

SGL041-03

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## Zircon thermochronology of fault zones:A case study of the Okitsu region, Shikoku Island

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Quantitatively understanding of heat generation and transformation associated with faulting is a key to understand not only dynamics of faults but also heat budget, temperature structure and range records. To understand thermal history along faults, geologic thermometers such as thermochronometers, homogenization temperatures of fluid inclusions and vitrinite reflectances have been used. Zircon fission-track thermochronology has been one of the most powerful tools to reveal thermal history along faults (e.g., Murakami et al., 2004; Tagami and Murakami, 2007). Zircon fission-track thermochronology has advantages as below: (1) fission tracks are annealed only by heating, (2) zircon is physically robust and chemically stable and can occur along fracture zones, and (3) short-term annealing kinetics of zircon fission tracks is well understood based on laboratory experiments.

In the Okitsu region, annealed zircon fission tracks were observed for all samples collected across the fault. This observation is consistent with results of ZFT analysis reported by Sato (2004 MS) and Inoue (2010 BS). It implies that wide area along the fault was heated.

Keywords: Thermochronology, Fault, Shimanto belt, Zircon