Atmospheric Measurement Techniques

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Discussions

Interactive comment on "Explorative study on GOME-2 total column ozone retrievals and the validation with ground-based and balloon measurements" *by* A. Wassmann et al.

Anonymous Referee #2

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The manuscript presented by A. Wassmann and colleagues titled "Explorative study on GOME-2 total column ozone retrievals and the validation with ground-based and balloon measurements' is a well-written and expansive manuscript dwelling on a scientific algorithm used to extract total ozone columns from GOME-2/MetopA observations and its validation with ground-based measurements. The first half of the paper is well-written and flows nicely, while the second half [from the Validation Section onwards] leaves room for improvement. I believe that a restructuring of the Validation Section is in order, splitting it into clear sub-sections that will help the interested reader follow the steps taken. The abstract is not too clear either, as to what is the paper to present:

a new, operational, scientific algorithm? A to-be operational scientific algorithm? A case-study type study? And if this algorithm is not to be evolved into one that can be used for creating TOCs, maybe the authors should consider giving recommendations based on their findings to the PIs of the operational algorithms, for e.g. the O3MSAF EUMETSAT consortium which hosts the operational GOME2/A and GOME2/B TOC retrievals. I have a number of serious reservations about the work presented which are clearly marked in the annotated document I am attaching to this report. I would hence suggest major revisions be applied before the paper can be considered for publication in AMT. Furthermore, I believe that the amount of Figures is too large and can certainly be reduced substantially, if not by half then close to it. Relevant suggestions have been made in the text. Specific reviewers comments follow.

1. Does the paper address relevant scientific questions within the scope of AMT? Good. 2. Does the paper present novel concepts, ideas, tools, or data? Good. 3. Are substantial conclusions reached? Fair. 4. Are the scientific methods and assumptions valid and clearly outlined? Fair. 5. Are the results sufficient to support the interpretations and conclusions? Fair. 6. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? Fair. 7. Do the authors give proper credit to related work and clearly indicate their own new/original contribution? Poor. 8. Does the title clearly reflect the contents of the paper? Fair. 9. Does the abstract provide a concise and complete summary? Fair. 10. Is the overall presentation well structured and clear? Good. 11. Is the language fluent and precise? Excellent. 12. Are mathematical formulae, symbols, abbreviations, and units correctly defined and used? Excellent.

13. Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated? Yes. 14. Are the number and quality of references appropriate? No. 15. Is the amount and quality of supplementary material appropriate? N/A.

Please also note the supplement to this comment:

http://www.atmos-meas-tech-discuss.net/8/C1861/2015/amtd-8-C1861-2015-supplement.pdf

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