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Interactive Comment

Interactive comment on "Clouds-Aerosols-Precipitation Satellite Analysis Tool (CAPSAT)" *by* I. M. Lensky and D. Rosenfeld

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We are grateful for the constructive comments by the reviewer, we adapted all the suggestions:

1. We changed the heading of A2 as suggested.

2. We provided the correction factors for both MSG-1 and 2 for Tables A1 and A2 and made reference to EUMETSAT

3. We tried to make the role of the CAPSAT tool clearer by rearranging the text as suggested and by adding the following paragraph in section 2: CAPSAT (available from: http://home.geoenv.biu.ac.il/page.php?num=46) offers full control over treatment of channel 4 (solar and thermal contributions; CO_2 absorption), full control over ranges and gamma corrections of each of the RGB beams, use of pre-defined color schemes,

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as well as quantitative analysis capabilities such as: cloud mask, retrieval of microphysical zones (Rosenfeld and Lensky, 1998) which will be provided in a later publication.

4. We added in the introduction the following text explaining the term "cloud microphysics": For the qualitative approach, they used an RGB display of the NOAA AVHRR channel data that highlights the cloud microphysics i.e. particle size and phase (water/ice).

5. We expand the reference to MSG to: METEOSAT Second Generation (MSG) - the European geostationary satellite operated by EUMETSAT. A compete overview of the MSG SEVIRI instrument is provided by Schmetz et al. (2002).

6. The reviewer wrote: "Section 3.4, last sentence which deals with the "yellow" colour seen over small ice crystals in Cirrus and small ice particles over convective clouds: It is a good idea to provide some additional help (another RGB?) to resolve the possible confusion (could also serve as an example for section 5 - see point 8 below.)"

We add the following paragraph at the end of section 3.4 to clarify this point: Inferred small ice crystals that are not associated with anvils of Cb clouds must form by elevated strong updrafts, such as in high altitude orographic wave clouds. For example see the small cloud over the Alps (M in Fig. 9(b)). "Day microphysical" RGB can separate Cb from thin cirrus clouds that are both composed of small ice crystals.

7. The reviewer wrote: "Entire section 5 "Using combination of RGB compositions": This section is actually difficult to read as the authors' intentions here are not very clear: They start off with an example of ship tracks but then quickly change to RGB combinations over Europe, which are then discussed in high detail. I suggest restructuring of this section to make the intentions ("what should a reader get out of this?") clearer and to also highlight where the extra value of combining different RGBs is. As it reads now, every feature can be identified in a single RGB of Fig. 16, just in a different colour. Else, the full discussion on Fig. 16 just serves as a case study".

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We added the following paragraph to clear our intentions regarding using both ship tracks and RGB combinations for viewing cloud composition. Ship tracks serve the purpose to demonstrate the sensitivity of the various RGB schemes to cloud microstructure in the simplest clouds of all - maritime stratocumulus. Microstructure variability of other kinds of cloud is much more complex and less readily understandable, but it still dominates the RGB colors and provides the best means for viewing cloud composition on large scales.

We corrected the English language / typographical errors.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 4765, 2008.