



## 论文摘要

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## 土的结构性参数与强度的关系及其在边坡稳定分析中的应用

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**摘要:** 在合理评价土结构性变化规律的基础上, 建立结构性参数与强度之间的关系, 进而基于强度折减法对边坡的稳定性进行分析。研究表明: 结构性参数与凝聚力呈近似的双曲线变化规律, 而内摩擦角基本不变; 当结构性参数为1时(正常固结土), 凝聚力为0; 边坡的稳定性与结构性参数密切相关; 当强度折减系数达到一定值时, 在滑动面附近结构性参数显著减小, 并形成一个贯穿区域, 此时, 折减系数即为边坡的安全系数, 贯彻区域即为临界滑动面。

**关键字:** 结构性参数; 强度; 边坡稳定; 强度折减法

## Relationship between soil structural parameters and strength and its application in slope stability analysis

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**Abstract:** Based on reasonable assessment of soil structural changes, the relationship between the structural parameters and strength was established, and the analysis of the slope stability was given based on the strength reduction. The results show that the structural parameters and cohesion change with similar hyperbola, and internal friction angle remains basically unchanged. When the structural parameters are equal to 1 (normal consolidation soil), cohesion is 0. The slope stability is closely related to the structural parameters. When the strength reduction coefficient reaches a certain value, the structural parameters significantly reduce in the vicinity of the sliding surface and form a cross-region, and at this time, the reduced coefficient is the safety factor for the slope, and the region is the critical slip surface.

**Key words:** structural parameters; strength; slope stability; strength reduction

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