**11-5 Calibration Curve (mtorr)**

Ref = Convectron

G1 = Nulled Tungsten

G2 = Tungsten (DVM converted to binary equivalent)

G3 = TMP36

G4 = N/C

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| Tungsten | 7.0077e5 | .0016 | 1.8655e8 | < 5 | 40-2000 |

**8-22-19 Cal Air (mtorr)**

Ref = CDG in mTorr (entered manually)

Gauge 1 = Glass bead with amplification. These measurements are invalid as the adjustments hit the rails outside 100-1000 mtorr

Gauge 2 = Glass bead without amplification

Gauge 3 = Tungsten

Gauge 4 = TMP36

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| GB - A | Na | Na | Na | Na | Na |
| GB - NA | 6.4029e4 | .0066 | 5.5281e7 | < 20 | 15 - 2000 |
| Tungsten | 7.5816e5 | .0019 | 1.9083e8 | < 5 | 15 - 3000 |

**8-22-19 Cal Air (mtorr)**

First set of datalogging. Contains both pumpdown and leak back up. This is prior to fixing the saveCSV function, so time data lost a great deal of precision.

Ref = CDG in mTorr

Gauge 1 = Glass bead without amplification. Curve fit from Trimmed File

Gauge 2 = Tungsten

Gauge 3 = Glass bead with amplification. The pots had been adjusted to give valid results.

Gauge 4 = TMP36

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| GB – NA | 1.0246e5 | .0112 | 5.5349e7 | < 5 | 50-550 |
| Tungsten | 8.6047e5 | .0023 | 1.9255e8 | < 4 | 50-550 |
| GB - A | 1.2996e6 | .0067 | 4.3025e8 | < 3 | 50-550 |

Converted to mbar

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| GB – NA | 7.685e7 | 8.4029 | 5.5349e7 | < 5 | .06-.75 |
| Tungsten | 6.4667e8 | 1.7495 | 1.9246e8 | < 4 | .06-.75 |
| GB - A | 9.7478e8 | 5.0567 | 4.3025e8 | < 3 | .06-.75 |

**8-30-19 Calibration Curve (Torr)**

Ref = CDG in Torr

Gauge 1 = TMP36

Gauge 2 = Tungsten

Gauge 3 = N/C

Gauge 4 = TMP36

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| Tungsten | 6.6404e8 | 1.8166 | 1.8423e8 | < 5 | 40-400 |

**8-30-19 Calibration Curve - Extended (Torr)**

Contains two leaks that fill in some gaps in the data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| Tungsten | 6.1947e8 | 1.6255 | 1.8688e8 | < 5 | 40-400 |

**8-30-19 Calibration Curve – Extended2 (Torr)**

Larger Range

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| Tungsten | 6.5007e8 | 1.7465 | 1.8478e8 | < 5 | 40-2000 |

**9-2-19 Cal (Torr)**

Unusable

**Temperature Calibrations:**

Collections of coefficients from September measurements. Raw Tungsten filament values converted to binary compared against a convectron.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Temperature | A | B | C | Error (%) | Range |
| 112 | 4.4357e3 | .0019 | 3.2199e5 | < 10 | 10-30000 |
| 138 | 8.6506e3 | .0015 | 7.1984e5 | < 10 | 10-30000 |
| 224 | 1.4996e4 | 9.966e-4 | 1.8496e6 | < 10 | 40 - 10000 |
| 342 | 2.4202e4 | 7.6162e-4 | 4.2189e6 | < 10 | 60 - 25000 |

**8-18-19 Glass Bead A (converted, mbar)**

Ref = convectron, compared the voltage values to those measured once the gain circuitry was added so normalize the fit parameters.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| Glass Bead | 3.8217e8 | 3.9375 | 4.7474e8 | <10 | .1-1 |

**11-5 Converted (mbar)**

Ref = Convectron, voltages converted to the equivalent binary values.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gauge | A | B | C | Error (%) | Range |
| Tungsten | 5.2569e8 | 1.1781 | 1.8654e8 | <10 | .1-1 |