

CRUST AND UPPER MANTLE STRUCTURE IN GREECE: A REVIEW OF CONVENTIONAL AND MODERN METHODS

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The study of the earth's interior is one of the main interests of Seismology. Especially, the crustal and upper mantle structure of the Eastern Mediterranean region has been studied intensively, due to its high seismicity and active tectonics. The "conventional" models (refraction and reflection of body waves and dispersion of surface waves) consider only vertical variation of the velocity. Nowadays, the development of Seismic Tomography allowed the "mapping" of the earth's interior and of three dimensional velocity models, where the velocity is not only a function of depth but also a function of lateral variations. Both conventional and modern methods used for the study of the crust and upper mantle in Greece, suggest almost the same major features. The region of the Aegean Sea and the surrounding areas lies on the boundary zone between the Eurasian and the African plates and consists of the Aegean and some small plates. The Eurasian and African plates are converging at a rate of about 1 cm/y in an approximately N-S direction.

Therefore, the region is a zone of widespread deformation, within which complex relationships exist between extensional, compressional and strike slip deformations.

The comparison of conventional and tomographic methods shows that the recent development in solid earth geophysics, such as plate tectonics, earthquake prediction and exploration for geothermal energy, demand increasingly detailed information on the three-dimensional structure of the earth's interior.

PLATINUM, PALLADIUM AND GOLD CONTENT IN THE PORPHYRY COPPER SYSTEMS OF THE SERBOMACEDONIAN MASSIF

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The studied porphyry copper systems, namely Gerakario, Pontokerasia, Fissoka and Skouries are integral parts of the Vertiskos Formation of the Serbomacedonian massif. Samples of altered mineralized porphyries, amphibolites close to the porphyries