



Primary magnetization in the Berriasian of the Northern Calcareous Alps (Salzburg area)

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Berriasian succession in the central part of the Northern Calcareous Alps (NCA) consists of ca. 150 m hemipelagic sediments of the Oberalm and Schrambach formations. The rocks are dated with calpionellids and ammonites (Krische et al., 2013; Bujtor et al., 2013), however due to low frequency of calpionellids and long barren intervals the stratigraphic divisions are not as precise. Magnetic stratigraphy in the Berriasian is a widely applied tool. When integrated with calpionellid and/or nanofossil stratigraphy, it permits for construction of high resolution chronostratigraphic framework correlated directly to Global Polarity Time Scale (e.g. Grabowski et al., 2016). Despite widespread remagnetization documented by Pueyo et al. (2007) in the Triassic to Lower Cretaceous of the NCA, a detailed paleomagnetic study of the Oberalm and Schrambach formations was undertaken in the Leube quarry (Salzburg area) following other successful studies of the Berriasian deep marine sediments in Alpine – Carpathian fold-and-thrust belt (e.g. Ogg et al., 1991; Grabowski, 2011).

Natural remanent magnetization (NRM) intensities were mostly weaker than 1 mA/m, while magnetic susceptibility fluctuated between 10 and 70 x 10⁻⁹ m³/kg. Magnetite is the most important magnetic mineral, occasionally magnetization is carried also by hematite. NRM consists of three components which have been isolated using thermal demagnetization. The component with highest unblocking temperatures (above 500 °C) of mixed, normal and reversed polarity, is interpreted as primary. Basing on results of microfossil stratigraphy, the magnetozones from M17r to M14r (close to the Berriasian/Valanginian boundary) were identified. General clockwise rotation of paleodeclination is confirmed. In the next step, an attempt will be made to reconstruct an influx of lithogenic material into the basin and correlate it with orogenic processes as well as global and regional paleoclimatic and eurybathic trends.

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