

**Asian monsoon modulation of non-steady state diagenesis in hemipelagic marine sediments offshore of Japan**

L. Chang<sup>1,2</sup>, C.T. Bolton<sup>3</sup>, M.J. Dekkers<sup>4</sup>, A. Hayashida<sup>5</sup>, D. Heslop<sup>2</sup>, W. Krijgsman<sup>4</sup>, K. Kodama<sup>6</sup>, G.A. Paterson<sup>7</sup>, A.P. Roberts<sup>2</sup>, E.J. Rohling<sup>2</sup>, Y. Yamamoto<sup>6</sup>, X. Zhao<sup>2</sup>

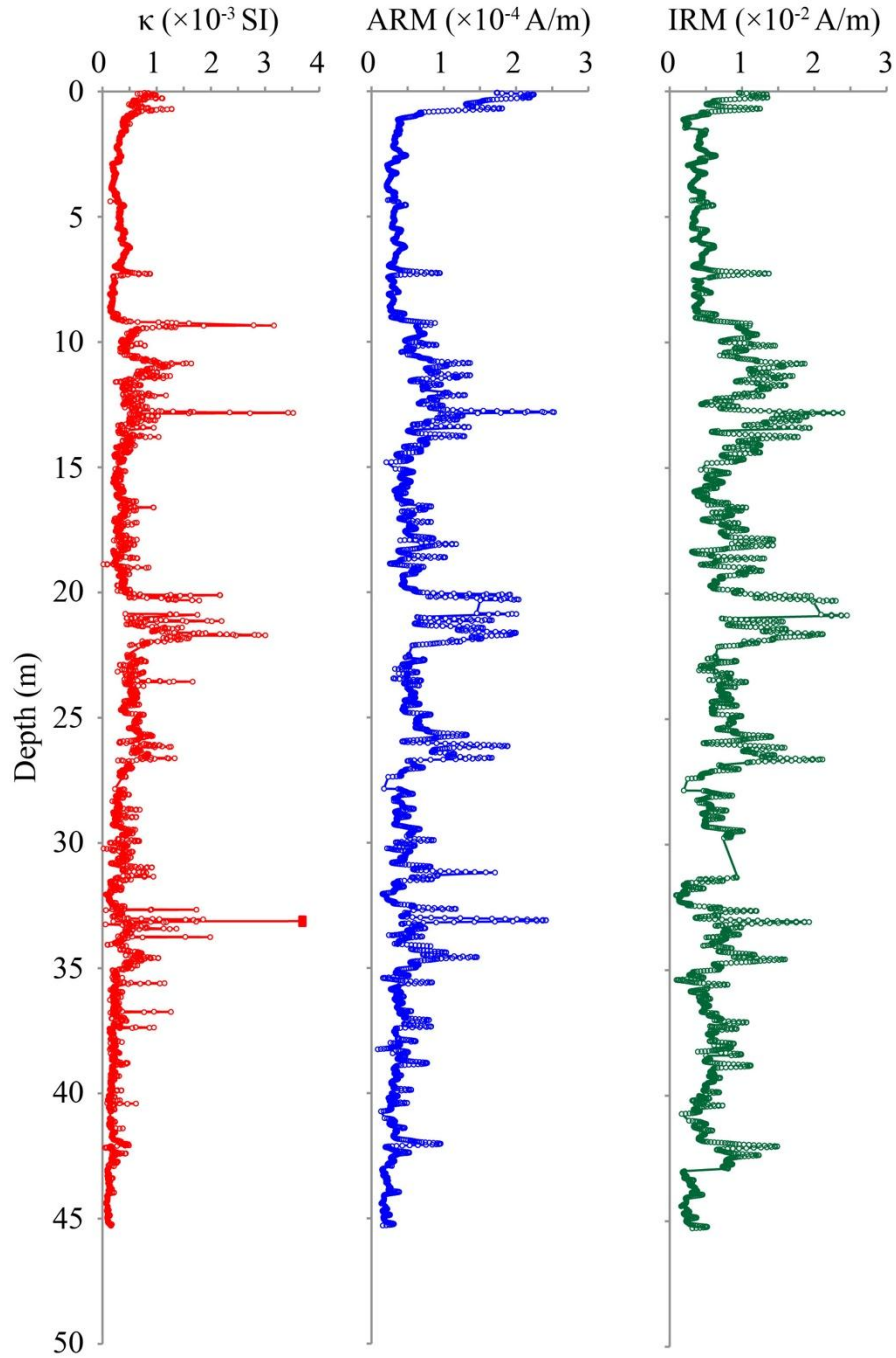
<sup>1</sup>School of Earth and Space Sciences, Peking University, Beijing 100871, P. R. China, <sup>2</sup>Research School of Earth Sciences, The Australian National University, Canberra, ACT 2601, Australia, <sup>3</sup>Université Aix-Marseille, CNRS, IRD, CEREGE UM34, 13545 Aix en Provence, France, <sup>4</sup>Paleomagnetic Laboratory 'Fort Hoofddijk', Department of Earth Sciences, Utrecht University, 3584 CD Utrecht, The Netherlands, <sup>5</sup>Department of Environmental Systems Science, Doshisha University, Kyotanabe, Kyoto 610-0321, Japan, <sup>6</sup>Center for Advanced Marine Core Research, Kochi University, Kochi 783-8502, Japan, <sup>7</sup>Key Laboratory of Earth and Planetary Physics, Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing 100029, P. R. China

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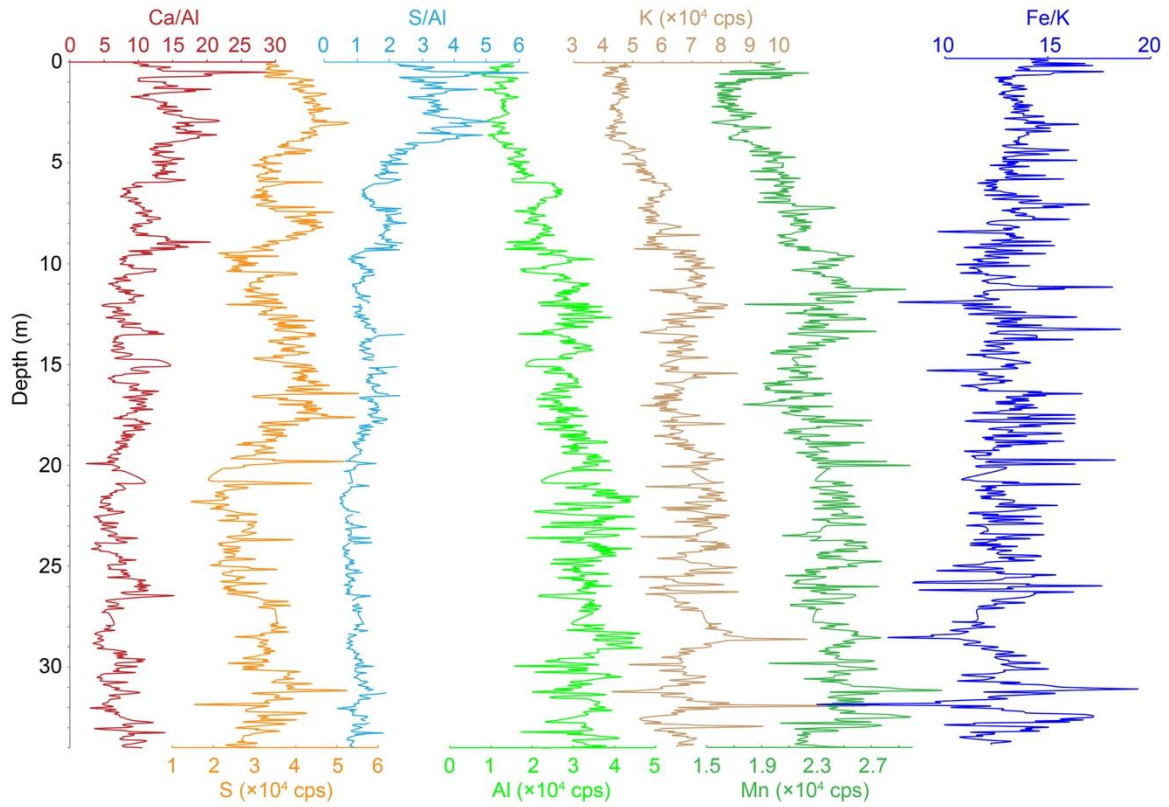
**Introduction**

This supporting information provides additional data for samples from core MD01-2421, including u-channel magnetic data (Fig. S1), variations in selected XRF elements and their ratios (Fig. S2), and thermomagnetic curves (Fig. S3).

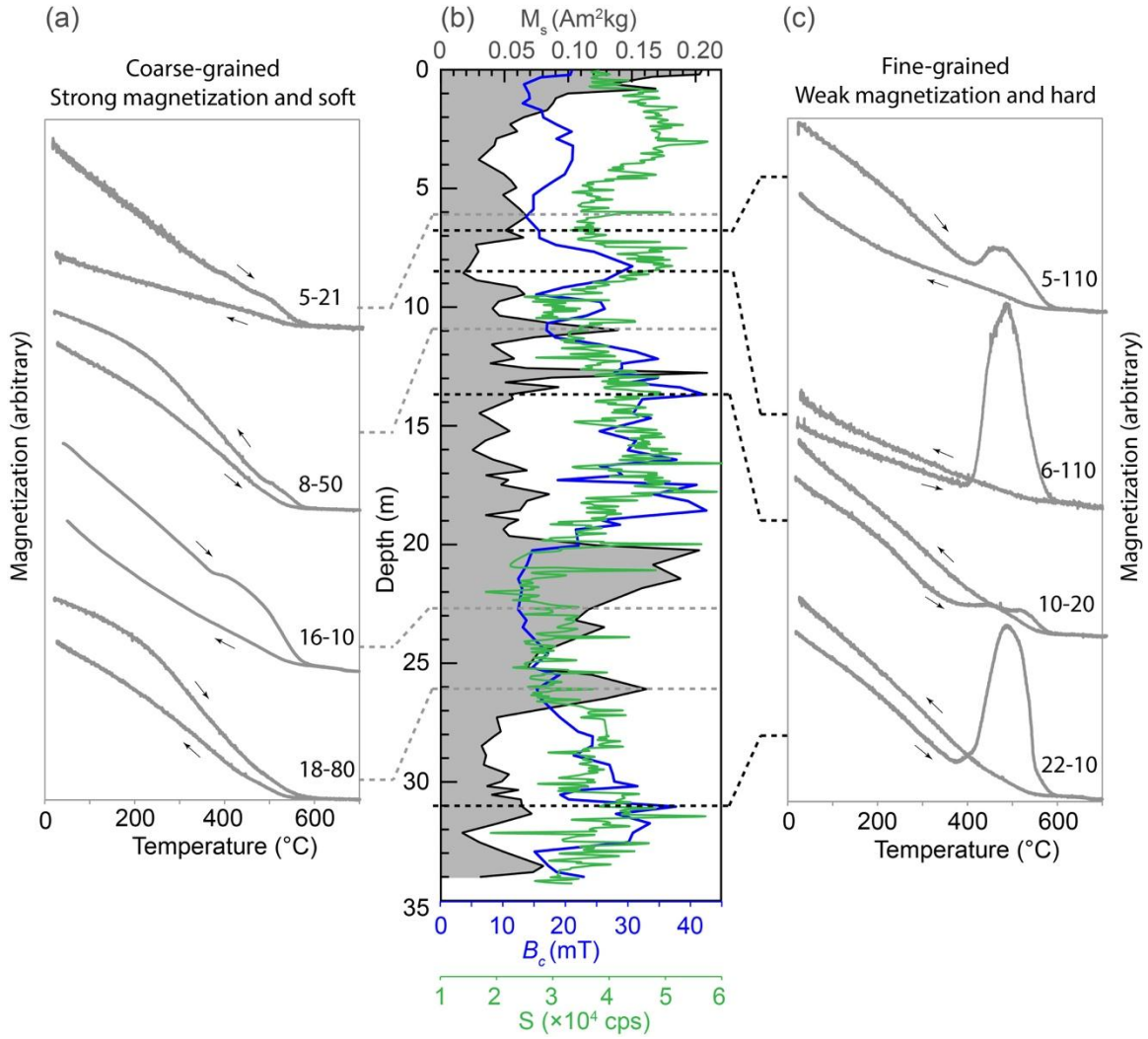


**Figure S1.** Down-core variations of magnetic parameters for core MD01-2421 measured on u-channel samples [Weeks *et al.*, 1993]: (a) Low-field magnetic susceptibility ( $\kappa$ ), (b) anhysteretic remanent magnetization (ARM), and (c) isothermal remanent magnetization (IRM) measurements. A large peak in the  $\kappa$  data at ~33 m depth was truncated (indicated by a red

rectangle). Small data gaps are due to void sample intervals and 5-cm intervals at the end of each u-channel.



**Figure S2.** Stratigraphic variations in selected elements measured semi-quantitatively with XRF and their ratios (Ca/Al, S, S/Al, Al, K, Mn, Fe/K) for core MD01-2421.



**Figure S3.** Thermomagnetic curves for selected samples from core MD01-2421. Results for selected samples from intervals with lower and higher magnetization are plotted in (a) and (b), respectively. Heating curves for samples from the lower magnetization intervals often contain a large peak at  $\sim 500^\circ\text{C}$ , which indicates a significant pyrite concentration within the measured samples. In contrast, samples from the higher magnetization intervals contain much weaker pyrite peaks.