

ISSN 0001-5733
 CN 11-2074/P
<http://www.geophy.cn>

地球物理学报

第六十四卷

第十二期

二〇二一年十二月

科学出版社



CHINESE JOURNAL OF GEOPHYSICS

(Acta Geophysica Sinica)

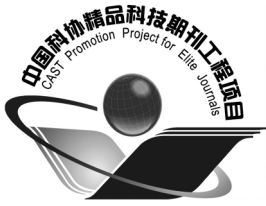
地球物理学报



中国科学院地质与地球物理研究所 主办
 中国地球物理学会
 科学出版社 出版

2021 第64卷
 Vol.64 No.12
第12期

万方数据



地球物理学报 (月刊)

(DIQIU WULI XUEBAO)

2021年12月 第64卷 第12期

目次



岩石物理与地球结构探测专栏

- 4227 井孔与弹性波的相互作用:理论、方法和应用
..... 唐晓明, 古希浩, 李杨虎, 苏远大
- 4239 致密储层岩石应力各向异性与材料各向异性的
实验研究 ... 王小琼, 葛洪魁, 王文文, 张茜
- 4252 陆地水体气枪震源探测技术回顾与进展 ...
..... 杨微, 王宝善, 张云鹏, 王伟涛
- 4269 甲烷气爆震源性能研究及其在粤港澳大湾区
化龙断层探测中的应用
..... 徐善辉, 王伟涛, 许卫卫, 王力伟,
马晓娜, 王翔, 孟川民, 杨微
- 4280 基于 MF-J 变换的 DAS 观测高阶面波提取和
浅地表结构成像 ... 雷宇航, 尹扶, 洪鹤庭,
李娉兰, 王宝善
- 4292 基于密集台阵资料的 S 波分裂研究云南宾川
上地壳各向异性特征 豆辉, 王宝善,
徐逸鹤, 王伟涛, 张博
- 4308 基于重复地震研究川滇地区主要断裂带的深
部变形 李乐, 陈棋福, 钮凤林
- 4327 噪声源的时空分布及其对噪声互相关函数的
影响——以 ChinArray 二期数据为例
..... 赵玲云, 王伟涛, 王芳, 李娜
- 4341 台风“海鸥”激发地脉动源区的联合台阵定位
研究 林建民, 方孙珂, 倪四道
- 4355 海底地壳形变监测现状与启示
..... 乔学军, 王伟, 林牧, 陈威, 刘刚
- 4364 巽他大陆及其邻区的地壳结构及其构造意
义:来自远震接收函数的约束
..... 冯铭业, 陈凌, 王旭, 韦生吉, 王新
- 4378 基于区域宽频带和近震波形数据的多点源反

- 演——以 2016 $M_w7.1$ 日本熊本地震为例
..... 施其斌, 韦生吉
- 4394 西北太平洋俯冲带及其深震活动
..... 陈棋福, 王新, 姜金钟, 李天觉
- 4406 利用接收函数散射核方法探测中国东北地区
地幔转换带界面三维形态
..... 杨凡, 张涵, 李娟, 王新, 陈棋福
- 4425 全球及主要构造带大震活动状态研究
..... 薛艳, 刘杰, 姜祥华

重力学·地球动力学·地震学·地电学

- 4437 卫星重力梯度观测数据 L1 级构建方法
..... 吴云龙, 郭泽华, 肖云, 马林
- 4449 2021 年 9 月 16 日四川泸县 $M_s6.0$ 地震序列
特征及孕震构造环境 易桂喜, 赵敏,
龙锋, 梁明剑, 王明明, 周荣军, 王思维
- 4462 利用远震 P 波接收函数研究漾濞 $M_s6.4$ 地
震孕震环境 张天继, 金明培
- 4475 2021 年 5 月 21 日云南漾濞 $M_s6.4$ 地震序列
地震矩张量及发震构造 刘俊清, 甘卫军,
王光明, 王忠礼, 张宇, 蔡宏雷, 李仲巍
- 4488 2021 年 5 月 21 日漾濞 $M_s6.4$ 地震震源区三
维 P 和 S 波速度结构与地震重定位研究
..... 胡景, 赵韬, 白超英, 郭浩,
王莹, 李兴旺, 莘海亮
- 4510 2021 年 5 月 21 日云南漾濞 6.4 级地震序列
重定位及震源机制研究 王月, 胡少乾,
何骁慧, 郭凯, 解孟雨, 邓世广, 马亚伟
- 4526 云南漾濞 6.4 级地震强地面运动的模拟和空
间分布特征分析 周红, 李亚南, 常莹
- 4538 2021 年 5 月 21 日云南漾濞 $M_s6.4$ 地震随机

有限断层三维地震动模拟
... 强生银, 王宏伟, 温瑞智, 李春果, 任叶飞

4548 基于 InSAR 地表形变约束的玛多 $M_s7.4$ 地震孕育发生机理数值模拟研究
..... 祝爱玉, 王永哲, 李永华, 张东宁

4562 2021 年青海玛多 $M_s7.4$ 地震对周围地区的应力影响 冯淦, 万永革, 许鑫, 李泉

4572 利用同址比测法估计在线地震仪灵敏度
..... 许卫卫, 杨大克, 袁松湧,
马洁美, 谢剑波, 李小军

4582 基于自然电位法的滑坡监测实验研究
..... 胡开颜, 莫淳涓, 张益华, 李双双,
孙健维, 韩鹏, 黄清华

4594 利用基岩温度获取地下流体运移特征:以喀什

地区为例 ... 卢丽莉, 陈顺云, 刘琼颖, 闫玮,
刘培洵, 宋春燕, 冯嘉辉, 陈立春

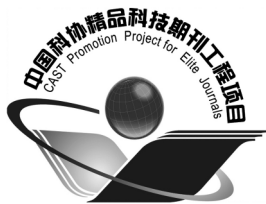
应用地球物理学

4607 TTI 介质弹性波近似解耦波动方程
..... 梁锴, 孙上饶, 曹丹平, 印兴耀

4618 基于三维孔隙网络模型的纵波频散衰减特征分析 魏乐乐, 甘利灯, 熊繁升,
孙卫涛, 丁骞, 杨昊

4629 地震随机噪声压缩感知迭代压制方法
..... 刘璐, 刘洋, 刘财, 郑植升

4644 任意各向异性介质三维非结构谱元法直流电阻率正演模拟研究 ... 朱姣, 殷长春, 任秀艳,
刘云鹤, 惠哲剑, 谷宇



Contents

Section on Rock Physics and Earth Structure
Exploration

- 4227 The interaction between borehole and elastic waves: theory, method and application TANG XiaoMing, GU XiHao, LI YangHu, SU YuanDa
- 4239 Experimental study on stress-related and matrix-related anisotropy in tight reservoirs WANG XiaoQiong, GE HongKui, WANG WenWen, ZHANG Qian
- 4252 Review on advances in the detection technology using airgun source fired in continental water YANG Wei, WANG BaoShan, ZHANG YunPeng, WANG WeiTao
- 4269 Performance study of methane gas explosion source and its application in exploring of Hualong fault in Guangdong-Hong Kong-Macao Greater Bay Area XU ShanHui, WANG WeiTao, XU WeiWei, WANG LiWei, MA XiaoNa, WANG Xiang, MENG ChuanMin, YANG Wei
- 4280 Shallow structure imaging using higher-mode Rayleigh waves based on F-J transform in DAS observation LEI YuHang, YIN Fu, HONG HeTing, LI YuLan, WANG BaoShan
- 4292 Analyzing the characteristics of the upper crustal anisotropy in Binchuan, Yunnan Province based on dense arrays and shear wave splitting DOU Hui, WANG BaoShan, XU YiHe, WANG WeiTao, ZHANG Bo
- 4308 Repeating microearthquakes and deep deformation along the major faults in the Sichuan-Yunnan region, China LI Le, CHEN QiFu, NIU FengLin
- 4327 The distribution of noise source both in space and time and its influence on Noise Cross-correlation Functions ZHAO LingYun, WANG WeiTao, 万方数据 WANG Fang, LI Na

- 4341 Investigation of typhoon Kalmaegi-induced microseism source regions using combined seismic arrays LIN JianMin, FANG SunKe, NI SiDao
- 4355 Current situation and enlightenment of seafloor crustal deformation monitoring QIAO XueJun, WANG Wei, LIN Mu, CHEN Wei, LIU Gang
- 4364 Crustal structure and its tectonic implications in Sundaland and adjacent areas: Constraints from tele-seismic receiver functions ... FENG MingYe, CHEN Ling, WANG Xu, WEI ShengJi, WANG Xin
- 4378 Multiple point source inversion with regional broadband and local waveform data—a case study of the 2016 $M_w7.1$ Kumamoto, Japan earthquake ... SHI QiBin, WEI ShengJi
- 4394 The Northwest Pacific subduction zone and its deep earthquake activity CHEN QiFu, WANG Xin, JIANG JinZhong, LI TianJue
- 4406 Topography of mantle transition zone discontinuities beneath Northeast China imaged by receiver function with Ps scattering kernel YANG Fan, ZHANG Han, LI Juan, WANG Xin, CHEN QiFu
- 4425 Process and trend of great earthquakes in the globe and main zones XUE Yan, LIU Jie, JIANG XiangHua

Gravity • Geodynamics • Seismology • Geoelectricity

- 4437 LI level construction method of satellite gravity gradiometry observations WU YunLong, GUO ZeHua, XIAO Yun, MA Lin
- 4449 Characteristics of the seismic sequence and seismogenic environment of the $M_s6.0$ Sichuan Luxian earthquake on September 16, 2021 YI GuiXi, ZHAO Min, LONG Feng, LIANG MingJian, WANG MingMing, ZHOU RongJun, WANG SiWei

- 4462 The study of seismogenic environment in Yangbi $M_s6.4$ earthquake region by teleseismic P-wave receiver function
 ZHANG TianJi, JIN MingPei
- 4475 Seismic moment tensor and seismogenic structure of the Yangbi $M_s6.4$ earthquake sequence on May 21, 2021 in Yunnan LIU JunQing, GAN WeiJun, WANG GuangMing, WANG ZhongLi, ZHANG Yu, CAI HongLei, LI ZhongWei
- 4488 Three-dimensional P and S wave velocity structure and earthquake relocation of the May 21, 2021 Yangbi $M_s6.4$ source region
 HU Jing, ZHAO Tao, BAI ChaoYing, GUO Hao, WANG Ying, LI XingWang, XIN HaiLiang
- 4510 Relocation and focal mechanism solutions of the 21 May 2021 $M_s6.4$ Yunnan Yangbi earthquake sequence
 WANG Yue, HU ShaoQian, HE XiaoHui, GUO Kai, XIE MengYu, DENG ShiGuang, MA YaWei
- 4526 Simulation and analysis of spatial distribution characteristics of strong ground motions by the 2021 Yangbi, Yunnan Province $M_s6.4$ earthquake
 ZHOU Hong, LI YaNan, CHANG Ying
- 4538 Three-dimensional ground motion simulations by the stochastic finite-fault method for the Yangbi, Yunnan $M_s6.4$ earthquake on May 21, 2021 ...QIANG ShengYin, WANG HongWei, WEN RuiZhi, LI ChunGuo, REN YeFei
- 4548 Numerical simulation on the mechanism of the Madoi, Qinghai $M_s7.4$ earthquake constrained by InSAR deformation
 ... ZHU AiYu, WANG YongZhe, LI YongHua, ZHANG DongNing
- 4562 Static stress influence of the 2021 $M_s7.4$ Madoi, Qinghai earthquake on neighboring areas FENG Gan, WAN YongGe, XU Xin, LI Xiao
- 4572 Calculation of the sensitivity of the in-situ seismograph using the collocation test XU WeiWei, YANG DaKe, YUAN SongYong, MA JieMei, XIE JianBo, LI XiaoJun
- 4582 An experimental study on monitoring an indoor landslide based on self-potential method HU KaiYan, MO ChunYu, ZHANG YiHua, LI ShuangShuang, SUN JianWei, HAN Peng, HUANG QingHua
- 4594 Determining groundwater movement from bedrock temperature: A case study of Kashi area LU LiLi, CHEN ShunYun, LIU QiongYing, YAN Wei, LIU PeiXun, SONG ChunYan, FENG JiaHui, CHEN LiChun

Applied geophysics

- 4607 Approximate decoupled wave equations for elastic waves in TTI media LIANG Kai, SUN ShangRao, CAO DanPing, YIN XingYao
- 4618 Attenuation and dispersion characteristics of P-waves based on the three-dimensional pore network model
 WEI LeLe, GAN LiDeng, XIONG FanSheng, SUN WeiTao, DING Qian, YANG Hao
- 4629 Iterative seismic random noise suppression method based on compressive sensing LIU Lu, LIU Yang, LIU Cai, ZHENG ZhiSheng
- 4644 DC resistivity forward modelling for arbitrarily anisotropic media using the unstructured spectral element method
 ZHU Jiao, YIN ChangChun, REN XiuYan, LIU YunHe, HUI ZheJian, GU Yu