Atmos. Chem. Phys. Discuss., 15, C2209–C2210, 2015
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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Sensitivities of Lagrangian modeling of mid-latitude cirrus clouds to trajectory data quality" *by* E. Kienast-Sjögren et al.

Anonymous Referee #4

Received and published: 4 May 2015

This manuscript presents a research study to investigate the influence of uncertainties in iput data on the simulated cirrus cloud properties. The study is interesting, and the paper is well written. I suggest publication of the manuscript after consideration of some mostly minor comments.

General comment:

Considering the evaluation of the model with lidar measurements I agree with reviewer #3 that one case study with observational data of 20 min may be too specific and the results may not be comparable to other conditions.

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Specific comments:

p. 7536, l. 15: Typo – 'bysignificantly . . .'

p. 7546, l. 9: What about the extinction calculated from lidar measurements? Is this property sensitive to the retrieval and input parameters?

P. 7546, l. 18: Typo – 'compares compares . . .'

p. 7547, l. 19: Do you mean differences in the on- and offline trajectories?

p. 7551, l. 6: Can you explain these differences?

p. 7551, l. 27: Do you mean 'ascent data'?

Figures 6 and 7: labeling/time scale is inconsistent (upper and lower panel) for 1m and 20s cases.

Figures 11-14: Maybe the order of the figures should be adapted following the argumentation in the text.

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 7535, 2015.

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