

Quartz OSL properties from coastal sand in Eastern Japan

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Optically stimulated luminescence (OSL) has been widely applied to quartz in sediments. However, quartz that has unstable OSL signal components can be found in tectonically active regions such as Japanese islands (e.g. Tsukamoto et al., 2003; Tokuyasu et al., 2010; Tamura et al., 2015) and it can cause problems for OSL dating. Thus, it is needed to consider the OSL properties carefully if quartz with such properties is measured. Quartz origin is one of possible factors contributing to the OSL properties (e.g. Tokuyasu et al., 2010), but relationship between the quartz origin and OSL properties is not discussed well enough. We therefore investigated OSL properties of coastal sand from Tohoku to Kanto region. As a result, the characteristics of OSL signal from adjacent sampling locations indicate similar trend. Although geomorphological features should be considered, it is likely that the OSL properties of coastal sand roughly reflect the sediment provenance and that the properties come from the average OSL signal for the original rocks.

Keywords: quartz OSL property, sediment provenance