

Interactive comment on “Relationship between wind speed and aerosol optical depth over remote ocean” by H. Huang et al.

Anonymous Referee #1

Received and published: 18 November 2009

This is a useful and original paper which deserves publication after the comments listed below have been addressed.

1. The authors failed to mention the positive correlation between the wind speed and AOT in remote oceanic areas identified in the following publication based on long-term AVHRR retrievals:

Mishchenko, M. I., and I. V. Geogdzhayev, 2007: Satellite remote sensing reveals regional tropospheric aerosol trends. *Opt. Express* 15, 7423–7438.

2. The authors should analyze specifically the effect of the following factors caused by increasing wind speed that may make the AOT-wind speed correlation artificial:

(i) increasing wind speed causes increased surface reflectivity via increasing the num-

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ber and size of white caps and making the surface rougher;

(ii) increasing wind speed causes increased cloudiness and increased cloud contamination of “cloud-free” pixels used for aerosol retrievals.

3. I believe that it is an overstatement to say that double AATSR views allow one to completely decouple the AOT and surface reflectance retrievals. This needs to be discussed specifically.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 24511, 2009.

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