

R004-05

D会場 : 11/25 PM2 (15:00-18:00)

16:00~16:15

アイスランド西部ボルガルフィヨルズル地域のルンダルレイキャダールバレーから採取した溶岩試料群の岩石磁気特性

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Rock magnetic properties of the lava samples from Lundarreykjadalur valley in the Borgarfjordur region of western Iceland

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Iceland is a volcanic island with thousands of plateau lava flows emplaced sequentially in piles over the past ~16 Ma. These lava sequences are a unique data source for investigating quasi-continuous time variations in the past geomagnetic field. To investigate quasi-continuous time variations in absolute paleointensity (API) during the Gauss normal polarity chron and the upper Gilbert reversed polarity chron, we have targeted ~390 lavas spanning 21 sections located in Lundarreykjadalur valley in the Borgarfjordur region of western Iceland. The results of the API obtained so far by the Tsunakawa-Shaw method, from ~2.6 Ma to ~4.3 Ma, have been reported in Yamamoto et al. (2024 JpGU). According to this, the API during the stable polarity period generally fluctuates between 15 and 50 microT, and decreases to around 5 microT at chrono boundaries. In addition, the timing of the minima in the quasi-continuous API records obtained as a result could be compared with the timing of the minima in the relative paleointensity records of the sediments of the same period.

In order to assess the quality and fidelity of the API results, systematic rock magnetic measurements were carried out on chip samples cut from the specimens before they were used in the Tsunakawa-Shaw experiment. The measurements include hysteresis measurements at room temperature with a strong magnetic field up to 1 T, and thermomagnetic experiments in vacuum at temperatures ranging from room temperature to high temperatures with a DC magnetic field of 300 mT applied. We will report on the hysteresis parameters and thermomagnetic properties, and discuss whether there is any relationship between these rock magnetic properties and the API results.