

A Study of Slope Displacement Monitoring with PSInSAR Technique

*Chin-jen Lin¹, Shen Yu Hsiao¹

1. National Chung Hsing University

This research is aimed at slope displacement monitoring on Taiwan mountainous areas in 2019 using Persistent Scatterer Interferometric Synthetic Aperture Radar (PSInSAR) technique. The radar satellite images used in this study are from Sentinel-1 mission developed by the European Space Agency (ESA). The software for data processing is based on Stanford Method for Persistent Scatterers (StaMPS). The surface displacement of each observation ground point is computed by six satellite images with different observation times. The weather and atmosphere conditions affecting observations are precisely corrected in the procedure of data processing. The results from PSInSAR will be well compared to those from the optical images and the GPS stations. With this research, the slope activities on Taiwan mountainous areas can be monitored. This research also can provide effective information on disaster risk assessment.

Keywords: PSInSAR, slope displacement, Sentinel-1