

Oceanic geophysical parameters retrieving from AMSR-E brightness temperatures

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With the advent of well-calibrated satellite microwave radiometers, it is now possible to obtain long time series of geophysical parameters. Surface parameters such as the near-surface wind speed, the sea-surface temperature, and so on can be retrieved.

This retrieving focuses on the Advanced Microwave Scanning Radiometer (AMSR) brightness temperature. AMSR measure the Earth's radiation over the spectral range from 6.9 to 89.0 GHz. In this paper, we develop algorithms for retrieving three important geophysical parameters: sea-surface temperature, near-surface wind speed, and column water vapor. We use NECP data as environmental scenes. The matched data set totally has 130617 data, which one third of them are used to retrieve these parameters; the other two thirds used to confident the retrieval accuracies for these parameters. Finally we will compare our retrievals with those from Special Sensor Microwave Image (SSM/I).