



Deep seated landslide mapping and sliding mass assessment with DInSAR and UAV model

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Landslide mapping is simple work in case landslide is sliding and scar appears with optical images. However, it is difficult to reveal the sliding depth and sliding mass from ground surface monitoring. Several deep-seated landslides were investigated in central Taiwan and monitoring systems were installed several years. The sliding depth and sliding mass are defined in these area. A proposed method to define sliding scars and sliding depth from surface deformation observation in this research. Unmanned vehicle produced very high resolution and accuracy digital surface model to help geomorphology identification. SAR images from ALOS, ALOS2, Sentinel-1 and Terra-X are adopted to compare results. DInSAR and SBAS methods are used in this research to discover different landslide details and deformation magnitude. The results shows that ALOS and ALOS2 images are more suitable than other SAR images in this area. This might be owing to the wave length of SAR image, which longer wave length is more suitable for faster landslide and vegetation area.