In situ optical radiometry in the Visible and Near Infrared

Abstract:
Satellite ocean color missions devoted to climate change investigations require in situ optical radiometry data of exceptional traceability, accuracy, long-term stability and cross-site consistency for the vicarious calibration of the space system, the assessment of the satellite derived water-leaving radiance and the development of algorithms for the generation of high-level data products. This work summarizes the key aspects for the characterization, calibration and deployment of in situ ocean color radiometers. Additionally, basic elements on data reduction are presented and discussed in view of outlining the state-of-art in marine field optical radiometry and areas requiring further community effort. Emphasis is placed on uncertainties, which need to be considered as an integral part of measurements. Finally, a few examples are presented to illustrate typical applications of in situ data.

URI:

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Publication Year:
2014

Science Areas:
Environment and climate change

Keywords:
climate
environment
remote sensing
sea

Publisher:
Elsevier

ISBN:
978-0-12-417011-7