

SELF POTENTIAL CHANGES AT AKITA-YAKEYAMA VOLCANO IN 20 YEARS

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Self-potential (SP) survey was carried out over trails at Akita-Yakeyama volcano in 2007. It was reported that a wide-area SP observation was carried out by Kikuchi et al. (1987) in the Sengan geothermal area in 1983 and 1985. In addition, the SP surveys from 1993 to 1998 were performed in the vicinity of the Sumikawa power plant by Matsushima et al. (2000). The observation result in this study reproduced almost the same SP distribution of the result of 1983 around the summit area including summit crater and Kunimidai. On the contrary, large decrease of SP more than 650mV compared with 1983 was recognized in the vicinity of the Sumikawa power plant. It is the largest potential change found in this field. Comparing the result of this study with that of 1996, the decrease of SP about 300mV was also seen. It is clear that the decrease of SP is influenced by the Sumikawa power plant whose operation began in 1995. An explanation of the mechanism of the SP decrease at the power plant was considered by Matsushima et al. (2000). In addition, moderate SP decreases of 150mV or more at the surroundings of the Beko moor field and the Goshogake hot spring were recognized compared with 1983. The Beko moor field is next to the Sumikawa power plant to the south and the Goshogake hot spring is aligned to the south of it. It might be suggested the influence of the operation of the power plant extends to these surrounding areas.

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