

# Sunlight exposing condition of sandy grains in the present flood deposits: An application of OSL dating

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An optically stimulated luminescence (OSL) dating which offers burial age of quartz and potassium feldspar (K-F) grains in sediments and other materials during the last several hundreds kilo-years has achieved extraordinary evolution 1980's. It is notable that most of the previous works have focused mainly on evaluation of dating validity and improvement of OSL measurement itself. Whereas, it should be possible to obtain information on transport-depositional processes of sand grains at riverine to coastal environments with a OSL dating because the OSL age implies duration after the last exposure to sunlight.

River system is a primary transportation system of sedimentary particles from land to marine. The particles in river system are drained to marine environment usually repeating transportation and depositional processes. Floods event makes a great deal of contribution to sand-grain transportation and often sends sand grains directly into deep marine environments. It is meaningful to investigate on sunlight exposing condition of flood deposits for future possible application of an OSL dating as an index of transportation-depositional processes.

As the first step of our study, we evaluated sunlight exposing condition of flood deposits. Many flood disasters attacked the Japanese Islands during 2004. Flood plain to crevasse spray deposits formed by flood disasters in 2004 were sampled from the Niigata, Kyoto, and Hyogo Prefectures. We introduce equivalent dose distributions of K-F grains extracted from flood deposits and discuss prospect of our results for evaluation of transport-depositional processes.