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Atmospheric Measurement Techniques Discussions

Interactive comment on "Detection of multi-layer and vertically-extended clouds using A-train sensors" *by* J. Joiner et al.

Anonymous Referee #2

Received and published: 20 December 2009

The authors describe a new algorithm to detect multi-layer and vertically-extended clouds. Results from the algorithm are compared with cloud radar measurement. Finally, the algorithm is used to calculate monthly mean fractions of multi-layer and vertically-extended clouds.

The paper is well-written and the presentation of the material adequate with the exception of the few remarks below. The paper is acceptable for publication after consideration of these remarks.

Comments:

Page 2710, line 9: The OCCP acronym has been explained above.

Page 2710, lines 16-19: It is stated that "significant retrievals errors may occurr .....".

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Interactive Discussion

Discussion Paper

Can you please add one or more references to support this statement?

Page 2712, lines 5-6: It is said that "only limited amount of data was available for evaluation. Does that apply to the present or to earlier studies?

Page 2712 and introduction in general: If the proposed algorithm is the first multilayer cloud detection algorithm being compared with CloudSat CPR, this should be emphasized stronger in the abstract and the introduction. Also, please mention what are the advantages of the present approach compared with earlier works.

Page 2713, lines 21-25: The MODIS MLF is essential for the present work. However, it is not described how the MODIS MLF work. To make the paper self-contained, please include a short description of the MODIS MLF.

Page 2730, line 20: What does the numbers 2709, 2710 mean?

Page 2737-2738: Figures 3 and 4 are identical.

Interactive comment on Atmos. Meas. Tech. Discuss., 2, 2707, 2009.