

Application of laser scanning and geoelectric resistivity in monitoring of a rebuilt slope

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The deformation of slope terrain is detected by physical measured instrument traditionally. Collecting deformation data of tiltmeter and piezometer inner well drilling. A few of wells are limited by terrain and cost. The wells can not cover all landslide area. The results of analysis data are debated. The collapse slope once has more probabilistic collapse. Particularly designing engineering against natural calamities with debated conclusion and the rebuilt slope will be instable. The paper mention that combine 3d laser scanning with geoelectric resistivity for detecting the deformation of rebuilt slope. The research target is 85 km site of the second highway of Taiwan. The slope was rebuilt by ecological engineering, grid-beam engineering, spraying concrete engineering and cut-slope engineering. The first, exploring underground substance by geoelectric resistivity . To obtain the destructive sliding position of slope, the range of slope with the same sliding position and groundwater data. Fitting 3d laser scanner on suitable site for scanning research target. To analyze overlay scanning data by correcting the cloud-points with the different periods. The study utilizes the 3d scanning technology and geoelectric resistivity technology to obtain analysis information of slope probability and terrain deformation trend.

KeywordãG3d laser scanning, geoelectric resistivity, point-cloud