

# 华北地震科学

HUABEI DIZHEN KEXUE

2021年1月 第39卷第1期

## 目次

### 震害·防御与风险管理

- 基于云环境的云南地震灾害快速评估与信息服务系统在巧家  $M_S5.0$  地震中的应用 ..... 郑川, 李兆隆, 贾召亮, 曹彦波 (1)
- 地震灾害人员死亡评估模型对比——以甘肃省中强震为例 ..... 亓凤娇, 苏鹤军, 陈文凯, 王紫荆, 苏浩然 (9)
- 多点输入条件下的土质边坡地震反应 ..... 景鹏旭, 杨清逸 (17)
- 不同截面型式的核电取水隧洞抗震分析及优化设计 ..... 马屹松, 兰雯竣, 赵杰 (23)

### 震例·监测与基础研究

- 广西苍梧贺街-夏郢断裂遥感影像和小震分布 ..... 潘黎黎, 凌铭, 李细光 (32)
- 河南小浪底水库库区地震剪切波分裂研究 ..... 李欣波, 吴鹏, 杨凡, 贾华, 赵长红 (42)
- 多种方法综合测定河北昌黎  $M_L4.5$  地震震源深度 ..... 王莉婵, 毛国良, 王宁, 李冬圣, 蔡玲玲, 王亚玲 (49)
- 利用综合震源机制解法分析鲁中地区构造应力场特征 ..... 孙强, 郑建常, 王鹏 (56)
- 定量与定性分析在 2017 年精河  $M_S6.6$  地震中的应用 ..... 张占阳, 孙启凯, 何亚东, 张俊青, 刘坤 (64)
- 内蒙古数字地震台网快速测定速报震级结果评估 ..... 王磊, 杨彦明, 郅惠, 倪铭, 王勇, 徐岩 (70)
- 四川会理川-31 井水位变化与降雨量关系及异常识别 ..... 芮雪莲, 杨耀, 官致君, 林圣杰 (78)
- 内蒙古和林格尔  $M4.0$  地震的震源机制与震源深度 ..... 郝美仙, 张珂, 徐岩, 倪铭, 王勇 (84)
- 内蒙古区域背景噪声特征分析 ..... 安全, 赵艳红, 苏日亚, 学峰, 宋晓燕 (89)
- 地下流体数据跟踪分析的事件判别方法及分析流程 ..... 全建军, 郑永通, 陈美梅, 赖见深, 陈珊桦, 林慧卿 (97)

### [本刊启事]

- 《华北地震科学》征稿简则 ..... (63)
- 欢迎订阅《华北地震科学》 ..... (96)

# NORTH CHINA EARTHQUAKE SCIENCE

Vol. 39, No. 1, 2021

## CONTENTS

### Seismic Hazard·Disaster Prevention and Risk Management

- Application of Yunnan Earthquake Disaster Quick Evaluation and Information Service System Based on Cloud Environment in Qiaojia  $M_s5.0$  Earthquake ..... ZHENG Chuan, LI Zhaolong, JIA Zhaoliang, CAO Yanbo(8)
- Comparison of Evaluation Models of Casualties in Earthquake Disaster —Taking Moderate and Strong Earthquakes in Gansu Province as Examples ···· QI Fengjiao, SU Hejun, CHEN Wenkai, WANG Zijing, SU Haoran ..... QI Fengjiao, SU Hejun, CHEN Wenkai, WANG Zijing, SU Haoran(16)
- Seismic Response of Soil Slope Based on the Multi-point Input ..... JING Pengxu, YANG Qingyi(22)
- Anti-seismic Analysis and Optimization Design of Nuclear Power Water Intake Tunnel with Different Section Types ..... MA Yisong, LAN Wenjun, ZHAO Jie(31)

### Earthquake Case·Monitoring and Basic Research

- Remote Sensing Image Interpretation and Distribution of Small Earthquakes on Hejie-Xiaying Fault in Cangwu, Guangxi ..... PAN Lili, LING Ming, LI Xiguang(41)
- Seismic Shear-wave Splitting of Henan Xiaolangdi Reservoir Region ..... LI Xinbo, WU Peng, YANG Fan, JIA Hua, ZHAO Changhong(48)
- Focal Depth Determination of the Changli  $M_L4.5$  Earthquake in Hebei by Multiple Methods ..... WANG Lichan, MAO Guoliang, WANG Ning, LI Dongsheng, CAI Lingling, WANG Yaling(55)
- Tectonic Stress Field in Central Area of Shandong Province with Composite Focal Mechanism Method ..... SUN Qiang, ZHENG Jianchang, WANG Peng(62)
- Application of Quantitative and Qualitative Analysis on 2017 Jinghe  $M_s6.6$  Earthquake ..... ZHANG Zhanyang, SUN Qikai, HE Yadong, ZHANG Junqing, LIU Kun(69)
- Evaluation of Standard Magnitude by Rapid Determination Method in Inner Mongolia Autonomous Region Digital Seismic Network ..... WANG Lei, YANG Yanming, ZHI Hui, NI Ming, WANG Yong, XU Yan(77)
- Relationship between Water Level Variation and Rainfall and Anomaly Identification of Huili Chuan-31 Well in Sichuan Province ..... RUI Xuelian, YANG Yao, GUAN Zhijun, LIN Shengjie(83)
- Focal Mechanism and Focal Depth of Helinger  $M4.0$  Earthquake in Inner Mongolia ..... HAO Meixian, ZHANG Ke, XU Yan, NI Ming, WANG Yong(88)
- Background Seismic Noise Characteristics in Inner Mongolia ..... AN Quan, Zhao Yanhong, SU Riya, XUE Feng, SONG Xiaoyan(96)
- Event Discrimination Method and Procedure for Tracking and Analysis of Underground Fluid Data ..... QUAN Jianjun, ZHENG Yongtong, CHEN Meimei, LAI Jianshen, CHEN Shanhua, LIN Huiqing(104)

### Notice of the Journal

- Regulation for Contribution to NORTH CHINA EARTHQUAKE SCIENCE ..... Editorial office of the Journal(63)
- Welcome to Subscribe NORTH CHINA EARTHQUAKE SCIENCE ..... Editorial office of the Journal(96)