Wednesday, October 10
Poster Session 3
16:00–18:00

Poster 59

TOWARDS FIDUCIAL REFERENCE MEASUREMENTS OF OCEAN COLOUR RADIOMETRY: ABOVE WATER RADIOMETRY FROM THE ATLANTIC MERIODIONAL TRANSECT AND VALIDATION OF SENTINEL-3 OLCI.

Fiducual reference measurements (FRM) represent the highest quality standard for data to be used in satellite validation activities. These measurements must meet several criteria including: SI traceability, instrument intercomparison, and full uncertainty characterisation. In situ radiometric validation data are scarce, and efforts have been made to develop underway systems to provide more data and greater global coverage. However, this data can be subject to a wide range of uncertainties and, to be of validation quality, should meet FRM standards. Presented here is a summary of the approach used to generate FRM quality measurements from the underway above water radiometer systems aboard the Atlantic Meridional Transect cruise 26. Two above water and one in-water radiometer were calibrated and intercompared during the cruise. An uncertainty budget was derived for the underway radiometry data, based on the Joint Committee for Guides in Metrology Guide to Uncertainty in Measurements (JCGM-GUM). The benefits of the uncertainty budget are two-fold. Firstly, thresholds can be implemented to select measurements with the lowest uncertainties for validation of satellite data. Secondly, the budget can be derived over time and the relative sources of uncertainty evaluated to direct further work. Summaries of uncertainty over the cruise track were calculated and key sources of uncertainty identified. Different thresholds were then used and matchups with OLCI data were extracted for validation.

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