

Interactive comment on “An AeroCom assessment of black carbon in Arctic snow and sea ice” by C. Jiao et al.

C. Jiao et al.

chaoyij@umich.edu

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We thank the reviewer for his helpful comments and suggestions. Several changes have been made to the paper to address these comments. The comments are shown below with our response follows.

1. My little concern is the large paragraph of context in Section 2 Observation data. I strongly suggest the authors to totally remove this section from the manuscript or shorten them into one to two sentences because the authors did not sample snow themselves and totally cited them from the previous work (Doherty et al. 2010). And the sampling and treatment of the samples were very clearly described in the abovementioned paper. Thus the authors are not proper to describe them in so detailed here.

This is a valid point and we agree that Section 2 could be more concise. We have eliminated most of the sampling and treatment parts from the paper. In the new version, we only keep the essential information for the readers in this section.

2. Similar work, but smaller in scale has been published in the same journal by Dou et al., 2012. See Dou, T., Xiao, C., Shindell, D. T., Liu, J., Eleftheriadis, K., Ming, J., and Qin, D.: The distribution of snow black carbon observed in the Arctic and compared to the GISS-PUCCINI model, *Atmos. Chem. Phys.*, 12, 7995-8007, doi:10.5194/acp-12-7995-2012, 2012.

We have added citation in Section 1, paragraph 3.

Interactive comment on *Atmos. Chem. Phys. Discuss.*, 13, 26217, 2013.

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