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L'Atalante

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WETLAB _ AC9 : K. OUBELKHEIR, H. CLAUSTRE

Material and methods | Data | References

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Material and methods

Total attenuation and absorption coefficients were measured at 9 wavelengths using a WETLabs ac9 (412, 440, 488, 510, 532, 555, 630, 676, 715 nm). This ac9 was coupled with a 24-bottle Rosette and a Seabird CTD with a Seatech fluorimeter. The whole package was deployed in the 0-400 m (Mediterranean sea) or 0-100 m (Morocco upwelling) layer. Repeated profiles (every third hour) were conducted with this package during five days at DYF and MIO sites and 36 hours at UPW site, with a drop speed of 0.5 $m.s^{-1}$. A WETLabs M-PAK3 acquisition system was used to power the WETLabs instruments and to acquire data. After each profile, the data were downloaded onto a PC.

Ac9 was calibrated on board with optically-pure water using a water purification system (Millipore, A10). An alternative method was developed for this cruise to post-recalibrate data and correct for instrumental drift over time (Twardowski *et al.,* 1999) by using 400 m seawater as a reference for Mediterranean sea. This method is based on the assumption that optical properties of Mediterranean waters at 400 m vary weakly, which was verified by several field observations. Correction for *in situ* temperature and salinity effects was applied using the algorithm of Pegau *et al.,* 1997. Correction of the

absorption coefficient for incomplete recovery of the scattered light in the ac9's a tube is made by subtracting the absorption coefficient at a reference wavelength (at 715 nm) (Zaneveld *et al.,* 1994). In what follows, the terms a(λ) and c(λ) will designate the absorption and attenuation coefficients measured by the ac9 after subtraction of pure water coefficients.

Data ***DYF_up DYF_down*** | ***MIO_up MIO_down*** | ***ST_up ST_down*** | ***UPW_up UPW_down***

Column 1: CTD
Column 2: Depth (m)
Column 3 - 11: Absorption coefficient (9 wavelengths) (m^{-1})
Column 12 - 20: Attenuation coefficient (9 wavelengths) (m^{-1})
Downcast (down) and Upcast (up)

DYF_U UP	**DYF_D DOWN**	**MIO_U UP**	**MIO_D DOWN**
dyf_u_071	dyf_d_071	mio_u_027	mio_d_027
dyf_u_072	dyf_d_072	mio_u_028	mio_d_028
dyf_u_073	dyf_d_073	mio_u_029	mio_d_029
dyf_u_074	dyf_d_074	mio_u_030	mio_d_030
dyf_u_075	dyf_d_075	mio_u_031	mio_d_031
dyf_u_077	dyf_d_077	mio_u_032	mio_d_032
dyf_u_078	dyf_d_078	mio_u_033	mio_d_033
dyf_u_079	dyf_d_079	mio_u_035	mio_d_035
dyf_u_080	dyf_d_080	mio_u_037	mio_d_037
dyf_u_081	dyf_d_081	mio_u_038	mio_d_038
dyf_u_082	dyf_d_082	mio_u_039	mio_d_039
dyf_u_083	dyf_d_083	mio_u_041	mio_d_041
dyf_u_084	dyf_d_084	mio_u_043	mio_d_043
dyf_u_085	dyf_d_085	mio_u_044	mio_d_044
dyf_u_086	dyf_d_086	mio_u_045	mio_d_045
dyf_u_087	dyf_d_087	mio_u_046	mio_d_046
dyf_u_088	dyf_d_088	mio_u_047	mio_d_047
dyf_u_090	dyf_d_090	mio_u_048	mio_d_048
dyf_u_092	dyf_d_092	mio_u_049	mio_d_049
dyf_u_093	dyf_d_093	mio_u_050	mio_d_050
dyf_u_094	dyf_d_094	mio_u_051	mio_d_051
dyf_u_095	dyf_d_095	mio_u_052	mio_d_052

dyf_u_096	dyf_d_096
dyf_u_097	dyf_d_097
dyf_u_098	dyf_d_098
dyf_u_099	dyf_d_099
dyf_u_100	dyf_d_100
dyf_u_101	dyf_d_101
dyf_u_102	dyf_d_102
dyf_u_103	dyf_d_103
dyf_u_104	dyf_d_104
dyf_u_105	dyf_d_105

mio_u_053	mio_d_053
mio_u_054	mio_d_054
mio_u_055	mio_d_055
mio_u_056	mio_d_056
mio_u_057	mio_d_057
mio_u_058	mio_d_058
mio_u_060	mio_d_060
mio_u_061	mio_d_061

ST_U_ UP	**ST_D_ DOWN**
st_u__011	st_d__011
st_u__013	st_d__013
st_u__014	st_d__014
st_u__019	st_d__019
st_u__022	st_d__022
st_u__023	st_d__023
st_u__025	st_d__025
st_u__026	st_d__026
st_u__064	st_d__064
st_u__067	st_d__067
st_u__068	st_d__068
st_u__069	st_d__069
st_u__070	st_d__070

UPW_U UP	**UPW_D DOWN**
upw_u_002	upw_d_002
upw_u_003	upw_d_003
upw_u_004	upw_d_004
upw_u_005	upw_d_005
upw_u_006	upw_d_006
upw_u_007	upw_d_007
upw_u_008	upw_d_008
upw_u_010	upw_d_010

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