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Airborne Laser Scanning in determining slope features for landslide assessment

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In 2002 Public Works Department of Malaysia undertaken a study to develop a model that is capable of predicting the potential of landslide by assessing the stability of slopes. The study identified several parameters that have significant bearing on the stability of slopes. One of the prominent parameter is the slope features which comprises of slope shape, cross-section and plan profile. Experience by visual inspection has shown that these parameters are not easy to be assessed and tendency to make wrong judgment is high. Thus, if these parameters are not correctly interpreted, the result of the analysis might be inaccurate.

Ground survey data captured by Airborne Laser Scanning can be used to produce Digital Terrain Model (DTM). This DTM is a useful input in determining the slope profile. This paper discusses the effect and impact of various parameters of slope feature to the stability of slope. The result from the sensitivity analysis of these parameters to the slope stability is reported and the benefit cost ratio in using laser scanning for slope features determination is also discussed.