工程地质学报 2009, 17(5) 619-627 DOI: ISSN: CN:

论文

陕西宝鸡地区千阳县塌山黄土滑坡稳定性分析

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摘要：

通过对宝鸡塌山黄土滑坡详细调查和钻探结果表明：具有特殊性的黄土为塌山黄土滑坡形成提供了物质基础；斜坡地形地貌、顺向斜坡结构、黄土节理等为塌山黄土滑坡提供了边界条件；人类活动、降水等是塌山黄土滑坡形成的主导诱发因素；多种因素相辅相成，导致塌山黄土滑坡发生发展。其次，采用SARMA法和FLAC法对滑坡稳定性进行了计算和模拟分析，通过对滑坡体土体应力的分析与滑坡安全系数计算表明，在天然状态下塌山黄土滑坡现今整体稳定，局部(滑坡前缘左侧)有失稳可能，这与野外调查塌山黄土滑坡现今变形特征以及整体稳定局部可能失稳的结论基本一致。而在饱和状态、天然状态＋地震、饱和状态＋地震3种工况下，塌山黄土滑坡整体失稳的可能性较大。

关键词： 黄土滑坡 SARMA法 FLAC法 安全系数 稳定性分析

STABILITY ASSESSMENT OF TASHAN LOESS LANDSLIDE AT QIANYANG COUNTY OF BAOJI |REGION IN SHAANXI PROVINCE

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Abstract:

It presents results of detailed investigation and drilling at the landslide. The results indicate that the special loess provides the material foundation for the formation of the landslide. Secondly, the slope relief, consequent slope structure, loess joints and so on provide the boundary conditions for the landslide instability. Next, human activities and precipitation and so on are the predominant e inducing factors for the instability. The various factors are complement to each other to lead to the development and taking place of the landslide. Based on the above results，this paper uses the SARMA and FLAC methods to calculate and simulate the stability extent of the landslide. The analysis of soil body stress and calculation o the factor of safety factor for the landslide show that although the landslide is in a stable state as a whole, there is the possibility for a partial instability of landslide at the left side of front edge. This analysis result is basically in accordance to the result of the field investigation result . But, in the saturated state, the natural and seismic state, the saturated and seismic state, the probability for a whole instability of the landslide is high.

Keywords: Loess landslide, SARMA method, FLAC method, Safety factor, Stability analysis, Field investigation

收稿日期 修回日期 网络版发布日期

DOI:

基金项目:

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