**SeaBASS Submission Checklist: In-water Radiometry**

**Submissions require reporting methods of the acquisition process and data processing. Every processing step should be detailed with methods and equations.**

**Instructions**: Please fill in section I. and the applicable bulleted points in section II. to the extent possible. Rename this file to be specific to your data, for example by adding the cruise and investigator name, and include it among your submission’s documents.

**I. Submission Info**

Experiment name:

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Cruise name:

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Instrument model & manufacturer:

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Data type:e.g., buoy mode

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**II. Radiometry Documentation Requirements**

1. Describe instrument manufacturer characteristics, including spatial, spectral, electrical and physical characteristics. Describe instrument ballasting used to achieve targeted descent rates:
2. Report instrument optical and radiometric characteristics including
3. Spectral range:
4. Spectral resolution:
5. Spectral accuracy:
6. Field of view:
7. Frame rate and integration time methods:
8. Cosine response:
9. Radiometer calibration files used in processing must accompany data submissions. If full instrument characterizations have also been performed and applied, please report any available additional parameters. These can be provided as characterization files submitted with supplemental materials or linked from the [Ocean Colour Database (OCDB) Fiducial Radiometry Database (FidRadDB):](https://ocdb.readthedocs.io/en/latest/fidrad-database.html)

 i) Absolute radiometric calibration uncertainty

 ii) Straylight sensitivity

 iii) Thermal response

 iv) Polarization sensitivity

 v) Angular response (irradiance)

1. Sampling procedure (e.g., instrument deployment details, position on ship, location of sensors and deployment with respect to the ship heading, when and where pressure tare and dark readings were collected, etc.):
2. Data processing
3. if data were processed through a commercial radiometric software package (e.g., Prosoft, uProfile) please specify:
	* 1. Software and version:
		2. Processing level output:
		3. Parameters selected and processing settings:
4. Alternately, if data were processed with in-house software, please describe all the following that applied:
5. Conversion data counts to engineering units. i.e., describe conversions from raw binary optical data into counts (calibration equation):
6. Deglitch shutter data. If applicable, describe deglitching method:
7. Smooth shutter darks. If applicable, describe data smoothing method:
8. Describe how shutter darks were interpolated as a function of measurement time to match the number of dark and light data measurements:
9. Dark correction. Describe how light values were corrected for dark values:
10. Temperature correction of light data. Report temperature correction equation:
11. Time interpolation, if any (non-interpolated data preferred). Describe interpolation method applied:
12. Temperature correction of light data. Report temperature correction equation:
13. Describe time interpolation method applied (e.g., across multiple near-simultaneous sessors):
14. Describe waveband interpolation method applied (if any):
15. Describe if Es values were measured or estimated from theoretical model (Frouin solar irradiance).
16. Describe whether and how negative reflectance spectra were handled:
17. Describe any temporal, spatial, or spectral binning of data:
18. Describe any additional quality controls applied to (ir)radiances and/or reflectances:
19. BRDF correction should not be applied. If applied, describe type of correction and if applied to Rrs and/or nLw.
20. Describe how uncertainties were estimated and propagated:
21. Describe which wavebands were eliminated from reporting (e.g., UV and/or NIR where calibration confidence was low or not available due to lamp limitations)
22. For buoy mode data processing provide specifically:
23. Temporal binning: specify the time binning applied to the time series and provide standard error of the binned values. (what temporal binning we want)
24. For $L\_{w}$calculations, $K\_{Lu}$values are required. If $K\_{Lu}$was calculated using absorption coefficient, provide also processing equation, absorption values and instrument used. If taken from a flow through system, apply matching time binning as for *Lu* and *Ed* values. When using the following equation to extrapolate $L\_{u}\left(λ,z\right) $to $L\_{W}\left(λ,0^{+}\right)$

$$L\_{w}\left(λ,0^{+}\right)= L\_{u}\left(λ,z\right)exp⁡\left(z∙K\_{Lu}\left(λ\right)\right)\frac{t}{n\_{sw}}$$

Where $t=0.98$ is a transmission coefficient and $n\_{sw} $the index of refraction of seawater that we get from Quan and Fry (1995), provide also refractive index of seawater applied.

**III. SeaBASS Data File Information**

This section does not need to be filled out. However, please note that the following information should be included within each SeaBASS data file.

Optional but recommended metadata headers:

* Wind speed (/wind\_speed=)

Cloud cover (/cloud\_percent=)

* Wave height (/wave\_height=)
* Ship heading (/heading=)

Data fields should include the following (see also <https://seabass.gsfc.nasa.gov/wiki/stdfields> for additional field names and info)

* Tilt, Roll, and/or Pitch
* Time
* Depth
* $K\_{Lu}$and absorption (only buoy mode measurements)

Optional but recommended data fields:

* Conductivity (cond)
* Water temperature (wt)