

## Paleomagnetic and AMS study in the Turiec basin

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Turiec Basin is located at the NE termination of the Mür-Žilina Fault Zone which cuts all major tectonic units of the Western Carpathians. The NE segment of the fault zone was the locus of sinistral strike-slip movement during Neogene and Quaternary times. Therefore, Turiec Basin, filled by Neogene and Quaternary strata, is one of the key-areas for unraveling the neotectonic evolution of the Western Carpathians. The basin is a westward dipping half-graben formed on Eo-alpine structures during the Middle Miocene transtensional to extensional tectonic regime. It is filled dominantly with Upper Miocene sediments (Kováč et al., 2011), which were the main subjects of the present study. Outcrops for fresh pelitic sediments, suitable for paleomagnetic research are few in the basin (four localities). Luckily, it was possible to obtain tectonically useful results also from a drill, by azimuthally orienting the cores with the help of thin silt intercalations in the clay and also through the AMS foliation planes. The estimated age of the sediments is 8-7 Ma (four localities) and around 6 Ma (one locality), respectively. In addition to the sediments, Sarmatian andesite from the southern part of the basin was also collected for the study.

The 152 oriented cores were subjected to standard paleomagnetic measurements and demagnetizations (mostly with thermal method). The locality mean paleomagnetic directions were calculated, both before and after local tilt corrections. Statistically excellent paleomagnetic results were obtained for all the sampled localities. Based on the locality mean paleomagnetic directions for the sediments, overall mean directions were calculated before and after applying local tilt corrections. The improvement of the statistical parameters on tilt corrections is significant, indicating the pre-tilt age of the remanence. The inclination is around 60°, in harmony with closeness to the present latitudinal position of the basin. The overall mean declination show about 10° westward deviation from the present north. This can be interpreted as indication for very small CCW rotation of the basin sediments in post 6Ma times. The CCW rotation could have started earlier, since the results from the Sarmatian andesite seem to suggest somewhat larger CCW deviation.

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