

模型邊坡滲流引致崩塌之震動訊號特性

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摘 要 台灣在地震活動頻繁之下，使得山區地質鬆軟，如遇強降雨，經常發生土石崩塌。學者們曾利用寬頻地震網(BATS)對崩塌引起的震動訊號特性進行研究，然而經常缺乏真實的崩塌影片可比對，故對這些震動訊號真正對應到的邊坡崩塌行為，僅能推論或猜測。而本研究以室內邊坡物理模型進行崩塌試驗，埋設加速度規記錄崩塌震動訊號，可對應試驗影片觀察在不同坡度與地下水位之下，崩塌事件對應至震動訊號之變化，可用以瞭解各崩塌事件引起之震動訊號特性。本文初步探討崩塌量體、崩塌體位移距離與震動訊號波形之間的關連性。

關鍵詞：崩塌、震動訊號、物理模型、加速度規。

The Characteristics of Seismic Signal Induced by Seepage Failure of Model Slopes

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ABSTRACT In Taiwan mountain area, landslides occurred very often due to heavy rainfall. Many researchers studied the seismic signal induced by landslides from Broadband Array in Taiwan for Seismology (BATS). However, most of the results were only inferred or surmised. because of lacking field evidence. We use in-door physical model test in our study to understand the characteristics of seismic signal induced by landslide. We setup accelerometers to measure the relationships among the seismic signals, model slope angles and water levels. The study also discusses the characteristics of the seismic waveforms under different conditions of landslide volume and the displaced distances.

Key Words: landslide, seismic signal, physical model, accelerometer.

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