

Characteristics of ESR signals from several types of natural quartz: a clue to estimating sediment provenance

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The authors investigated characteristics of ESR (electron spin resonance) signals from quartz grains for estimating sediment provenance.

Clear differences were observed among Al and Ti-Li signal intensities of quartz grains, which were artificially irradiated at 2.5 kGy, from several granitic rocks around Lake Biwa and rhyolitic rocks in Kozushima and Nijima Islands in Japan. It suggests possibilities that sediment provenance may be identified from ESR signal measurements of quartz grains included in the deposits. The authors present the details on the above and some examples for investigating sediment provenance.