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Atmospheric Chemistry and Physics Discussions



# *Interactive comment on* "$PM_2.5$ pollution in a megacity of southwest China: source apportionment and implication" *by* J. Tao et al.

**Anonymous Referee #3**

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This study intended to focus on the characteristic of compounds and sources of PM2.5 in Chengdu, China. The ISORROPIA-II thermodynamic equilibrium model and positive matrix factorization (PMF) model were employed for discussion. The results reported are values and the discussion is comprehensive. Thus, a minor revision is recommended before published. 1. The QA/QC of the sampling and chemical analysis should be described more clearly. 2. Page 5156, Line 6. "These suggestions are in agreement with the fact that residents in Chengdu used to utilize waste wood as energy source to generate heat in cold winter" It is better to present some reference. 3. Page 5163, line 25. "These results suggest that biomass burning and soil dust had contrasting trends in contributing to PM2.5, with more OM contributions in autumn and winter and more dust contributions in spring and summer." The author should make



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further discussion to obtain this conclusion. 4. Page 5164, Line 1. “Based on the PMF modeling results, six main source factors were identified” How do you make the number of the factors? Additionally, the Fpeak and Q values should be presented. 5. Page 5164, Line 25. “The second source is coal combustion, characterized by high EC, Zn, Cu, Sn, Sb, Tl and Pb concentrations (Fig. 6b). This source represented a mean contribution of 20±12% to PM2.5” For this factor, maybe some industrial emissions were also included? 6. Page 5169, Line 9. “The sixth source factor is soil dust, which is characterized by elevated Al, Fe, Mg, Ca, Sr, Ti, V and Zr.” Ca is the marker for cement dust, so, it might be a potential source category. Make a discussion.

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Interactive comment on Atmos. Chem. Phys. Discuss., 14, 5147, 2014.