Geophysical Research Abstracts
Vol. 18, EGU2016-7330, 2016
EGU General Assembly 2016

Paleomagnetic investigation of a Late Bronze Age lacustrine succession of the Tiber River alluvial plain at Foro Boario, Rome (Italy)

Patrizia Macrì (1), Fabio Florindo (1), Pontus Lurcock (1), Fabrizio Marra (1), Andrea Brock (2), and Nicola Terrenato (2)

(1) Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy (patrizia.macri@ingv.it), (2) University of Michigan, Ann Arbor, MI, U.S.A.

A borehole drilled at the Foro Boario archaeological area, which contains some of the earliest settlements of Ancient Rome, recovered a 2.41 m-thick lacustrine silty clay succession. We conducted a paleomagnetic study on 43 discrete samples taken throughout the silty clay interval. We applied stepwise alternating-field (AF) demagnetization to determine the natural remanence direction for investigation of the paleosecular variation. We then applied an anhysteretic remanent magnetization followed by another stepwise AF demagnetization to determine the relative geomagnetic paleointensity. The lacustrine deposit occurs between 5.09 and 2.68 m a.s.l. and its age is preliminarily constrained at the base by a 14C age of 2735±20 Cal yr BP, measured on plant remains extracted from a 5 cm-thick sample of sediment collected at 1.96-2.01 m a.s.l.. Moreover, on top of the lacustrine deposit rests a block of "cappellaccio" (the archaeological name for the Tufo del Palatino pyroclastic-flow deposit, the earliest volcanic rock employed by ancient Roman builders) which is part of a 2.5 m tall dimension stone wall, of probable archaic age. Therefore, the lacustrine deposit constitutes a sedimentary succession deposited during the Late Bronze Age, in a period witnessing the earliest anthropic frequentation of Rome. The paleomagneic signal yielded by this sediment may represent a relevant reference for historical and paleo-environmental studies in the early Roman age, as well as a record of worldwide relevance.