**SeaBASS Checklist: Particulate Filter Pad Absorption**

Please fill out the Collection, Measurement, and Analysis sections. Answer below each number.

Names of Experiment & Cruise: \_\_\_\_\_\_\_, \_\_\_\_\_\_\_

**SAMPLE COLLECTION METHODS**

1) How were samples collected, e.g., Niskin bottle on a CTD rosette, or underway flow through seawater system? If applicable, were samples taken on upcast or downcast?

2) If applicable, was the bottle emptied into a large carboy for subsampling or was sampling directly from the bottle?

3) What was the vacuum pressure for filtration?

4) Were blank filters collected? (Y/N)

5) Were replicates collected? (Y/N) If so, how many?

6) Were the samples measured fresh or frozen?

7) In what type of container were the samples stored? (e.g., histoprep, foil, etc.)

8) How were the samples preserved immediately after collection (e.g., Liquid nitrogen, dry ice)

9) What were the long-term storage conditions (e.g., temperature)?

**SAMPLE MEASUREMENT METHODS**

\*\*Note it is recommended that OD with blank filter subtracted should range between 0.1 and 0.4 per the IOCCG Absorption Coefficient Protocol

1) List the instrument make, model and accessories

2) List instrument calibration, performance tests and maintenance performed

3) What was the method of measurement? (e.g., transmittance, transmittance-reflectance, inside sphere, etc.)

4) List any references for your protocol

5) Provide filter pad scan settings

a. Wavelength range:

b. slit band width:

c. scan speed:

6) How were the blank filters measured?

7) Were air scans measured to monitor instrument stability?

8) How many filter rotations were measured?

9) What was the extraction method? Include concentration. (e.g.,95% methanol, hypochlorite, etc.)

**DATA ANALYSIS METHODS**

1) Describe filter blank and air scan subtractions, where applicable

2) Define scatter correction/null correction method (if using transmittance method)

3) Define which beta amplification correction that was used, with citation

**Guidance for what to include in each data file**

(this section is just informational and does not need to be filled out)

Data [fields](https://seabass.gsfc.nasa.gov/wiki/stdfields) in each file should include:

\*\*report any replicate filters separately

1. Averaged raw absorbance (without null correction) for abs\_ap & abs\_ad
2. Standard deviation of filter rotations for abs\_ap and abs\_ad (abs\_ap\_sd, abs\_ad\_sd)
3. Absorbance of blank filter subtracted from each sample (abs\_blank)
4. Standard deviation of multiple blank scans (abs\_blank\_sd)
5. Measured ap and ad coefficient (ap, ad)
6. *Modeled ad coefficient (“ad\_model”) Optional, and only if applicable, e.g., insufficient pigment extraction (if used, document your computation method)*
7. aph coefficient (write computation method as a comment in the header)
8. *Total uncertainty computation (ap\_unc, ad\_unc) (optional)*

\*\*See Chapter 5.3.4 the Absorption Coefficient protocol document1 and model example files

[Metadata header](https://seabass.gsfc.nasa.gov/wiki/metadataheaders) information should include

1. /volfilt (L) volume filtered, e.g., /volfilt=ap:0.02
2. /area (m2) for filter pads, the area over which particles are collected onto the filter
3. /null\_correction (m-1) Only needed if null correction was applied to one or more abs coefficients. If so, report the value in the metadata headers (i.e., /null\_correction=ap:0.001,ad:0.005)

1Neeley, A.R., Mannino, A., Reynolds, R.A., Roesler, C., Rottgers, R., Stramski, D., Twardowski, M. and Zaneveld, J.R.V., 2018. Ocean Optics & Biogeochemistry Protocols for Satellite Ocean Colour Sensor Validation: Absorption Coefficient. *http://dx.doi.org/10.25607/OBP-119*