



Laboratory tests on pyroclastic soil to simulate the infiltration processes responsible of landslide trigger

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We propose some tests performed with the physical slope scaled-model. The model consists of two connected channels of 1 meter wide and 3 meters in length each. It is well equipped by many sensors as tensiometers, pressure transducers, TDRs and laser-displacement transducers. Furthermore, the physical model is equipped with a PIV scan device, with high-resolution cameras to determine surface displacement fields and with a remote controlled rainfall system. Some experimental tests were conducted, using pyroclastic soil from Sarno area (Southern Italy - near the volcano Vesuvio), affected by landslide events on 5 May 1998. In particular, tests considering both homogeneous volcanic ash and stratified deposits of ash and pumice were carried out, during which we have observed water infiltration processes and failure processes characteristics and highlighted the role of pumice layers in the instability occurrences.