

# 模擬流場中不同流速梯度之土壤沖刷反應研究

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## 摘要

### Abstract

This study was carried out in a simulated channel. We firstly investigated the eroded response of a naked riverbed with different flow velocities. Next, the outcome was compared with that of a planted riverbed for examining the tolerant limitation and flow resistance mechanism of the riverbed. The role of vegetation in protecting riverbed and streambank can be therefore examined. The purpose of this study was to handle the dredging technology correctly as well as to provide concerning data during design and construction period for the riverbed and streambank. The simulated channel constructed with transparent acrylic panels was separated into control group and experimental group with different flow gradients. The preliminary results showed that the algal mats would form automatically and played a role in topsoil protection especially for the silt. It also indicated that the vegetated channel formed the algal mats sooner than the naked channel. The mechanisms how plants protect the topsoil from erosion and enhance the flow resistance will be further investigated in the next stage.

關鍵字 : Keyword: Simulated channel, Velocity gradients, Ecological Engineering, Streams rectification