

DETERMINING THE STRENGTH OF THE GEOMAGNETIC FIELD DURING THE CRETACEOUS NORMAL SUPERCHRON

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The relationship between the strength and stability of the Earth's magnetic field and its tendency to reverse is a matter of continuing debate. A key time period in which to investigate the link is the Cretaceous Normal Superchron (CNS) when the field remained in a normal polarity for 40 Ma. Considerable effort to produce high quality palaeointensity estimates from the CNS is underway however this is no easy task. Finding suitably aged (and dated) material from which reliable palaeodirections can be obtained is just the start. Here we assess the presently available data in the global database and discuss recent results obtained using the microwave palaeointensity technique. The advantage of using the microwave method compared to the conventional Thellier method is that alteration during the experiment can be reduced leading to higher experimental success rates. However, as with the conventional Thellier method, samples must contain an original thermal remanence carried by single domain behaving grains. Detailed rock magnetic and microscopy studies in conjunction with comparisons to results from other studies at the sample, flow and site level are used to investigate possible biases.

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