



## **Investigation of rainfall induced failure processes and characteristics of anaclinal slopes through physical model**

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In this study, the small-scale physical model tests have considered the impact of the infiltration of rainfall in order to investigate the processes involved in anaclinal slope deformation and failure. The study conducted the physical tests under controlled conditions of rainfall pattern with model scale for anaclinal slope types. Observations obtained during each stage of deformation and failure were used to explain how gravity deformation varies with rainfall pattern conditions on anaclinal slopes and infer how rainfall and model scale influence slope failure. The rainfall pattern including three types of the maximum rainfall occurrence time, and the scale of the model divided into two parts, one is enlarging and shrinking, the other is changing the length of physical models. After the experiment with physical models, use the rock mass rating to score each physical model to prove the correctness of experiment. The study speculate the failure characteristics owing to rainfall of anaclinal slopes on the basis of the deformation characteristics and collapse process of physical model.

Keyword: physical model, anaclinal slope, rainfall pattern, model scale