

Interactive comment on “On the time-averaging of ultrafine particle number size spectra in vehicular plumes” by X. Yao et al.

X. Yao et al.

Received and published: 1 October 2006

In this paper, the authors report on new high time-resolution road measurements of particle size distributions using a state-of-the-art fast-response electrical mobility spectrometer, namely the Engine Exhaust Particle Sizer (EEPS). Fast-response mobility spectrometers similar to the EEPS have been proposed in the literature. These include the Electrical Aerosol Spectrometer (EAS) developed at Tartu University (Tammet et al 2002), and the Differential Mobility Spectrometer (DMS) developed at Cambridge University (Biskos et al. 2005). In fact, both the EEPS and the DMS can be considered as ancestors of the EAS. (Note that the EAS has been announced and used in field studies well before 2002) The main differences among these instruments are the particle size range they can measure, and the resolution of their individual channels. Because the design and time-resolution of the three instruments are very similar, the

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

**Interactive
Comment**

problem similar to those reported could be encountered in the EAS and DMA measurements. I believe, therefore, that the authors should include the reference to the above mentioned fast-response mobility spectrometers in their introduction. Actually, the reference that gives the description of the DMS (Biskos et al., 2005) is included in the bibliography, but I couldn't spot any point in the text where reference is made to the instrument.

Response: We revise the second paragraph of the revised version to "Other fast particle sizers such as the Electrical Aerosol Spectrometer (Tamm et al 2002) and the Differential Mobility Spectrometer (Biskos et al., 2005) are also being used by individual researchers."

The authors mention in the experimental section an ELPI was also available on the platform. A comparison between ELPI and EEPs data would be very interesting if available.

Response: See our response to Reviewer 2.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 6825, 2006.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)