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Atmospheric Measurement Techniques Discussions

Interactive comment on "Comparison of ground-based FTIR and Brewer O_3 total column with data from two different IASI algorithms and from OMI and GOME-2 satellite instruments" *by* C. Viatte et al.

Anonymous Referee #1

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General comments:

This is a very nice paper with interesting results, providing valuable information about the performance of various total column ozone measuring instruments from ground and space. The results are now well presented by the graphs, which are in appropriate design after the corrections, proposed in the pre-reviews. Description of the data retrieval and and instrumental properties is sufficiently detailed with a little too strong focus on the FTIR. Its description is somewhat too detailed compared with the other

instruments. The publication of the paper is recommended.

Special comments:

Âů 1 Introduction: The mention of the importance of vertical ozone transports implies, that the data measured by satellite-borne and ground-based instruments and which are compared in this paper are relevant for this issue. Investigations of the vertical transport, however, need mainly profile data, which are not examined here. Moreover, LIDAR and ozonesonde data are not mentioned as sources for profile data.

Âů Chapter 2 (as already mentioned under general comments) is very detailed compared with the following sections describing Brewer and satellite data. More references to corresponding literature would be sufficient

Âů Chapter 2.3: the wording from line 152 implies, that the Brewers in general are double monochromators. This is not valid for the MK-II Brewers, which are single monochromators. The serial number of the used Brewer and the additional information, that this special instrument is a double monochromator would be helpful.

Âů Chapter 2.3: line 156: ozone cross-sections at a fixed effective temperature of the ozone layer of –45. . .. . ..would be better.

Âů Chapter 4.2, line 292 ff: much better description of the FTIR-Brewer difference than in the first version. The mention of the intended introduction of new cross-sections after DMB could also be helpful (in the following sections comparing the ground based instruments with satellite borne too).

Âů Chapter 4.3, line 319 ff: it is true that IASI op is lower than FTIR, it, however, agrees better with the Brewer than the IASI analytical. In addition, the evident trend in the difference IASI op to FTIR and Brewer is not mentioned. Reason for this trend, which cannot be seen in the IASI analytical comparison?

Âů Chapter 4.4: a little bit short compared with the previous chapters.

AMTD

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Technical corrections:

Âů Chapter 2.1, line 66: Meteorological Sate Agency of Spain Service? State Agency of Meteorology of Spain as better proposal and correction for Sate.

Âů Chapter 3.1.2, line 203: regularization or regularisation

Âů References: there are two references not mentioned in the text (Höpfner and Malicet); Balis et al 2007 and Bhartia and Wellemeyer 2002 are not unambiguous., in addition Balis et al 2007, Rothman et al 1998 and 2005 and Van Roozendeal (should be dael) et al is O.K. in the text, but not here under references; please name all authors.

Âů Graphs 4, 5 and 7: Brewer data as purple squares?, may be my printer is not O.K., I see dark blue squares.

Interactive comment on Atmos. Meas. Tech. Discuss., 3, 5833, 2010.