

Fundamental studies on the single grain technique of TL dating

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TL age is a quotient of paleodose divided by annual dose. In the single grain technique, the paleodose is calculated from the TL response to the artificial irradiation dose of each quartz grain. Precise TL age determination in single grain technique requires the correction of TL intensity, because the quartz grains show the sensitivity change in the response to the irradiation dose. It also requires the estimation of the beta dose for each grain, because the attenuation of beta ray due to the each grain size. The effects of the correction of TL intensity and the estimation of annual beta dose for each grain are investigated on the age distribution of quartz grains collected from a tephra of Kozu-shima Volcano.