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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Modelling the Impacts of Iodine Chemistry on the Northern Indian Ocean Marine Boundary Layer" *by* Anoop S. Mahajan et al.

Rafael Pedro Fernandez (Referee)

rpfernandez@conicet.gov.ar

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The paper presents a computational evaluation of the impact of oceanic iodine emissions (both organic and inorganic) on the composition of the lower atmosphere, with a special focus on the changes on ozone, HOx and NOx (plus NO3) over the Indian ocean and sub-continent. The most relevant results are: i) the requirement to reduce by 40% the strength of the oceanic emissions of inorganic iodine in comparison with previous modeling studies to properly reproduce IO observations performed over the Indian ocean; and ii) the different seasonal impact of iodine chemistry predicted during the pre-monsoon and monsoon periods, mostly due to the changes on the total

iodine burden during the different seasons. The paper is well organized and the results are presented in order, although in many sections the writing style, figures format and absolute/percentage change description is repetitive, without a comprehensive interpretation on how most of the modeled changes for each individual species are correlated with the others. This work is certainly of interest and fulfills the requirements and objectives of Atmospheric Chemistry and Physics. However, major changes must be performed before acceptance for publication as described in the attached file.

Please also note the supplement to this comment:
https://acp.copernicus.org/preprints/acp-2020-1219/acp-2020-1219-RC1-supplement.pdf

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