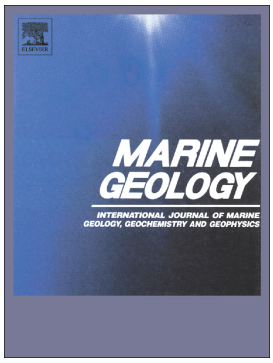

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Magnetostratigraphy of ODP Site 1143 in the South China Sea since the Early Pliocene

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Abstract

Ocean Drilling Program Site 1143 of Leg 184 in the southern South China Sea (SCS) recovered a continuous sedimentary sequence since the Late Miocene (~10 Ma), which provides a unique record for better understanding the tectonic, environmental, and climatic evolution in the southern part of the SCS. In this study, we conducted a detailed rock magnetism and paleomagnetism study on 637 discrete samples taken from 512.1 m cores of Hole 1143C. Rock magnetic measurements indicate that the main magnetic mineral is single domain magnetite for samples from the upper 200 mcd (meter composite depth). All samples were subjected to stepwise alternating field demagnetization. The demagnetization behaviors of the samples below 200 mcd were erratic and unstable, owing to very weak remanent magnetization. A total of 15 reliable magnetic reversal events were identified in the upper 190 mcd cores of Hole 1143C based on the declination variations of the characteristic remanent magnetization, which can be correlated very well with the Geomagnetic Polarity Time Scale 2012 in combination with biostratigraphic data and