



Depth structures of Madan orefield and their metallogenic importance

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The present work is based on a new factual data, which involves gravimetric and geomagnetic maps of the Rhodopes massif, including North Greece as well as a profile line from Panichkovo to Thassos, representing velocity cross-section of Earth’s crust estimated according to deep seismic data. Furthermore, materials from other researchers based on different geophysical methods are taken under account. As a result of an integrated interpretation approach, new data about the Earth’s crust structure in the Madan orefield area are obtained. This orefield is characterized by high metallogenic productivity based on following:

- data derived from deep seismic studies proved the existence of major lithospheric rupture located in the southern periphery of Madan orefield – the South Rhodopes deep fault;
- a crossing between the South Rhodopes and the well-known Central Rhodopes deep faults was estimated. It forms a major tectonic knot called the Madan depth knot. This represents a huge area in the crust characterized by high fragmentation and permeability which had ensured the entrance of magmatic products, thermal energy, fluids and ore-bearing solutions towards the Earth’s surface. That is the main reason for the significant metallogenic role of the outlined depth structures.

Дълбочинни структури в Маданското рудно поле и тяхното металоогенно значение

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