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Room:302

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Outline of the observation and data analyses of 2011 Kirishima-Shinmoe-dake eruption

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Crustal Deformation; NIED has started the Kiban volcano monitoring network at 8 volcanoes in 2009 and, for the monitoring of Kirishima volcano, KRMV and KRHV stations were installed at about 7 kms to the northwest and northeast of Shinmoe-dake crater, respectively. This network successfully detected the abnormal signal associated with the initiation of eruptive activity at 07:31, January 26th. Then, from the first remarkable eruption on 14:49, tilting change indicated the contraction of volcanic body, which continued till around January 31st at almost constant rate. This deformation source can be modeled by a Mogi source, located at about 7 km to the northwest of the Shinmode-dake, 9.8km depth, whose of shrinkage is $13.2 \times 10^6 \text{m}^3$. In addition, SAR analysis clearly revealed the growth of the lava dome in the summit crater from January 27 to February 1st, with the rate about $3 \sim 5 \times 10^6 \text{m}^3/\text{day}$.

- Seismic activity; Kiban volcano monitoring network and Hi-net recorded seismic activities during this eruption. In particular, we observed volcanic tremor (accompanied by the eruption, Harmonic, etc.) and low-frequency earthquakes, but few volcanic earthquakes (VT) were recorded by February 3rd. F-net also recorded seismic activity at explosive eruptions.

Keywords: Kirishima, Shinmoedake, Eruption