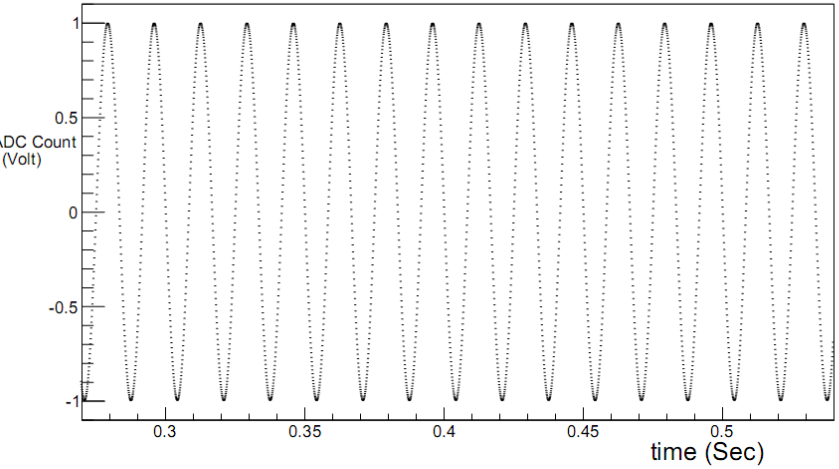
n3He DAQ

Current Status

1. Some Warm-Up Measurements
2. Background Noise Testing
3. Pre-Amp Testing
4. Averaging Samples

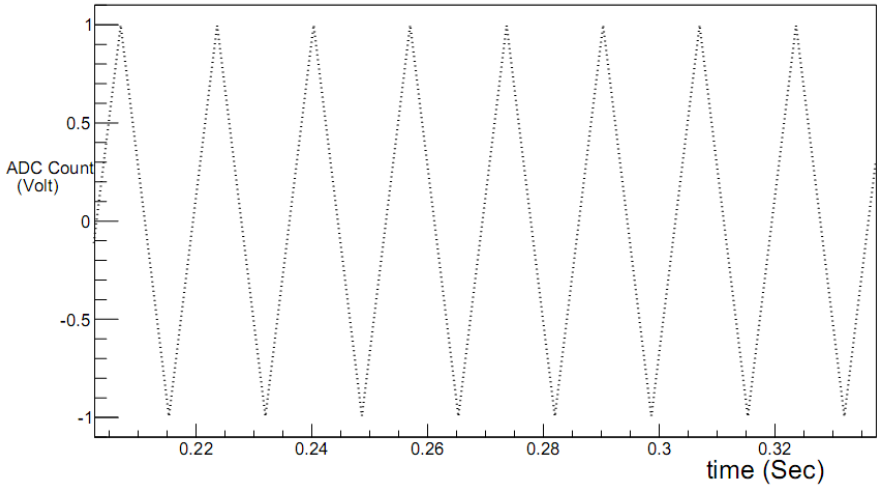
Sine

d[0]*0.0000012:0.0001*Entry$



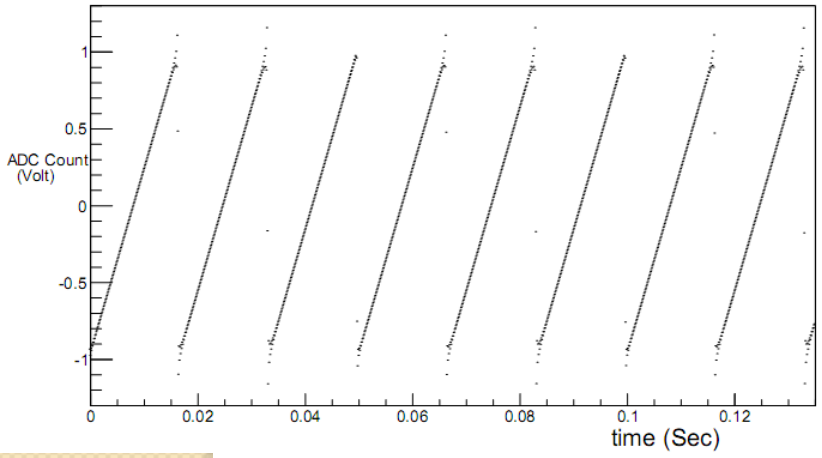
Triangular

d[0]*0.0000012:0.0001*Entry$



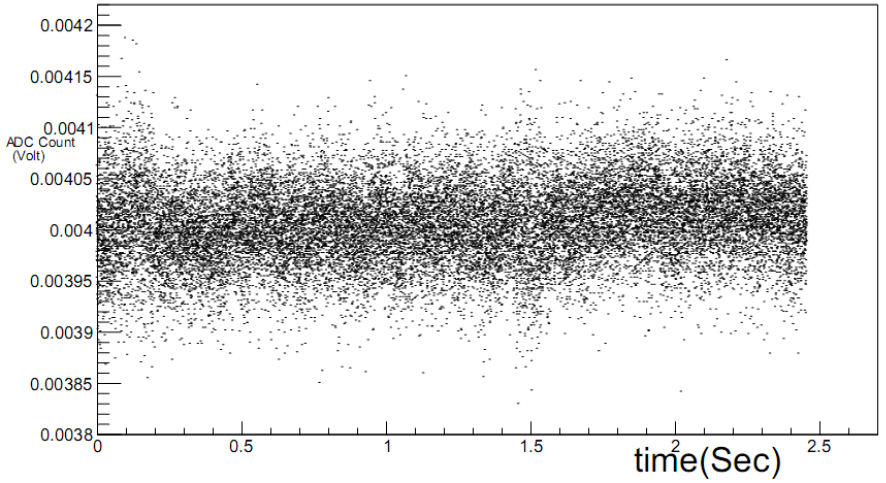
Saw-tooth

d[0]*0.0000012:0.0001*Entry$

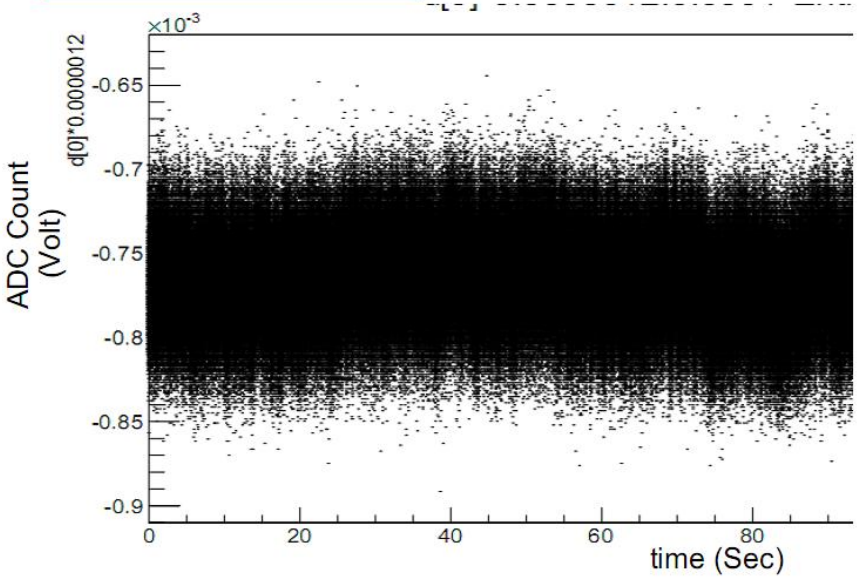


1MHz

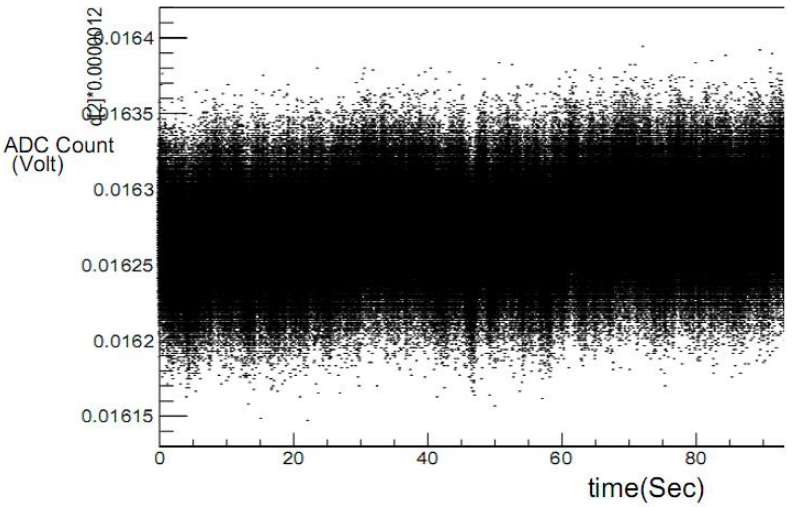
d[0]*0.0000012:0.0001*Entry$



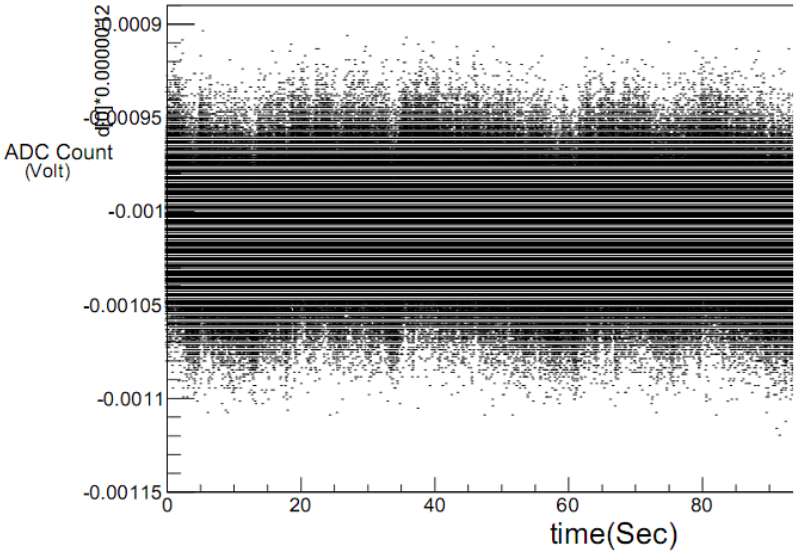
Background Noise for Ch-1

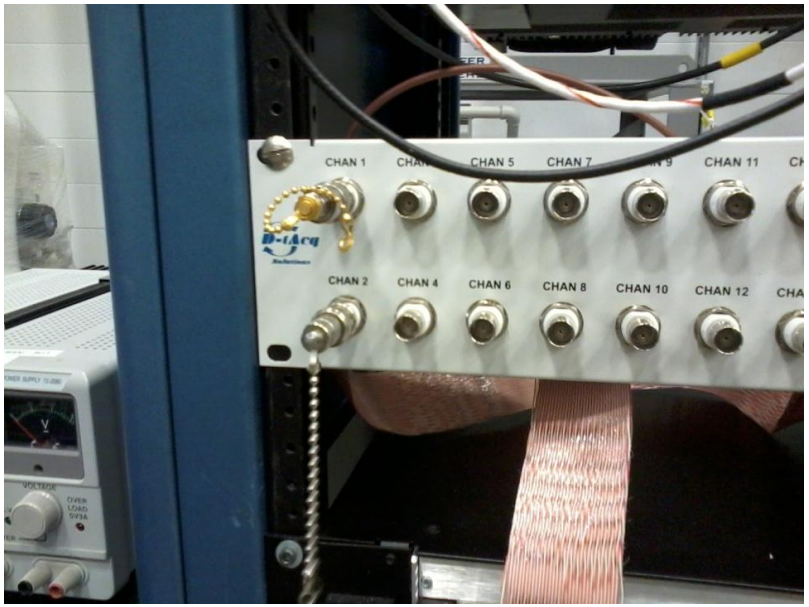


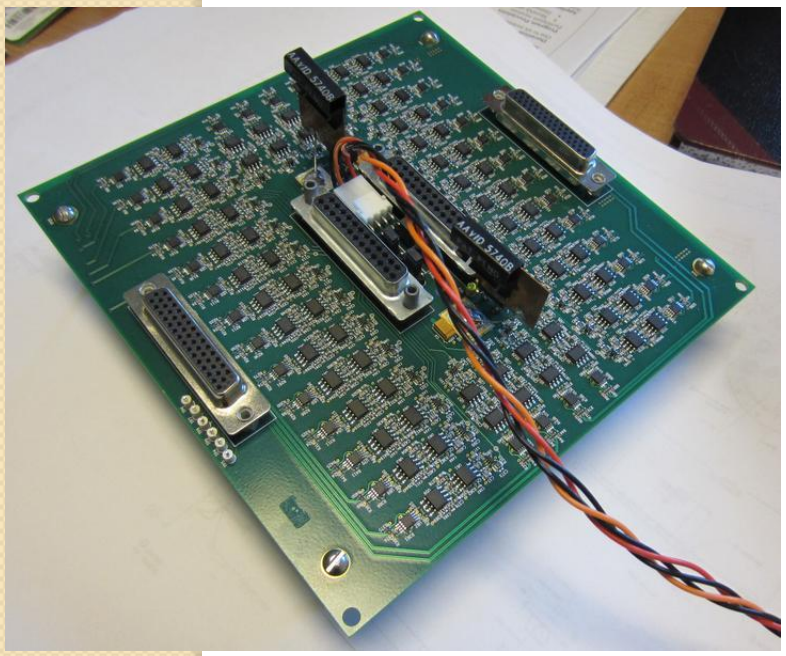
Background Noise: Ch-3

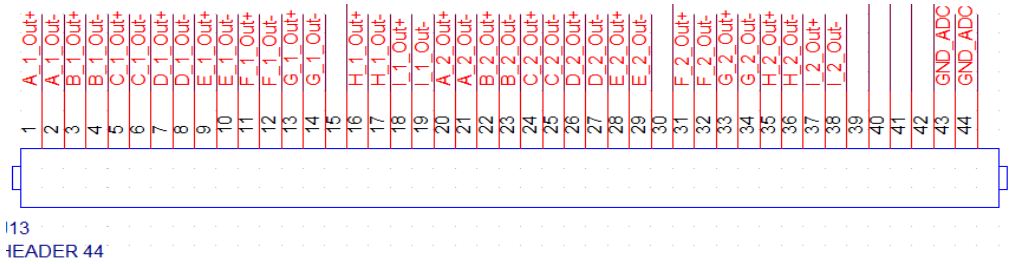


Channel-1 Shorted





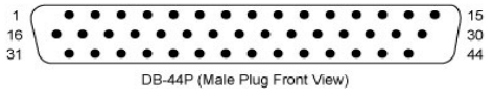




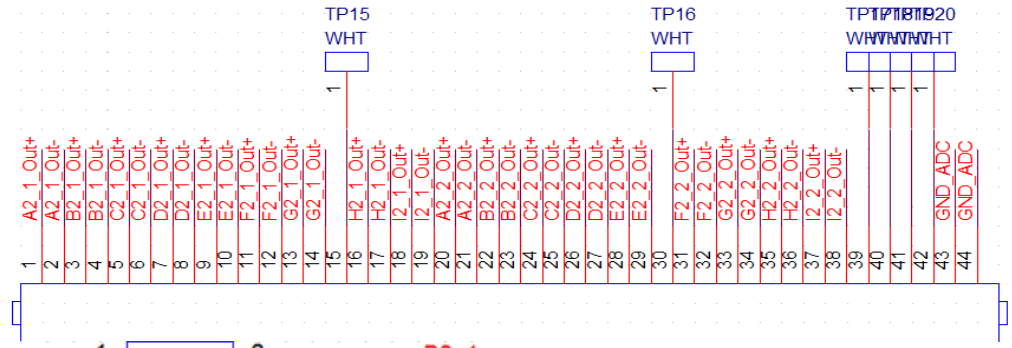
I13
HEADER 44

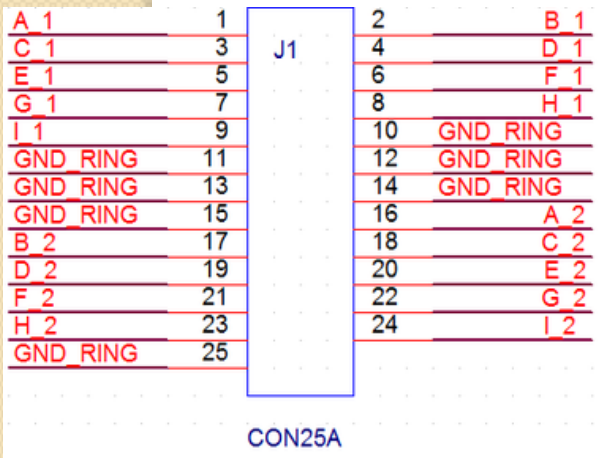
44-Pin HD D-Sub Cable (HD44)

HD44

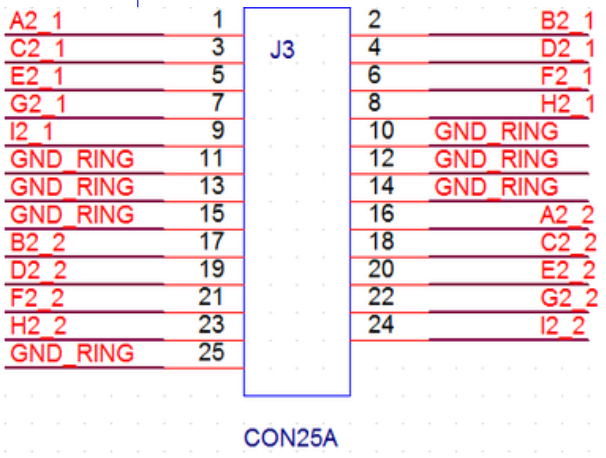


DB-44P (Male Plug Front View)



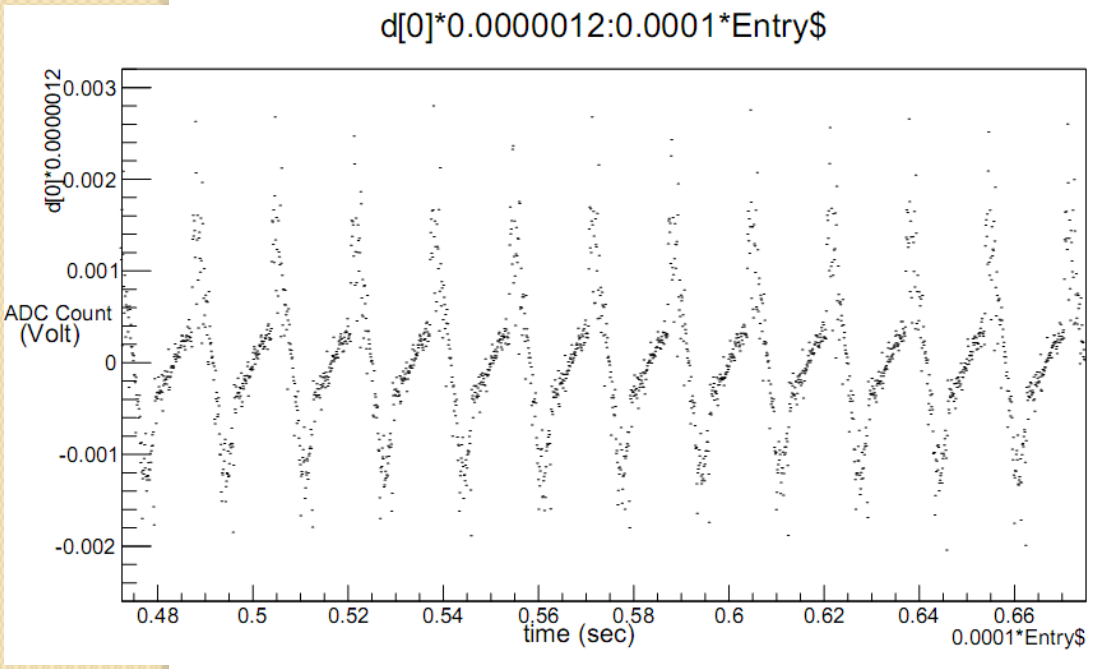


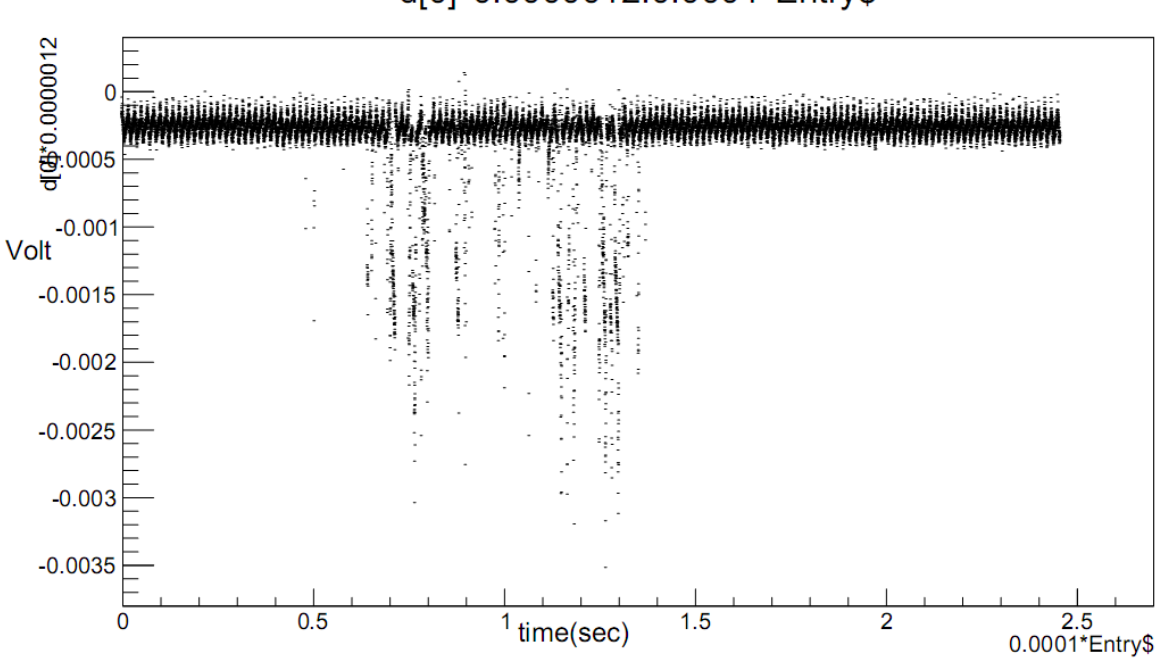
CON25A



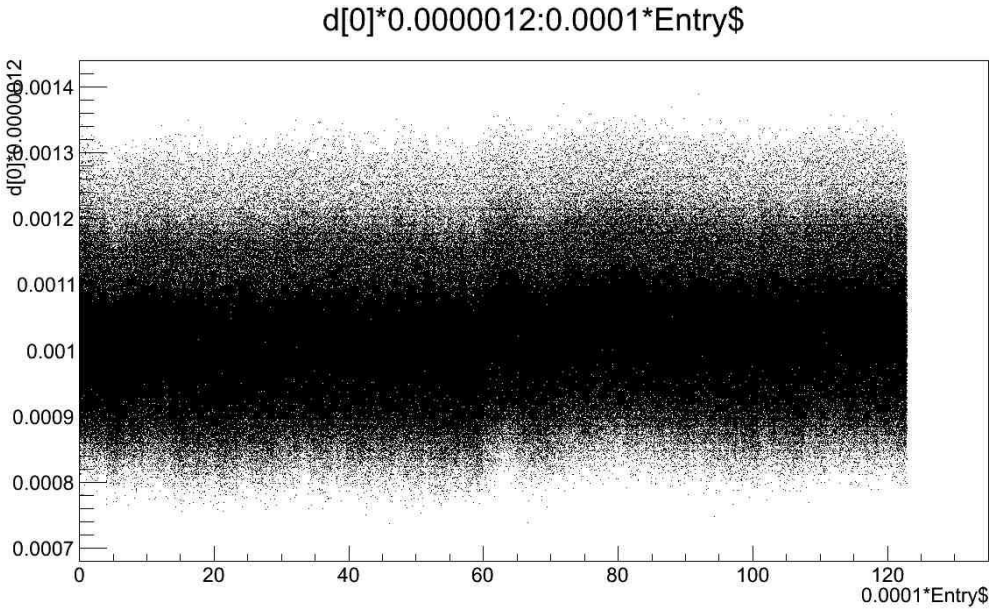
CON25A

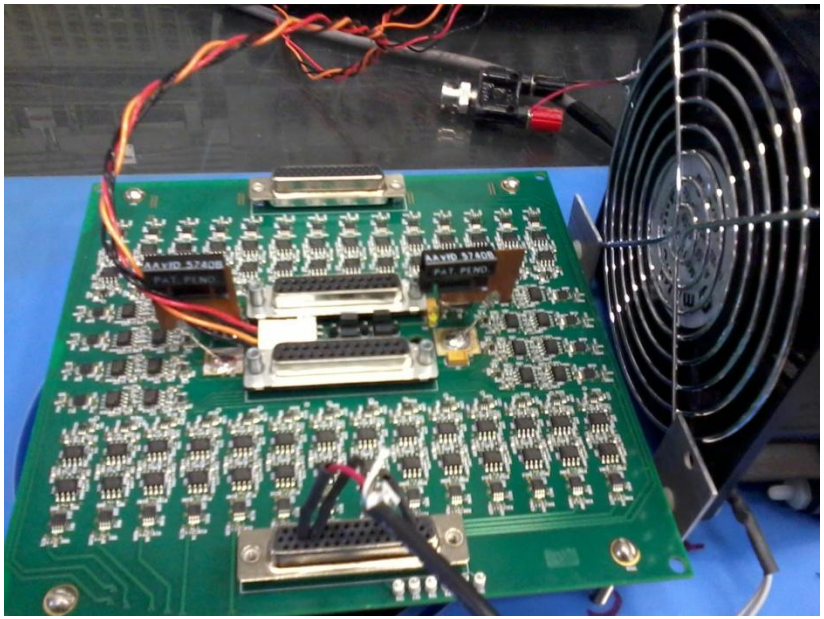
Channel-1 Pre-amp noise

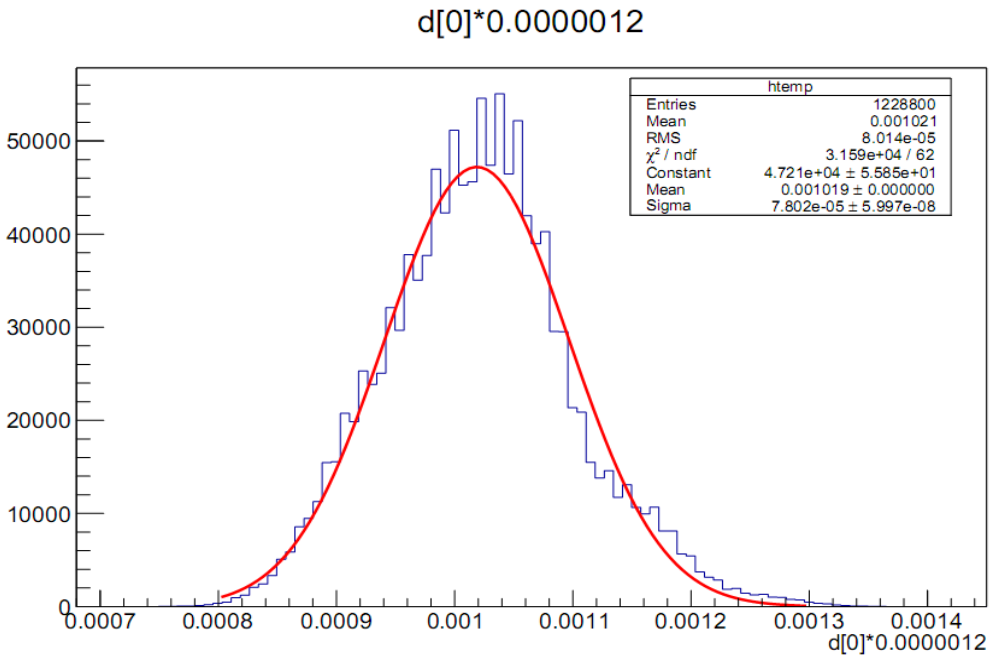


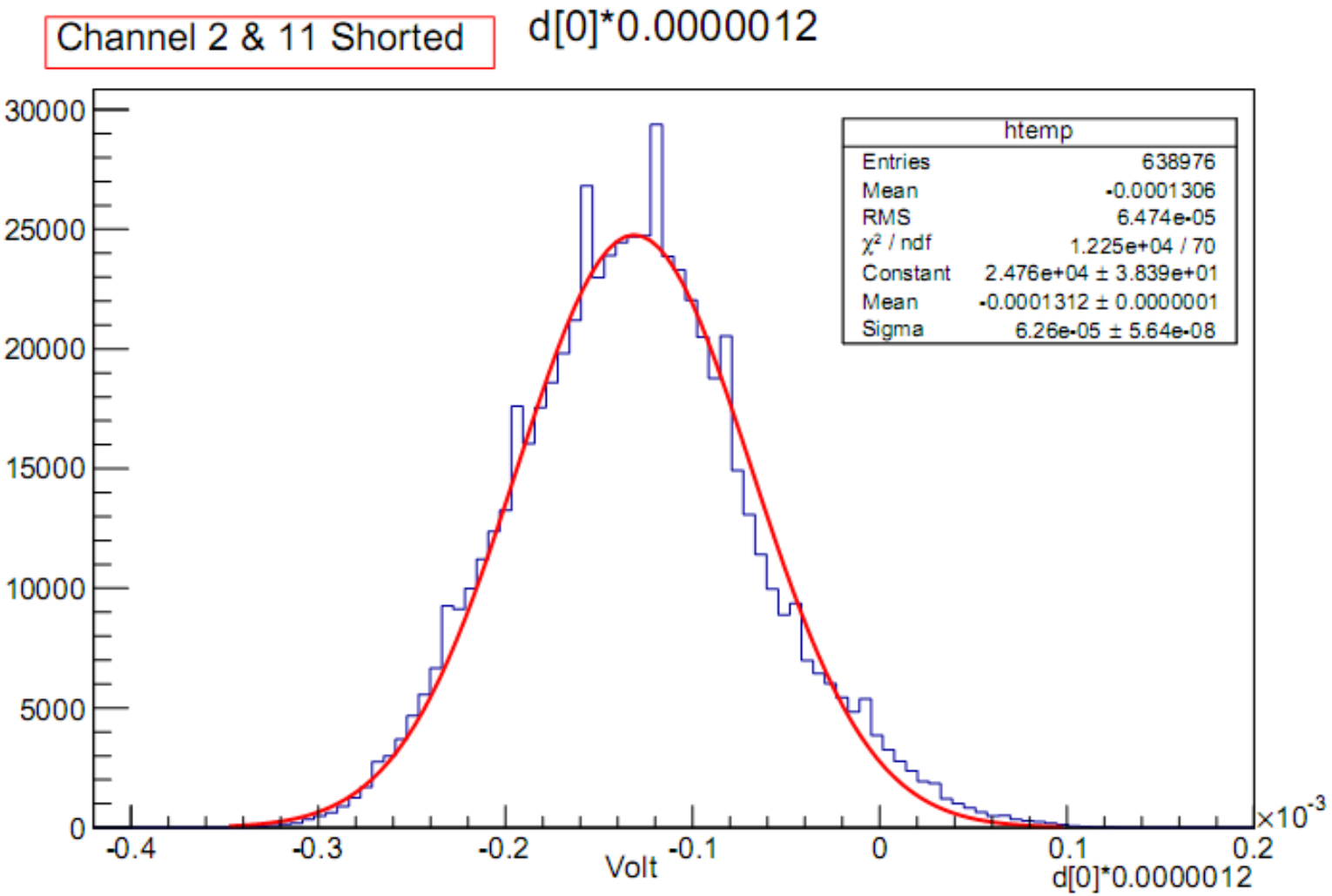


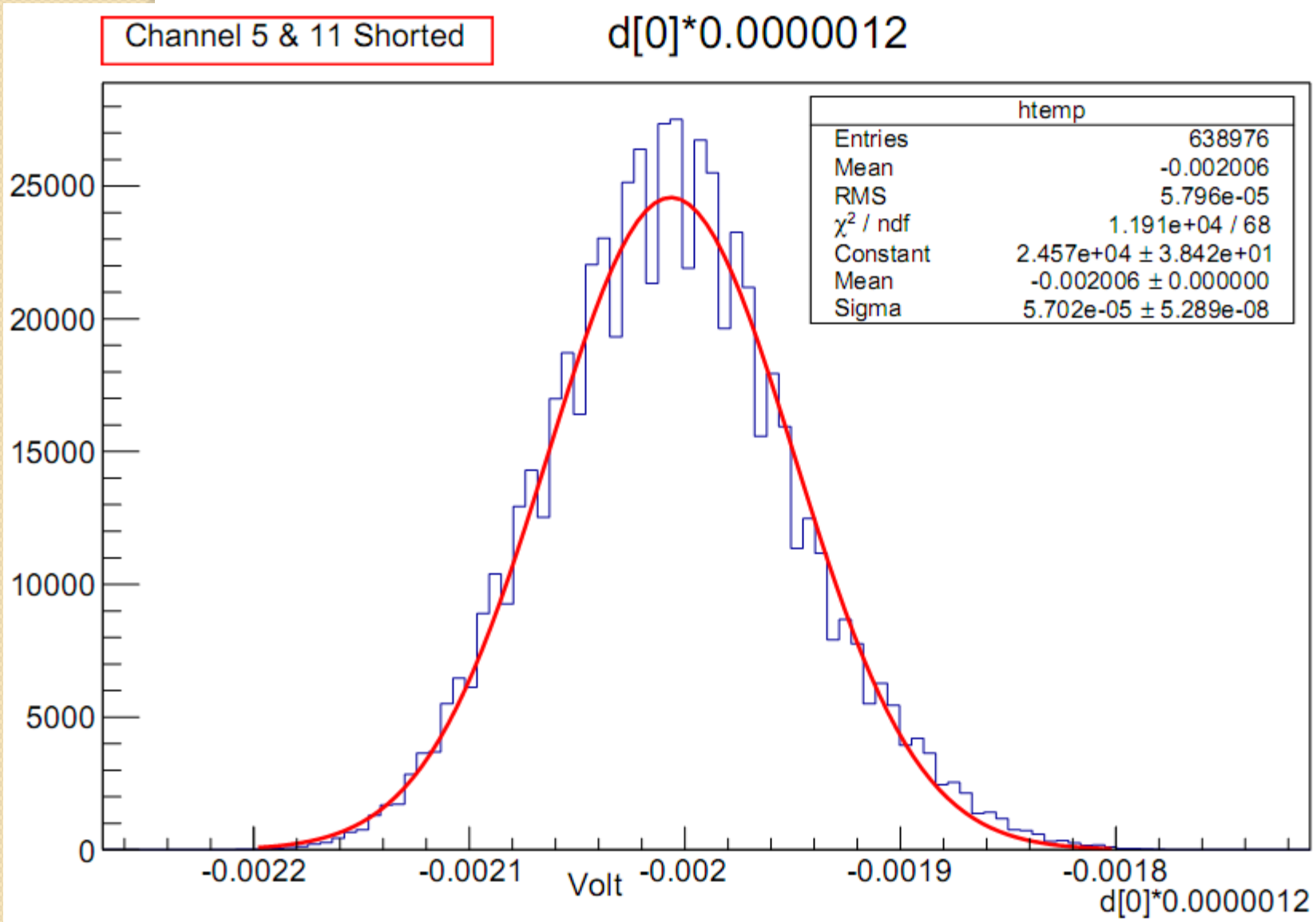
Channel G_I


d[0]*0.0000012:0.0001*Entry$
d[0]*0.0000012
0.0014
0.0013
0.0012
0.0011
0.001
0.0009
0.0008
0.0007
0
20
40
60
80
100
120
0.0001*Entry$



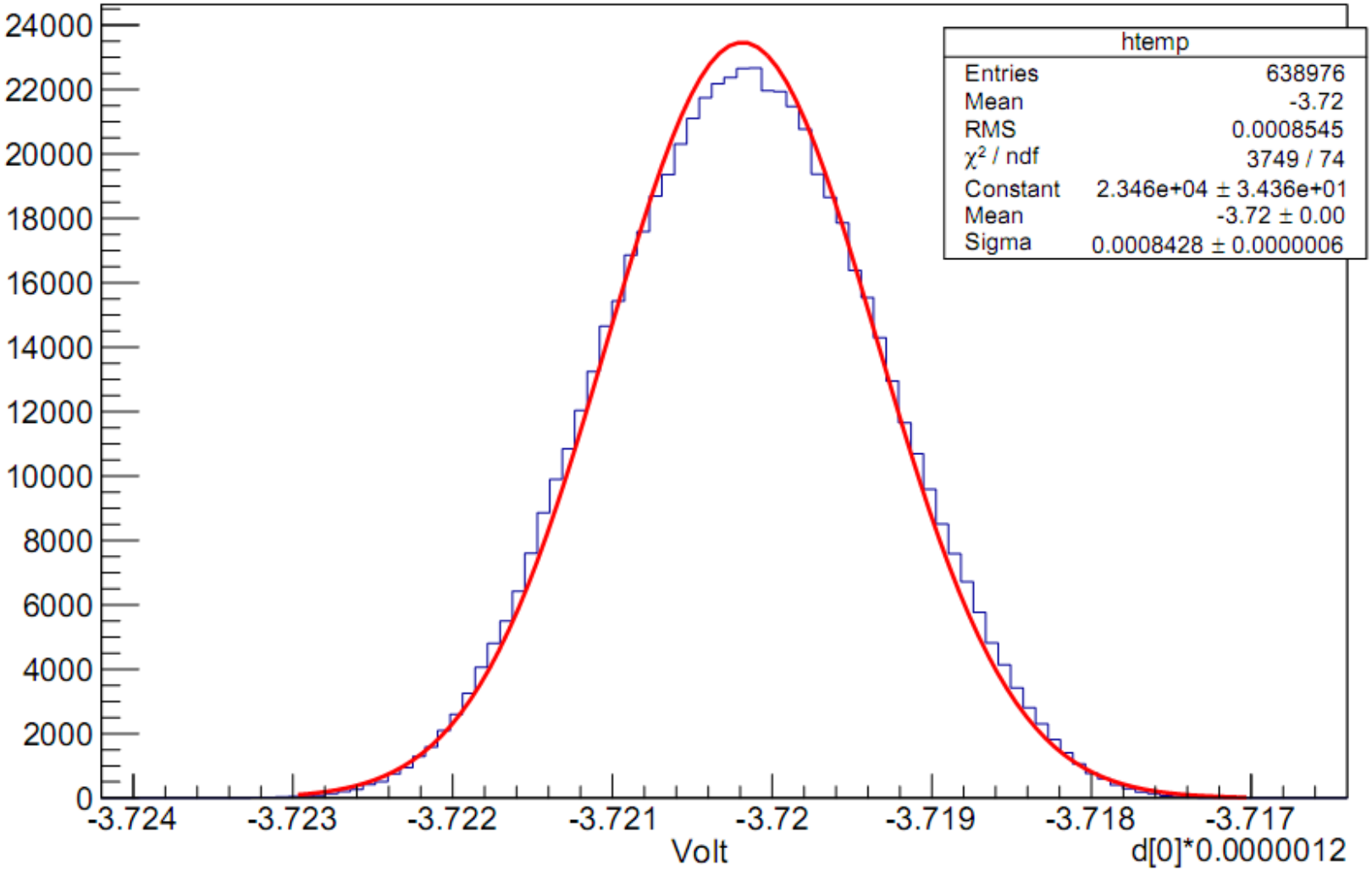

d[0]*0.0000012
htemp
Entries 1228800
Mean 0.001021
RMS 8.014e-05
χ² / ndf 3.159e+04 / 62
Constant 4.721e+04 ± 5.585e+01
Mean 0.001019 ± 0.000000
Sigma 7.802e-05 ± 5.997e-08
50000
40000
30000
20000
10000
0
0.0007
0.0008
0.0009
0.001
0.0011
0.0012
0.0013
0.0014
d[0]*0.0000012


Channel 2 & 11 Shorted
d[0]*0.0000012
htemp
Entries 638976
Mean -0.0001306
RMS 6.474e-05
χ² / ndf 1.225e+04 / 70
Constant 2.476e+04 ± 3.839e+01
Mean -0.0001312 ± 0.0000001
Sigma 6.26e-05 ± 5.64e-08
30000
25000
20000
15000
10000
5000
0
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
×10⁻³
Volt
d[0]*0.0000012


Channel 5 & 11 Shorted
d[0]*0.0000012
htemp
Entries 638976
Mean -0.002006
RMS 5.796e-05
χ² / ndf 1.191e+04 / 68
Constant 2.457e+04 ± 3.842e+01
Mean -0.002006 ± 0.000000
Sigma 5.702e-05 ± 5.289e-08
25000
20000
15000
10000
5000
0
-0.0022
-0.0021
-0.002
-0.0019
-0.0018
Volt
d[0]*0.0000012

Channel 1 & 11 Shorted

d[0]*0.0000012



Averaging Samples: (Still working on this implementation)

- 41 bins for each channel of data
- the tbins should be an average of 4 samples taken at 10kHz
- this will give us 16.4 ms of data

- We found some hints in the manual for averaging the sample.
- Could not locate relevant files/scripts. Planning to create ourselves and give a try.