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Atmospheric Measurement Techniques Discussions

Interactive comment on "A new airborne tandem platform for collocated measurements of microphysical cloud and radiation properties" *by* W. Frey et al.

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This is a very well written and well structured contribution that addresses a very relevant subject. There are many situations where information on the vertical structure of the atmosphere is critical yet virtually impossible to obtain using aircraft or soundings, either because of aircraft safety or because the time and space scales are too short to capture the details. The concept of the AirToss is an approach that has great potential to address these types of situations. With only a few comments and suggestions I recommend that this paper should be published.

Questions:

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Interactive Discussion

Discussion Paper

1) How is the horizontal position of the AirToss controlled and how precisely?

2) Has the performance of the AirToss been theoretically modeled? If not are there plans to do so? I think that it is a critical component of understanding its aerodynamic behavior to do a flow model and validate with the measurements.

3) What were the radius of the turns and how does the radius affect its performance?

Comments and Suggestions

1) Suggest 'Turns' not 'curves', or use 'Curved Trajectories'

2) No need to write out the equation for the Pearson Correlation Coefficient, this is well known, more important to discuss the significance of the correlations.

3) A Plan view schematic showing the relative position of the AirToss to the aircraft in the horizontal would be useful. Were there any photos taken from above by the other aircraft?

4) The CDP measures from 2-50 um.

5) It would be a better example to show how the microphysical prameters relate to the radiative flux. How about a cross correlation between radiation and drop concentration or do a frequency analysis to show spatial scales of concentration versus those of radiation?

5) The final version should be edited carefully. The English is excellent but could use some final touches.

Interactive comment on Atmos. Meas. Tech. Discuss., 2, 1, 2009.

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Interactive Comment