

MT survey around Mt. Shinmoedake, Kirishima Volcanoes in 2010-2011

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We conducted broadband magnetotelluric (MT) survey at Kirishima volcanoes in 2010 and 2011 to elucidate the electrical resistivity structure. From We made MT measurements at 17 sites around Mt. Shinmoe in July to September 2010, and made another MT measurements at 12 sites in March to April 2011. ADU07s of Metronix were used for measurements and measurement term was almost three weeks at each site. By preliminary results, directions of induction vectors go to north of Mt. Shinmoe, around Mt. Karakuni in and below the periods of 1 seconds, and tend to go to north-west of Mt. Shimoe, westward of Mt. Karakuni around 100 seconds. This may indicate that a shallow low resistive body exists at a few km depth of the north position of Mt. Shinmoe and a deep low resistive body exists at tens km depth of the north-west position of Mt. Shinmoe.

From 26 January 2011, it occurred the active eruptoins of Mt. Shinmoe. GPS measurements found that the position of 6km apart from Mt. Shimoe in north-west direciotion is the source of stress at 10 km depth, that is, a magma chamber. Thus the induction vectors may point at a deep main magma chamber and a shallow sub magma chamber.

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