

## ***Interactive comment on “Observation of atmospheric aerosols at Mt. Hua and Mt. Tai in central and east China during spring 2009 – Part 1: EC, OC and inorganic ions” by G. Wang et al.***

**Anonymous Referee #2**

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This manuscript presents findings from measurements of aerosol particles at two mountain sites in central and east China. The quantification of both carbonaceous species (OC and EC) and water-soluble inorganic ions in the ambient particulate matter allowed for the identification of different types of source contributions, specifically the influence from automobile emissions and biomass burning, as well as mineral dust during an intensive dust storm episode. Higher concentrations of most species at the mountain site in east China (Mt. Tai) suggested a regional character of air pollution. Interestingly, nitrate was more abundant than sulfate ion at this site, reflecting increased emissions of NO<sub>x</sub> from vehicles and industrial processes in the urban areas along the east coast of China.

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Indeed, atmospheric measurements at high-elevation sites are valuable for the assessment of long-range transport processes and regional-scale pollution characteristics, yet the number of studies conducted at such sites is relatively small. The results presented in this manuscript are derived from experiments that were based on valid scientific methods and appear to have been carried out with sufficient QA/QC measures. The authors present an in-depth discussion of their findings with logical conclusions in a clear, concise and well organized manner. The study fits well within the scope of ACP, and based on the quality and value of the presented data I recommend publication of this manuscript in ACP.

Technical corrections:

1. Check the correct use of singular and plural forms throughout the entire manuscript, such as for "storm" on p. 2613, line 8, or "area" on p. 2614, line 1.
2. p. 2613, line 17: Change "downstream" to "down-wind".
3. p. 2615, line 20: Change "chromatography" to "chromatograph".
4. How was PM mass determined, e.g., gravimetrically?
5. p. 2617, line 9: A better expression for "aerosol phase" would be "particle phase".
6. p. 2618, line 27: Change "enhancing due to economy expansion" to "increasing due to economic growth".
7. p. 2623, line 14 and beyond: Replace "stayed" or "stays" by "was present".
8. p. 2626, line 8: Change "Particles" to "Particulate matter concentrations".

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