Atmospheric Chemistry and Physics Discussions

Interactive comment on "The Heidelberg iterative cloud retrieval utilities (HICRU) and its application to GOME data" *by* M. Grzegorski et al.

M. Grzegorski et al.

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Point to point response to Anonymous Referee 2

We would like to thank the reviewer for his helpful comments. We reply to all the comments addressed in the review. The comments of the reviewer are cited using italicized letters.

I have just one general comment concerning the introduction which is cut in two parts. I would have preferred a more classical introduction with general comments about the different existing methods, associated literature, presentation of paper, etc ... instead of this two-part introduction. Anyway this paper is well documented with a wealth of details on the HICRU method and will be for sure a reference paper for GOME and SCIAMACHY users.

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The introduction is changed and contains no more subsections now. Sect. 1.1 "The Global Ozone Monitoring Experiment" is included as a separate chapter after the introduction.

Figure 12 The red line is not specified in the legend. The legend differs with the text in the paper. The measurements referring to HICRU cloud fraction higher than 1 seem to be very weakly correlated. I am wondering if that figure is really necessary. I think there are sufficient indications in the text.

The text in the caption is indeed misleading and therefore changed. The red line is explained in the text now. The image is included to show that the higher the HICRU cloud fraction the higher also the lowest assumed FRESCO cloud albedo.

ACPD Citations: In the list of references, 5 citations seem not to be used in the text: Wenig , 2000; Wenig, 1999; Loyola, 1998; Kurosu et al, 1998; Kurosu et al, 1999.

The 5 references mentioned by the reviewer are cited in Table 2. In the text, only the general concepts of the different types of algorithms and the aspects that lead to the differences shown in the intercomparison studies are discussed. Otherwise the reader might be confused through lots of details. Nevertheless, all relevant characteristics of the PMD algorithms are summarized in Table 2, which include the mentioned references. I am sorry, that Table 2 had become very small through the editing process. The table is therefore hardly readable and should have a size of one DIN-A-4 page, but ACP was not able to produce a table larger than a half DIN-A4 page. But this will of course be changed for the final ACP version, because the limitation exists only for ACPD.

p1642, 21: the sentence has to be corrected. p1643,4-5-6: maybe the sentence has to be reformulated. p1644, 19: the sentence has to be corrected. Figure 7: The red and orange lines are not specified in the legend.

We changed the paper as proposed by the reviewer.

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Regards,

Michael Grzegorski on behalf of the co-authors,

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 1637, 2006.

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