Point Spectrometers

- 2x Red Tide USB 650 (350 - 1000nm)
- 1x Flame S (200 - 1000nm)
- 1x Flame NIR (950 - 1650nm)

Calibration

29.09.2022 - All spectrometers have been radiometrically calibrated using calibrated halogen and deuterium light sources at Ocean Insight in Duiven, NL.

The calibration files can be found here:

https://github.com/EOLab-HSRW/Ocean_Insight_Spectrometers

Software

Ocean View GUI

Ocean View is the main software provided by Ocean Insight to communicate with the spectrometers. Our license includes two seats and the key can be found on the inner side of the spectrometer drawer in the IOT Lab.

Download: https://www.oceaninsight.com/support/software-downloads/oceanview-2-0-downloads/

If the online activation of the software is not working here is a guide on how to do the activation offline:
https://www.oceaninsight.com/support/software-downloads/oceanview-software-downloads/oceanview-offline-activation/

Usage

1. Connect the Spectrometer to the PC
2. Open Ocean View
3. Select Quick View in the first dialog box
4. Make sure you are in Advanced mode by toggling the second button from the left in the main menu bar at the top
5. On the left side there is a tab called “Acquisition Group Window” where you can set the integration time, averaging etc.
6. In the spectrum graph windows top menu bar you will find some more functions including dark and white measurement options shown as light bulbs
7. To load the calibration files first click on the most left “Create new spectroscopy application”

button (Ocean View logo) on the top main menu
8. Click on “Absolute Irradiance” in the dialog box that just opened
9. Select Active Acquisition and hit next (this might take a while depending on the current integration time)
10. Next, in the “Main Controls” section, make sure to disable “Electric Dark” and “Boxcar width” and hit next
11. Select “Get Irradiance Calibration from File” then hit next
12. Now we have to take a Dark Current measurement. Close the fiber optic cable end with its cover. Additionally, it is recommended to place the closed end somewhere dark during the measurement since the blue cover does let some light through.
13. Hit the light bulb icon to measure and press next when done
14. Next, we have to load the calibration file. Hit browse and locate the correct calibration file. Make sure that the calibration file is the right one for the model you are using and that the cable diameter is correct. For more info on the file naming checkout the readme in the github repo: https://github.com/EOLab-HSRW/Ocean_Insight_Spectrometers
15. Press finish and you are done loading the irradiance calibration

Python Seabreeze Package

Github: https://github.com/ap--/python-seabreeze

Docs: https://python-seabreeze.readthedocs.io/en/latest/backend_api.html


The Red-Tide spectrometers cant be used with pyseabreeze due to some firmware limitations of the spectrometers. Use Ocean View instead.

Installation

- Conda:

```
conda install -c conda-forge seabreeze
seabreeze_os_setup
```

- Python PIP:

```
pip install seabreeze
seabreeze_os_setup
```


Make sure to run “seabreeze_os_setup” after the installation

Check out our Github repo for some examples:
https://github.com/EOLab-HSRW/Ocean_Insight_Spectrometers

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