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# 土钉墙防护顺层石质高边坡工作性状研究

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**摘要** 为了分析土钉墙防护顺层石质高边坡的工作性状, 了解土钉墙作用机理和受力状态, 结合西南地区渝怀铁路采用双级土钉墙防护顺层石质高边坡的工程实际, 进行了现场试验研究。在上下级墙面后不同排数土钉的不同位置上埋设了钢弦式钢筋计, 进行了其工作应力状态的性能测试。得出如下结论: (1) 土钉拉力沿土钉长度呈曲线形分布, 并且在不同墙高处最大拉力存在双峰值和单峰值2种情况; (2) 土钉拉力随时间延续有增大的趋势; (3) 土钉墙潜在的破裂面位置在上下墙高部位与理论值较为接近, 而中间部位靠近墙面; (4) 实测土钉墙背土压力沿墙高呈中间大、两头小的分布规律等。这些结论可为类似工程的设计提供有益参考。

**关键词** [岩土力学](#); [土钉墙](#); [顺层边坡](#); [防护](#); [工作性状](#)

分类号

## STUDY ON BEHAVIORS OF SOIL-NAILED WALL PROTECTION WITH HIGH BEDDING STONE SLOPE

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### Abstract

The study is expected to research the performance, behaviors and strength of soil-nailed wall by field test, on the basis of the engineering of soil-nailed wall protection with the high bedding stone slope in Yuhuai railway in China. We test the nail force of different station on different row soil-nailed wall with steel-string transducer in the upper and bottom wall are tested. Some conclusions are achieved as follows: (1) the distribution of soil nailing tension along each soil nailing is curved, and there are one or two maximum tension points; (2) the soil nailing tension increases with time; (3) the latent failure surface position of testing value and the theoretical value is close to each other at the upper and bottom wall, but far away near the flat roof; (4) the earth pressure in the soil nailing wall is larger on middle and smaller on two sides along the height. These test results can be used as reference to the design and construction of soil-nailed wall.

**Key words** [rock and soil mechanics](#); [soil-nailed wall](#); [bedding slope](#); [protection](#); [working behaviour](#)

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