



Magnetostratigraphic constraints on the kinematics of the Boltaña anticline (Southern Pyrenees).

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The Boltaña anticline is the western limit of the South Pyrenean Central Unit. It shows a North-South trend, a westwards vergence and is mainly defined by the Paleocene-Eocene South Pyrenean sequences. The age of the deformation ranges from the Lutetian to the Late Bartonian and coincides with the development of slope facies between the Graus-Tremp Basin (siliciclastic platform) and the Jaca Basin (turbidites). In spite of the large number of structural and paleomagnetic studies, there are still many questions about the kinematics of the Boltaña anticline. The observed rotation magnitudes (up to 80° CW) and their seemingly synfolding ages are major clues to understand this important oblique structure. Previous studies (Fernandez et al., 2003. Magiber II, 12-14) of discrete sites all around the Ainsa basin have proposed a Lutetian age for the rotational movement.

In this work we analyse one preliminary magnetostratigraphic profile (81 samples) within a 290 metres long sequence of Lutetian talus facies (Paules Fm) located close to the anticline Southern termination. We have plans to extend the section across the Sobrarbe Fm up to the Bartonian-Priabonian (Escanilla Fm) continental levels where previous magnetostratigraphic studies were able to successfully characterise the local polarity sequences (Bentham and Burbank, 1993, Tertiary Basin of Spain E13, 144-152) as well as to analyse the lower Cuisian (Ypresian) rocks (Boltaña Fm). All together will allow, in the near future, to accurately constraint the stratigraphic, de-

formation and rotational ages during the entire Eocene in this key area of the South Pyrenean Basin.

Laboratory procedures mostly include the stepwise thermal demagnetization and some AF essays. They were performed in the Burgos Paleomagnetic Laboratory by means of a 2G magnetometer and a TD48-SC (ASC) oven. Simultaneous measurements (KLY3) of susceptibility allow controlling mineralogical changes. Besides of a recent overprint of present magnetic field, we were able to define a characteristic component unblocking between 200-250°C up to 400-450°C. Later on abrupt susceptibility increasing hampers any further calculation. The ChRM directions allow building a trustable local sequence of magnetozone. Considering available biostratigraphic data together with GPTS, C20 and C21 chrons were identified, and accurately constraint the age of the profile. Magnetic declination of high-quality samples after bedding correction display a significant rotation (DEC: 045, INC: 55; a95: 4.8° K: 32 N: 29) and does not show any significant variations along the profile pointing to a post Lower-Middle Lutetian age of the rotation, at least in the Southern sector of the anticline.