

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

**Anonymous Referee #2**

Received and published: 20 April 2006

### **General comments**

This paper is a presentation of the Heidelberg iterative cloud retrieval utilities (HICRU) with an application to GOME data. The HICRU algorithm retrieves cloud fraction using spectra which can be provided by the two instruments GOME and SCIAMACHY as well.

As mentioned by the authors, detecting cloud parameters (cloud coverage, cloud top pressure or cloud optical thickness) is obviously crucial to determine in particular retrievals of trace gases. The authors describe in detail the HICRU algorithm and make

Full Screen / Esc

Print Version

Interactive Discussion

Discussion Paper

a complete comparison with other existing algorithms with a particular focus on the FRESCO method which has been intensively validated. This comparison is very convincing and show real improvements of the HICRU algorithm. In general, the paper is well organized and I found it very good.

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.

### specific comments

**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.

**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.

[Full Screen / Esc](#)[Print Version](#)[Interactive Discussion](#)[Discussion Paper](#)

**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.

---

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

Interactive  
Comment

Full Screen / Esc

Print Version

Interactive Discussion

Discussion Paper