

NEW ARCHAEO-MAGNETIC DATA FROM MID-HOLOCENE BURNT CAVE SEDIMENTS AT NORTHERN IBERIA

ÁNGEL CARRANCHO 1, Juan José Villalaín 1, Francisco Javier Pavón 2, Diego E. Angelucci 3, José M. Carretero 4, Manuel R. González-Morales 5, Ana Isabel Ortega 4, Lawrence G. Straus 6, Josep María Vergès 7

1 Departamento de Física. EPS, Universidad de Burgos. Avda. Cantabria s/n, 09006 Burgos, Spain.

2 Grupo de Paleomagnetismo. Departamento de Geofísica y Meteorología. Universidad Complutense de Madrid. Avda. Complutense, s/n. 28040. Madrid. Spain.

3 Laboratorio di Preistoria "B. Bagolini", Dip. di Filosofia, Storia e Beni Culturali, Università di Trento, Italy.

4 Laboratorio de Evolución Humana, Departamento de Ciencias Históricas y Geografía, Universidad de Burgos. Edificio I+D+I, Plaza de Misael Bañuelos s/n, 09001 Burgos, Spain.

5 Instituto Internacional de Investigaciones Prehistóricas, Universidad de Cantabria, Avda. de los Castros, 39005 Santander, Spain.

6 Department of Anthropology, MSC01 1040, University of New Mexico, Albuquerque, New Mexico 87131-0001, USA.

7 Institut Català de Paleoecologia Humana i Evolució Social (IPHES) – Àrea de Prehistòria, Universitat Rovira i Virgili, Pl. Imperial Tàrraco, 1, 43005, Tarragona, Spain.

During the last years, numerous archeomagnetic studies of baked archaeological features (e.g. kilns, furnaces) have enabled the design of directional secular variation curves of the geomagnetic field in Europe. However, the temporal interval covered by most of these records is limited and with exceptions, rarely exceed the last three millennia. Here we present an archaeomagnetic and mineral magnetic study of more than 500 oriented samples obtained from several Holocene burnt levels from three caves in Northern Spain ("El Mirador" and "Portalón" Caves -Sierra de Atapuerca, Burgos- and "El Mirón" Cave -Ramales de la Victoria, Cantabria-). These materials, known in the archaeological literature as stabling burnt layers or *fumiers*, mainly consist of ash and rubefacted facies very well preserved. The ages of the studied levels are well constrained by ^{14}C (AMS and conventional) and approximately, span the interval from 6500 to 2500 yr BP. Due to the unconsolidated nature of these materials a special sampling device has been specifically designed for this work. Magnetically, these burnt facies are all dominated by PSD low coercivity minerals (magnetite / low-Ti magnetite and/or maghemite). Progressive alternating field (AF) and thermal (TH) demagnetization has revealed a stable single NRM component in ashes and a single or two-component NRM in rubefactions. Around 20 new archaeomagnetic (directional) points have been obtained. We are currently comparing these archaeomagnetic directions with global and regional SV models to test their suitability as geomagnetic field recorders. This work opens the possibility to obtain Mid-Holocene archaeomagnetic data from this kind of burnt sedimentary cave sequences, which are rather common in the Mediterranean Europe.

Archaeomagnetism, Middle-Holocene, Iberia.

Angel Carrancho Alonso, Departamento de Física, Escuela Politécnica Superior, Universidad de Burgos, Avda. Cantabria, s/n, 09006 Burgos, Spain, E-mail: acarrancho@beca.ubu.es