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Interactive comment on "A scaling analysis of ozone photochemistry: I Model development" *by* B. Ainslie and D. G. Steyn

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Comment I
It would be of interest to stress that the scaling behaviour of the air-pollution fluctuations were recently investigated (Varotsos et al.,2005) by analyzing the time-series of hourly $[O_3]$, $[NO_x]$ and PM_{10} concentrations using the detrended fluctuation analysis (DFA) method after deseasonalizing.

⋮

Presumably, the fact that more intense long-range power-law correlations were de-

tected during daytime by Varotsos et al. (2005) can be considered as evidence of the scaling behaviour of several photochemical mechanisms mentioned in the paper by Ainslie and Steyn.

Reply

We find this to be an encouraging result and agree this might provide evidence that the scaling law behaviour, seen most evidently with the chemical mechanisms, also arises with ambient data. Such evidence would also assist in the validation of the smog chamber data and the development of the chemical mechanisms.

Reference

Varotsos, C., Ondov, J., and Efstathiou, M.: Scaling properties of air pollution in Athens, Greece and Baltimore, Maryland, Atmos. Environ., 39, 4041–4047, 2005.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 12957, 2005.