Atmospheric Chemistry and Physics Discussions

Interactive
Comment

Interactive comment on "Emissions of primary aerosol and precursor gases in the years 2000 and 1750, prescribed data-sets for AeroCom" *by* F. Dentener et al.

F. Dentener et al.

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item: Reference for assumed dust and sea-salt densities are missing

References for dust and sea-salt densities were given

item: Assumed distribution width of 1.59 and 2.0 for size modes

Assumed distribution width (standard deviations) were chosen to according to assumptions of the M3/M7 modal scheme (J.Wilson et al. 2001) which is used in several global models (ECHAM5-HAM, TM5, ...).

Dust and Sea-salt section now read:

"As DU (mass) flux and number concentration in each domain are defined, the mode-

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radius rm can be determined with assumptions to standard deviation and density. DU density varies between 2.2 and 2.9 g/cm3 depending on its mineral composition (e.g. Reid et. al., 2003). Thus, assuming an average DU density of 2.5g/cm3 and prescribing standard deviations of 1.59 for the accumulation mode and 2.0 for the coarse mode (following assumptions of the M3/M7 size scheme in Wilson et al., 2001), mode-radii rm were determined independently for each mode at each grid-point and for each time-step."

"Then for each size domain SS fluxes were distributed over a log-normal function, which is defined by the three parameters of mode-radius rm, standard deviation  and number N. As SS (dry-mass) flux and number concentration in each domain are defined, the mode-radius rm can be determined with assumptions to standard deviation and density. Assuming a SS (dry-mass) density of 2.2 g/cm3 (Hänel, 1976) and prescribing standard deviations of 1.59 for the Aitken and the accumulation modes and 2.0 for the coarse mode (following assumptions of the M3/M7 size scheme in Wilson et al., 2001), mode-radii rm were determined independently for each mode at each grid-point and for each time-step."

All other recommended minor changes have been applied - and the reviewer's help to identify and eliminating inconsistencies, and/or inappropriate wording is very much appreciated.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 2703, 2006.

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