AMT EXPERIENCES ON GRANITE ROCK – STUDY OF BÁTAAPÁTI NUCLEAR WASTE DEPOSIT SITE

ANDRÁS MADARASI, Balázs Füsi

Eötvös Loránd Geophysical Institute of Hungary

The performance of the Hungarian National Radioactive Waste Repository programme for the final disposal of low- and intermediate-level radioactive waste started in 1993. Geophysical investigations on the site ongoing since 1997. Two magnetotelluric field campaigns were carried out in 2002 and 2005 along a 100 m grid with Stratagem EH-4 instrument. The frequency range was 10 Hz - 24 kHz (AMT). The geological setting of the area is paleozoic granite covered by quarter sediments (mainly loess). The topography of the investigated area is steep and diversified terrain. Bimodal 2D inversion was applied along 15 profiles perpendicular to valleys and ridges, constrained by the topography. A 3D resistivity distribution model was derived from the 2D inversion results. Two tunnels has been build until 2009, each tunnel is 2 km long. The MT measurements cover more than the half of the excavated region. The large amount of detailed geophysical, geological and hydrogeological information from the tunnel and the nearby drillings now can be compared to the 3D resistivity distribution model.

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András Madarasi, ELGI 1145 Budapest, Kolombusz u. 17-23, tel: +36 1 3637438, fax: +36 1 2731401, email: madand@elgi.hu