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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Regional modelling of polycyclic aromatic hydrocarbons: WRF/Chem-PAH model development and East Asia case studies" *by* Qing Mu et al.

Anonymous Referee #1

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Thank you for your revisions, they were helpful in answering some of the questions I had in the previous version. I was disappointed that a table of results was not provided.

I am still unconvinced by the model performance data. For example, in Fig.3, the authors present 11 days of data. These can be examined full day, daytime only, and nighttime only. The only metric produced to compare these two data sets is a correlation coefficient. It's not clear which two sets of data the correlation is between and it's not clear to me that a simple correlation is meaningful here. For Fig3c, the correlation for particulate chrysene is provided as 0.59, but the night time simulation looks completely uncorrelated in the graph. The only graph where all three - full day, day,

night - look reasonably similar are the gas-phase phenanthrene comparisons. Some of the poor performance may be due to using summer samples, when chrysene and benzo[a]pyrene concentrations are relatively low. More clarification is definitely needed and perhaps a metric that takes into account absolute differences as well.

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