西太平洋赤道域 IODP Expedition 363 の深海底堆積物の約 900〜1800 万年前の古地磁気層序と相対古地磁気強度

熊谷　祐穂 [1)],#中村　教博 [2)], 山崎　俊嗣 [3)]
[(1] 国土地理院,[(2] 東北学院大学,[(3] 東大大気海洋研

Miocene magnetostratigraphy and relative paleointensity of deep-sea sediment in western equatorial Pacific: IODP Expedition 363

Yuho Kumagai[1)],#Norihiro Nakamura[2)],Toshitsugu Yamazaki[3)]
[(1]Geospatial Information Authority of Japan,[(2]Tohoku Gakuin University,[(3]Atmosphere and Ocean Research Institute, University of Tokyo

We present palaeomagnetic results from the Miocene part of the International Ocean Discovery Program Site U1490, which is located in 2341 m-deep water. High-resolution multichannel seismic profiles across the site showed that an uninterrupted accumulation of mud waves occurred (Baldwin et al. 2017). This deposition of the drift sediments under an intensified bottom water current with abundant oxygen may have caused oxidized conditions in the sedimentary column, being suitable for preserving paleomagnetic records. Detailed magnetostratigraphic investigations are essential to provide a long-term record of Miocene relative paleointensity (RPI) variations, and also the palaeoclimatic and palaeo-oceanographic history of the Cenozoic of the Equatorial Pacific and to improve the database of Pacific magnetostratigraphy. Rock magnetic measurements were carried out at 1 cm resolution on U-channel samples from the spliced section with the goal of extracting a high-resolution record of the magnetostratigraphy. Stepwise demagnetization of the natural remanent magnetization yielded well-defined magnetostratigraphy over a time interval of approximately 9 Ma between the upper boundaries of Chron C5En (18.056 Ma) and the Chron C4An (8.771 Ma) with the geomagnetic polarity timescale (GPTS: Gradstein et al., 2012) and with the biostratigraphy of the cores (Expedition 363). Our results confirm published results from the hole's middle to late Miocene section. The main magnetic carriers are both a single-domain biogenic magnetite which shows an equant octahedron in shape and a small pseudo-single-domain detrital magnetite. Our paleomagnetic data is of the highest quality as being comparable with Ohneiser et al. (2013)'s long-term RPI record from IODP Expedition 320/321 Pacific Equatorial Age Transect (PEAT) during the early to middle Miocene. We compare our RPI records with the Ohneiser et al. (2013) results to confirm the evolution of the middle Miocene geomagnetic field in this presentation.