

***Interactive comment on* “Particle number emissions of motor traffic derived from street canyon measurements in a Central European city” by S. Klose et al.**

**Anonymous Referee #3**

Received and published: 26 February 2009

As the authors correctly point out (p 3784, line 24), data of particle number emissions from slow-moving urban traffic are not freely available. As such, this paper fills an important void. It includes several important findings which, although not novel, contribute to our knowledge of particles in the urban atmosphere such as the dominant influence of photochemical production of particles at the small sizes  $< 10$  nm as opposed to direct vehicle exhaust. Observations of the variation of emission factors with ambient temperature, although well-known, are useful in the present context. I also noted an important statement about the different lower size cut-off's used by the instruments in various studies, a point that could never be understated.

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Some comments:

Classifying the vehicles as “lorry-like” and “car-like” is a bit awkward. HD and LD would have been more appropriate; however, as the vehicles were classed according to their length, why not directly use “long” and “short” vehicles, defining them in the text?

P 3766, line 2: While the increasing volume of vehicular traffic, no doubt, impairs the environment and human health, it is not obviously clear how it impairs our “quality of life”. I would think that an increased ratio of vehicles/population would enhance our quality of life.

P 3768, lines 18-22: If the counts in the size channels 3.0 and 3.5 nm were zero, why bother to truncate the diameter range to 4 nm?

P 3770, lines 10-14: This can be done only if the drift time was longer than 24h. I assume that this was the case. If so, it should be stated.

Minor comments:

3770 line 7: Change “from” to “based on”

3770 line 7 and 3771 line 16: Should this be “experiences” or “experiments” ?

3772 line 2: Change “average” to “typical”.

3772 line 25: Change “an” to “a”

3773 line 6: Change to “however, do not coincide”.

3773 line 11: Insert “leads to pollution”

3773 line 12: Insert “the thickness of the mixed layer...”

3773 line 15: “manyfold” ?

3778 line 23: Replace “negligence” with “omission”

3779 Line 1: Replace “inside” with “within”

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3779 line 4: Insert “could not satisfactorily explain...”

3779 line 5: delete “with certainty”

3779 line 7: Replace “unquestionable” with “reliable”

3780 line 17: Delete “as a matter of fact”

3780 line 21: Replace “Second” with “Secondly”

3782 line 17: Insert “may vary by up to...”

3786 line 8: Spell out “submicrometer”

3787 line 1: Replace “rather” with “relatively”

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Interactive comment on Atmos. Chem. Phys. Discuss., 9, 3763, 2009.

## ACPD

9, S425–S427, 2009

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