

# **STOCHASTIC INVERSION OF THE CONDUCTANCE IN THE EASTERN MARGIN OF THE BOHEMIAN MASSIF**

VACLAV. CERV<sup>(1)</sup>, Michelle. Menvielle<sup>(2)</sup>, Josef Pek<sup>(1)</sup>

<sup>(1)</sup> Geophysical Institute Czech Acad. Of Sci., 141 31 Prague 4, CZECH REPUBLIC

<sup>(2)</sup> Centre d'études des Environnements Terrestre et Planétaire, 4, Avenue de Neptune, F-94107 SAINT MAUR DES FOSSES CEDEX, FRANCE et Département des Sciences de la Terre, Université Paris Sud XI, FRANCE

We perform a series of magnetotelluric measurements from the eastern margin of Bohemian Massif to the Carpathian foredeep in south Moravia. The region represents a contact zone of Palaeozoic Hercynian and Tertiary Carpathian orogenic system. The measured profile crosses several geological units and intersects the earlier discovered anomalies of the induction arrows in south Moravia - one with a simple two-dimensional feature is located approximately near the boundary of the Inner and Outer West Carpathians and the second of a complicated three-dimensional character is at the eastern margin of the Bohemian Massif. Recently a series of seismic experiments has been performed also in this area. New geoelectric data are jointly interpreted with old magnetovariational data from surrounding area and results of others geophysical methods and a more comprehensive model of the investigated region would be suggested. From the stochastic inversion by MCMC method with the thin sheet situated at the surface of the Earth, we obtained histograms for unknown conductances in a mesh of 20x20 km cells across the whole area, and inferred the most probable regional conductance model with highly conductive Carpathian anomaly reaching several thousand Siemens and the second highly conductive block in the south-west Poland.

electromagnetic soundings, Bohemian Massif, stochastic inversion

Vaclav Cerv, Geophysical Institute AS CR, Bocni II, 141 31 Prague 4, Czech Republic, tel.+420267103354, e-mail:vcv@ig.cas.cz