

## REVIEW #1

### Suggestions for revisions:

The authors have done an admirable job of addressing my comments and I feel both the data quality and case study analysis are now more robust.

However, I have some remaining comments on the spatial heterogeneity case study presented in Figure 7 and the paragraph starting at line 497 in the revised manuscript. It appears this flux leg was flown in a coastal inlet near Anchorage Alaska. It is worth making this clear in the text as spatial heterogeneity in the physical and chemical factors driving ozone deposition in these coastal areas is likely not representative of the open ocean. It is also worth considering that there can be chemical drivers of O<sub>3</sub> flux through surface NO emissions which titrate O<sub>3</sub> driving an observed negative flux of O<sub>3</sub> that is not due to surface deposition. Local shipping emissions could drive this result for example. It would be useful to demonstrate that NO and O<sub>3</sub> mixing ratios were roughly constant across this flux leg and are not responsible for the observed variability in the ozone deposition velocity.

Thank you for the suggestions on final revisions. The following text has been added to the manuscript:

NO<sub>x</sub> data was unavailable during the first of the four segments. However, during the last three segments, NO<sub>x</sub> concentrations are constant, with NO at  $10 \pm 5$  pptv and NO<sub>2</sub> at  $30 \pm 15$  pptv (note the accuracy of the NO<sub>2</sub> sensor is not better than 50 pptv). Unlike the previous case studies presented, RF06-A-1 was flown near the coast of Alaska, where conditions are expected to be different from those over the open ocean. Low NO<sub>x</sub> variability rules out apparent ozone flux by titration by emissions from urban or shipping sources.

**Citation:** <https://doi.org/10.5194/amt-2023-198-RC1>