Crustal deformation around the Kirishima Volcano Group detected by GNSS and SAR observation after 2018 eruption.

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Since July 2017, GNSS Earth Observation Network (GEONET) maintained by Geospatial Information Authority of Japan (GSI) has observed elongation at the baseline surrounding the Kirishima volcano group. Sharp shortening occurred at the eruption of Shinmoedake volcano in March, 2018, after which elongation was observed again. Similar crustal deformations are also observed during the Shinmoedake eruption in 2011, and at that time expansion and contraction of magma reservoir of about 6 to 7 km northwest of Shinmoedake is presumed (for example, Kobayashi et al., 2012) . In addition, in the Iwo-yama located in the northwest of Kirishima-yama, expansive crustal deformation centered the Iwo-yama was captured by analysis of Daichi 2 (ALOS-2) SAR data. In April 2018, an eruption took place in Iwooyama for the first time in 250 years.

Detailed investigation of crustal deformation of the Kirishima volcano group is important in grasping the situation of volcanic activity. In this research, we investigated the crustal deformation of the Kirishima volcano group including Shinmoe-dake and Iwo-yama after the eruption of Shinmoedake and Iwozan in 2018, using GNSS observation and ALOS-2 (Daichi 2) SAR data analysis.

Keywords: Kisihisma volcano Group, Shinmoe-dake, Iwo-yama, crustal deformation, GNSS, SAR

