

Ground Deformation around the Domestic and Overseas Active Volcanoes detected by ALOS-2/PALSAR-2

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ALOS-2, was launched on May 24, 2014, has an L-band SAR (PALSAR-2) in the same way as ALOS/PALSAR. PALSAR-2 is of help to understand of a ground surface state, and its interferometric coherence is highly effective for the crustal deformation observation. Furthermore, PALSAR-2, is also very short repeat observation cycle (14days), has a higher resolution sensor than PALSAR. Therefore, higher resolution data can be acquired and we analyzed more frequently and are expected to be useful for disaster prevention and mitigation. After the calibration period of about half a year after the launch, ALOS-2 / PALSAR-2 data has been published on November 25, 2014. Operational plan of ALOS-2 / PALSAR-2 have been focused on the accumulation of the base map at least the first year, but when disasters such as earthquake and volcanic activity occur, has been observed according to circumstances.

We have analyze the ground deformation caused by the earthquake and volcanic activity at domestic and overseas using ALOS-2 / PALSAR-2 data. And then, our analysis results are provided to each department of the JMA, and are used to the study of volcanic activity evaluation and seismic analysis results. In this presentation, we mainly report on the analysis results of around active volcano.

Some of PALSAR data were prepared by the Japan Aerospace Exploration Agency (JAXA) via Coordinating Committee for the Prediction of Volcanic Eruption (CCPVE) as part of the project "ALOS-2 Domestic Demonstration on Disaster Management Application" of the Volcano Working Group. Also, we used some of PALSAR-2 data that are shared within PALSAR Interferometry Consortium to Study our Evolving Land surface (PIXEL). PALSAR-2 data belongs to JAXA. We would like to thank Dr. Ozawa (NIED) for the use of his RINC software. In the process of the InSAR, we used Digital Ellipsoidal Height Model (DEHM) based on "the digital elevation map 10m-mesh" provided by GSI, and Generic Mapping Tools (P.Wessel and W.H.F.Smith, 1999) to prepare illustrations.

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