

BBP processing updates

On Argo ADMT Website

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Bio-Argo manuals

Processing Bio-Argo particle backscattering at the DAC level <http://dx.doi.org/10.13155/39459>

Version	Date	Authors	Modification
1.0	October 2015	C. Schmechtig	Initial version
1.1	March 2016	Catherine SCHMECHTIG, Antoine POTEAU, Hervé CLAUSTRE, Fabrizio D'ORTENZIO, Giorgio DALL'OLMO, Emmanuel BOSS	DOI
1.2	July 2016	Catherine SCHMECHTIG, Antoine POTEAU, Hervé CLAUSTRE, Fabrizio D'ORTENZIO, Giorgio DALL'OLMO, Emmanuel BOSS	khi values updated

DOI <http://doi.org/10.13155/39459>

Scattering by pure seawater: Effect of salinity, Optics Express, Vol. 17, No. 7, 5698-5710

Publication date 2009-03-10
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DOI [10.17882/42916](https://doi.org/10.17882/42916)

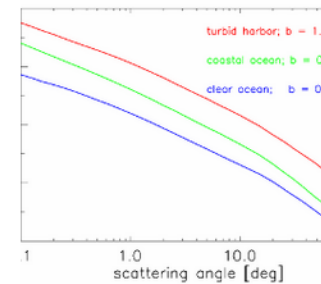
Publisher [SEANOE](#)

Abstract Code to calculate (betasw,beta90sw,bsw) as a function of (lambda,Tc,theta,S,delta) where lambda (nm): wavelength Tc: temperauter in degree Celsius, must be a scalar S: salinity, must be scalar delta: depolarization ratio, if not provided, default = 0.039 will be used. betasw: volume scattering at angles defined by theta. Its size is [x y], where x is the number of angles (x = length(theta)) and y is the number of wavelengths in lambda (y = length(lambda)) beta90sw: volume scattering at 90 degree. Its size is [1 y] bw: total scattering coefficient. Its size is [1 y] for backscattering coefficients, divide total scattering by 2

Licence 

Data	File	Size	Format	Processing	Access
	Scattering by pure seawater: Effect of salinity, Optics Express, Vol. 17, No. 7, 5698-5710		TEXTE	code informatique	Open access

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Meta.nc file

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PREDEPLOYMENT_CALIB_EQUATION="BBP700=2*pi*khi *((BETA_BACKSCATTERING700-DARK_BACKSCATTERING700)*SCALE_BACKSCATTERING700-BETASW700)"

PREDEPLOYMENT_CALIB_COEFFICIENT="DARK_BACKSCATTERING700=50,
SCALE_BACKSCATTERING700=0.000001611, khi=1.076, BETASW700 (contribution of pure sea water) is calculated at 124 angularDeg "

PREDEPLOYMENT_CALIB_COMMENT="No DARK_BACKSCATTERING700_O provided, Sullivan et al., 2012, Zhang et al., 2009, BETASW700 is the contribution by the pure seawater at 700nm, the calculation can be found at <http://doi.org/10.17882/42916>"

Khi Values updated

Wetlabs Sensor	Measurements angle	Full Width at Half Maximum (FWHM)	Bandwidth	χ
MCOMS and SeaOWL UV-A	149°	20°	20nm	1.142*
Single Channel Sensors	124°	20°	20nm	1.076**
Dual Channel Sensors (FLbb, FLNTU)	142°	30°	20nm	1.097*
Three Channel Sensors	124°	20°	20nm	1.076**
Combined Three Channel Sensors	124°	20°	20nm	1.076**

Table 1: Summary of all the WETLabs ECO sensors' characteristics for backscattering meters. (* Mike Twardowski, Com. Pers) (** Sullivan et al., 2013)

Open questions for BBP

1. Change the name of the sensor from

SCATTEROMETER to BACKSCATTERING_SENSOR or BACKSCATTERINGMETER to avoid confusion with wind measurements from satellites (in the reference Table 25)

2. Update the Table 27 with changes suggested for MCOMS

ECO_MCOMS = > MCOMS_FLBB2

3. Check with Wetlabs the bandwidth of the Backscattering sensors

4. Add EcoBetaAngleWidth in configuration parameters, based on the Full width at half Maximum