Interactive comment on “The mineral dust cycle in EMAC 2.40: sensitivity to the spectral resolution and the dust emission scheme” by G. Gläser et al.

Anonymous Referee #3

Received and published: 27 November 2011

A scientific significance of the manuscript is the assessment of two dust emission schemes in the spectral resolutions of T42, T63, T85 and T106 in a global model. It is helpful for global dust simulation. This work could be published after some suggested revisions.

1) A major concern is on the section 4 evaluating two single dust events molded with the T85TG. The contents of section 4 with 5 pages are beyond the manuscript title “The mineral dust cycle in EMAC 2.40: sensitivity to the spectral resolution and the dust emission scheme”. Can this title reflect the contents of this presented paper? Please shorten the section 4 or combine it with the section 3.2.

2) In Abstract (line 8), are the scavenging and wet deposition same?

3) It could be better to add the figures with the differences of BK- and TG-emission schemes in Figs. 2 and 3, because it is hard to distinguish the differences Figs. 2 and 3 in understanding their descriptions in the section 3 and Table 2.

4) Page 27296, line 22: Table 2 doesn’t give the ratio of scavenging (wet deposition) to the total deposition.

5) With Table 2, the Eq. (1) and Fig. 4 could be redundant. Please cut them.

6) Page 27297, line 4: please explain why the wet-to-total deposition rate is dependent on the BK- and TG-emission schemes.

7) I guess that this paper could be from a thesis. Some sentences are not well rewritten or organized. (E.g. Page 27293, line 19; page 27297, line 6-7; page 27298, line 10; chapter). Please improve them.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, C12404–C12405, 2011.