

## Response to the Reviewers comments

**Comment 1:** Do not use the phrases such as “in this paper”, “in this research paper” in the abstract.

**Ans 1:** has been added on page no 2 and line 46 in revised manuscript.

**Comment 2:** This sentence is too long and a bit ambiguous, please reform it.

**Ans 2:** The relative errors between two terrain correction procedures were calculated with respect to flat earth and were very less or almost zero for most of the sites along the Roorkee to Gangotri profile except at the foothill where the error was high at lower periods has been added on page no 1 and line 21-24 in revised manuscript.

**Comment 3:** Modify “interior” to “interior structures”

**Ans 3:** interior structures” has been added on page no 2 and line 31 in revised manuscript.

**Comment 4:** What do the “different types of terrain geometrics” mean? Please clarify them.

**Ans 4:** The 2D numerical techniques have been used for different type terrain geometries to remove topography effects from the data. The analogue, analytic, and numerical solution methods were used to study the analogue model (Wescott and Hessler, 1962; Faradzhev et al., 1972). Various two-dimensional (2D) numerical techniques have been used for the numerical treatment of the topographic effects like networking analogy (Ku et al., 1973; NgCo, 1980) and Rayleigh scattering numerical modeling techniques (Reddig and Jiracek, 1984; Jiracek et al., 1989), finite element method (Wannamaker Stodt and Rijo, 1986; Frankle et al., 2007) and finite difference method (Josef Pek and Tomas Verner, 1996; Yutaka Sasaki, 2003 and Tyagi et al., 2007) has been added on page no. 3 and lines 44-52 in revised manuscript.

**Comment 5:** Please give at least three references to support the statement of “many researchers”.

**Ans 5:** references has been added on page no.3 and line 53-54 in revised manuscript.

**Comment 6:** Finite difference method has also been used to treat the topographic effects, please search some papers. The Finite difference method has been mentioned as the main technique in the following paragraph, however, it is never been mentioned.

**Ans 6:** finite difference method (Josef Pek and Tomas Verner, 1996; Yutaka Sasaki, 2003 and Tyagi et al., 2007; 2019) has been added on page no. 3 and lines 51-52 in revised manuscript.

**Comment 7:** This sentence is confusing, please correct it.

**Ans 7:** Two correction procedures, first adopted by Chouteau and Bouchard (1988) and second by Nam et al. (2008), were used to correct the MT data has been added on

page no.4 and line 71 and 72 in revised manuscript.

**Comment 8:** Where should be where.

**Ans 8:** where has been added on page no. 4 and line 80 in revised manuscript.

**Comment 9:** H-polarization may be replace with TM mode, which was used in previous section.

**Ans 9:** TM –mode has been added on page no 4 line 82 in revised manuscript.

**Comment 10:** “Where” should be use the lower case format.

**Ans 10:** where has been added on page no.4,5 and line 87, 94 and 102 in revised manuscript.

**Comment 11:** equation(7) needs to be corrected.

**Ans 11:** equatio (7) has been added on page no. 6 and line 110 in revised manuscript.

**Comment 12:** Figure2, the symbol is too large to be seen clear. An daplot of relative error is better to be provide to show the similarity or the deviation.

**Ans 12:** Figure 2, has been added on page no. 8 and line 137 in revised manuscript.

**Comment 13:**Fig.3 should be replaced with Figure3.

**Ans 13:** Figure 3 has been added on page no. 9 and line 149 in revised manuscript.

**Comment 14:** The symbol is too large to be seen clear inFig.3.

**Ans 14:** figure 3 has been added on page 9 and line 148 in revised manuscript.

**Comment 15:** This section is only the construction of the model rather an the modeling. The content of the modeling should contain the model, gridding, method and results.

**Ans 15:** The content of the modelling should contain the model, gridding, method, revised manuscript page no. 11 and lines 156–176, and result detail in the result and discussion.

**Comment 16 :** what does the “afficacy” mean?

**Ans 16:** accuracy has been added on page no. 17 and line 246 in revised manuscript.

