

## A Radiative Transfer Model for Radiation Computations in an Oceanatmosphere System

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A rigorous treatment of the retrieval of atmospheric and ocean properties from remote sensing data leads inevitably to the solution of the radiative transfer equation (RTE) for the coupled atmosphere–ocean system. Such a system is inherently complex and difficult to solve, therefore a numerical solution to the problem is required. In previous work1, we reported a radiative transfer model for the atmosphere–ocean system based on the numerical solution of the RTE and included light reflection from a wind–roughed liquid surface as proposed in Zhao & Toba2. For this work, the model has been further extended to incorporate light reflection and transmission to and from the ocean body. The scattering of light inside the ocean body is computed similarly to its atmospheric counterpart and proper care has been taken to manage light reflection and transmission at the ocean–atmosphere interface. Model calculations and its application to the analysis and interpretation of MODIS reflectance variability near a Sun glint region is presented in this work.

## References

- Salinas S.V., Liew S.C., Light reflection from a rough ocean surface including windwave states in a scattering atmosphere. J. Geophys. Res. (under review, 2005).
- [2] D. Zhao and Y. Toba, J. of Oceanography Vol. 59, pp. 235–244 (2002).