



## **The Structural and magnetic fabric study of the Marimanha granite ( Axial Zone of the Pyrenees)**

**B. Antolín-Tomás** (1), T. Román-Berdiel (1), A. M. Casas (1), I. Gil-Peña (2), B. Oliva (3) and R. Soto (4)

(1) Dept. de Ciencias de la Tierra, Universidad de Zaragoza, Zaragoza, Spain, (2) Unidad de Geología y Geofísica, Instituto Geológico y Minero de España, Madrid, Spain, (3) Dept. of Geological Sciences, University of Michigan, Ann Arbor, USA, (4) Laboratorio de Paleomagnetismo, Dept. de Física, Universidad de Burgos, Burgos, Spain, (474619@cienz.unizar.es / Fax: 34-976761106 / Phone: 34-976762127)

The structural and magnetic fabric study of the Marimanha granite, Axial Zone of the Pyrenees provides new data to characterize the zonation and the internal structure of the pluton.

The Marimanha granite intrudes Cambro- Devonian metasediments of the Axial Zone of the Pyrenees. The zonation of the low field magnetic susceptibility, consistent with the petrological zonation of the igneous body, indicates a concentric arrangement of rock types, with more basic compositions at the external areas. This feature, and the existence of a low magnetic susceptibility ( $K$  mean is  $198 \cdot 10^{-6}$  SI) suggest the dominance of paramagnetic susceptibility.

By means of the measurements of the anisotropy of the magnetic susceptibility in 416 samples, we have inferred the magmatic fabric of this pluton.

The existence of eigenvalues  $E_{13} < 10$  ( $E_{13}$  mean equal to 3.9) and the positive values of the  $T$  parameter ( $T$  mean equal to 0.5) suggest a dominant planar fabric.

Magnetic foliations strike parallel to petrographic contacts and to contours of zonation of magnetic susceptibility, and show a dominant NE-SW strike, steeply dipping towards the N. Locally, in the northern border of the pluton foliation directions become perpendicular to petrographic contacts and depict sigmoidal trajectories.

Magnetic lineations are characterized by the predominance of NE- SW trends with

shallow plunges to the NE and SW. These foliations and lineations are parallel to the slight elongation of the massif in map view. Magnetic fabric within the granitoid body and elongation of the massif in map view, suggest an intrusion contemporary with a transpressional regime and NNO-SSE shortening syntectonic with the late stages of the Variscan orogeny.