Slope Stability Monitoring using Ground-Based Synthesis Aperture Radar

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After flooding, landslides are the second most common natural disaster in Malaysia, causing major economic and human losses. The relationships between landslides, slope stability, and deformation are all interdependent. Stability and deformation of slopes are significant contributors to the occurrence of landslides. Monitoring slope stability in places prone to landslides enables us to take preventative steps against landslides. Ground-Based Synthesis Aperture Radar (GBSAR) is one of the best methods for monitoring slope instability in all conditions and at any time of day or night. This study aims to assess the efficacy of GBSAR by monitoring the stability of a reinforced man-made slope. The GBSAR preliminary result is relatively encouraging. The outcome provided in 3D is a more realistic and exact depiction of the deformation, which can be crucial in disciplines such as engineering, medicine, and scientific study where a precise knowledge of the deformation is essential.

Keywords: Slope Stability, Ground based Synthetic Aperture Radar, Land Deformation, Landslide Monitoring

