Interactive comment on "**Application of an online ion chromatography-based instrument for gradient flux measurements of speciated nitrogen and sulfur**" *by* **Ian C. Rumsey and John T. Walker**

Anonymous Referee #2

This manuscript presents a very detailed analysis of the application of an online wet chemical system to the measurement of surface-atmosphere exchange by gradient measurements. The manuscript is generally well-written and suitable for publication in AMT.

A few suggestions to improve the manuscript:

In the analysis, the authors use the co-location tests to correct for offsets between different samplers. While the authors state in the conclusions that colocation tests are valuable, it would be useful to know how the results would have been impacted if this correction had not been carried out. This insight could help other researchers to evaluate whether they need to carry out a co-location test before attempting similar

measurements.

I would have found the supplementary information much easier to follow if the figures appeared in the relevant sections throughout the document rather than all at the end.

Table S4 – intercept should have units