

Ann. Geophys. Discuss., referee comment RC1  
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## **Comment on angeo-2021-31**

Michael Kosch (Referee)

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Referee comment on "Observing electric field and neutral wind with EISCAT 3D" by Johann Stamm et al., Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2021-31-RC1>, 2021

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This is a comprehensive and well-written effort to quantify the uncertainties in measuring the electric field and neutral winds to be observed by the new EISCAT-3D ionospheric radar, which is not yet operational. I have only a few relatively minor corrections to suggest:

Joule heating is a common phenomenon during geomagnetic storm times at high latitudes. From Figure 1, it seems that the authors do not address Joule heating directly. The authors may wish to comment on this, or at least make clear that Joule heating is not a priority for this study.

L191: "the ion" appears twice.

Figure 3: The different lines are hard to see. Please re-plot more clearly.

Figure 4 caption: The third sentence mentions solid, dotted and dashed lines, which do not appear in the figure. This sentence should be removed.

L411: "fast antenna scanning" should be "fast beam scanning". A phased-array radar does not have a dish which can scan.