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***Interactive comment on* “Technical Note:
Validation of Odin/SMR limb observations of
ozone, comparisons with OSIRIS, POAM III,
ground-based and balloon-borne instruments” by
F. Jégou et al.**

Anonymous Referee #2

Received and published: 26 February 2008

General comments:

This study concerning the assessment of the ozone data quality of SMR experiment aboard ODIN, is a very extensive work very valuable to quantify the SMR capabilities. Many different independent measurements, including satellites, ground-based routine measurements and specific balloon campaigns with advanced sensors, have been used and it gives very convincing results.

Specific comments:

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The altitude retrieval appears to be an issue, however it is not clear in the manuscript how such shift have been estimated, if there is sometime, range corrections prior comparisons and bias estimates. Such altitude shifts seems to be very different from one comparison to the other while it is concluded that no range altitude have been detected. Also this issue is not mentioned in the abstract. Probably the manuscript needs some clarification or rephrasing in some sections.

The comparisons between OSIRIS and POAM give several points with very large deviations while other comparisons show more normal distributions. Any explanation?

A small but systematic bias, in SMR data has been reported, clear conclusions about the significance and the amplitude of this bias need to be provided. The question is whether authors will recommend to apply any systematic corrections on SMR data prior their use.

For comparisons with NDACC some warnings have been provided for comparisons close to the vortex. Additional comments will be valuable to know how those cases have been handled. How vortex border is detected and if some cases have been removed for example? The sentence line 23, page 741 is not scientifically speaking very informative. Similar cautions are required for comparisons with POAM data, comments need to be added concerning this issue.

Additional information required:

Page 735, quality flag have been mentioned. The range and the origin of such proxy need to be given. In this section 0,75 is used as threshold while in the conclusion the 0 value was mentioned and 0,75 was associated with the quantification of a priori information. This flags need to be better explained and clarify.

Page 748 Consider providing a pertinent scientific reference for Mimosa description

Page 753 Consider including an acknowledgement for NDACC data. You will see the required standard sentence in the NOAA-NDACC web site.

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Minor comments:

Page 735 line 18 Develop VMR as Volume Mixing Ratio. I have not seen it before.

Page 744 line 22 spelling of mixing

Page 744 line 26, 27, 30 please consider replacing difference by mean differences or differences. Same comment applied for ?standard deviation?.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 727, 2008.

ACPD

8, S399–S401, 2008

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