

Experimental study on the seismic responses of dip slope using shaking table.

*Hunghui Li¹, Chichieh Chen¹, Yingguan Tsai¹, Zonyee Yang²

1. Chung Cheng Institute of Technology, National Defense University, Taiwan, 2. Tamkang University, Taiwan

Limit Equilibrium Method has been widely adopted in slope stability analysis. The Pseudo-Static Method is applied in order to take seismic loads into account, using Peak Ground Acceleration (PGA) as the main factor regardless of the influences of earthquake characteristics such as shape of waves, time lapse and frequency. Since the existence of layer surface in bedded vein could become the weakest part of a dip slope, and in most of the cases, a nearly vertical brittle texture in the sand rock onto the sliding surface induced by tectonic stress and cracks in rock due to the tension forces can be found. It needs further investigation to conclude the components of dip slopes and its characteristics of textures. Therefore, the aim of this study is to explore the relevant causes to dip slope sliding by conducting a series of experiment with physical models on a SDOF shaking table. It is expected the influences of lithological characters, geological structures and seismic loads on dip slope failures can be studied.

Keywords: Shaking table test, Dip slope, Physical model, Seismic response