

Detection of crustal deformation in Sakurajima and Aira Caldera by means of D-InSAR based on JERS-1 SAR images during 1992-1998

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D-InSAR(Differential SAR Interferometry) is one of the remote sensing techniques used to detect centimetric deformations of the Earth's surface. We applied D-InSAR at the Sakurajima region, which contains one of the most active volcanoes in Japan.

In this study, we selected 12 pairs from JERS-1 SAR data during 1992-1998, and obtained deformation maps. Because the observational dates of these pairs overlap in time, we estimated the deformation using a least square adjustment technique. The result shows good agreement with that of GPS. Nextly, we attempted to explain these deformations by employing Mogi-Model. In addition, we estimated changes in volume of the magma reservoirs by using Mogi-Model parameters.