Atmos. Chem. Phys. Discuss., 8, S2324–S2325, 2008
www.atmos-chem-phys-discuss.net/8/S2324/2008/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Parameterization of sea-salt optical properties andphysics of the associated radiative forcing" *by* J. Li et al.

Anonymous Referee #1

Received and published: 5 May 2008

General Comments

The paper is very interesting and, therefore, it should be published in ACP. It provides progress as for the radiation interaction of sea salt aerosol, especially also for the long-wave part of the radiation spectrum. A nice result is the explicitly mentioned positive forcing for small solar zenith angles. One should see the work by Ma et al. (2008) together with this work to get an impression of the application of this parameterization.

Specific Comments

It could be reasonable to also provide sets of coefficients for effective radii smaller and larger than 0.732 um and 6.13 um, respectively. It is not clear from a physical point of view, that no smaller or larger particles might play a role, too. Of course, the AERONET

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

data is restricted to a certain range because of the measurement technique that uses UV and visible wavelengths. That might create a bimodal distribution, although in reality it might consist of 3 or 4 considerable modes depending on the prevailing conditions. Note that also most of the AERONET distributions over land seem to show a bimodal distribution, too. It might be interesting here to also show or reference more in-situ measurements to strengthen the message here.

Since the number of lines in Fig. 1 bottom is not so high, it would be possible to give the reader some station information, especially their coordinates, maybe in a table. Those might be interesting to other sea salt specialists. In general, some of the Figures might be colored to better make the graphs distinguishable.

Technical Corrections

In addition to the technical corrections suggested by Referee 3 which should be taken into account, I recommend the following modification:

Page 5814, line 19/20: The sentence is difficult to understand and better should be rephrased.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 5813, 2008.