

Comparison of hysteresis properties between the experimental results and the calculation of rock magnetic models

Ayako Ito [1], Hideo Tsunakawa [2]

[1] Earth and Planetary Sci., TITech, [2] Earth and Planet. Sci., TITECH

We tried to explain rock magnetic properties of the samples plotted in the PSD region of the Day plot by the mixture of single domain (SD) and multi domain (MD) particles or by that of SD and super paramagnetism (SP). The hysteresis parameters of SD+MD and SD+SP were modeled and calculated with some assumptions. We also measured the hysteresis properties of the Hawaiian historical lavas by VSM. The model calculation indicates that, in the Day plot, the mixture of SD+MD is fallen in lower part of the PSD region and that of SD+SP is in upper part. The comparison between measurements of the Hawaiian lavas and the model calculations revealed that the samples from the massive part can be interpreted as the SD+MD mixture, and those from the surface part are as the SD+SP mixture.