

ISSN 1001-4578
CN 42-1246/TE

2020年第5期

全国中文核心期刊 中国科技核心期刊
美国《史蒂芬斯数据库》和《乌利希期刊指南》收录期刊 俄罗斯《文摘杂志》收录期刊

第48卷 第5期 总第495期

石油机械[®]

*CHINA
PETROLEUM
MACHINERY*

中石油江汉机械研究所有限公司 主办

万方数据

目次

■ 钻井技术与装备

超深层井底应力环境下PDC单齿破岩机理研究·····	孟昭, 毛蕴才, 张佳伟, 纪国栋, 郭卫红	1
超声兰姆波测井技术在渤海油田的应用研究·····	韩耀图, 李进, 李疾翎, 余涵, 孙志峰	8
围压工况下附壁脉冲射流喷嘴性能研究·····	庞德新, 韦志超, 郭新维, 刘远, 梁永刚, 焦文夫, 张金亚	16
叶轮转子式旋转冲击钻井工具输出载荷模拟分析·····	杨龔栋, 廖华林, 牛继磊, 刘建胜	22
脆性泥页岩椭圆形井眼坍塌规律分析·····	刘海龙, 张磊, 谢涛, 张启龙, 林家昱	28
扭力冲击器与螺杆钻具集成BHA应用研究·····	陈新勇, 韩煦, 邱爱民, 王秀影, 梁晓勇, 付凯, 黄红亮	34

■ 海洋石油装备

水下管汇吸力桩竖向极限承载力研究·····	李书兆, 贾鹏, 尹丰, 刘璞, 石磊, 张宁, 庞楠	39
海上平台聚合物溶液分流型预混器研究·····	舒政, 廖东, 赵文森, 赵娟, 陈文娟	46
基于正交试验设计的盘球附体抑湍试验研究·····	刘志慧, 徐兴平, 牛怀磊, 黄思侃	52
海底埋地原油管道泄漏扩散数值模拟·····	宋琳琳, 吕孝飞, 赵会军, 黄志江, 杨草来, 薛惠文	58
被动补偿装置控制系统关键技术研究及应用·····	王博芳, 樊春明, 李磊, 郑万里, 刘启蒙, 赵晓飞	65

■ 油气田开发工程

波码通信数字式分层注水技术研究与应用·····	姚斌, 杨玲智, 于九政, 姬振宁, 胡改星	71
非晶合金催化氧化去除钻井废水COD的试验研究·····	刘凯文, 杨迅, 张虎虎, 汪喆, 郝燕燕, 任武	78
可溶压裂滑套材料性能优化及试验研究·····	谷磊	84
自适应卡尔曼滤波算法在压裂作业中的应用·····	陈春霞, 孙祥娥, 雷先革	89
非金属连续管电缆复合体隔膜泵研究与应用·····	吉效科, 华剑, 方建国	94

■ 石油管工程

管内智能封堵器减振结构设计及优化·····	苗兴园, 赵弘, 王晨鉴	99
考虑腐蚀缺陷的管道内检测周期优化方法·····	张杰, 薛一茜, 丁奕, 管林峰, 杨静, 官敬, 李晓平	107
外压作用下夹层管复合结构屈曲传播分析·····	张磊, 姜敏, 季鹏, 路顺	114
油管接触应力超声信号试验研究·····	田春萌, 樊建春, 韩婷, 刘书杰	121
基于深度学习的漏磁检测缺陷识别方法·····	王宏安, 陈国明	127

CHINA PETROLEUM MACHINERY (Monthly)

(SHIYOU JIXIE)

Vol.48 No.5 May 2020

CONTENTS

• DRILLING TECHNOLOGY AND EQUIPMENT •

Research on Single-tooth PDC Rock Breaking Mechanism at Ultra-deep Bottomhole Stress.....	1
..... <i>Meng Zhao, Mao Yuncai, Zhang Jiawei, et al.</i>	
Application of Ultrasonic Lamb Wave Logging Technology in Bohai Oilfield.....	8
..... <i>Han Yaotu, Li Jin, Li Jiling, et al.</i>	
Research on Performance of Wall-Attached Pulse Jet Nozzle at Confining Pressure.....	16
..... <i>Pang Dexin, Wei Zhichao, Guo Xinwei, et al.</i>	
Simulation of Output Load of Impeller-Rotor-Driven Rotary Impact Drilling Tools.....	22
..... <i>Yang Yandong, Liao Hualin, Niu Jilei, et al.</i>	
Analysis of the Collapse Law of Elliptical Brittle Mud Shale Boreholes.....	28
..... <i>Liu Hailong, Zhang Lei, Xie Tao, et al.</i>	
Research of Integrated BHA with Torsional Impactor and Screw Drill.....	34
..... <i>Chen Xinyong, Han Xu, Qiu Aimin, et al.</i>	

• OFFSHORE PETROLEUM EQUIPMENT •

Research on Vertical Ultimate Bearing Capacity of Suction Pile of Subsea Manifold	39
..... <i>Li Shuzhao, Jia Peng, Yin Feng, et al.</i>	
Study on Polymer Solution Dispersive Premixer for Offshore Platform.....	46
..... <i>Shu Zheng, Liao Dong, Zhao Wensen, et al.</i>	
Experimental Research on the Disc-ball Attachment for Suppressing Vortex-induced Vibration	52
..... <i>Liu Zhihui, Xu Xingping, Niu Huailei, et al.</i>	
Numerical Simulation to Leakage and Spread of Crude Oil from Submarine Buried Pipelines.....	58
..... <i>Song Linlin, Lü Xiaofei, Zhao Huijun, et al.</i>	
Key Technology of Passive Compensation Device Control System.....	65
..... <i>Wang Bofang, Fan Chunming, Li Lei, et al.</i>	

• OIL AND GAS FIELD DEVELOPMENT ENGINEERING •

Digital Layered Water Injection Based on Wave Code Communication.....	71
..... <i>Yao Bin, Yang Lingzhi, Yu Jiuzheng, et al.</i>	
Experimental Study on Removing COD in Drilling Wastewater by Amorphous Alloy Catalytic Oxidation	78
..... <i>Liu Kaiwen, Yang Xun, Zhang Huhu, et al.</i>	
Performance Optimization and Experimental Study of Soluble Fracturing Sliding Sleeve Material.....	84
..... <i>Gu Lei</i>	
Application of Adaptive Kalman Filter Algorithm in Fracturing Operation.....	89
..... <i>Chen Chunxia, Sun Xiang'e, Lei Xiang</i>	
Diaphragm Pump System with Non-metallic Coiled Tubing Cable Complex.....	94
..... <i>Ji Xiaoke, Hua Jian, Fang Jianguo</i>	

• OIL COUNTRY TUBULAR GOODS •

Design and Optimization of Vibration Reduction Structure of Intelligent Pluggers inside Pipe.....	99
..... <i>Miao Xingyuan, Zhao Hong, Wang Chenjian</i>	
Optimization Method of Pipeline Inspection Period Considering Corrosion Defects.....	107
..... <i>Zhang Jie, Xue Yihan, Ding Yi, et al.</i>	
Analysis of Buckling Propagation of the Composite Structure of Sandwich Pipe at External Pressure.....	114
..... <i>Zhang Lei, Lou Min, Ji Peng, et al.</i>	
Experimental Study on Contact Stress Ultrasonic Signal of Tubing	121
..... <i>Tian Chunmeng, Fan Jianchun, Han Ting, et al.</i>	
Magnetic Flux Leakage Defect Detection Based on Deep Learning.....	127
..... <i>Wang Hongan, Chen Guoming</i>	