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Characteristics of volcanic tremor at Shin-moe dake inferred from two seismic array analysis

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Two dense seismic arrays were deployed at 5 km east-northeast away from the Shinmoe volcano by Nagoya University (Hinamoridai), and 3km southwest by Kyushu University (Shinyu). We estimated the apparent back azimuth and slowness of volcanic tremor and earthquakes associated with volcanic eruptions continuously by using semblance method to seismic waves of up-down component. Estimated average back azimuth for the activity around Shinmoe-dake are N265E-N275E for Nagoya Univ. array, N55E-N70E for Kyushu Univ. array. Difference between the directions of ray path obtained by two arrays may be due to the velocity structure beneath Shinmoe-dake. Furthermore, we were able to obtain the continuous change of slowness and back azimuth for the volcanic tremor.

Keywords: Kirishima Volcano, Shinmoedake, seismic array, eruption, volcanic tremor