

Accessory publication

Validation of a portable flow injection–chemiluminescence (FI-CL) method for the determination of dissolved iron in Atlantic open ocean and shelf waters by comparison with isotope dilution–inductively coupled plasma mass spectrometry (ID-ICPMS)

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Open Ocean DFe (AMT 15 samples, South Atlantic Subtropical Gyre)

PLYMOUTH FI-CL DATA						GEEL ICP-MS DATA						
Sample	Filtration (μm)	Depth (m)	Fe (nM)	2 s.d. (nM)	s.d. (%)	Sample	Filtration (μm)	Depth (m)	Fe (pg g^{-1})	uncertainty (pg g^{-1})	Fe (nM)	uncertainty (nM)
#4	0.2	200	0.331	0.030	4.2912	#4	0.2	200	11.6	0.8	0.2077	0.0143
#4	0.2	200	0.339	0.046	6.4514							
#12	0.2	80	0.398	0.062	7.5238	#12	0.2	80	10.3	2.4	0.1844	0.0430
#12	0.2	80	0.393	0.064	7.867							
#20	0.2	20	0.383	0.072	8.9772	#20	0.2	20	19.6	1	0.3510	0.0179
#20	0.2	20	0.383	0.057	7.1723							
#4	0.02	200	0.321	0.030	3.6367	#4	0.02	200	18	1.3	0.3223	0.0233
#4	0.02	200	0.305	0.083	10.682							
#12	0.02	80	0.280	0.036	5.1032	#12	0.02	80	9.2	1.4	0.1647	0.0251
#12	0.02	80	0.287	0.061	8.4143							
#20	0.02	20	0.336	0.064	7.5565	#20	0.02	20	15.5	1	0.2776	0.0179
#20	0.02	20	0.318	0.039	4.7675							

Shelf water DFe ('Iron from Below' samples, European Continental Shelf)

		PLYMOUTH FI-CL DATA					GEEL ICP-MS DATA			
Sample		Filtration (μm)	Depth (m)	DFe (nM)	2 s.d. (nM)	s.d. (%)	DFe (pg g^{-1})	uncertainty (pg g^{-1})	DFe (nM)	uncertainty (nM)
Cast	Sample									
47	(2)11	0.2	20	0.444	0.033	3.719	31.7	2.3	0.568	0.041
	12	0.2	40	0.388	0.042	5.416	23.1	2.8	0.414	0.050
	13	0.2	60	0.448	0.037	4.126	29.1	3.6	0.521	0.064
	14	0.2	80	0.786	0.048	3.031	68.8	4.2	1.232	0.075
	15	0.2	100	0.879	0.065	3.696	63.3	1.9	1.133	0.034
	(1)9	0.2	134	0.917	0.081	4.417	49	5.4	0.877	0.097
48	12	0.2	21	0.752	0.097	6.444	46.7	2.6	0.836	0.047
	13	0.2	40	0.830	0.093	5.575	56.4	3.3	1.010	0.059
	14	0.2	60	0.904	0.113	6.268	47.7	2.6	0.854	0.047
	15	0.2	80	1.725	0.080	2.305	56.6	3.7	1.014	0.066
	(1)9	0.2	105	2.092	0.120	2.872	107.6	4.1	1.927	0.073
49	(2)12	0.2	20	1.077	0.034	1.592	61.6	3.4	1.103	0.061
	13	0.2	40	0.911	0.059	3.259	63.5	3.5	1.137	0.063
	7	0.2	80	1.416	0.100	3.542	106.3	3.6	1.903	0.064
	(1)9	0.2	96	1.621	0.126	3.886	117.8	4.7	2.109	0.084