



New absolute archaeointensity data from Italy obtained from well-dated brick and pottery fragments.

Mercedes Rivero-Montero (1), Evdokia Tema (2), Miriam Gómez-Paccard (1), Francesco Rubat-Borel (3), Marica Venturino (4), and Elisa Panero (5)

(1) Geosciences Institute (CSIC-UCM), Earth Dynamics and Observation, Madrid, Spain (m.rivero@csic.es, mgomezpaccard@igeo.ucm-csic.es), (2) Dipartimento di Scienze della Terra, Università degli Studi di Torino, Via Valperga Caluso 35, 10125 Torino, Italy (evdokia.tema@unito.it), (3) Soprintendenza Archeologia Belle Arti e Paesaggio per la Città Metropolitana di Torino, piazza San Giovanni 2, 10122 Torino, Italy (francesco.rubatborel@beniculturali.it), (4) Soprintendenza Archeologia Belle Arti e Paesaggio per le province di Alessandria, Asti e Cuneo, piazza San Giovanni 2, 10122 Torino, Italy (marica.venturino@beniculturali.it), (5) Musei Reali Torino, Piazzetta Reale 1, 10122 Torino, Italy (elisa.panero@beniculturali.it)

In this study, we present new archaeointensity results from Italy in order to enrich the reference dataset with high-quality intensity records from this area that is still poorly covered in terms of intensity data. The new data were obtained from palaeointensity experiments performed on 79 samples collected from six archaeological sites with ages ranging from 700 BC to 1600 AD. The samples, prepared from pottery and brick fragments, were analyzed using the classical Thellier method including the correction for the anisotropy of thermoremanent magnetization (TRM) and for cooling rate dependence upon TRM acquisition. Strict quality criteria were applied to the obtained results to select only the most reliable intensity determinations. The accepted results were obtained from one single component pointing through the origin in Zijderveld plots and linear Arai plots without any evidence of magnetochemical alteration. The rejected experiments correspond to samples showing more than one component of magnetization or clear mineralogical changes during the Thellier experiments. The new data were compared with other archaeointensity records from Italy and nearby countries. They help to improve the intensity curve for Italy, even though there are still several time periods poorly covered by archaeointensity records. It is clear that more data are needed to reconstruct the detailed evolution of the geomagnetic field intensity in Italy and investigate the existence of the intense, short-lived, regional intensity maxima, identified in other regions.