



Preliminary results of short term continuous monitoring of an unstable permafrost affected rock slope using a portable, real aperture radar interferometer (GPRI).

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A portable real aperture radar interferometer was used to continuously monitor a large unstable rock slope located in the Glarner Alps of Switzerland over a 26 hour period. With an elevation ranging between 2500 and 2800 m.a.s.l., and a north facing aspect, the slope is influenced by permafrost processes. Radar images revealed a larger than previously known area of instability, characterized by several discrete zones of movement. Maximum average displacements were on the order of approx. 0.5mm per hour.

The unstable area was delineated by structural features, one of which included open (ice-filled) fractures. A strong radar signature for toppling was observed after 6 hours corresponding to a large rock column leaning approximately 10 degrees towards the radar's line of sight at the top of slope, however, further interpretation of failure mechanisms from the observed displacement field is complicated without additional data due to the heterogeneous nature of the rock mass characteristics and distribution of discrete talus deposits.