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Paleomagnetic and Environment Magnetic Study of Core MD012396

from South China Sea

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This study presents the paleomagnetic and environmental magnetic results of core MD012396 taken from South China Sea during 2001 IMAGES VII cruise. The coring site located at 18^o43.48'N and 115^o50.73'E. The water depth is 3365 m and the total recovered length of this core is 39.11 m.

In addition to the secular variation patterns of paleomagnetic directions, the simulated paleo-intensity pattern was compared to the SINT 800 curve (Guyodo and Valet, 1999) for establishing the age model of this core. The results indicated that the age interval of the core MD012396 probably covers the last 650 kyrs.

Magnetic proxies, such as magnetic susceptibility (χ), saturated isothermal remanent magnetization (SIRM) and ARM/χ consistently show an abrupt change happened at about 460 kyr B.P. Generally, relative higher values of these magnetic proxies have been found during interglacial time periods than those during glacial time since 460 ka. This implies that more abundant and fine grained magnetic minerals were deposited during interglacial time than during glacial time. It might be interpreted as relatively lower sea level occurred in the glacial time than in the interglacial time. However, there was no such clear trend before 460 ka. What has happened at this time in the area studied was worth of further studying. Besides, the parameter S-ratio has the value larger than 0.95 in general. This suggests that magnetic minerals contained in the sediments of this core dominate the low coercivity magnetite, but it has no clear glacial-interglacial variation difference.