

R004-P02

ポスター 2 : 11/5 AM1/AM2 (9:00-12:30)

北西大西洋の IODP Site U1403 および U1408 の海底堆積物から推定された約 3800 ~ 5000 万年前の期間における古地磁気強度相対値変動

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Relative paleointensity variation for about 38-50 Ma deduced from IODP Sites U1403 and U1408 sediments in the northwest Atlantic

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Rock magnetic and paleomagnetic measurements have been conducted on Eocene marine sediments recovered at Integrated Ocean Drilling Program (IODP) Sites U1403 and U1408 in the northwest Atlantic. Various rock magnetic measurements indicate that the main remanence carrier is single domain biogenic magnetite. Paleomagnetic measurements gave RPI records for Chrons C18 – C21 and C22n, which correlates to ~ 38.4 – 49.6 Ma, after excluding a few short intervals with inhomogeneous rock magnetic properties. The records show that RPI minima always occur at chron boundaries and that RPI fluctuates between highs and lows within each chron. This record is the first to show that these characteristics persist at least since the onset of Chron C22n at ~ 49.3 Ma, and it is concluded that these are intrinsic and fundamental features of the geomagnetic field regardless of the polarity reversal rate.

A stacked RPI curve for Chron 18, named PIS-C18, is produced on the basis of the RPI records obtained in this study and those from IODP Sites U1331 and U1332 in the equatorial Pacific. The PIS-C18 RPI of the stack is generally high with no prominent lows during Chron C18n.2n, whereas it is not as high and has several prominent lows almost equivalent to the RPI minima at the chron boundaries during Chrons C18n.1n and C18r. A histogram of RPI during Chron 18 is slightly skewed to the right, and the ratio of the standard deviation to the mean paleointensity is 0.38. These characteristics are resembled to a histogram of the RPI stack for the last 1.5 million years. It is implied that character of the geodynamo for $10^4 - 10^6$ years timescales has been unchanged since the Eocene.