



## **Potential Landslide Detection with Fractal and Roughness by LiDAR Data in Taiwan**

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The purpose of this study is to detect the potential landslides since they would be triggered by heavy rain, earthquake and/or larger degree of geomorphology alteration under different terrain characteristics. Not only the newly area but also the past landslide area would generate landslide after serious events. To gather the newly landslides and past landslides overwhelmed by thick vegetation, LiDAR could produce the high resolution DEM, denote actual surface terrain information and identify landform with a spatial resolution of 1m in different time interval. The 1-m interval DEM of Laonong watershed of southern Taiwan is utilized by fractal and roughness calculating with MATLAB code. DEM, aspect, and slope images are adopted to improve the accuracy of potential landslide detection with the random forest (RF) classifier. In present study, we provide the analysis results of the potential landslide area including these features calculation.