

SVC050-10

会場:302

時間:5月23日 11:00-11:15

2011年噴火までの霧島火山の地殻変動 Crustal deformation of Kirishima Volcano before eruptions in January 2011

中尾 茂^{1*}, 森田 裕一², 後藤 和彦¹, 八木原 寛¹, 平野舟一郎¹, 上田 英樹³, 小園 誠史³, 及川 純²
Shigeru Nakao^{1*}, Yuichi Morita², Kazuhiko Goto¹, Hiroshi Yakiwara¹, Shuichiro Hirano¹, Hideki Ueda³, Tomofumi Kozono³,
Jun Oikawa²

¹ 鹿児島大学工学研究科, ² 東京大学地震研究所, ³ 防災科学技術研究所
¹GSSE, Kagoshima Univ, ²ERI, Univ. of Tokyo, ³NIED

Shimoedake in Kirishima Volcano began eruption activity on 26 January 2011. On 27 January blast eruption occurred after 52 years. Activity of Shinmoedake is kept high.

In 2007 three continuous GPS (CGPS) observation started around Kirishima Volcano and an additional CGPS started in October 2010. Joint GPS analysis with GEONET site is carried out and crustal deformation with volcanic activity was able to observe. We discuss source of volcanic activity.

Three CGPS, which is KVO, KRSP and YMNK started in March in 2007 and KKCD occupied in October 2010. KRMV and KRHV of NIED started CGPS observation in April, 2010. Bernese GPS Software Ver. 5.0 is used for GPS data analysis for our CGPS and GEONET sites. IGS precise and rapid ephemeris and earth rotation parameters are used, and troposphere delay parameters and gradient estimate every one hour and 24 hours, respectively. IGS2005 coordinate system is used.

Crustal deformation, 1 to 15 mm, in the period from October 7, 2010 to January 25, 2011 is detected. Source of this deformation is estimated about 4 km WNW from Karakunidake, whose depth and volume change are 9.7 km and 6.8 million cubic meter. Crustal deformation, 1 to 14 mm, in the period from January 25, to January 31, 2011 is detected, whose source is estimated also about 3- km WNW from karakunidake. Its depth and volume change are 6.9 km and 10 milion cubic meter.

キーワード: 霧島火山, GPS, 地殻変動

Keywords: Kirishima Volcano, GPS, Crustal deformation