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Atmospheric Measurement Techniques Discussions

# *Interactive comment on* "Determination of car on-road black carbon and particle number emission factors and comparison between mobile and stationary measurements" *by* I. Ježek et al.

**J.M. Wang**

jonm.wang@utoronto.ca

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This manuscript presents a useful comparison of real-world emission factors between mobile and stationary measurements. The results also help contribute to a larger comparative dataset between real-world studies for particle number and black carbon emission factors.

Interestingly, the EURO3 diesel passenger cars had comparatively low particle number emission factors in the order of 10^9 particles kg fuel-1, despite being relatively older vehicles. One would expect diesel vehicle to emit higher particles, as these



vehicles are pre-particle number emission limit regulation for EURO5/6. Additionally, comparing to previous studies (Hudda, 2013) and references therein, particle number emission factors presented were in the order of 10^14 – 10^15 particles kg fuel-1 for light-duty gasoline vehicle fleets, which are expected to emit less particles than a diesel-dominated fleet. Were the EURO3 vehicles retrofitted with emission controls to treat particles in the exhaust, and if so this could be stated within the text, or maybe it was a caveat of the measurement technique that was affected by particle dilution?

As stated by Anonymous Referee #1, the authors might compare their mean emission factor values with other studies that have used similar methods.

References: Hudda, N., Fruin, S., Delfino, R. J., Sioutas, C. Efficient determination of vehicle emission factors by fuel use category using on-road measurements: downward trends on Los Angeles freight corridor I-710. Atmos. Chem. Phys. 2013. (13) 347-357

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