

Interactive comment on “Impact of the Ozone Monitoring Instrument Row Anomaly on the Long-term Record of Aerosol Products” by Omar Torres et al.

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Dear Authors,

First of all, let me say that I think your manuscript is very interesting to scientists using OMI aerosol data (and possibly others as well, by serving as a warning!). I don't have any important issues with the paper at all, but rather I'd like to address a concern that has been growing in me for the past few years. In that sense, rather than expecting to resolve this issue before publication of your manuscript, I'd like to kick off a more general discussion on the definition of UVAI.

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To me, the UVAI is a quantity whose definition is (relatively) simple, and for which only surface pressure and (depending on the used wavelengths) the total ozone column are required as *a priori* information. This, in my opinion, is one of the strengths of the UVAI. This most simple UVAI version is full of artefacts — for example, the viewing angle dependence that you address in your paper. But its advantage is that those data can easily be reproduced by others, modeled using RT calculations, and compared with UVAI from other satellite instruments. This is exceedingly more difficult if input parameters for the UVAI calculation include surface reflection and cloud height databases, and possibly additional information in the future. To me, the UVAI appears to be turning more and more into a retrieved quantity, instead of the Index as it was defined originally.

The obvious solution for this dilemma would be keeping one “original” UVAI version and one “research” edition. As there are several different UVAI versions available anyway (as you know, OMI alone features three different definitions), this would probably not cause too much confusion — as long as everything is well documented. This would benefit the continuity of the UVAI as the longest-standing record of satellite-based aerosol sensing, without standing in the way of progress.

Kind regards,

Marloes Penning de Vries

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