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## Elevation Correlating Residuals in D-InSAR Phases for the Central Part of Kyushu, Japan

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There are some reports on the D-InSAR crustal movement monitoring around Kuju volcanic area where the eruption occurred at Mt. Hosscho on October 1995 (e.g. Tomiyama et al., 2004). D-InSAR processing of the L-band SAR data is very effective to monitor crustal movements on the vegetated and steep terrains. However, sometimes residual D-InSAR phases correlated with elevation of the terrain, and it is inferred as atmospheric disturbance. In some case, a simple linear relationship between the residual D-InSAR phase and the elevation is applied to reduce the disturbance, if the meteorological data are insufficient for the detailed calculation. We carried out detailed study on the characteristics of the linear relationship in the different regions and orientations for the central Kyushu, Japan. The data were acquired by JERS-1 SAR (78-245) between 1992 and 1998. According to preliminary analyses, there are some cases in which magnitude of the proportionality factors showed differences of more than 20% in the different orientation at the same region and those of more than 15% in the same orientation at the adjacent different regions, Aso volcano and Kuju volcanic area, which are apart about 30km. METI/JAXA retains ownership of JERS-1 SAR data. We are grateful to Dr. M. Shimada for his providing the SIGMA-SAR software (Shimada, 1999), and part of this study was carried out under the support by the Earthquake Research Institute, The University of Tokyo, Cooperative Research Program (2009-B-02).

### [References]

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Tomiyama N, K. Koike, M. Omura (2004), *Adv. Space Res.* 33, 3, 279-283.

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