Atmos. Chem. Phys. Discuss., 7, S8257–S8258, 2008
www.atmos-chem-phys-discuss.net/7/S8257/2008/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Capturing vertical profiles of aerosols and black carbon over the Indian Ocean using autonomous unmanned aerial vehicles" *by* C. E. Corrigan et al.

C. E. Corrigan et al.

Received and published: 9 January 2008

p11436, line 25, what were the criteria used to identify "suspected cloud exposure"?

Response: No cloud detection instruments or cameras were onboard the aerosol-radiation aircraft to help identify in detail the amount of cloud exposure, but a few visual observations of the aircraft entering the bottom of a cloud on its ascent occurred. These readings were compared to the second aircraft climbing up or to the descent data to see if the cloud affected data quality after leaving the cloud. Comments have been added to the text.

***

Figure 5. This is not the best way to present a size distribution intercomparison. Firstly it presents only 3 of the 8 channels and secondly they are not labelled. Two bin normalized N contour plots (dN/dlogDp) against diameter and time should be plotted to give a fairer indication of similarity in the distributions (much in the same way as figures 12 a and b are used to compare size distribution change with altitude). This could be overlayed with a plot of altitude vs time (altitude on the second y-axis) to preserve all the information in the original figure.

Response: The accidental omission of the size labels in Figure 5 has been corrected. In addition, a fourth channel of data was added to give the reader more information at the expense of crowding the figure. Any additional channels would either stack on top of the 1.3 micrometer diameter channel or are too noisy to add any value to the figure (artifact of the log plot). Contour plots were explored but they did not seem to offer a superior comparison in this circumstance. The purpose of the graph is to show the behavior of separate instruments on separate aircraft under flight conditions (as altitude changes) and it adequately illustrates the close agreement at the same altitudes.

***

p11441 and figure 13, were the error bars for 29th March representative of the measurements on all days? In any case, this should be stated.

Response: comment added to figure caption.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 11429, 2007.