

## ***Interactive comment on “The effects of aerosols on precipitation and dimensions of subtropical clouds; a sensitivity study using a numerical cloud model” by A. Teller and Z. Levin***

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Teller and Levin quote the non-refereed conference paper of Ayers (2005) in order to "dispute" the conclusions of Rosenfeld (2005) paper in *Science*, which is a rigorously reviewed journal. Such practice would be fine if it was to rely on new observations. However, in this case the new "evidence" of Ayers (2005) is based on wrong interpretation of the satellite image in his fig. 5. This image is of AVHRR that is moving from south to north and scanning from east to west. The solar time of the AVHRR overpass was 16:00 with the sun low in the west. Under such conditions, the 3.7 micron solar

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reflectance should be lower at the west side and brighter on the east side for similar clouds. The TRMM satellite moved along east-west direction, one hour earlier, so that the sun was higher and the scanning north to south incurred much less change of solar illumination. The field of view of TRMM is illuminated much more homogeneously so that changes in color are much less related to changes in the geometry of observation and illumination than for the AVHRR. Therefore, the area marked by circle in figure 5 of Ayers (2005) off the SE corner of Australia appears in the TRMM image (Figure 2 of Rosenfeld, 2000) with low reflection of 3.7 micron and with large effective radii, thus not suspected to be significantly polluted. This shows clearly that the interpretation of Ayers on which Levin and Teller rely on is wrong.

Other conclusions of Ayers et al. (2005) are similarly flawed. ACPD is not the stage for dealing with these other false claims, but certainly they must not be referenced in a refereed paper such as ACP, before having been subjected to review themselves. Doing it otherwise would pave the way for bringing in the back door erroneous un-refereed materials into the accepted reviewed publications. This should not be allowed.

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