**General Comments**

This study provides an interesting and thorough analysis on the physical mechanisms behind angle and amplitude site errors for magnetic direction finders in lightning location systems. This work is important for understanding the potential errors due to sensor and cable placement associated with sensor site locations. The authors provide a clear and concise description of their methodology towards evaluating sensor site errors and determining which variables are most important to their analysis. I don't have any major issues with this work but I have a few minor comments to add without repeating what the other reviewers have suggested.

The authors want to thank Dylan Goldberg for the valuable time to review the manuscript and appreciate the efforts to address some issues.

- Line 114: Is the theoretical shielded conductor single or double shielded? Do the results of this study apply to both? It would also be interesting for a future study to see if the results vary between types of shielding used (i.e. braid vs foil). In fact, a single insulated conductor is considered as a proxy to a shielded cable. The difference in impedance between a solid conductor and a conductor shield (e.g., braided shield) was investigated and found to be negligible, having no significant impact on the results. A future study will explore various cable types, including double shielded cables.

- Lines 204 - 205: Should "finite-length" be removed since that (at least to me) is implied by a cable of length L? Thank you, this was corrected.

- Lines 244 - 245: It's stated that contributions beyond 50 m are assumed to be negligible. Was this number decided based on a percentage from the 1/r^2 dependency or were contributions beyond this number tested initially? This was tested against the sum of all current contributions, i.e., the spurious magnetic field $H_{err}$. Beyond 50 m, contributions of the cable/conductor current altered $H_{err}$ by less than 1%.

- Figure 7: The ground electric conductivity for the red line should also have units in the legend to be consistent with the other lines. Thank you for the observation. This issue was already addressed in response to the first reviewer's comments, and the correction has been incorporated into the revised manuscript.

- Figure 8: The vertical axis labels are missing the closing parenthesis around the units. Also, should the d = -0.0 m burial depth be negative? Thank you very much, that had gone unnoticed! The figure has been corrected.

- Figure 9: It may be beneficial to use the same notation for the conductivities across the different figures and text; maybe switch the legend conductivities from scientific notation to magnitudes as shown in the figure caption? Also, I'm not sure I understand the change in the time scale of the horizontal axis for this figure compared to figures 7 and 8. The change in the time scale was due to a slightly different set of scripts (from earlier work) that were employed to do the validation. As a result, it remained unnoticed that the x-axis still showed the absolute time of arrival of the field. Since this was unfortunately not a self-contained script but a manual edit, the following note was added in the caption to clarify this: ***The time-axis represents the absolute time of arrival of the EM field at a distance of 100 km (approximately 333 μs).***

- Line 308: The equation "d=1m" should probably be "d = 1 m" (spaces added) to be consistent with the other inline equations. This also occurs in the legends of some figures. Thank you for the note. This was corrected.

- Line 326 - 327: There seems to be an extra line/paragraph starting here. Thank you for the observation. This was owed to a formatting issue with MS Word. It is corrected in the revised version.

- Figure 19: Fig (a) appears to be lower in resolution (dpi) quality than the other figures in this paper. True. Unfortunately, this is one of the graphics that are difficult to access for direct modification. For aesthetic improvement, the axes were manually redrawn.