

Experimental Study on Motion Mechanism of Submarine Landslides

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Submarine landslides are characterized by large scale and long run out distance. Besides causing tsunami, it can also cause major disasters on communication when a submarine landslide damages submarine communication cables. At present, the study on occurrence and motion mechanisms of submarine landslides is not enough. In this study, we tried to clarify the reason that submarine landslide has larger scale and longer moving distance than those occurred in continent. An apparatus to simulate submarine landslide was developed for this purpose. For each test, normal stress, shear stress and pore-water pressure of submarine landslide model acting on the apparatus bottom are measured, and friction coefficient for each test can be obtained. The paper examines the influences by landslide scale and motion velocity on the shear resistance. The result shows friction coefficient increasing when the mass of sliding body increased. Friction changed irregularly when the velocity of the sliding mass became higher, but density coefficient decreased when the velocity of the sliding mass became higher.

Keywords: motion mechanism, submarine landslide, experiment study

