

Interactive comment on “Comparison of total ozone from the satellite instruments GOME and TOMS with measurements from the Dobson network 1996-2000” by K. Bramstedt et al.

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This paper carefully compares the total ozone columns from GOME, TOMS, and the Dobson network. The primary value in this analysis is in establishing the continuity of total ozone time series. The comparison of the three GOME retrieval strategies is particularly useful to understand the effect of different inversion techniques. The spurious annual variation in the DOAS technique is well identified. The discussion and conclusions are fair and accurately supported by the data.

I would suggest the authors consider reporting results separately for clear and cloudy scenes. Based on recent work with TOMS retrievals, we find some errors present over cloudy scenes resulting from approximation and simplification in the TOMS retrieval

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strategy (Newchurch et al., 2001). Similar considerations will apply to the GOME measurements.

I would consider this paper suitable for publication following consideration given to the cloud errors mentioned above.

Newchurch, M.J., X. Liu, J.H. Kim, and P.K. Bhartia, On the accuracy of TOMS retrievals over cloudy regions, J. Geophys. Res., 106 (D23), 32,315-32,326, 2001.

Some editing errors:

p. 1135, l 24: "developed in 1927"

p. 1136, l 10: "It is able to measure"

p. 1137, l 17: " scene, then "

p. 1137, l 20: "The cloud cover is used together with ISCCP cloud climatology information to estimate "

p. 1138, l 4: " considering only single "

p. 1143, l 24: " artifacts "

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