

***Interactive comment on* “Exploring systematic offsets between aerosol products from the two MODIS sensors” by Robert C. Levy et al.**

Anonymous Referee #2

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The work by Levy et al. “Exploring systematic offsets between aerosol products from the two MODIS sensors” shows the efforts of the authors to understand and correct the offsets between MOD04 and MYD04 products. The BIAS was not completely eliminated but important improvements have been achieved over land (from 0.02 → 0.01), once applying a serial of correction regarding cross-calibration, de-trending etc.

Another important success of their work was to justify that the offsets between the two sensors are not linked to real aerosol cycles which is of a great importance to avoid misunderstandings in future worldwide studies.

Therefore, I recommend the paper for publication. Even if the authors partially failed in the total understanding of the offsets, the tests that discard possible proveniences of the errors and the overall conclusions from the work will be useful for the aerosol

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community.

Major remarks.

The way that orbits are designed, crossing the equator at 10.30AM and 13.30PM both equidistant to 12.00PM, makes me think that the scattering ranges and the observation geometry are the same in both sensors (basic information used as input in LUT algorithms). I would like to have a confirmation of this fact from the authors, since otherwise this fact could represent a source of differences (I guess that the distribution of scattering ranges is just symmetrical north hemisphere / south hemisphere and same conditions in the equator).

Minor remarks.

Page 2-3 - Introduction: somehow the order of the paragraphs is not completely logic to me. I would suggest to exchange them. If we numerated them from 1 to 5. A more logical order may be 1-3-4-2-5.

Page 4. Line 26. There is a paragraph starting with "Finally" when actually the subsection 2.1 continues for another 3 pages. I don't know if there was another subsection starting in the beginning of page 5 and at some point was eliminated.

Page 10 Lines 25-29 and Page 11 Lines 16-18. A similar concept is repeated in these two paragraphs.

Section 5. Sometimes it is written C61 instead of C6.1, please check this out.

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