

南太平洋、低中緯度域における遠洋性堆積物の過去500万年間の環境磁気学的研究

下野 貴也 [1]; 山崎 俊嗣 [2]
[1] 筑波大・生命環境・地球進化; [2] 産総研・地質

Environmental rock-magnetism of pelagic clay sediments from the South Pacific Ocean for the last 5 Myrs

Takaya Shimono[1]; Toshitsugu Yamazaki[2]
[1] University of Tsukuba, Japan; [2] GSJ, AIST

IODP Expedition 329 surveyed and cored the sediment at 6 sites throughout South Pacific Gyre (SPG) and at 1 site its southern margin in 2010. We used pelagic clay sediment cores from the 3 sites (U1365, U1366 and U1367) of the lower latitude parts in this expedition. Recently pelagic clay sediments in the Pacific Ocean have been regarded as a new mineral resource of rare-earth elements and the metal yttrium (Kato et al., 2011).

We measured magnetic properties (magnetic susceptibility, NRM with stepwise alternating-field demagnetization, acquisition of ARM and IRM) for discrete and u-channel samples taken onboard and post-cruise. We conducted an environmental magnetic study of pelagic clay in order to examine variations of eolian input to the South Pacific Ocean for the past ~5 Myrs, in particular its relation to the global cooling. Pelagic clay is expected to record long-term paleoclimatic changes. The results of the magnetic property measurements of Sites U1365, U1366 and U1367 indicated some similarity to those of the pelagic clay in the North Pacific Ocean (Yamazaki and Ioka, 1997). We also compared these cores with cores of the GH83-3 area in the central South Pacific Ocean.