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Atmospheric Measurement Techniques Discussions

Interactive comment on "Validation of CALIPSO space-borne-derived aerosol vertical structures using a ground-based lidar in Athens, Greece" *by* R. E. Mamouri et al.

Anonymous Referee #2

Received and published: 4 May 2009

Access Peer-Review & Interactive Public Discussion (AMTD) 1. Does the paper address relevant scientific questions within the scope of AMT? Yes

2. Does the paper present novel concepts, ideas, tools, or data? Yes

3. Are substantial conclusions reached? Yes

4. Are the scientific methods and assumptions valid and clearly outlined? Yes

5. Are the results sufficient to support the interpretations and conclusions? Yes

6. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? Yes

7. Do the authors give proper credit to related work and clearly indicate their own new/original contribution? Yes

8. Does the title clearly reflect the contents of the paper? Yes

9. Does the abstract provide a concise and complete summary? Yes

10. Is the overall presentation well structured and clear? Yes

11. Is the language fluent and precise? Yes

12. Are mathematical formulae, symbols, abbreviations, and units correctly defined and used? Yes

13. Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated? Yes

14. Are the number and quality of references appropriate? Yes

15. Is the amount and quality of supplementary material appropriate? Yes

General comments

The work described in this article is very interesting, and the authors achieve here a difficult work. As one of the previous author of a similar study using ground lidar datasets to validate the CALIOP dataset [see Kim et al, ACP, 2008], we know the difficulty of such a task. This type of validation is essential in the view of the validation of the CALIOP Spaceborne dataset. I think this study is well fitted for publication. However, I got some minors specifics comments that must be taken in consideration.

Specific comments

- Page 562 line 24 : NASA/CNRS must be changed to NASA/CNES

- Page 563 line 7 : The reference [Spinhirne et al., 2005] is not given inside the list of the references.

-Comment for page 563 lines 13 to 15: I'm ok with this commentary about the resolution. But you should mention also the length of the CALIPSO measurements (3 years now) . Also the fact that the LITE data got before a better better vertical resolution than ones of the CALIOP (15 meters on the vertical).

- Page 566 Line 5 : (THE) Hampton University

-Page 568 equation 2: you must to have the same writing of the extinction that you have given inside the line 10.

-In the equation 3, could you write the altitude dependence β(z) and not only β.

-Please, could you check the list of yours references? As an example, the Balis references are not listed following the date of the publications. The same for the Ansmann references, the Papayannis references.

Interactive comment on Atmos. Meas. Tech. Discuss., 2, 561, 2009.