

Three-dimensional MT Imaging of Armutlu Peninsula, Turkey

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2d and 3d modeling attempts on magnetotelluric data were performed to emerge the electrical conductivity structure near Armutlu peninsula, Turkey, where strong channeling effects were observed on 35 wideband sites. The study area is particularly interesting for EM experiments not just because of the channeling effects caused by the highly conductive Marmara Sea, but also due to (i) geothermal fields which might be influencing the conductivity structure due to the presence of crustal fluids and (ii) active seismicity along the North Anatolian Fault. The pre-modeling analysis (phase tensor analysis and induction arrows) and forward and inverse modeling results confirm complicated electrical structure and suggest several conductive-resistive transitions that are correlated with the geothermal fields and seismic activity.