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Reply on RC1

Gunter Stober et al.

Author comment on "Atmospheric tomography using the Nordic Meteor Radar Cluster and Chilean Observation Network De Meteor Radars: network details and 3D-Var retrieval" by Gunter Stober et al., Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2021-124-AC3>, 2021

We thank the reviewer for assessing the submitted publication on the 3DVAR retrieval algorithm and the constructive suggestions to improve the manuscript. The final revision will include a point-by-point reply to each raised concern.

Data availability:

The 3DVAR retrievals are implemented to permit routine operation for both radar networks. The data shown in this paper is available upon request through Alexander Kozlovsky at SGO for the Nordic Meteor Radar Cluster and from Alan Liu for the CONDOR network. There was a plan to later upload these files to the ARISE database. However, current funding limitations have delayed this project.

Difference plots:

Difference plots between both retrieval grids shown in Figure 4 are doable. However, the interpolation to a common grid introduces additional errors. We will rerun both domains to ensure and diagnose whether different meteors enter the retrieval at the domain boundary (this is certainly the case at Sodankyla), which could introduce additional systematic offsets. The revised manuscript will include a figure illustrating these differences.

Reference suggestions:

We thank the reviewer for pointing at additional references, which are going to be included in the proposed paragraphs in the manuscript.

Other comments:

There are a couple of other suggestions mentioned by the reviewer, which we will consider as proposed in the revision. We are going to expand the discussions and add more details to explain the Figures. However, we have not yet performed a systematic seasonal analysis for all the different events. Our main intention of the submitted manuscript is the retrieve and demonstrate that various meteorological events can be found and analyzed from the data. We are also grateful for correcting typos and other mistakes in the figures and figure captions.