

地下水滲流引致坡地崩塌之土砂運移物理模型試驗

林博翔^[1] 馮正一^{[2]*}

摘 要 坡地崩塌土砂規模分析必須考量因素甚多，且其行為機制複雜不易推估。本研究進行邊坡物理模型試驗探討邊坡因地下水位上升而造成之崩塌，著重於探討崩塌之土砂運移行為與堆積影響範圍。此物理模型試驗條件設定為兩種不同坡角，且配合兩種不同地下水位高度，共為四組不同試驗條件進行探討地下水位上升滲流導致土體滑動崩塌堆積範圍特性。再以不同歷經時間估計此範圍內土砂運移之總堆積量，並歸納出土砂運移總堆積之長度、寬度及體積相互關係，可作為防災與避難措施之參考。

關鍵詞：崩塌、滲流、物理模型試驗、影響範圍。

Sediment Transportation of Model Slope Failure due to Groundwater Seepage

Bo-siang Lin^[1] Zheng-yi Feng^{[2]*}

ABSTRACT Analysis of landslide mass transportation should consider many factors and landslide failure mechanisms is not easy to evaluate. Therefore, this study performs physical model tests to discuss landslide mass transportation behavior due to increase of groundwater level and influence zone of landslide mass deposition. The tests were planed for two different slope angles and two different groundwater levels to discuss their influence on the landslide mass deposition. We also delineated the length, width and volume of the depositions under different duration of seepage. The research results can be a reference for disaster prevention planning.

Key Words: Landslide, seepage, physical model test, influence zone

[1] 國立中興大學水土保持學系碩士生

Master Student, Dept. of Soil and Water Conservation, National Chung Hsing University, Taichung 402, Taiwan.

[2] 國立中興大學水土保持學系教授 (* 通訊作者 E-mail: tonyfeng@nchu.edu.tw)

Professor, Dept. of Soil and Water Conservation, National Chung Hsing University, Taichung 402, Taiwan.