

Interactive comment on “A tropopause-based a priori for IASI-SOFRID Ozone retrievals: improvements and validation” by Brice Barret et al.

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Dear Authors,

please note that a similar tropopause-based a priori selection, albeit less systematic than what you discuss in your manuscript, has been previously proposed and is discussed here: <https://www.atmos-meas-tech.net/6/621/2013/amt-6-621-2013.pdf>

See page 624: "The ozone a priori profiles used in the present work are derived from McPeters climatology (McPeters et al.,2007). To avoid numerical instability and aberrant oscillations in the retrieved profiles, we used a different a priori depending on

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tropopause height derived from the pseudo-reality. We consider a tropopause higher than 14 km as a proxy for tropical air masses and then we used a tropical a priori (yearly climatological profile 20–30°N) in those cases. We used a mid-latitude a priori (summer climatological profile 30–60°N) in the other cases. The use of two different a priori, in particular mid-latitude and tropical climatological profiles, has been already successfully exploited for the LISA algorithm (Dufour et al.,2010)."

I suggest to cite our work as a previous example discussing the problem of using a single and immutable a priori.

Regards, Pasquale Sellitto

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