

A Study of Submarine Landslide in Kaoping Slope off Southwest Taiwan

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Abstract

Submarine landslide is commonly found in various sedimentary environments worldwide. These slope failures are generally controlled by sedimentation rate, sediment type, gas degassing and earthquakes, etc. A seismic interpretation study was carried out on multichannel seismic (MCS) data and chirp sonar profiler off SW Taiwan. We try to analyze submarine landslide in Kaoping Slope and explore the correlation with submarine landslide and mud diapir.

Bottom simulating reflectors (BSR) stop in landslide area to instruction that natural gas may spilling because of slumping strata . In addition, the study area is also observed many mud diapir. Landslide event occurs above mud diapir and its both sides. Above shows that mud diapir make strata arch, and it may also accelerate or lead to strata of collapse. However, mud diapir invasion make both sides of strata at a high angle tilting. New sediment covering result in onlap structure, indicating that the region may still be present structure activities.

Kaoping Slope was observed amounts of creeping feature. The reason it causes is divided into active and passive. The former cause is that strata slide with the sliding surface. The latter cause is that strata is affected by the deeper strata collapsing, resulting in a wavy topography. These shallow layer of creeping phenomenon show an unstable region, where will probably change into the landslide area.

This study use these landslide events to draw a picture of district of possible occurrence submarine landslide, SW Taiwan. We find submarine landslide is distribution of the slope of submarine canyons and submarine canyons wall.

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