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Comment

## ***Interactive comment on “Elucidating determinants of aerosol composition through particle-type-based receptor modeling” by M. L. McGuire et al.***

**z. wang**

zlongwang001@gmail.com

Received and published: 19 May 2011

This paper uses PMF method to successfully separate nine factors from the ATOFMS data (33 particle type). This is a quite interesting, creative and important research.

(1)The ATOFMS single particle mass spectra are clustered into 46 particle-types when using a vigilance factor of 0.3, and among them 33 were used for PMF analysis. Can the authors explain more why the rest 12 types are not employed? Is it because the number of particles for these categories are not insufficient? And if a higher vigilance factor is used, with more clusters of particle, does it will influence the solution significantly?

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(2) I am also interested in the correlations of the particle types identified with some particle signatures from Prather's group. Specially, a recent summary by Wexler group (Atmos. Environ., 2011, 524-546 and 561-577) may assist the interpretation of amine-type particles.

(3) Can the authors provide some technical details about PMF analysis, likely some plots about other solutions (10 factors, 8 factors), variation with different fPeak values, etc.?

Zilong

China

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Interactive comment on Atmos. Chem. Phys. Discuss., 11, 9831, 2011.

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