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Anisotropy of magnetic susceptibility in the Romanian Carpathian foredeep and the Transylvanian basin and its application to structural geology

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Measurement of anisotropy of magnetic susceptibility (AMS) in sediments is a good tool for structural geological research. We present the results of an analysis of the anisotropy of magnetic susceptibility (AMS) in Neogene sediments from the Eastern and Southern Carpathian Foredeep and the Transylvanian Basin, which was performed as part of the ISES Pann-Carp project. The AMS is characterized by a dominant magnetic foliation parallel to the bedding plane in all cases, pointing to a primary sedimentary magnetic fabric. There is a clear secondary magnetic lineation parallel to the arch formed by the Eastern and Southern part of the Carpathians. This lineation indicates either the most recent compression perpendicular to the Carpathian arch or extension parallel to it. In the future, these results will be combined with a detailed analysis of the AMS in the Transylvanian basin and integrated with other regional structural geological data in order to highlight the tectonic interplay between the basin and adjacent orogen.