

25-MARCH-2003
Oceanographic Data Facility Calibration Report

R/V Roger Revelle
Underway System FSI OCM SN 1372 or 1362, in Block TC2

Conductivity

$$C_{Corrected} = C_{Raw} + A(C_{Raw})^{**3} + B(C_{Raw})^{**2} + C(C_{Raw}) + D$$

C_{Raw} = Raw Conductivity reading directly from the OCM.
C_{Corrected} = Accurate conductivity reading after lab
calibrations applied.

Corrections: 25-MAR-2003
Sensor OCM 1372 (Address = #C1)
A = 0
B = 0
C = 0.05519
D = -0.0108

Corrections: 25-MAR-2003
Sensor OCM 1362 (Address = #C2)
A = 0
B = 0
C = 0.04635
D = -0.0022

Calibration History:

Corrections: OCM1372		SLOPE (C)	OFFSET (D)
	23 JAN 2001	0.0546	0.028
	02 DEC 2002	0.0552	-0.017
	25 MAR 2003	0.05519	-0.0108

(No previous history for OCM1362 with TC2)

Raw Data Directory: /usr/export/PC/Calib/condtemp/030324

FEBRUARY 2003
Oceanographic Data Facility Calibration Report

Underway System FSI OTM SN 1382 (#T6)

in Degrees Celsius (ITS90)

$TCorrected = TRaw + A(TRaw)^3 + B(TRaw)^2 + C(TRaw) + D$

A = -5.202855e-08

B = 4.353435e-06

C = -3.080302e-04

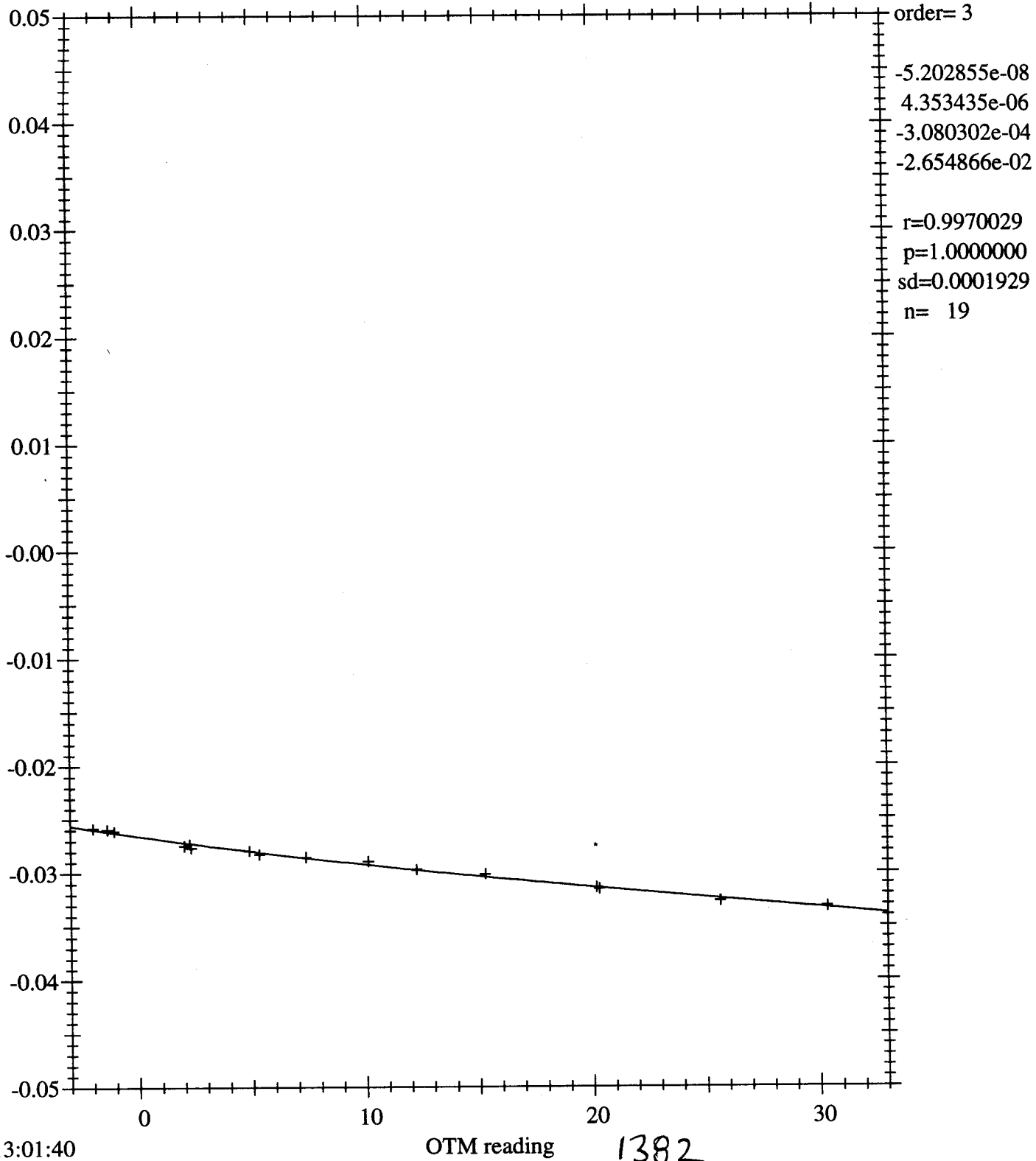
D = -2.654866e-02

TRaw = Raw Temperature reading directly from the OTM.
TCorrected = Accurate temperature reading after lab calibrations
applied.

Raw Data Directory: /usr/export/PC/Calib/cal/otm/otm0302

ITS90

SPRT-OTM



25-Mar-03 13:01:40

Humidity Sensor Calibration, March 2003, ODF

Sensor: Vaisala HMP45A, SN V4310022

Calibration: Sensor reading from DGH D5132 voltage via RS485.
Data directory: /usr/export/PC/Calib/met/hum/vais022/0303
and /usr/export/PC/Calib/met/hum/030313
and /usr/export/PC/Calib/met/airtemp/030319

V4310022	Standard Humidity	
Humidity		
OUTPUT (X)	% relative humidity (Y)	
918.592	92.54593	1
899.3562	91.38831	2
800.8313	81.64574	3
614.1687	62.67411	4
415.4617	44.06869	5
235.277	26.39133	6
234.968	26.41205	7

Humidity corrections:

(1) 9.72982631758e-02 = SLOPE
(0) 3.484 = OFFSET

R: 0.999933 N: 7

Correct Sensor Humidity = (Sensor Output * SLOPE) + OFFSET

V4310022	Standard Temperature	
Temperature		
OUTPUT (X)	Degrees C. (Y)	
410.8946	.9609516	1
469.7891	6.900887	2
449.0624	4.777456	3
524.8727	12.40391	4
705.5827	30.42205	5
638.1029	23.74422	6
571.087	16.98396	7

Temperature corrections:

(1) 1.00014632313e-01 = SLOPE
(0) -40.114 = OFFSET

R: 0.999996 N: 7

Correct Sensor Temperature = (Sensor Output * SLOPE) + OFFSET

Air Temperature Sensor Calibration, March 2003, ODF

Sensor: R.M.Young, SN 3944

Calibration: Sensor reading from DGH D5252 current via RS485.
Data directory: /usr/export/PC/Calib/met/airtemp/3944/0303
and /usr/export/PC/Calib/met/airtemp/030319

3944 OUTPUT (X)	Standard Temperature Deg.C. ITS-90 (Y)	
51.03333	.9609516	1
57	6.900887	2
54.8796	4.777456	3
62.52	12.40391	4
80.59811	30.42205	5
73.89036	23.74422	6
67.10735	16.98396	7

3944 Corrections:

- (1) 9.96890358747e-01 = SLOPE
- (0) -49.921 = OFFSET

R: 1.000000 N: 7

Correct Temperature = (Sensor Output * SLOPE) + OFFSET

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Corrections: 25-MAR-2003
Sensor OCM 1362 (Address = #C2)
A = 0
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C = 0.04635
D = -0.0022

Calibration History:

Corrections: OCM1372	SLOPE (C)	OFFSET (D)
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02 DEC 2002	0.0552	-0.017
25 MAR 2003	0.05519	-0.0108

(No previous history for OCM1362 with TC2)

Raw Data Directory: /usr/export/PC/Calib/condtemp/030324

Oceanographic Data Facility Calibration Report, FEB. 2003

Underway System FSI OTM SN 1398 (ADR #T5)

in Degrees Celsius (ITS90)

$$TCorrected = TRaw + A(TRaw)**3 + B(TRaw)**2 + C(TRaw) + D$$

A = -1.472262e-06
B = 7.607574e-05
C = -1.063489e-03
D = 1.558892e-02

TRaw = Raw Temperature reading directly from the OTM.

TCorrected = Accurate temperature reading after lab calibrations applied.

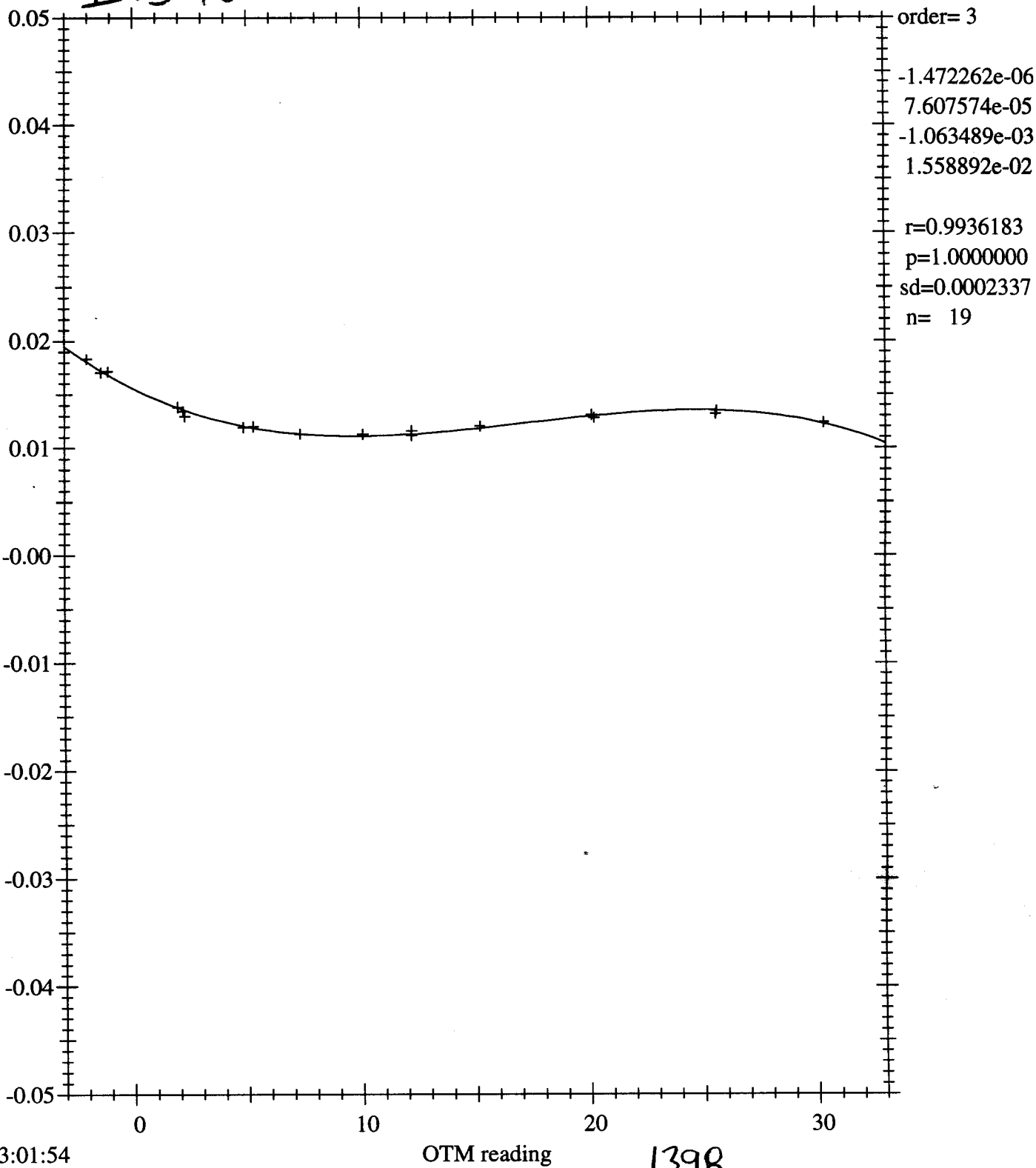
Difference between February-2003 and November-2002 calibrations:

Average difference between the two calibrations over the
range of -2 to 32 degrees C. is 0.0012 degrees C.

Raw Data directory: /usr/export/PC/Calib/cal/otm/otm0302

ITS90

SPRT-OTM



25-Mar-03 13:01:54

1398

UCSD/SIO/STS Calibration Lab, La Jolla CA, 92093-0214
 Tel: (858) 534-4426; Fax: (858) 534-7383

Calibration of Barometer, 21-MAR-2003
 Model: Air Research, AIR-DB-2A
 Serial number: 3K2698

Raw P mb	Standard Press mb	Temp Deg C	Init. Corr	After Tcorr	P(tcor) mb	Pcorr (calc)	Corr Pr mb	Residual Corr
999.18	999.43	1.03	0.24	0.22	999.21	0.21	999.42	0.01
975.61	975.87	1.08	0.26	0.23	975.64	0.21	975.85	0.02
950.33	950.57	1.03	0.23	0.21	950.36	0.21	950.57	-0.00
900.32	900.58	1.03	0.26	0.23	900.34	0.21	900.55	0.02
876.03	876.29	1.07	0.26	0.24	876.06	0.21	876.27	0.03
850.29	850.56	1.04	0.27	0.24	850.32	0.21	850.53	0.03
810.44	810.73	1.04	0.29	0.26	810.47	0.21	810.68	0.05
1056.38	1056.63	1.05	0.25	0.22	1056.41	0.21	1056.62	0.01
1030.29	1030.52	1.04	0.23	0.20	1030.32	0.21	1030.53	-0.01
1020.24	1020.47	1.04	0.22	0.20	1020.27	0.21	1020.48	-0.01
1002.69	1002.93	1.08	0.24	0.21	1002.72	0.21	1002.93	0.00
981.91	982.40	11.36	0.50	0.21	982.19	0.21	982.40	0.00
982.01	982.51	11.16	0.50	0.22	982.30	0.21	982.51	0.01
950.28	950.76	11.23	0.48	0.19	950.57	0.21	950.78	-0.02
900.32	900.78	11.25	0.46	0.17	900.60	0.21	900.81	-0.04
875.73	876.22	11.34	0.49	0.21	876.02	0.21	876.23	-0.00
850.12	850.56	11.27	0.44	0.16	850.40	0.21	850.61	-0.05
809.60	810.06	11.30	0.46	0.17	809.89	0.21	810.10	-0.04
1053.13	1053.62	11.20	0.49	0.21	1053.41	0.21	1053.62	-0.00
1030.19	1030.69	11.18	0.50	0.22	1030.47	0.21	1030.68	0.01
1019.68	1020.17	11.20	0.49	0.20	1019.97	0.21	1020.18	-0.01
1016.40	1016.91	11.38	0.51	0.22	1016.69	0.21	1016.90	0.01
1015.28	1015.79	11.17	0.51	0.23	1015.57	0.21	1015.78	0.02
975.29	976.11	21.59	0.82	0.27	975.84	0.21	976.05	0.06
950.32	951.05	21.48	0.73	0.19	950.87	0.21	951.08	-0.02
899.87	900.60	21.49	0.74	0.19	900.41	0.21	900.62	-0.02
874.62	875.37	21.55	0.75	0.20	875.17	0.21	875.38	-0.01
849.85	850.55	21.50	0.70	0.15	850.39	0.21	850.60	-0.06
809.60	810.28	21.51	0.68	0.13	810.15	0.21	810.36	-0.08
1054.79	1055.57	21.47	0.79	0.24	1055.33	0.21	1055.54	0.03
1030.81	1031.59	21.45	0.78	0.24	1031.36	0.21	1031.57	0.03
1019.85	1020.62	21.47	0.78	0.23	1020.39	0.21	1020.60	0.02
1016.13	1016.92	21.59	0.79	0.24	1016.67	0.21	1016.88	0.03
1015.69	1016.48	21.43	0.79	0.24	1016.24	0.21	1016.45	0.03

Temperature correction to raw press = A * Temp + B
 T-coefficients A, B: .0253688 0
 P-coefficients C, D: 0 .21

$P(tcor) = P(raw) + AT + B$
 $P = P(tcor) + C * P(tcor) + D$

Good approximation: $P = P(raw) + C * P(raw) + A * T + (B + D)$,
 which is equivalent to $P = P(tcor) + C * P(raw) + D$, OK if raw
 pressure is close to true P.

Calibration technician: RP

This table calculated on 26-MAR-2003