



## **Preliminary results from Jurassic/Cretaceous magnetostratigraphic sections in the Northern Apennines (Italy)**

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The Jurassic to Eocene Italian Umbria–Marche sections of the Apennines have demonstrated their exceptional magnetic and biostratigraphic potential for magnetostratigraphy. Moreover, they are well exposed and give the possibility to perform fold and reversal test in order to verify the reliability of the characteristic magnetization components.

We report preliminary results from two sections in the Northern Apennines (Italy): the Salto del Cieco section ranges from the Lower Jurassic (Calcare Massiccio Fm.) to the Lower Cretaceous (Marne a Fucoidi Fm.) time with a total thickness of ca. 400 m. Samples have been collected with spacing of 20-30 cm, gathering 717 samples; the Piè di Cammoro section encompasses the Barremian-Turonian (top of Maiolica Fm. to top of Scaglia Bianca Fm.) time span. Here, the paleomagnetic sampling has been carried with spacing of 20-50 cm for a total of 345 samples.

Paleomagnetic analysis was performed in the Alpine Laboratory of Paleomagnetism (ALP) in Peveragno (Cuneo, Italy). The Magnetic Susceptibility and the Natural Remanent Magnetization of all samples were measured using a Kappabridge KLY-3 and a 2G DC-SQUID cryogenic magnetometer, respectively. 45 pilot samples were demagnetized in 23 steps between 20°C and 700°C, controlling variation in mineralogy by measuring the magnetic susceptibility at each step. This allow to recognize the presence of a characteristic magnetization component between 300°C and 700°C. Thus, all the remaining samples where demagnetized in 15 steps in this temperature range.

The Virtual Geomagnetic Pole (VGP) latitudes of the characteristic magnetization components from each retained sample were evaluated by calculating the angles between the individual VGPs and the mean paleomagnetic pole of each section. The VGP latitudes define a succession of normal- and reverse-polarity magnetozones, which was compared to the geomagnetic polarity timescale (GPTS).

In the Salto del Cieco section we obtained a good correlation with the GPTS between M25n and M0). Magnetic anomalies older than M25 are difficult to correlate, as they are in the “Jurassic quiet zone”. In this part of the section, integration with biostratigraphic data is necessary. In the Piè di Cammoro section we clearly recognize the M0. A reverse samples below it could indicate the M1r and will be further investigated.

The magnetostratigraphic dating allowed us to compute a preliminary Jurassic/Cretaceous Apparent Polar Wander Path (APWP) for Adria/Africa, which was compared with similar age APWP segment for Africa.