DEEP GEOELECTRIC SECTION OF THE BAIKAL RIFT

Yu.F. Moroz[1, 2], T.A. Moroz[1]

[1]The Institute of Volcanology and Seismology (IVS) RAS, Petropavlovsk-Kamchatsky
[2]Geological Institute SB RAS, Ulan-Ude

The paper considers magnetotelluric profile, which crosses the Baikal rift zone. Special attention is given to the analysis of magnetotelluric profile data obtained from the Baikal Lake ice. Key features of the magnetotelluric profile were determined. They were studied in the hollow test model using 3-D and 2-D modeling. The interpretation was based on magnetotelluric curves, which were directed along and across the hollow. Within the hollow, longitudinal and lateral MT curves in low-frequency region vary greatly in the level of conductivity. This is a characteristic feature of the lake hollow. The south-eastern boundary of the hollow in the Baikal Lake was determined using data on bimodal interpretation of MT curves. Inversion of curves resulted in creation of geoelectric section of the Baikal rift zone. The section contains deep conductive layers. The possible origin of the conductive layers is provided.

Keywords: magnetotelluric sounding, geoelectric section, rift zone, deep electrical conductivity.