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龙王坪滑坡变形模式及稳定性评价

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DEFORMATION MODE AND STABILITY OF LONGWANGPING LANDSLIDE

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- 摘要
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全文: PDF (4936 KB) HTML (KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 龙王坪滑坡分为上、下滑体两部分,在工程地质条件分析的基础上,分析了滑坡变形过程,确定了龙王坪滑坡上下两个滑体的变形破坏模式:上滑体为推移式滑坡,下滑体为牵引式滑坡。采用不平衡推力传递系数法评价了天然工况和暴雨工况下上下滑体的稳定性。采用Abaqus有限元软件模拟了暴雨对滑坡的渗流场应力场的变化规律,分析了其对稳定性的影响。研究成果表明滑坡天然条件下处于基本稳定状态,强降雨条件下欠稳定。

关键词: 龙王坪滑坡 降雨 稳定性 非饱和土 数值模拟

Abstract: Longwangping landslide can be divided into the upper landslide and the lower landslide. Based on the engineering geological condition investigation, the deformation process is analyzed. The deformation and failure mode are determined. The upper landslide belongs to the pushing mode and the lower landslide is the pulling mode. With the unbalanced thrust transfer coefficient method, the landslide stability is evaluated both in normal natural state and the heavy rain conditions. Using the finite element method, the change regularity of the seepage field and stress field considering heavy rain is obtained. Then the influence by storm on the landslide stability is estimated. The result shows that under the normal natural condition, the landslide is stable. But under the heavy rainfall, Long-wangping landslide is in the less stable state.

Key words: Longwangping landslide Rain Stability Unsaturated soil Numerical modeling

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