



EGUsphere, referee comment RC3
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Comment on egusphere-2022-660

Anonymous Referee #3

Referee comment on "Assimilation of sea surface salinities from SMOS in an Arctic coupled ocean and sea ice reanalysis" by Jiping Xie et al., EGU sphere,
<https://doi.org/10.5194/egusphere-2022-660-RC3>, 2022

Review of "Assimilation of sea surface salinities from SMOS in an Arctic coupled ocean and sea ice reanalysis"

Manuscript reference: egusphere-2022-660

Authors: Jiping Xie et al.

Recommendation: minor revision

General Evaluation:

This work presents a good assessment of the usefulness of SMOS sea surface salinity data in Arctic Ocean modeling. The control vs SSS assimilation experimental design is valid, statistical error diagnostic is standard and the evaluation is well done by comparing with independent source of observations. Discussion is also informative and interesting. In general, I found it being a nice piece of research without major flaws. However, the following attentions need to be paid for improving the manuscript. 1) there are a few mistakes in the equations, although it seems that the authors did the correct diagnostics according to the figures presented. 2) some acronyms, data and analysis method are not clearly defined in the text - please see my specific comments. 3) the English writing must be improved as some parts of the article reads awkward and confusing which makes it hard for readers to follow. Other suggestions about making changes to figures and writing are included in the annotated document. Overall, I would suggest a minor revision recommendation for this article.

Specific comments:

Please see annotated review report.

Please also note the supplement to this comment:

<https://egusphere.copernicus.org/preprints/2022/egusphere-2022-660/egusphere-2022-660-RC3-supplement.pdf>