

Paleomagnetic study of Middle-Upper Jurassic sediments from the Polish segment of the Pieniny Klippen Belt

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Abstract

Middle-Upper Jurassic carbonates exposed in 7 separate fragments of three tectonic units were sampled in the Polish segment of the Pieniny Klippen Belt in 1981, before construction of the Niedzica-Czorsztyn dam. Demagnetization experiments performed about 20 years ago and analyzed lately with modern program package revealed the presence of Middle Miocene overprints acquired in the normal and reversed geomagnetic field, and pre-folding components of natural remanence acquired during the Middle-Upper Jurassic. A paleolatitude of $36\text{N}\pm 7^\circ$ was obtained for the studied area for this time on the basis of 3 normal and 1 reversed components. Three pre-folding pole positions are situated between pole positions of the normal and reversed Stable European Middle Jurassic field. The obtained paleomagnetic results imply several prefolding (pre-Upper Miocene) and postfolding (post-Upper Miocene) episodes of rotations of the studied fragments.

Key words: Middle Jurassic, Pieniny Klippen Belt, paleolatitude, Miocene overprints, rotations.