

## **LARGE-SCALE CRUSTAL FEATURES ON THE ROMANIAN TERRITORY AS INFERRED FROM THE GEOMAGNETIC DATA**

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The recently achieved new airborne geomagnetic map of Romania was thoroughly analysed, starting by comparing the aeromagnetic images with previously obtained ground geomagnetic data and satellite information.

At the largest scale, CHAMP satellite data clearly discriminated the TTZ track on the Romanian territory.

A comparative view between the aeromagnetic map and the reconstructed ground vertical component geomagnetic anomaly revealed both similarities and inconsistencies, mainly due to some scarcity of the ground data. Various filtering techniques were applied to the near surface geomagnetic observations to discriminate between regional and local effects, and find correlations with some well known large-scale tectonic peculiarities. Forward modelling using 2D and 3D approaches were employed in order to set up the geometry and in depth location of large anomalous bodies. To help the interpretation, various types of additional geological and geophysical information (e.g. gravity, electromagnetic and geothermal data) were used on purpose.

Consequently, the northern boundary of the Moesian Plate was outlined, at the basement level, in the pattern of a residual geomagnetic anomaly based on the ground observations. Deeper on, at the bottom of the crust, it has been confirmed by the geomagnetic induction vectors.

Preliminary considerations related to the complex sources of the major geomagnetic anomaly located central Transylvanian Depression, the presence of an assumed accretionary prism below the nappes stack of East Carpathians, or location of some intrusions hidden by the sedimentary cover, and correlations between geomagnetic field and geothermal field on the Romanian territory are presented and discussed.

Geomagnetic map, interpretation, Romania

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