

Development of the Carpathian–Dinar folded segment and the interrelation with geophysics fields

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The studies carried out have shown that it is impossible to explain the formation of the Carpathian fold arch due to the fact of creating a mantle diapir in the centre of Pannonian Basin or by making comparison between the Carpathian Mountains and modern island arcs taking into consideration the interaction of rigid plates. The Alpine story of the sub-continental south-west regions of Eurasian plate goes back to the middle Triassic and started with the destruction of the upper part of the lithosphere and resulted in a creation of a series of blocks. The stretching processes led to the rift formations. The Mesozoic magmatic rocks are the indications of quasi-oceanic and oceanic bendings. At the end of the Late Cretaceous as a result of a horizontal compression, the above-mentioned rift bendings got closed, and their sediments shifted into the continental bendings. In Paleogene the movement of Adriatic block under the Dinaride microcontinent resulted in shifting the intermediate blocks with the simultaneous formation of fold-covering dislocations. As a result fleesh and magmatic formation have been shifted for a long distance. The original width useless magnetic field. It can be explained by the deep location of magnetoactive rocks. The analysis of gravitation researches makes it possible to clarify the structural location of geological formation. The geological

interpretation of gravimetric data would be more exact and complete if it would be possible to use the data from the neighbour countries. The regional seismic studies have been carried out along three Transcarpathian profiles.

The main features of the tectonic structure of the cross-section have been studied. At present gravity and magnetic prospecting are being done on these profiles for the further complex interpretation. The results of the regional electric prospecting works by means of magnetotelluric probing are maps of longitudinal strength, the total longitudinal conductivity of sedimentary complex and maps of the foundation covering that show the main structural tectonic elements of the Carpathians and adjacent territories.

Conclusions

1. The further geophysical researches will promote the appearance of new geophysical data concerning the process of the Carpathians formations.

2. The problem of the coordination of geophysical researches methods in the borderline regions of Ukraine is very actual. The choice of a similar criterium for the geological interpretation is an important problem as well. The experience of the cooperation with Poland has shown that on the border of Ukraine and Poland we could not manage to combine the maps of any geophysical methods.