

## Reply to

Comments to the Author:

Thank you for making the changes and additions suggested by the reviewers. I have only one additional request. In answer to one of the reviewers, you explained why the limit of detection for OCS is 12 x higher than the precision; please add this explanation to section 2.2. The paper can then be published.

**We thank Dr. Chapman for pointing this out, and adapt the manuscript by adding:**

**p. 4, l. 29 (new manuscript):** The precision of this set-up is 15 ppt for two-minute averages of 1 Hz measurement frequency and was experimentally determined (running a standard for >60 min). The limit of detection is 180 ppt (corresponding to 4 pmol L<sup>-1</sup> at 20°C), defined by the instrument's internal 1-second spectra.

**We also added a reference for the NOAA scale in the following sentence:**

**p. 5, l. 1:** Additionally, independent samples for comparison measured with GC-MS (Schauffler et al., 1998; de Gouw et al., 2009) reflected <2% difference between the NOAA scale (Montzka et al., 2007) and the perm tube standards.