

Geomagnetic Induction Investigation of the Araguainha Impact, Brazil

¹SCHNEGG, P.-A. and ²FONTES, S.L. ¹University of Neuchatel, Switzerland; ²Observatorio Nacional, Rio de Janeiro, Brazil.

The Araguainha impact crater is the largest impact site in South America. It is located in sediments at the northern tip of the intracratonic Parana Basin. To investigate the geometry and the vertical extension of this structure a 40-km profile driven in the NW-SE direction across the centre of the crater was carried out with magnetotelluric equipment. Three-dimensional modelling of the horizontal electric and magnetic fields have shown in a previous work that the bottom of the structure reaches a depth of 2 km.

In the present work, to increase the resolution of the model we have attempted a 3D modelling of the geomagnetic induction field (vertical magnetic field) with a scheme based on automatic model design. The only constraint to the model requires vertical axis symmetry.