Atmos. Chem. Phys. Discuss., 8, S7848–S7849, 2008
www.atmos-chem-phys-discuss.net/8/S7848/2008/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Total and partial cloud amount detection during summermonths 2005 at Westerland (Sylt, Germany)" *by* N. H. Schade et al.

N. H. Schade et al.

Received and published: 2 October 2008

We would like to thank referee 1 for the very fruitful comments which will help to improve and highlight our work.

In particular, we would like to answer the comments:

1.) In the introduction section: The structure of the paper could be friendlier if the authors would state in a clearer way in the introduction what is the scope of the paper (as they do in the summary) and focus the paper on it.

We changed the introduction in order to present our aim now more clearly.

2.) In the Measurements section: On one hand the authors does not give much details on the camera algorithm and on the other hand they give the APCADA equations with no physical explanation and state that the cloud detection is based on the LDR variability. Then 3 empirical thresholds are given for the classification with details in table 1 (not 4 as stated in the text). The authors should skip the discussion on the APCADA equations (two pages with eq 1 to eq 8) and give more and clear information on the real cloud detection that is based on variability.

We skipped the discussion on the equations, but we would like to keep equations 1 and 2, since they are in our opinion important for the understanding of the APCADA concept. We removed figures 1 and 2, since they directly rely on the removed equations.

3.) It would be nice to have more relevant information on the camera algorithm and to understand why no cosine weighting of the pixel has been applied.

We were hoping that these details could be looked up in Schade et al. (2007) and Schade (2005) by the interested reader. Cosine weighting was not applied because the cloud edges at the boundary of the images would be misinterpreted as cloudy pixels, which in turn would lead to an overestimation of the TCA, especially for skies with small cloud amounts.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 13479, 2008.

ACPD

8, S7848–S7849, 2008

Interactive Comment