Engineering, Xi'an Shiyou University, Xi'an, 710065, China; (3) College of Plant Science and Technology, Beijing University of Agriculture, Beijing, 102206, China
Corresponding author: Liu, C.(liucanxk@126.com)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 522-524
Issue title: Environmental Protection and Sustainable Development
Issue date: 2014
Publication year: 2014
Pages: 1452-1456
Language: English
ISSN: 16609336
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ISBN-13: 9783038350224
Document type: Conference article (CA)

Conference name: 2013 2nd International Conference on Sustainable Energy and Environmental Engineering, ICSEEE 2013
Conference date: December 28, 2013 - December 29, 2013
Conference location: Shenzhen, China
Conference code: 102944
Publisher: Trans Tech Publications
Abstract: Assessment index system for safety capability of mine team leaders is established to assess their safety capability accurately, after defining its concept. The system is comprised of two layers, with 5 indexes in the first-layer and 14 indexes in the second-layer. Furthermore, the relative weights of indexes are determined by analytic hierarchy process (AHP). The grey relational assessment model for safety capability of mine team leader is constructed based on the indexes system. The safety capability of 4 mine team leaders are assessed by the model, according to the sequences in their safety capabilities. Assessment for safety capability based on AHP and GRA could be a tool for evaluation and decision-making in mining enterprises. © (2014) Trans Tech Publications, Switzerland.
Number of references: 10
Main heading: Analytic hierarchy process
Controlled terms: Safety engineering - Hierarchical systems - Decision making
Uncontrolled terms: Analytic hierarchy process (ahp) - Assessment index - Assessment index system - Assessment models - Grey relational analyses (GRA) - Mining enterprise - Relative weights - Team leaders
Classification code: 912.2 Management - 914 Safety Engineering - 961 Systems Science
DOI: 10.4028/www.scientific.net/AMM.522-524.1452
Funding Details: Number: 71273208, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 71271169, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Database: Compendex
Data Provider: Engineering Village

134. Effects of bed thickness and shoulder resistivity on array induction tools

Accession number: 20150400452879
Authors: Zhang, Jian Hua (1)
Author affiliation: (1) Xian Shiyou University, Xian, China
Corresponding author: Zhang, Jian Hua
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 687-691
Volume title: Manufacturing Technology, Electronics, Computer and Information Technology Applications
Issue date: 2014
Publication year: 2014
Pages: 1105-1108
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038353287
Document type: Conference article (CA)
Conference name: 2014 International Conference on Manufacturing Technology and Electronics Applications, ICMTEA 2014
Conference date: November 8, 2014 - November 9, 2014
Conference location: Taiyuan, China
Conference code: 112049
Sponsor: Institute of Natural Science and Advanced Technology; Management Science and Industrial Engineering; Scientific .Net; Trans Tech Publications inc.
Publisher: Trans Tech Publications Ltd
Abstract: Array induction tools can be used to measure the resistivities of thin beds with 1ft or 2ft thickness in theory. The measurements were affected by formation thickness and shoulder resistivity. The array of 1ft resolution has good vertical recognition ability. For thick beds, both 1ft and 2ft resolution matching data tent to the same and all apparent resistivities have less variation with bed thickness H. The influence of shoulder resistivity on AIT measurements decreased with the increasing of formation thickness. The greater is the difference between shoulder resistivity and formation resistivity, the poorer is the vertical resolution. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Machine tools

Uncontrolled terms: Apparent resistivity - Bed - Formation resistivity - Induction tool - Recognition abilities - Thin bed - Vertical resolution
Classification code: 603.1 Machine Tools, General
Numerical data indexing: Size 3.05e-01m, Size 6.10e-01m
DOI: 10.4028/www.scientific.net/AMM.687-691.1105
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

135. Design of public traffic management system inquiry algorithm

Accession number: 20145200381087
Authors: Quanzhou, Huang (1)
Author affiliation: (1) Computer College, Xian Shiyou University, Xian, Shaanxi; 710065, China
Corresponding author: Quanzhou, Huang
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 381-384
Article number: 6977621
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Public transportation is not only a significant symbol of the urban modernization, but also an optimal approach of solving urban crowded traffic problem. The bus route search algorithm is the key technical query system. This paper mainly discusses an algorithm based on set theory and proposes technological flow of transfer algorithm. An improved plan is presented. The algorithm is simple and effective, helping users select bus route quickly. © 2014 IEEE.
Number of references: 6
Main heading: Urban transportation
Controlled terms: Transportation routes - Mass transportation
Uncontrolled terms: Algorithm optimization - Optimal approaches - Public transportation - Query systems - Route queries - Technological flows - Traffic management systems - Traffic problems
Classification code: 432 Highway Transportation - 433 Railroad Transportation
DOI: 10.1109/ISDEA.2014.93
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

136. Study on the effects of the preparation conditions on the combination of eosin dye and TiO2

Accession number: 20141017436666
Authors: Liang, Hui Rong (1)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, China
Corresponding author: Liang, H. R.(hrliang@mail.xjtu.edu.cn)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.

Volume: 526
Issue title: Mechanical Engineering and Instrumentation
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Publication year: 2014
Pages: 86-90
Language: English
ISSN: 16609336
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ISBN-13: 9783038350095
Document type: Conference article (CA)
Conference name: 2013 International Conference on Mechanical Engineering and Instrumentation, ICMEI 2013
Conference date: December 31, 2013 - January 2, 2014
Conference location: Brisbane, QL, Australia
Conference code: 102945
Publisher: Trans Tech Publications
Abstract: The absorption law of the eosin dye on the nano materials TiO2 was researched in this paper. The effects of three factors as the absorption time, the initial dye concentration and the absorbed TiO2 amount on the absorption efficiency were examined. The absorption amount Q and the absorption rate E increase in direct proportion to the absorption time and the absorbed TiO2 amount, and while decrease with the rise of the initial dye concentration. The appropriate ranges of the three variables have been obtained in the paper. © (2014) Trans Tech Publications, Switzerland.
Number of references: 8
Main heading: Titanium dioxide
Controlled terms: Absorption efficiency
Uncontrolled terms: Absorption efficiency - Absorption laws - Absorption rates - Absorption time - Adsorption capacities - Initial dye concentration - Preparation conditions - Subtraction method
Classification code: 804.2 Inorganic Compounds - 931.2 Physical Properties of Gases, Liquids and Solids
DOI: 10.4028/www.scientific.net/AMM.526.86
Database: Compendex
Data Provider: Engineering Village

137. Research on the adsorption law of the titanium dioxide photocatalyst to the dye

Accession number: 20141317506593
Authors: Liang, Hui Rong (1)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, China
Corresponding author: Liang, H. R.(hrliang@mail.xjtu.edu.cn)
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 893
Issue title: Advanced Materials and Engineering Materials III
Issue date: 2014
Publication year: 2014
Pages: 19-22
Language: English
ISSN: 10226680
ISBN-13: 9783038350255
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Advanced Materials and Engineering Materials 2013, CAMEM 2013
Conference date: December 14, 2013 - December 15, 2013
Conference location: Singapore
Conference code: 103207
Sponsor: Trans Tech Publications
Publisher: Trans Tech Publications
Abstract: In this paper, the effects of the preparation conditions on the combination of the eosin dye and titanium dioxide were researched. The synthesis conditions included the absorption time, the initial dye concentration and the amount of absorbed titanium dioxide. The absorption properties of the eosin dye to the nano materials TiO2 were examined. The relations of absorption amount Q with the preparation variables had been investigated by analysis to

the experimental results. The absorption amount Q decreased with increasing the absorbed TiO2 amount. © (2014) Trans Tech Publications, Switzerland.
Number of references: 12
Main heading: Adsorption
Controlled terms: Titanium dioxide
Uncontrolled terms: Absorption property - Absorption time - Adsorption amounts - Eosin dye - Initial dye concentration - Preparation conditions - Synthesis conditions - TiO
Classification code: 802.3 Chemical Operations - 804.2 Inorganic Compounds
DOI: 10.4028/www.scientific.net/AMR.893.19
Database: Compendex
Data Provider: Engineering Village

138. Research on intelligent diagnosis and processing system for drilling accident

Accession number: 20145200380872
Authors: Yingzhuo, Xu (1); Xiaorong, Gao (2)
Author affiliation: (1) Institute of Computer, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China; (2) Institute of Petroleum Engineering, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Yingzhuo, Xu
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 817-820
Article number: 6977720
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Because of many deficiencies of traditional drilling accident diagnosing and processing systems, for instance, these system were mostly based on static information from ground, so it was difficult to accurately distinguish the 'down hole' accidents in real time, and they could not permit multi-user collaboration and share information. So an intelligent diagnosis and processing system for drilling accidents supported by computer networks is put forward to develop. According to levels and working environment of users, the architecture of this system is designed, which is generally divided into two levels: onsite and base level. Models of intelligent diagnosis and processing for drilling accidents are built by case-based reasoning techniques. And through Ajax technique, the asynchronous communication between the client and server is realized to increase the response speed of the server. On the basis of the above, combining the technology of Web Service, an intelligent diagnosis and processing system for drilling accidents is implemented. The system, which collected all kinds of accident's cases occurred in oil fields and could makes full use of all types of information (especially real-time information while drilling) as well as multi-domain experts' experience and knowledge, has self-learning function and can realize the diagnosis and processing for all kinds of drilling accidents. At the same time, the system provides an intact knowledge handbook of preventing and process accidents, as well as an information-sharing platform for multi-domain experts and technicians to make decisions collaboratively. Using the system can effectively improve diagnosis and processing accidents in terms of accuracy. © 2014 IEEE.
Number of references: 11
Main heading: Case based reasoning
Controlled terms: Real time systems - Accidents - Information dissemination - Web services - Oil fields
Uncontrolled terms: Asynchronous communication - Information sharing platforms - Intelligence - Intelligent diagnosis - Multi-user collaboration - Real-time information - Static information - Working environment

Classification code: 512.1.1 Oil Fields - 722.4 Digital Computers and Systems - 903.2 Information Dissemination - 914.1 Accidents and Accident Prevention
DOI: 10.1109/ISDEA.2014.182
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

139. Fracture analysis of the weld alloy plate of flat valve

Accession number: 20144900271404
Authors: Xue, Ji Jun (1); Zhao, H. (1); Zhao, Bin (1)
Author affiliation: (1) Xi'an Shiyou University, Xi'an; Shanxi, China
Corresponding author: Xue, Ji Jun
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 692
Volume title: Proceedings of 2014 International Conference on Material Engineering and Environment Science
Part number: 1 of 1
Issue date: 2014
Publication year: 2014
Pages: 366-370
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038353300
Document type: Journal article (JA)
Publisher: Trans Tech Publications Ltd
Abstract: In order to optimize the well control equipments of nitrogen drilling, the wellhead equipments have been inspected and analyzed systematically, and the failure analysis has been performed for the fracture at the through hole of two valve plates of flat valve at the side outlet of the multi-function four-way valve in this paper. The fracture reason of the valve plates is explored from macroscopic morphology analysis, chemical composition analysis, mechanical property test, SEM analysis and macroscopic analysis respectively. SEM scanning shows that more precipitates have been separated out nickel-based solid solution in Ni60 welded alloy layer. The spectrum analysis shows that these precipitate phases are rich chromium evolution phases. The valve plate cracks are originated in the welded alloy layer. The final fracture of valve plate is a cleavage fracture and the mechanism is brittle fracture.
Number of references: 7
Main heading: Chemical analysis
Controlled terms: Precipitates - Chemical equipment - Brittle fracture - Precipitation (chemical) - Welding - Failure analysis - Spectrum analysis
Uncontrolled terms: Chemical composition analysis - Cleavage fracture - Fracture analysis - Macroscopic analysis - Macroscopic morphology - Precipitate phasis - Valve plates - Wellhead equipment
Classification code: 538.2 Welding - 802.1 Chemical Plants and Equipment - 802.3 Chemical Operations - 804 Chemical Products Generally
DOI: 10.4028/www.scientific.net/AMM.692.366
Database: Compendex
Data Provider: Engineering Village

140. Numerical simulation of pressurization scheme of gas well in Jingbian gas field

Accession number: 20134616969988
Authors: Du, Bao Chao (1); Yang, Ling (1)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, Shaanxi, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 830
Issue title: Advanced Research on Material Engineering, Chemistry, Bioinformatics III
Issue date: 2014
Publication year: 2014
Pages: 444-447

Language: English
ISSN: 10226680
ISBN-13: 9783037859148
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Material Engineering, Chemistry, Bioinformatics, MECB 2013
Conference date: October 26, 2013 - October 27, 2013
Conference location: Hefei, China
Conference code: 100756
Sponsor: International Science and Education Researcher Association, China; Beijing Gireida Education Research Center; VIP-Information Conference Center, China
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: With the exploitation of Jingbian Gas Field for decades, the formation energy gradually decreasing, and the wellhead pressure of some gas wells were found approaching to the pressure of gathering pipe network. Furthermore, some wellhead pressure can not make the produced natural gas get into the gathering pipe network. S well block of Jingbian Gas Field was set as the research object, applied numerical simulation method to create a new three dimensional geological model for gas reservoir of S well block, and then matched the reserves of gas reservoir and productivity parameters of gas well; applied the orthogonal test method design a variety of charging scheme and simulated every scheme; finally, decided an applicative pressurization scheme for gas well of S well block in Jingbian Gas Field. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Natural gas
Controlled terms: Gas compressors - Gas industry - Tight gas - Compressibility of gases - Numerical models - Pressurization - Natural gas wells - Gases - Natural gas well production - Numerical methods - Proven reserves
Uncontrolled terms: Charging scheme - Formation energies - Numerical simulation method - Orthogonal designing - Orthogonal test method - Research object - Three-dimensional geological modeling - Wellhead pressures
Classification code: 512.1.2 Petroleum Deposits : Development Operations - 512.2 Natural Gas Deposits - 512.2.1 Natural Gas Fields - 522 Gas Fuels - 618.1 Compressors - 921 Mathematics - 921.6 Numerical Methods - 931.2 Physical Properties of Gases, Liquids and Solids
DOI: 10.4028/www.scientific.net/AMR.830.444
Database: Compendex
Data Provider: Engineering Village

141. Rock image pore identification based on fuzzy C-Means clustering and neural networks

Accession number: 20142717904983
Authors: Qin, Qiu Ju (1); Qiang, Xin Jian (2); Liu, Ye (2); Yang, Jing (2)
Author affiliation: (1) Department of Planning and Finance, Xi'an Shiyou University, Xi'an, Shaanxi, 710065, China; (2) School of Computer Science, Xi'an Shiyou University, Xi'an, Shaanxi, 710065, China
Corresponding author: Qiang, X. J.(qiangxj@xsyu.edu.cn)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 571-572
Issue title: Computers and Information Processing Technologies I
Issue date: 2014
Publication year: 2014
Pages: 803-806
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038351399
Document type: Conference article (CA)
Publisher: Trans Tech Publications Ltd
Abstract: In order to realize the recognition automation of rock section pore images, a method combined Fuzzy C-Means clustering with BP neural network is proposed to recognize the pore of rock images. Firstly, Fuzzy C-Means clustering as segmentation algorithm are applied to the rock images and they are divided into two types, then using the BP neural network training and classification recognition. It is shown that the trained BP neural network can accurately identify the effective porosity in the casting image, and lay a good foundation for practical applications. © (2014) Trans Tech Publications, Switzerland.

Number of references: 5
Main heading: Rocks
Controlled terms: Fuzzy neural networks - Fuzzy inference - Image segmentation - Clustering algorithms
Uncontrolled terms: BP neural networks - Effective porosity - Fuzzy C means clustering - Section image - Segmentation algorithms
Classification code: 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 723.4 Artificial Intelligence - 723.4.1 Expert Systems - 903.1 Information Sources and Analysis
DOI: 10.4028/www.scientific.net/AMM.571-572.803
Database: Compendex
Data Provider: Engineering Village

142. Numerical analysis of the E-type diaphragm based on ANSYS

Accession number: 20143818168954
Authors: Song, Li Na (1); Shao, Jun (1); Feng, De Quan (1); Fan, Wei (1)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, Shaanxi, China
Corresponding author: Song, L. N.(songlina@xsyu.edu.cn)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 623
Issue title: Engineering Research and Designing for Industry
Issue date: 2014
Publication year: 2014
Pages: 34-40
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038352228
Document type: Conference article (CA)
Conference name: 2013 International Conference on Mechatronics and Materials Engineering, ICMME 2013
Conference date: May 25, 2013 - May 27, 2013
Conference location: Qiqihar, China
Conference code: 107478
Sponsor: Engineering Institute for International-Chinese Academic Service; Zhejiang Economic and Trade Polytechnic
Publisher: Trans Tech Publications Ltd
Abstract: With finite element method, the numerical model of the E-type diaphragm was built in this paper. Based on the model, we got the shear strain law of the E-type diaphragm surface under uniform pressure. Taking it as elastic element and the FBG as sensing element, we made a FBG pressure sensor and obtained the experiment result. The result fit well with finite element simulation value. It shows that the finite element model in the paper is reasonable and effective. The model can be used to design and optimize the sensor. © (2014) Trans Tech Publications, Switzerland.
Number of references: 8
Main heading: Diaphragms
Controlled terms: Shear strain - Numerical methods - Finite element method
Uncontrolled terms: Ansys - Elastic element - FBG - Finite element simulations - Sensing elements - Uniform pressure
Classification code: 601.2 Machine Components - 921.6 Numerical Methods - 931.1 Mechanics
DOI: 10.4028/www.scientific.net/AMM.623.34
Funding Details: Number: 61240028, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Database: Compendex
Data Provider: Engineering Village

143. First-principles study of Al/A13Ti heterogeneous nucleation interface

Accession number: 20142217766830
Authors: Li, Jian (1, 4); Zhang, Ming (2); Zhou, Yong (1); Chen, Guoxiang (3)
Author affiliation: (1) School of Materials Science and Engineering, Xi'An Shiyou University, Xi'an 710065, China; (2) School of Petroleum Engineering, Xi'An Shiyou University, Xi'an 710065, China; (3) School of Science, Xi'An Shiyou University, Xi'an 710065, China; (4) School of Materials, Northwestern Polytechnical University, Xi'an 710072, China
Corresponding author: Li, J.(lijian@xsyu.edu.cn)

Source title: Applied Surface Science
Abbreviated source title: Appl Surf Sci
Volume: 307
Issue date: July 15, 2014
Publication year: 2014
Pages: 593-600
Language: English
ISSN: 01694332
CODEN: ASUSEE
Document type: Journal article (JA)
Publisher: Elsevier B.V., Netherlands
Abstract: The interfacial adhesion, stability, wetting, and bonding nature of Al(1 1 1)/Al3Ti(1 1 2) and Al(0 0 1)/Al3Ti(0 0 1) are calculated and compared by using first-principles density functional method. Three Al(1 1 1)/Al3Ti(1 1 2) models with different stacking sites (top-, bridge-, and center-sites), and two center-sited Al(0 0 1)/Al3Ti(0 0 1) models with different terminations (Al- and Al + Ti-terminations) are investigated. With the largest work of adhesion and smallest interface energy, the center-sited Al(1 1 1)/Al3Ti(1 1 2) is the most stable among the five models. The epitaxial stacking style is confirmed, and its adhesion work is larger than Al/Al(1 1 1). The heterogeneous nucleating mechanism of α–Al on Al3Ti(1 1 2) substrate can be interpreted as the perfect wetting, and stronger adhesion. Valence electron density and partial density of states (PDOS) are also analyzed. The interfacial bonding mainly comes from Al-Al metallic and Al-Ti covalent interactions. © 2014 Elsevier B.V. All rights reserved.
Number of references: 50
Main heading: Binary alloys
Controlled terms: Nucleation - Aluminum alloys - Density functional theory - Adhesion - Titanium alloys - Wetting
Uncontrolled terms: Covalent interactions - First principles - First-principles density-functional method - First-principles study - Heterogeneous nucleation - Interfacial adhesions - Partial density of state - Valence electron density
Classification code: 541.2 Aluminum Alloys - 542.3 Titanium and Alloys - 922.1 Probability Theory - 931.3 Atomic and Molecular Physics - 931.4 Quantum Theory; Quantum Mechanics - 933.1.2 Crystal Growth - 951 Materials Science
DOI: 10.1016/j.apsusc.2014.04.079
Funding Details: Number: 2014KJXX-70, Acronym: -, Sponsor: -; Number: 11304246, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 2014JQ6206, Acronym: -, Sponsor: Natural Science Foundation of Shaanxi Province; Number: 2013JK0896, Acronym: -, Sponsor: Education Department of Shaanxi Province;
Funding text: The authors acknowledge the financial support for the research from the Scientific Research Program Funded by Shaanxi Provincial Education Department of China (grant no. 2013JK0896), National Natural Science Foundation of China (grant no. 11304246), Shaanxi Province Science and Technology Foundation of China (grant no. 2014KJXX-70), and Natural Science Basic Research Plan in Shaanxi Province of China (grant no. 2014JQ6206).
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

144. Action recognition based on local Spatio-temporal oriented energy features and additive kernel SVM

Accession number: 20145200381025
Authors: Qingnian, Cao (1); Yuanyuan, Jiang (1)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Qingnian, Cao
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
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Publication year: 2014
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Article number: 6977559
Language: English
ISBN-13: 9781479942619

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Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Spatio-temporal oriented energy features have been proved to be an efficient feature for action recognition. It has satisfied performance on most of public databases. However, the oriented energy features were used as holistic action features for template matching in many literatures. In the paper, we proposed an action representation based on local spatio-temporal oriented energy features, and multiple feature channels are built to convert the features to descriptors. Moreover, inspired by additive kernel Support Vector Machine can offer significant improvements in accuracy on a wide variety of tasks while having the same run-time. We proposed action classifiers based on additive kernels and tested our system on KTH human action dataset for its performance evaluation. The experimental result shows our system outperforms most of recent action classification systems. © 2014 IEEE.
Number of references: 14
Main heading: Template matching
Controlled terms: Classification (of information) - Support vector machines
Uncontrolled terms: Action classifications - Action classifier - Action recognition - Action representations - Energy feature - Multiple features - Public database - Spatio temporal
Classification code: 716.1 Information Theory and Signal Processing - 723 Computer Software, Data Handling and Applications - 903.1 Information Sources and Analysis
DOI: 10.1109/ISDEA.2014.34
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

145. The research of output and authentication methods of digital bills based on the fusion of identity information

Accession number: 20145200380941
Authors: Hong, Wang (1); Jie, Kong (1)
Author affiliation: (1) Xi'an Shiyou University, Xian, Shaanxi; 710065, China
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
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Article number: 6977785
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: To ensure the authenticity and traceability of the invoice through technical means has been an important research direction in counterfeiting invoice. In this paper, the current situation and development trend of the anti-counterfeit technology of invoice is introduced, the identification of the user of invoice is researched and an output and identification methods of digital invoice based on the fusion of identity information is proposed. Through the integrated use of RFID, two-dimensional bar, mobile device and virtual driver, the method realizes the function of identity card

information reading, data encryption, and anti-counterfeit invoice output. Finally, the purpose of certificating invoice and identifying the user of the invoice is achieved. Experimental results show that this method could be realized and is able to effectively improve the safety of using invoice. © 2014 IEEE.
Number of references: 13
Main heading: Radio frequency identification (RFID)
Controlled terms: Crime - Cryptography - Authentication
Uncontrolled terms: Anti-counterfeit - Anti-counterfeit technology - Authentication methods - Current situation - Development trends - Identification method - Identity information - virtual driver
Classification code: 716.3 Radio Systems and Equipment - 723 Computer Software, Data Handling and Applications - 731.1 Control Systems - 971 Social Sciences
DOI: 10.1109/ISDEA.2014.240
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

146. Study on the sustainable development of Chinese energy industry based on the influencing factors of capital structure

Accession number: 20142917953522
Authors: Pang, Ming (1); Wu, Hong Mei (1); Wang, Jin Ke (1)
Author affiliation: (1) Xi'an Shiyou University, Shaanxi, Xi'an, 710065, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 962-965
Issue title: Resources and Sustainable Development III
Issue date: 2014
Publication year: 2014
Pages: 1854-1857
Language: English
ISSN: 10226680
E-ISSN: 16628985
ISBN-13: 9783038351375
Document type: Conference article (CA)
Conference name: 3rd International Conference on Energy and Environmental Protection, ICEEP 2014
Conference date: April 26, 2014 - April 28, 2014
Conference location: Xi'an, China
Conference code: 106221
Publisher: Trans Tech Publications Ltd
Abstract: Based on the characteristics of the energy industry, this paper dissects the capital structure status of Chinese energy companies, and then points out the existing problems. The 8-year's financial data of PetroChina, Sinopec and CNOOC, which are all listed in Stock Exchange of Hong Kong, are selected for empirical analysis, and concluded that, profitability, company size, collateral value of assets and liquidity ratio of assets are negatively correlated to corporate asset-liability ratio, but the growth is positively correlated to it. Finally, this paper provides advices on developing economies of scale, financing, investing and improving corporate financial risk control mechanism. © (2014) Trans Tech Publications, Switzerland.
Number of references: 6
Main heading: Regression analysis
Controlled terms: Environmental protection - Economics - Finance - Sustainable development
Uncontrolled terms: Capital structure - Developing economies - Empirical analysis - Energy companies - Existing problems - Financial risks - Influencing factors - Regression model
Classification code: 454.2 Environmental Impact and Protection - 922.2 Mathematical Statistics - 971 Social Sciences
DOI: 10.4028/www.scientific.net/AMR.962-965.1854
Database: Compendex
Data Provider: Engineering Village

147. Fracture propagation direction during simultaneous frac in shale gas development

Accession number: 20145000306264
Authors: He, Pei (1); Zhou, De Sheng (2)

Author affiliation: (1) Xi'an Shiyou University, Xi'an; Shaanxi Province, China; (2) Xi'an Shiyou University, Xi'an; Shaanxi Province, China
Corresponding author: He, Pei
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 641-642
Volume title: Hydraulic Engineering and Sustainable City Development III
Part number: 1 of 1
Issue date: 2014
Publication year: 2014
Pages: 423-426
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038352594
Document type: Conference article (CA)
Conference name: 3rd International Conference on Civil, Architectural and Hydraulic Engineering, ICCAHE 2014
Conference date: July 30, 2014 - July 31, 2014
Conference location: Hangzhou, China
Conference code: 107719
Publisher: Trans Tech Publications Ltd
Abstract: In this paper, under the assumption of homogeneous rock conditions, the fracture opening and propagating theories, the boundary element method was used to simulate the interaction between the fracture in the processing of the simultaneous multi-frac treatments. The research shows that simultaneous multiple fracturing change the direction of crack extension, which lead to direction change of the in-situ principle stresses. The fractures attract or repel each other in different horizontal wellbores /fractures configuration.
Number of references: 5
Main heading: Fracture
Controlled terms: Sailing vessels - Horizontal wells - Shale gas - Hydrodynamics - Boundary element method - Hydraulic fracturing
Uncontrolled terms: Crack extension - Direction change - Fracture opening - Fracture propagation - Horizontal wellbores - Induced stress - Multiple fracturing - Principle stress
Classification code: 512.1.1 Oil Fields - 512.1.2 Petroleum Deposits : Development Operations - 512.2 Natural Gas Deposits - 522 Gas Fuels - 674.1 Small Marine Craft - 921.6 Numerical Methods - 951 Materials Science
DOI: 10.4028/www.scientific.net/AMM.641-642.423
Database: Compendex
Data Provider: Engineering Village

148. Energy consumption elasticity analysis based on translog production function in Shaanxi

Accession number: 20141217483181
Authors: Yang, Huixian (1); Gu, Hua (2)
Author affiliation: (1) Center of Oil-Gas Resources Economy and Management, Xi'an Shiyou University, Xi'an, China; (2) School of Economics and Management, Xi'an Shiyou University, Xi'an, China
Source title: WIT Transactions on Engineering Sciences
Abbreviated source title: WIT Trans. Eng. Sci.
Volume: 84 VOLUME 1
Part number: 1 of 2
Issue title: Manufacture Engineering and Environment Engineering
Issue date: 2014
Publication year: 2014
Pages: 711-716
Language: English
ISSN: 17433533
ISBN-13: 9781845648244
Document type: Conference article (CA)
Conference name: 2013 International Conference on Manufacture Engineering and Environment Engineering, MEEE 2013

Conference date: June 27, 2013 - June 28, 2013
Conference location: Hong kong
Conference code: 103185
Sponsor: WIT Transactions on Engineering Sciences
Publisher: WITPress
Abstract: Natural resources are the basis for the existence and development of the human society. Moreover, it is the force of economic development and the core of the production. On the contrary, economic growth provides material conditions for the development of energy systems. Therefore, there exists a dialectical relationship between energy system and economic growth. The factors impacting economic growth are important in the field of economics research. Thus, the objective of this paper is to research on the relationship between energy consumption and economy. The energy input factors are classified into the inputs of coal, oil, natural gas, and electric power. By applying techniques of co-integration, a translog production function model is established and the parameters of the model are estimated by ridge regression. Finally, it makes a comparative study on the elasticity of the productivity, substitution elasticity, and the difference among the technical progresses of different input factors. © 2014 WIT Press.
Number of references: 4
Main heading: Energy utilization
Controlled terms: Economic and social effects - Economic analysis - Elasticity - Regression analysis
Uncontrolled terms: Cointegration - Comparative studies - Economic development - Economic growths - Elasticity analysis - Material conditions - Ridge regression - Trans-log production functions
Classification code: 525.3 Energy Utilization - 911.2 Industrial Economics - 922.2 Mathematical Statistics - 971 Social Sciences
DOI: 10.2495/MEEE20130981
Database: Compendex
Data Provider: Engineering Village

149. An indirect measurement method for electrical impedance scanning

Accession number: 20145200381038
Authors: Zhang, Feng (1); Li, Xiangjuan (1); Luo, Mingshi (1)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Zhang, Feng
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
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Article number: 6977572
Language: English
ISBN-13: 9781479942619
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Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: When the phenomena that conductance of breast cancerous tissue is higher than which of normal tissue around was found, researches using impedance imaging for breast cancer detection come forth. Electrical impedance scanning (EIS) acquires more applications in clinic for its simple hardware design and image reconstruction. However, EIS is more easily influenced by noises because of its geometrical settings. After an analysis of EIS principle, a novel measurement method-Indirect Measurement Method (IMM) is brought forward. Simulation experiments demonstrate that IMM could be used in image noises suppression with a reference image and improve performance of EIS effectively. © 2014 IEEE.
Number of references: 10
Main heading: Scanning

Controlled terms: Electric impedance - Electric impedance measurement - Image reconstruction - Medical imaging - Tissue - Image enhancement
Uncontrolled terms: Breast cancer detection - Direct measurement method - Electrical impedance scanning - Electrical impedance scanning (EIS) - Impedance imaging - Improve performance - Indirect measurement method - Measurement methods
Classification code: 461.1 Biomedical Engineering - 461.2 Biological Materials and Tissue Engineering - 701.1 Electricity: Basic Concepts and Phenomena - 746 Imaging Techniques - 942.2 Electric Variables Measurements
DOI: 10.1109/ISDEA.2014.46
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

150. The inversion of formation parameters after volume fracturing

Accession number: 20142417809073
Authors: Peng, Jiao (1); Shao, Xin Min (1); Zhou, De Sheng (1)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, Shaanxi Province,710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
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Issue date: 2014
Publication year: 2014
Pages: 428-430
Language: English
ISSN: 16609336
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ISBN-13: 9783038350842
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Conference date: April 10, 2014 - April 11, 2014
Conference location: Seoul, Korea, Republic of
Conference code: 105442
Sponsor: Carleton University; Science and Engineering Institute; University of Ontario Institute of Technology (UOIT)
Publisher: Trans Tech Publications
Abstract: Volume fracturing is the key technology that has made the development of tight oil formations economical. Well testing is often used to obtain formation parameters in oil field after volume fracturing in tight oil formations, which is time-consuming and accuracy is low. Based on a new analytical solution methodology, this paper presents a simple and efficient approach by matching the production data to obtain formation parameters, just like formation permeability, fracture conductivity, dimensionless conductivity, propped length and so on. The numerical solution is applicable for finite-conductivity vertical fractures in rectangular shaped reservoirs. The mathematical formulation is based on the method of images with no flow boundaries for symmetrical patterns. © (2014) Trans Tech Publications, Switzerland.
Number of references: 6
Main heading: Fracture
Controlled terms: Oil field development - Well testing
Uncontrolled terms: Finite-conductivity vertical fracture - Formation parameter - Formation permeability - Fracture conductivities - Inversion - Mathematical formulation - Solution methodology - Tight oil
Classification code: 512.1.2 Petroleum Deposits : Development Operations - 951 Materials Science
DOI: 10.4028/www.scientific.net/AMM.548-549.428
Database: Compendex
Data Provider: Engineering Village

151. Study on hydraulic pulse cavitating jet drilling in unconventional natural gas wells (*Open Access*)

Accession number: 20154701581568
Authors: Liangbin, D. (1); Li, G. (2); Tiantai, S. (1); Zhang, M. (1); Shi, H. (1)
Author affiliation: (1) Xi'an Shiyou University, China; (2) China University of Petroleum, China
Source title: SOCAR Proceedings

Abbreviated source title: Proc.
Issue: 4
Issue date: 2014
Publication year: 2014
Pages: 19-26
Language: English
ISSN: 22186867
E-ISSN: 22188622
Document type: Journal article (JA)
Publisher: Oil Gas Scientific Research Project Institute
Abstract: To improve the rate of penetration (ROP) in unconventional natural gas drilling and shorten the drilling cycle, hydraulic pulse cavitating jet generator (HPCJG) is designed which couples the advantages of pulsed jet and cavitating jet on the basis of the analysis of the jet-modulating mechanism. When drilling fluid flows through the tool, the fluid will be modulated to the pulsed and cavitating jet by application of the impellers and by entering into the self-resonant chamber. Thus, pulsed cavitating jet is formed at the outlet of the bit nozzle. Because of jet pulsation, cavitating erosion, and local negative-pressure effect, the cleaning efficiency of wellbore cuttings and the ROP will be enhanced. Several well-times of field tests with HPCJG were conducted in Xuanye-1 well in shale gas well and Zhi-4 well in coal bed gas well, and the ROP comparison between field tests intervals with HPCJG and that of adjacent intervals of the same well or adjacent wells without HPCJG were carried out. The tests results show that the ROP of Xuanye-1 well in 2 two different wellbore sizes are 2.73 m/h and 1.74 m/h respectively. The average ROP of field tests interval were enhanced by approximately 58.2% and 18.1% compared with the adjacent intervals. The ROP of Zhi-4 well is 1.74 m/h, and the ROP of field tests were enhanced by approximately 21.6% compared with the adjacent Zhi-1 well and 187.7% compared with the adjacent Zhi-2 well. The hydraulic pulse cavitating jet drilling technology can remarkably improve the ROP of shale gas and coal bed gas drilling and reduce the drilling costs. Hydraulic pulse cavitating jet drilling technique can afford an effective approach to improve ROP in unconventional natural gas resources. Bütün hüquqlar qorunur © 2015.
Number of references: 6
Main heading: Gases
Controlled terms: Natural gas - Natural gas wells - Coal bed methane - Coal deposits - Drilling fluids - Natural gas well production - Boreholes - Oil well drilling - Flow of fluids - Hydraulic fracturing - Pressure effects - Petroleum deposits - Shale gas
Uncontrolled terms: Cavitating jet - Drilling technology - Effective approaches - Hydraulic pulse - Negative pressure effect - Rate of penetration - Unconventional natural gas - Unconventional natural gas resources
Classification code: 503 Mines and Mining, Coal - 512.1 Petroleum Deposits - 512.1.2 Petroleum Deposits : Development Operations - 512.2 Natural Gas Deposits - 512.2.1 Natural Gas Fields - 522 Gas Fuels - 631.1 Fluid Flow, General - 931.1 Mechanics
Numerical data indexing: Percentage 1.81e+01%, Percentage 1.88e+02%, Percentage 2.16e+01%, Percentage 5.82e+01%
DOI: 10.5510/OGP20140400217
Compendex references: YES
Open Access type(s): All Open Access, Bronze
Database: Compendex
Data Provider: Engineering Village

152. The design of Gun-Drill sharpening device

Accession number: 20143818168668
Authors: Zhu, Lin (1); Geng, Yi (1)
Author affiliation: (1) Mechanical Engineering college, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Geng, Y.(zhulin@xsyu.edu.cn)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 618
Issue title: Materials, Machines and Development of Technologies for Industrial Production
Issue date: 2014
Publication year: 2014
Pages: 439-442
Language: English
ISSN: 16609336
E-ISSN: 16627482

ISBN-13: 9783038352044
Document type: Conference article (CA)
Conference name: 2014 International Conference on Advanced Nano-Technology and Biomedical Material, ANTBM 2014
Conference date: June 29, 2014 - June 30, 2014
Conference location: Guangzhou, China
Conference code: 107466
Publisher: Trans Tech Publications Ltd
Abstract: With the advancement of science and technology, the precision of processing mechanical parts is increasingly high demand, the increasing number of small diameter deep hole parts, which puts forward higher requirements of deep hole processing equipment and Gun-Drill sharpening devices. The gun drill needed to be repeatedly regrinding, hand grinding method cannot guarantee the optimum tool geometry, so special grinding devices are necessities. This paper designed a fast Gun-Drill sharpening device, the grinding accuracy and efficiency were improved, and the device has been applied in actual production. © (2014) Trans Tech Publications, Switzerland.
Number of references: 4
Main heading: Grinding (machining)
Controlled terms: Drills
Uncontrolled terms: Deep hole processing - Grinding methods - Gun-drill - High demand - Mechanical parts - Science and Technology - Sharpening devices - Tool geometry
Classification code: 603.2 Machine Tool Accessories - 604.2 Machining Operations
DOI: 10.4028/www.scientific.net/AMM.618.439
Database: Compendex
Data Provider: Engineering Village

153. Vibration signal analysis and fault diagnosis of gears based on hilbert marginal spectrum

Accession number: 20141717624044
Authors: Wang, Jiang Ping (1); Cui, Jin (1)
Author affiliation: (1) School of Mechanical Engineering, Xi'an Shiyou University, 710065, China
Corresponding author: Wang, J. P.(jpwang@xsyu.edu.cn)
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 909
Issue title: Manufacturing and Applied Research
Issue date: 2014
Publication year: 2014
Pages: 121-126
Language: English
ISSN: 10226680
ISBN-13: 9783038350590
Document type: Conference article (CA)
Conference name: 2nd International Conference on Manufacturing, Manufacturing 2014
Conference date: February 9, 2014 - February 10, 2014
Conference location: Singapore
Conference code: 104666
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: Hilbert-Huang transform is a new method of signal processing, which is very suitable for dealing with nonlinear and non-stationary signal. In this article, a gear fault diagnosis method based on Hilbert marginal spectrum is proposed in view of the non-stationary characteristics of gear vibration signal. First the original vibration signal is decomposed into several intrinsic mode functions (IMF) of different characteristic time scale smoothly by means of empirical mode decomposition (EMD) method. Then the Hilbert-Huang transform is carried out for IMF and the Hilbert marginal spectrum under different operating conditions are obtained. Gear faults can be judged through the analysis of the marginal spectrum. The experimental results show that this method can effectively diagnose the gear faults. © (2014) Trans Tech Publications, Switzerland.
Number of references: 7
Main heading: Hilbert-Huang transform
Controlled terms: Signal analysis - Gears - Vibration analysis - Fault detection - Failure analysis - Spectrum analysis

Uncontrolled terms: Different operating conditions - Empirical Mode Decomposition - Hilbert Huang transforms - Marginal spectrum - Non-stationary characteristics - Nonlinear and non-stationary signals - Vibration signal - Vibration signal analysis
Classification code: 601.2 Machine Components - 716.1 Information Theory and Signal Processing - 921.3 Mathematical Transformations
DOI: 10.4028/www.scientific.net/AMR.909.121
Database: Compendex
Data Provider: Engineering Village

154. User integrated similarity based collaborative filtering

Accession number: 20150800540290
Authors: Liu, Tian-Shi (1); Sun, Nan-Jun (1); Zhang, Liu-Mei (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an, China
Corresponding author: Liu, Tian-Shi
Source title: BioTechnology: An Indian Journal
Abbreviated source title: Biotechnol. An Indian J.
Volume: 10
Issue: 9
Issue date: November 1, 2014
Publication year: 2014
Pages: 3846-3855
Language: English
ISSN: 09747435
Document type: Journal article (JA)
Publisher: Trade Science Inc, 126,Prasheel Park,Sanjay Raj Farm House,Nr. Saurashtra Unive, Rajkot, Gujarat, 360 005, India
Abstract: Traditional similarity calculation method in collaborative filtering is inaccuracy due to the extreme sparsity of user rating data. To address this problem, we propose a collaborative filtering recommendation algorithm based on user integrated similarity. The algorithm modifies the similarity calculation formula by introducing the common factor. Then it introduces the item category interestingness eigenvector by category of items and distribution of user ratings to construct the user's item category interestingness similarity. Finally, it combines the user rating similarity to construct the integrated similarity, and generates recommendations. The experimental results show that this algorithm can effectively relieve the inaccuracy of traditional similarity calculation method in the case of extreme sparsity of user rating data, and improve the quality of the recommendation of recommender systems. © Trade Science Inc.
Number of references: 13
Main heading: Recommender systems
Controlled terms: Collaborative filtering - Calculations - Eigenvalues and eigenfunctions
Uncontrolled terms: Collaborative filtering recommendations - Common factors - Data sparsity - Interestingness - Item category - Similarity calculation - User integrated similarity - User rating
Classification code: 723.5 Computer Applications - 903.1 Information Sources and Analysis - 921 Mathematics
Database: Compendex
Data Provider: Engineering Village

155. On the rough consistency measures of logic theories and approximate reasoning in rough logic (*Open Access*)

Accession number: 20135017087731
Authors: She, Yanhong (1)
Author affiliation: (1) College of Science, Xi'An Shiyou University, Xi'an 710065, China
Corresponding author: She, Y.(yanhongshe@gmail.com)
Source title: International Journal of Approximate Reasoning
Abbreviated source title: Int J Approximate Reasoning
Volume: 55
Issue: 1 PART 4
Issue date: January 2014
Publication year: 2014
Pages: 486-499
Language: English

ISSN: 0888613X
CODEN: IJARE4
Document type: Journal article (JA)
Publisher: Elsevier Inc.
Abstract: This paper is mainly devoted to establishing a kind of graded reasoning method in the context of rough logic. To this end, a weak form of deduction theorem in rough logic is firstly obtained, then, based upon the weak deduction theorem and the notion of rough truth degree, a new kind of graded reasoning method in rough logic is presented. Moreover, to embody the idea of rough approximations, the notions of graded rough upper consequence and graded rough lower consequence are also proposed, which can be treated as the logical counterpart of rough upper and lower approximation, respectively. Compared with the existing graded reasoning method, the proposed method in the present paper does not employ the notion of rough similarity degree, and hence their fundamental starting points are different, however, they are also closely related, accordingly, a comparative study is performed between these two different graded reasoning methods. Lastly, based on the proposed graded reasoning method, the notions of rough (upper, lower) consistency degree are also proposed and their properties are investigated in detail. © 2013 Elsevier Inc. All rights reserved.
Number of references: 30
Main heading: Computer circuits
Uncontrolled terms: Approximate reasoning - Consistency degree - Consistency measures - Graded reasoning - Rough approximations - Rough logic - Rough similarity degrees - Upper and lower approximation
Classification code: 721.3 Computer Circuits
DOI: 10.1016/j.ijar.2013.10.001
Funding Details: Number: 61103133, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 2012QN011, Acronym: XSYU, Sponsor: Xi'an Shiyou University; Number: 2012JQ1023, Acronym: -, Sponsor: Natural Science Basic Research Program of Shaanxi Province;
Funding text: Project supported by the National Nature Science Fund of China under Grant 61103133 , the Natural Science Program for Basic Research of Shaanxi Province, China (No. 2012JQ1023) and The Innovation Foundation of Science and Technology for Young Scholars, Xian Shiyou University (No. 2012QN011).
Compendex references: YES
Open Access type(s): All Open Access, Bronze
Database: Compendex
Data Provider: Engineering Village

156. Collaborative filtering in development well recommendation for well argumentation

Accession number: 20145200381066
Authors: Ma, Gang (1); Zhang, Liumei (1); Liu, Tianshi (1); Pan, Shaowei (1)
Author affiliation: (1) Xi'an Shiyou University, School of Computer Science, Xi'an, China
Corresponding author: Ma, Gang
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 292-295
Article number: 6977600
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In this paper, an attribute clustering based collaborative filtering algorithm is applied for development well recommendation towards exploratory wells argumentation. The algorithm utilizes similarity characteristics of exploratory and development well related attributes, especially porosity, permeability and oil saturation, to filter

redundant data by feature selection. Experiment use practical well data of the oil company for clustering. By integration of a scaled rating scheme on properties and the collaborative filtering philosophy to provide the recommend cluster. Such cluster contains the candidate development wells for recommendation. Finally, by calculating the similarity between exploratory and development wells, the scheme is able to provide the geologist the selected development wells for the decided exploratory in well argumentation. © 2014 IEEE.
Number of references: 6
Main heading: Collaborative filtering
Controlled terms: Clustering algorithms
Uncontrolled terms: Attribute clustering - Collaborative filtering algorithms - Development wells - Exploratory wells - Oil saturation - Rating schemes - Recommendation - Redundant data
Classification code: 903.1 Information Sources and Analysis
DOI: 10.1109/ISDEA.2014.72
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

157. Design of the counting system based on microcontroller

Accession number: 20141317506976
Authors: Xiao, Zhi Hong (1); Zhuang, Liang Qian (1); Shen, Jun (1)
Author affiliation: (1) School of Electronic Engineering, Xi'an Shiyou University, Xi'an, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 898
Issue title: Applied Material Science and Related Technologies
Issue date: 2014
Publication year: 2014
Pages: 933-936
Language: English
ISSN: 10226680
ISBN-13: 9783038350361
Document type: Conference article (CA)
Conference name: 2014 3rd International Conference on Intelligent System and Applied Material, GSAM 2014
Conference date: January 18, 2014 - January 19, 2014
Conference location: Taiyuan, China
Conference code: 103211
Sponsor: Computer Science and Electronic Technology; et al; Michigan State; Qiongzhou University; TMS; Trans Tech publication inc.
Publisher: Trans Tech Publications
Abstract: A counting system based on AT89S51 and optoelectronic switch sensor is introduced which was installed in a sewing machine assembly line. The system is consists of microcontroller, keyboard circuit, signal detection circuit, watchdog circuit, clock circuit and display circuit. It can detect and display actual number of products on the assembly line. The experimental results show that the system has a high level of measurement accuracy and an anti-jamming capability. © (2014) Trans Tech Publications, Switzerland.
Number of references: 7
Main heading: Microcontrollers
Controlled terms: Assembly machines - Assembly
Uncontrolled terms: Anti-jamming capability - Assembly line - AT89S51 - Counter - Detection circuits - High precision - Measurement accuracy - Opto-electronic switches
Classification code: 601.1 Mechanical Devices
DOI: 10.4028/www.scientific.net/AMR.898.933
Database: Compendex
Data Provider: Engineering Village

158. Rough approximation operators on R0-algebras (nilpotent minimum algebras) with an application in formal logic L*

Accession number: 20142317797931
Authors: She, Yanhong (1); He, Xiaoli (1)

Author affiliation: (1) College of Science, Xi'An Shiyou University, Xi'an 710065, China
Corresponding author: She, Y.(yanhongshe@gmail.com)
Source title: Information Sciences
Abbreviated source title: Inf Sci
Volume: 277
Issue date: September 1, 2014
Publication year: 2014
Pages: 71-89
Language: English
ISSN: 00200255
CODEN: ISIJBC
Document type: Journal article (JA)
Publisher: Elsevier Inc.
Abstract: An abstract axiomatization to Pawlak rough set theory in the context of R0-algebras (equivalently, NM-algebras) has been proposed in the present paper. More precisely, by employing the conjunction operator O and the disjunction operator O+ in R0-algebras, the notions of rough upper approximation operator U and rough lower approximation operator L on R 0-algebras are proposed, respectively. Owing to the logical properties of O and O+, any R0-algebra, equipped with L and U, forms an abstract approximation space in the sense of G. Cattaneo. A duality relationship between the set of lower crisp elements and the set of upper crisp elements is established, and some important properties are examined. Moreover, its connection with Tarski closure-interior approximation space and Halmos closure-interior approximation is studied. Such a pair of rough approximations on R0-algebras can naturally induce a pair of rough (upper, lower) truth degrees for formulae in L*. Some uncertainty measures such as roughness degree and accuracy degree are subsequently presented and two kinds of approximate reasoning methods merging rough approximation and fuzzy logic are eventually established.
Number of references: 41
Main heading: Algebra
Controlled terms: Fuzzy logic - Approximation theory - Computer circuits - Rough set theory
Uncontrolled terms: Abstract approximation spaces - Approximate reasoning - Approximation spaces - Lower approximation - Rough approximations - Rough similarity degrees - Truth degree - Uncertainty measures
Classification code: 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 721.3 Computer Circuits - 921.1 Algebra - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory - 921.6 Numerical Methods
DOI: 10.1016/j.ins.2014.02.005
Funding Details: Number: 61005046,61103133,61322211, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 2012QN011, Acronym: XSYU, Sponsor: Xi'an Shiyou University;
Funding text: Project supported by the National Nature Science Fund of China under Grants 61103133 , 61322211 and 61005046 , and the Innovation Foundation of Science and Technology for Young Scholars in Xi’an Shiyou University (No. 2012QN011).
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

159. Design of signal source without external reference for fiber optical comb system

Accession number: 20144700236060
Authors: Yang, Changqi (1)
Author affiliation: (1) School of Science, Xi'An Shiyou University, Xi'an; 710065, China
Corresponding author: Yang, Changqi
Source title: Progress in Electromagnetics Research Symposium
Abbreviated source title: Prog. Electromagn. Res. Symp.
Part number: 1of1
Issue date: 2014
Publication year: 2014
Pages: 136-138
Language: English
ISSN: 15599450
E-ISSN: 19317360
ISBN-13: 9781934142288
Document type: Conference article (CA)

Conference name: Progress in Electromagnetics Research Symposium, PIERS 2014
Conference date: August 25, 2014 - August 28, 2014
Conference location: Guangzhou, China
Conference code: 108821
Sponsor: Development and Research Academy for Global Optical Neo-technology (DRAGON); et al.; JORCEP (Sino-Swedish Joint Research Center of Photonics); South China Normal University; South China Normal University, Centre for Opt. and Electromagn. Res., South China Academy of Advanced Optoelectronics; ZJU Institute for Opto-Electronic Technology Commercialization (IOTEC)
Publisher: Electromagnetics Academy, United States
Abstract: Femtosecond frequency comb is a great invention in the field of metrology at the end of the last century. It can simply and effectively synchronize the phases for optical signals of different wavelengths or RF signals. Erbium doped fiber optical comb has many advantages. The National Time Service Center of Chinese Academy of Sciences has launched a project on the new type erbium-doped fiber femtosecond optical comb research. This paper introduces the signal source which is designed for this project. DDS chip AD9854 is used as the signal source. The signal source output has a wideband from 1-80 MHz. Test result for the signal source is discussed.
Number of references: 5
Uncontrolled terms: Chinese Academy of Sciences - Erbium doped fibers - Femtosecond frequency combs - Fiber-optical - Optical combs - Optical signals - Service center - Signal source
Classification code: 547.2 Rare Earth Metals
Numerical data indexing: Frequency 1.00e+06Hz to 8.00e+07Hz
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

160. Hot Shape Rolling

Accession number: 20172603826202
Authors: Li, L. (1); Yang, H. (2); Guo, L. (2)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, Shaanxi, China; (2) Northwestern Polytechnical University, Xi'an, Shaanxi, China
Corresponding author: Li, L.
Source title: Comprehensive Materials Processing
Abbreviated source title: Compr. Mater. Process.
Volume: 5
Volume title: Casting, Semi-Solid Forming and Hot Metal Forming
Issue date: May 2014
Publication year: 2014
Pages: 393-439
Language: English
ISBN-13: 9780080965338
Document type: Book chapter (CH)
Publisher: Elsevier Ltd
Abstract: Hot shape rolling process is an advanced local metal-forming process widely used to manufacture long, semifinished parts or processed materials with the cross-section shape unchanged along its length. The ring rolling process is a special shape rolling process to manufacture various complex seamless ring parts. © 2014 Elsevier Ltd All rights reserved.
Number of references: 24
Main heading: Finite element method
Controlled terms: Hot rolling
Uncontrolled terms: Filling behavior - Guide rollers - Relative feed - Ring diameter - Ring rolling
Classification code: 535.1.2 Rolling Mill Practice - 921.6 Numerical Methods
DOI: 10.1016/B978-0-08-096532-1.00528-8
Funding Details: Number: 2011MEFETKF_03, Acronym: -, Sponsor: -; Number: 2010ZX04004-131-07, Acronym: -, Sponsor: -; Number: 51105306,51135007,51175427, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 2013JK0897, Acronym: -, Sponsor: Education Department of Shaanxi Province; Number: SKLSP201206, Acronym: SKLSP, Sponsor: State Key Laboratory of Solidification Processing; Number: 2012-04, Acronym: XSYU, Sponsor: Xi'an Shiyou University; Number: B08040, Acronym: -, Sponsor: Higher Education Discipline Innovation Project;
Funding text: The authors would like to express their appreciation for the financial support of the Major National S&T Special Project of China (2010ZX04004-131-07), the Natural Science Foundation of China (51105306, 51175427),

National Natural Science Foundation of China for Key Program (51135007), the Fund of the State Key Laboratory of Solidification Processing in NWPU (SKLSP201206), the Scientific Research Program Funded by Shaanxi Provincial Education Department (2013JK0897), the Outstanding Young Scholars Support Project of Xi'an Shiyou University (2012-04), the Fund of the State Key Laboratory of Metal Extrusion and Forging Equipment Technology (China National Heavy Machinery Research Institute Co., Ltd.) (2011MEFETKF_03), and the 111 Project (B08040) for the present research work.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

161. Borel probabilistic rough truth degree of formulae in rough logic

Accession number: 20142217774602
Authors: She, Yan-Hong (1); He, Xiao-Li (1)
Author affiliation: (1) College of Science, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: She, Y.-H.(yanhongshe@gmail.com)
Source title: Ruan Jian Xue Bao/Journal of Software
Abbreviated source title: Ruan Jian Xue Bao
Volume: 25
Issue: 5
Issue date: May 2014
Publication year: 2014
Pages: 970-983
Language: Chinese
ISSN: 10009825
CODEN: RUXUEW
Document type: Journal article (JA)
Publisher: Chinese Academy of Sciences
Abstract: This paper introduces the notion of the Borel probabilistic rough truth degree of a formula in a special kind of rough logic, by employing Borel probability measures on the valuation set endowed with the usual product topology. It facilitates a special form of rough logic with integration to quantitative logic. The axiomatic definition of probabilistic rough truth degree is given and its representation theorem is also presented. The proposed notion of Borel probabilistic rough truth degree can be regarded as the quantitative analysis of rough logic, as well as the advancing research of the existing notion of truth degree from rough set perspective. Based upon the fundamental notion of rough truth degree, some graded versions of the existing notions, including the roughness degree, accuracy degree and the rough similarity degree, are also presented. Subsequently, three different kinds of approximate reasoning models are established. The obtained results achieve a combination of rough logic and quantitative logic and provide a possible framework for rough truth based approximate reasoning. © Copyright 2014, Institute of Software, the Chinese Academy of Sciences. All rights reserved.
Number of references: 40
Main heading: Approximation theory
Controlled terms: Computer circuits - Probabilistic logics - Rough set theory
Uncontrolled terms: Approximate reasoning - Axiomatic definitions - Borel probability measures - Product topology - Representation theorem - Rough logic - Rough similarity degrees - Truth degree
Classification code: 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 721.3 Computer Circuits - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory - 921.6 Numerical Methods
DOI: 10.13328/j.cnki.jos.004441
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

162. Duality and Saddle Point for Multiobjective Semi-infinite Programming

Accession number: 20142217777858
Authors: Dang, Linli (1); An, Gang (1)
Author affiliation: (1) College of Science, Xi'an Shiyou University, Xi'an, 710065, China
Corresponding author: An, G.(angang21@126.com)
Source title: Journal of Interdisciplinary Mathematics

Abbreviated source title: J. Interdiscip. Math.
Volume: 17
Issue: 1
Issue date: January 2014
Publication year: 2014
Pages: 27-39
Language: English
ISSN: 09720502
Document type: Journal article (JA)
Publisher: Taru Publications
Abstract: This paper is devoted to study the mixed dual models for a class of non-smooth multiobjective semi-infinite programming problems in which the index set of the inequality constraints is an arbitrary set not necessarily finite. Weak duality conclusions are derived and proved for mixed type multiobjective dual programs, using the generalized uniform convexity on the functions involved. Some previous duality results for differentiable semi-infinite programming problems turn out to be special cases for the results described in the paper. Furthermore, the vector saddle point theory is discussed for the semi-infinite programming problems. The results extend and improve the corresponding results in the literature. © 2014 © Taru Publications.
Number of references: 10
Main heading: Constraint theory
Controlled terms: Mathematical programming
Uncontrolled terms: duality - Inequality constraint - Multi objective - Saddle point - Saddle point theory - Semi infinite programming - Semi-infinite programming problems - Uniform convexity
Classification code: 961 Systems Science
DOI: 10.1080/09720502.2014.881144
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

163. Study on corrosion behavior of 16MnR in the circulating water system

Accession number: 20134717004558
Authors: Fan, Yu Guang (1); Li, Ge Ni (1); Chen, Bing (1); Zhou, San Ping (1)
Author affiliation: (1) Mechanical Engineering College, Xi'an Shiyou University, Xi'an 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 457-458
Issue title: Frontiers of Mechanical Engineering and Materials Engineering II
Issue date: 2014
Publication year: 2014
Pages: 11-14
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859247
Document type: Conference article (CA)
Conference name: 2013 2nd International Conference on Frontiers of Mechanical Engineering and Materials Engineering, MEME 2013
Conference date: October 12, 2013 - October 13, 2013
Conference location: Hong kong
Conference code: 100879
Sponsor: International Frontiers of science and; technology Research Association; HongKong Control Engineering and Information Science; Research Association
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: In order to know the corrosion behavior of 16MnR in the circulating water system and determine the influential sequence of factors, such as chloride ion concentration, temperature of circulating water, pH value and calcium ions concentration, to the corrosion of 16MnR. In this article, the electrochemical impedance test of 16MnR was conducted with electrochemical test system of CS310. The orthogonal test is adopted and the influential sequence of each factor to the corrosion of 16MnR is obtained by range analysis. The result shows that the impedance spectroscopy of 16MnR in the circulating water is a single capacitive reactance arc; the parameter which controls the corrosion process is the solution resistance RP and with the increasing of RP, the impedance value increases thus

slowing down the corrosion velocity of 16MnR; the greatest impact on the corrosion of 16MnR are chloride ion and the temperature. © (2014) Trans Tech Publications, Switzerland.
Number of references: 7
Main heading: Chlorine compounds
Controlled terms: Ions - Waterworks - Electrochemical corrosion - Corrosive effects
Uncontrolled terms: 16MnR - Chloride ion concentration - Circulating water system - Circulating waters - Electrochemical impedance - Electrochemical test - Impedance spectroscopy - Orthogonal test
Classification code: 446 Waterworks - 539.1 Metals Corrosion - 801.4.1 Electrochemistry - 802.2 Chemical Reactions
DOI: 10.4028/www.scientific.net/AMM.457-458.11
Database: Compendex
Data Provider: Engineering Village

164. The image processing of multi-lens video logging based on Bresenham algorithm

Accession number: 20144600195321
Authors: Hu, Hongtao (1); Fu, Nana (1); Li, Zhouli (1)
Author affiliation: (1) School of Computer Science, Xi'An ShiYou University, Xi'an, China
Corresponding author: Hu, Hongtao
Source title: Proceedings of the IEEE International Conference on Software Engineering and Service Sciences, ICSESS
Abbreviated source title: Proc.IEEE Int. Conf. Software Eng. Serv. Sci., ICSESS
Part number: 1of1
Issue date: October 21, 2014
Publication year: 2014
Pages: 369-372
Article number: 6933584
Language: English
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ISBN-13: 9781479932788
Document type: Conference article (CA)
Conference name: 2014 5th IEEE International Conference on Software Engineering and Service Science, ICSESS 2014
Conference date: June 27, 2014 - June 29, 2014
Conference location: Beijing, China
Conference code: 108800
Publisher: IEEE Computer Society
Abstract: The wall image of wells acquired by axial lens of multi-lens video logging system has a certain degree of geometric distortion, which is necessary to be corrected to reflect the actual situation of borehole wall. This paper presents an oval image processing method to correct this distortion: firstly, the space coordinate of wall image is transformed from annulus domain to a rectangular domain by using Bresenham algorithm, then the grey scale of each pixel is rebuilt with bilinear interpolation to complete the correction of distorted image. The experimental results show that the proposed method can effectively convert distorted image to a complete rectangular expanded view, improving the accuracy of multi-lens video logging. © 2014 IEEE.
Number of references: 10
Main heading: Image enhancement
Controlled terms: Interpolation - Processing - Video signal processing - Boreholes - Well logging
Uncontrolled terms: Bilinear interpolation - Bilinear interpolation algorithms - Bresenham algorithms - Geometric distortion - Image processing - methods - Multi-lens - Rectangular domain - Space coordinates
Classification code: 716.4 Television Systems and Equipment - 913.4 Manufacturing - 921.6 Numerical Methods
DOI: 10.1109/ICSESS.2014.6933584
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

165. The evaluation of sodium hydroxymethyl lignosulfonate as an ecofriendly drilling fluid additive

Accession number: 20142617859831

Authors: Chen, G. (1); Zhang, J. (1); Yang, N.-W. (1); Ma, Y.-F. (1)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xian Shiyou University, 18#, Second Dianzi Road, Xi'an, Shaanxi 710065, China
Corresponding author: Chen, G.(gangchen@xsyu.edu.cn)
Source title: Petroleum Science and Technology
Abbreviated source title: Petrol Sci Technol
Volume: 32
Issue: 15
Issue date: August 3, 2014
Publication year: 2014
Pages: 1816-1823
Language: English
ISSN: 10916466
E-ISSN: 15322459
CODEN: PSTEFV
Document type: Journal article (JA)
Publisher: Bellwether Publishing, Ltd.
Abstract: Sodium hydroxymethyl lignosulfonate (NaHLS) was prepared by hydroxymethylation of sodium lignosulfonate (NaLS) with formaldehyde. NaLS and NaHLS were characterized using Fourier transform infrared (FTIR) and transmission electron microscopy. The performance of NaLS-or NaHLS-modified drilling fluid was evaluated. The results showed that both NaHLS and NaLS can be used as low-temperature thickeners, high-temperature thinners, and filtration-loss control agents. For each of the technical performance measures, NaHLS is more effective than NaLS under any condition, especially under higher temperatures (180°C). In addition, the performance of NaHLS is similar to that of ferric chomium lignin sulfonate (FCLS), which means that it can be developed as a chromium-free drilling fluid additive. A test of the influence of NaHLS on the growth of wheat seedlings showed that NaHLS solution benefits the growth even better than a commercial culture solution. © 2014 Taylor & Francis Group, LLC.
Number of references: 10
Main heading: Drilling fluids
Controlled terms: Risk management - Formaldehyde - Fourier transform infrared spectroscopy - Environmental protection - Methanol - Sodium - Temperature - High resolution transmission electron microscopy
Uncontrolled terms: Drilling fluid additives - Eco-friendly - Fourier transform infrared - High temperature - Hydroxymethylation - Lignosulfonates - Sodium lignosulfonates - Technical performance measures
Classification code: 454.2 Environmental Impact and Protection - 549.1 Alkali Metals - 641.1 Thermodynamics - 741.3 Optical Devices and Systems - 801 Chemistry - 804.1 Organic Compounds
Numerical data indexing: Temperature 4.53e+02K
DOI: 10.1080/10916466.2011.642916
Funding Details: Number: 11JK0560, Acronym: -, Sponsor: Scientific Research Plan Projects of Shaanxi Education Department; Number: 50874092, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Funding text: This work was financially supported by grants from the National Science Foundation of China (No. 50874092) and the Scientific Research Plan Projects of Shaanxi Education Department (No. 11JK0560).
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

166. Quality monitoring and control of the publicity translation system based on cognitive mechanism

Accession number: 20143518121811
Authors: Chen, Ke (1); Li, Fang Lei (1)
Author affiliation: (1) College of Foreign Languages, Xi'an Shiyou University, Xi'an, 710075, China
Corresponding author: Chen, K.(kechen.112233@163.com)
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 1006-1007
Issue title: Advanced Manufacturing and Industrial Engineering
Issue date: 2014
Publication year: 2014
Pages: 390-393
Language: English

ISSN: 10226680
E-ISSN: 16628985
ISBN-13: 9783038352075
Document type: Conference article (CA)
Conference name: 4th International Conference on Advanced Engineering Materials and Technology, AEMT 2014
Conference date: June 14, 2014 - June 15, 2014
Conference location: Xiamen, China
Conference code: 107136
Publisher: Trans Tech Publications Ltd
Abstract: Based on innovative design generation process model and innovative mechanism, this paper designs an evaluation system of the existing publicity translation frame so as to create an appropriate innovative design to implement quality monitoring and control into practice; at the same time, guided by the innovation design cognitive experiment, it also illustrates the formation of quality monitoring and control on publicity translation system. The cognitive motivation of innovation and strategy selection are discussed, and subsequently Xi'an urban publicity translation system innovation design is used as an example to confirm the presentation and the feasibility of the generated creative solutions. © (2014) Trans Tech Publications, Switzerland.
Number of references: 4
Main heading: Design
Controlled terms: Monitoring - Quality control
Uncontrolled terms: Cognitive experiments - Cognitive mechanisms - Creative solutions - Innovation design - Innovative design - Quality monitoring - Strategy selection - Translation systems
Classification code: 913.3 Quality Assurance and Control
DOI: 10.4028/www.scientific.net/AMR.1006-1007.390
Database: Compendex
Data Provider: Engineering Village

167. Inspection and maintenance of external anticorrosion in buried pipeline

Accession number: 20152500946150
Authors: Chen, Bing (1); Li, Jia-Qi (1)
Author affiliation: (1) Xi'an Shiyou University, School of Mechanical Engineering, Xi'an; Shaanxi, China
Corresponding author: Li, Jia-Qi
Source title: Energy Education Science and Technology Part A: Energy Science and Research
Abbreviated source title: Energy Educ. Sct. Technol. Part A. Energy Sci. Res.
Volume: 32
Issue: 6
Issue date: 2014
Publication year: 2014
Pages: 7537-7544
Language: English
ISSN: 1308772X
Document type: Journal article (JA)
Publisher: Sila Science, University Mah Mekan Sok, No 24, Trabzon, Turkey
Abstract: With the time goes on after the completion of the pipeline construction, pipeline coating may be partially invalid, the validity of cathodic protection also need to be checked. The cathodic protection and corrosion protection inspection technologies of buried pipeline are introduced, and applied these techniques to an inspection of buried oil pipeline, which has been running for about five years. Through detected the validity of cathodic protection and the coating leaking point of this buried pipeline, found all the potentials that measured from test piles meet the protective requirement. But found several coating leaking points by PCM method, combined the location of coating leaking points and local conditions, and proposed appropriate remedial programs to ensure the continued safe operation of the pipeline. © Sila Science. All Rights Reserved.
Number of references: 10
Main heading: Cathodic protection
Controlled terms: Pipelines - Underground corrosion - Pipeline corrosion - Corrosion resistant coatings - Inspection
Uncontrolled terms: Anti-corrosion - Buried pipelines - Inspection and maintenance - Inspection technology - Local conditions - Pipeline coatings - Pipeline construction - Safe operation
Classification code: 539.1 Metals Corrosion - 539.2 Corrosion Protection - 619.1 Pipe, Piping and Pipelines
Compendex references: YES
Database: Compendex

Data Provider: Engineering Village

168. The Method of Transforming Ordinary Machine Tools to Ultrasonic Vibration Deep Hole Drilling Machine Tools

Accession number: 20141717624412
Authors: Shen, Xue Hong (1); Zhao, Hong Bing (1)
Author affiliation: (1) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an, 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 541-542
Issue title: Engineering and Manufacturing Technologies
Issue date: 2014
Publication year: 2014
Pages: 538-543
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038350552
Document type: Conference article (CA)
Conference name: 5th International Conference on Mechanical, Industrial, and Manufacturing Technologies, MIMT 2014
Conference date: March 10, 2014 - March 11, 2014
Conference location: Penang, Malaysia
Conference code: 104671
Sponsor: IACSIT; Universiti Teknologi MARA; Universiti Teknologi Petronas
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: Ultrasonic vibration deep hole drilling is a kind of new technology for combining ultrasonic vibration with deep hole drilling. This paper mainly describes the transformation of lathe, vertical milling machine and vertical machining center by bits vibration direction or adding some auxiliary institutions, then make it have the ability of drilling deep hole. With these transformation, machine tools have some advantages, such as the efficiency and precision are improved, machining quality is stable, chip removal is easy, the cost is low. Besides, it also provides a good way for making full use of existing equipments. © (2014) Trans Tech Publications, Switzerland.
Number of references: 21
Main heading: Machine tools
Controlled terms: Ultrasonic effects - Milling (machining) - Ultrasonic waves
Uncontrolled terms: Chip removal - Deep hole drilling - Deep holes - Machining quality - Ultrasonic vibration - Vertical machining centers - Vertical milling
Classification code: 603.1 Machine Tools, General - 604.2 Machining Operations - 753.1 Ultrasonic Waves
DOI: 10.4028/www.scientific.net/AMM.541-542.538
Database: Compendex
Data Provider: Engineering Village

169. A clone selection algorithm for synthesis of reversible Toffoli circuits

Accession number: 20145200381063
Authors: Xiaoxiao, Wang (1); Jiaxin, Han (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an ShaanXi, China
Corresponding author: Xiaoxiao, Wang
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 280-283
Article number: 6977597
Language: English
ISBN-13: 9781479942619

Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Reversible circuits synthesis has been extensively studied, but most of which focused on minimizing the gate count. This paper presents a clone selection algorithm which aims at minimizing the quantum cost in reversible circuits. The algorithm conducts a multi-clone operation and a immune gene operation which apply a non-destructive cross operator to the antibody, therefore automatically increase the length of the antibody in a slow way. A new high frequency variation combined with the problem-specific knowledge is also applied. The experimental results show that more runtime can be saved through the clone selection algorithm with a high frequency variation combined with and smaller network can be found on the benchmarks taken from recent publications. © 2014 IEEE.
Number of references: 18
Main heading: Antibodies
Controlled terms: Cloning - Logic Synthesis - Timing circuits - Computer circuits - Logic circuits
Uncontrolled terms: Clone selection algorithms - Gate count - High frequency HF - Non destructive - Problem-specific knowledge - Quantum costs - Reversible circuits - Reversible logic circuits
Classification code: 461.8.1 Genetic Engineering - 461.9.1 Immunology - 713.4 Pulse Circuits - 721.2 Logic Elements - 721.3 Computer Circuits - 723.5 Computer Applications
DOI: 10.1109/ISDEA.2014.69
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

170. Experimental study on ultrasonic vibration drilling of stainless steel 0cr17ni4cu4nb micro-deep-hole

Accession number: 20144900271407
Authors: Liu, Zhan Feng (1); Guo, Tao (1)
Author affiliation: (1) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an; Shaanxi, China
Corresponding author: Guo, Tao
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 692
Volume title: Proceedings of 2014 International Conference on Material Engineering and Environment Science
Part number: 1 of 1
Issue date: 2014
Publication year: 2014
Pages: 381-386
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038353300
Document type: Journal article (JA)
Publisher: Trans Tech Publications Ltd
Abstract: Through the analysis of the basic principles of vibration drilling, using the ultrasonic vibration drilling device to carry out the stainless steel 0Crl7Ni4Cu4Nb micro-deep-hole drilling test, and comparison between the common drilling and the ultrasonic vibration drilling in the exit burr, chip morphology, and surface roughness. The result fully reflects the superiority of the ultrasonic vibration drilling, and it has a dramatic effect of technology than the common drilling. A new method was afforded for stainless steel 0Crl7Ni4Cu4Nb micro-deep-hole drilling.
Number of references: 4
Main heading: Stainless steel
Controlled terms: Ultrasonic effects - Ultrasonic waves - Surface roughness - Copper alloys - Vibration analysis
Uncontrolled terms: Basic principles - Chip morphologies - Deep-hole drilling - Micro-deep-hole - Ultrasonic vibration - Vibration drilling

Classification code: 544.2 Copper Alloys - 545.3 Steel - 753.1 Ultrasonic Waves - 931.2 Physical Properties of Gases, Liquids and Solids
DOI: 10.4028/www.scientific.net/AMM.692.381
Database: Compendex
Data Provider: Engineering Village

171. Design of 3D virtual reality reservoir models based on scene simulation of VP/OpenGL Technology

Accession number: 20145200381079
Authors: Kaidong, Zheng (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Kaidong, Zheng
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 348-351
Article number: 6977613
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: This paper introduces the basic ideas and design methods of 3D virtual reality modeling of petroleum reservoir based on VP/OpenGL. On the basis of auto generating visual faces of 3D geophysical data, some software modules such as rendering, cutting and transformation of 3D reservoir models could be developed. As the simulation example presents, the system generated realistic images, and the 3D petroleum reservoir models can be controlled and roamed in real-time. © 2014 IEEE.
Number of references: 16
Main heading: Virtual reality
Controlled terms: Design - Rendering (computer graphics) - Petroleum reservoir engineering - Three dimensional computer graphics - Geophysics - Metadata - Petroleum reservoirs
Uncontrolled terms: 3D virtual reality - Geophysical data - Realistic images - Rendering - Reservoir models - Scene simulations - Simulation example - Vega primes
Classification code: 481.3 Geophysics - 512.1.1 Oil Fields - 512.1.2 Petroleum Deposits : Development Operations - 723 Computer Software, Data Handling and Applications - 723.2 Data Processing and Image Processing - 723.5 Computer Applications
DOI: 10.1109/ISDEA.2014.85
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

172. The study on the dissolution process of oxygen and nitrogen in gas-soluble water

Accession number: 20134616969966
Authors: Fan, Yu Guang (1); Han, Jian (1); Li, Jing Ming (1); Chen, Bing (1); Zhou, San Ping (1)
Author affiliation: (1) Institute of Mechanical Engineering, Xi'an Shiyou University, Xi'an 710065, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 830

Issue title: Advanced Research on Material Engineering, Chemistry, Bioinformatics III
Issue date: 2014
Publication year: 2014
Pages: 331-336
Language: English
ISSN: 10226680
ISBN-13: 9783037859148
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Material Engineering, Chemistry, Bioinformatics, MECB 2013
Conference date: October 26, 2013 - October 27, 2013
Conference location: Hefei, China
Conference code: 100756
Sponsor: International Science and Education Researcher Association, China; Beijing Gireida Education Research Center; VIP-Information Conference Center, China
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: In air flotation process, different gas produce different gas content of gas-soluble water. According to the difference of solubility of nitrogen and oxygen in water, the affect of the difference of molecule structures between nitrogen and oxygen on their solubility in water was discussed in the paper. Then, Two types of gas dissolution in water was introduced in the paper---gap filling and hydration. The concept of effective gap degree was proposed. And According to the effective gap degrees and hydration coefficient of nitrogen and oxygen, the change rules of the dissolved amount of oxygen and nitrogen by each type of dissolution at different temperature were obtained through a series of data fitting calculation by using Matlab. Finally, the reason for the change of the amount of gap filling and hydration in gas-soluble water caused by temperature change was also analyzed in the paper. © (2014) Trans Tech Publications, Switzerland.
Number of references: 8
Main heading: Hydration
Controlled terms: Air - Nitrogen - Dissolution - Dissolved oxygen - Flotation - Solubility - Filling - Gases
Uncontrolled terms: Air flotation - Dissolution process - Gap filling - Gas dissolution - Hydration coefficient - Oxygen and nitrogens - Solubility in waters - Temperature changes
Classification code: 691.2 Materials Handling Methods - 801.4 Physical Chemistry - 802.3 Chemical Operations - 804 Chemical Products Generally
DOI: 10.4028/www.scientific.net/AMR.830.331
Database: Compendex
Data Provider: Engineering Village

173. The adherence mechanism of superalloy honing oilstone

Accession number: 20135117092523
Authors: Lin, Zhu (1); Pan, Lin (1); Yan, Chen (1)
Author affiliation: (1) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an; 710065, China
Source title: Key Engineering Materials
Abbreviated source title: Key Eng Mat
Volume: 589-590
Issue title: Advances in Machining and Manufacturing Technology XII
Issue date: 2014
Publication year: 2014
Pages: 464-469
Language: English
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CODEN: KEMAEY
ISBN-13: 9783037858929
Document type: Conference article (CA)
Conference name: 12th Conference on Machining and Advanced Manufacturing Technology, CMAMT 2013
Conference date: July 24, 2013 - July 27, 2013
Conference location: Xiamen, China
Conference code: 101215
Sponsor: Kistler China Limited; Shanghai Institute of Spaceflight Control Technology
Publisher: Trans Tech Publications Ltd

Abstract: On the foundation of researching adhesion mechanism of superalloy honing stone, theoretical analysis and mathematical modeling of parameters were made that affecting the wear particle adhesion rate of superalloy honing stone, then inspect and verify the relation between the adhesion rate and processing parameters through the experiment. Draw the conclusion that when the honing pressure increases or the speed of work piece decreases, the adhesion rate #a will increase. © (2014) Trans Tech Publications.
Number of references: 4
Main heading: Adhesion
Controlled terms: Honing - Superalloys
Uncontrolled terms: Adhesion mechanisms - Adhesion rate - Pressure increase - Processing parameters - Wear particles
Classification code: 531 Metallurgy and Metallography - 951 Materials Science
DOI: 10.4028/www.scientific.net/KEM.589-590.464
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

174. Study of new environmentally friendly materials in interior design

Accession number: 20140517245296
Authors: Chen, Chao (1)
Author affiliation: (1) College of Humanities, Xi'an Shiyou University, Xi'an, Shaanxi 710065, China
Corresponding author: Chen, C.
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 484-485
Issue title: Green Power, Materials and Manufacturing Technology and Applications III
Issue date: 2014
Publication year: 2014
Pages: 47-51
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859865
Document type: Conference article (CA)
Conference name: 3rd International Conference on Green Power, Materials and Manufacturing Technology and Applications, GPMMTA 2013
Conference date: December 27, 2013 - December 30, 2013
Conference location: Wuhan, China
Conference code: 102250
Sponsor: National Natural Science Foundation of China (NSFC); Provincial Natural Science Foundation of Hunan; Provincial Science and Technology plan project of Hunan
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: With the development and accelerating of economy and social civilization, in the interior decorating and design, the pursuit of personal and environmental friendly trend has gradually emerged, but the traditional building materials and design materials often have safety problems of different degree. The green environmental protection materials can also meet the two requirements mentioned above. This paper mainly analyzes the causes and characteristics of interior decoration design using environmentally friendly materials, understands several kinds of environmentally friendly materials available in interior decoration design, and analyses specific direction for practical application. © (2014) Trans Tech Publications, Switzerland.
Number of references: 6
Main heading: Architectural design
Controlled terms: Environmental protection - Interiors (building)
Uncontrolled terms: Design materials - Environmental-friendly - Interior designs - Safety problems - Traditional buildings
Classification code: 402 Buildings and Towers - 408.1 Structural Design, General - 454.2 Environmental Impact and Protection
DOI: 10.4028/www.scientific.net/AMM.484-485.47
Database: Compendex
Data Provider: Engineering Village

175. Comprehensive safety evaluation for drilling process of oil field

Accession number: 20145200381069
Authors: Tianshi, Liu (1); Jing, Qiao (1); Lan, Jiang (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Tianshi, Liu
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 304-309
Article number: 6977603
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: To evaluate accurately the drilling status that affect safety of oil well drilling and reduce the occurrence rate of drilling accidents, this paper firstly analyzes the factors which affect the safety of drilling to determine the drilling safety evaluation indexes. Then it adopts analytic hierarchy process to construct a drilling safety evaluation model, and calculates the influence weights of indexes. Afterwards, the paper obtains the influence degree of safety by analyzing all drilling status data comprehensively, and determines their safety levels respectively. The applications show that such a model is able to provide a scientific evaluation on the overall safety performance and reduce accidents. © 2014 IEEE.
Number of references: 12
Main heading: Membership functions
Controlled terms: Analytic hierarchy process - Oil well flooding - Accidents - Oil well drilling
Uncontrolled terms: Drilling process - Influence degree - Safety evaluations - Safety level - Safety performance - Scientific evaluations
Classification code: 511.1 Oil Field Production Operations - 512.1.2 Petroleum Deposits : Development Operations - 914.1 Accidents and Accident Prevention - 921 Mathematics - 961 Systems Science
DOI: 10.1109/ISDEA.2014.75
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

176. Vertical attitude measurement based on Euler's pre-rotation

Accession number: 20143900077117
Authors: Cheng, Weibin (1); Pan, Meng (1); Tang, Nan (1); Wang, Yuelong (1); Huo, Aiqing (1)
Author affiliation: (1) School of Electronics Engineering, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Cheng, Weibin
Source title: Yi Qi Yi Biao Xue Bao/Chinese Journal of Scientific Instrument
Abbreviated source title: Yi Qi Yi Biao Xue Bao
Volume: 35
Issue: 8
Issue date: August 1, 2014
Publication year: 2014
Pages: 1817-1822
Language: Chinese
ISSN: 02543087

CODEN: YYXUDY
Document type: Journal article (JA)
Publisher: Science Press
Abstract: There are some disadvantages, such as weak signal and low signal-noise ratio (SNR) in conventional orthogonal coordinate system under vertical attitude, which bring about low computation accuracy. Based on the defect analysis of conventional coordinate system in vertical measurement, a pre-rotated coordinate system is presented in order to increase the original signal amplitude and the SNR. The theoretical model and its measurement error are investigated and tested. The experiment results and computation data show that this pre-rotated coordinate system can increase the original signal amplitude by more than ten times, and greatly improves the overall accuracy of vertical attitude measurement.
Number of references: 24
Main heading: Rotation
Controlled terms: Signal to noise ratio
Uncontrolled terms: Attitude measurement - Co-ordinate system - Computation accuracy - Orthogonal coordinates - Overall accuracies - Signal-noise ratio - Theoretical modeling - Vertical attitude
Classification code: 716.1 Information Theory and Signal Processing - 931.1 Mechanics
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

177. BP neural network application research in petrochemical tower system corrosion prediction

Accession number: 20140517248852
Authors: Fan, Yu Guang (1); He, Min (1); Lin, Hong Xian (1); Chen, Bing (1); Zhou, San Ping (1)
Author affiliation: (1) College of Mechanical Engineering, Xi'an Shiyou University, Xi'an 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 488
Issue title: Materials Science, Civil Engineering and Architecture Science, Mechanical Engineering and Manufacturing Technology
Issue date: 2014
Publication year: 2014
Pages: 487-491
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859766
Document type: Conference article (CA)
Conference name: 2014 International Conference on Advanced Engineering Materials and Architecture Science, ICAEMAS 2014
Conference date: January 4, 2014 - January 5, 2014
Conference location: Xi'an, Shaanxi, China
Conference code: 102252
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: This paper takes the monitoring data sample from the top of fractionation tower system of one petrochemical company and uses prediction model which is constructed by BP neural network to study the corrosion prediction of catalytic fractionation tower top system. It uses min-max and z-score standardized method to deal with the original data and compare the impacts. The result shows that the BP neural constructing prediction model can provide basis of corrosion control for refinery. It also shows that better accuracy can be achieved by using min-max standardized method and when the number of training data quantity is over 20, the prediction result is more accurate and stable. © (2014) Trans Tech Publications, Switzerland.
Number of references: 8
Main heading: Neural networks
Controlled terms: Forecasting - Petrochemicals - Standardization
Uncontrolled terms: BP neural networks - Corrosion control - Corrosion prediction - Data quantity - Fractionation tower - Petrochemical company - Prediction model - Standardized methods
Classification code: 513.3 Petroleum Products - 804.1 Organic Compounds - 902.2 Codes and Standards
DOI: 10.4028/www.scientific.net/AMM.488-489.487

Database: Compendex
Data Provider: Engineering Village

178. Table tennis diameter changes to audience influence research based on mechanics and least square method

Accession number: 20151500730208
Authors: Ji, Zhaopeng (1)
Author affiliation: (1) Department of Physical Education, Xi'an Shiyou University, Xi'an, Shaanxi, China
Corresponding author: Ji, Zhaopeng
Source title: BioTechnology: An Indian Journal
Abbreviated source title: Biotechnol. An Indian J.
Volume: 10
Issue: 7
Issue date: 2014
Publication year: 2014
Pages: 1948-1957
Language: English
ISSN: 09747435
Document type: Journal article (JA)
Publisher: Trade Science Inc, 126,Prasheel Park,Sanjay Raj Farm House,Nr. Saurashtra Unive, Rajkot, Gujarat, 360 005, India
Abstract: The paper adopts qualitative and quantitative combinative method researching table tennis diameter changes caused influences. At first, it makes physical analysis and mechanical analysis of athletes experience quality, it gets the conclusion that table tennis diameter enlarge causes flight speed slow down, rotation weakens and rebound angle increase. Then, by analyzing audience applauses times and time relations, the paper establishes linear least square method model. On the premise that meet residue squares sum be minimum, apply MATLAB software; it gets audience appreciation quality and table tennis diameters size mathematical relational graph. © Trade Science Inc.
Number of references: 6
Main heading: MATLAB
Controlled terms: Sports - Least squares approximations - Quality control
Uncontrolled terms: Least square methods - Linear least square methods - Magnus forces - Matlab- software - Mechanical analysis - Physical analysis - Sports mechanics - Table-tennis
Classification code: 723.5 Computer Applications - 913.3 Quality Assurance and Control - 921 Mathematics - 921.6 Numerical Methods
Database: Compendex
Data Provider: Engineering Village

179. Research and design of high-side current AD conversion technology based on ARM

Accession number: 20143518112983
Authors: Meng, Kai Yuan (1); Cao, Qing Nian (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 602-605
Issue title: Advanced Manufacturing and Information Engineering, Intelligent Instrumentation and Industry Development
Issue date: 2014
Publication year: 2014
Pages: 2596-2600
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038351948
Document type: Conference article (CA)
Conference name: 2nd International Conference on Precision Mechanical Instruments and Measurement Technology, ICPMIMT 2014
Conference date: May 30, 2014 - May 31, 2014

Conference location: Chongqing, China
Conference code: 107117
Publisher: Trans Tech Publications Ltd
Abstract: In this paper, an analog digitalized AD method of small size was proposed, which based on low-power ARM, high-resolution, high accuracy, no delay in data output. Based on SOC technology, high-side detection technology and the processing theory of error data measurement, the AD technology replaced the way to conventional monitoring current signal by mutual inductor. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: System-on-chip
Controlled terms: Data handling - Error detection - ARM processors
Uncontrolled terms: ADC - ARM - Conventional monitoring - Conversion technology - Detection technology - Error data - High sides - Theory of errors
Classification code: 714.2 Semiconductor Devices and Integrated Circuits - 721 Computer Circuits and Logic Elements - 721.3 Computer Circuits - 723.2 Data Processing and Image Processing
DOI: 10.4028/www.scientific.net/AMM.602-605.2596
Database: Compendex
Data Provider: Engineering Village

180. The design of solar heating system for oil field duty room

Accession number: 20140517248863
Authors: Dong, Zhao (1); Zhang, Zhe (1)
Author affiliation: (1) School of Materials Engineering, Xi'an Shiyou University, Xi'an; 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 488
Issue title: Materials Science, Civil Engineering and Architecture Science, Mechanical Engineering and Manufacturing Technology
Issue date: 2014
Publication year: 2014
Pages: 534-537
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859766
Document type: Conference article (CA)
Conference name: 2014 International Conference on Advanced Engineering Materials and Architecture Science, ICAEMAS 2014
Conference date: January 4, 2014 - January 5, 2014
Conference location: Xi'an, Shaanxi, China
Conference code: 102252
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: Based on the natural environment of Gansu YuMen oilfield in china, aiming at the winter heating requirements for oil field duty room, using the solar heating system that make solar energy storage and auxiliary electric heating, selection of flat plate collector, tacking double working medium for heat exchange indirectly, use the antifreeze liquid as the hot working medium, use the water as the energy storage and heating medium. According to the room temperature and medium temperature, intelligent control system adjust and control the double medium circulation loop, automatic regulating the intermittent work time for auxiliary electric heating system, the problem of antifreeze and sand prevention be solved effectively in the extreme temperatures. Compared to the electric heater heating, it can realize energy saving and environmental protection, the energy saving effect more than 46%, having remarkable economic and social benefits. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Electric heating
Controlled terms: Energy conservation - Heating equipment - Hot working - Solar heating - Passive solar - Oil well flooding - Heat exchangers - Energy storage
Uncontrolled terms: Double working mediums - Economic and social benefits - Electric heating systems - Energy saving and environmental protection - Extreme temperatures - Field duty room - Flat-plate collector - Heat exchange

Classification code: 511.1 Oil Field Production Operations - 525.2 Energy Conservation - 525.7 Energy Storage - 535.2 Metal Forming - 616.1 Heat Exchange Equipment and Components - 642.1 Process Heating - 657.1 Solar Energy and Phenomena
Numerical data indexing: Percentage 4.60e+01%
DOI: 10.4028/www.scientific.net/AMM.488-489.534
Database: Compendex
Data Provider: Engineering Village

181. Study of a new type of nanometer materials in interior design

Accession number: 20140517245295
Authors: Chen, Chao (1)
Author affiliation: (1) College of Humanities, Xi'an Shiyou University, Xi'an, Shaanxi 710065, China
Corresponding author: Chen, C.
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 484-485
Issue title: Green Power, Materials and Manufacturing Technology and Applications III
Issue date: 2014
Publication year: 2014
Pages: 43-46
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859865
Document type: Conference article (CA)
Conference name: 3rd International Conference on Green Power, Materials and Manufacturing Technology and Applications, GPMMTA 2013
Conference date: December 27, 2013 - December 30, 2013
Conference location: Wuhan, China
Conference code: 102250
Sponsor: National Natural Science Foundation of China (NSFC); Provincial Natural Science Foundation of Hunan; Provincial Science and Technology plan project of Hunan
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: With the increasing demand of the daily environment, new nano materials are more widely used in interior design. At the same time, with the development of interior design, new nano materials have been widely used in the late soft decoration. In the hard and soft outfit, application of new materials often becomes the punch-line. However, in either the early hard decoration or the late soft decoration, the whole design development trend, ecological design, low carbon life began to penetrate into the interior design. All these put forward higher professional requirements for the designers at present and in the future. © (2014) Trans Tech Publications, Switzerland.
Number of references: 2
Main heading: Architectural design
Controlled terms: Interiors (building) - Ecodesign
Uncontrolled terms: Application requirements - Design development - Ecological design - Interior designs - Low-carbon lives - Nanometer material
Classification code: 402 Buildings and Towers - 408.1 Structural Design, General - 454.1 Environmental Engineering, General
DOI: 10.4028/www.scientific.net/AMM.484-485.43
Database: Compendex
Data Provider: Engineering Village

182. PCA-ANFIS based prediction for water injection effectiveness cycle in oil fields

Accession number: 20141217498240
Authors: Tian, Ya Juan (1); Liu, Ye (2); Cheng, Guo Jian (2); Wang, Zhe (3)
Author affiliation: (1) School of Electronic Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) School of Computer Science, Xi'an Shiyou University, Xi'an 710065, China; (3) School of Computing, Edinburgh Napier University, Edinburgh EH10 5DT, United Kingdom
Source title: Applied Mechanics and Materials

Abbreviated source title: Appl. Mech. Mater.
Volume: 530-531
Issue title: Advances in Measurements and Information Technologies
Issue date: 2014
Publication year: 2014
Pages: 422-428
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038350392
Document type: Conference article (CA)
Conference name: 2014 International Conference on Sensors Instrument and Information Technology, ICSIIT 2014
Conference date: January 18, 2014 - January 19, 2014
Conference location: Guangzhou, China
Conference code: 103218
Publisher: Trans Tech Publications
Abstract: By proposing a numerical based method on PCA-ANFIS(Adaptive Neuro-Fuzzy Inference System), this paper is focusing on solving the problem of uncertain cycle of water injection in the oilfield. As the dimension of original data is reduced by PCA, ANFIS can be applied for training and testing the new data proposed by this paper. The correctness of PCA-ANFIS models are verified by the injection statistics data collected from 116 wells inside an oilfield, the average absolute error of testing is 1.80 months. With comparison by non-PCA based models which average error is 4.33 months largely ahead of PCA-ANFIS based models, it shows that the testing accuracy has been greatly enhanced by our approach. With the conclusion of the above testing, the PCA-ANFIS method is robust in predicting the effectiveness cycle of water injection which helps oilfield developers to design the water injection scheme. © (2014) Trans Tech Publications, Switzerland.
Number of references: 10
Main heading: Forecasting
Controlled terms: Fuzzy systems - Oil well flooding - Numerical methods - Fuzzy neural networks - Fuzzy inference - Water injection
Uncontrolled terms: Adaptive neuro-fuzzy inference system - ANFIS - Average absolute error - Effectiveness cycle - Injection schemes - PCA - Testing accuracy - Training and testing
Classification code: 511.1 Oil Field Production Operations - 612.1 Internal Combustion Engines, General - 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 723.4 Artificial Intelligence - 723.4.1 Expert Systems - 921.6 Numerical Methods - 961 Systems Science
Numerical data indexing: Age 1.50e-01yr, Age 3.61e-01yr
DOI: 10.4028/www.scientific.net/AMM.530-531.422
Funding Details: Number: 40872087, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Database: Compendex
Data Provider: Engineering Village

183. PCA-FNN based performance prediction for water injection in oilfields

Accession number: 20141717624093
Authors: Tian, Ya Juan (1); Liu, Ye (2); Cheng, Guo Jian (2); Wang, Zhe (3)
Author affiliation: (1) School of Electronic Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) School of Computer Science, Xi'an Shiyou University, Xi'an 710065, China; (3) School of Computing, Edinburgh Napier University, Edinburgh EH10 5DT, United Kingdom
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 909
Issue title: Manufacturing and Applied Research
Issue date: 2014
Publication year: 2014
Pages: 410-417
Language: English
ISSN: 10226680
ISBN-13: 9783038350590
Document type: Conference article (CA)
Conference name: 2nd International Conference on Manufacturing, Manufacturing 2014
Conference date: February 9, 2014 - February 10, 2014

Conference location: Singapore
Conference code: 104666
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: In order to solve the problem of uncertain cycle of water injection in the oilfield, this paper proposed a numerical method based on PCA-FNN, so that it can forecast the effective cycle of water injection. PCA is used to reduce the dimension of original data, while FNN is applied to train and test the new data. The correctness of PCA-FNN model is verified by the real injection statistics data from 116 wells of an oilfield, the result shows that the average absolute error and relative error of the test are 1.97 months and 10.75% respectively. The testing accuracy has been greatly improved by PCA-FNN model compare with the FNN which has not been processed by PCA and multiple liner regression method. Therefore, PCA-FNN method is reliable to forecast the effectiveness cycle of water injection and it can be used as an decision-making reference method for the engineers. © (2014) Trans Tech Publications, Switzerland.
Number of references: 8
Main heading: Water injection
Controlled terms: Error statistics - Numerical methods - Oil well flooding - Regression analysis - Forecasting - Decision making
Uncontrolled terms: Average absolute error - Cycle prediction - Effect of water - FNN - PCA - Performance prediction - Regression method - Testing accuracy
Classification code: 511.1 Oil Field Production Operations - 612.1 Internal Combustion Engines, General - 912.2 Management - 921.6 Numerical Methods - 922.2 Mathematical Statistics
Numerical data indexing: Age 1.64e-01yr, Percentage 1.08e+01%
DOI: 10.4028/www.scientific.net/AMR.909.410
Funding Details: Number: 40872087, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Database: Compendex
Data Provider: Engineering Village

184. Design and simulation analysis of low temperature air deep hole processing system

Accession number: 20143518099428
Authors: Peng, Hai (1); Wang, Qiang (1)
Author affiliation: (1) School of Mechanical Engineering, Xi'An Shiyou University, Xi'an, Shannxi 710065, China
Source title: Key Engineering Materials
Abbreviated source title: Key Eng Mat
Volume: 620
Issue title: Manufacturing Automation Technology and System I
Issue date: 2014
Publication year: 2014
Pages: 154-159
Language: English
ISSN: 10139826
E-ISSN: 16629795
CODEN: KEMAEY
ISBN-13: 9783038351856
Document type: Journal article (JA)
Publisher: Trans Tech Publications Ltd
Abstract: In this paper, a unique design of low temperature of BTA deep-hole machining system based on the green manufacturing was proposed?in which the low temperature air cutting technology was applied to the BTA deep hole processing. Consequently, the system have the characteristics of low temperature air cutting and deep hole processing. The system presented here uses the large flow of cold air (-30 ?-20 ?) and oil mixing atomization gas (MQL) for chip removal, cooling and lubricating the tool, thus the use of deep hole cutting oil was decreased, the cooling and lubricating effect of the tool was strengthened and the tool life was also strengthened. In this article, the ANSYS CFX was used for simulating the internal flow field of chip removal channel. By means of simulations, it is concluded that the pressure difference between the low temperature cold wind is significantly greater than the pressure difference between the liquid, and the gas flow rate is greater than the liquid flow rate. The comprehensive analysis indicate that low temperature air system are likely to bring about a better ability of chip removal, which provides theoretical basis for the low temperature air cutting technology was applied to deep-hole machining system. © (2014) Trans Tech Publications, Switzerland.
Number of references: 7
Main heading: Temperature
Controlled terms: Flow of gases - Cutting tools - Cutting - Flow fields - Lubrication

Uncontrolled terms: Comprehensive analysis - Deep hole processing - Design and simulation - Flow field simulation - Internal flow field - Low temperatures - Lubricating effect - Pressure differences
Classification code: 603.2 Machine Tool Accessories - 607.2 Lubrication - 631.1 Fluid Flow, General - 631.1.2 Gas Dynamics - 641.1 Thermodynamics
DOI: 10.4028/www.scientific.net/KEM.620.154
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

185. Dynamic adjusting mechanism of counterbalance in beam-pumping unit and its kinetic analysis

Accession number: 20140117159368
Authors: Kang, Xiao Qing (1); Ren, Tao (1); Qu, Wen Tao (1)
Author affiliation: (1) School of Mechanical Engineering, Xi'an Shiyou University, Shaanxi, Xi'an, 710065, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 455
Issue title: Mechanical Materials and Manufacturing Engineering III
Issue date: 2014
Publication year: 2014
Pages: 274-278
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859223
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Mechanical Materials and Manufacturing Engineering, ICMMME 2013
Conference date: October 1, 2013 - October 2, 2013
Conference location: Shanghai, China
Conference code: 101726
Sponsor: Information Engineering Research Institute, USA
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: The purpose of conventional counterbalance mechanism featuring a fixed counterbalance torque is to balance the nonuniformity of polished rod load. Therefore, it cannot satisfy the demand of polish rod load which changes with well-condition and then leads to increase of power cost for decreasing quality of balance. This paper presents a new dynamic adjusting mechanism of counterbalance in beam-pumping unit that can adjust the counterbalance torque automatically without stopping the unit according to the new balance parameters derived by analyzing the variation of well-condition and increase productivity at the same time. A data comparison based on the corresponding kinetic model of transmission mechanism is also discussed. © (2014) Trans Tech Publications, Switzerland.
Number of references: 6
Main heading: Pumps
Controlled terms: Kinetics - Pumping plants
Uncontrolled terms: Beam pumping unit - Counterbalance - Data comparisons - Dynamic adjusting - Dynamic adjustment - Kinetic analysis - Kinetic modeling - Transmission mechanisms
Classification code: 446 Waterworks - 618.2 Pumps - 631.1 Fluid Flow, General - 931 Classical Physics; Quantum Theory; Relativity
DOI: 10.4028/www.scientific.net/AMM.455.274
Database: Compendex
Data Provider: Engineering Village

186. Microstructure and properties of (B+M/A) X80 pipeline steel with excellent deformability

Accession number: 20150400457610
Authors: Zhang, Xiao-Yong (1); Ma, Jing (1); Cheng, Shi-Xia (1); Gao, Hui-Lin (1)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an, China
Source title: Cailiao Rechuli Xuebao/Transactions of Materials and Heat Treatment

Abbreviated source title: Cailiao Rechuli Xuebao
Volume: 35
Issue date: December 30, 2014
Publication year: 2014
Pages: 94-101
Language: Chinese
ISSN: 10096264
CODEN: JRXUDO
Document type: Journal article (JA)
Publisher: Editorial Office of Transactions of Materials and Heat Treatment
Abstract: X80 pipeline steel containing bainite and M/A constituent was obtained by a novel HOP (heat on-line partitioning) technology. Compared with traditional X80 pipeline steel, the (B+M/A) X80 pipeline steel has a similar strength and higher plasticity with the yield ratio of 0.80, uniform elongation of 10.3% and strain hardening exponent of 0.14, which meets the technical requirements of high deformability linepipe and is suitable for the environmentally severe regions such as permafrost and seismic regions. Microstructural analysis indicates that the synergistic effect of the tempered bainite and fine M/A component endow experimental steel with higher strength-plasticity. Moreover, the precipitation of carbides and the formation of martensite lead to high strength of experimental steel. The excellent plasticity of experimental steel results from the tempered softening of bainite, the recovery of the dislocation and the formation of thin sheet-like or block-like retained austenite. ©, 2014, Editorial Office of Transactions of Materials and Heat Treatment. All right reserved.
Number of references: 14
Main heading: Plasticity
Controlled terms: Deformation - Strain hardening - Bainite - Bainitic transformations - Microstructure - Pipelines - Austenite - Carbides - Steel pipe
Uncontrolled terms: High deformability - HOP - Microstructural analysis - Microstructure and properties - Retained austenite - Strain-hardening exponent - Technical requirement - X80 pipeline steels
Classification code: 531.2 Metallography - 537.1 Heat Treatment Processes - 545.3 Steel - 619.1 Pipe, Piping and Pipelines - 804.2 Inorganic Compounds - 812.1 Ceramics - 951 Materials Science
Numerical data indexing: Percentage 1.03e+01%
Database: Compendex
Data Provider: Engineering Village

187. Numerical simulation of flow process of ammonium persulfate crystallizer

Accession number: 20143518121533
Authors: Fan, Yu Guang (1); Wei, Ting (1)
Author affiliation: (1) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an, Shaanxi, 710065, China
Corresponding author: Wei, T.(tingwei8906@163.com)
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 997
Issue title: Frontiers of Chemical Engineering, Metallurgical Engineering and Materials III
Issue date: 2014
Publication year: 2014
Pages: 396-400
Language: English
ISSN: 10226680
E-ISSN: 16628985
ISBN-13: 9783038351900
Document type: Conference article (CA)
Conference name: 3rd International Conference on Chemical Engineering, Metallurgical Engineering and Metallic Materials, CMMM 2014
Conference date: June 20, 2014 - June 21, 2014
Conference location: Guilin, China
Conference code: 107133
Sponsor: HongKong Control Engineering and Information; International Frontiers of science and; Science Research Association; technology Research Association
Publisher: Trans Tech Publications Ltd
Abstract: The method of computational fluid dynamics (CFD) is used to three-dimensional numerical simulation for the fluid flow process of ammonium persulfate crystallizer. By using standard k-#e model, this paper respectively

simulated the flow field within the crystallizer in the impeller installation height of 1.2 m while stirring speed is of 60 r/min, 100 r/min and 200 r/min; and simulated the impact of the flow field inside the crystallizer when the stirring speed of 100 r/min and impeller installation height respectively is of 0.7 m, 1.2 m and 1.7 m. That calculation results show that: the velocity gradient is mainly concentrated in the area of internal draft tube and paddle around. With the increase of impeller speed, the flow velocity of the fluid within the crystallizer corresponding increases; and the energy also gradually decreases from mixing impeller to the settlement zone with the loss of the installation height, and the kinetic energy in the bottom of the crystallizer is reduced. Considering the energy and crystallization effect, selection of mixing speed of 100 r/min or so and installation height of about 1.2 m is more appropriate. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Kinetics
Controlled terms: Computational fluid dynamics - Numerical methods - Kinetic energy - Flow velocity - Mixing - Numerical models - Flow fields
Uncontrolled terms: Calculation results - Crystallization effects - Draft tubes - Impeller speed - Installation heights - Stirring speed - Three-dimensional numerical simulations - Velocity gradients
Classification code: 631 Fluid Flow - 631.1 Fluid Flow, General - 723.5 Computer Applications - 802.3 Chemical Operations - 921 Mathematics - 921.6 Numerical Methods - 931 Classical Physics; Quantum Theory; Relativity - 931.1 Mechanics - 943.2 Mechanical Variables Measurements
Numerical data indexing: Rotational_Speed 1.00e+02RPM, Rotational_Speed 6.00e+01RPM, Size 1.20e+00m, Size 1.70e+00m, Size 7.00e-01m
DOI: 10.4028/www.scientific.net/AMR.997.396
Database: Compendex
Data Provider: Engineering Village

188. Structured bill of material design and consistency maintenance in drilling industry

Accession number: 20145200380948
Authors: Runzhou, Li (1); Ming, Fang (1); Liumei, Zhang (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an, Shannxi; 710065, China
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 922-925
Article number: 6977745
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In this paper, a ODBOM structure for oil-well construction process is designed by analyzing model and features of the ODBOM, and combining multi-layered and level-sorted BOM structure. Such design enables the construction of ODBOM tree, moreover simplifies both basic data preparation and data maintenance algorithm. In application, according to ODBOM consistency requirement, a consistency maintenance scheme is implemented to avoid recursive retrieval by using batch query via SQL statements. © 2014 IEEE.
Number of references: 7
Main heading: Trees (mathematics)
Controlled terms: Structural design - Oil well drilling - Oil wells - Maintenance
Uncontrolled terms: Bill of materials - Consistency - Consistency maintenance - Consistency requirements - Data maintenance - Data preparation - Drilling industry - Well construction process
Classification code: 408.1 Structural Design, General - 512.1.1 Oil Fields - 512.1.2 Petroleum Deposits : Development Operations - 913.5 Maintenance - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory

DOI: 10.1109/ISDEA.2014.204
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

189. Enterprise application transformation strategy and roadmap design: A business value driven and IT supportability based approach

Accession number: 20150800538399
Authors: Yu, Yale (1, 2); Madiraju, Sharma (1)
Author affiliation: (1) Infosys Australia and New Zealand, Melbourne, Australia; (2) Xi'an Shiyou University, China
Corresponding author: Yu, Yale(yale_yu01@infosys.com)
Source title: Proceedings - 2nd International Conference on Enterprise Systems, ES 2014
Abbreviated source title: Proc. - Int. Conf. Enterp. Syst., ES
Part number: 1of1
Issue date: December 23, 2014
Publication year: 2014
Pages: 66-71
Article number: 06997021
Language: English
ISBN-13: 9781479955541
Document type: Conference article (CA)
Conference name: 2nd International Conference on Enterprise Systems, ES 2014
Conference date: August 2, 2014 - August 3, 2014
Conference location: Shanghai, China
Conference code: 110142
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: This paper proposes a practical and framework based approach to design an architecture transformation strategy and roadmap aiming to transform or modernize critical legacy enterprise systems. The approach is business value driven with IT supportability in terms of lower application operational and support costs, higher business value and shorter time to market of application delivery. The approach introduces a robust enterprise application architecture assessment framework with an emphasis on both technical (internal) and strategic (external) perspectives to guide the application assessment and a finance self-support transformation strategy to aid its transformation roadmap design. The approach was applied in multiple large enterprises successfully and received endorsements and positive feedback from the sponsors. The paper also presents a case study detailing the successful application of the approach to modernize an enterprise logistics transportation management system. © 2014 IEEE.
Number of references: 10
Main heading: Legacy systems
Uncontrolled terms: Application architecture - Application assessments - Application delivery - Development and operations - Enterprise applications - Enterprise logistics - Framework-based approach - Supportability
Classification code: 408 Structural Design - 722 Computer Systems and Equipment - 723 Computer Software, Data Handling and Applications - 731.1 Control Systems
DOI: 10.1109/ES.2014.37
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

190. Improved ant colony optimization for interval pumping of pumping unit

Accession number: 20145200381132
Authors: Tianshi, Liu (1); Yalei, Meng (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Tianshi, Liu
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014

Pages: 550-555
Article number: 6977660
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: In order to benefit oil filed production and reduce electricity cost, an interval pumping algorithm is proposed for pumping unit by using improved ant colony optimization. The algorithm divides update process of submergence depth into two phases by comparing pumping-factor and pumping-threshold based on the down hole fluid volume, and then it chooses the appropriate update rule of submergence depth at each phase. Such algorithm determines the interval pumping time by improving the node selection rule of ant colony optimization, which takes into consideration the influence of pumping time and different prices at different time on electricity cost. The experiment results show that the algorithm can effectively reduce the overall electricity cost of oilfield and increase production benefit. © 2014 IEEE.
Number of references: 11
Main heading: Ant colony optimization
Controlled terms: Pumping plants - Oil fields - Artificial intelligence - Cost reduction - Pumps
Uncontrolled terms: Electricity costs - Improved ant colony optimization - Increase productions - Node selection - Pumping factor - Pumping threshold - Pumping unit - Submergence Depth
Classification code: 446 Waterworks - 512.1.1 Oil Fields - 618.2 Pumps - 723.4 Artificial Intelligence - 921.5 Optimization Techniques
DOI: 10.1109/ISDEA.2014.130
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

191. Rock classification based on images color spaces and artificial neural network

Accession number: 20145200380880
Authors: Ye, Liu (1); Chao, Guo (1); Guojian, Cheng (1)
Author affiliation: (1) School of Computer Science, Xi'An Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Ye, Liu
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 897-900
Article number: 6977739
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: For a fast and flexible access to the rock classification technology based on features extracted from rocks images, we propose a combination method to classify the rock type automatically with the images of core thin sections. The elements of feature space are from color and morphology features of rock images, and constructed with the

statistical analysis result of standard arithmetic value into different color spaces. The relationship between feature space and rock type can be access with neural network. 1000 images from Ordos basin are used to test the availability and reliability of this method. Testing result shows this automatic rock type classification method get over 95.0% accuracy, which presents good prospect in practical usage. © 2014 IEEE.
Number of references: 11
Main heading: Neural networks
Controlled terms: Image classification - Color - Rocks
Uncontrolled terms: Color space - Combination method - Feature space - Ordos Basin - Rock classification - Rock types - Thin section
Classification code: 723.2 Data Processing and Image Processing - 741.1 Light/Optics
Numerical data indexing: Percentage 9.50e+01%
DOI: 10.1109/ISDEA.2014.199
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

192. Building a high efficient and intelligent digital oilfield water injection system

Accession number: 20145200381057
Authors: Mingxi, Chen (1); Guojian, Cheng (1); Xinjian, Qiang (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Mingxi, Chen
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 255-258
Article number: 6977591
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Water injection exploration is a primary technology to ensure crude oil production. Especially during the mid to late term of oil field development, no water injection means no crude production. Therefore, oilfield companies set up large injection pump station and pipe network system to guarantee normal operation and increasing production. Simulation evaluation, optimized running management and automatic control of injection system construction schemas constitute the main research subject in building high efficient water injection system. A simulation optimization software of injection system was developed, Pump-Control-Pump (PCP) technical equipment and plunger pump frequency conversion equipment, which accomplished the automatic control and intelligent management of water injection system, are widely used in nationwide oilfields. This paper introduces the research results of dynamic simulation optimized software of injection pipe network, PCP system and plunger pump frequency conversion system. © 2014 IEEE.
Number of references: 10
Main heading: Automation
Controlled terms: Computer software - Crude oil - Oil field development - Process control - Oil well flooding - Pumps - Water injection
Uncontrolled terms: Automatic control technologies - Intelligent management - Oilfield waters - Pipe network optimizations - Pump control - Simulation evaluation - Simulation optimization - Water injection systems
Classification code: 511.1 Oil Field Production Operations - 512.1 Petroleum Deposits - 512.1.2 Petroleum Deposits : Development Operations - 612.1 Internal Combustion Engines, General - 618.2 Pumps - 723 Computer Software, Data Handling and Applications - 731 Automatic Control Principles and Applications

DOI: 10.1109/ISDEA.2014.63
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

193. Neuro-rough sets for modeling conflict between china and its neighboring countries

Accession number: 20145200381150
Authors: Qiang, Xinjian (1); Cheng, Guojian (1); Xiao, Hong (1)
Author affiliation: (1) School of Computer Science, Xi'An Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Qiang, Xinjian
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 631-634
Article number: 6977678
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: According to the rough set theory, this paper introduced a neuro-rough model and extends this to a probabilistic domain using a Bayesian framework, trained using a Markov Chain Monte Carlo simulation and the Metropolis algorithms. Firstly, rough set theory was presented, including the granulation of rough set membership function, the network weight formula of probability and rough set formulation. Secondly, the neuro-rough set that was discussed exploits the generalization capacity of neural networks and the transparency advantages of rough set theory. Thirdly, the neuro-rough model was then compared with the genetic algorithm optimized rough set model for the case of modeling of militarized interstate dispute data. Finally, it proposed to construct a neuro-rough model to model interstate conflict between China and its neighboring countries. © 2014 IEEE.
Number of references: 20
Main heading: Rough set theory
Controlled terms: Genetic algorithms - Computation theory - Monte Carlo methods - Intelligent systems - Markov processes - Membership functions
Uncontrolled terms: Bayesian frameworks - Bayesian rough sets - Generalization capacity - Interstate conflicts - Markov chain monte carlo simulation - Metropolis algorithms - Militarized interstate disputes - Rough set models
Classification code: 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 723.4 Artificial Intelligence - 921 Mathematics - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory - 922.1 Probability Theory - 922.2 Mathematical Statistics
DOI: 10.1109/ISDEA.2014.146
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

194. Clustering analysis of gene data based on PCA and SOM neural networks

Accession number: 20145200381064
Authors: Anke, Zhao (1); Xinjian, Qiang (1); Guojian, Cheng (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Anke, Zhao

Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 284-287
Article number: 6977598
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: A new method combined PCA (Principal Component Analysis) with SOM (Self-Organizing Maps) neural network is presented for clustering analysis of gene expression data. Firstly, the principal components are extracted from the genetic data set by PCA, in order to get a low dimensional data set. These principal components with lower dimension can basically express comprehensive information of original data set. Secondly, the features from principal components are clustered by SOM, the similar gene data are grouped into same area. Compared with Self-Organizing Maps (SOM), the integrated PCA-SOM method can obtain a higher correct clustering rate and clear boundary. The experimental results show that the performance of new method for the clustering analysis of gene expression data is efficient and effective. © 2014 IEEE.
Number of references: 10
Main heading: Self organizing maps
Controlled terms: Conformal mapping - Gene expression - Principal component analysis
Uncontrolled terms: Clustering analysis - Clustering rates - Comprehensive information - Gene Expression Data - Low dimensional - PCA (principal component analysis) - Principal Components - Som neural networks
Classification code: 461.9 Biology - 922.2 Mathematical Statistics
DOI: 10.1109/ISDEA.2014.70
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

195. Research on ACO with TOPSIS algorithm in perforating operation

Accession number: 20145200380915
Authors: Ying, Cuan (1); Lifan, Wang (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xian,Shaanxi; 710065, China
Corresponding author: Ying, Cuan
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 785-788
Article number: 6977713
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630

Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: As one of the important well completion methods in oil & gas exploitation, perforation has great influence on the productivity of oil and gas wells. It involves a variety of parameters and different combinations, which affects the perforating efficiency. In order to obtain an ideal perforating effect, the perforation parameters need to be optimized. Thus, based on the optimized combination of ACO and TOPSIS, an optimum model of perforation scheme is designed in this paper. The applicability and effectiveness of the new model is proved by the simulation experimental results and it provides a scientific guidance for the perforating operation aiming to raise the productivity of oil and gas wells. © 2014 IEEE.
Number of references: 10
Main heading: Perforating
Controlled terms: Natural gas well production - Artificial intelligence - Well perforation - Natural gas wells - Productivity
Uncontrolled terms: Gas exploitation - Oil and gas well - Optimization techniques - Optimized combinations - Optimum model - TOPSIS - Topsis algorithms - Well completion methods
Classification code: 512.2.1 Natural Gas Fields - 723.4 Artificial Intelligence
DOI: 10.1109/ISDEA.2014.177
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

196. A conflict-free service selection algorithm in the situation of complex service dependency relationships

Accession number: 20145200381000
Authors: Huaizhou, Yang (1); Fan, Wei (1)
Author affiliation: (1) College of Computer Science, Xi'an Shiyou University, Xian, Shaanxi; 710065, China
Corresponding author: Huaizhou, Yang
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 9-13
Article number: 6977534
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Web service selection is a key step to construct a Web service composition system. For each system function, a suitable Web service must be selected from many candidate component services, respectively. However, when there exist complex dependency relationships between component services, it is difficult to make global service selections without any selection conflict. Therefore, we present a conflict-free service selection algorithm. First, a formal service selection model, which reflects the service composition process and the dependency relationships of component services, is presented. Then, a conflict-free service selection algorithm is designed, which can avoid and mediate selection conflicts by multilevel backtracking and service reselection. Finally, some simulation experiments are made to prove the validity and performance of the algorithm. By the presented algorithm, the global service selection process without any conflict can be accomplished successfully and rapidly. © 2014 IEEE.
Number of references: 11
Main heading: Web services

Controlled terms: Quality of service - Websites
Uncontrolled terms: Complex services - Dependency relationship - Service composition process - Service selection - System functions - Web service composition - Web service selection - Web services composition
Classification code: 723.4 Artificial Intelligence
DOI: 10.1109/ISDEA.2014.11
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

197. Preparation of nitration-oxidation lignosulfonate as an eco-friendly drilling fluid additive

Accession number: 20142617872331
Authors: Zhang, J. (1); Chen, G. (1); Yang, N.-W. (1); Wang, Y.-G. (1)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an, China
Corresponding author: Zhang, J.(zhangjie@xsyu.edu.cn)
Source title: Petroleum Science and Technology
Abbreviated source title: Petrol Sci Technol
Volume: 32
Issue: 14
Issue date: 2014
Publication year: 2014
Pages: 1661-1668
Language: English
ISSN: 10916466
E-ISSN: 15322459
CODEN: PSTEFV
Document type: Journal article (JA)
Publisher: Bellwether Publishing, Ltd.
Abstract: Nitration-oxidation lignosulfonate (NOLS) was prepared using lignosulfonate (LS) as raw material. The product was characterized by FT-IR spectroscopy (FTIR) and scanning electron microscope (SEM). The performance as a drilling fluid additive was evaluated with regard to rheology, filtration and temperature resistance. The results showed that NOLS can improve the viscosity under room temperature, decrease the viscosity, reduce the filtration under high temperature, and inhibit the swelling of clay more effectively than lignosulfonate, which displays good temperature resistance. Environmental study addressed the effect of NOLS on wheat seedling, which showed that 0.3% NOLS solution benefits the growth of wheat seedling similar to that of 1% commercial plant nutrients solution. So NOLS may be used as sustained release nitrogen fertilizer in agriculture after the waste drilling disposal. © Taylor & Francis Group, LLC.
Number of references: 12
Main heading: Temperature control
Controlled terms: Waste disposal - Drilling fluids - Oxidation - Scanning electron microscopy - Fourier transform infrared spectroscopy - Nitration - Viscosity
Uncontrolled terms: Drilling fluid additives - Environmental studies - FTIR spectroscopy - High temperature - Lignosulfonates - Lignsulfonate - Sustained release - Temperature resistances
Classification code: 452.4 Industrial Wastes Treatment and Disposal - 631.1 Fluid Flow, General - 731.3 Specific Variables Control - 801 Chemistry - 802.2 Chemical Reactions - 931.2 Physical Properties of Gases, Liquids and Solids
Numerical data indexing: Percentage 1.00e+00%, Percentage 3.00e-01%
DOI: 10.1080/10916466.2011.652334
Funding Details: Number: 50874092, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 11JK0560, Acronym: -, Sponsor: Scientific Research Plan Projects of Shaanxi Education Department;
Funding text: This work was financially supported by the grants from National Science Foundation of China (No. 50874092) and Scientific Research Plan Projects of Shaanxi Education Department (No. 11JK0560).
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

198. Design and implementation of CRM system based on AMS cloud platform

Accession number: 20145200381075
Authors: Peng, Xie (1)
Author affiliation: (1) School of Computer Science, Xi'An Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Peng, Xie
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 330-333
Article number: 6977609
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Application in the cloud computing environment and cloud environment is the hot spots in research, development and application in the IT application field currently. This paper, on the basis of actual work, summarizes the CRM design and implementation methods based on AMS Cloud platform, describes the basic concept of AMS cloud and CRM, and provides the overall design frame of the AMS Cloud based CRM system and major form view of the system. © 2014 IEEE.
Number of references: 4
Main heading: Public relations
Controlled terms: Design
Uncontrolled terms: Application management - Cloud computing environments - Cloud environments - Cloud platforms - Customer relationship management - Design and implementations - Development and applications - IT applications
Classification code: 443 Meteorology - 723.4 Artificial Intelligence
DOI: 10.1109/ISDEA.2014.81
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

199. Progress in the development and application of oilfield produced water treatment processes

Accession number: 20145000306255
Authors: Wang, Jun Di (1); Qu, Cheng Tun (1); Liu, Si Yu (1)
Author affiliation: (1) School of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an, China
Corresponding author: Wang, Jun Di
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 641-642
Volume title: Hydraulic Engineering and Sustainable City Development III
Part number: 1 of 1
Issue date: 2014
Publication year: 2014
Pages: 376-379
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038352594

Document type: Conference article (CA)
Conference name: 3rd International Conference on Civil, Architectural and Hydraulic Engineering, ICCAHE 2014
Conference date: July 30, 2014 - July 31, 2014
Conference location: Hangzhou, China
Conference code: 107719
Publisher: Trans Tech Publications Ltd
Abstract: A large number of oilfield produced water is produced during the developing of oilfield, the optimal way to process these oilfield produced water is to reinject it into strata. This paper firstly analyzes the characteristics of oilfield produced water, then focuses on introducing the research and application process of both traditional and new treatment technologies of produced water, and finally brings forward some expectation about the application and development direction of the oilfield produced water treatment processe.
Number of references: 9
Main heading: Produced Water
Controlled terms: Water treatment
Uncontrolled terms: Development and applications - Development directions - Oilfield produced waters - Produced water - Research and application - Treatment technologies
Classification code: 445.1 Water Treatment Techniques - 452.3 Industrial Wastes
DOI: 10.4028/www.scientific.net/AMM.641-642.376
Database: Compendex
Data Provider: Engineering Village

200. Vertex coloring model and algorithm research of computer distribution

Accession number: 20145200380916
Authors: Ning, Han Jian (1)
Author affiliation: (1) School of Computer Science, Xi'an ShiYou University, Xi'an,Shannxi; 710065, China
Corresponding author: Ning, Han Jian
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 1113-1116
Article number: 6977793
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: This paper presents a computer course in colleges and universities allocation problems on vertex coloring model and related algorithms, By improving an algorithm of time and Computer Room conflict, the set of the time conflict of the scheduled Computer Course. On the 'first into first out' principle, Computer assignment problem is transferred to vertex-coloring, and Establishing the corresponding algorithm. Greatly improve the efficiency of computer courses computer seat arrangement, Effectively address conflict. © 2014 IEEE.
Number of references: 5
Main heading: Combinatorial optimization
Controlled terms: Computers
Uncontrolled terms: Allocation problems - Assignment - Assignment problems - Colleges and universities - Compute - Model and algorithms - Related algorithms - Vertex-coloring
Classification code: 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory - 921.5 Optimization Techniques
DOI: 10.1109/ISDEA.2014.247
Compendex references: YES

Database: Compendex
Data Provider: Engineering Village

201. Design and implementation for quadruple precision floating-point multiplier based on FPGA with lower resource occupancy

Accession number: 20145200381074
Authors: Lei, Kang (1); Yan, Xiao-Ying (1)
Author affiliation: (1) School of Computer Science, Xi'An Shiyou University, Xian, Shaanxi; 710065, China
Corresponding author: Lei, Kang
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 326-329
Article number: 6977608
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: Although numerical range and precision are greatly improved for quadruple precision floating-point number in IEEE 754(2008) standard, the complexity of operation and cost of hardware resource for the quadruple precision floating-point has been significantly increased, especially for 113×113 mantissa arithmetic in floating-point multiplication operation. This paper presents a new quadruple precision floating-point multiplication algorithm. Finally, we prototype the quadruple precision floating-point multiplier unit into FPGA chip. The experimental results show that the FPGA hardware resource occupancy can be effectively reduced when using this algorithm. © 2014 IEEE.
Number of references: 10
Main heading: Field programmable gate arrays (FPGA)
Controlled terms: IEEE Standards - Integrated circuit design - Digital arithmetic - Precision engineering
Uncontrolled terms: Design and implementations - Floating point multiplication - FPGA hardwares - Hardware resources - Multinomials - multiplier - Numerical range - Quadruple precision
Classification code: 714.2 Semiconductor Devices and Integrated Circuits - 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory - 721.2 Logic Elements - 902.2 Codes and Standards - 921.6 Numerical Methods
DOI: 10.1109/ISDEA.2014.80
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

202. A solution for developing international software based on unicode

Accession number: 20145200381017
Authors: Bo, Gao (1); Xinjian, Qiang (1)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xi'an, Shaanxi; 710065, China
Corresponding author: Bo, Gao
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014

Publication year: 2014
Pages: 84-87
Article number: 6977551
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: According to Unicode theory, this paper introduced a solution for developing international software based on Unicode. Firstly, multi-language support software system concept and main characteristics was presented. Secondly, Unicode basic concept was given. Thirdly, several type of character encoding were discussed, includes SBCS (Single-Byte Character Set), MBCS (Multi-Byte Character Set), and Unicode. Fourthly, the implementing software multi-language support based on Unicode was then explained in detail, such as defining a string, compiler settings and file storage, and bilingual GUI. Finally, it pointed out that based on Unicode to design the internationalization software will become a new trend in the industry. © 2014 IEEE.
Number of references: 8
Main heading: Character sets
Controlled terms: Encoding (symbols) - Signal encoding
Uncontrolled terms: Arabic - Basic concepts - Character encoding - File storage - Multi language support - Software systems - Unicodes
Classification code: 716.1 Information Theory and Signal Processing - 722.2 Computer Peripheral Equipment - 723.2 Data Processing and Image Processing
DOI: 10.1109/ISDEA.2014.26
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

203. Titanium alloy ultrasonic vibration micro deep holes drilling

Accession number: 20143618139101
Authors: Liu, Zhang Feng (1); Yang, Pei Xuan (1)
Author affiliation: (1) School of Mechanical Engineering, Xi'an Shiyou University, Xi'an, Shanxi 710065, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 1004-1005
Issue title: Advanced Materials and Technologies
Issue date: 2014
Publication year: 2014
Pages: 1382-1385
Language: English
ISSN: 10226680
E-ISSN: 16628985
ISBN-13: 9783038352068
Document type: Conference article (CA)
Conference name: 4th International Conference on Advanced Engineering Materials and Technology, AEMT 2014
Conference date: June 14, 2014 - June 15, 2014
Conference location: Xiamen, China
Conference code: 107136
Publisher: Trans Tech Publications Ltd
Abstract: Through analyzing and comparing the ultrasonic drilling and general drilling, exported from cutting dosage and burr, etc, using the ultrasonic vibration drilling device to carry out the TC4 titanium alloy micro-hole drilling test. The ultrasonic vibration drilling more suitable than general drilling for the processing of Titanium Alloy, and solve ϕ 2.0 × 20 TC4 Titanium Alloy drilling of small diameter deep hole problem. Fully embodies the advantages of ultrasonic vibration drilling. © (2014) Trans Tech Publications, Switzerland.

Number of references: 2
Main heading: Titanium alloys
Controlled terms: Ultrasonic effects - Ultrasonic waves - Vibration analysis
Uncontrolled terms: Cutting dosages - Deep holes - Drilling tests - Micro deep holes - Micro holes - TC4 titanium alloy - Ultrasonic drilling - Ultrasonic vibration
Classification code: 542.3 Titanium and Alloys - 753.1 Ultrasonic Waves
DOI: 10.4028/www.scientific.net/AMR.1004-1005.1382
Database: Compendex
Data Provider: Engineering Village

204. Design method of beam forming using genetic algorithm

Accession number: 20140117158923
Authors: Gan, Tian (1); Wang, Ying-Min (2)
Author affiliation: (1) School of Electronic Engineering, Xian ShiYou University, Xian, 710065, China; (2) Northwestem Polytechnical University, No.127 Youyixi Road, Xi'an, 710072, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 441
Issue title: Machinery Electronics and Control Engineering III
Issue date: 2014
Publication year: 2014
Pages: 727-730
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859032
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Machinery Electronics and Control Engineering, ICMECE 2013
Conference date: November 29, 2013 - November 30, 2013
Conference location: Jinan, Shandong, China
Conference code: 101724
Sponsor: Shandong University
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: For the high side-lobe defeats of conventional beam applied to actual sensor array, a new method of beam forming based on genetic algorithm is proposed. The genetic algorithm optimization toolbox will be used to solve the problem of beam forming. The problem of beam forming will be formed into genetic algorithm function expressions which can get the desired array weights. Computer simulation results show that the design of beam meet our requirements. Tank experiment data simulation results fully demonstrate the feasibility and effectiveness of the method. © (2014) Trans Tech Publications, Switzerland.
Number of references: 6
Main heading: Genetic algorithms
Controlled terms: Beamforming
Uncontrolled terms: Design method - Experimental verification - Genetic-algorithm optimizations - Side lobes - Sidelobe levels - Tank experiments
Classification code: 711.2 Electromagnetic Waves in Relation to Various Structures
DOI: 10.4028/www.scientific.net/AMM.441.727
Database: Compendex
Data Provider: Engineering Village

205. Identification of the selective corrosion existing at the seam weld of electric resistance-welded pipes

Accession number: 20143218044169
Authors: Luo, S.J. (1); Wang, R. (1)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Luo, S.J.(lsjlr1979@163.com)
Source title: Corrosion Science

Abbreviated source title: Corros. Sci.
Volume: 87
Issue date: October 2014
Publication year: 2014
Pages: 517-520
Language: English
ISSN: 0010938X
CODEN: CRRSAA
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: The selective corrosion existing at the seam weld of high frequency electric resistance welded pipes of carbon steel with low sulfur content in electrolyte solutions is revealed by localized electrochemical measurements. The seam weld, mainly consisted of ferrite, has more negative open circuit potential and higher anodic dissolution current density than the base metal consisting ferrite and pearlite. Between the seam weld and the base metal, there is a galvanic coupling effect accelerating the dissolution kinetics of the seam weld such that V-shaped corrosion groove preferentially occurs at the seam weld. © 2014 Elsevier Ltd.
Number of references: 24
Main heading: Ferrite
Controlled terms: Dissolution - Resistance welding - Steel corrosion - Welds - Electric resistance - Electrolytes - Steel pipe - Galvanic corrosion - Pipeline corrosion - Carbon steel
Uncontrolled terms: Anodic dissolution - Dissolution kinetics - Electric resistance welded - Electrochemical measurements - Electrolyte solutions - Low sulfur content - Negative open-circuit potential - Selective corrosion
Classification code: 531.2 Metallography - 538.2 Welding - 538.2.1 Welding Processes - 539.1 Metals Corrosion - 545.3 Steel - 619.1 Pipe, Piping and Pipelines - 701.1 Electricity: Basic Concepts and Phenomena - 702 Electric Batteries and Fuel Cells - 802.3 Chemical Operations - 803 Chemical Agents and Basic Industrial Chemicals - 804 Chemical Products Generally
DOI: 10.1016/j.corsci.2014.06.044
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

206. Synthesis of 1,3,1′,5′,6′,7′–hexahydro-3,3#- biindolyl-2,4#-dione derivatives by cyclization of 3-alkylideneoxindoles with enaminone

Accession number: 20140517243465
Authors: Yang, Peng Hui (1)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'An Shiyou University, Xi'an 710065, China
Corresponding author: Yang, P.H.(yaph2001@iccas.ac.cn)
Source title: Research on Chemical Intermediates
Abbreviated source title: Res Chem Intermed
Volume: 40
Issue: 1
Issue title: Special Edition Title: Special Issue on 2012 OPU-KIST-ECUST Joint Symposium on Advanced Materials and their Applications
Issue date: January 2014
Publication year: 2014
Pages: 425-430
Language: English
ISSN: 09226168
E-ISSN: 15685675
CODEN: RCINEE
Document type: Conference article (CA)
Publisher: Kluwer Academic Publishers
Abstract: The reaction between 3-alkylideneoxindoles 1 and 3-aminocyclohex-2-enone 2 was studied, and an efficient synthesis of 1,3,1′,5′,6′, 7′–hexahydro-3,3#-biindolyl-2,4#-dione derivatives was developed by a sequential Michael addition followed by intramolecular condensation catalyzed by nickel dichloride hexahydrate. The reaction mechanism is discussed. © 2012 Springer Science+Business Media Dordrecht.
Number of references: 13
Main heading: Addition reactions

Controlled terms: Cyclization - Nickel compounds
Uncontrolled terms: 3-Alkylideneoxindoles - Biindoles - Efficient synthesis - Enaminones - Intramolecular condensation - Michael additions - Reaction mechanism
Classification code: 802.2 Chemical Reactions
DOI: 10.1007/s11164-012-0974-2
Funding Details: Number: Z08012, Acronym: -, Sponsor: -;
Funding text: This work was supported by the Foundation of Xi'an Shiyou University (Z08012).
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

207. Recognizing oil shale fracture of Chang 7 Member in Ordos Basin using logging data

Accession number: 20141417548634
Authors: Liu, Zhi-Di (1); Zhao, Jing-Zhou (1)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Liu, Z.-D.(liuzhidi@xsyu.edu.cn)
Source title: Natural Gas Geoscience
Abbreviated source title: Nat. Gas Geosci.
Volume: 25
Issue: 2
Issue date: 2014
Publication year: 2014
Pages: 259-265
Language: Chinese
ISSN: 16721926
Document type: Journal article (JA)
Publisher: Science Press
Abstract: There is no effective porosity in oil shale, and fracture network provides main flow path for oil product in this kind of reservoir, thus the development degree of natural fracture system directly affects the exploitation efficiency of oil shale reservoirs. Therefore, the study on oil shale's fracture is particularly important. Logging curves can identify oil shale accurately, but it is still a challenge to evaluate the development degree of fracture in oil shale. In this work, five logging indexes which could reflect the degree of fracture development in Chang 7 Member in Ordos Basin were chosen after analyzing the different logging response of oil shale in this area, and the probability model of oil shale was established based on the five defined indexes and their weights which was determined using analytic hierarchy processes. The automatic-quantitative identification of oil shale fractures by computer is realized. Compared the recognition results with the image logging, it shows that this method can accurately recognize the fractures in oil shale, and it can satisfy the identification accuracy requirements of fracture in oil shale formation using logging data.
Number of references: 15
Main heading: Fracture
Controlled terms: Metamorphic rocks - Petroleum reservoir engineering - Shale oil
Uncontrolled terms: Development degree - Effective porosity - Fracture network - Identification accuracy - Logging response - Natural fracture system - Ordos - Probability modeling
Classification code: 512.1.2 Petroleum Deposits : Development Operations - 523 Liquid Fuels - 951 Materials Science
DOI: 10.11764/j.issn.1672-1926.2014.02.0259
Database: Compendex
Data Provider: Engineering Village

208. Based on the user-centered design and development of fiber sensor monitoring system

Accession number: 20143818168986
Authors: Li, Juan Ni (1); Wang, Wei (1); Zhen, Yan Kun (1); Liu, Xue Qin (2)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, Shaanxi, China; (2) Lanzhou Petrochemical Company, Lanzhou, Gansu, China
Corresponding author: Li, J. N.(ayykikilee@gmail.com)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 623

Issue title: Engineering Research and Designing for Industry
Issue date: 2014
Publication year: 2014
Pages: 234-240
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038352228
Document type: Conference article (CA)
Conference name: 2013 International Conference on Mechatronics and Materials Engineering, ICMME 2013
Conference date: May 25, 2013 - May 27, 2013
Conference location: Qiqihar, China
Conference code: 107478
Sponsor: Engineering Institute for International-Chinese Academic Service; Zhejiang Economic and Trade Polytechnic
Publisher: Trans Tech Publications Ltd
Abstract: A basic problem in the design of monitoring system is how to improve the usability, this paper describes a methods based on the User-Centered Design and analyses user from task domains and cognitive psychology aspects. After deciding the interaction system's task requirement and usability requirement, we develop the Fiber Bragg Grating Monitoring System in JAVA platform with JAXB and JDBC technology. © (2014) Trans Tech Publications, Switzerland.
Number of references: 7
Main heading: User centered design
Controlled terms: Fiber Bragg gratings - Monitoring
Uncontrolled terms: Cognitive psychology - Fiber Bragg grating monitoring systems - Interaction design - Interaction systems - Monitoring system - UCD - Usability requirements - User centered designs
Classification code: 408 Structural Design - 741.3 Optical Devices and Systems - 941 Acoustical and Optical Measuring Instruments - 942 Electric and Electronic Measuring Instruments - 943 Mechanical and Miscellaneous Measuring Instruments - 944 Moisture, Pressure and Temperature, and Radiation Measuring Instruments
DOI: 10.4028/www.scientific.net/AMM.623.234
Funding Details: Number: 61240028, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;
Database: Compendex
Data Provider: Engineering Village

209. Atomic insights into adsorption of thiophenol derivatives as corrosion inhibitors for mild steel in hydrochloric acid solution

Accession number: 20140717304047
Authors: Li, J. (1, 2); Zhang, M. (3)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an 710072, China; (3) School of Petroleum Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Li, J.(lijian@xsyu.edu.cn)
Source title: Materials Research Innovations
Abbreviated source title: Mater. Res. Innov.
Volume: 18
Issue: 1
Issue date: February 2014
Publication year: 2014
Pages: 38-42
Language: English
ISSN: 14328917
E-ISSN: 1433075X
Document type: Journal article (JA)
Publisher: Maney Publishing
Abstract: Molecular dynamics simulation was used to investigate the inhibitive adsorption of four thiophenol derivatives (namely, 2-aminothiophenol, 4-aminothiophenol, 2,2'-diaminodiphenyl disulphide and 4,4'-diaminodiphenyl disulphide) on Fe(001) surface in 0.1M hydrochloric acid solution. Moreover, their active sites of adsorption were investigated using density functional theory method. The results indicated that corrosion inhibition performance mainly depends on the interaction between polar groups (heteroatom and benzene ring) and metal surface, while good accordance among adsorption strength (binding energy, deformation energy), frontier molecule orbital parameters and

experimental inhibition efficiency is observed, and the feasibility of predicting their inhibition performance using these parameters is verified. © W. S. Maney & Son Ltd. 2014.
Number of references: 42
Main heading: Corrosion inhibitors
Controlled terms: Adsorption - Sulfur compounds - Steel corrosion - Density functional theory - Low carbon steel - Binding energy - Hydrochloric acid - Molecular dynamics
Uncontrolled terms: Corrosion inhibition performance - Density functional theory methods - Frontier molecule orbitals - Hydrochloric acid solution - Inhibition efficiency - Inhibition performance - Molecular dynamics simulations - Thiophenols
Classification code: 539.1 Metals Corrosion - 539.2.1 Protection Methods - 545.3 Steel - 801.4 Physical Chemistry - 802.3 Chemical Operations - 803 Chemical Agents and Basic Industrial Chemicals - 804.2 Inorganic Compounds - 922.1 Probability Theory - 931.3 Atomic and Molecular Physics - 931.4 Quantum Theory; Quantum Mechanics
DOI: 10.1179/1433075X13Y.0000000111
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

210. Electrochemical corrosion performance of Cr and Al alloy steels using a J55 carbon steel as base alloy

Accession number: 20142317789167
Authors: Wang, Rong (1); Luo, Sheji (1); Liu, Ming (1); Xue, Yuna (1)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Wang, R.(rongw123@163.com)
Source title: Corrosion Science
Abbreviated source title: Corros. Sci.
Volume: 85
Issue date: August 2014
Publication year: 2014
Pages: 270-279
Language: English
ISSN: 0010938X
CODEN: CRRSAA
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: Cr- and Al-modified alloy steels using J55 carbon steel as base alloy were produced by remelting in a vacuum. Their corrosion resistance was estimated by open circuit potential, electrochemical polarisation measurements and immersion tests in a 3.5 wt.% NaCl solution. The modified alloy steels exhibit higher corrosion resistance with a more positive open circuit potential, lower corrosion current density and higher impedance than J55 steel. The immersion tests showed that the new alloy steels have lower corrosion rates and smaller pitting depth than J55 steel and a low-Cr steel. © 2014 Elsevier Ltd.
Number of references: 40
Main heading: Steel corrosion
Controlled terms: Aluminum corrosion - Corrosion resistant alloys - Steel metallurgy - Corrosion resistance - Alloy steel - Polarization - Corrosion rate - Aluminum alloys - Electrochemical corrosion - Carbon steel - Sodium chloride - Chromium alloys - Sodium alloys
Uncontrolled terms: Base alloys - Corrosion current densities - Electrochemical polarisation - Immersion tests - NaCl solution - Open circuit potential - Pitting depth - Weight loss
Classification code: 531 Metallurgy and Metallography - 531.1 Metallurgy - 539.1 Metals Corrosion - 541.1 Aluminum - 541.2 Aluminum Alloys - 543.1 Chromium and Alloys - 545.3 Steel - 549.1 Alkali Metals - 801.4.1 Electrochemistry - 802.2 Chemical Reactions
DOI: 10.1016/j.corsci.2014.04.023
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

211. Study on curriculum system design of enterprise E-learning with digital learning concept

Accession number: 20140117159790
Authors: Yang, Wen Yang (1); Zhang, Liu Mei (1)
Author affiliation: (1) The School of Computer Science, Xi'an Shiyou University, Xian 710065, Shaanxi, China
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 462-463
Issue title: Progress in Mechatronics and Information Technology
Issue date: 2014
Publication year: 2014
Pages: 1163-1167
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783037859414
Document type: Conference article (CA)
Conference name: 2013 International Conference on Mechatronics and Information Technology, ICMIT 2013
Conference date: October 19, 2013 - October 20, 2013
Conference location: Guilin, China
Conference code: 101728
Sponsor: Korea Maritime University; Inha University; Hong Kong Industrial Technology Research Centre
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: E-Learning facilitats enterprise human resource management. Therefore enterprises must attach importance to build their own E - Learning platform in such information society. This paper first analyzes the meaning of enterprise digital learning. Then fusion and trends of digital learning and knowledge management is discussed from the perspective of theory level. Key problems are discussed towards the construction of digital learning system for the enterprise. Including the basic components and building process of digital learning system of the enterprise. The design process of digital curriculum system for PetroChina Changqing oilfield company have been collected and analyzed. The Result Show That E - Learning system can improve the level of corporate profits, lean enterprise management and improve the market strain capacity of the enterprise. © (2014) Trans Tech Publications, Switzerland.
Number of references: 7
Main heading: Knowledge management
Controlled terms: Curricula - Human resource management - Oil fields - E-learning - Learning systems - Enterprise resource planning
Uncontrolled terms: Changqing oilfield companies - Corporate profits - Curriculum systems - Digital learning system - Enterprise e-Learning - Enterprise human resource - Information society - Strain capacities
Classification code: 512.1.1 Oil Fields - 723.2 Data Processing and Image Processing - 723.5 Computer Applications - 901.2 Education - 903.3 Information Retrieval and Use - 912.2 Management - 912.4 Personnel
DOI: 10.4028/www.scientific.net/AMM.462-463.1163
Database: Compendex
Data Provider: Engineering Village

212. Efficient method for the synthesis of fatty acid amide from soybean oil methyl ester catalysed by modified CaO

Accession number: 20141517556199
Authors: Zhang, Jie (1); Cai, Dan (1); Wang, Shanshan (1); Tang, Ying (1); Zhang, Zhao (1); Liu, Ya (1); Gao, Xiaoqing (1)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an Shaanxi, China
Corresponding author: Tang, Y.(tangying78@xsyu.edu.cn)
Source title: Canadian Journal of Chemical Engineering
Abbreviated source title: Can. J. Chem. Eng.
Volume: 92
Issue: 5
Issue date: May 2014
Publication year: 2014
Pages: 871-875
Language: English
ISSN: 00084034
E-ISSN: 1939019X

CODEN: CJCEA7
Document type: Journal article (JA)
Publisher: Wiley-Liss Inc.
Abstract: A new method for the heterogeneous synthesis of ethanolamide from soybean oil methyl ester and monoethanolamine/diethanolamine has been established by using CaO and modified CaO as the solid basic catalyst. As the results show, the commercial CaO catalyst gives a high yield (80.2%) of monoethanolamide with high purity at a ratio of methyl ester to amine of 1: 2 after 3h under the reaction temperature of 130°C over modified CaO. The yield was greatly enhanced to 96.3% after commercial CaO was modified by benzyl bromide in a simple way. Moreover, this catalyst shows a promising future in providing an environmentally clean process for the industrial applications. The effects of modification and reaction conditions on yields as well as the possible reaction mechanism were discussed. Further investigation indicated that the structure of ethanolamine has a great effect on the yield of monoethanolamide.

Number of references: 14
Main heading: Fatty acids
Controlled terms: Soybean oil - Amides - Esters - Amines - Catalysts - Ethanolamines
Uncontrolled terms: Amidation - Heterogeneous catalyst - Heterogeneous synthesis - Modification - Reaction conditions - Reaction mechanism - Reaction temperature - Soybean oil methyl ester
Classification code: 803 Chemical Agents and Basic Industrial Chemicals - 804 Chemical Products Generally - 804.1 Organic Compounds - 822.3 Food Products
Numerical data indexing: Percentage 8.02e+01%, Percentage 9.63e+01%, Temperature 4.03e+02K, Time 1.08e+04s
DOI: 10.1002/cjce.21948
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

213. The main problems existing in the exploitation of coalbed methane

Accession number: 20140217175129
Authors: Zhang, Cheng Xiu (1); Ma, Xiao Hong (2); Wang, Tao (1); Zhan, Qiu Hui (2)
Author affiliation: (1) Xi'an shiyou University, Shaanxi Province, China; (2) Petrochina Tarim oilfield branch, Sinkiang, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 868
Issue title: Exploration and Processing of Mineral Resources
Issue date: 2014
Publication year: 2014
Pages: 589-592
Language: English
ISSN: 10226680
ISBN-13: 9783037859742
Document type: Conference article (CA)
Conference name: 3rd International Conference on Energy, Environment and Sustainable Development, EESD 2013
Conference date: November 12, 2013 - November 13, 2013
Conference location: Shanghai, China
Conference code: 101754
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: Coalbed methane is one of the important unconventional energy, due to its characteristics determined there must be taken effective fracturing modification measure to get industrial gas flow, this paper analyzes the damage mechanism of fracturing fluid, the selection of additives in fracturing fluid and the methods of enhancing coalbed methane, and puts forward some corresponding suggestions to improve the recovery of CBM wells supporting a certain practical significance.
Number of references: 6
Main heading: Coal bed methane
Controlled terms: Greenhouse effect - Methane - Coal deposits - Firedamp - Flow of gases - Fracturing fluids - Natural gas wells - Sustainable development
Uncontrolled terms: Cbm wells - Coal bed methane - Damage - Damage mechanism
Classification code: 443.1 Atmospheric Properties - 451 Air Pollution - 503 Mines and Mining, Coal - 512.2 Natural Gas Deposits - 512.2.1 Natural Gas Fields - 522 Gas Fuels - 631.1.2 Gas Dynamics - 804.1 Organic Compounds

DOI: 10.4028/www.scientific.net/AMR.868.589
Database: Compendex
Data Provider: Engineering Village

214. Identification of the selective corrosion existing at the seam weld of electric resistance-welded pipes

Accession number: 20173804171718
Authors: Luo, S.J. (1); Wang, R. (1)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Luo, S.J.(lsjlr1979@163.com)
Source title: Corrosion Science
Abbreviated source title: Corros. Sci.
Volume: 87
Issue date: 2014
Publication year: 2014
Pages: 517-520
Language: English
ISSN: 0010938X
CODEN: CRRSAA
Document type: Journal article (JA)
Publisher: Elsevier Ltd
Abstract: The selective corrosion existing at the seam weld of high frequency electric resistance welded pipes of carbon steel with low sulfur content in electrolyte solutions is revealed by localized electrochemical measurements. The seam weld, mainly consisted of ferrite, has more negative open circuit potential and higher anodic dissolution current density than the base metal consisting ferrite and pearlite. Between the seam weld and the base metal, there is a galvanic coupling effect accelerating the dissolution kinetics of the seam weld such that V-shaped corrosion groove preferentially occurs at the seam weld. © 2014 Elsevier Ltd
Number of references: 24
Main heading: Ferrite
Controlled terms: Steel corrosion - Steel pipe - Electric resistance - Pipeline corrosion - Galvanic corrosion - Seam welding - Resistance welding - Electrolytes - Dissolution - Carbon steel - Welds
Uncontrolled terms: Anodic dissolution - Dissolution kinetics - Electric resistance welded - Electrochemical measurements - Electrolyte solutions - Low sulfur content - Negative open-circuit potential - Selective corrosion
Classification code: 531.2 Metallography - 538.2 Welding - 538.2.1 Welding Processes - 539.1 Metals Corrosion - 545.3 Steel - 619.1 Pipe, Piping and Pipelines - 701.1 Electricity: Basic Concepts and Phenomena - 702 Electric Batteries and Fuel Cells - 802.3 Chemical Operations - 803 Chemical Agents and Basic Industrial Chemicals - 804 Chemical Products Generally
DOI: 10.1016/j.corsci.2014.06.044
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

215. Microstructure and properties of X80 pipeline steel after delay accelerated cooling

Accession number: 20143118006356
Authors: Cheng, Shi-Xia (1); Zhang, Xiao-Yong (1); Gao, Hui-Lin (1)
Author affiliation: (1) School of Materials Science and Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Zhang, X.-Y.(xyzhang@xsyu.edu.cn)
Source title: Cailiao Rechuli Xuebao/Transactions of Materials and Heat Treatment
Abbreviated source title: Cailiao Rechuli Xuebao
Volume: 35
Issue: 6
Issue date: June 2014
Publication year: 2014
Pages: 121-126
Language: Chinese
ISSN: 10096264
CODEN: JRXUDO

Document type: Journal article (JA)
Publisher: Editorial Office of Transactions of Materials and Heat Treatment
Abstract: The relationship between microstructure and properties for X80 pipeline steel after delay accelerated cooling (DAC) was investigated through the experimental techniques such as thermal simulation, mechanical property test and microscopic analysis method. The results show that (B+F) dual-phase microstructure in the steel can be obtained by DAC. With the increasing of starting cooling temperature, the content of bainite increases and the content of ferrite decreases, leading to the increase of yield strength and the reduce of plasticity of the steel. When starting cooling temperature is 530°C, lower yield ratio, higher uniform elongation and strain hardening exponent of the steel can be achieved, which accord with the technical requirements of high deformation pipeline steel. Bainite with fine lath and ferrite with high dislocation density in the steel can be acquired through DAC, which endow the steel with higher strength-toughness and good deformability.
Number of references: 19
Main heading: Ferrite
Controlled terms: Bainite - Deformation - Microstructure - Bainitic transformations - Pipelines - Strain hardening - Cooling - Steel pipe
Uncontrolled terms: Accelerated cooling - Cooling temperature - Dual phase microstructure - Experimental techniques - High dislocation density - Microstructure and properties - Strain-hardening exponent - X80 pipeline steels
Classification code: 531.2 Metallography - 537.1 Heat Treatment Processes - 545.3 Steel - 619.1 Pipe, Piping and Pipelines - 641.2 Heat Transfer - 951 Materials Science
Numerical data indexing: Temperature 8.03e+02K
Database: Compendex
Data Provider: Engineering Village

216. Catalytic performance of modified cao for biodiesel preparation

Accession number: 20144600181426
Authors: Tang, Ying (1); Wang, Shanshan (1); Liu, Ya (1); Zhang, Zhao (1); Gao, Xiaoqing (1); Zhang, Jie (1)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an; 710065, China
Corresponding author: Tang, Ying
Source title: Shiyou Xuebao, Shiyou Jiagong/Acta Petrolei Sinica (Petroleum Processing Section)
Abbreviated source title: Shiyou Xuebao Shiyou Jiagong
Volume: 30
Issue: 5
Issue date: October 25, 2014
Publication year: 2014
Pages: 810-816
Language: Chinese
ISSN: 10018719
CODEN: SXSHEY
Document type: Journal article (JA)
Publisher: Science Press
Abstract: A highly active CaO catalyst for transesterification of methanol and rapeseed oil was prepared to produce biodiesel by bonding ethyl bromide chemically on surface of CaO. The characterizations of modified CaO were conducted by FT-IR, XRD, SEM and N2 gas physics absorption. From the characterization results of modified CaO it was found that the surface area, morphology and thermal stability of modified CaO were improved after modification with little influence to pore dispersion of CaO. Good water-resistance of modified CaO was obtained and high biodiesel yield, over 81%, still remained. With the CaO modified by using 0. 1% ethyl bromide-methanol solution as catalyst and under the optimum conditions of reaction temperature 65, reaction time 3 h, catalyst dosage 5%, methanol to rapeseed oil molar ratio 15, the biodiesel yield reached 95. 97%. Same biodiesel yield over unmodified CaO could be obtained by prolonging reaction time to 5 h. The main properties of the prepared biodiesel meet the standards of Europe.
Number of references: 10
Main heading: Biodiesel
Controlled terms: Methanol - Oilseeds - Vegetable oils - Surface treatment - Catalysts - Thermodynamic stability
Uncontrolled terms: Biodiesel preparation - Catalytic performance - Ethyl bromide - Methanol solution - Optimum conditions - Reaction temperature - Surface area - Water-resistances
Classification code: 523 Liquid Fuels - 641.1 Thermodynamics - 803 Chemical Agents and Basic Industrial Chemicals - 804 Chemical Products Generally - 804.1 Organic Compounds - 821.4 Agricultural Products

Numerical data indexing: Percentage 1.00e+00%, Percentage 5.00e+00%, Percentage 8.10e+01%, Percentage 9.70e+01%, Time 1.08e+04s, Time 1.80e+04s
DOI: 10.3969/j.issn.1001-8719.2014.05.008
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

217. Characteristics of Yumen heavy oil components and its effect on wax deposition behavior

Accession number: 20141317512371
Authors: Su, Hui-Jun (1); Chen, Gang (1); Li, Jing (1); Li, Xiao-Long (1); Zhang, Jie (1)
Author affiliation: (1) College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Chen, G.(gangchen@xsyu.edu.cn)
Source title: Ranliao Huaxue Xuebao/Journal of Fuel Chemistry and Technology
Abbreviated source title: Ranliao Huaxue Xuebao J. Fuel Chem. Technol.
Volume: 42
Issue: 2
Issue date: February 2014
Publication year: 2014
Pages: 187-192
Language: Chinese
ISSN: 2097213X
E-ISSN: 18725813
CODEN: RHXUD8
Document type: Journal article (JA)
Publisher: Science Press
Abstract: The characteristics of components of heavy oil, their interactions and effects on the wax deposition behavior of heavy oil from Yumen oil field were studied by using chromatogram separation, Fourier transform infrared spectroscopy (FT-IR), differential scanning calorimetry (DSC) and optical microscope. The results indicate that the interaction between the components can inhibit the precipitation of wax crystal effectively. The behaviors of A1 with different polarity components added are quite different from that of the heavy oil. The wax-appearing temperature, the peak temperature of wax-precipitation and the percentage of precipitated wax are decreased. The optical microscope analysis shows that the addition of resin and asphaltene to A1 can increase the number of wax crystal particles and decrease their dimensions during the cooling crystallization process, which can prevent the particles from contacting and crosslinking each other to form bulk wax crystal aggregation.
Number of references: 25
Main heading: Crude oil
Controlled terms: Asphaltenes - Chromatographic analysis - Deposition - Differential scanning calorimetry - Fourier transform infrared spectroscopy - Heavy oil production - Microscopes
Uncontrolled terms: Asphaltene - Deposition behaviours - Oil components - Optical microscopes - Peak temperatures - Saturated hydrocarbons - Scanning optical - Wax crystals - Wax deposition - Wax precipitation
Classification code: 511.1 Oil Field Production Operations - 512.1 Petroleum Deposits - 513 Petroleum Refining - 741.3 Optical Devices and Systems - 801 Chemistry - 802.3 Chemical Operations - 944.6 Temperature Measurements
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

218. Stage division and calculation of activation energy of heavy oil oxidation reactions

Accession number: 20144800248952
Authors: Haiyan, J. (1); Shibao, Y. (1); Yang, L. (2); Yefei, N. (1); Peng, W. (2)
Author affiliation: (1) College of Petroleum Engineering, Xian Shiyou University, Xian, China; (2) College of Petroleum Engineering, China University of Petroleum, Qing Dao; 266555, China
Corresponding author: Yang, L.
Source title: Petroleum Science and Technology
Abbreviated source title: Petrol Sci Technol
Volume: 32
Issue: 24

Issue date: December 17, 2014
Publication year: 2014
Pages: 2953-2960
Language: English
ISSN: 10916466
E-ISSN: 15322459
CODEN: PSTEFV
Document type: Journal article (JA)
Publisher: Bellwether Publishing, Ltd.
Abstract: A thermogravimetric (TG) experiment was conducted to study the oxidation process of a certain heavy oil sample mixing with quartz sand, and the oxidation process is described in detail by combining the multipeaks shape of TG curve with heavy oil's oxidation theory. Four stages of weight loss corresponding to earlier low temperature oxidation (LTO), later LTO, fuel deposition, and HTO(high temperature oxidation) were identified, and the demarcation points were clearly defined. Activation energy of each stage was figured by Flynn-Wall-Ozawa method. Compared with the conventional division method, four stages can describe the different stages of oxidation in more detail. © 2014 Taylor & Francis Group, LLC.
Number of references: 9
Main heading: Activation energy
Controlled terms: Heating rate - Thermooxidation - Temperature - Crude oil - Heavy oil production
Uncontrolled terms: Different stages - Flynn-Wall-Ozawa - Fuel deposition - Low-temperature oxidation - Oxidation process - Oxidation reactions - Oxidation theories - Thermo-gravimetric
Classification code: 511.1 Oil Field Production Operations - 512.1 Petroleum Deposits - 641.1 Thermodynamics - 641.2 Heat Transfer - 802.2 Chemical Reactions
DOI: 10.1080/10916466.2014.938823
Funding Details: Number: -, Acronym: -, Sponsor: Department of Education, Shanxi Province;
Funding text: This study was jointly funded by the research project of Education Department of Shan'xi Province.
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

219. Sebei NO.2 gas field I-1 layer group wellbore liquid loading analysis

Accession number: 20140217175150
Authors: Li, Hong Lian (1); Dai, Rui (2); Wang, Xiao Lu (3); Qu, Ji Feng (1)
Author affiliation: (1) Xi'an Shiyou University, China; (2) Chuanqing Drilling and Exploration Corporation, China; (3) Qinghai Oil field Company, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.
Volume: 868
Issue title: Exploration and Processing of Mineral Resources
Issue date: 2014
Publication year: 2014
Pages: 692-695
Language: English
ISSN: 10226680
ISBN-13: 9783037859742
Document type: Conference article (CA)
Conference name: 3rd International Conference on Energy, Environment and Sustainable Development, EESD 2013
Conference date: November 12, 2013 - November 13, 2013
Conference location: Shanghai, China
Conference code: 101754
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: Sebei NO.2 gas field I-1 layer group is shallow-buried with comparatively lower formation energy. In the process of developing, the formation pressure drops and the total energy consumption of the gas-liquid two phase pipe flowing increases gradually, which leads wellbore to produce accumulated fluid that greatly reduces gas well productivity. This paper is based on the mastery of gas field reservoir characteristics and production dynamics, analyzing the changes of gas well production performance before and after gas wells with accumulated fluid. A wellbore liquid loading identification model of Sebei NO.2 gas field is established in terms of the liquid removing capacity calculations, wellhead characteristic observation method, the pressure gradient method. In the aspect of liquid loading volume, the study based on the theory of wellbore gas-liquid two phase flow, using four classical pressure

distribution models to construct a combined model that is more suitable for single wells, analyzed the features of fluid gas well distribution with structural characteristics and other aspects. Practical application shows that the analysis results are reliable and highly practical, and deepening the understanding of the phenomenon of gas liquid loading. © (2014) Trans Tech Publications, Switzerland.
Number of references: 3
Main heading: Liquids
Controlled terms: Natural gas wells - Two phase flow - Loading - Gas industry - Gradient methods - Natural gas well production - Oil wells - Energy utilization - Gases - Oil field equipment - Pressure gradient
Uncontrolled terms: Capacity calculations - Gas well productivities - Gas-liquid two-phase flow - Identification model - Liquid loading - Reservoir characteristic - Structural characteristics - Total energy consumption
Classification code: 511.2 Oil Field Equipment - 512.1.1 Oil Fields - 512.2.1 Natural Gas Fields - 522 Gas Fuels - 525.3 Energy Utilization - 631.1 Fluid Flow, General - 691.2 Materials Handling Methods - 921.6 Numerical Methods - 944.4 Pressure Measurements
DOI: 10.4028/www.scientific.net/AMR.868.692
Database: Compendex
Data Provider: Engineering Village

220. Analysis of pylon anchorage zone of cable-stayed bridge

Accession number: 20140817358047
Authors: Zhai, Liang Liang (1)
Author affiliation: (1) Department of Mathematics, College of Science, Xi'an Shiyou University, Xi'an, Shaanxi Province, 710064, China
Corresponding author: Zhai, L. L.(abcwbs8866@163.com)
Source title: Applied Mechanics and Materials
Abbreviated source title: Appl. Mech. Mater.
Volume: 501-504
Issue title: Advances in Civil and Structural Engineering III
Issue date: 2014
Publication year: 2014
Pages: 1125-1128
Language: English
ISSN: 16609336
E-ISSN: 16627482
ISBN-13: 9783038350057
Document type: Conference article (CA)
Conference name: 3rd International Conference on Civil Engineering and Transportation, ICCET 2013
Conference date: December 14, 2013 - December 15, 2013
Conference location: Kunming, China
Conference code: 102766
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: For long-span cable-stayed bridge, the stress of pylon anchorage zone is complex. For the construction technology personnel, the research on the force characteristics of anchorage zone can offer a theoretical base to organize construction better. This paper makes a further study for the stress of tower anchorage zone of two cable-stayed bridges with different anchor forms by using major general finite element program ANSYS to analysis the force characteristics of anchorage zone in detail. The results provide a reference for construct and design the same type structure. The analysis method for same type structure is also worth learning. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Cable stayed bridges
Controlled terms: Cables - Anchorages (foundations) - Finite element method - Anchorage zones
Uncontrolled terms: Analysis method - Construction technologies - Finite element program ANSYS - Force analysis - Force characteristics - Long span cable stayed bridges - Pylon - Type structures
Classification code: 401.1 Bridges - 408.2 Structural Members and Shapes - 483.2 Foundations - 921.6 Numerical Methods
DOI: 10.4028/www.scientific.net/AMM.501-504.1125
Database: Compendex
Data Provider: Engineering Village

221. The study of embedded multifunctional downhole test system

Accession number: 20145200380717
Authors: Xinai, Song (1); Xi, Cheng (2); Pingyang, Jin (3); Laijun, Tan (4)
Author affiliation: (1) School of Computer Science, Xi'an Shiyou University, Xian, Shaanxi; 710065, China; (2) School of Earth Science and Engineering, Xi'an Shiyou University, Xian, Shaanxi; 710065, China; (3) Petroleum Industry Press, Beijng; 100011, China; (4) China Petroleum Logging CO. LTD., Xian, Shaanxi; 710021, China
Source title: Proceedings - 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Abbreviated source title: Proc. - Int. Conf. Intell. Syst. Des. Eng. Appl., ISDEA
Part number: 1of1
Issue date: December 4, 2014
Publication year: 2014
Pages: 1096-1099
Article number: 6977788
Language: English
ISBN-13: 9781479942619
Document type: Conference article (CA)
Conference name: 2014 5th International Conference on Intelligent Systems Design and Engineering Applications, ISDEA 2014
Conference date: June 15, 2014 - June 16, 2014
Conference location: Zhangjiajie, Hunan, China
Conference code: 109630
Sponsor: Central South University; Department of Electronics Science and Technology; et al.; Hunan Institute of Engineering; St. John's University; Xi'an Shiyou University
Publisher: Institute of Electrical and Electronics Engineers Inc., United States
Abstract: It is necessary to test the logging instrument during its development and production. Generally, these test tasks need to be completed in the experimental well, which will not only bring a lot of inconvenience for researchers and site workers, but also waste a lot of manpower and material resources. The embedded multifunctional down hole test system can replace experimental well to complete simulation logging, which facilitates the development, test and adjustment of the logging instrument. First, this paper introduces the main control circuit design of the test system. Secondly, it proposes the design plan of the main modules. Finally, the paper proposes the design flow and main data structure of the software development. Developed with SDI framework and component technique based on MFC, the test system has the function of command sending, data acquisition, displaying and so on. Oil field test shows that this system has good performance in acoustic signal acquisition and processing, and has the characteristic of plug and play, real-time control and so on. © 2014 IEEE.
Number of references: 12
Main heading: Data acquisition
Controlled terms: Embedded systems - Signal processing - Software design - Oil well logging - Software testing - Real time control
Uncontrolled terms: Acoustic signals - Component techniques - Control circuit designs - Downholes - Logging instruments - Material resources - Plug and play - Test softwares
Classification code: 512.1.2 Petroleum Deposits : Development Operations - 716.1 Information Theory and Signal Processing - 723.1 Computer Programming - 723.2 Data Processing and Image Processing - 723.5 Computer Applications - 731 Automatic Control Principles and Applications
DOI: 10.1109/ISDEA.2014.242
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

222. Study on aquathermolysis of heavy oil at relatively low temperature catalyzed by water-soluble complexes

Accession number: 20142217763871
Authors: Zhang, Jie (1); Li, Xiao-Long (2); Chen, Gang (1); Su, Hui-Jun (1); Zhao, Wei (1)
Author affiliation: (1) College of Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China; (2) CNPC Tubular Goods Research Institute, Xi'an 710065, China
Corresponding author: Chen, G.(gangchen@xsyu.edu.cn)
Source title: Ranliao Huaxue Xuebao/Journal of Fuel Chemistry and Technology
Abbreviated source title: Ranliao Huaxue Xuebao J. Fuel Chem. Technol.

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Pages: 443-448
Language: Chinese
ISSN: 2097213X
E-ISSN: 18725813
CODEN: RHXUD8
Document type: Journal article (JA)
Publisher: Science Press
Abstract: Two series of ten transition metal complexes were prepared as the catalysts for the catalytic aquathermolysis of heavy oil at relatively low temperature. In this reaction system, the dosage of water can affect the aquathermolysis efficiency, and the proper mass fraction of water/oil is 0.3. Some complexes can catalyze the aquathermolysis effectively at 180°C, in which N5 catalyst is the most effective one to drop the pour point with 11.4°C, while N2 and N5 catalysts are the most effective ones to reduce the viscosity by more than 70%. The proper dosage of N5 catalyst in this reaction system is 0.5%. TG and GC analysis show that the light components increase remarkably after the aquathermolysis.
Number of references: 15
Main heading: Crude oil
Controlled terms: Catalysts - Heavy oil production - Metal complexes - Temperature - Transition metals
Uncontrolled terms: Aquathermolysis - Catalyse - Catalytic aquathermolyse - Clean - Lows-temperatures - Mass-fraction - Pour points - Transition-metal complex - Water-soluble complexes -]+ catalyst
Classification code: 511.1 Oil Field Production Operations - 512.1 Petroleum Deposits - 531 Metallurgy and Metallography - 641.1 Thermodynamics - 803 Chemical Agents and Basic Industrial Chemicals - 804 Chemical Products Generally - 804.2 Inorganic Compounds
Numerical data indexing: Percentage 5.00e-01%, Percentage 7.00e+01%, Temperature 2.85e+02K, Temperature 4.53e+02K
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

223. Theoretical investigation on the temperature characteristics of liquid-cladding micro/nanofiber Bragg grating

Accession number: 20143017972320
Authors: Zhang, Wei (1); Liu, Yinggang (2); Zhou, Hong (2)
Author affiliation: (1) School of Environmental and Municipal Engineering, Xian University of Architecture and Technology, Xian, China; (2) Shaanxi Key Laboratory of Photoelectric Sensing Logging, Xian Shiyou University, Xian, China
Corresponding author: Zhang, W.(jgwang12@163.com)
Source title: Journal of Modern Optics
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Volume: 61
Issue: 13
Issue date: July 29, 2014
Publication year: 2014
Pages: 1097-1102
Language: English
ISSN: 09500340
E-ISSN: 13623044
CODEN: JMOPEW
Document type: Journal article (JA)
Publisher: Taylor and Francis Ltd.
Abstract: Based on the functions of the effective refractive index of fundamental mode in step-index fiber, a theoretical mode about the Bragg wavelength shift of micro/nanofiber Bragg grating (MNFBG) is presented. The numerical simulation results demonstrate, for a MNFBG with given radius, the Bragg wavelength shifts to short wavelength as ambient temperature increases, and the reason results from the effective index decreasing with the increase of ambient temperature. Moreover, with the reduction of fiber-core radius, as well as the increase of ambient index

and its thermo-optic coefficient, the temperature sensitivity, linearity and linear response range of the temperature-dependent Bragg wavelength shift are improved obviously. Especially for a MNFBG with fiber radius smaller than 0.5 m, the linearity of Bragg wavelength shifting with temperature will be close to the theoretical limit, and the temperature sensitivity is proportional to the thermo-optic coefficient of the ambient liquid. Compared with the temperature properties of conventional fiber Bragg grating (FBG), all the results will provide much theoretical guides for FBG applied in fiber sensing and communication. © 2014 Taylor & Francis.
Number of references: 18
Main heading: Temperature
Controlled terms: Refractive index - Numerical models - Fiber Bragg gratings
Uncontrolled terms: Effective refractive index - Micro/nano fibers - Temperature characteristic - Temperature properties - Temperature sensitivity - Theoretical investigations - Thermo-optic coefficients - Thermooptic effects
Classification code: 641.1 Thermodynamics - 741.1 Light/Optics - 921 Mathematics
Numerical data indexing: Size 5.00e-01m
DOI: 10.1080/09500340.2014.922627
Funding Details: Number: 61240028, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 2013JM8032, Acronym: -, Sponsor: Natural Science Foundation of Shaanxi Province;
Funding text: This work was supported by the National Natural Science Foundation of China [grant number 61240028], and the Natural Science Basic Research Plan in Shaanxi Province of China [Program No. 2013JM8032].
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

224. Research on arc stability control system for vacuum arc remelting furnace based on fuzzy-PID

Accession number: 20143017987067
Authors: Liu, Xin (1); Zhang, Nailu (1); Guo, Chaoyang (2); He, Li (1)
Author affiliation: (1) Electronic Engineering Institute, Xi'an Shiyou University, Xi'an Shaanxi, China; (2) Xi'an Hailian Petrochemical Technologies Co., Ltd., Xi'an Shaanxi, China
Source title: Proceedings - 2014 IEEE Workshop on Electronics, Computer and Applications, IWECA 2014
Abbreviated source title: Proc. - IEEE Workshop Electron., Comput. Appl., IWECA
Issue title: Proceedings - 2014 IEEE Workshop on Electronics, Computer and Applications, IWECA 2014
Issue date: 2014
Publication year: 2014
Pages: 23-26
Article number: 6845547
Language: English
ISBN-13: 9781479945658
Document type: Conference article (CA)
Conference name: 2014 IEEE Workshop on Electronics, Computer and Applications, IWECA 2014
Conference date: May 8, 2014 - May 9, 2014
Conference location: Ottawa, ON, Canada
Conference code: 106409
Publisher: IEEE Computer Society
Abstract: Vacuum arc remelting furnace is an important equipment that smelting rare metal such as titanium and its alloys, the control of arc stability current has a great effect on the quality of ingot. According to the technological characteristics and control requirements of arc stability, a control system was built based on industrial personal computer (IPC), PLC and intelligent controller. The Fuzzy-PID strategy is proposed to control arc stability current, which realized accurate controlling of the current and rapid changes in positive and negative direction of stirring magnetic field. The practical application shows that this system play a good role in stable and precise controlling of arc stability current, stirring metal molten pool evenly and has a significant effect to improve crystallization of ingot. © 2014 IEEE.
Number of references: 6
Main heading: Remelting
Controlled terms: Ingots - Stability - Vacuum applications - Computer control systems - Personal computers - Quality control - Vacuum furnaces - Vacuum technology
Uncontrolled terms: Arc stability - Control requirements - Fuzzy-PID - Industrial personal computers - Intelligent controllers - Strategy simulation - Technological characteristics - Vacuum arc remelting

Classification code: 534.1 Foundries - 534.2 Foundry Practice - 633 Vacuum Technology - 633.1 Vacuum Applications - 722.4 Digital Computers and Systems - 723.5 Computer Applications - 731.1 Control Systems - 913.3 Quality Assurance and Control
DOI: 10.1109/IWECA.2014.6845547
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

225. A universal fairness protection for cloud resource allocation

Accession number: 20141217483530
Authors: Lu, Di (1); Ma, Jianfeng (1); Wang, Yichuan (1); Zhang, Liumei (1, 2)
Author affiliation: (1) School of Computer Science, Xidian University, Xi'an, China; (2) School of Computer Science, Xi'an Shiyou University, Xi'an, China
Source title: WIT Transactions on Engineering Sciences
Abbreviated source title: WIT Trans. Eng. Sci.
Volume: 87
Issue title: Advanced Materials and Information Technology Processing
Issue date: 2014
Publication year: 2014
Pages: 827-836
Language: English
ISSN: 17433533
ISBN-13: 9781845648534
Document type: Conference article (CA)
Conference name: 2013 3rd International Conference on Advanced Materials and Information Technology Processing, AMITP 2013
Conference date: October 1, 2013 - October 2, 2013
Conference location: Los Angeles, CA, United states
Conference code: 103187
Sponsor: WIT Transactions on Engineering Sciences
Publisher: WITPress
Abstract: In cloud platform, to achieve fairness in resource allocation is the key responsibility of the cloud resource scheduler. In practical environment, fairness can be threatened by the malicious utilization of resource such as long time occupying resource. Thus, the illegal use of resources will undermine the allocation fairness among the virtual machines (VM), and the scheduler can be malfunctioned either. To address this issue, this paper proposes a protection, cbFP, for allocation fairness. In cbFP, a credit value is introduced into the resource scheduling algorithm to provide a measurement of the VM resource utilization. The credit varies according to the history use of resources, and its value will restraint the future allocation to the VM. We propose a normalized arctangent function to provide the evaluation on the credit as per the resource utilization. The model analysis and simulations results reveal the rationality and effectiveness of our model. © 2014 WIT Press.
Number of references: 18
Main heading: Resource allocation
Controlled terms: Scheduling - Scheduling algorithms - Virtual machine - Cloud computing
Uncontrolled terms: Arc tangent functions - Cloud platforms - Credit - Fairness protection - Resource scheduling algorithms - Resource utilizations - Utilization of resources - Virtual machines
Classification code: 722.4 Digital Computers and Systems - 723.5 Computer Applications - 912.2 Management
DOI: 10.2495/AMITP20130981
Database: Compendex
Data Provider: Engineering Village

226. Electromagnetic torque feed-forward control of the turbine alternator for rotary steering drilling tools

Accession number: 20141017420467
Authors: Wang, Yuelong (1); Fei, Wanghao (1); Huo, Aiqing (1); Cheng, Weibin (1); Tang, Nan (1)
Author affiliation: (1) Shanxi Key Laboratory of Oil-Drilling Rigs Controlling Technique, Xi'an Shiyou University, Xi'an 710065, China
Corresponding author: Wang, Y.(ylwang@xsyu.edu.cn)

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Abbreviated source title: Shiyou Xuebao
Volume: 35
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Issue date: 2014
Publication year: 2014
Pages: 141-145
Language: Chinese
ISSN: 02532697
CODEN: SYHPD9
Document type: Journal article (JA)
Publisher: Science Press
Abstract: Variations in the flow of drilling fluid in a wide range would easily cause poor adaptability of spatial position control for rotary steering drilling systems. Specifically, the control system adjusted with a set of control parameters under one drilling fluid flow condition is often instable with sway position under other flow conditions. A dynamic model of turbine alternator is constructed by analyzing the dynamic relationship of the electromagnetic torque of turbine alternator with the fluid flow and control signal. Results show that the electromagnetic torque is a product of fluid flow and control signal; it varies with drilling fluid flow dynamically, thus leading to control instability. Further, a product-type electromagnetic torque feed-forward control method is proposed, in which the electromagnetic torque of turbine alternator after feed-forward compensation relates to control signal only but no longer to drilling fluid flow. In this way, a nonlinear time-varying section is transformed to a linear time-invariant one. The proposed method is validated by a series of simulations and a mechanic driving test. A simple and effective method is provided for stable control of rotary steering drilling systems with drilling fluid flow varying widely.
Number of references: 12
Main heading: Turbines
Controlled terms: Drilling - Flow velocity - Synchronous generators - Torque - Drilling fluids - Position control
Uncontrolled terms: Control instabilities - Control parameters - Electromagnetic torques - Feed-forward compensation - Fluid flow conditions - Linear time invariant - Rotary steering drilling tools - Turbine-alternator
Classification code: 631 Fluid Flow - 705.2.1 AC Generators - 731.3 Specific Variables Control - 931.2 Physical Properties of Gases, Liquids and Solids - 943.2 Mechanical Variables Measurements
DOI: 10.7623/syxb201401017
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

227. A new data transmission mechanism in aeronautical ad hoc network

Accession number: 20141217490229
Authors: Zhong, Dong (1); Zhu, Yian (1); You, Tao (1); Duan, Junhua (1); Kong, Jie (2)
Author affiliation: (1) School of Computer Science, Northwestern Polytechnical University, Xi'an, China; (2) School of Computer Science, Xi'An Shiyou University, Xi'an, China
Source title: 2014 International Conference on Big Data and Smart Computing, BIGCOMP 2014
Abbreviated source title: Int. Conf. Big Data Smart Comput., BIGCOMP
Issue title: 2014 International Conference on Big Data and Smart Computing, BIGCOMP 2014
Issue date: 2014
Publication year: 2014
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Article number: 6741447
Language: English
ISBN-13: 9781479939190
Document type: Conference article (CA)
Conference name: 2014 International Conference on Big Data and Smart Computing, BIGCOMP 2014
Conference date: January 15, 2014 - January 17, 2014
Conference location: Bangkok, Thailand
Conference code: 103175
Publisher: IEEE Computer Society
Abstract: In this paper, a new network topology control mechanism is proposed to improve routing path duration in Aeronautical ad hoc network, which can effectively decrease the probability of routing path breaks in the process of nodes high-speed moving, and be integrated with existing routing protocols used in Ad hoc network smoothly. The main principle of topology control mechanism is according to the different node densities with different topology

construction method. For network regions having a high density of aircraft, the packets are preferentially routed over the long available links created by the aircraft moving in same direction. For low density of aircraft, the routing preferentially uses the short available links created by the aircraft moving in both directions. This mechanism can increase the routing path duration effectively. We combine the topology control mechanism with OLSR, and give the Path Link Availability Routing Protocol (PLAR). We compare the performance of PLAR protocol with other routing protocols in different scenes. Experimental results show that, PLAR protocol exhibits a significant improvement over most routing protocols base on topology and position. © 2014 IEEE.
Number of references: 11
Main heading: Routing protocols
Controlled terms: Internet protocols - Mobile computing - Topology - Aircraft
Uncontrolled terms: Ad hoc - Aeronautical ad hoc networks - Data transmission mechanisms - Link availability - Network topology controls - Node density - Topology construction - Topology control
Classification code: 652.1 Aircraft, General - 722.3 Data Communication, Equipment and Techniques - 723 Computer Software, Data Handling and Applications - 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory
DOI: 10.1109/BIGCOMP.2014.6741447
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

228. Influence of partitioning temperature on microstructure and mechanical properties of (B+M/A) X80 high deformability pipeline steel

Accession number: 20145200356320
Authors: Ma, Jing (1); Zhang, Xiaoyong (1); Cheng, Shixia (1); Gao, Huilin (1)
Author affiliation: (1) Department of Material Science and Engineering, Xi'an Shiyou University, No.2, Electronic Road, Xi'an; 710065, China
Source title: ICPTT 2014 - Proceedings of the 2014 International Conference on Pipelines and Trenchless Technology
Abbreviated source title: ICPTT - Proc. Int. Conf. Pipelines Trenchless Technol.
Part number: 1of1
Issue date: 2014
Publication year: 2014
Pages: 698-713
Language: English
ISBN-13: 9780784413821
Document type: Conference article (CA)
Conference name: 2014 International Conference on Pipelines and Trenchless Technology, ICPTT 2014
Conference date: November 13, 2014 - November 15, 2014
Conference location: Xiamen, China
Conference code: 109527
Sponsor: Center for Underground Infrastructure Research and Education (CUIRE) at the University of Texas at Arlington (UTA); China-U.S. Joint Center for Trenchless Research and Development at the China University of Geosciences-Wuhan (CUG); Pipeline Division of the American Society of Civil Engineers (ASCE); Wuhan PipeTong Trenchless Technology Co. Ltd.
Publisher: American Society of Civil Engineers (ASCE), United States
Abstract: In this work, the application of the novel heat on-line partitioning (HOP) process to a traditional X80 pipeline steel by using Gleeble-3500 thermo mechanical simulator has led to the development of a new kind of duplex microstructure comprising bainite matrix and martensite-austenite constituent (MA) as a second phase. Effect of partitioning temperature on microstructure evolution, mechanical properties and retained austenite content of (B+M/A) X80 pipeline steel is researched by means of mechanical property test, microscopic analysis and X-ray diffraction. The study results suggest that the strength level of the steel subjected to HOP process increases at first and subsequently decreases, while the elongation change in the opposite trend of the trail steels with the increasing of partitioning temperature. This is due to the synergistic effect of the increase in the retained austenite fraction, the decrease in carbon supersaturation in bainite, the change in the dislocation density in bainite matrix, and the formation of transition carbide. Meanwhile, in the early stages of the low-temperature partitioning process, carbon partitioning from bainite to austenite plays a dominant role in the stability and content of retained austenite. With the increasing of partitioning temperature, the content of retained austenite presents the pink distribution, so does the effect on the plascity. Therefore, the elongation is sensitive to partitioning temperature. © 2014 American Society of Civil Engineers.
Number of references: 23

Main heading: Temperature
Controlled terms: Bainite - Carbon - Microstructure - Carbides - Bainitic transformations - Pipelines - Austenite - Deformation - Steel pipe - X ray diffraction
Uncontrolled terms: Carbon supersaturation - Duplex microstructures - High deformability - Martensite-austenite constituents - Micro-structure evolutions - Microstructure and mechanical properties - Retained austenite - Thermomechanical simulator
Classification code: 531.2 Metallography - 545.3 Steel - 619.1 Pipe, Piping and Pipelines - 641.1 Thermodynamics - 804 Chemical Products Generally - 804.2 Inorganic Compounds - 812.1 Ceramics - 951 Materials Science
DOI: 10.1061/9780784413821.075
Compendex references: YES
Database: Compendex
Data Provider: Engineering Village

229. A robust halftone watermarking via block Error Diffusion

Accession number: 20150300435735
Authors: Xie, Kun (1); Zheng, Haihong (1); Zeng, Ping (1, 2); Guo, Tao (1)
Author affiliation: (1) School of Computer and Science, Xidian University, Xi'an , China; (2) College of Computer Science, Xi'an Shiyou University, Xi'an , China
Corresponding author: Xie, Kun
Source title: Journal of Computational Information Systems
Abbreviated source title: J. Comput. Inf. Syst.
Volume: 10
Issue: 24
Issue date: December 15, 2014
Publication year: 2014
Pages: 10423-10431
Language: English
ISSN: 15539105
Document type: Journal article (JA)
Publisher: Binary Information Press
Abstract: A robust halftone watermarking method named Block-directed Parity-matched Error Diffusion (BPMED) is proposed in this paper. The method is developed in parity domain based on pixel block. Especially, the parity sum of a pixel block is defined by comparing the average of the pixel block with an image-dependent threshold. By altering the pixel block's parity based on noise-balanced block error diffusion, watermark is spread into the host image. Watermark is retrieved by employing each pixel block's parity and majority voting strategy. Compared with the state-of-the-art method in parity domain, the results indicate that BPMED method has high watermark rate and watermark rate flexibility. Moreover, it is capable of extracting watermark directly without quantizing it into a halftone image. And it can achieve high robustness against various attacks, especially against print-and-scan.
Number of references: 12
Main heading: Pixels
Controlled terms: Image watermarking - Errors - Diffusion - Watermarking
Uncontrolled terms: Block errors - Extracting watermarks - Halftone images - High robustness - Parity-match - State-of-the-art methods - Voting strategies - Watermarking methods
Classification code: 723.2 Data Processing and Image Processing - 811.1.1 Papermaking Processes
DOI: 10.12733/jcis12391
Funding Details: Number: 61100156, Acronym: -, Sponsor: -;
Database: Compendex
Data Provider: Engineering Village

230. Stress sensitivity of low permeable and water-bearing gas reservoir without gas slippage effect

Accession number: 20142917953273
Authors: Yan, Jian (1); Liang, Xiao Bing (2); Wu, Qian (2); Guo, Qing (2)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, 710065, China; (2) Research institute of Yanchang petroleum (group) co.ltd, Xi'an, 710075, China
Source title: Advanced Materials Research
Abbreviated source title: Adv. Mater. Res.

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Issue title: Resources and Sustainable Development III
Issue date: 2014
Publication year: 2014
Pages: 570-573
Language: English
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E-ISSN: 16628985
ISBN-13: 9783038351375
Document type: Conference article (CA)
Conference name: 3rd International Conference on Energy and Environmental Protection, ICEEP 2014
Conference date: April 26, 2014 - April 28, 2014
Conference location: Xi'an, China
Conference code: 106221
Publisher: Trans Tech Publications Ltd
Abstract: Because of the gas slippage, the testing methods of stress sensitivity for gas reservoir should be different from that for oil reservoir. This text adopts the method that imposing back pressure on the outlet of testing core to weaken the gas slippage effect and tests the stress sensitivity of low permeability gas reservoirs, then analyzes the influence of permeability and water saturation on stress sensitivity. The results show that: low permeable and water-bearing gas reservoirs have strong stress sensitivity; the testing permeability has the power function relationship with net stress, compared to the exponential function, the fitting correlation coefficient is larger and more suited to the actual; the lower the permeability is and the higher water saturation is, the stronger the stress sensitivity is. The production of gas well is affected when considering the stress sensitivity, so the pressure dropping rate should be reasonable when low permeable gas reservoirs are developed. The results provide theoretical references for analyzing the well production and numerical simulation. © (2014) Trans Tech Publications, Switzerland.
Number of references: 4
Main heading: Exponential functions
Controlled terms: Gas permeability - Natural gas well production - Natural gas wells - Gases - Petroleum reservoir engineering - Testing - Low permeability reservoirs
Uncontrolled terms: Back pressures - Gas reservoir - Productivity of gas wells - Stress sensitivity - Water saturations
Classification code: 512.1 Petroleum Deposits - 512.1.2 Petroleum Deposits : Development Operations - 512.2.1 Natural Gas Fields - 921 Mathematics - 931.2 Physical Properties of Gases, Liquids and Solids
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231. Influence of formation pressure variation on relative permeability characteristics of oil and water phase

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Authors: Yan, Jian (1); Liang, Xiao Bing (2); Wang, Wei Gang (2); Yao, Jun (2)
Author affiliation: (1) Xi'an Shiyou University, Xi'an, 710065, China; (2) Research institute of Yanchang petroleum (group) co.ltd, Xi'an, 710075, China
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Abstract: At present, there are still some disputes on the influence of pressure on the relative permeability of oil and water phase in low permeable reservoirs. This text carried out the displacement experiments to study the influences of effective stress and displacement pressure on the relative permeability. The results indicate that: with the decreasing of displacement pressure, the relative permeability of oil and water and the displacement efficiency become poor; the lower the permeability is, the worse the effective permeability and displacement efficiency are; low permeable reservoirs have strong stress sensitivity, the relationship between permeability and effective stress follows power function; when the reservoir energy drops, the effective stress of rock increases, which causes the physical property worse, and meanwhile the flooding pressure decreases, which ultimately reduce the displacement efficiency, so high energy preserving level is the guarantee of improving the flooding efficiency. The results also indicate that the displacement pressure gradient should consider the actual producing pressure gradient after meeting the requirement of π number, otherwise, the testing displacement efficiency may be larger than the actual. The studying results provide theoretical references for high efficiency development of low permeable oilfields. © (2014) Trans Tech Publications, Switzerland.
Number of references: 5
Main heading: Pressure gradient
Controlled terms: Reservoirs (water) - Energy efficiency - Sustainable development - Floods - Petroleum reservoir engineering - Oil well flooding
Uncontrolled terms: Displacement efficiency - Displacement experiments - Displacement pressure - Effective permeability - Effective stress - Low permeable reservoirs - Relative permeability - Stress sensitivity
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232. Numerical simulation on flow field inside the drainage valve of the natural gas pipeline

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Authors: Deng, Zhian (1); Deng, Hao Yun (2); Xie, Mei (1)
Author affiliation: (1) College of Petroleum Engineering, Xi'an Shiyou University, China; (2) School of Energy Resources, China University of Geosciences, China
Corresponding author: Deng, H. Y.(ytfy_92@163.com)
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Conference name: 2013 International Conference on Materials Science, Machinery and Energy Engineering, MSMEE 2013
Conference date: December 24, 2013 - December 25, 2013
Conference location: Hong kong
Conference code: 101905
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: In order to ensure safety and reliable operation of the natural gas pipeline drainage valve, the 3D numerical simulation on flow field characteristics inside the drainage valve of the natural gas pipeline under the different conditions of the seasons of winter and summer is carried out by using the standard $\kappa-\omega$ model. In the tow different season condition, the streamline and velocity vector distribution inside the drainage valve has been studied. Under the two seasons conditions are studied. The results show that as the change of drainage valve opening the turbulence appear in the valve and the maximum value appears in the inlet,which the winter is larger than summer. The velocity vector distribution in the drainage valve is not the same and the larger velocity appears at the drain exit with the valve opening increasing. The differences in temperature, condensate discharge, condensate gas pipeline in different

displacement,density and viscosity in the winter seasons and summer seasons results in the different characteristic.of the flow field characteristics inside discharging valve. © (2014) Trans Tech Publications, Switzerland.
Number of references: 8
Main heading: Numerical models
Controlled terms: Flow fields - Drainage - Gas condensates - Natural gas pipelines - Gases - Natural gas
Uncontrolled terms: 3-D numerical simulation - Condensate gas - Flow field characteristics - Natural gas liquids - Reliable operation - Valve opening - Velocity vector distribution - Winter seasons
Classification code: 522 Gas Fuels - 619.1 Pipe, Piping and Pipelines - 631.1 Fluid Flow, General - 921 Mathematics
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233. The influence of tectonic characteristics on the accumulation of CBM in H area

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Authors: Guo, Yu (1); Zhao, Jing Zhou (1); Wang, Qian (1)
Author affiliation: (1) School of Earth Sciences and Engineering, Xi'an Shiyou University, Dianzi Second Road, Yanta District, Xi'an, China
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Conference location: Shanghai, China
Conference code: 101754
Publisher: Trans Tech Publications Ltd, Kreuzstrasse 10, Zurich-Durnten, CH-8635, Switzerland
Abstract: There are several geological factors affecting the accumulation of CBM, including condition, burial depth, coal thickness, coal rank, gas content, permeability, reservoir pressure, desorption pressure and hydrological condition, etc. This article analyzes the influence of tectonic characteristics on the accumulation of CBM in H area, combining the tectonic characteristics and actual production data, finally conclusions can be drawn that the uplifting movement of crust after coal- forming period could break the original adsorption equilibrium, then CBM would escape unfavorable preservation condition; different scales of fracturesand folds formed by tectonic movements play an important role in the preservation and dissipation as well as in the enrichment accumulation. © (2014) Trans Tech Publications, Switzerland.
Number of references: 14
Main heading: Tectonics
Controlled terms: Coal - Low permeability reservoirs - Petroleum reservoir engineering - Gas permeability
Uncontrolled terms: Adsorption equilibria - CBM - Folds - Gas content - Hydrological condition - Preservation condition - Reservoir pressures - Tectonic movements
Classification code: 481.1 Geology - 512.1 Petroleum Deposits - 512.1.2 Petroleum Deposits : Development Operations - 524 Solid Fuels - 931.2 Physical Properties of Gases, Liquids and Solids
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