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植被护坡机制及应用研究

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收稿日期 2006-5-26 修回日期 2006-9-25 网络版发布日期 2006-12-15 接受日期

摘要 植被护坡就是利用植被涵水固土的原理来进行边坡加固及坡面防护。研究结果显示, 植被护坡的机制为: (1) 木本植物深根对边坡岩土体有锚固作用; (2) 草本植物浅根对边坡岩土体有加筋作用; (3) 植被覆盖层可以防止坡面冲刷。植被护坡的特点主要有: (1) 植被护坡在初始时, 作用力较弱, 但随着植物的生长, 作用力逐渐加强; (2) 植被根系作用力及作用范围有限; (3) 植被护坡要求边坡处于相对稳定状态。在此基础上, 对植被护坡技术的环境适应性以及植被护坡技术的流程模式进行探讨, 并提出将传统的边坡加固技术与植被护坡技术有机地结合起来, 发挥二者各自的优点, 既保证边坡的安全稳定, 以及加固措施的长期有效, 又实现坡面植被的快速恢复及生态环境保护。

关键词 [边坡工程](#) [植被护坡](#) [边坡加固](#) [环境适应性](#)

分类号

STUDY ON MECHANISM AND APPLICATION OF SLOPE PROTECTION WITH VEGETATION

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Abstract

The slope protection with vegetation is to stabilize slope and protect slope surfaces according to the mechanisms of conservation of both moisture and soil with vegetation. Research shows that the mechanisms of the slope protection with vegetation include that (1) root system of woody plant can anchor rock and soil slope bodies; (2) root system of herbaceous plant has reinforcement action for rock and soil slope bodies; and (3) vegetation can prevent the erosion caused by slope surfaces. The chief characters of the slope protection with vegetation can be described as follows: (1) the effort of the slope protection with vegetation is very weak in initial stage, but will increase as vegetation growing; (2) the action range and effort of root system is limited; and (3) relatively stable slope is demanded for the slope protection with vegetation. Based on these, environmental compatibility and routine of the slope protection with vegetation are discussed. Combining the technologies of traditional slope protection and slope protection with vegetation, the respective merit of each method can be displayed, with this method slope stability can be guaranteed, reinforcement measure is durably effective, and immediate revegetation on the slope surfaces and the ecological environment protection are realized.

Key words [slope engineering](#) [slope protection with vegetation](#) [slope protection](#) [environment compatibility](#)

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