

Interactive
Comment

***Interactive comment on* “Effects of dust storms on microwave radiation based on satellite observation and model simulation over the Taklamakan desert” by J. Ge et al.**

J. Ge et al.

Received and published: 19 June 2008

Reviewer #2

We thank the reviewer for the encouraging comments. The following are our point-by-point responses to the comments.

Comment1: This manuscript sheds light on the impact of aerosols on the microwave region of the spectrum. The mentioned cases dealt with scattering of brightness temperatures by dust. However, further related work has targeted other sensors like ASMU which is not listed here, please consult the following reference. Dust storms detection over the Indo-Gangetic basin using multi sensor data, *Advances in Space Research*, Volume 37, Issue 4, 2006, Pages 728-733 by H. El-Askary, R. Gautam, R.P. Singh, M.

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Kafatos

Response: We have studied this paper and found it is really great paper. The results and conclusions of the paper support to our work. We added it as a reference in the revised version.

Comment2: In general, I find the manuscript is in an acceptable form after few clarifications. All the ambiguities, editing and grammatical errors raised by both reviewers must be addressed in the manuscript. The paper still needs more editing and a thorough grammatical revision.

Response: We have corrected all the errors raised by the other two reviewers and improved the English.

Comment3: The authors must comment on the use of the 89 GHz channel and the associated scattering schemes. How this channel drawback in the SSMI is used in favor of the dust storms.

Response: Although the techniques described in this paper exploit the AMSR-E observations, which has polarization measurements at 89 GHz, they could be easily adapted for other microwave sensor applications such as SSM/I and AMSU observations for creating the similar SCAT index. We have added such statement in the discussion section in the revised version.

Comment4: Description and discussions of the associated grain size distribution and the angstrom exponent will add more weight to the obtained outputs.

Response: The knowledge of dust particles size distribution is important for simulation works. The dust grain size, number concentrations have a large variation for different places, and different weather conditions. We have pointed this important issue at the end of revised version. More detail works will be done in our further research.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 7931, 2008.

S3895

ACPD

8, S3894–S3895, 2008

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