Atmos. Chem. Phys. Discuss., 11, C3169–C3170, 2011
www.atmos-chem-phys-discuss.net/11/C3169/2011/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Wind speed dependent size-resolved parameterization for the organic enrichment of sea spray" *by* B. Gantt et al.

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Received and published: 11 May 2011

I am delighted to see this ACPD paper appearing again, after the first version of Gantt and Meskhidze with the same title (ACPD 11, 425-452, 2011) was withdrawn from review. The main and obvious difference between both ACPD papers is the list of co-authors. In addition, some more references are given and small parts of the text and some figures are updates. Both ACPD manuscripts represent a major step forward in our understanding of the contribution of organic carbon to sea-spray aerosols. Since the publication of O'Dowd et al. (2008) the proposed organic-inorganic sub-micron sea-spray source function has been revised multiple times (e.g. Vignati et al., 2010; Langmann et al., 2008), focussing however on minor modifications of the fitting parameters without re-thinking about the physics of the processes involved in the ocean-

atmosphere exchange processes of organic carbon aerosols. Here a process so far overlooked is taken into account: the wind-speed dependency, thus filling the empirical organic-inorganic sub-micron sea-spray source function of O'Dowd et al. (2008) and successors with some process understanding and background. As worldwide measurements of the fraction of organic carbon in sea-spray are limited, in particular in the tropics, physically based parameterisations of the contribution of sub-micron organic carbon in sea-spray as the one presented in the current paper, may also increase our confidence in such regions.

References:

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