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Geoscientific Model Development Discussions

Interactive comment on "A novel model evaluation approach focussing on local and advected contributions to urban PM_{2.5} levels – application to Paris, France" *by* H. Petetin et al.

S. Pal

sp5hd@virginia.edu

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Authors presented some encouraging results from Paris area showing aerosol simulations in chemistry transport models.

In section 5.1: I just noted a discussion about the uncertainties in the BLH estimates with lidar technique (Page 6409) "On a yearly average over..... not work in case of rain". This is indeed an important discussion. Recently, using lidar data sets obtained at SIRTA near Paris, Pal et al. (2013) and Cimini et al. (2013) discussed in detail the issues related to the aerosol stratification during morning transition period, effect of rainfall etc. It is important to cite the above articles so that the interpretations of the

lidar-derived results become clear and concise to the community.

Additionally, for the same experimental area, Lac et al. (2013) also discussed the impact of UHI on observed and modelled near-surface temperature field. So, a short comparison to their findings is relevant here.

Here are the corresponding references: Pal S, Haeffelin M, Batchvarova E, 2013. Exploring a geophysical process-based attribution technique for the determination of the atmospheric boundary layer depth using aerosol lidar and near-surface meteorological measurements, in press, Journal of Geophysical Research (Atmospheres), 118, 1–19, doi:10.1002/jgrd.50710, 2013

Cimini, N., Angelini, F., Dupont, J.-C., Pal, S., Haeffelin, M. 2013. Microwave radiometer measurements of mixing layer height, Atmospheric Measurement Techniques, 6, 2941–2951, 2013, www.atmos-meas-tech.net/6/2941/2013/, doi:10.5194/amt-6-2941-2013

Lac C., R. P. Donnelly, V. Masson, S. Pal, S. Riette, S. Donier, S. Queguiner, G. Tanguy, L. Ammoura, and I. Xueref-Remy, 2013. CO2 Dispersion modelling over Paris region within the CO2-MEGAPARIS project, Atmospheric Chemistry and Physics, 13, 4941–4961,www.atmos-chem-phys.net/13/4941/2013/, doi:10.5194/acp-13-4941-2013.

Interactive comment on Geosci. Model Dev. Discuss., 6, 6391, 2013.