

Supporting Information for

Low-latitude hydroclimate changes related to paleomagnetic variations during the Holocene in coastal southern China

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Introduction

The supporting information contains Fig. S1 to S5, and Table S1.

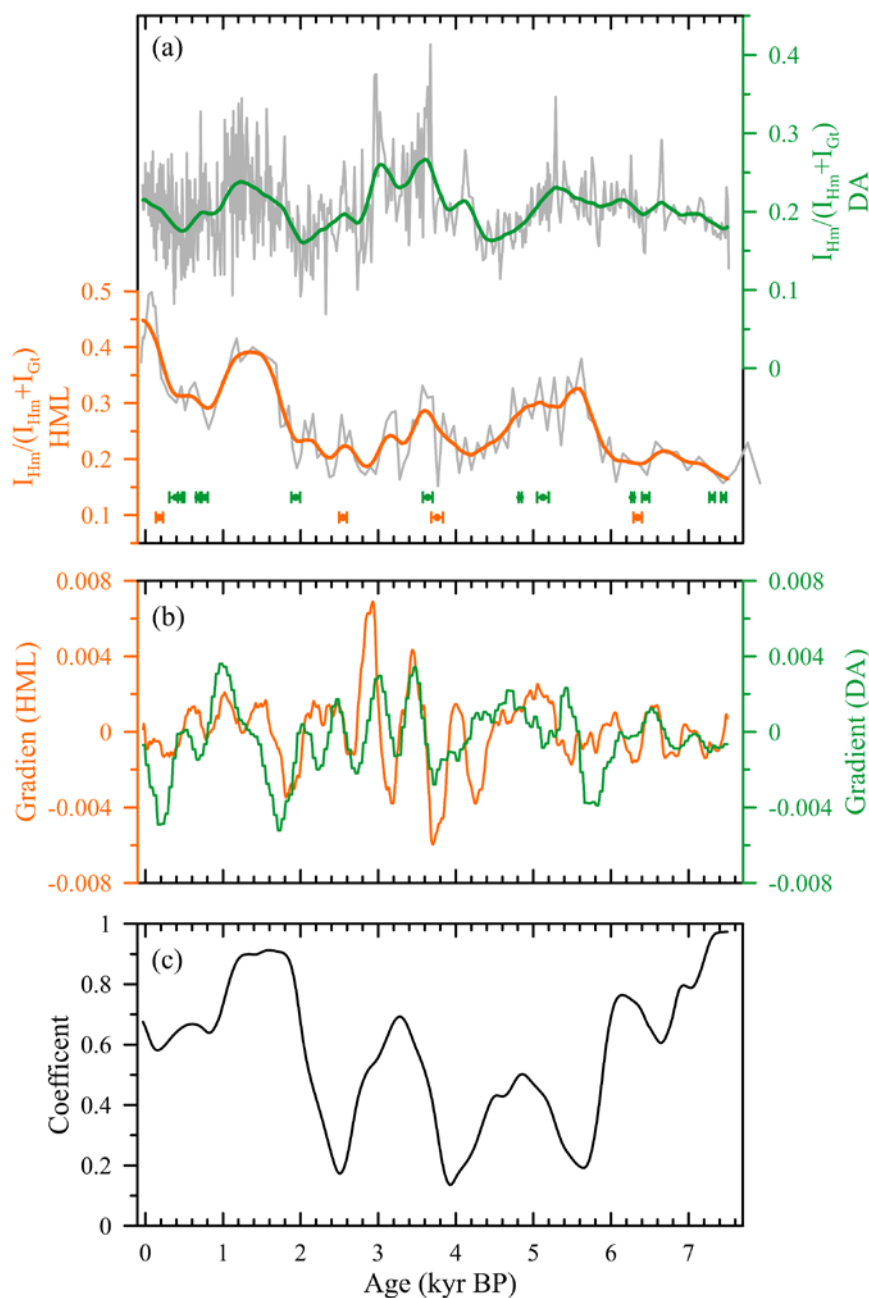


Fig. S1. Comparison of the $I_{Hm}/(I_{Hm}+I_{Gt})$ records between HML and DA cores. The gray lines in (a) are the raw data of records, and the colored lines are the first principal component of HML and DA cores at centennial-scale, respectively. The first principal component of two records is calculated using singular spectrum analysis. (b) is the gradient curve of the first principal component in (a). (c) the running correlation coefficient curves (windows lengths = 500 yrs.) between the first principal component of two cores.

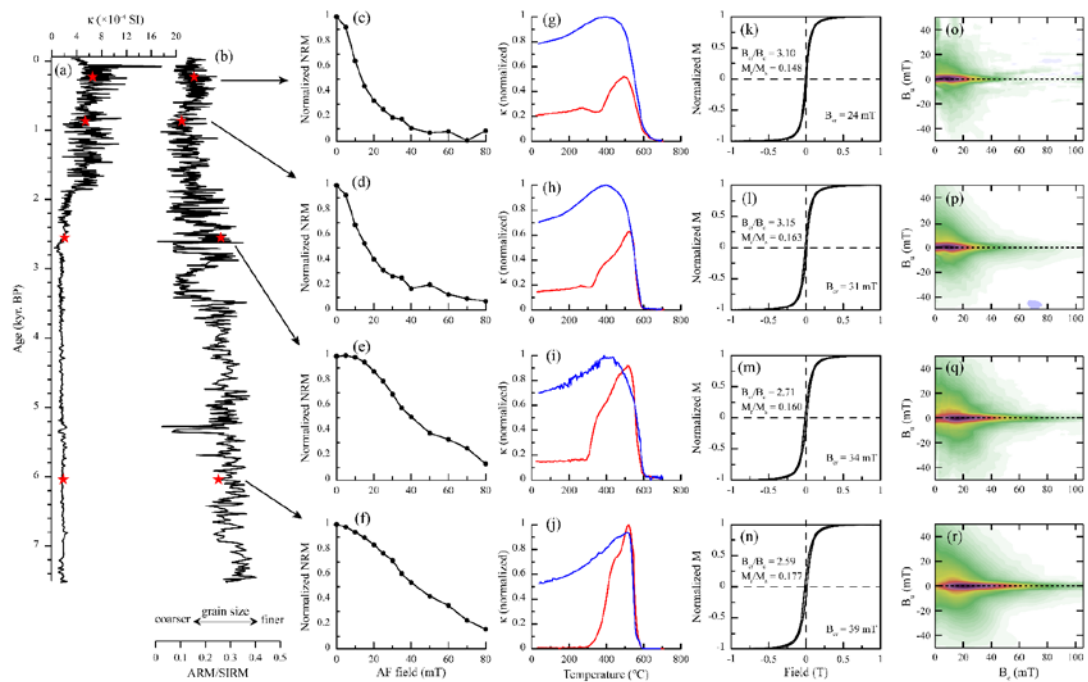


Fig. S2. Rock magnetic results of selected samples of core DA. (a-b) age dependence curve of magnetic susceptibility and ARM/SIRM, where the red stars represent the selected samples. (c-f) natural remanence decay curves of stepwise AF demagnetization. (g-j) temperature dependence curves of magnetic susceptibility. (k-n) magnetic hysteresis loops. (o-r) FORCs diagrams.

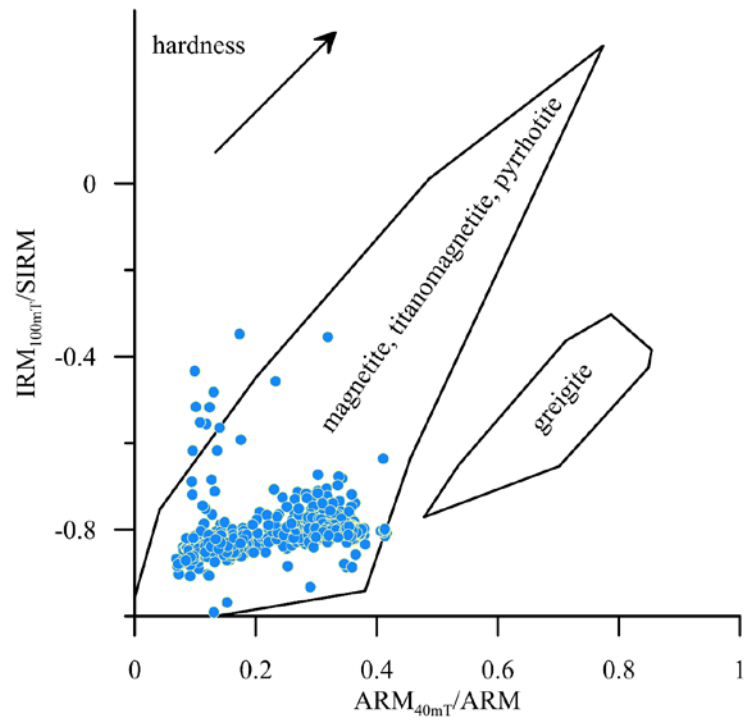


Fig. S3. Biplots of $IRM_{100mT}/SIRM$ vs. ARM_{40mT}/ARM . Black boxes with the typical range of parameters for different minerals were redrawn from [Peters and Thompson \(1998\)](#).

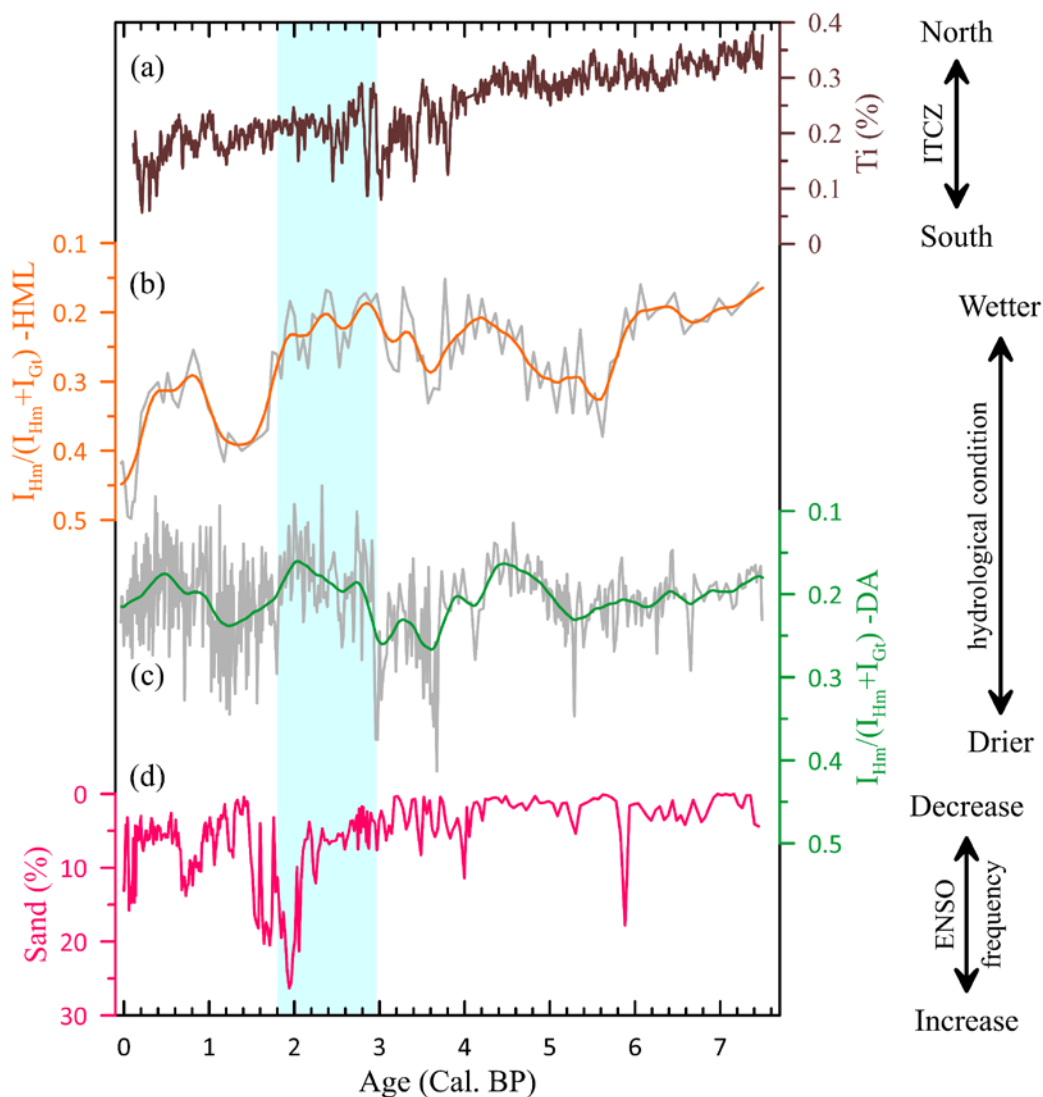


Fig. S4. Comparison of $I_{Hm}/(I_{Hm}+I_{Gt})$ records from HML and DA cores with the Ti content record from Cariaco Basin and sand record in El Junco core. (a) Ti content from Cariaco Basin (Haug et al., 2001). (b-c) our $I_{Hm}/(I_{Hm}+I_{Gt})$ records from HML and DA cores, respectively. (d) present sand in El Junco core (Conroy et al., 2008).

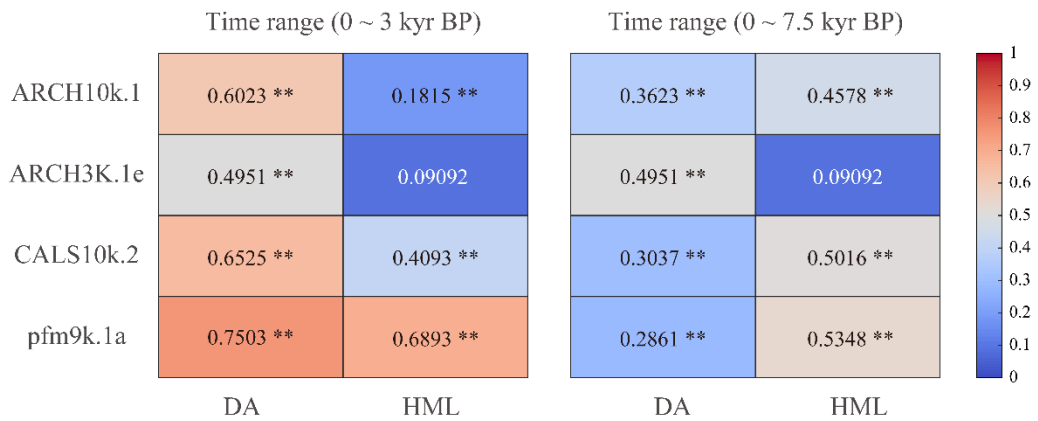


Fig. S5. The heatmap between hydroclimate proxies in two cores and virtual dipole moment records from different models (Korte et al., 2009; Nilsson et al., 2014; Constable et al., 2016) in two-time range. The color corresponds to the number and represents the correlation coefficient. * represent $p < 0.05$ and ** represent $p < 0.01$.

Table S1 OSL dates from the DA core.

Sample ID	Depth (m)	Dose rate (Gy/kyr)	De (Gy)	OSL age (kyr BP*)
DA-R-9	16.8	1.89±0.13	3.7±0.6	2.0±0.3
DA-R-13	23.09	2.52±0.18	4.8±0.1	1.9±0.1
DA-R-15	26.49	2.20±0.16	6.9±0.1	3.1±0.2
DA-R-17	29.89	2.36±0.17	10.6±0.2	4.5±0.3
DA-R-19	33.28	2.18±0.16	14.0±0.4	6.4±0.5
DA-R-20	34.98	2.44±0.18	14.0±0.2	5.7±0.4
DA-R-22	37.39	2.71±0.20	19.2±0.2	7.1±0.5

All of the OSL dating samples were measured at the Luminescence Dating Laboratory, Qinghai Institute of Salt Lakes, Chinese Academy of Science.

*. BP: before 1950 A.D.

Supplementary References

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