Sand grains movement off the Kumano area, Kii Peninsula: Estimation from OSL measurement technique

Masaaki Shirai[1]

[1] ORI, Univ. Tokyo

Optically Stimulated Luminescence (OSL) is well known as OSL dating in Quaternary chronological field. For regarding OSL age as depositional age, it is necessary that enough exposure to sunlight resets OSL signal of the grains (bleaching). Whereas, ratio of bleached grains in a sample (bleaching percentage; BLP) will be able to offer significant information on processes of grain transport.

The Kumano Trough located on southeast off the Kii Peninsula, central Japan would be a suitable area for formation of turbidite around the Japanese islands during Holocene. Samples of surface sediments from the Kumano River sand bars to the Kumano Trough turbidite were collected and BLPs of alkali feldspar were estimated based on OSL intensities of individual grains.

Distribution of BLPs at the Kumano area suggests that sand grains transported from the Kumano River were spread on middle shelf due probably to storm wave, and that about half of the turbidite sand grains were transported from the Kumano River or coast to the Kumano Trough directly. OSL intensity measurement and BLP analysis offer us new significant information on sand grain transport process.