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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Overview of the Mount Tai Experiment (MTX2006) in Central East China in June 2006: studies of significant regional air pollution" *by* Y. Kanaya et al.

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We appreciate the comment given by the reviewer after careful reading of our manuscript.

Comment: As stated by the authors, this paper gives an overview of the campaign of the Mt. Tai Experiments (MTX2006) in Central East China in June 2006, and summarizes the major findings already presented in the individual papers involved in the campaign. I can see those are done in Section 6. However, the authors also stated "Also, we newly explore comparisons of ΔCO/ΔNOy and ΔO3/ΔNOz ratios between

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observations and model simulations, correlations between VOCs and levoglucosan, dependence of OC mass concentrations on airmass age, and fractions of OC which were molecularly identified." Apparently these are new findings which have not been presented in the individual papers. If so, these new findings need to be presented in a separate section, and elaborated in more details than those in Section 6. For instance, what technique was used to measure levoglucosan and what are its precision, calibration etc. need to be presented.

Answer: Although we will not separate the parts describing new analyses out of section 6, we will clarify where original analyses and results are mentioned. For example, at the end of section 1, the following sentences will be included:

This paper presents an overview of the campaign and the obtained results, and a synthesis of the individual papers presented in this special issue on MTX2006, encompassing from field observations to modeling, remote sensing, and laboratory studies. Also, we newly explore comparisons of ΔCO/ΔNOy, ΔO3/ΔNOz, and NO/NO2 ratios between observations and model simulations (in subsections 6.1 and 6.4), correlations between VOCs and levoglucosan (in subsection 6.6), dependence of OC mass concentrations on airmass age (in subsection 6.9), and fractions of OC which were molecularly identified (in subsection 6.9).

We clarify this point again at the beginning of section 6, as suggested by the reviewer, by including the following sentences:

In this section, our findings with MTX2006 are sorted by topics and overviewed. First, in subsection 6.1, after showing overall time series of major species, we compare their concentration levels, their ratios (e.g., ΔCO/ΔNOy), and air mass ages with those reported for past regional and urban studies, to highlight chemical conditions and their features during the MTX2006 field campaign. Then, key findings from companion papers are given in an integrated manner in subsections 6.2–6.9. Moreover, in subsections 6.4, 6.6, and 6.9, we added original analyses with respect to ΔCO/ΔNOy,

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$\Delta O3/\Delta NOz$, and NO/NO2 ratios, correlations between VOCs and levoglucosan, dependence of OC mass concentrations on airmass age, and fractions of OC which were molecularly identified. The parts of original analyses will be elaborated, generally by including more references with more detailed information on the analysis of each species (e.g., levoglucosan).

We thank the reviewer for the comment helping us to improve our manuscript.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 1527, 2013.