Magnetotelluric Surveys in Inaccessible Geodynamic Active Places from the Curvature of the Oriental Carpathians

Rasvan Stochici[1] and Marian Popescu[1]

[1]Institute of Geodynamics

Abstract

Until the half of the previous century, the western part of Buzau County, represented by mountain and hill areas, has been the object of certain general or strictly economic geological investigations, related to the existence of some important mineral resources (petroleum, gases, salt, etc.) in the Carpathian and subcarpathian subsoil. In the area there is a high number of seismic events, which still concerns scientists from geosciences. In this scientific context we have reached the conclusion it is necessary to have research activities for the geophysical measurements by the MT method, because of the relief variation, named the Geodynamics Polygon Buzau (GPB). The polygon is placed and installed for strict scientific purposes, in order for the logs registered within this perimeter to allow the study of the frequent warping of the Globe which takes place due to variation in time, position of rock formations, warping produced by the dynamics of the masses that build the atmosphere and hydrosphere, relative displacements between the tectonic plates, redistribution of the masses from the inner globe, which at their turn are being influenced by the geotectonic vortex. Evidence provided by MT data define the electrical constitution and thickness of the crust and upper mantle, the geometry and relation between young terrains (Transylvanian Depression and Moesian Platform), westwards, and the old ones (Scythian and East-European Platforms), eastwards. On the entire territory of the Geodynamic Polygon Buzau, sediments which belong to the Superior Cretaceous, Paleogene (Eocene and Oligocen), Miocene, Pliocene and Pleistocene crop-out.