Comment on amt-2021-197

Anonymous Referee #3

Referee comment on "Towards operational multi-GNSS tropospheric products at GFZ Potsdam" by Karina Wilgan et al., Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2021-197-RC2, 2021

Review of the paper by Wilgan et al: Towards operational multi-GNSS tropospheric products at GFZ Potsdam

The authors compared tropospheric parameters (zenith delays, gradients, slant delays) from different GNSS setups (GPS, GPS+GLONASS, GPS+GLONASS+Galileo) against each other and against parameters derived from numerical weather models (ERA5, ICON). For the first time, the combined all three GNSS and they find good (expected) agreement in their tests. These assessments are carried out globally as well as for GNSS stations in Germany. This is a rigorous comparison, adding new aspects to a long history of studies in that field, which I recommend for publication.

I only have minor comments and suggestions:

Please do explain the 24 h sliding window technique with more details. What does it mean to use a 15 min sampling in that case? And a 2.5 min sampling rate for slant total delays?

I understand that atmosphere non-tidal loading is not applied. Is that correct?

Figure caption 3: Average formal error of which parameter? Please add to the caption that this is for ZTD.

Line 135: I am not sure whether it is correct to say that the ZTD variation is larger close to the equator. I think you can only write that the ZWD is larger. ZHD variations is much larger at higher latitudes.

Add to the captions of figure 7 and 8 that these figures are for ZTD.