

***Interactive comment on* “Dispersion of traffic-related exhaust particles near the Berlin urban motorway: estimation of fleet emission factors” by W. Birmili et al.**

Anonymous Referee #3

Received and published: 27 September 2008

Please remember that a Referee Comment should be structured as follows: Initial paragraph evaluating the overall quality of the discussion paper ("general comments")

This article presented and discussed the spatial distribution of the particle number size distribution and emission factors nearby a major highway in Berlin. The authors used a dispersion model to describe the particle number concentration profile within the domain around the major highway. They also quantified the emission factors of aerosol particles due to the traffic on the major highway.

This study is significant because of the lack of literature on the emission factors especially as a function of the particle size. Even though the quality of the manuscript

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is good and it can be published as it is, I recommend considering the following minor comments:

1. Section 3.1 Traffic counts: This section needs to be re-written in a better way and to be clearer. For example, the authors described the daily pattern of the traffic density but sometimes they did not specify the day as working day or weekend.
2. Section 3.4 Diurnal cycle: When talking about the finger print of aerosol particles emitted from traffic combustion a reference is needed.
3. Section 4.1 modeling techniques: this section should be moved to the methods.
4. Sections 4.2 and 4.3 are better if they are switched.
5. Section 4.4 should be also moved to the methods.
6. The traffic emissions should be interactively compared to the available literature. The authors already presented and discussed the previous results in Figure 13, but they should also take into account measurements performed on road with mobile laboratories such the Sniffer (Pirjola et al.)

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 15537, 2008.

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