3D Laser Scanning and Potential Deformation of Left Bank Landslide of Latian Dam

Latian is one the first reservoir dam which has been established to provide sufficient water resource for Tehran city, the capital of Iran. So the capacity of its lake or basinis measuring and monitoring every year. One of the possible treats to such dams is the potential of landslides which can harm the dam structure and fill a considerable volume of basin. In this study we have tried to monitor Latian left bank land slides, applying laserscanner and Iterative Closest Point, ICP method to determine the vector of land movement and critical section of sliding. Then the stability of such soil mass evaluated by traditional methods and the final result compared to other stability analyze in order to evaluate the capacity of such Methods. As we will see, this method has a good coverage with other methods, and it can easily determine the overall trend of land movement, so the final result of stop stability was very close to those obtained applying GPS monitoring methods.

Terrestrial Laser Scanning, TLS, Landslide, Slop stability, ICP method

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