# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 0710
CALIBRATION DATE: 06-Feb-14

SBE3 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

g = 4.79397665e-003
h = 6.75582187e-004
i = 2.86305570e-005
j = 2.56312346e-006
f0 = 1000.0

IPTS-68 COEFFICIENTS

a = 3.68121186e-003
b = 5.98844330e-004
c = 1.51441237e-005
d = 2.56463979e-006
f0 = 5797.480

| BATH TEMP (ITS-90) | INSTRUMENT FREQ (Hz) | INST TEMP (ITS-90) | RESIDUAL (ITS-90) |
|---|---|---|---|
| -1.5000 | 5797.480 | -1.5000 | 0.00003 |
| 1.0000 | 6132.315 | 1.0000 | 0.00002 |
| 4.5000 | 6624.217 | 4.4999 | -0.00007 |
| 8.0000 | 7143.800 | 7.9999 | -0.00011 |
| 11.5000 | 7691.804 | 11.5000 | 0.00001 |
| 15.0000 | 8268.894 | 15.0001 | 0.00009 |
| 18.5000 | 8875.749 | 18.5002 | 0.00016 |
| 22.0000 | 9512.987 | 22.0001 | 0.00009 |
| 25.5000 | 10181.212 | 25.4998 | -0.00018 |
| 29.0000 | 10881.088 | 28.9998 | -0.00024 |
| 32.5000 | 11613.241 | 32.5002 | 0.00020 |

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 IPTS-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