Atmospheric Chemistry and Physics Discussions

Interactive Comment

Interactive comment on "A cloud filtering method for microwave upper tropospherichumidity measurements" by S. A. Buehler et al.
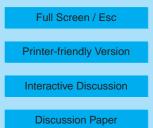
Anonymous Referee #1

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The Review of the manuscript "A cloud filtering method for microwave upper tropospheric humidity measurements" by S. A. Buehler et al.

MS-NR: acpd-2007-0092

The manuscript presents a cloud filter for upper tropospheric humidity (UTH) measurements from the high frequencies of AMSU-B on the basis of the two earlier studies. Model simulations on the basis of ECMWF data set and radiative transfer models have been performed to investigate the influence of viewing angle on AMSU-B channel 18 threshold and to derive the different thresholds for Tb18. Also, the impact of ice clouds on UTH area mean values was estimated by case studies. This manuscript is a well-written paper. It's structure and exhibitions are easy to follow. I highly recommend it for

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publication in ACP after some minor revisions listed in the following.

1. Page 7510, lines 12-14. This sentence is confused.

2. Page 7514, lines 3-5 and lines 18-20. Why are different radiative transfer models (RTTOV and ARTS) and different ECWMF model data used for the simulations? Why not use consistent data and model?

3. Page 7515, line 14, change 'to simulated' to 'to simulate'?

4. Page 7512, line 9; Page 7515, line 14, What is the physical means for UTH_JAC? It is better to add more information on it for easily understanding.

5. Page 7515, line 18, 'here and everywhere' is not necessary.

6. Page 7522, line 10. When the authors mention that 'The mehod combines two existing methods. One isĚand the other one is Ě'. It is better to cite the corresponding two references again here.

7. Figures. When the subplots are described the authors prefer to use locations, such as, top plot, rightmost column, etc. I suggest the authors to use labels to mark the subplots, such as Fig. 3a, 3b, and etc.

8. Page 7534, Fig. 6. Change '?UTH' to '?UTH'.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 7509, 2007.

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