**Atmospheric
Measurement
Techniques
Discussions**

Interactive comment on "A sea surface reflectance model for (A)ATSR, and application to aerosol retrievals" *by* A. M. Sayer et al.

Anonymous Referee #1

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The manuscript " A sea surface reflectance model for (A)ATSR, and application to aerosol retrievals" by A. M. Sayer, G. E. Thomas, and R. G. Grainger developed a complex reflectance model for the wind-disturbed sea surface, and detail sensitivity studies are given in the applications of AASTR measurement. This work is very important to the retrieval of atmospheric aerosols and may reduce the errors in the aerosol retrieval over ocean, especially for remote sensing through the observations of sun-glint. This work is certainly relevant to ATMD and should be published after revision

My only a big question on this paper is that the authors mentioned (second paragraph in page 1053) "The BRDF can take values from around 10^{-5} to 1 dependent on the wavelength and location with respect to the sun-glint region." In principle, the BRDF should take value from 0 to infinite, and this can be derived from equations 17 and/or

19, for example, when cos(theta_v)–>0, cos(theta_s)–>0 or , cos(beta)–>0, the rho_gl–> infinite

Interactive comment on Atmos. Meas. Tech. Discuss., 3, 1023, 2010.

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