

地球物理学报 (月刊)

DIQIU WULI XUEBAO

2026 年 9 月 第 69 卷 第 9 期

目次



空间与大气物理学·重力学与大地测量学

- 3813 NWC 台站信号导致空间高能电子沉降的长期观测研究 朱琪, 刘阳希子, 项正, 马新, 胡景乐, 王建行
- 3827 基于模态分解与特征优化的 HGWO-CNN-LSTM 电离层 TEC 预报 潘雄, 李涛, 李潮, 金丽宏, 赵子瑄
- 3842 基于改进扩散模型的多模态气象资料同化方法 方巍, 蒋鸿儒, 吴若飞, 庞芳, 鲍艳松
- 3853 植被在夏季风影响过渡区陆面能量通量长期变化中的关键作用 曾剑, 张强, 岳平, 王胜, 杨泽粟
- 3871 融合地面观测和卫星模型的雄安地区重力异常和地壳密度结构研究 余雅文, 付广裕, 刘泰, 王振宇, 赵倩, 董浩
- 3882 变密度棱柱体和台体的重力场解析表达 徐焕, 董超, 唐河, 汪秋昱, 徐长仪, 于锦海
- 3900 重力梯度动态测量外符合精度的可溯源评估方法 李达, 要佳敏, 舒东亮, 梁瑾, 李城锁, 李中, 马国庆
- 3914 基于方差分量估计改进 GRACE-FO 卫星姿态融合的卡尔曼滤波方法 杨涛, 陈秋杰, 沈云中, 肖云
- 3926 利用高频 GNSS 同震速度波形快速反演新疆乌什 7.1 级地震地震三要素与仪器烈度 郑佳伟, 李敏, 方荣新, 李钟兴, 梁艳, 赵齐乐, 刘经南

地球动力学·地震学

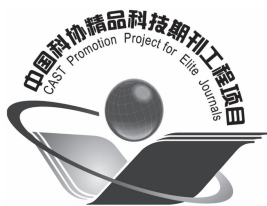
- 3950 构造背景对岩石圈地幔拆沉驱动地表隆升的

- 控制作用: 来自二维动力学模拟的约束 银星朗, 邱盛敏, 徐啸, 郭晓玉, 李春森
- 3964 短周期密集台阵探测广东三水盆地浅层速度结构 冯伟瑜, 沈旭章, 张冬丽, 许健, 金睿智, 谭家炜, 潘啟安, 黄斯燃, 杨维成, 李豪
- 3982 利用同震位错计算的静态库仑破裂应力变化是地震前后真实的库仑应力变化吗? 朱守彪
- 3994 2025 年缅甸曼德勒 $M_w 7.8$ 地震震源过程分析 周云, 王卫民, 王洵, 潘正洋, 何建坤
- 4007 西藏定日 $M_s 6.8$ 地震区域地壳形变及构造意义 熊国华, 季灵运, 刘传金, 朱良玉, 石富强
- 4025 2025 年定日 $M_w 7.1$ 地震序列精定位和震源机制及其对藏南裂谷伸展构造的启示 刘承雨, 王未来, 房立华, 郑建常, 李君, 王世广
- 4041 联合 DAS 与节点地震仪进行城市地区地震监测——以 2024 年肥东 $M_w 4.7$ 地震为例 付涛, 王宝善, 鲍子文, 朱波星, 李俊伦, 李玲利, 倪红玉
- 4060 基于迁移学习的地震与矿山爆破波形自动判别及跨区域适应性研究 翟鸿宇, 尹欣欣, 蔡润, 王浩, 王树旺, 张浩, 武绍江
- 4078 地震构造活动驱动的基岩应变-热场演化机制: 伽师 $M_w 6.0$ 地震理论计算与观测证据 贾东辉, 余怀忠, 宋治平, 晏锐, 陈界宏, 李纲, 宋春燕, 赵彬彬, 马玉川

4090	羌塘地块中上侏罗统逆冲推覆构造形成机制及对油气成藏影响	陈庆龙, 程鑫, 张嘉辉, 周亚楠, 姜南, 卫弼天, 幸龙云, 柴瑞阳, 张冬孟, 吴汉宁
4115	地磁场球谐模型截断阶数的优化选择: 基于地表与核幔边界的多尺度定量分析	白春华, 康国发, 高国明, 文丽敏
4130	嫦娥五号月球返回样品新约束下的月球热演化模型	沈安翔, 周游
4144	天山—兴蒙造山带及周缘深层地热资源潜力区预测	裴发根, 方慧, 张耀阳, 范俊杰, 梁宏达, 张小博, 王刚, 张帆, 范翠松, 刘生荣, 孟银生, 吕琴音, 何大双, 袁永真, 郭杰
4166	华南陆缘地热异常区断裂与水热活动关系—以广东惠州黄沙洞地热田为例	范艳霞, 张健, 李海龙, 任天翔, 张敏
4182	南海南沙群岛潜在的海啸灾害水动力特征	郑婷婷, 邱强, 李琳琳, 曹敬贺, 曹令敏, 李海勇

4198	利用黏弹性介质多参数地震全波形反演探测依兰陨石坑缺口区浅部结构	朱磊, 潘雨迪, 覃谭, 孙旭, 陈浩岩, 李嘉琪
------	---------------------------------------	---------------------------

4212	多域信息约束的深度学习叠前地震反演方法研究: 以川中侏罗系沙溪庙组致密砂岩储层为例	葛强, 曹宏, 杨志芳, 张健, 卢明辉, 陈康, 张昕, 梁菁, 晏信飞
4227	起伏地表三维黏弹 TTI 介质地震波场有限差分模拟	罗来迁, 饶莹, 赵振聪, 张君秋
4244	正交多项式与 STEM 算子高精度联合求解波动方程	王宇飞, 李静爽, 黄雪源, 周艳杰
4263	数据驱动 U-net 和模型驱动 Levenberg-Marquardt 联合的波阻抗反演	王尧, 王彦飞, 曹静杰, 魏亚杰
4275	多相介质空间守恒约束直流电阻率法与折射波数据联合反演	李静和, 童维科
4294	考虑无机质孔表面润湿性的页岩油 T_1 - T_2 二维核磁共振数值模拟及响应特征分析	葛新民, 葛飞, 王敏, 蒋龙, 肖玉峰, 赵俊峰, 沙钰桦
4309	双向门控循环单元网络在瞬变电磁三维反演中的应用	余传涛, 王志涛, 薛俊杰, 张子乾
4321	过套管声波测井的双源反激参数优化实验研究	赵岳, 苏远大, 饶博, 郭尚静, 周建文, 李盛清, 唐晓明
4335	正交天线随钻方位电磁波测井缩放匹配快速反演方法	王磊, 李丁, 张文秀, 袁习勇, 李星翰



Contents

Space and Atmospheric physics·Gravity and Geodesy

- 3813 Long-term investigation of energetic electron precipitation induced by NWC transmitter signals ZHU Qi, LIU YangXiZi, XIANG Zheng, MA Xin, HU JingLe, WANG JianHang
- 3827 Ionospheric TEC forecasting based on mode decomposition and feature optimization using HGWO-CNN-LSTM PAN Xiong, LI Tao, LI Chao, JIN LiHong, ZHAO ZiXuan
- 3842 Multimodal meteorological data assimilation scheme based on improved diffusion model FANG Wei, JIANG HongRu, WU RuoFei, PANG Fang, BAO YanSong
- 3853 The critical role of vegetation in long-term changes of land surface energy fluxes over the east Asian summer monsoon transition zone ZENG Jian, ZHANG Qiang, YUE Ping, WANG Sheng, YANG ZeSu
- 3871 Gravity anomalies and crustal density structure beneath the Xiong'an region by merging ground observation and satellite model SHE YaWen, FU GuangYu, LIU Tai, WANG ZhenYu, ZHAO Qian, DONG Hao
- 3882 Analytical expressions of gravitational field for prisms and platforms with variable-density XU Huan, DONG Chao, TANG He, WANG QiuYu, XU ChangYi, YU JinHai
- 3900 A traceable evaluation method for external agreement accuracy of dynamic gravity gradient measurement LI Da, YAO JiaMin, SHU DongLiang, LIANG Jin, LI ChengSuo, LI Zhong, MA GuoQing
- 3914 Variance component estimation-based Kalman filter optimization for GRACE-FO satellite attitude fusion YANG Tao, CHEN QiuJie, SHEN YunZhong, XIAO Yun
- 3926 Earthquake three elements and instrumental seismic intensity of the Xinjiang Wushi $M_s7.1$ earthquake from high-rate GNSS co-seismic velocity waveforms

- ZHENG JiaWei, LI Min, FANG RongXin, LI ZhongXing, LIANG Yan, ZHAO QiLe, LIU JingNan

Geodynamics·Seismology

- 3950 Control of tectonic setting on surface uplift driven by lithospheric mantle delamination: Constraints from 2D dynamical modeling YIN XingLang, QIU ShengMin, XU Xiao, GUO XiaoYu, LI ChunSen
- 3964 Shallow velocity structure of the Sanshui Basin Guangdong Province constrained by the short-period dense seismic array ... FENG WeiYu, SHEN XuZhang, ZHANG DongLi, XU Jian, JIN RuiZhi, TAN JiaWei, PAN QiAn, HUANG SiRan, YANG WeiCheng, LI Hao
- 3982 Is the static Coulomb stress change caused by coseismic dislocations the actual one before and after the earthquake? ZHU ShouBiao
- 3994 Source process analysis of the 2025 $M_w7.8$ Mandalay, Myanmar earthquake ZHOU Yun, WANG WeiMin, WANG Xun, PAN ZhengYang, HE JianKun
- 4007 Crustal deformation and tectonic implications of the Xizang Dingri $M_s6.8$ earthquake XIONG GuoHua, JI LingYun, LIU ChuanJin, ZHU LiangYu, SHI FuQiang
- 4025 Precise relocation, focal mechanisms of the 2025 Dingri $M_w7.1$ earthquake sequence, and their implications for extensional tectonics in the South Tibetan Rift System LIU ChengYu, WANG WeiLai, FANG LiHua, ZHENG JianChang, LI Jun, WANG ShiGuang
- 4041 Earthquake monitoring in urban area using DAS and nodal seismometers: A case study of the 2024 Feidong $M_w4.7$ earthquake FU Tao, WANG BaoShan, BAO ZiWen, ZHU BoXing, LI JunLun, LI LingLi, NI HongYu
- 4060 Transfer learning for automatic discrimination of earthquake and mining blast waveforms: A cross-regional adaptation study ZHAI HongYu, YIN XinXin, CAI Run,

WANG Hao, WANG ShuWang, ZHANG Hao, WU ShaoJiang

4078 Mechanism of bedrock strain-thermal field evolution driven by seismotectonic activity: Theoretical calculations and observation evidence of the Jiashi M_w 6.0 Earthquake JIA DongHui, YU HuaiZhong, SONG ZhiPing, YAN Rui, CHEN Chieh-Hung, LI Gang, SONG ChunYan, ZHAO BinBin, MA YuChuan

Geomagnetism·Geothermics·Marine geophysics

4090 Formation mechanisms of thrust-nappe structures in the middle-upper Jurassic of Qiangtang Block and its impact on hydrocarbon accumulation CHEN QingLong, CHENG Xin, ZHANG JiaHui, ZHOU YaNan, JIANG Nan, WEI BiTian, XING LongYun, CHAI RuiYang, ZHANG DongMeng, WU HanNing

4115 Optimal selection of the truncation degree for spherical harmonic models of the geomagnetic field: a multi-scale quantitative analysis at the Earth's surface and the Core-Mantle Boundary BAI ChunHua, KANG GuoFa, GAO GuoMing, WEN LiMin

4130 A lunar thermal evolution model constrained by new evidence from Chang'e-5 returned samples SHEN AnXiang, ZHOU You

4144 Evaluation of deep geothermal resources potential in the Tianshan-Xingmeng Orogenic Belt and its surrounding regions PEI FaGen, FANG Hui, ZHANG YaoYang, FAN JunJie, LIANG HongDa, ZHANG XiaoBo, WANG Gang, ZHANG Fan, FAN CuiSong, LIU ShengRong, MENG YinSheng, LÜ QinYin, HE DaShuang, YUAN YongZhen, Guo Jie

4166 Relationship between faults and hydrothermal activity in the geothermal anomaly zones of the South China continental margin: A case study of the Huangshadong geothermal field in Huizhou city, Guangdong province FAN YanXia, ZHANG Jian, LI HaiLong, REN TianXiang, ZHANG Min

4182 Hydrodynamic characteristics of potential tsunami hazard impacts on the Nansha Islands in the South China Sea ZHENG TingTing, QIU Qiang, LI LinLin, CAO JingHe, CAO LingMin, LI HaiYong

Applied geophysics

4198 Characterization of near-surface structure at the Yilan

Crater gap via multiparameter viscoelastic full-waveform inversion ZHU Lei, PAN YuDi, QIN Tan, SUN Xu, CHEN HaoYan, LI JiaQi

4212 Multi-domain information constrained deep learning for pre-stack seismic inversion: a case study of tight sandstone reservoirs in the Jurassic Shaximiao Formation, Central Sichuan Basin .. GE Qiang, CAO Hong, YANG ZhiFang, ZHANG Jian, LU MingHui, CHEN Kang, ZHANG Xin, LIANG Jing, YAN XinFei

4227 Finite difference seismic wavefield simulation in 3D viscoelastic TTI media with rugged topography LUO LaiQian, RAO Ying, ZHAO ZhenCong, ZHANG JunQiu

4244 Orthogonal polynomials and STEM operators jointly solve wave equations with high accuracy WANG YuFei, LI JingShuang, HUANG XueYuan, ZHOU YanJie

4263 Integration of data-driven U-net and model-driven Levenberg-Marquardt algorithm for acoustic impedance inversion WANG Yao, WANG YanFei, CAO JingJie, WEI YaJie

4275 Joint inversion of electrical resistivity and refracted wave data with spatial conservation constraints for multiphase medium LI JingHe, TONG WeiKe

4294 Numerical simulation and response analysis on the T_1 - T_2 nuclear magnetic resonance of shale reservoirs considering the wettability of the inorganic pore surfaces GE XinMin, GE Fei, WANG Min, JIANG Long, XIAO YuFeng, ZHAO JunFeng, SHA ZhengHua

4309 Research and application of bidirectional gated recurrent unit network in 3D transient electromagnetic inversion YU ChuanTao, WANG ZhiTao, XUE JunJie, ZHANG ZiQian

4321 Experimental studies on parameter optimization of dual source transmitters excitation in through casing acoustic logging ZHAO Yue, SU YuanDa, RAO Bo, GUO ShangJing, ZHOU JianWen, LI ShengQing, TANG XiaoMing

4335 Fast data matching inversion method of logging-while-drilling azimuthal electromagnetic measurements with transverse antenna WANG Lei, LI Ding, ZHANG WenXiu, YUAN XiYong, LI XingHan