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### 灾害地质

## 三峡库区云阳—江津段危岩形成的影响因素及稳定性评价

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### 摘要:

三峡库区云阳—江津段高陡岸坡地质环境复杂,危岩极其发育,其破坏具有突发性,致灾具有毁灭性。危岩稳定性影响因素具有复杂性及模糊性特点,河流或沟谷强烈下切产生的岸坡岩体卸荷作用、软硬相间的岩层组合以及高强度的降雨或较大的日温差变化是三峡库区危岩形成的基本条件。本文选取地形地貌、地层岩性、岩体结构、危岩体规模、水文地质、风化作用、土地利用类型7个因子作为评价指标,建立危岩稳定性评价指标模型。根据稳定性指数将危岩稳定性分为4级:稳定、基本稳定、稳定性差、稳定性极差。结合实例,对万州黑岩脚危岩体进行了稳定性模糊评价,结果与实际调查情况基本一致。研究表明,本文提出的危岩稳定性评价指标模型,考虑的信息量丰富,数据通过野外调查容易获得;评价指标权选取和分级合理,稳定性模糊评价结果与实际调查情况基本符合,为三峡库区危岩稳定性分析、治理和监测提供了重要依据。

关键词: 危岩 影响因子 三峡库区 指数模型 稳定性评价

### INFLUENCE FACTORS AND STABILITY ASSESSMENT OF DANGEROUS ROCKS IN YUNYANG-JIANGJIN ON THREE GORGES RESERVOIR

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Abstract:

From Yunyang to Jiangjin of the Three Gorges Reservoir, the geological environment is complicated. The dangerous rocks can be the main geological hazard. Rupture of the rocks is abrupt while calamity is catastrophic. The stability factors of dangerous rocks are complicated and fuzzy. Their basic conditions to develop in the area classify as strong unloading agent by cutting of river or ravines lithological composition with weak or hard features. In this paper, seven factors are selected. They can influence the occurrence of fall and can be used as evaluation indices. They included physiognomy, rock property, structure of rock mass, rock scale, hydrogeological conditions, weathering and land use type. A risk index model is obtained. Four grades are divided according to the dangerous rock stability index: stability, potential unstable, unstable, very unstable. Results of real examples are consistent with the survey. The results show that much more information are considered in the model and the data can be obtained easily. At the same time, the selection of assessment index and gradation is coincident with the fact. The model can provide significant reference to the survey and supervision for reinforcing dangerous rock in the Three Gorges Reservoir.

Keywords: Dangerous rock Influence factors  
Three Gorges reservoir Index model Stability  
assessment

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