阿蘇カルデラ完新世火山岩の古地磁気強度測定

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Paleointensity study on Holocene volcanic rocks in Aso caldera

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We have conducted a paleomagnetic and paleointensity study on Holocene lava flows and pyroclastic rocks around the post-caldera cones in Aso caldera, central Kyusyu, Japan. Paleomagnetic directions obtained in this study are useful to recognize temporal correlation or distinction between the studied sites. Also, the paleomagnetic directions obtained from 22 sites around three cones and a scoria cone are distributed on a simple curve on the equal area projection, which record paleomagnetic secular variation (PSV) during the period between 4 and 3 ka. For the 22 sites recording the PSV curve, the LTD-DHT Shaw paleointensity method (Tsunakawa-Shaw method) was applied to the samples. Ninety-nine samples of the 22 sites were measured and 96 samples of 21 sites passed the selection criteria. Four or more paleointensities were obtained for 10 sites and their standard deviations were smaller than 10% of the means. The 10 mean values indicate that the paleointensity increased from 55 to 70 micro-T, which constrain the paleointensity variation between 4 and 3 ka in Japan. These new paleointensity data from Japan are higher than the paleointensity data reported from Europe. A possible explanation on the difference is that the non-axial-dipole affects the geomagnetic field during the period between 4 and 3 ka.