

## ***Interactive comment on* “Discriminating raining from non-raining clouds at mid-latitudes using multispectral satellite data” by T. Nauss and A. A. Kokhanovsky**

**Anonymous Referee #2**

Received and published: 14 March 2006

The paper "Discriminating raining from non-raining clouds at mid-latitudes using multi-spectral satellite data" submitted to Atmos. Chem. Phys. Discuss. presents novel and promising findings regarding the satellite-derived estimation of precipitation fields especially focusing on stratiform precipitation as encountered widely within extra-tropical cyclones.

It is clearly suited for publication within ACP. The outline of the paper is clear and concise, methods and results are appropriate. Overall, the paper absolutely merits publication within ACP.

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I have only few minor points to raise that should be considered prior to final acceptance and publication of the paper:

In the discussion you should point to the fact that the new methods can only return information on the occurrence of rain but not on rain intensity or even precipitation sums.

Generally I would incorporate a discussion on how representative the results are for different parts of the year or different weather situations or different regions of the world. It is fair to test the new method based on only one scene and to publish a broader set of tests based on multiple scenes or locations at a letter stage, but it should be clearly stated. E.g. you can not be absolutely sure that in different regions or during different parts of the year eq. 1 is invariant even when the principle underlying RADS remains valid.

The standard verification scores presented on page 1391 are only very sporadically introduced. I believe the paper would benefit from a broader discussion on these verification procedures, even when these functions may be published elsewhere beforehand, because they are crucial for the understanding of the quantitative improvement that was made possible by using the new rain retrieval.

Some technical recommendations to follow:

- 1) Page 1389, line 26/27, last sentence of the paragraph referring to the liquid water path. What are the implications of this statement? You should give the reader some insight into the meaning of this.
- 2) Page 1390, lines 12 to 14: this sentence is not quite clear. Do you mean that you have chosen ECST for comparison with RADS because it is widely used and similar to many other convective cloud retrieval methods? But why in this case do you use the word “regions” in line 14? Please specify more precisely.
- 3) Page 1391, line 2: insert “RADS” between “are identified by the” and “satellite re-

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trieval” in order to be more precise.

4) Page 1391, line 11: Please give full words for the acronym “WWRP”.

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Interactive comment on Atmos. Chem. Phys. Discuss., 6, 1385, 2006.

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