

Attempt of volcanomagnetic change detection by repeated aeromagnetic survey

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To obtain the detailed information about the spatial distribution of volcano-magnetic change, we tried to use the aeromagnetic survey. The main problem of aeromagnetic repeated observation is the difficulty of the observation point control. In the two flights, it will be impossible to flight exactly same position. So that, it is very difficult to separate observed field changes to temporal variation due to the volcanic activities and the spatial variation due to the difference of the observation points. If the detailed distribution of geomagnetic field is obtained on quiet period of the volcano, and the field intensity on the arbitrary point around the active area is estimated interpolating the observed data, we can correct the spatial variation of the repeated aeromagnetic survey data caused by the difference of flight position, and it may be possible to detect the field changes associated with the volcanic activities. For this purpose, we made very high density and low altitude helicopter-borne aeromagnetic survey on Aso Volcano, central Kyushu Island of Japan, in July 2002.