

Response to the Reviewers comments

Comment

1:

I would start my abstract with an introductory sentence to explain what magnetotelluric is. For instance: "Magnetotelluric methods (MT) are passive geophysical techniques based on time variations of the geoelectric and geomagnetic fields in order to measure the electrical resistivity of subsurface layers." It will likely improve the readability of authors' manuscript and will make it more appealing.

Ans 1: The suggestion has been incorporated in the abstract of revised manuscript on page no. 1 and line 12-15. The abstract has been started with 'Magnetotelluric methods (MT) are passive geophysical techniques based on time variations of the geoelectric and geomagnetic field in order to measure the electrical resistivity of surface layer. It is most effective geophysical techniques to study the deep structure of the Earth's crust, particularly in steep terrain like the Garhwal Himalaya region'.

Comment 2: In the paper I cannot find a section devoted to data and a list of publications or repository where I can find data is lacking, even though previous publications are cited throughout the manuscript.. Data sources MUST be added explicitly at least at the end of the paper with a section called "DATA AVAILABILITY"

Ans: The data source has been added to the manuscript in model figure 1 on page no. 7 and line 34.

Comment 3: I suggest: the shallow layers of the Earth

Ans: The suggestion has been incorporated 'in the interior of earth' has been replaced by 'the shallow layers of the Earth' on page no 2 and line 32 in the revised manuscript.

Comment 4: To add the word 'Geometries'

Ans 4: Geometries has been added on page no 2 and line 46

Comment 5: Are distortion coefficients complex ~~numbers~~? If yes, authors can use this adjective, otherwise, please, remove it, otherwise it can produce misunderstandings

Ans 5: The complex coefficients $D(f, x)$ are distortion coefficients has been added on page no. 4 and line 86 in the revised manuscript

Comment 6: Write the tensorial product in an appropriate place.

Ans 6: Also write equation no. 7 and equation 8 on page no. 6 and line 110 and 112

Comment 7: 10 kOhm . m

Ans 7: 10 kOhm . m has been added on page no. 6 and line 124

Comment 8: The picture is not to scale both in the vertical and horizontal axis. I ask the author to improve it.

Ans 8: Fig. 1: Topographic model of 500 Ω -m half-space with a resistive body of 10 k Ω .m embedded from the surface relief (Chouteau and Bouchard, 1988) has been added the scale on page no 7 and line 134

Comment 9: I suggest to set more appropriate vertical scales in order to allow better readability of the figures. E.g., for the relative error (Res.) plot 0-1.0 instead of [-0.5, 2]

Ans 9: The vertical scale of fig 4 for the relative error (res) plot 0-1.0 has been fixed to have better readability in the revised manuscript.

Comment 10: Add a white space on line 163 page no 10.

Ans 10: The space has been added on page no. 10 and line 163 of the revised manuscript.

Comment 11: Please add: Figure not to scale for better readability.

Ans 11: Scale has been added to have better readability in figure 5 in line no 173 on page no. 11 in the revised manuscript.

Comment 12: Are all these digits significant? Please, ~~not~~ use the significant ones. Thanks

Ans 12: All digits has been corrected up to significant figures on line numbers 82,87,90, 210,228,229, 230 in the revised manuscript.

Comment 13: I suggest to change the settings for the vertical axis to improve the quality of this figure: there are several subplots, so, please, save space plotting data well distributed in each plot.

Ans 13: In order to save space vertical axis scale has been improved in fig 6 and fig 7 on page 12, 13 and line 193, 197 in the revised manuscript.

Comment 14: S. Saini I suppose.

Ans 14: Thank you sir, yes, you are correct, S.Saini has been added on page no 18 and line 253 of the revised manuscript.