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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Assessment of inter-city transport of particulate matter in the Beijing-Tianjin-Hebei region" *by* Xing Chang et al.

Anonymous Referee #2

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This paper applied the WRF-CMAQ model to simulate the air quality over the Beijing-Tianjin-Hebei area and calculate the trans-boundary fluxes to Beijing, Tianjin, and Shijiazhuang. This paper used a new method that assessed the pollutants transport by vertical surface flux calculation instead of usually used scenario analysis. I only have a few comments:

(1) Using this method, it is easily to understand the pollutants inflows from each direction or each surrounding city to the objective city. But the inflows from one city didn't necessarily mean those pollutants were from that city. It might be generated from the upflow cities. Did the authors consider about that? And is there any consideration about solving this? (2) Wind directions are very important to calculate the pollutants fluxes (Figure 3 and Equation 1). But in the model evaluation section (S2), the authors

only evaluate the wind speed, temperature, and humidity. I would suggest the authors to evaluate the wind direction in the simulation results.

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