

## Bleaching of K-feldspar grains contained in the tsunami deposits of the 2011 off the Pacific coast of Tohoku Tsunami

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Optically stimulated luminescence (OSL) dating is feasible method to obtain depositional age from sediments and then, it is expected to be useful for tsunami deposits dating. However, it is not clear that the degree of sun bleaching during tsunami transport processes. Firstly, bleaching of K-feldspar grains during tsunami transport processes was investigated with post-IR IRSL (pIRIR) dating using the 2011 off the Pacific coast of Tohoku Tsunami deposits. Then, single-grain OSL dating was attempted to obtain accurate equivalent doses of tsunami deposits. Equivalent doses of K-feldspar grains obtained from various sampling locations and positions.

Comparing IRSL and pIRIR equivalent doses which showed different decreasing rates of OSL intensities with the sunlight exposure time, sandy tsunami deposits were hardly exposed sunlight during tsunami transport processes. However, nearly zero equivalent dose of single-grain OSL measurement was often acquired. Probably, these “ zero-dose ” K-feldspar grains had been exposed enough to sunlight before the tsunami. Upper position of one run-up tsunami deposits seemed to be rich in K-feldspar grains suggesting the accurate depositional age.

Keywords: tsunami deposits, Optically Stimulated Luminescence, post-IR IRSL, K-feldspar, sedimentary structure, Fukushima