





IOCCG Joint Inter-Agency Request to OCR Manufacturers

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Second FRM4SOC Workshop on Calibration and Characterisation of Ocean Colour Field Radiometers 20 – 22 May 2025, Tartu Observatory, University of Tartu, Estonia



To arrive to internationally agreed laboratory practices and promote them internationally we are all sitting here today

Who are we <u>all</u>?



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We are the main Ocean Colour Field Radiometry stakeholders





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Ocean Colour Field Radiometry stakeholders



All of us around the table today are crucial to achieve a common understanding of what is needed to effectively **promote FRM principles across the Ocean Colour community**

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Ocean Colour Field Radiometry stakeholders



- Well represented stakeholders in FRM4SOC
- Not directly represented but in increasing contact with the project and the OC international fora

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To achieve a common understanding ...

Ocean Colour Field Radiometry stakeholders



- We must be in continuous communication with manufacturers to achieve our "FRM goal"
- A summary of the "Requests to Manufacturers" (FRM4SOC D-27) was issued by IOCCG: <u>JiRA</u>



JiRA: Joint inter-Agency Request to Manufacturers

- This is a brief (1½ page) document defining a set of <u>3 basic requirements</u>
 - Initiated by the FRM4SOC-2 team, EUMETSAT, and NASA
 - Issued by the IOCCG as an addendum to Protocol Chapter 3





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Ocean Colour Field Radiometry stakeholders





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JiRA: Third requirement. The context – There are OCR users and users...

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Space agencies can provide support via different projects and programmes such as FRM4SOC

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- **Requirement #3**:
 - Help to propagate FRM guidelines, procedures and tools.
 - Information can be provided in radiometer manuals and in direct communication with customers lacksquareabout existing FRM resources, such as
 - additional characterisations
 - enhanced calibrations (with unc.) needed to achieve the FRM standards
 - Guidance to the IOCCG and FRM4SOC documentation to ensure that manufacturers, lacksquarecalibration labs, and users have an unambiguous understanding.

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JiRA: First requirement: The context



JiRA: First requirement: The context (HyperCP) 2

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- Requirement #1:
 - Provide absolute calibration coefficients with associated uncertainties.
 - Uncertainties are required to provide traceability to SI.
 - Without uncertainties, users may not be able to achieve the FRM standard.







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Request to manufacturers of in situ and above outer spectral imaging

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- **Requirement #2**:
 - Participate in comparison experiments with national metrology institutes and/or secondary calibration laboratories.
 - Such experiments can provide metrology support on laboratory standards, laboratory set up, and ensure metrological compatibility of the absolute calibration coefficients.

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Viktor talked about the most recent LCE yesterday. Continuous involvement from manufacturers is crucial



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Give HyperCP a try 😳

Requirements and Installation @

1. Get the HyperCP repository @

Clone this repository (branch: "master") to a convenient directory on your computer:

prompts git clone ---depth 1 https://github.com/nasa/HyperCP.git /path/to/convenient/directory

or, if you are unfamiliar with git, simply download and unzip by clicking Code >> Download ZIP - we encourage you to use git though (see why below). A link to bundled executable versions of HyperCP for Windows, MacOS, and Linux will be added soon.

2. Get the HyperCP environment @

HyperCP requires Python 3.X installed on a Linux, MacOS, or Windows computer. The <u>Anaconda</u> distribution (or <u>Miniconda</u>) is encouraged. If you are unfamiliar with Anaconda, a nice walkthrough can be found <u>here</u>.

All of the package dependencies are listed in the environment.yml file included with the package. To make sure you have all of the necessary dependencies, navigate to the HyperCP directory on command line, type:

prompt\$ conda env create -f environment.yml

and follow the prompts to install the additional package dependencies on your machine within the new virtual environment. When completed you should be in the virtual environment: the prefix (hypercp) before your prompt should appear indicating that the system is properly enabled and ready to run from the terminal.

To return to the environment later before launching the program, type

prompt\$ conda activate hypercp

To stay up to date with the latest commits to the master branch, it is strongly recommended that you pull them prior to using the software. From the HyperCP directory, type:

(hypercp) prompt\$ git pull

[If, instead, you are not using git you should regularly re-download and unzip the repository or the bundled executable on to ensure you are using the latest version of the software].

To report a bug, please submit it here, the HyperCP Team will take care of it :). All other support inquiries should Discussions board here



To install and launch the program:

https://github.com/nasa/HyperCP

Use "master" branch

3. Launch HyperCP for the first time! 2

To finalize and test the set-up, let's launch HyperCP for the first time: navigate to the project folder on the command line and type:

(hypercp) prompt\$ python Main.py

A GUI window should pop up, looking approximately like this:





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Ce Thanks!

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