

Interactive comment on “A Preliminary Assessment of the Impacts of Multiple Temporal-scale Variations in Particulate Matter on its Source Apportionment” by Xing Peng et al.

Anonymous Referee #4

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In this study, Kolmogorov-Zurbenko (KZ) filter was used to decompose the time series of PM_{2.5} and chemical species into intra-day, diurnal, synoptic, and baseline temporal-scale components (TS components), which might be helpful for a better understanding of source apportionment. However, I did not see good evaluation criteria to judge whether this relatively new approach is superior to the ME-2 or PMF without KZ. For the KZ method, different solution can be used, but it is still very questionable which solution is the best one. Therefore, I strongly suggest the authors extend the discussion to address my concern before a publication in ACP. In general, I think the author should use PMF instead of PCA for the source apportionment. In NCP, haze episode is much more frequent in winter than in summer, so the authors should use or include the winter

C1

data set for a typical application for this new approach. I agreed with the other reviewer that the overall source apportionment result is not good enough to separate different sources. Therefore, seasonal variations should be included. I would like to see diurnal variations for traffic sources and other sources as well.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2017-997>, 2018.

C2