

SSS021-P05

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## An attempt to detect secular deformation around ISTL fault zone by InSAR

Hiroshi Yarai<sup>1\*</sup>, Tomokazu Kobayashi<sup>1</sup>

<sup>1</sup>GSI of Japan

To clear detailed secular deformation around ISTL fault zone, we applied SAR interferometry using ERS, ENVISAT and ALOS satellite data.

The ERS and ENVISAT satellite have C-band SAR, and the ALOS satellite has a L-band SAR. C-band microwaves are scattered at the canopy and the surface of grass, whose surface condition changes easily. Therefore, repeat-pass correlation at the C-band becomes poor in vegetated areas. In contrast to the C-band, longer wavelength bands such as the L-band are far more robust for repeat-pass interferometry in vegetated areas because microwaves of longer wavelength more easily penetrates the canopy and scatters off trunks and branches. But, crustal deformation detectability of C-band SAR is better than L-band SAR. We applied ERS and ENVISAT to detect slight deformation near the fault zone and L-band SAR to capture deformation around the fault zone area.

Keywords: InSAR, crustal deformaion, Itoigawa-Shizuoka Tectonic Line