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Room:Convention Hall

Time:May 25 14:00-16:30

## Application of OSL dating to Tottori coastal dunes

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We examine a simplified method to obtain robust OSL age results from quartz sand samples with high recuperation based on young dune samples in the Tottori coast. Past topographic maps compiled 36 yrs and 77 yrs ago constrains depositional ages of 10 samples. A standard quartz single aliquot regenerative dose (SAR) OSL protocol was applied to these samples, but results showed age underestimation for most of them, including two that showed negative values of equivalent dose estimate. The underestimation was caused by a high recuperation due to a large contribution of the slow OSL component. To suppress the slow component contribution, we applied the early background (EBG) subtraction for estimating OSL intensity with a time window 7?19 s to a dose recovery test of 1.1 Gy for one of these samples, which successfully replicated the given dose. Thus, the EBG subtraction was applied to all of the young samples, appropriately estimating their ages except for one with a slight overestimation. Although it is uncertain what actually causes the large slow component, the method used here may be useful to analyze OSL dating results from sand samples in the Japanese archipelago that typically show high recuperation.

Keywords: optically-stimulated luminescence, chronology, Quaternary, coast, dune, sand