

Interactive comment on “Weekly periodicities of aerosol optical thickness over Central Europe – evidence of an anthropogenic direct aerosol effect” by D. Bäumer et al.

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This is a nice paper with nice results which, I think, can be further strengthened. It would be good if the authors say how many years of observations have been included in the analysis presented in Figs. 2-4. This would be helpful to aerosol modellers who may want to reproduce such an interesting result in their model.

Given that Smirnov et al. (2002) have shown a diurnal variability in AOT that is of the same order as the weekly variability, the authors need to show that there is no change in how the diurnal cycle is sampled in the AERONET data throughout the week. Since Bäumer and Vogel (2007) have shown that there is also a small weekly

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cycle in cloudiness, it is worth demonstrating that this does not affect how AERONET data are sampled within a day. Alternatively, one could argue that the chance of an AERONET sunphotometer to go wrong and not being repaired on the spot during the week-end increases from Friday evening to Monday morning, which could introduce some changes in how the week-end data are sampled throughout the day (less afternoon than morning measurements). Again I do not think this is the case, but it is worth dismissing this hypothesis.

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