

Monitoring Soil Erosion Changes by SBAS-InSAR Technology

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This study uses the Synthetic Aperture Radar (InSAR) technique to analyze the soil erosion mass changes in the past 7 years at four major reservoir areas in Taiwan. Four major reservoirs include Shimen, Tseng-Wen, Techí, and Nanhua reservoirs where are averagely distributed in northern, central, and southern Taiwan. The method for deriving soil erosion changes is based on Small Baseline Set Algorithm (SBAS). The radar satellite data used in this study is from the missions of Sentinel and ALOS PALSAR. The software for data processing is GMTSAR. The changes of the soil erosion monitored by SBAS-InSAR will be mutually verified with those measured by the erosion pins. It is expected that with this study, the erosion degree of the slopes of the four reservoir areas can be accurately calculated to provide important references in the fields of hydraulic engineering, and soil and water conservation.

Keywords: SBAS-InSAR, Soil Erosion, Erosion Pin