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HDS25-P10 Room:Convention Hall Time:May 27 18:15-19:30

The mechanism of strain rate strengthening during landslide

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Many landslides slip relatively slowly without catastrophic failure. The slip events happen when sporadic hard rainfall. Monitoring and disaster prevention measures are carried out in some landslide area. These monitoring records must be useful to elucidate landslide mechanism. This study shows detailed slip behaviors at landslide by monitoring records of landslide.

The study area is located in Hiroshima, southwestern Japan. The talus sediments are overlained by the mudstones of the basement rocks. The mudstones include the basal slip fault of the landslide of several centimeters in width. In situ strain and groundwater level were observed in five borehole sites. Ground surface movements were observed by extensometers. The groundwater level increased immediately after beginning of the rainfall, and which trigger the landslide. The acceleration rate of the landslide, decreased with slip velocity. This demonstrates strain rate strengthening.

Keywords: landslide, strain rate strengthening