

NEW ARCHAEOMAGNETIC MEASUREMENTS AND THE GEOMAGNETIC FIELD STRENGTH DURING THE 18TH CENTURY

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The strength of the geomagnetic field is a subject of both scientific and public interest, with the decay over the past 160 years leading to speculation as to whether we are entering a geomagnetic reversal. Prior to 1840, there was no capability for direct measurements of geomagnetic field strength; to investigate the field strength at this time, palaeomagnetic and archaeomagnetic determinations must be made. Some 200 archaeointensities are available globally for the 150 year period prior to Gauss' invention of the magnetometer but they show no overall consistency. Here we consider archaeointensities derived from 18th Century British artefacts including ceramics, brick and burnt sandstone and compare them with other available data. It is shown that a hiatus in the present decline of the geomagnetic field appears to have occurred during the 18th Century but important caveats are attached: the later part of the period sees the development of iron kiln furniture and the issue of "refraction", the distortion of the magnetic field within kiln floors, is still unresolved.

Archaeointensity

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