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Comment

Interactive comment on “Iodine monoxide at a clean marine coastal site: observations of high frequency variations and inhomogeneous distributions” by R. Commane et al.

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Commane et al. present very interesting results which eventually should be published in ACP. I have a few comments, mainly of technical nature, as listed below:

- Abstract: The addition of “(1 s)” to the IO mixing ratio is not self-explanatory. I suggest to write “(1 s average)” instead.
- According to the IUPAC Recommendations (page 1387 of Schwartz & Warneck “Units for use in atmospheric chemistry”, Pure & Appl. Chem., 67(8/9), 1377–1406, 1995, <http://www.iupac.org/publications/pac/67/8/1377/pdf>) the usage of

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- “ppb” and “ppt” is discouraged for several reasons. Instead, “nmol/mol” and “pmol/mol” should be used for gas-phase mole fractions. Please replace the obsolete units.
- p. 4535, l. 19: change “concentrations of [...] a maximum of 7 pptv” to “mixing ratios of. . .”
 - p. 4536, l. 23: Aren’t all tides semi-diurnal? I think “semi-diurnal” is redundant and can be deleted here.
 - p. 4537, l. 6-7: In the sentence “24h back trajectories [...] of the previous 24 h.”, one of the “24h” is redundant.
 - p. 4539, l. 16: Add a minus sign to the exponent of “cts s¹”.
 - p. 4539, l. 24: Change “normalised” to “normalised”.
 - p. 4540, l. 11: What is a “standard litre per minute”? Please define the temperature and pressure that you use. There are many ways to define a “standard”, see: http://en.wikipedia.org/wiki/Standard_conditions_for_temperature_and_pressure
 - p. 4540, l. 8: Something is wrong with the sentence “...did not found to vary...”
 - p. 4546, l. 2-3: Something is wrong with the sentence “...with the IO mixing ratio showed a temporally broader peak”
 - p. 4546, l. 15: Replace “Although” by “However”.
 - p. 4547, l. 17: Change “Bitter et al. (2005)” to “(Bitter et al., 2005)”
 - p. 4548, l. 14: Change “reflector” to “retro-reflector”
 - p. 4551, l. 14: Change “can be photolysed” to “is photolysed”

- p. 4551, l. 21-23: The self-reaction of IO does not involve ozone. Thus it cannot destroy ozone directly. Please define what you call “ozone depletion rate”. Note that at the beginning of the section, you describe the reaction of ozone with I atoms as ozone destruction.
- p. 4552, l. 17: Replace “suggest” by “suggests”
- p. 4556: Please give a URL from where the PhD-thesis from Kraus can be downloaded.
- Figures: Fig. 3 uses DOY as axis labeling, Fig. 4 uses “August 29th” and “29/Aug”. Please use a uniform and consistent format for the time axis.
- Define all acronyms before they are first used: cts, slm, sccm, a.s.l., CRDS.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 4533, 2011.

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