Atmospheric Measurement Techniques Discussions

Atmos. Meas. Tech. Discuss., author comment AC2
https://doi.org/10.5194/amt-2022-214-AC2, 2022

Reply on RC3

Alex T. Chartier et al.

Author comment on "Long-distance propagation of 162□MHz shipping information links associated with sporadic E" by Alex T. Chartier et al., Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2022-214-AC2, 2022

Apologies for the delayed response. Co-author Hanley (the expert on tropo propagation in our group) was deployed on fieldwork until recently.

We have added tropo maps to the new draft, and have referenced the "More Miles on VHF" database. We did not see convincing evidence of >1000 km propagation caused by tropo there - in fact all the top 100 reported links are in prime sporadic-E season (May-August). However we have relaxed the wording to reflect that we believe it is unlikely, rather than impossible, that our >1000 km AIS links are from tropo ducting.

We have uploaded our tropo maps to Zenodo in case anyone wants to analyze the full set. It is quite clear (to us at least) that the >1000 km AIS links follow a completely separate pattern to those tropospheric ducts, both spatially and temporally. Conversely, the ionosonde foEs saturates (reaches maximum observable value) at times and locations corresponding to >1000 km AIS links.

We have addressed the technical points raised in the manuscript, and thank the reviewer for their insights.