

Relative paleointensity records during the past 3 m.y. from the eastern equatorial Pacific

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We report some relative paleointensity records during the past 3 m.y. from the eastern equatorial Pacific. Paleomagnetic and rock magnetic measurements have been conducted on three piston core samples recovered at sites HY04 (N4.0, 95.0W; water depth = 3563 m), HY06 (N0.0, 95.0W; water depth = 3242 m), and HY08 (S5.9, 95.3W; water depth = 3867 m) during the Hakuho-maru KH03-1 cruise. The cores are dominated by ooze of calcareous, diatomous and nanofossiliferous. Age estimation was done based on foraminifer fossils from HY04PC (Horikawa et al., 2006).

U-channel samples were taken from the cores. Natural remanent magnetization was measured with stepwise AF demagnetizations with a pass-through type cryogenic magnetometer. Anhysteretic remanent magnetization (ARM) was also measured. In order to investigate magnetic homogeneity, discrete cubic samples were re-sampled from the U-channel samples and subjected to the measurements of susceptibility (k), ARM, and isothermal remanent magnetization (IRM) at 0.3T and 2.5T (SIRM).

HY04PC and HY06PC show only normal polarity suggesting deposition during the Brunhes Chron. Whereas HY08BPC shows four reversals and thus could be a record down to the Matuyama-Gauss boundary.

We tried to estimate relative paleointensity by normalizing NRM by ARM. Relative paleointensity from HY04PC can be correlated with Sint-800 (Guyodo and Valet., 1999) back to approximately 0.75Ma. The sediments above 600 cm of HY06PC is only possibly correlated with Sint-800 but younger than approximately 200 ka. We compared the result of HY08BPC with that obtained from nearby site by Meynadier et al. (1995). The two records show a good agreement such as the reductions in relative paleointensity during the field reversals and also in the Cobb Mountain (1.20-1.21Ma) subchron.