Interactive comment on “Extending the satellite data record of tropospheric ozone profiles from Aura-TES to MetOp-IASI” by H. Oetjen et al.

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This paper is valuable for the creation of long term tropospheric ozone data record from different instruments. Since it deals with the error characterisation which is a prerequisite of merged tropospheric data, therefore I would suggest that the title should be more precise:

‘Analysis of extended data...’ or ‘Characterization of...' etc...

Major Comments:

This work deals with great rigor the error sources, their mathematical description and explanation which is excellent for the reader. However other error sources has not been considered. Following parameters can also have an impact on the retrieved ozone:

- Albedo
- Aerosol
- Pressure
- Polarization

A rough estimation should be added describing the underestimation of the theoretical errors vs. empirical (See Fig. 8)

Technical Corrections/Minor Comments:

Page 3: Line 30: ‘..from multiple TIR instruments’. Please name all of them.

Page 3: Line 31: ‘This study concentrates on mid-latitudes in 2008’. Please explain the reason for selecting this sample.

Page 7: Line 26: Fig. 2 has been mentioned before Fig. 1.

Page 8: Line 16: ‘...MATCH...’. Please expand.

Page 9: Line 25: ‘Chi-Square > 1.3’. Please explain the threshold selection of 1.3.


Page 12: Line 26: ‘Only one global ozone....covariance matrix are used’. Please verify in a diagram or text that this restriction does not affect your statistics/results.

Page 14: Line 26: ‘...are similar for different locations....’. Any reasons for this systematics?


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Page 24: Line 1: 'Rodgers.....Practise' = Practice. Page 26: Table 1: 'all' = All.

Figure 1: Colors for water/Smoothing too close. Legend not readable.
Figure 2: Change the caption into 'Three microwindows (red lines) .....'
Figure 3/6/7/9: Change 'height' into 'Pressure'. Add Y-Axis of geom. height. Y-title on
the rhs with 'Approx. geom. height [km]'.
Figure 6/7/9: Add more labels ('1000 800 600 etc. hPa').