



## **Kinematics of Iberia during Cretaceous: Reconciling Paleomagnetic and Marine Magnetic Anomalies**

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Paleomagnetism and magnetic reconstructions are two different methods that have been used to assess the kinematics of Iberian plate during Cretaceous, giving rise to many studies and kinematic models. However, important data gaps do exist in what concerns the paleomagnetic series, a number of contradictions have been reported in the literature, and only scarce attempts have been made to conciliate and unify both types of data and results.

Here we present new paleomagnetic results from two mafic sills in Portugal and preliminary results of the study of magnetic anomalies in North Atlantic and Bay of Biscay.

New paleomagnetic data concerns two sills which have been the object of recent geochronological studies: Paço d'Ilhas sill is dated as  $88.3 \pm 0.5$  Ma (U-Pb on zircon, Grange et al, 2010) and Foz da Fonte sill as  $93.8 \pm 3.9$  Ma (Ar-Ar on amphibole, Miranda et al, 2009). Characteristic directions of remanent magnetization were calculated for each formation, and a detailed study of the magnetic mineralogy was conducted in order to identify the magnetic carriers and discuss their primary or secondary nature. We also discuss the possibility of using these directions for the calculation of corresponding paleopoles.

The study of marine magnetic anomalies was made on a new compilation of both aeromagnetic and marine data, processed with a comprehensive model, and reduced to the pole using a continuous reduction technique. A group of magnetic chrons have been identified covering the 125-70 Ma period, on the North-America - Iberia plate pair and along the Bay of Biscay, allowing the computation of new magnetic reconstructions and their corresponding Eulerian poles.

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