Atmos. Chem. Phys. Discuss., 11, C9223–C9224, 2011
www.atmos-chem-phys-discuss.net/11/C9223/2011/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Receptor modeling of near-roadway aerosol mass spectrometer data in Las Vegas, Nevada, with EPA PMF" *by* S. G. Brown et al.

Anonymous Referee #3

Received and published: 21 September 2011

This is an interesting work on the application of PMF and ME2 to data obtained by AMS for the source apportionment of OM. This is research topic of great interest in the last years, and the investigation of the present paper on the applicability of the PMF model may be an interesting contribution.

There are some minor aspects which could be clarified.

1. Recent publications identified the contribution of cooking organic aerosol (COA). This is not commented in the introduction section. Have the authors check the possibility of indentifying this source in the study area? 2. Levels of sulphate and nitrate are extremely low; sometimes levels of nitrate are below the detection limit (Figure 3). This

is partially explained by the authors by the low SO2 and NH3 emissions in the area. Is there any reference showing similar low value of sulphate and nitrate in the study area? Please could you add these cites if available. 3. Do you have PMx (PM1 better) measurements during the field campaign? It could be useful to show in a figure the temporal evolution of inorganic and organic compounds measured by AMS, and BC (as stacked time series figures) and the time series of PM1, in order to see the approximate percentage of determination. 4. Sulphate and nitrate show a very low correlation with other pollutants. What is the origin of the peaks of these compounds observed in Figure 3? Are they attributed to regional transport? 5. Time series of wind direction could help for interpretation. Please add it in Figures 3 and 6. 6. Please, add a wind rose diagram in Figure 1. 7. First two paragraphs of section 3.1 seem s repetitive.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 22909, 2011.