

Defining the global degree of tectonic activity based on some geophysical parameters for the territory of the Republic of Macedonia

Author: Delipetrov Todor Co-author: Blazevo Krsto

Faculty of Mining and Geology Stip 92000

Republic of Macedonia

The territory of the Balkan peninsula and the Republic of Macedonia belong to the Rhodope sector of the Dinaric system. The two highly important large structural units are divided by a deep fault zone known as the Vardar zone. The complex geological structure of the area speaks for both the complex tectonic processes that took place in the evolution as well as for the present day activity.

The tectonic processes in the area are highly influenced by the African plate in the south, the Apulian plate in the west and the Eastern European plate in the east. Model investigations were carried out of some geophysical parameters (Δg - Bouguer's anomaly, H - the height of the relief and V - velocity of neotectonic movements in individual blocks) in order to define the dynamicity of the area. Correlation coefficients of different functional dependences of

$$M = \begin{matrix} f(\Delta g) \\ f(H) \\ f(V) \end{matrix}$$

were defined relative to the depth of Moho-discontinuity - M .

The models divided the territory of Macedonia into three zones based on the neotectonic geological setting. They are the Western Macedonian zone, the Vardar zone and Eastern Macedonian zone. The results obtained made possible the definition of the global degree of tectonic activity in all three zones.