

ABSTRACT

Title: Identification of a Marine Aerosol Layer based on Sea Surface Temperature Measurements with the Atmospheric Infrared Sounder (AIRS)

IGARSS 2003
Toulouse, FRANCE
July 21 – 25, 2003

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keywords: Temperature, Sounding, Weather Forecasting, Climate

Sea surface skin temperatures have been derived from the AIRS super window channel at 2616cm⁻¹ using first principles corrections for atmospheric absorption and surface emissivity. Comparison between sst2616 and the Real-Time Global Sea Surface Temperature (RTGSST) for over 200,000 extremely clear night ocean observations between +/- 40 degree latitude from September 1 through November 30, 2002. indicates the presence of a low marine aerosol layer, with optical depth of about 0.02. We discuss the properties of this layer as function of global variability, wavelengths, optical depth, physical thickness and temperature and humidity correlations. AIRS was launched into polar orbit onboard the EOS Aqua spacecraft on May 4, 2002.