RELATIVE GEOMAGNETIC PALEOINTENSITY FROM MEDITERRANEAN SEDIMENTS

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High resolution magnetic measurements on u-channels from piston core LC07 (38°08.72’N/10°04.73’E, length 23.66 m, water depth 488 m), located west of the Sicily Strait in the Mediterranean Sea, unambiguously records the Matuyama/Brunhes (M/B) and the upper Jaramillo polarity reversals at 17.8 mbsf and 22.4 mbsf respectively. An age model (Dinarès-Turell et al, 2003) has been achieved by matching oxygen isotope data from planktic foraminifer Neogloboquadrina pachyderma to an orbitally tuned target curve, which reinforces a previous correlation and tuning of rock magnetic parameters to a standard d18O curve and astronomical solution for the Matuyama part of the core (Dinarès-Turell et al, 2002). The sediment in core LC07 is a visually homogeneous grey to olive grey foraminifer-rich mud and nannofossil ooze that includes an interval of foraminifer-rich sand from 15.41 to 16.08 mbsf interpreted to represent a winnowed lag interval. This interval divides the record in an upper (16-595 ka) and a lower part (659-1018 ka), which have mean average sediment accumulation rates of 2.77 cm/ky and 2.16 cm/ky respectively. In this contribution, a relative paleointensity proxy record for both time intervals derived by ARM normalization is compared to available sedimentary reference data and an array of geomagnetic excursions dated from volcanic rocks. ARM is chosen as normalizer after coherency evaluation between possible normalizers (ARM, IRM and susceptibility) and respective normalized records in order to minimize potential climatic effects. The paleointensity proxy record from LC07 improves the restricted global paleointensity dataset for the late Matuyama Chron and is unique in the Mediterranean basin because existing records from this basin cover only the last 80 kyr.
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