Atmos. Chem. Phys. Discuss., 9, C1004–C1005, 2009
www.atmos-chem-phys-discuss.net/9/C1004/2009/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Measurements of total and tropospheric ozone from IASI: comparison with correlative satellite and ozonesonde observations" *by* A. Boynard et al.

Anonymous Referee #1

Received and published: 20 May 2009

This paper is very well written and contains new material on a validation study on a new satellite stratospheric total and troposheric ozone data set (from measurements of IASI). However, this validation should be extended to other available ozone data sets to make the interpretation of the IASI ozone products conclusive. At least the validation should be extended to total ozone ground-based measurements (the Dobson-Brewer network as it has been done for GOME by Balis et al. (2007) and Weber et al. (2005)) and the validation to ozone sondes should be extended to all available ozone sonde stations/data. It it is not clear why the "global" validation of IASI tropospheric ozone with ozone sondes is restricted to 13 sondes only. I read the details on the selection criteria (as cited in the manuscript to be found in Keim et al., ACPD, 2009 – which is a

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

study only focusing on the northern mid latitudes), but I cannot find the explanation for selecting these 13 ozone sonde stations. This selection comprises only 3 stations in the southern hemisphere, one of them in the Antarctic and two in the tropics, but none in the southern subtropics and temperate zone. To include these additional analyses will strengthen the interpretations and conclusions of the IASI ozone data products. Therefore, in my opinion this manuscript should be accepted after these modifications for publication in ACP.Two minor points are listed below.

Minor points: 1.Page 10516, line 13: " ... satellite measurements are the best way to compliment the ozone sonde observations", I think the statement "the best" should be weakened by "a good" 2.Page 10523 line 17-21. I think these sentences are not appropiate for a scientific/peer-reviewed publication, it fits rather in a institute's presentation to funding agencies ...

Citations: Balis D., J-C. Lambert , Van Roozendael M., D. Loyola, R. Spurr, Y. Livschitz, P. Valks, T. Ruppert, P. Gerard, J Granville and V. Amiridis, Reprocessing the 10-year GOME/ERS-2 total ozone record for trend analysis: the new GOME Data Processor Version 4.0, Validation, J. Geophys. Res., vol. 112, D07307, doi:10.1029/2005JD006376, 2007. M. Weber, L. N. Lamsal, M. Coldewey-Egbers, K. Bramstedt, J. P. Burrows, Pole-to-pole validation of GOME WFDOAS total ozone with groundbased data, Atmos. Chem. Phys. 5, 1341-1355, 2005. C. Keim, M. Eremenko, J. Orphal, G. Dufour, J.-M. Flaud, M. Höpfner, A. Boynard, C. Clerbaux, S. Payan, P.-F. Coheur, D. Hurtmans, H. Claude, H. Dier, B. Johnson, H. Kelder, R. Kivi, T. Koide, M. López Bartolomé, K. Lambkin, D. Moore, F. J. Schmidlin, and R. Stübi, Tropospheric ozone from IASI: comparison of different inversion algorithms and validation with ozone sondes in the northern middle latitudes, Atmos. Chem. Phys. Discuss., 9, 11441-11479, 2009.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 10513, 2009.