Reviewer Responses:

Reviewer 1:

Thanks for the review. We have uploaded the maps here:
https://zenodo.org/record/6977022#.YvJkKuzMJb8
We would like to add this link to the paper upon revision. We note the intense Es in the maps is driven by the Digisonde data (also shown independently earlier in the paper). There has been some success in linking GNSS sporadic E detections to other parameters (e.g. Yamazaki et al., 2022) but, as stated in the manuscript, the technique does not identify the true magnitude of these layers even compared to the 10 MHz-limited digisondes. We included these GNSS/Digisonde-based Es maps here as they show the spatial association to the anomalous AIS links, but we believe this association is driven by the availability of Digisonde data. The RO products (both TEC and S4) are not that sensitive to sporadic-E because the layers are so thin.

Reviewer 2:

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.