OSL dating of periglacial slope deposits using fine grain quartz from Soya hill, northern Hokkaido, Japan

Reisuke Kondo[1]; Sumiko Tsukamoto[2]

[1] Dept. of Geography, Meiji Univ; [2] Dept. of Geogrphy, Tokyo Metropolitan Univ.

Periglacial slope deposits are broadly distributed at the surface of Soya hill, northern Hokkaido, Japan. However, no absolute age constraint has been obtained from these periglacial deposits, which characterize landscape of northern Hokkaido. The lack of age constraint prevents studies on precise geomorphic development and high-resolution paleoenvironment reconstruction there. In order to obtain the ages of and periglacial phenomena in Soya hill, we applied OSL dating to periglacial slope deposits and loessic sediments.

We obtained periglacial slope deposits and loessic sediments for OSL dating at Kamihoronobe, Horonobe Town. This site was reported to be an exposure of Omagari- Toyotomi fault by Yasue and Ishii (2005). At Tomioka and Soyamisaki in Wakkanai City, loessic deposits and channel fill deposits were collected.

Fine-grained (4-11 um) quartz were prepared from all the samples from the study area. The single aliquot regenerative dose (SAR) protocol (Murray and Wintle, 2000) was applied to determine the equivalent dose (DE). The result of DE estimation shows 65-85 Gy. The characteristics of OSL signals of quartz from the study area and the dating results will be presented.