

## 基于模型试验的滑坡防治微型桩设计方法

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## MODEL TESTS BASED DESIGN METHOD OF MICROPILES FOR LANDSLIDE REINFORCEMENT

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**摘要** 通过开展微型桩与滑坡相互作用的大型物理模型试验,总结滑坡作用下微型桩的性状,在试验结果的基础上提出一种微型桩防治滑坡的设计方法。试验结果表明:微型桩的破坏是因滑面处的桩体抗弯剪能力不足引起的,桩身混凝土破碎后,微型桩抗滑机理由抗弯、抗剪转为钢筋抗拉;群桩中各排桩的水平变位无明显差异,各排桩所受的滑坡推力沿滑坡滑动方向逐渐减小。基于试验结果,提出一种微型桩防治滑坡的设计方法,按微型桩在滑面处抗剪进行设计,同时考虑了各排桩所受滑坡推力的不均匀分布。

**关键词:** 微型桩 滑坡 模型试验 设计方法

**Abstract:** The behavior of micropiles under the effect of landslide is summarized by micropiles and landslide model tests. A new design method of micropiles for landslide reinforcement is proposed based on the test results. The test results show that the damage of micropiles is caused by the poor bending and shearing resistance. The skid-resisting capacity transforms from bending and shearing resistance to pulling resistance of the steel when micropiles damage. The horizontal displacement of every micropile in groups is similar. The landslide thrust effecting on the micropiles reduces along the sliding direction. A design method of micropiles is proposed based on the results. The skid-resisting capacity is provided by the shearing resistance of micropiles near the plane of sliding. The uneven distribution of landslide thrust is considered in the method.

**Key words:** Micropiles Landslide Model test Design method

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