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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Technical Note: an implementation of the dry removal processes DRY DEPosition and SEDImentation in the Modular Earth Submodel System (MESSy)" *by* A. Kerkweg et al.

Anonymous Referee #2

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Paper acpd-2006-0167 of Kerkweg et al. describes the parameterizations of dry removal processes in the submodels DRYDEP and SEDI and their implementation in the Modular Earth Submodel System (MESSY). This note provides not only a detailed model document about DERDEP and SEDI for MESSY but also the technical realization about the dry removal processes for the modeling community. It could be published in ACP with the following revisions:

1) There are various writing forms in the unit of variables, e.g. (in m/s), (m s-2), (mol-1) and in mol/mol. Please unify them.

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2) It could be better to add ”number” before “mixing ratio” in the first sentence of the second paragraph on page 6861.

3) Page 6862: please change “aerosol bin/mode k” to “aerosol size bin/mode” before Eq. 13. In Eq. 13 the “k” is not mentioned.

4) The sedimentation scheme of zeroth order/ Simple upwind scheme works with height coordinates (in meter), Is the ∆p in Eq. 20 the thickness of the box in pressure units (Pa)?

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 6853, 2006.