

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 0573  
CALIBRATION DATE: 16-Nov-06

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.76058908e-003  
h = 6.83256016e-004  
i = 3.71148736e-005  
j = 4.27467547e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121275e-003  
b = 5.94059849e-004  
c = 1.52519949e-005  
d = 4.27642460e-006  
f0 = 5511.920

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	5511.920	-1.5000	-0.00003
1.0000	5832.937	1.0002	0.00018
4.5000	6304.738	4.5000	-0.00003
8.0000	6803.325	7.9997	-0.00032
11.5000	7329.427	11.4998	-0.00021
15.0000	7883.654	15.0002	0.00020
18.5000	8466.526	18.5005	0.00048
22.0000	9078.532	22.0003	0.00031
25.5000	9720.170	25.4997	-0.00032
29.0000	10392.018	28.9992	-0.00082
32.5000	11094.871	32.5006	0.00056

Temperature ITS-90 =  $1 / \{ g + h[\ln(f_0/f)] + i[\ln^2(f_0/f)] + j[\ln^3(f_0/f)] \} - 273.15$  (°C)

Temperature ITS-68 =  $1 / \{ a + b[\ln(f_0/f)] + c[\ln^2(f_0/f)] + d[\ln^3(f_0/f)] \} - 273.15$  (°C)

Following the recommendation of JPOTS:  $T_{68}$  is assumed to be  $1.00024 * T_{90}$  (-2 to 35 °C)

Residual = instrument temperature - bath temperature

