Seismological and geotechnical surveys on the landslides induced by the 2018 Hokkaido Eastern Iburi earthquake

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Atsuma Town, central part of Hokkaido, Japan, suffered from numerous landslides induced by the 2018 Hokkaido Eastern Iburi earthquake (Mw 6.7). We had a seismological and geotechnical surveys on some of the landslides. We selected a shallow landslide within tephra layers and a huge landslide of rockslide. Aftershock observation was conducted to grasp the vibration characteristics of the large landslide. Frequency components of ~2 Hz were dominant for S- and coda parts, with long durations of monochroic vibrations. Surface wave surveys, in both active and passive ways, were deployed to understand the vertical profile of the shallow landslide area. Very low (~50 m/s) Vs layers with the thickness ~1 m, which were consistent to the landslide depth, were detected along the survey line beside the landslide area, while such layers did not exist inside the landslide.

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