

本期目录 | 下期目录 | 过刊浏览 | 高级检索

[打印本

页] [关闭]

论文

大瑞铁路澜沧江大桥工程边坡岩体结构特征研究

郑光<sup>①</sup>,杜宇本<sup>②</sup>,许强<sup>①</sup>

(<sup>①</sup>成都理工大学<sup>■</sup>地质灾害防治与地质环境保护国家重点实验室<sup>■</sup>成都<sup>■</sup>610059)

(<sup>②</sup>中铁二院工程集团有限责任公司<sup>■</sup>成都<sup>■</sup>610031)

摘要:

岩体中结构面的展布及其组合特征决定了岩体的工程地质性质和力学性状,影响着岩体的破坏方式。大瑞铁路澜沧江大桥所处的澜沧江构造带,具有高地震烈度、活跃的新构造运动、活跃的外动力地质条件、活跃的岸坡浅表改造过程等地质特征。工程区两岸节理裂隙等弱面发育,岸坡浅表改造过程强烈,导致岩体结构复杂。通过野外现场调查,对两岸边坡岩体结构面数据进行统计分析,采用 $\chi^2$

检验与K-S检验法对结构面进行概率密度拟合,分析岩体结构特征。结果表明:(1)右岸的优势结构面有三组;(2)左岸的优势结构面有四组;(3)各组优势结构面产出状态数据均服从正态分布。在统计分析结果的基础上,建立两岸岩体结构的统计模型,并对边坡破坏模式进行定性分析,认为:(1)右岸边坡变形破坏模式为滑移-压致拉裂;(2)左岸结构面贯通性不好,主要的破坏模式是局部块体滑移。

关键词: 大瑞铁路<sup>■</sup>澜沧江大桥<sup>■</sup>岩石边坡<sup>■</sup>岩体结构<sup>■</sup>优势方位<sup>■</sup>变形破坏模式

CHARACTERISTICS OF ROCKMASS STRUCTURES AT SLOPE OF LANCANGJIANG BRIDGE ALONG DALI RUILI RAILWAY

ZHENG Guang<sup>①</sup>,DU Yuben<sup>②</sup>,XU Qiang<sup>①</sup>

(<sup>①</sup>The State Key Laboratory of Gehazard

扩展功能

本文信息

- Supporting info
- PDF(3609KB)
- [HTML全文]
- 参考文献 [PDF]
- 参考文献

服务与反馈

- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- 引用本文
- Email Alert
- 文章反馈
- 浏览反馈信息

本文关键词相关文章

- 大瑞铁路<sup>■</sup>澜沧江大桥<sup>■</sup>岩石边坡<sup>■</sup>岩体结构<sup>■</sup>优势方位<sup>■</sup>变形破坏模式

本文作者相关文章

PubMed

Prevention and Geoenvironment

Protection, Chengdu University of

Technology | Chengdu (610059)

(②China Railway Eryuan Engineering Group Co  
Ltd. | Chengdu (610031))

Abstract:

The complex distribution and combination characteristics of rockmass structural planes determine the engineering geology and mechanics properties and affect the failure mode of the rockmass slope. The slope at the Lancangjiang bridge along the Dali Ruili railway is located in the Lancangjiang tectonic belt, where seismic intensity is high, neo tectonic movement is active, the external force and active hypabyssal and hypergene rebuilding process are also active. Therefore, the rock mass structure of the both sides of Lancang river are very complex. Based on plentiful geologic investigation data of the engineered slope at the Lancangjiang bridge, a statistical analysis are undertaken to examine the structural planes with fitting test by the way of chi Square and Kolmogorov Smirnov method. The results show that: (1) three preferred structure planes are in the right bank; (2) four preferred structure planes are in the left bank; (3) the occurrence of those preferred structure planes are confirming with normal distributions, respectively. Statistic models of the engineered slopes are constructed to analyze the failure modes based on the statistic results. The failure model of the right bank engineered slope is sliding and fracturing; and the failure model of the right bank slope is the local rock blocks losing stability.