Atmos. Meas. Tech. Discuss., 6, C478–C479, 2013
www.atmos-meas-tech-discuss.net/6/C478/2013/


Atmospheric
Measurement
Techniques
Discussions

# *Interactive comment on* "Validation of six years of TES tropospheric ozone retrievals with ozonesonde measurements: implications for spatial patterns and temporal stability in the TES bias" *by* W. W. Verstraeten et al.

**Anonymous Referee #2**

Received and published: 2 April 2013

Verstraeten et al. presents validation exercise of TES V004 ozone product against ozonesondes. They focus on tropospheric ozone and perform the validation for a long term period (6 years). The temporal (seasonal) and spatial (latitudinal) biases are studied. The stability of the TES retrieval is also evaluated for different latitudes band. This is of great interest in order to use TES tropospheric ozone to evaluate models and trends of free tropospheric ozone. The paper is written in a clear and concise manner and I recommend its publication in AMT after the following comments addressed.

General comments



The validation study is centered on the discussion of the biases. The authors should consider to discuss also the expected error on the retrieval that is given by the RMS of the comparison between the retrieval and the ozonesondes. Moreover it would be very valuable to discuss how the TES retrieval is able to capture the natural variability observed by the sondes. It is very important if one wants to use this data to study variability and trend of tropospheric ozone.

Specific comments

Abtract: the authors should consider the providing also the relative biases in percent.

Section 2: If the TES data used for this study are publicly available, the authors should mention it and provide the way to access the data.

P1246, l8: Is the interpolation performed in logarithmic scale?

P1248, l13: in which unit is the RMS given?

P1249, l20-end : It could be helpful for the reader if all the number were summarized in a Table or a Figure.

P1250 – discussion on the UT bias: the authors should mention that the bias in the UT is also observed for other IR sounders like IASI for example (see e.g. Dufour et al., AMT, 2012)

Technical corrections:

P1247,l22: Boxe and Worden (2010) should be replace by Boxe et al. (2010)

Fig. 2: change lunched to launched

Interactive comment on Atmos. Meas. Tech. Discuss., 6, 1239, 2013.