

Interactive comment on “Joint Measurements of PM_{2.5} and light-absorptive PM in woodsmoke-dominated ambient and plume environments” by K. Max Zhang et al.

Anonymous Referee #2

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This paper presents analysis that advances understanding of how to potentially assess woodsmoke in air without the need to conduct complex chemical analysis of a woodsmoke marker - levoglucosan. It presents mostly useful and straightforward analysis from a study using aethalometers to measure PM2.5 optical absorption under conditions in which mainly woodsmoke is expected. They use this data, along with other measurements to qualitatively and semi-quantitatively assess woodsmoke contribution to PM2.5 levels.

I found the analyses focused on the three fixed site data collection straightforward and the conclusions well-supported. I think Figure 7, DC/BC vs Heating Days is particularly compelling. Why is it only shown for Rutland site? It would be interesting to understand

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how this stable this relationship is.

How was the CO₂ data used?

There are two parts of this paper that are weak and I would recommend removal. The mobile monitoring in Ithaca is not well integrated and it does not add significant value to the paper. Likewise the PAH comparison is very lightly discussed and basically dismissed by the authors themselves. I recommend that these sections be removed so that the main point of the paper, the DC/BC analysis, is clear.

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