

## Paleoseismological survey on the Shibetsu fault zone in the eastern part of Hokkaido, Japan

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We conducted a paleoseismological survey on the Shibetsu fault zone in the eastern part of Hokkaido in 2018.

This fault zone has a length more than 52 km but no data was obtained about slip-rate and history of fault activity in previous study (Hokkaido, 2004 and 2005). On a detailed topographic map with an air-borne LiDAR data, we found a new fault scarp with height of 2-5 m on fan produced the lastglacial age at Kotanuka site, and excavated a trench (25 m in length, 8 m in width, 4 m in depth) and 4 drilling surveys (5 m in depth). We observed a high-angle fault cutting a tephra layer (Ma-I: ca.12,000 yrBP) and black soil with 40 cm on the trench wall. Based on drilling survey, the fan gravel layers, which covered with sandy sediment containing humic silt with <sup>14</sup>C ages of 22,140-21,690 cal.BC and 20,587-20,343 cal.BC, is offset ca.3 m in vertical. We discuss the fault event and slip-rate of this fault with careful, because there are deformation of strata not only faulting but also periglacial process in the trench walls.

Keywords: active fault, paleoseismology, trenching survey, tephrochronology, the Shibetsu fault zone, Hokkaido