

Magnetotelluric Response Distortion Over Rugged Topography

Daniele Rizzello¹, Patrizia Canepa,¹ Egidio Armadillo¹

¹DISTAV - University of Genova, Genova, Italy

Abstract

Topographic effects on magnetotelluric responses may be severe on rugged terrains. Finite elements simulation is a valuable tool to quantify this effect, due to its capability to match real morphologies. To do the estimate of the distortion, the AC/DC Module of COMSOL has been employed, using a model of homogeneous resistivity on which a DEM (Digital Elevation Model) of the Deep Freeze Range (Victoria Land, Antarctica) has been superimposed. Then, the MT responses at several surface sites has been computed.