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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Modeling a typical winter-time dust event over the Arabian Peninsula and the Red Sea" *by* S. Kalenderski et al.

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Dear Stoitchko Kalenderski!

I would like to respond to your comments:

1) If the WRF-Chem limits the assumption to the spectral variability of the complex refractive index, then you cannot do it better than to consider independent observations or retrieval data for the unknown parameters of the model. On the other hand, retrieval data as provided by AERONET and MODIS might also not represent the real world, but this is not a problem which you have not to solve.

2) and 3) I am sure that you and the co-authors have a lot of experience in regional modelling and know what they are doing.

4) Of course, due to the lack of more in situ data the first step is to deal with retrieval data, which should not mean that in situ data are automatically of better quality. However, with regard to mineral dust aerosols, as it turned out during the last years of scientific progress, evidence suggests that retrievals may lead to an overestimation of the SSA in the solar spectral range. But this is an issue, as said above, which you have not to take care of as a user.

Best regards,

Sebastian Otto

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 26607, 2012.