地球物理学进展 (DIQIUWULIXUE JINZHAN)
第 40 卷 第 2 期 (总第 190 期) 2025 年 4 月

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)

基于电离层相关性的电离层数据同化系统的优化方案 …… 李希彬,曹博鑫,冯静,李雪(409)
基于 WOA-LSTM 的电离层 TEC 短期预报模型研究 …… 罗双,陈健,张涛,赵兴旺,刘超(417)
西华夏块体深地震测深远炮检距 PmP' 波组属性? ……
…… 刘汉奇,王夫运,宋佳佳,王帅军,宋向辉,张雪莹(432)
四川威远页岩气场沉积层和基岩层厚度与波速比及其构造暗示 ……
…… 程智伟,危自根,金超,谢军,范心甜(440)
面向 MEMS 强震仪的改进 STA/LTA 算法适用性分析 …… 赵国勇,邱磊,李彩华,张剑(448)
干热岩储层精细地震勘探技术进展综述 …… 马铭,马峰(460)
柴达木地块下石炭统城墙沟组岩石磁学研究 ……
…… 王鹏飞,周亚楠,程鑫,王腾,卫弼天,柴瑞阳,刘非凡,刘钊,刘东伟,吴汉宁(472)
联合 SBAS-InSAR 与概率积分模型的郓城煤矿沉降监测与分析 …… 迟凤妹,刘国林,陶秋香,肖怡欣(484)

应用地球物理学 I(油气及金属矿产地球物理勘探)

二氧化碳地质封存时延重力监测技术及发展前景 …… 章月华,刘彦,吕庆田,陈召曦(495)
塔里木盆地喀什构造带高密度线束地震采集技术及应用研究 ……
…… 刘依谋,李亚林,周旭,付玲,周翼,段文胜(511)
应用地震资料探讨鄂尔多斯盆地彭阳地区浅层砂岩型铀矿与深层油气关系 ……
…… 谈顺佳,于常青,聂逢君,张玥,瞿辰,李卫强,范鹏啸(524)
基于 XGBoost 的孔隙压力预测方法研究 …… 张冰,王晓婷,徐福颖,秦宇嘉,王智千(541)
英雄岭真地表高精度地震处理与成像关键技术 ……
…… 朱波,梁上林,戴向峰,柴海珍,张惠瑜,王春明,张征,张才,侯思安(556)
基于核磁共振技术的不同类型致密砂岩储层压裂液微观伤害特征研究 ……
…… 解永刚,石华强,李小玲,朱李安,侯乐锴,刘晓瑞,丁里,李晓航,李腾(568)
深层中基性火山岩气藏岩石物理特征研究 …… 李呈呈,张克非,马霄一,王欢,白俊(580)
基于多头注意力机制的 TCN-BiGRU 密度测井曲线重构方法 ……
…… 王欢欢,赵彬,刘建新,陶良清,高楚桥,廖文龙(592)
宽方位数据的 OVT 域 Q 叠前时间偏移方法研究 …… 张晓彤,王兴军,郑多明,张江杰,刘礼农(605)
致密砂岩气藏产水机理研究方法综述 …… 韩子浩,张占松,郭建宏,张浩,宋健(619)
部分饱和含正交裂缝岩石等效弹性性质研究 …… 吴雨桐,廖建平,张青,刘和秀,程亮,周林(634)
基于 XGBoost 算法的火山岩岩性识别方法与研究 …… 赵然磊,杨留栓,徐晓,马文涛,李济良(646)

2025 年第 40 卷 第 2 期
2025,40(2):0409-0874
地球物理学进展 Progress in Geophysics
http://www.progeophys.cn
ISSN 1004-2903
CN 11-2982/P

基于 VAE-BiGRU-Attention 模型的储层孔隙度预测——以中-低渗砂岩储层为例 …… 曾滨鑫,肖晖,郝子眉,刘欢欢(658)
岩石力学特性与裂缝有效性对致密砂岩油藏开发影响分析——以鄂尔多斯盆地陇东地区延长组长 7 段为例 …… 唐颖, 尹帅, 王瑞飞(670)
融合高斯函数与储层分类拟合法计算 T_2 截止值…… 嵇雯,刘之的,向威,柳泽旭,魏丹妮,周平,王舵,陈龙(681)
基于改进 Stacking 融合模型的储层参数预测方法 …… 霍凤财, 李青志, 董宏丽, 陈怡(691)
鄂尔多斯盆地西南部盆缘与盆内延长组 8 段油气充注差异性对比及成藏模式研究 …… 梁正中,宫焕然,王镜惠,鹿坤(705)
泥页岩岩相识别——以延安地区延长组为例 …… 赵卫卫,李慧,刘钰晨,沈卓媛,高剑波,霍志鹏,张佳琦,王嘉楠(719)
四川盆地西部二叠系火山岩精细雕刻及地震相带分类预测研究 …… 郭毅,熊晓军,张本健,陈骁,胥德平,张鑫(732)
多任务 Transformer 下的小样本叠前 AVO 反演方法研究 …… 杨柳青,王守东,李婧铭(743)

应用地球物理学Ⅱ(海洋、工程、环境、仪器等)

瞬变电磁极速关断方法与技术研究 …… 付国红,王战英,程辉,傅崧原,于嘉星,雍楚康(758)
地层露头电性频谱参数快速测量装置研究 …… 程辉,刘琰,詹少全,廖秀英,付国红(765)
海上纵波资料二阶积分波场弹性参数波形反演方法 …… 孙文博,张洪亮,王建花,吴国忱,鲍铁钊,丁继才(774)
基于纵波约束的 OBN 数据联合层析反演优化方法 …… 葛大明(787)
基于多波束反向散射统计分布的海底底质分类 …… 罗进华,冯湘子(798)
古近系湖相储层岩石力学特性及各向异性研究——以渤海湾盆地东南部沙河街组为例 …… 赵珠宇,闫传梁,薛锦春,程远方,韩忠英,张喆,孙波,周广旭(806)
基于并行电法的水域三维直流电法勘探应用研究 …… 杨华泽,陈兴海,周官群,吴小平, 王亚飞,梁希凯(817)
基于 YOLO 的道路隐性病害探地雷达图谱智能诊断系统研究 …… 郭士礼, 蔡文才, 田朋飞, 徐志伟, 曹争, 张鸿彦, 李世元(827)
基于 SVM 及 PCSP 的全极化探地雷达地雷探测方法研究 …… 周皓秋,冯晅,董泽君,梁文婧(838)
浅层考古目标高频电磁法二维数值模拟研究 …… 李奇霖, 林方丽, 张永超, 王光杰, 王若, 尉晋升(849)
基于双台广义互相关时延算法计算高铁列车速度 …… 田丽萍,郑定昌,张帅,张演,王光明(861)

〔期刊基本参数〕CN11-2982/P * 1986 * B * A4 * 466 * ZH * P * ¥260.00 * 1000 * 39 * 2025-4.

PROGRESS IN GEOPHYSICS
Vol. 40 No. 2 (Series No. 190) April 2025

(CONTENTS)

Optimization scheme of ionospheric data assimilation system based on ionospheric correlation ····· *LI XiBing, CAO BoXin, FENG Jing, LI Xue* (409)

Research on the short-term prediction model of the ionospheric TEC based on WOA-LSTM ····· *LUO Shuang, CHEN Jian, ZHANG Tao, ZHAO XingWang, LIU Chao* (417)

What is the properties of the PmP'wave group for deep seismic sounding in West Cathaysia block? ····· *LIU HanQi, WANG FuYun, SONG JiaJia, WANG ShuaiJun, SONG XiangHui, et al.* (432)

Thickness and V_p/V_s of sedimentary and bedrock layers and their tectonic implications in the Weiyuan shale gas field, Sichuan ····· *CHENG ZhiWei, WEI ZiGen, JIN Chao, XIE Jun, FAN XinTian* (440)

Applicability analysis of improved STA/LTA algorithm for MEMS seismograph ····· *ZHAO GuoYong, QIU Lei, LI CaiHua, ZHANG Jian* (448)

Overview of seismic exploration for hot dry rock reservoirs ····· *MA Ming, MA Feng* (460)

Rock magnetic results of the Lower Carboniferous Chengqianggou Formation in the Qaidam block ····· *WANG PengFei, ZHOU YaNan, CHENG Xin, WANG Teng, WEI BiTian, et al.* (472)

Subsidence monitoring and analysis of Yuncheng coal mine combined with SBAS-InSAR and probability integral model ····· *CHI FengMei, LIU GuoLin, TAO QiuXiang, XIAO YiXin* (484)

Time-lapse gravity monitoring technology and prospects for carbon dioxide geological storage ····· *ZHANG YueHua, LIU Yan, LÜ QingTian, CHEN ZhaoXi* (495)

High-density beam seismic acquisition technique and its application on the Kashgar structural belt of the Tarim basin ····· *LIU YiMou, LI YaLin, ZHOU Xu, FU Ling, ZHOU Yi, DUAN WenSheng* (511)

Exploring the relationship between shallow sandstone-type uranium deposits and deep oil and gas in the Pengyang area of the Ordos Basin based on seismic data ····· *TAN ShunJia, YU ChangQing, NIE FengJun, ZHANG Yue, QU Chen, et al.* (524)

Research on pore pressure prediction method based on XGBoost ····· *ZHANG Bing, WANG XiaoTing, XU FuYing, QIN YuJia, WANG ZhiQian* (541)

Key technologies for high-precision seismic process and imaging of the real surface of Yingxiongling ····· *ZHU Bo, LIANG ShangLin, DAI XiangFeng, CHAI HaiZhen, ZHANG HuiYu, et al.* (556)

Research on microscopic damage characteristics of fracturing fluid in different types of tight sandstone reservoirs with the NMR ····· *XIE YongGang, SHI HuaQiang, LI XiaoLin, ZHU LiAn, HOU LeKai, LIU XiaoRui, DING Li, LI XiaoHang, LI Teng* (568)

Petrophysical characteristics of deep intermediate-basic volcanic gas reservoir ····· *LI ChengCheng, ZHANG KeFei, MA XiaoYi, WANG Huan, BAI Jun* (580)

Density logging curve reconstruction method based on TCN-BiGRU with multi-head attention mechanism ··· *WANG HuanHuan, ZHAO Bin, LIU JianXin, TAO LiangQing, GAO ChuQiao, LIAO WenLong* (592)

Wide-azimuth data deabsorption prestack time migration in OVT domain ····· *ZHANG XiaoTong, WANG XingJun, ZHENG DuoMing, ZHANG JiangJie, LIU LiNong* (605)

Review of research methods on water production mechanisms in tight sandstone gas reservoirs ····· *HAN ZiHao, ZHANG ZhanSong, GUO JianHong, ZHANG Hao, SONG Jian* (619)

Equivalent elastic properties of partially saturated rock with orthogonal fractures ····· *WU YuTong, LIAO JianPing, ZHANG Qing, LIU HeXiu, CHENG Liang, ZHOU Lin* (634)

Lithology identification method and research of volcanic rock based on XGBoost algorithm ……
…… *ZHAO RanLei, YANG LiuShuan, XU Xiao, MA WenTao, LI JiLiang* (646)
Reservoir porosity prediction using the VAE-BiGRU-Attention model: an example study of middle-low permeability sandstone reservoir …… *ZENG BinXin, XIAO Hui, HAO ZiMei, LIU HuanHuan* (658)
Analysis of the impact of rock mechanics and fracture effectiveness on the development of tight sandstone reservoirs: a case study of the Chang 7 member in the Longdong area of Ordos Basin ……
…… *TANG Ying, YIN Shuai, WANG RuiFei* (670)
Calculating T_2 cutoff value using a fitting method of Gaussian function and reservoir classification ……
…… *JI Wen, LIU ZhiDi, XIANG Wei, LIU ZeXu, WEI DanNi, ZHOU Ping, WANG Duo, et al.* (681)
Prediction method of reservoir evaluation parameters based on improved Stacking fusion model ……
…… *HUO FengCai, LI QingZhi, DONG HongLi, CHEN Yi* (691)
Comparative study on enrichment difference and main controlling factors between Chang 8 reservoirs in southwestern Ordos Basin …… *LIANG ZhengZhong, GONG HuanRan, WANG JinHui, LU Kun* (705)
Identification of mud shale lithofacies: taking Yanchang Formation in Yan'an area as an example ……
…… *ZHAO WeiWei, LI Hui, LIU YuChen, SHEN ZhuoYuan, GAO JianBo, et al.* (719)
Depiction and seismic facies analysis of Permian volcanic rocks in the western Sichuan Basin ……
…… *GUO Yi, XIONG XiaoJun, ZHANG BenJian, CHEN Xiao, XU DePing, ZHANG Xin* (732)
Few-shot pre-stack AVO inversion using a multi-task Transformer ……
…… *YANG LiuQing, WANG ShouDong, LI JingMing* (743)
Research on ultra-fast turn-off methods and techniques for TEM ……
…… *FU GuoHong, WANG ZhanYing, CHENG Hui, FU SongYuan, YU JiaXing, et al.* (758)
Research on a rapid measurement device for electrical spectrum parameters of formation outcrop ……
…… *CHENG Hui, LIU Yan, ZHAN ShaoQuan, LIAO XiuYing, FU GuoHong* (765)
Elastic parameters waveform inversion method of the second-order time integral wavefield for marine pure P-wave data …… *SUN WenBo, ZHANG HongLiang, WANG JianHua, WU GuoChen, et al.* (774)
Optimization method of joint tomographic inversion of OBN data based on P-wave constraint ……
…… *GE DaMing* (787)
Classification of seabed sediment based on multi-beam backscatter statistical distribution ……
…… *LUO JinHua, FENG XiangZi* (798)
Study on the rock mechanical properties and anisotropy of Paleocene Huxiang reservoirs: a case study of the Shahejie Formation in the southeastern Bohai Bay Basin ……
…… *ZHAO ZhuYu, YAN ChuanLiang, XUE JinChun, CHENG YuanFang, et al.* (806)
Research on the application of 3-D DC resistivity exploration in water areas based on parallel electrical method …… *YANG HuaZe, CHEN XingHai, ZHOU GuanQun, WU XiaoPing, et al.* (817)
Research on GPR diagnostic system for hidden road defects based on YOLO ……
…… *GUO ShiLi, CAI WenCai, TIAN PengFei, XU ZhiWei, CAO Zheng, et al.* (827)
Landmine detection of full-polarimetric ground penetrating radar based on SVM and PCSP ……
…… *ZHOU HaoQiu, FENG Xuan, DONG ZeJun, LIANG WenJing* (838)
Two dimensional numerical simulation of shallow archaeological targets using high-frequency electromagnetic method …… *LI QiLin, LIN FangLi, ZHANG YongChao, WANG GuangJie, et al.* (849)
Calculation of high-speed train speed based on the generalized cross-correlation delay algorithm of two stations
…… *TIAN LiPing, ZHENG DingChang, ZHANG Shuai, ZHANG Yan, WANG GuangMing* (861)