

Interactive comment on “Magnetotelluric investigation in the High Agri Valley (southern Apennine, Italy)” by M. Balasco et al.

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Dear Sir,

After read the manuscript I think the document needs some changes in order to improve the scientific quality.

1) the main change is the introduction of the sensibility analysis. This aspect is really important to acquire an idea of principals structures of the model. A very good sensibility analysis is made in the paper of Campanya et al., 2012. The authors should be read this paper in order to understand the process and then, it should be applied in their paper.

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2) The author must to use available geological information (3 layers) to create an initial model and then, carry out the inversion with usual software. This initial model acts as a track in the inversion process but the change in the parameters of the final model is free. So, the final model is modified without fixed values, without constraints in order to improve the location of layer limit and to understand the MT response (Chave and Jones, 2012). With this strategy could be better resolve the second layer and promote the use of MT in studies of deep structure.

3) The fits of the inversion model to the TE and TM data are shown only graphically with image pseudosection. It would be better to present the residuals between the observed data and the model responses (model responses minus raw data divided by raw data) for electrical resistivity and phase and for both modes.

Despite these aspects, that have to be included in the document, the manuscript could be published after to be modified.

Thanks,

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 6747, 2014.

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