

## ***Interactive comment on “Mesoscale modeling study of the interactions between aerosols and PBL meteorology during a haze episode in China Jing-Jin-Ji and its near surrounding region – Part 2: Aerosols’ radiative feedback effects” by H. Wang et al.***

**Anonymous Referee #2**

Received and published: 21 January 2015

The paper addresses the radiative feedback on radiation budget, PBL meteorology and haze formation due to aerosols during the haze episode in China Jing-Jin-Ji and its nearby surrounding region using GRAPES-CUACE/haze model. I believe this manuscript is appropriate for publication in ACP and would recommend publication subject to primarily minor revisions outlined below. 1) How reliable is the analysis about the interactions between aerosols and PBL meteorology in a case study (5-day)?

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Could you please estimate or discuss the uncertainty of results in the paper? This is my biggest concern. 2) The paper said “Based on official information about national emission sources in 2006 (Cao et al., 2006), the detailed high-resolution emission inventories of reactive gases, i.e. SO<sub>2</sub>, NO<sub>x</sub>, CO, NH<sub>3</sub> and VOCs, from emissions over China in 2007 were updated to form the current emission data (Cao et al., 2010). How to calculate the anthropogenic aerosol emission over China in 2008? More details about emission inventory should be mentioned. 3) Please improve all figures in the paper including quality, color bar, words and units. . . . 4) How to define and calculate the turbulence diffusion coefficient (FKTM) in the paper? More detail information should be mentioned.

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Interactive comment on Atmos. Chem. Phys. Discuss., 14, 28269, 2014.

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