Atmos. Chem. Phys. Discuss., 13, C666–C667, 2013
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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Characteristics of concentrations and chemical compositions for $PM_{2.5}$ in the region of Beijing, Tianjin, and Hebei, China" *by* P. S. Zhao et al.

Anonymous Referee #1

Received and published: 19 March 2013

This paper studied PM2.5 speciation at four urban sites (Beijing, Tianjin, Shijiazhuang, Chengde)and a background site at shangdianzi in northern China during 2009-2010. Field measurement is indispensable to improving the understanding of fine particle pollution in this region. Findings in this work would also be helpful to policy makers as the properties of PM2.5 in this region had changed in the last decade. Publishing this paper in ACP would be useful to the community if following problems can be addressed.

1) In the introduction part, literature of 1980s seem absent. Including those previous works would be very helpful to understand the evolution of aerosol pollutants in this region. Furthermore, expansion of literature pool with studies in other regions of China

would be a plus as the characteristics of PM2.5 in China is highly diverse, even in the region of present study.

2) The statement of the implementation of new ambient air quality standard of China (GB3095-2012) is incorrect and misleading (page 865 line 26-27). The timetable for implementation of GB3095-2012 was announced in Feb 2012 by Ministry of Environmental Protection of China (http://www.mep.gov.cn/gkml/hbb/bwj/201203/t20120302_224147.htm)as follow:

2012, Beijing-Tianjin-Hebei, Yangtze River Delta, Pearl River Delta and other key regions and municipalities directly under the Central Government and provincial cities

2013, 113 key environmental protection cities, and the National Environmental Protection Model City

2015, all prefecture-level cities & above;

January 1, 2016, the national implementation of the new standard.

So according to the official statement, the new standard (GB3095-2012) is already effective in Beijing-Tianjin-Hebei region.

3) For section 3.2.3, It's fine to left the detailed description of SOC calculation to another paper, but some critical information is still needed for current paper, which is necessary for readers to understand the SOC results. For example, what's the primary OC/EC ratio for SOC estimation and how is this ratio obtained?

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 863, 2013.