

## **A EUROPEAN GEOMAGNETIC FIELD MODEL FROM 6000 BC TO 1000 BC**

F.J. PAVÓN-CARRASCO 1, M.L. Osete 1, and J.M. Torta 2.

1. Grupo de Paleomagnetismo. Dpto. Física de la Tierra I. Universidad Complutense de Madrid. Avda. Complutense, s/n. 28040. Madrid. Spain. [fjpavon@fis.ucm.es](mailto:fjpavon@fis.ucm.es), [mlosete@fis.ucm.es](mailto:mlosete@fis.ucm.es)

2. Observatori de l'Ebre. CSIC - Universitat Ramon Llull. Horta Alta, 38. 43520 Roquetes. Spain. [jmtorta@obserebre.com](mailto:jmtorta@obserebre.com)

We propose a new regional geomagnetic model for the European Continent valid from 6000 BC to 1000 BC. The model is based on a selected compilation of sedimentary and archaeomagnetic data.

First we have tested the accuracy of sedimentary records sited in western and northern Europe by using the regional European model SCHA.DIF.3K. Two criteria of rejection has been used: 1) we have eliminated those sedimentary records that have a wide scattering (angular deviations over 40°), 2) we have compared the available sedimentary data that covered the last 3000 years (from 1000 BC to 1900 AD) with the geomagnetic field components provided by the regional European SCHA.DIF.3K archaeomagnetic model. A filter of 150 years has been applied over the expected values given by the regional archaeomagnetic model to simulate the smoothing of the sedimentary record. The selected sedimentary database and the last version of the Bulgarian archaeomagnetic database have been used to develop a low degree regional model using the Spherical Cap Harmonic Analysis technique in the European region.

This model, called SCHA.DIF.8K, provides information about the direction (declination and inclination) and intensity of the Earth's Magnetic Field in Europe during 5000 years, from 6000 BC to 1000 BC, connecting with the SCHA.DIF.3K model valid from 1000 BC to 1900 AD.

Archaeomagnetism, Sedimentary records, Regional Modelling.

Fco. Javier Pavón-Carrasco. Grupo de Paleomagnetismo. Dpto. Geofísica y Meteorología. Universidad Complutense de Madrid. Avda. Complutense, s/n. 28040. Madrid. Spain. Tel: +34913944440, e-mail: [fjpavon@fis.ucm.es](mailto:fjpavon@fis.ucm.es)