ARCHAEO MAGNETIC DATA FOR A REFERENCE GEOMAGNETIC CURVE IN ITALY DURING THE FIRST MILLENNIUM BC

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The Direction of the geomagnetic field over the last 2000 years has been determined in Europe, including Italy, from a number of archaeomagnetic studies. However, such a variation curve for the first Millennium BC is still uncertain. Here we present new data on Italian archaeological fired materials, attributed to the Etruscan period (IV to VIII century BC), and also on volcanics from the island of Ischia, that have been historically and archeologically dated between circa AD 300 and the VIIth century BC.

The results on a first set of ovens pointed out that furnaces for the reduction of metal suffer a magnetic distortion that leads to rather high semi-angles of the confidence cone at the 95% level (alpha95). The data obtained on ovens devoted to the production of ceramics are better constrained (alpha95 from 1 to 1.5°). A recurrent problem when working on large and well preserved furnaces is that they have often been used several times until the recent epoch. This is particularly the case for some structures of the Elba island. Regarding volcanic deposits of Ischia, ten sites have been sampled going from historically dated eruptive centres to older lavas from the past few thousand years, leading to a total of 167 archaeomagnetic analyses. The results are in general agreement with earlier age attributions, although discrepancies exist in some cases between archeological/historical and archaeomagnetic data.