



目 次

固体地球物理及空间物理学 (大气、行星、地球动力学、重磁电及地震学、地热学)

夏季热带太平洋海表温度与北极海冰年际关系的年代际变化 顾稷泰, 曾刚, 李忠贤 (1)

利用球谐分析方法构建局部重力场模型的可行性分析
..... 李新星, 冯进凯, 范昊鹏, 刘晓刚, 范雕, 李姗姗 (11)

人工智能地震分类研究进展综述 陆天然, 段梦乔, 李子怡, 周连庆 (25)

预滑震相还是气象影响? ——与“汶川 M_w 7.9 地震前华北和东北亚地块区的预滑活动”作者探讨
..... 杨小林 (48)

我国中深层地热能探测技术研究现状
..... 常宽, 张钱江, 蒋奇云, 郭涛, 尹文斌, 李杰, 谭慧, 潘远宁, 马昕 (54)

抽灌采热模式下导水断裂对热储地热资源评价的影响
..... 王朱亭, 胡圣标, 王一波, 张克松, 徐宏杰, 施亦做, 姜光政, 张超 (70)

基于多目标优化的贵德盆地增强型地热系统设计与潜力分析
..... 胡博文, 羊嘉杰, 叶志伟, 李培博, 梁伟, 孙锐, 刘奇 (80)

白鹤滩库区水位波动对滑坡形变的影响 王深禾, 王世杰 (94)

应用地球物理学 I (油气及金属矿产地球物理勘探)

LogDiffusion: 一种基于扩散概率模型的岩性识别方法 赵逢达, 韩滋民, 付晓飞, 章蓬伟, 李贤善 (106)

地震多信息联合分级约束油藏建模技术在特低渗油藏开发中的应用
..... 高福坤, 周丽萍, 李东阳, 赵英丽, 柳俊茹, 段锦川, 张桂芳 (121)

基于双通道掩码交互的地震初至拾取方法 张旭, 张剑, 石翠翠, 邓飞, 凡正才 (131)

基于深度学习的 FMI 测井图像裂缝分割研究 陈琦璠, 王杨, 蒋薇, 王永生, 梅青燕, 王欣 (143)

局部尺度频率波数域相位反演 康鹏飞, 胡勇, 刘瑞东, 孙冲, 赵卓, 袁萍, 郑明君, 蒙毅凡, 许永忠 (155)

致密油地质工程一体化评价体系研究——以鄂尔多斯盆地甘泉西部长 8 油藏为例
..... 杨连如, 李锦锋, 孙继继, 王茜, 吴彦君, 任颖惠 (166)

靖边气田中区上古生界山₂-盒₃段储层气水特征及含气性研究
..... 陈兴官, 张子为, 陈楠, 张延斌, 孟子昂, 张小莉, 李亚军, 钟高润 (176)

各向异性地层随钻电磁波电阻率响应模拟及导向反演方法研究
..... 陈小磊, 刘保银, 周军, 张中庆, 周正志, 毛保华, 张娟, 吴越 (188)



塔里木盆地顺北超深断控缝洞型储层高精度预测技术与应用 王来源, 刘军, 龚伟, 卜旭强, 黄诚, 李弘艳(199)

利用地震资料进行断层识别技术的研究进展 张林, 孟原, 祁丽莎, 阿迪力江·阿不都萨拉木, 代军, 李昂, 张丽艳(208)

基于岩石物理约束的复杂致密砂岩储层叠前地震反演方法研究 张兵, 米洪刚, 刘红星, 徐伟, 史浩, 郭俊超(220)

WOA 优化 LightGBM 在火成岩测井岩性识别中的应用 冯欢, 张国强, 曹军, 任宏, 万文春, 刘迪仁(230)

温度对多孔介质核磁共振响应的影响 王猛, 董宇, 刘建新, 刘海波, 刘志杰, 李轩(243)

致密砂岩储层岩石物理建模及“甜点”预测 周雨晴, 张佳佳, 张广智, 蔺营(255)

侏罗系陆相储层岩石力学特性研究——以四川盆地东部凉高山组二段下亚段为例 赵珠宇, 闫传梁, 程远方, 韩忠英, 薛锦春(266)

基于压缩感知的地震数据同时规则化和插值方法 董烈乾, 周恒, 桑运云, 曾庆芹, 范红光, 田永庆(276)

考虑孔隙影响的流体因子构建方法及应用 纪永祯, 雷朝阳, 姚铭, 代仕明, 贾泽宇(285)

基于核磁共振流体分布孔隙精细划分的致密油藏流体可动性特征研究 刘鹏, 彭斌, 于瑞江, 李婷, 高辉, 李腾(294)

瞬变电磁波测井井旁异常体定量表征方法研究 刘宇轩, 范宜仁, 胡旭飞, 邓少贵, 赵东玥(304)

应用地球物理学 II (海洋、工程、环境、仪器等)

超临界地热资源地球物理勘探研究进展 曾昭发, 周帅, 李静(318)

便携式频率域电磁法三维反演在城市地质调查中的应用 柳建新, 花海健, 卿展辉, 郭荣文, 刘嵘(328)

基于 k 均值聚类多道奇异谱分析的探地雷达绕射波分离与成像 王敏玲, 王浩林, 王洪华, 周鑫, 赵婕(337)

高角度裂缝型储层叠前反演方法及在渤中 26-6 油田中的应用 黄江波, 秦德海, 吕振宇, 侯栋甲(349)

基于 SiC MOSFET 的浅层高分辨瞬变电磁发射机研制 淳少恒, 王飞飞, 陈儒军, 申瑞杰, 彭鑫, 许超, 殷昊(358)

法证军事地球物理: 战场侦察与痕迹识别 张栋, 葛良胜, 吕新彪, 王斌, 闫家盼, 杨煜坤, 任堃(372)

基于压缩感知的地震弱反射融合重构技术研究及应用 李才, 陈文雄, 李芳, 刁俊才(387)

基于三维井间电阻率层析成像技术的加油站储油区泄露污染羽精细刻画与量化分析 毕现行, 郭秀军, 孙计同, 郭恩宇(398)



(CONTENTS)

Interdecadal variations in the interannual relationship between tropical Pacific SST and Arctic sea ice in summer *GU JiTai, ZENG Gang, LI ZhongXian* (1)

Feasibility analysis of constructing a regional gravitational model using the method of spherical harmonics analysis *LI XinXing, FENG JinKai, FAN HaoPeng, LIU XiaoGang, FAN Diao, LI ShanShan* (11)

Overview of progress in research on artificial intelligence for earthquake classification
..... *LU TianRan, DUAN MengQiao, LI ZiYi, ZHOU LianQing* (25)

Pre-slip activities or unidentified meteorological driven factors? —discussion with the author on the “pre-slip activities before Wenchuan M_w 7.9 earthquake at North China and Northeast Asia tectonic-block region” *YANG XiaoLin* (48)

Research status of geothermal energy detection technology in middle-deep depths in China
..... *CHANG Kuan, ZHANG QianJiang, JIANG QiYun, GUO Tao, YIN WenBin, et al.* (54)

Effect of water flowing fracture on the evaluation of geothermal resources under the doublet well system for geothermal extracting
..... *WANG ZhuTing, HU ShengBiao, WANG YiBo, ZHANG KeSong, XU HongJie, et al.* (70)

Construction design and potential analysis of enhanced geothermal system in the Guide Basin based on multi-objective optimization
..... *HU BoWen, YANG JiaJie, YE ZhiWei, LI PeiBo, LIANG Wei, SUN Rui, LIU Qi* (80)

Influence of water level fluctuation on landslide deformation in Baihetan reservoir area
..... *WANG ShenHe, WANG ShiJie* (94)

LogDiffusion: a method of lithology identification based on diffusion probability model
..... *ZHAO FengDa, HAN ZiMin, FU XiaoFei, ZHANG PengWei, LI XianShan* (106)

Application of the multi-information seismic-constrained reservoir modeling in extra-low permeability reservoir development
..... *GAO FuKun, ZHOU LiPing, LI DongYang, ZHAO YingLi, LIU JunRu, et al.* (121)

Seismic first break picking using dual-channel mask interaction
..... *ZHANG Xu, ZHANG Jian, SHI CuiCui, DENG Fei, FAN ZhengCai* (131)

Research on fracture segmentation of FMI logging images based on deep learning
..... *CHEN YuFan, WANG Yang, JIANG Wei, WANG YongSheng, MEI QingYan, WANG Xin* (143)

Local-scale frequency-wavenumber domain phase inversion
..... *KANG PengFei, HU Yong, LIU RuiDong, SUN Chong, ZHAO Zhuo, YUAN Ping, et al.* (155)

Study on integrated evaluation system of tight oil geological engineering: a case study of Chang 8 reservoir in western Ganquan area, Ordos Basin
..... *YANG LianRu, LI JinFeng, SUN JiJi, WANG Qian, WU YanJun, REN YinHui* (166)

Study on gas-water characteristics and gas-bearing properties of Upper Paleozoic Shan₂-He₈ member reservoir in middle area of Jingbian Gas Field
..... *CHENG XingGuan, ZHANG ZiWei, CHEN Nan, ZHANG YanBin, MENG ZiAng, et al.* (176)

Numerical simulation investigation and geological guided inversion method research of electromagnetic wave resistivity instruments for LWD in anisotropic formations
..... *CHEN XiaoLei, LIU BaoYin, ZHOU Jun, ZHANG ZhongQing, ZHOU ZhengZhi, et al.* (188)



High-precision reservoir prediction technology and application of superdeep fault-controlled fracture-cave type in Shunbei, Tarim Basin WANG LaiYuan, LIU Jun, GONG Wei, BU XuQiang, HUANG Cheng, LI HongYan (199)

Research progress of fault identification technology based on seismic data ZHANG Lin, MENG Yuan, QI LiSha, ALIMUJIANG Abudusalamu, DAI Jun, et al. (208)

Pre-stack seismic inversion method for physical properties of complex tight sandstone reservoirs based on the rock physics model ZHANG Bing, MI HongGang, LIU HongXing, XU Wei, SHI Hao, GUO JunChao (220)

Application of WOA optimized LightGBM in lithology identification of igneous logging FENG Huan, ZHANG GuoQiang, CAO Jun, REN Hong, WAN WenChun, LIU DiRen (230)

Effect of temperature on NMR response of porous media WANG Meng, DONG Yu, LIU JianXin, LIU HaiBo, LIU ZhiJie, LI Xuan (243)

Research on rock physical modeling and “sweet spot” prediction methods for tight sandstone reservoirs ZHOU YuQing, ZHANG JiaJia, ZHANG GuangZhi, LIN Ying (255)

Study on the rock mechanical properties of Jurassic terrestrial reservoirs: a case study of the lower sub-section of the second section in Lianggaoshan Formation of the eastern Sichuan Basin ZHAO ZhuYu, YAN ChuanLiang, CHENG YuanFang, HAN ZhongYing, XUE JinChun (266)

Seismic data regularization and interpolation approach based on compressive sensing principle DONG LieQian, ZHOU Heng, SANG YunYun, ZENG QingQin, et al. (276)

Porosity-involved fluid factor construction method and application JI YongZhen, LEI ChaoYang, YAO Ming, DAI ShiMing, JIA ZeYu (285)

Research on the characteristics of fluid mobility of the tight reservoir with the NMR fluid distribution pore classification method LIU Peng, PENG Bin, YU RuiJiang, LI Ting, GAO Hui, LI Teng (294)

Research on quantitative characterization method of near-well anomalies in transient electromagnetic logging LIU YuXuan, FAN YiRen, HU XuFei, DENG ShaoGui, ZHAO DongYue (304)

Progress in geophysical exploration of supercritical geothermal resources ZENG ZhaoFa, ZHOU Shuai, LI Jing (318)

Application of portable frequency domain three-dimensional electromagnetic inversion in urban geological survey LIU JianXin, HUA HaiJian, QING ZhanHui, GUO RongWen, LIU Rong (328)

Diffraction wave separation and imaging of ground penetrating radar based on k -means clustering in multiple singular spectrum analysis WANG MinLing, WANG HaoLin, WANG HongHua, ZHOU Xin, ZHAO Jie (337)

Pre-stack inversion method for high-angle fracture reservoir and its application in the Bozhong 26-6 oilfield HUANG JiangBo, QIN DeHai, LÜ ZhenYu, HOU DongJia (349)

Development of transient electromagnetic transmitter based on SiC MOSFET for high-resolution near-surface CHUN ShaoHeng, WANG FeiFei, CHEN RuJun, SHEN RuiJie, PENG Xin, et al. (358)

Forensic military geophysics: battlefield reconnaissance and trace identification ZHANG Dong, GE LiangSheng, LÜ XinBiao, WANG Bin, YAN JiaPan, YANG YuKun, REN Kun (372)

Research and application of seismic weak reflection fusion reconstruction technology based on compressed sensing LI Cai, CHEN WenXiong, LI Fang, DIAO JunCai (387)

Fine characterization and quantitative analysis of leakage pollution plumes in oil storage areas of gas stations based on three-dimensional cross well resistivity tomography technology BI XianHang, GUO XiuJun, SUN JiTong, GUO EnYu (398)