

High-resolution Holocene geomagnetic secular variation in the Levant from the Dead Sea sediments

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Understanding the behavior of Earth's magnetic field is one of the greatest challenges in geophysics, driving a continuous search for high fidelity recorders of the ancient field. The lacustrine formations deposited in the Dead Sea basin comprise an archive of the past 220 ka geomagnetic field changes. The high depositional rate (2.4 mm/yr), stable flux of magnetic particles, and absence of bioturbation make them excellent for paleomagnetic research. Here we present a continuous high-resolution secular variation time series from the Dead Sea, synchronized with well dated archeomagnetic data. These data refine the available geomagnetic field models of the Levant of the past 3000 years.