

***Interactive comment on* “Experimental studies on particle emissions from cruising ship, their characteristic properties, transformation and atmospheric lifetime in the marine boundary layer” by A. Petzold et al.**

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The correlation of the sulphate bound water of $H_2O = 0.8 \times SO_4$ is based on experimental data obtained from heavy duty diesel engine emissions. The relationship was determined from the analysis of filter samples which were weighted under well-defined conditions of 40% relative humidity and 20°C air temperature. The factor of 0.8 does not refer to conditions in the hot exhaust sample!

The rationale behind the correlation $OM = 1.2 \times OC$ is based on the average compo-

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sition of diesel fuel which is assumed to consist of 52% - 70% of paraffines, 11% of oxygenated hydrocarbons, 10% of organic acids and 7% of aromatic compounds. The assumed OM / OC ratios are 1.18 (paraffines), 1.23 (oxygenated HC), 1.30 (organic acids), and 1.08 (aromatic HC). The weighted average ratio of OM to OC is 1.20.

The details of the data analysis are given in

E.W. Ulrich, Entwicklung eines thermografischen Verfahrens zur Analyse von Diesel-partikelemissionen (Development of a thermographic method for the analysis of diesel particulate matter), Technical University of Berlin, Berlin 1994.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 15105, 2007.

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