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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 1: Aerosol distributions and meteorological features” by H. Wang et al.

Anonymous Referee #3

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This paper uses the chemical weather model GRAPES_CUACE with online aerosol-radiation scheme to study the interactions between aerosols and meteorology during a haze episode in Eastern China. The authors show the importance of the boundary layer change in haze formations. The analysis is sound and the results are interesting. The concerns mostly concentrate on the poor figure presentation. Overall, I recommend the paper for publication in ACP after the authors address following comments:

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1) The first sentence of Abstract “The urbanized region of Beijing–Tianjin–Hebei – often shortened to Jing–Jin–Ji and referred to as the 3JNS region in this paper – and its near surrounding region is becoming China’s most polluted area by haze, exceeding even the Yangtze and Pearl river deltas.” is unnecessary. Please shorten the abstract. 2) In section 2. Model description; please add a brief description about PBL scheme used in the model, because the study presents the PBL modeling results and their analysis. 3) Page 31684, line 15: Please change “A control (CTL) experiment” with “a simulation” , because there is only one simulation experiment in this paper. 4) In section 4.2 please replace “planetary boundary layer” with “PBL” as you defined in the abstract. For example. The new title of section 4.2 could be “4.2 Meteorological features of PBL in the haze episode “ (Page 31688, line 20) 5) The quality of some figures is poor, the colors, number and words are hard to identify. Please improve all the figures.

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/14/C11186/2015/acpd-14-C11186-2015-supplement.pdf>

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 31675, 2014.

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