Luminescence chronology of the Middle Pleistocene marine and fluvial terraces in northern Japan using pIRIR dating

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In nothrern Japan, it has been difficult to construct a detailed chronology of marine / fluvial terraces of the Middle Pleistocene, due to the lack of the marker tephra layers and to the deformation of original landforms by strong past periglaciations. The lack of age constraint has prevented studies of precise geomorphic development and palaeoenvironmental reconstruction in this area. This study applies a post-IR IRSL (pIRIR;Thomsen et al., 2008; Buylaert et al., 2009) SAR protocol using polymineral fine grains to marine and fluvial terraces at Tonbetsu plain and Gifu Terraces along the Sea of Okhotsk coast area in northern Hokkaido, at Setana plain in southeastern Hokkaido.
In Tonbetsu plain, northern Hokkaido, the pIRIR ages from the higer marine terraces are ca.340 -370 ka, which yielded ages corresponding to MIS 9, respectively. In Setana plain, in southeastern Hokkaido, the pIRIR ages from the Oyachi marine terraces are MIS 7. In addition, pIRIR ages from upper Setana formation, basement of Tonke-gawa fluvial terraces, are ca. 400 ka. These pIRIR ages indicate that upper limit age of Setana formation and development of landforms after the Middle Pleistocene in Setana plain. I will also introduce pIRIR dating results and it’s meanings of marine / fluvial terraces of the Middle Pleistocene, northern Honshu Island.
Reference
Buylaert et al., (2009) *Radiat. Meas*. 44, 560–565.; Thomsen et al.(2008) Radiation Measurements, 43, 1474-1486.

Keywords: pIRIR dating, northern Japan, marine terrace, fluvial terrace, Middle Pleistocene

