



(国内外公开发行)

# 西安石油大学学报

(自然科学版) · 双月刊

XI'AN SHIYOU DAXUE XUEBAO(ZIRAN KEXUE BAN)

2011年3月25日出版 第26卷第2期(总第127期)

## 目 次

### 【地质与勘探】

由北美页岩气勘探开发看我国页岩气选区评价

整体—局部—整体沉积体系分析在歧口凹陷沙三段的应用

塔里木盆地台盆区中奥陶统底界垂向构造变动强度定量研究

鄂尔多斯盆地姬塬地区长9油层组沉积特征与储集条件

盘古梁长6特低渗油藏储层流动单元研究

塔北轮南古隆起石炭系砂泥岩段沉积相特征

鄂尔多斯盆地宜川富县地区古生界天然气勘探潜力分析

### 【石油工程】

基于3D流线模拟的水驱油藏动态评价新方法

非均质油藏微球乳液调驱物理模拟实验研究

低渗透油田酸化降压增注技术研究与应用

特低渗透油藏注气驱长岩心物理模拟

油层水配制压裂液研究及性能评价

利用Sigmoid函数表征超低渗透储层的非达西渗流特征

### 【机械工程】

镍基合金 UNSN08028 钝化膜的耐蚀性研究

泥浆泵轴承的故障诊断

### 【化学与化工】

咪唑啉季铵盐缓蚀剂的合成及应用性能评价

一种新型高效阻垢缓蚀剂的研制

有机质对未熟烃源岩低温催化混合酯水解生烃的影响

葡萄糖改性有机硼交联剂在水基聚乙烯醇裂液中的应用

### 【电子工程与自动化】

基于模糊PID的焊枪伺服控制系统研究

一种新型高速公路路灯智能控制系统设计

### 【计算机及其应用】

基于多Agent的生态复杂适应系统建模和仿真

安全多媒体通信中容错加密方案

### 【基础科学及其应用】

Smarandache  $kn$  数列与除数和函数的混合均值

苟素(107)

赵靖舟,方朝强,张洁,等(1)

蒲秀刚,陈长伟,周立宏,等(8)

边瑞康,唐玄,张琴,等(13)

窦伟坦,蔺宏斌,慕敬魁,等(20)

王刚,杨满平,许胜洋,等(26)

徐智,艾丽(31)

李浩,黄薇,何剑,等(39)

吴军来,刘月田,杨海宁(43)

曹毅,张立娟,岳湘安,等(48)

张顶学,廖锐全,杨慧(52)

熊健,郭平,杜建芬,等(56)

张建国,李艳,于洪江(60)

梅俊伟,彭仕宓,李雄炎,等(64)

魏爱玲,赵国仙,刘坤,等(68)

范凯,齐明侠,张志毅(72)

李谦定,李恒娟,卢永斌(76)

郝善奎(80)

宋明芝,张在龙,张毅,等(85)

隋明伟,沈一丁,李宪文,等(89)

张乃裸,付龙飞,任源,等(93)

刘天时,刘赏,付春(96)

程国建,颜宇甲,强新建,等(99)

贺炳彦,李浩(104)

# JOURNAL OF XI'AN SHIYOU UNIVERSITY

(Natural Science Edition) · Bimonthly

Published on Mar. 25. 2011 Vol. 26 No. 2 (Sum No. 127)

## CONTENTS

### · Geology and Exploration ·

Evaluation of China shale gas from the exploration and development of North America shale gas

ZHAO Jing-zhou, FANG Chao-qiang, ZHANG Jie, et al (1)

Application of a new sedimentary system analysis method in Es<sub>3</sub> of Qikou Sag

PU Xiu-gang, CHEN Chang-wei, ZHOU Li-hong, et al (8)

Quantitative study on the vertical tectonic varying intensity in the basal boundary of Middle Ordovician in the platform area of Tarim Basin

BIAN Rui-kang, TANG Xuan, ZHANG Qin, et al (13)

Sedimentary characteristics and accumulation conditions of Chang-9 oil-bearing layers in Jiyuan area, Ordos Basin

DOU Wei-tan, LIN Hong-bin, MU Jing-kui, et al (20)

Research of the flow units of Chang 6 ultra-low permeability reservoir in Panguliang area

WANG Gang, YANG Man-ping, XU Sheng-yang, et al (26)

Sedimentary facies features of Carboniferous sand-mud stone in Lunnan paleo-uplift, the northern Tarim Basin

XU Zhi, AI Li (31)

Analysis of the natural gas exploration potential of the Paleozoic erathem in Yichuan - Fuxian area, Ordos Basin

LI Hao, HUANG Wei, HE Jian, et al (39)

### · Petroleum Engineering ·

A new method for the performance evaluation of waterflooding reservoir based on 3D flowline simulation

WU Jun-lai, LIU Yue-tian, YANG Hai-ning (43)

Experimental research on the profile-control flooding with micro-sphere emulsion in heterogeneous reservoir by physical simulation

CAO Yi, ZHANG Li-juan, YUE Xiang-an, et al (48)

Research and application of the acidizing technology of low-permeability reservoirs for increasing water injection

ZHANG Ding-xue, LIAO Rui-quan, YANG Hui (52)

Physical simulation of gas driving with long ultralow permeability core

XIONG Jian, GUO Ping, DU Jian-fen, et al (56)



ISSN 1673 - 064X  
CN 64 - 1435/TE

Research and evaluation of fracturing fluid compounded by oil-reservoir water      *ZHANG Jian-guo, LI Yan, YU Hong-jiang* (60)

Characterization of the non-Darcy seepage flow in ultra-low permeability reservoir based on Sigmoid function

*MEI Jun-wei, PENG Shi-mi, LI Xiong-yan, et al* (64)

• **Mechanical Engineering** •

Study on corrosion resistance of passive film of nickel-base alloy UNS N08028

*WEI Ai-ling, ZHAO Guo-xian, LIU Kun, et al* (68)

Fault diagnosis of the bearing of mud pump

*FAN Kai, QI Ming-xia, ZHANG Zhi-yi* (72)

• **Chemistry and Chemical Engineering** •

Synthesis and performance evaluation of the corrosion inhibitor of imidazoline quaternary

*LI Qian-ding, LI Heng-juan, LU Yong-bin* (76)

Development of a new high-performance scale and corrosion inhibitor

*HAO Shan-kui* (80)

Influence of organic matters on the hydrolysis and hydrocarbon generation of mixed fatty acid esters catalyzed by immature hydrocarbon source rocks at low temperature

*SONG Ming-zhi, ZHANG Zai-long, ZHANG Yi, et al* (85)

Application of organic boron cross-linker modified by glucose in polymer alcohol

*SUI Ming-wei, SHEN Yi-ding, LI Xian-wen, et al* (89)

• **Electronic Engineering and Automation** •

Servo control system of welding gun based on fuzzy PID

*ZHANG Nai-lu, FU Long-fei, REN Yuan, et al* (93)

A new intelligent control system for highway street-lamps

*LIU Tian-shi, LIU Shang, FU Chun* (96)

• **Computer and Its Applications** •

Modeling and simulation of the ecosystem based on multi-agent system

*CHENG Guo-jian, YAN Yu-jia, QIANG Xin-jian, et al* (99)

Error-tolerant encryption for secure multimedia communications

*HE Bing-yan, LI Hao* (104)

• **Basic Sciences and Their Applications** •

Hybrid mean value of Smarandache  $kn$  - digital series with divisor sum function

*GOU Su* (107)

---

Started in 1986