

SVC070-P38

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## Characteristics of eruption and volcanic tremor in Shin-moe crater, Kirishima volcano, Japan based on seismic array

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Shin-moe dake crater has started eruption in middle of January, 2011. One of the strongest vulcanian eruptions on February 1st hit the surrounding residential area by strong atmospheric pressure waves. Seismic array deployed at 3km away from the crater recorded this explosion. The direct P wave, surface wave and the sonic waves associated with the eruption arrived at the array on the expected lapse time from the origin time estimated from travel time of the sonic waves. In addition, phases with small amplitude prior to the eruption were observed. We performed MUSIC spectrum analysis for the observed seismic array data to determine slowness vector of waves approaching to the array. The slowness of the precursor phases is the same as that of the waves at the main eruption. This implied that the phases were generated at the shallow part of the conduit the volcano.

Volcanic tremors associated with the activity of Shin-moe dake that has started since middle of January, 2011, which have been observed by the array. Based on MUSIC analysis, We found two different sources of the tremor. One is located at shallow part around the shin-moe dake crater. Another is found out at deeper position NW away from the crater. The deeper source could be identical with the position of the pressure source inferred from geodetic observations. The both tremors from two sources are generated at similar time range. The result suggests that the two magma conduits/chamber have some interaction between them.

Keywords: Kirishima volcano, seismic array, eruption, volcanic tremor