

Determination of radionuclides using liquid scintillation counting and application to TL-dating

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In archaeological TL-dating, the both measurements of the natural accumulated doses from quartz grain extracts and the annual doses in samples are necessary. On the case of the precious sample, these measurements are preferable for the sample as small as possible.

In this experiment, natural radionuclides in small piece of archaeological sample were determined alpha-LSC combined with pulse time interval analysis after chemical purification of Ra. ^{40}K is estimated by K-concentrations measured by an AAS. On the other hand, naturally accumulated TL of the quartz grains extracted from the same sample was measured, giving well consistent with the TL using a conventional method.

On the basis of these results, the possibility of TL- dating from smaller sample was proved.