

OCEAN COLOUR VICARIOUS CALIBRATION: COMMUNITY REQUIREMENTS FOR FUTURE INFRASTRUCTURES

Co-chairs: Constant Mazeran (Solvo), Christophe Lerebourg (ACRI-ST), Sean Bailey (NASA/GSFC)

System vicarious calibration (SVC) is a crucial component for all current and future ocean colour missions to achieve global, climate quality, Ocean Colour Radiometry (OCR). This workshop is a follow-up of the IOCS 2013' splinter session on vicarious calibration which expected to be *"the start for additional international actions aiming at detailing specific requirements and methods for SVC of new missions like PACE and Sentinel-3"*. It will built upon various activities effectively initiated by Space agencies since then:

- The NASA's ROSES call of 2014 addressing SVC for PACE;
- The ESA's FRM4SOC project started in 2016, which has organised in February 2017 a workshop on *"Options for future European satellite OCR vicarious adjustment infrastructure for the Sentinel-3 OLCI and Sentinel-2 MSI series"*;
- The on-going EUMETSAT's project on *"Requirements for Copernicus Ocean Colour Vicarious Calibration Infrastructure"*, a European Commission Copernicus study.

The workshop will first quickly present the status of four main SVC instrumental concepts, either existing or under-development in this international framework: HYPERNAV, HARPOONS, MOBY-NET and BOUSSOLE.

Then, most of the workshop will be a community discussion to review and justify requirements for future SVC infrastructures in the world. As a guideline, we will follow items covered by the EUMETSAT requirement document, encompassing the SVC process, the field infrastructure, the data processing and the operational aspects. The logic will be to justify requirements through the uncertainty budget of the SVC process. The goal of this review is to agree on consensus, ensure international harmonisation and rationalise efforts, as part of the INSITU-OCR initiative.

A draft version of the EUMETSAT Requirement Document will be sent to all participants three weeks before the workshop to ensure fruitful feedbacks and discussion about the requirements.

Part I: On-going activities and existing/under-development infrastructures for SVC

14:15 - 14:25 On-going SVC activities in Space agencies (EUMETSAT, ESA and NASA)

Constant Mazeran (Solvo), Christophe Lerebourg (ACRI-ST), Sean Bailey (NASA/GSFC)

14:25 – 14:35 Overview and status of the HYPERNAV concept

Andrew Barnard (Sea-Bird Scientific)

14:35 – 14:45 Overview and status of the HARPOONS concept

Sean Bailey on behalf of Carlos Del Castillo (NASA/GSFC)

14:45 – 14:55 Overview and status of the MOBY-NET concept

Kenneth Voss (University of Miami)

14:55 – 15:05 Overview and status of the BOUSSOLE concept

David Antoine (CNRS-LOV & Curtin University)

Part II: Discussion on community requirements for any future SVC programme

15:05 - 16:00 What are the high level scientific and technical requirements?

This will cover field infrastructure (spectral and radiometric requirements, SI-traceability, etc.), number and location of sites, environmental factor, uncertainty assessment, SVC gain computation, etc.

16:00 – 16:30 What are the operational requirements?

This will cover field operations and maintenance (laboratory expertise, radiometer rotation, instrument performance monitoring....), requirements on data access, code, human and management for operational SVC, etc.

16:30 – 17:00 What are the recommendation in term of programmatic steps and international activities?

This will cover short and longer term activities to support future SVC programme and required collaboration at international level through the INSITU-OCR initiative (e.g. community processor, field intercomparison, training, etc.)