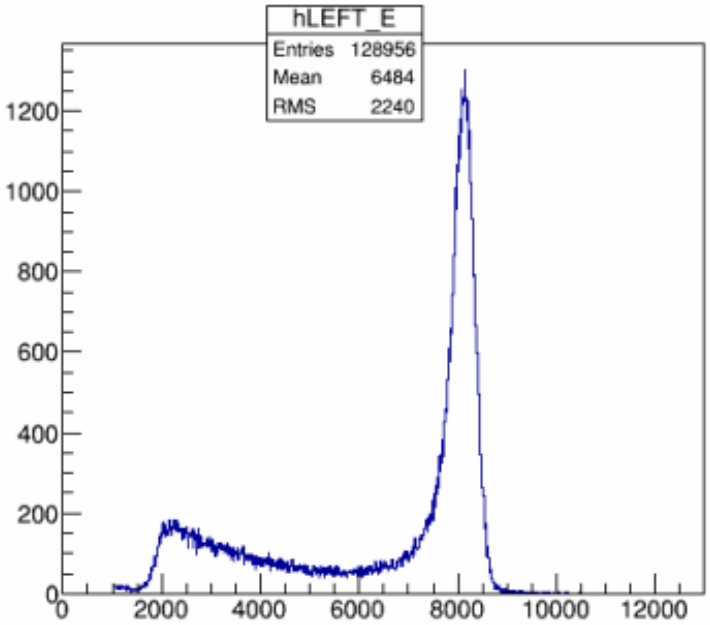
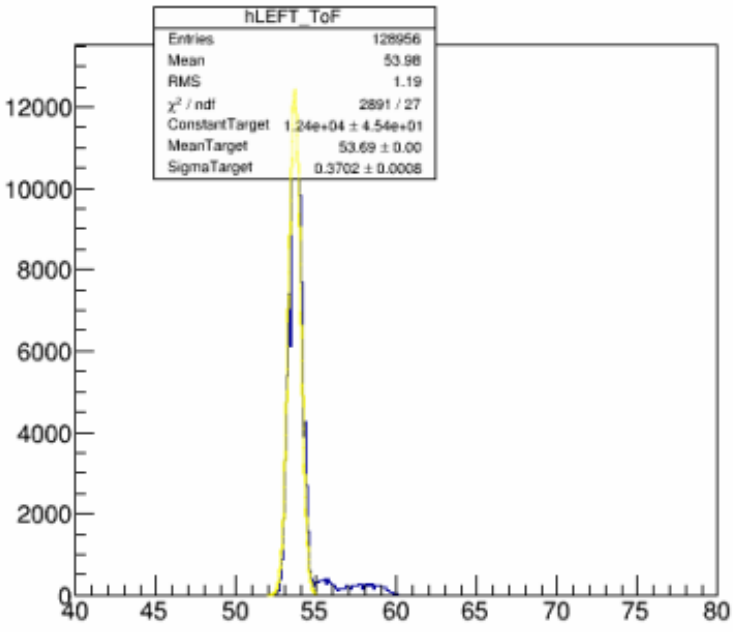
Run 8485 – 1 micron foil

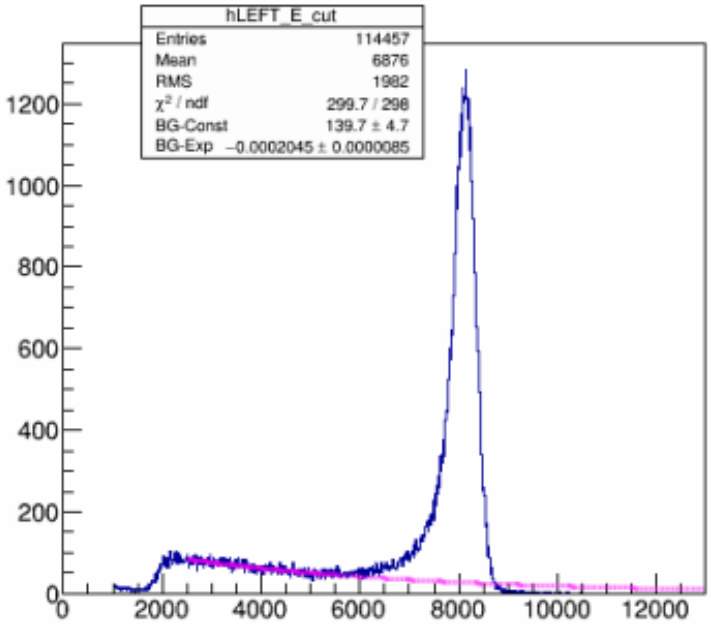
Raw Energy Detector Spectra



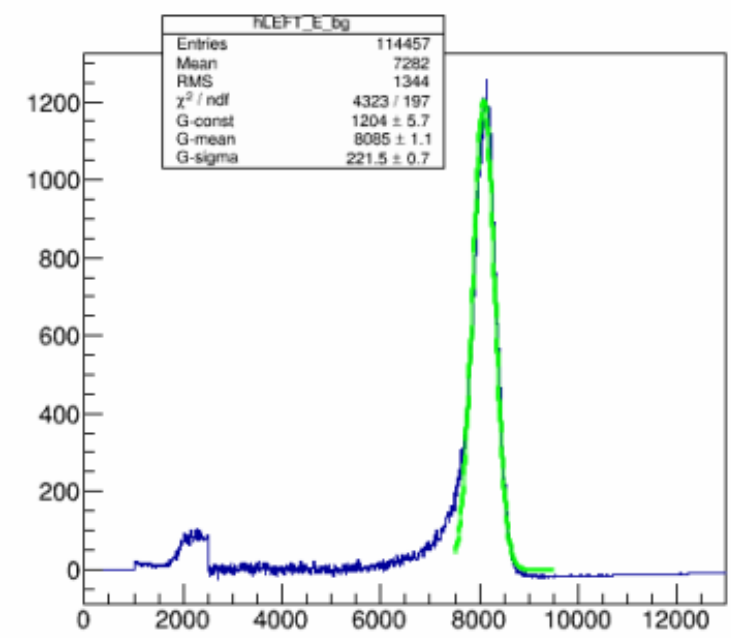
Time-of-flght cut (-2 to +2 sigma)



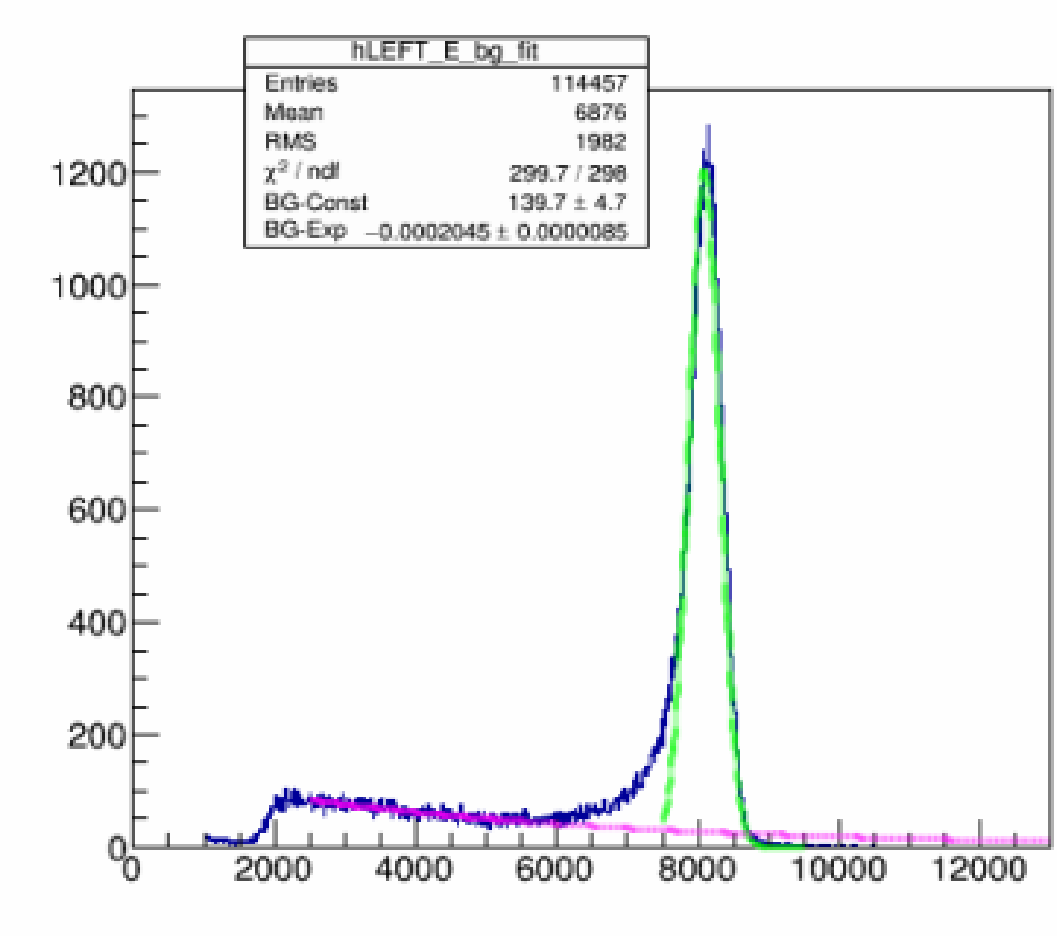
Background fit with exponential, range 2500 to 5500, Extrapolated to range 2500 to 13000



Background subtracted, elastic peak fit with Gaussian in range 7500 to 9500

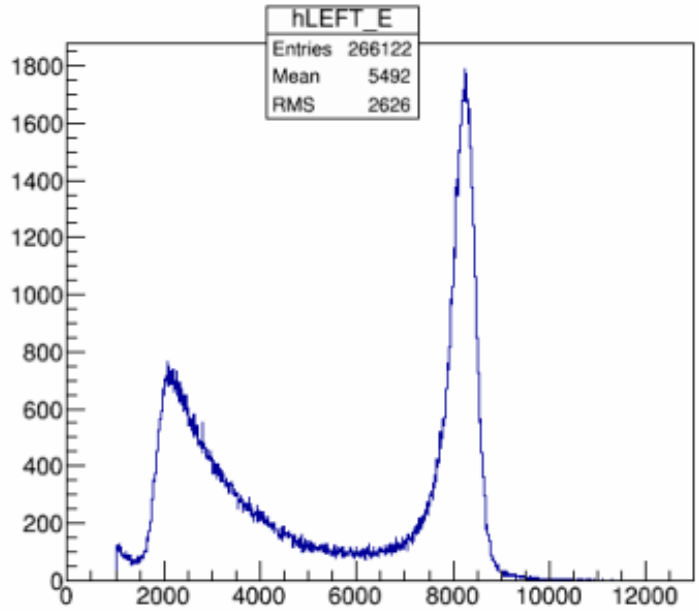


For display purposes, fit of elastic peak and background-fit-extrapolated shown on only ToF-cut spectra

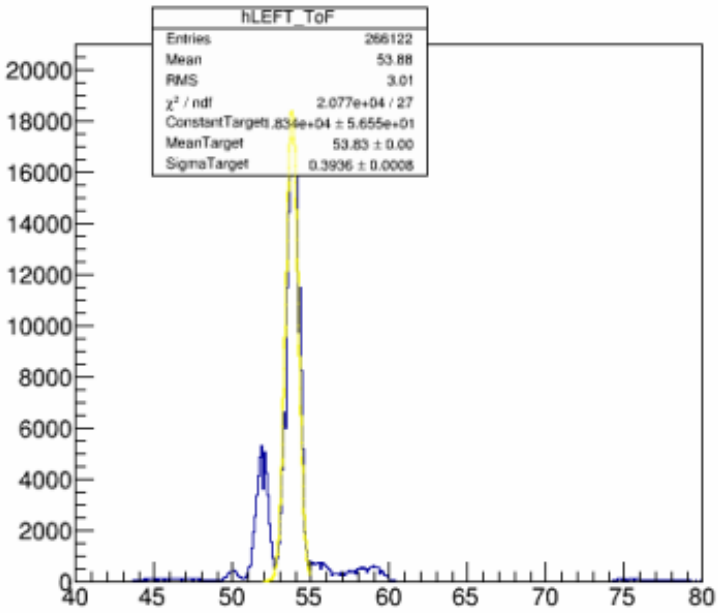


Run 8536 – 50 nm foil TL #12

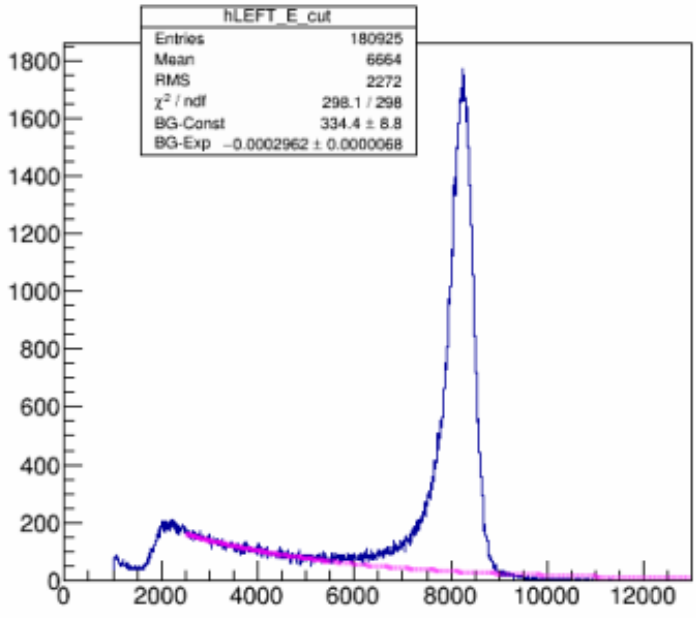
Raw Energy Detector Spectra



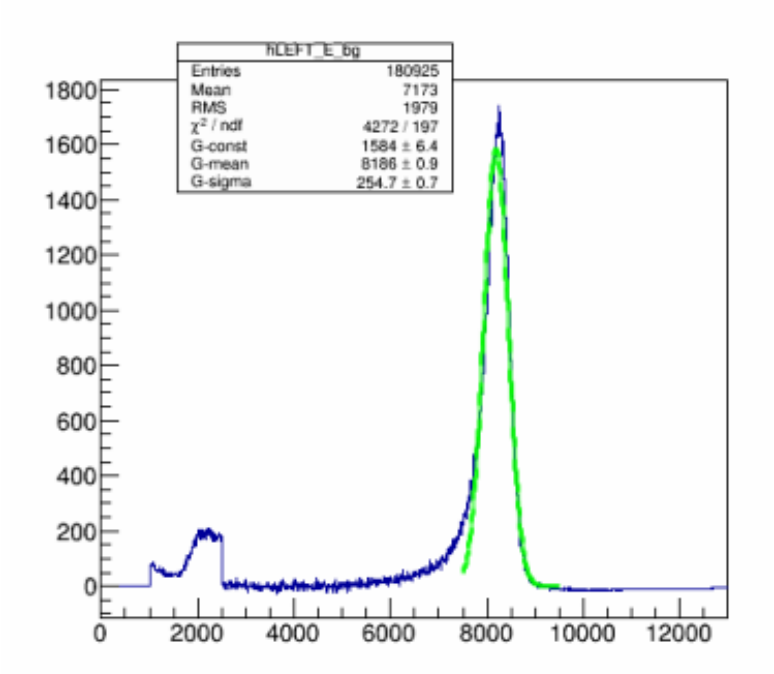
Time-of-flght cut (-2 to +2 sigma)



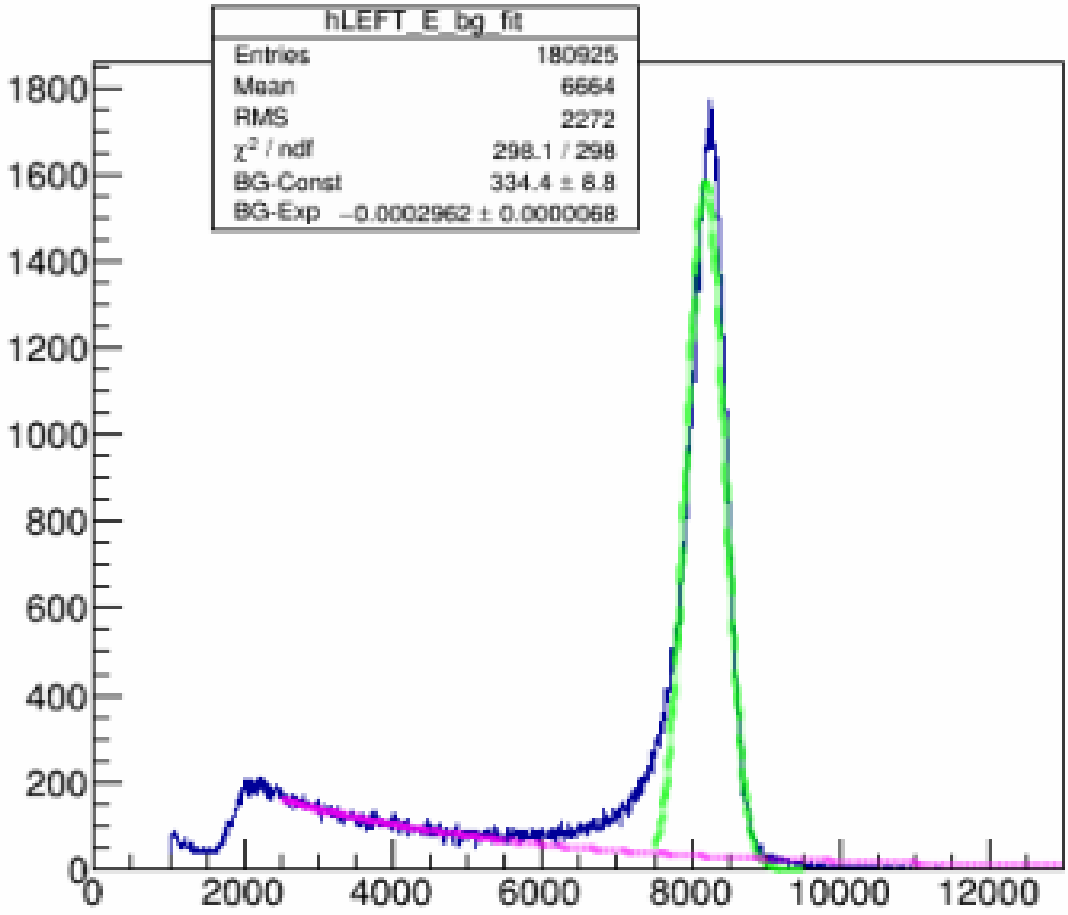
Background fit with exponential, range 2500 to 5500,
Extrapolated to range 2500 to 13000

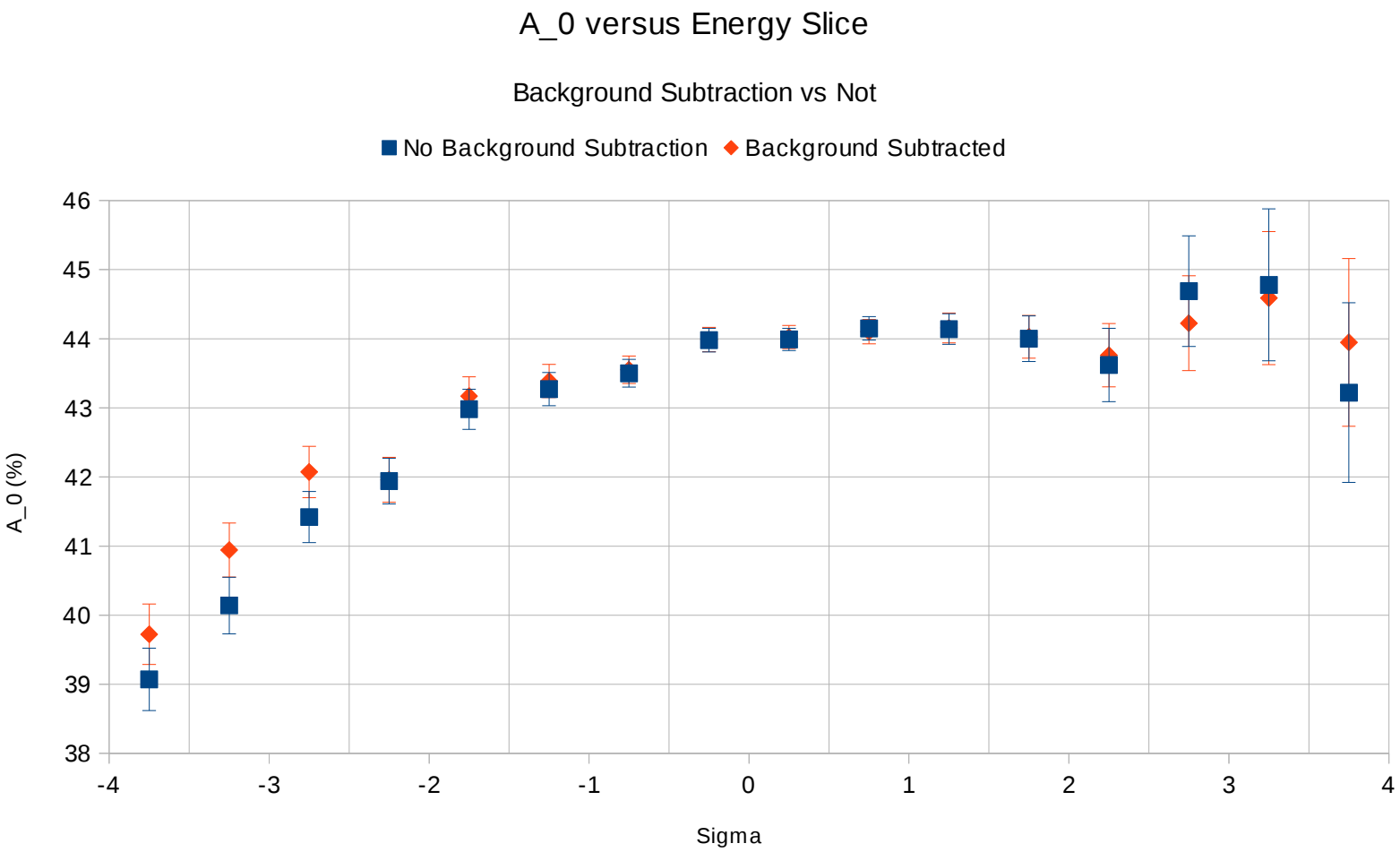


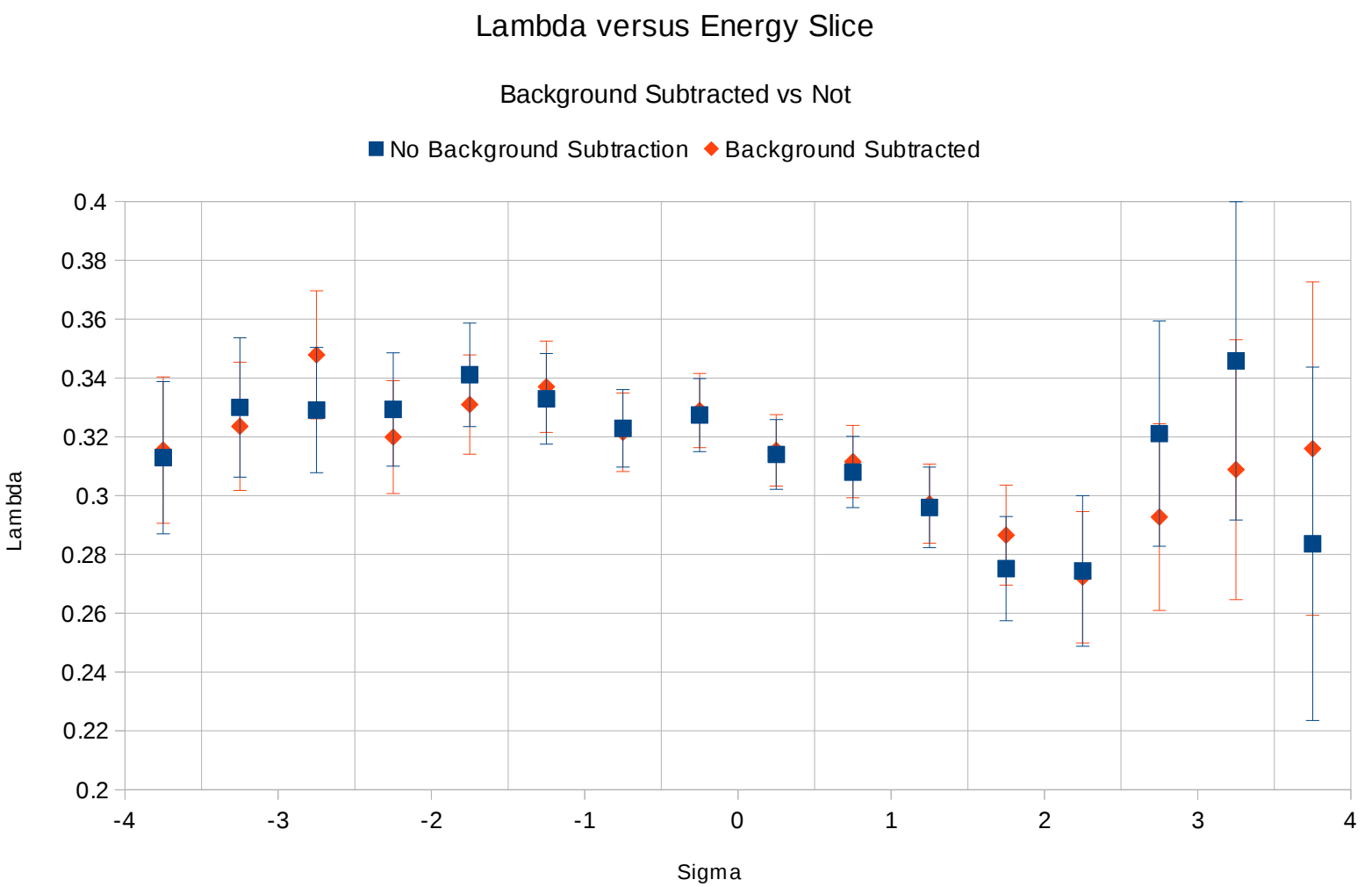
Background subtracted, elastic peak fit with Gaussian in range 7500 to 9500

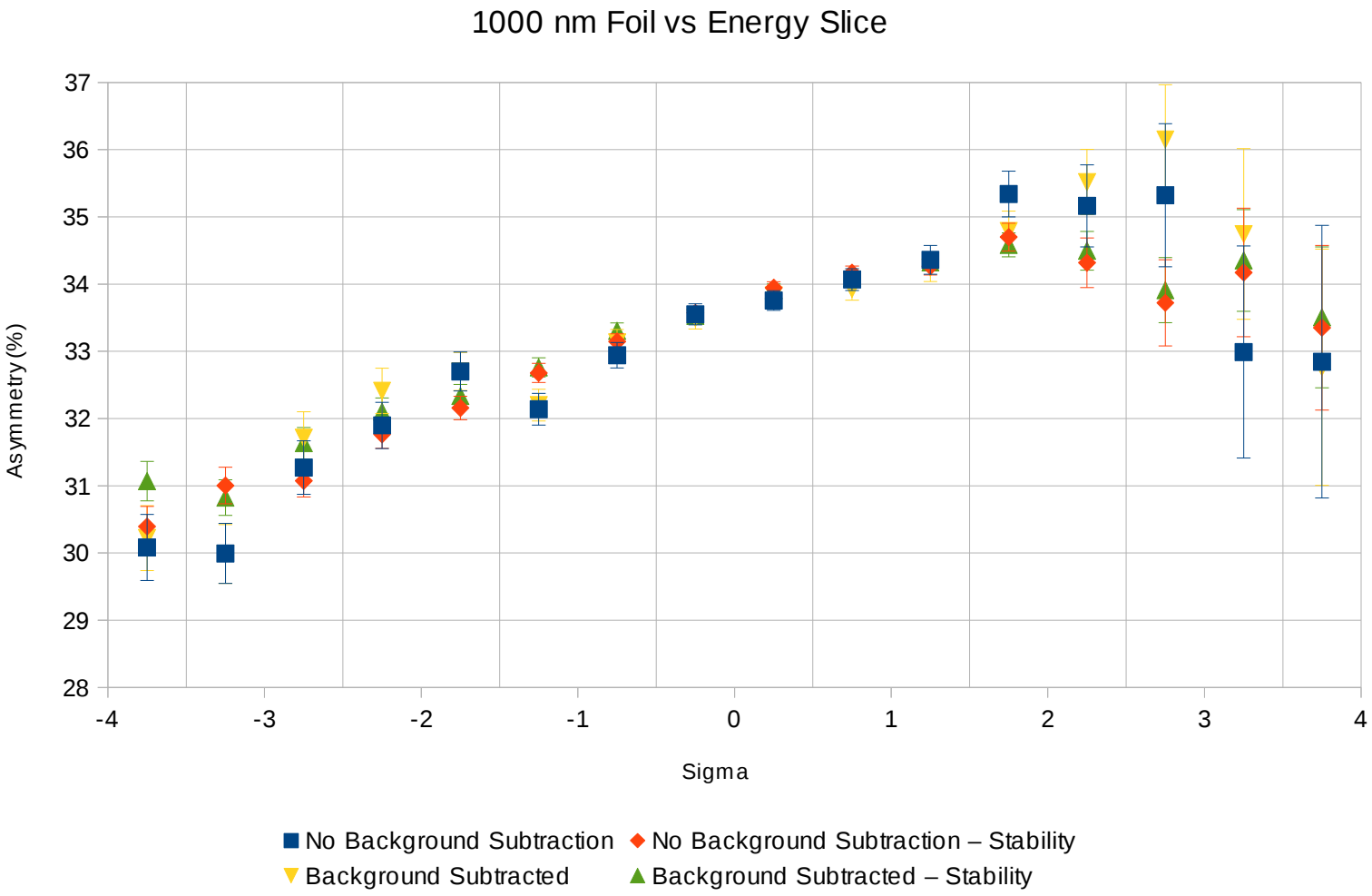


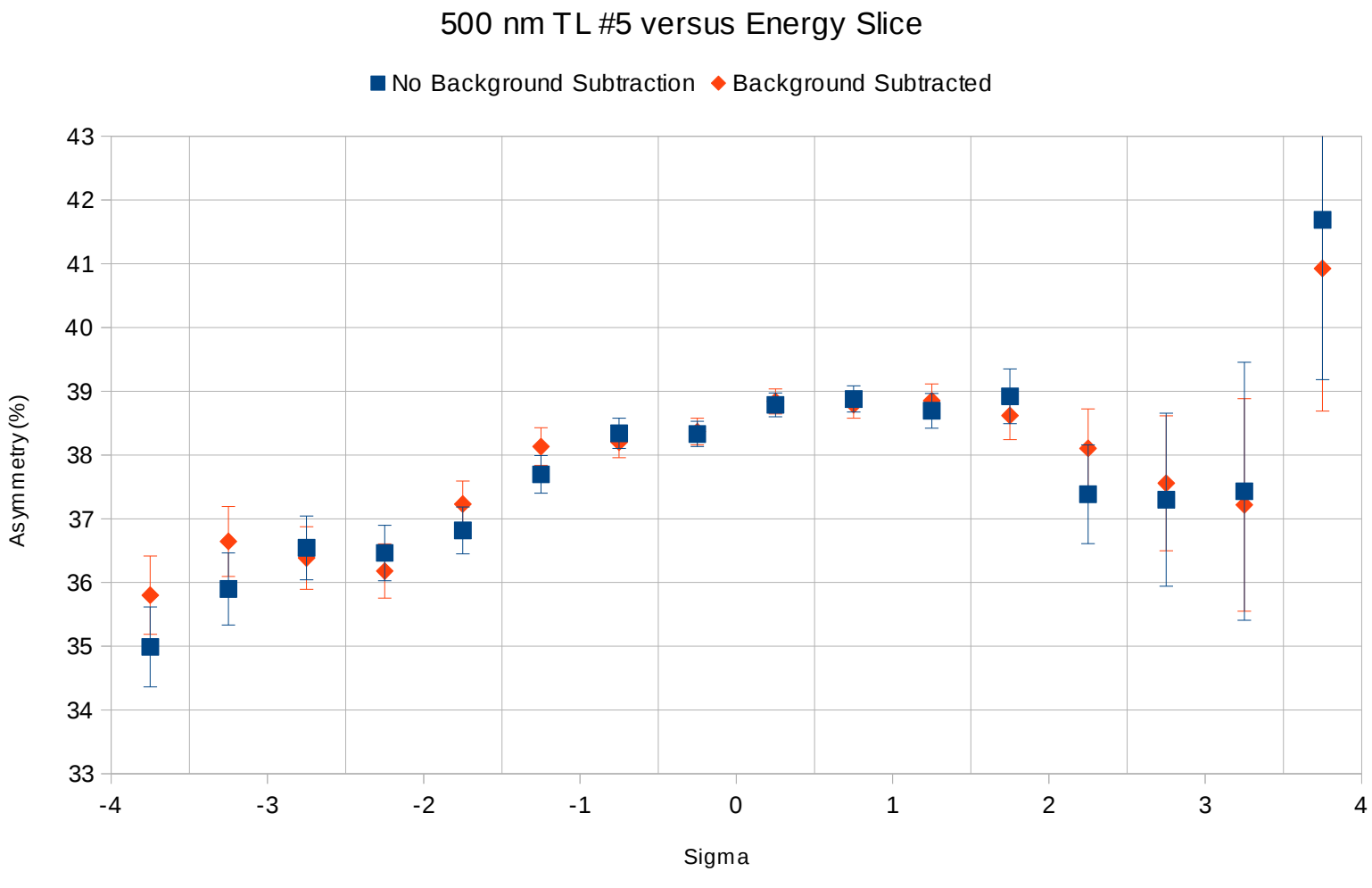
For display purposes, fit of elastic peak and background-fit-extrapolated shown on only ToF-cut spectra

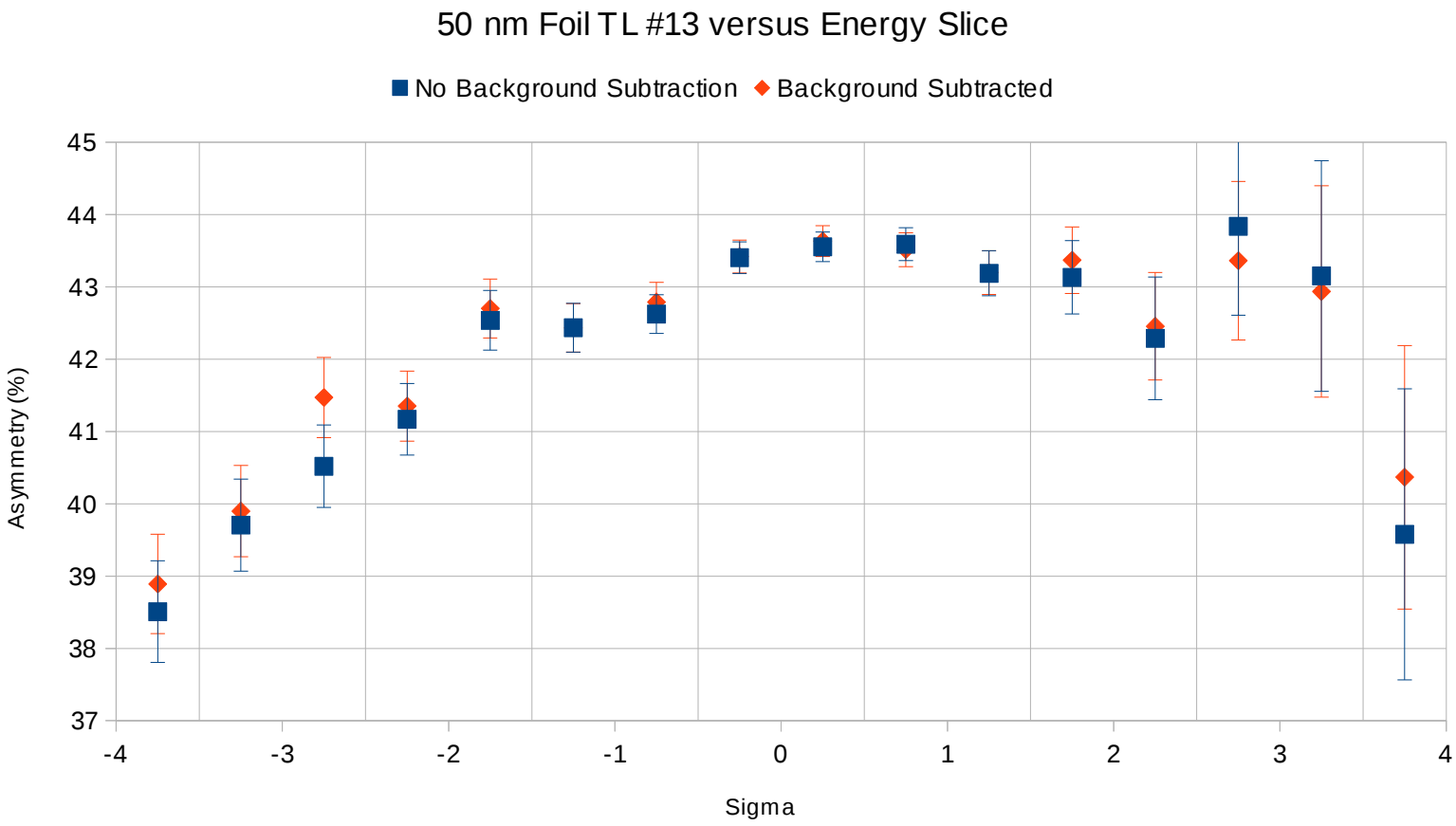



A_0 versus Energy Slice
Background Subtraction vs Not
No Background Subtraction
Background Subtracted
A_0 (%)
46
45
44
43
42
41
40
39
38
-4
-3
-2
-1
0
1
2
3
4
Sigma

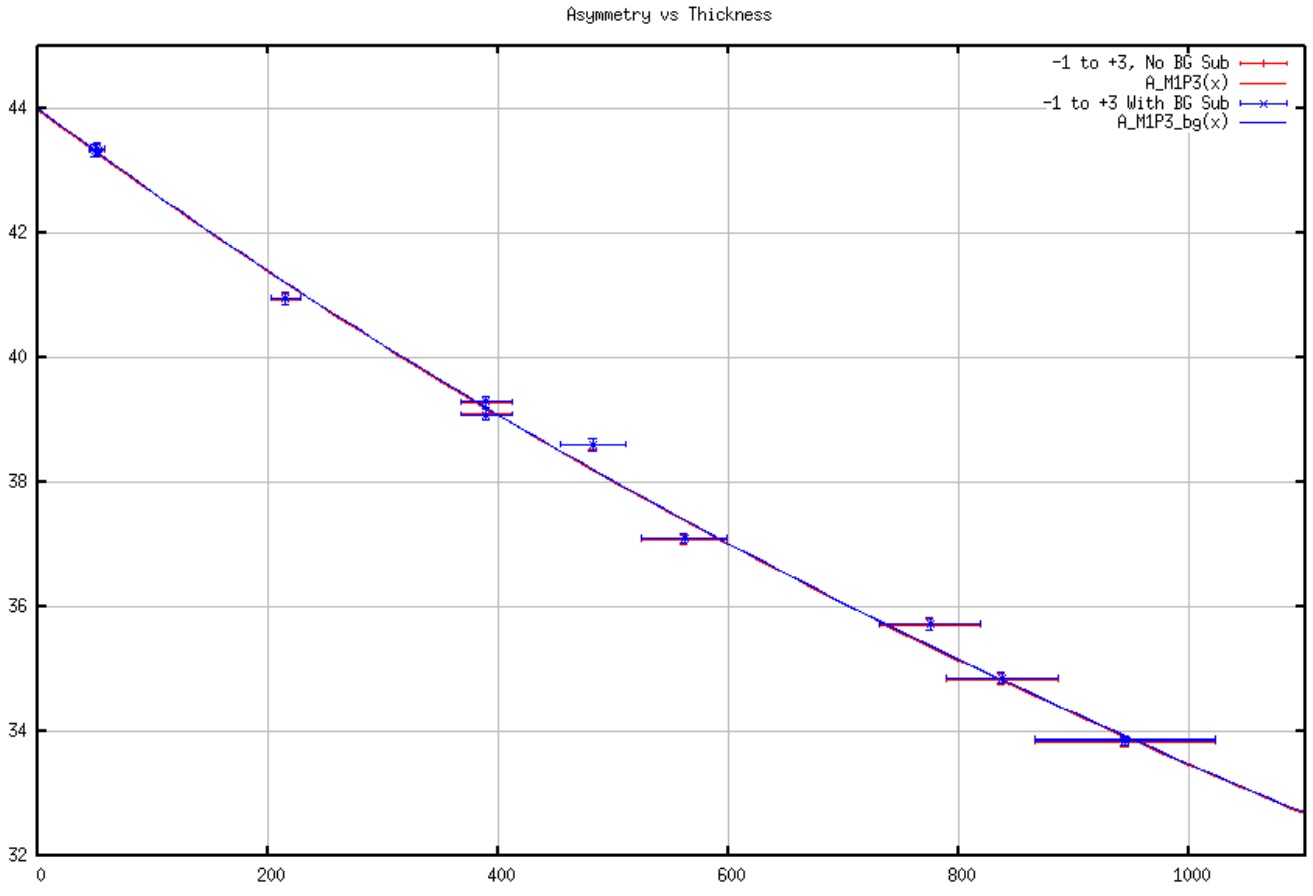

Lambda versus Energy Slice
Background Subtracted vs Not
No Background Subtraction
Background Subtracted
Lambda
0.4
0.38
0.36
0.34
0.32
0.3
0.28
0.26
0.24
0.22
0.2
-4
-3
-2
-1
0
1
2
3
4
Sigma

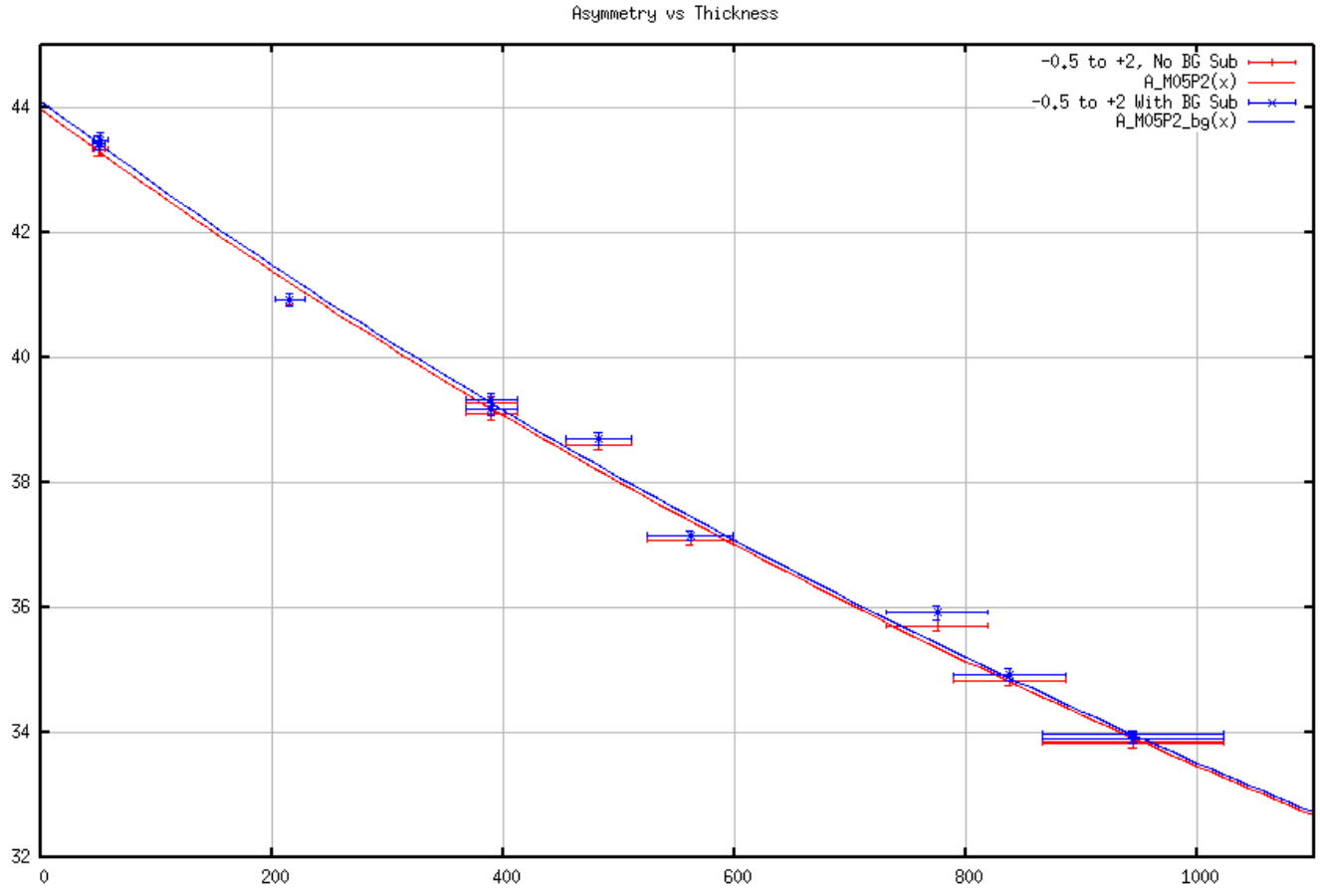

1000 nm Foil vs Energy Slice
Asymmetry (%)
37
36
35
34
33
32
31
30
29
28
-4
-3
-2
-1
0
1
2
3
4
Sigma
No Background Subtraction
No Background Subtraction – Stability
Background Subtracted
Background Subtracted – Stability

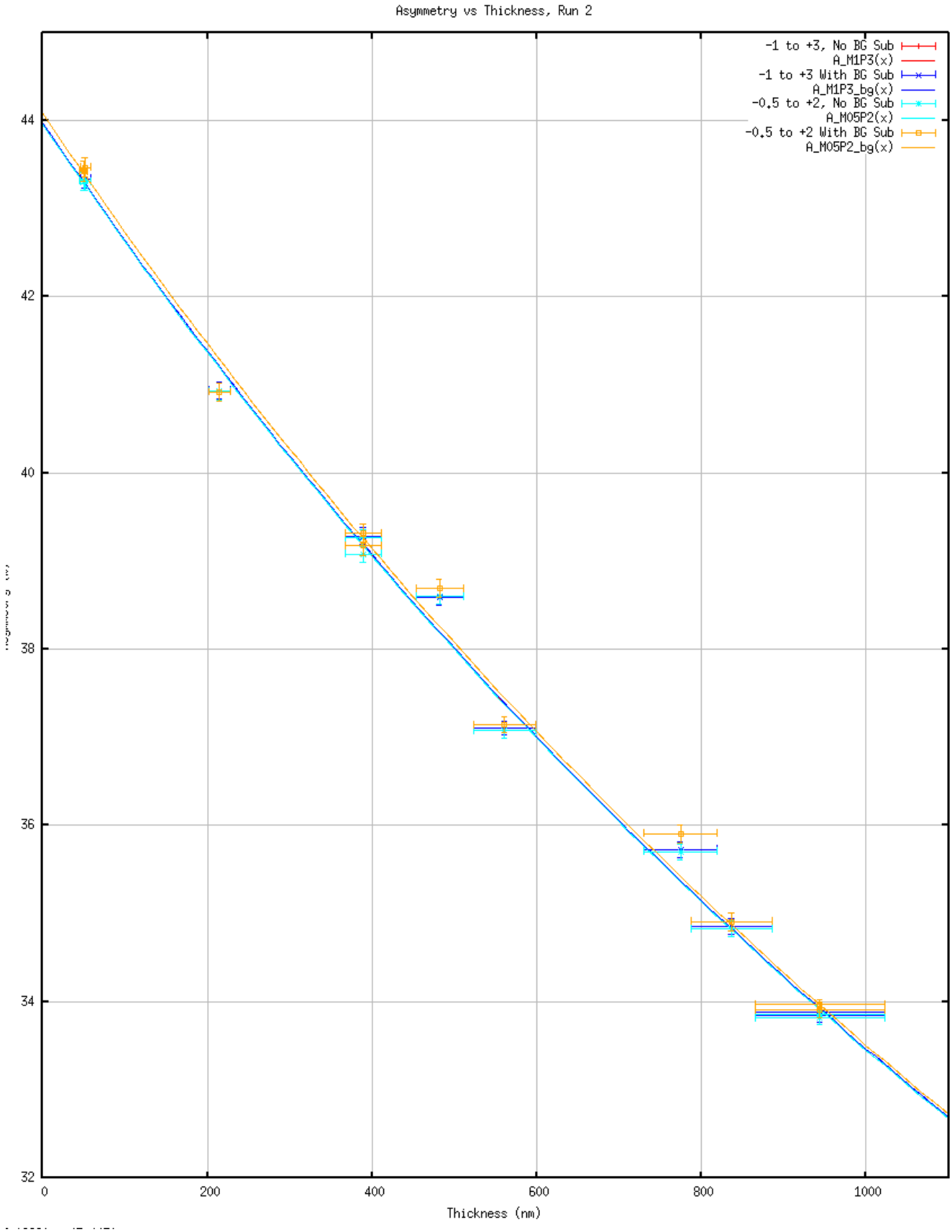

500 nm TL #5 versus Energy Slice
No Background Subtraction
Background Subtracted
Asymmetry (%)
43
42
41
40
39
38
37
36
35
34
33
-4
-3
-2
-1
0
1
2
3
4
Sigma


50 nm Foil TL #13 versus Energy Slice
No Background Subtraction
Background Subtracted
Asymmetry (%)
45
44
43
42
41
40
39
38
37
-4
-3
-2
-1
0
1
2
3
4
Sigma

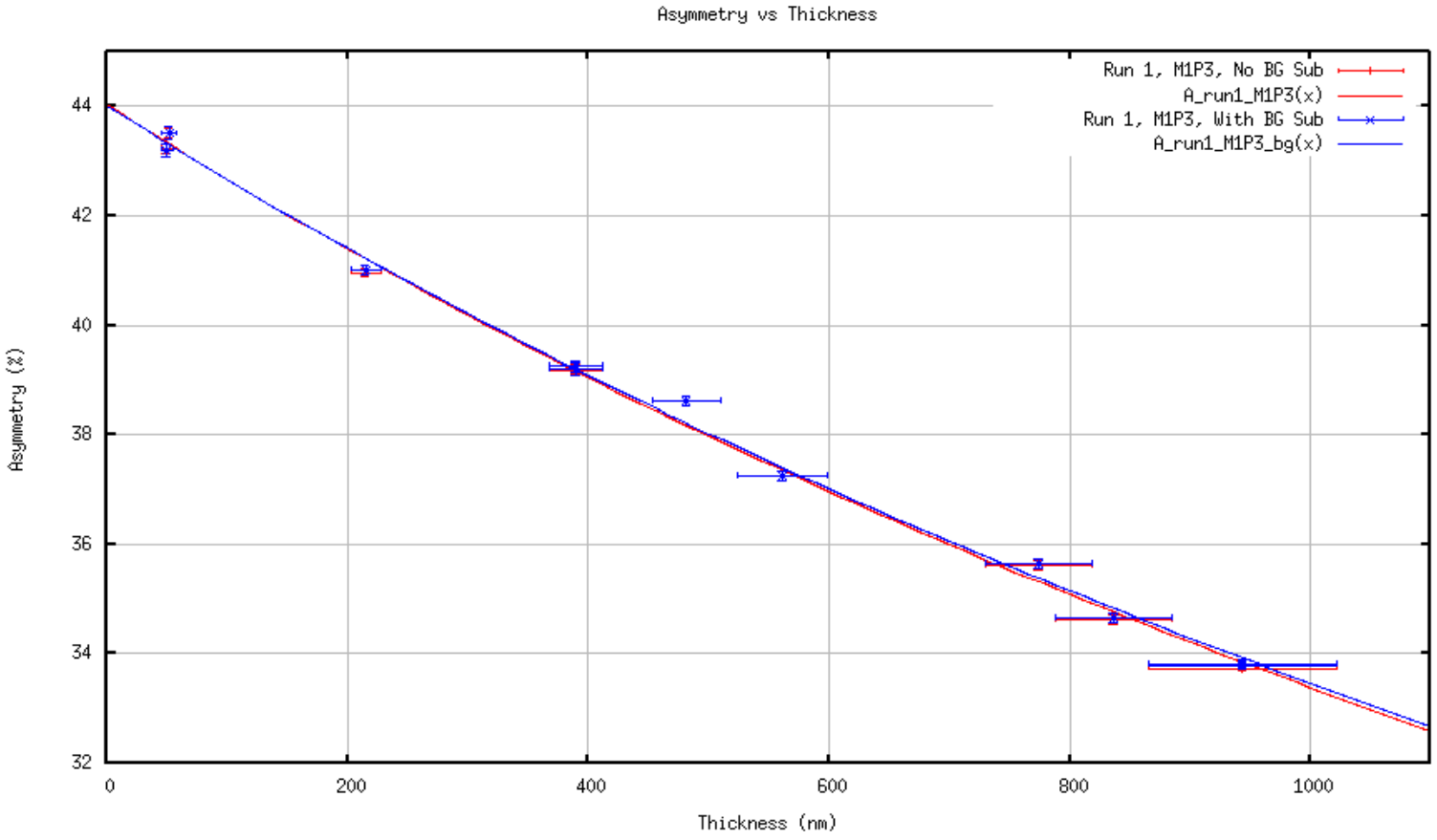
A(t) = A_0 / (1 + lambda * t) Fit Parameters; Run 2 Data				
Energy Cut/Background Subtraction	**A_0 (%)**	**Lambda**	**Chi^2 / NDF**	**P_0**
-1 to +3 Sigma, **No** Background Subtraction	43.9704 +/- 0.0995	0.3143 +/- 0.0094	0.6233	86.216 +/- 0.543
-1 to +3 Sigma, Background Subtracted	43.9844 +/- 0.1001	0.3142 +/- 0.0094	0.6246	86.244 +/- 0.544
-0.5 to +2 Sigma, **No** Background Subtraction	43.9701 +/- 0.0995	0.3143 +/- 0.0094	0.6247	86.216 +/- 0.543
-0.5 to +2 Sigma, Background Subtracted	44.0889 +/- 0.1070	0.3158 +/- 0.0097	0.9253	86.449 +/- 0.550

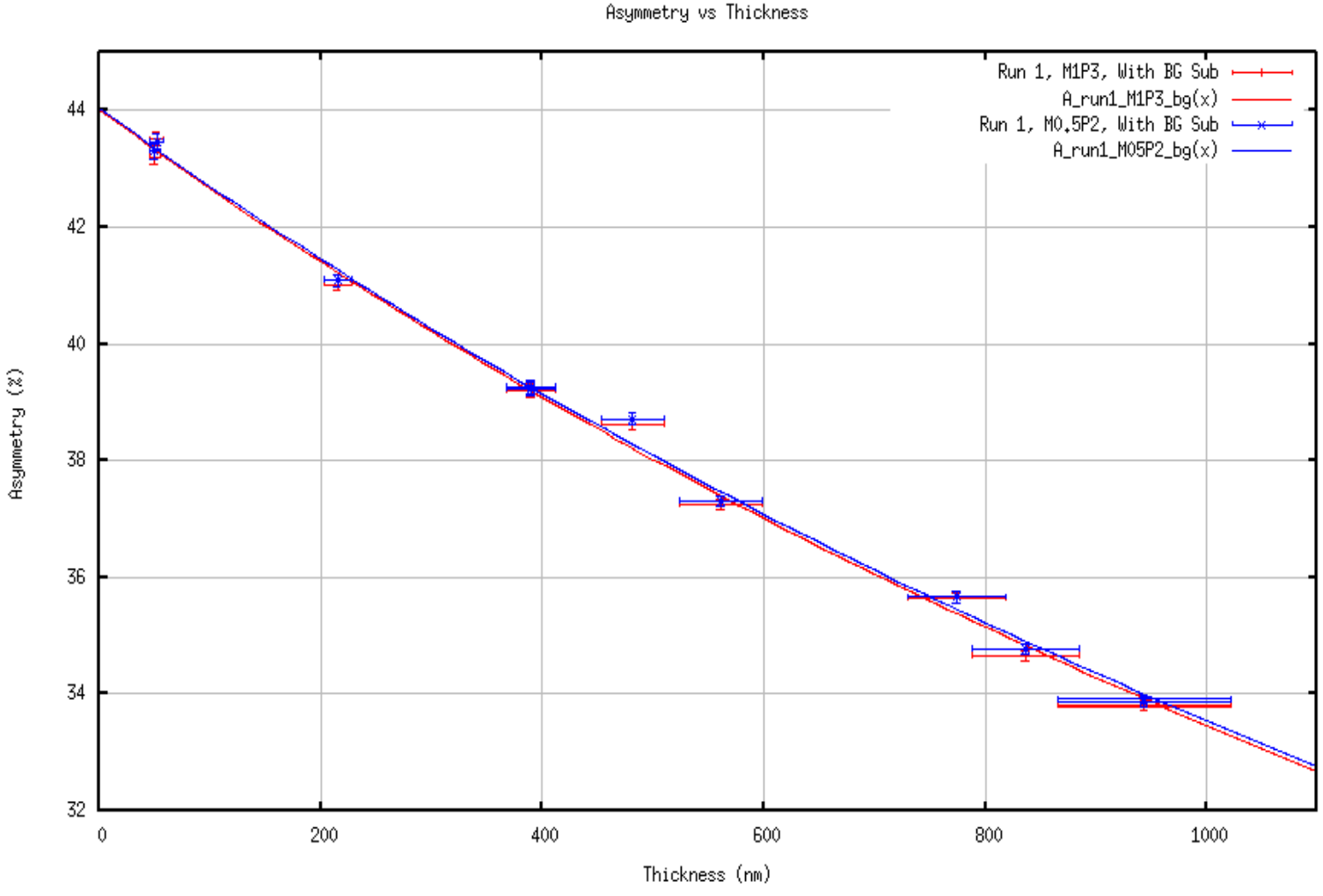


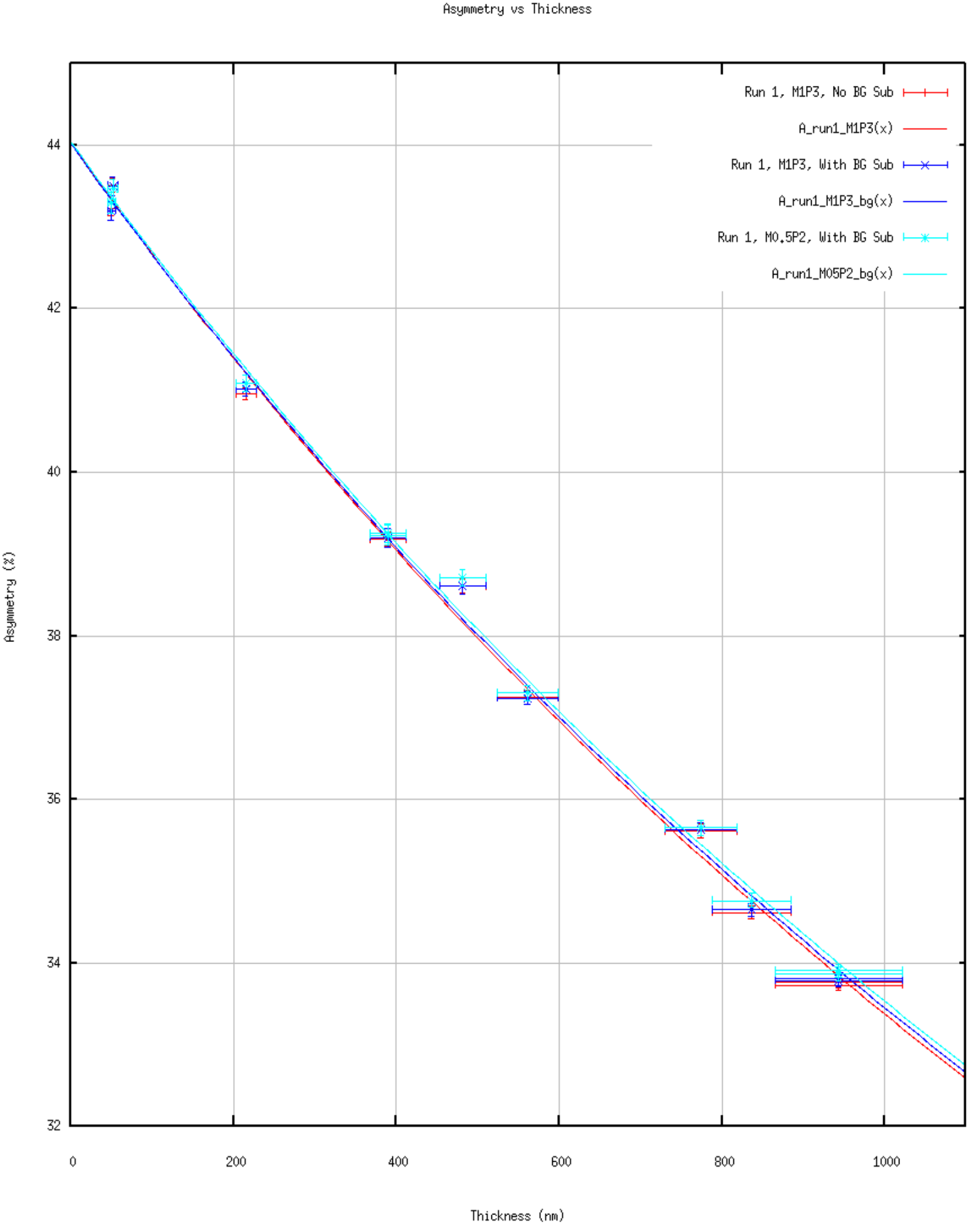

Asymmetry vs Thickness
-0.5 to +2, No BG Sub
A_M05P2(x)
-0.5 to +2 With BG Sub
A_M05P2_bg(x)
44
42
40
38
36
34
32
0
200
400
600
800
1000

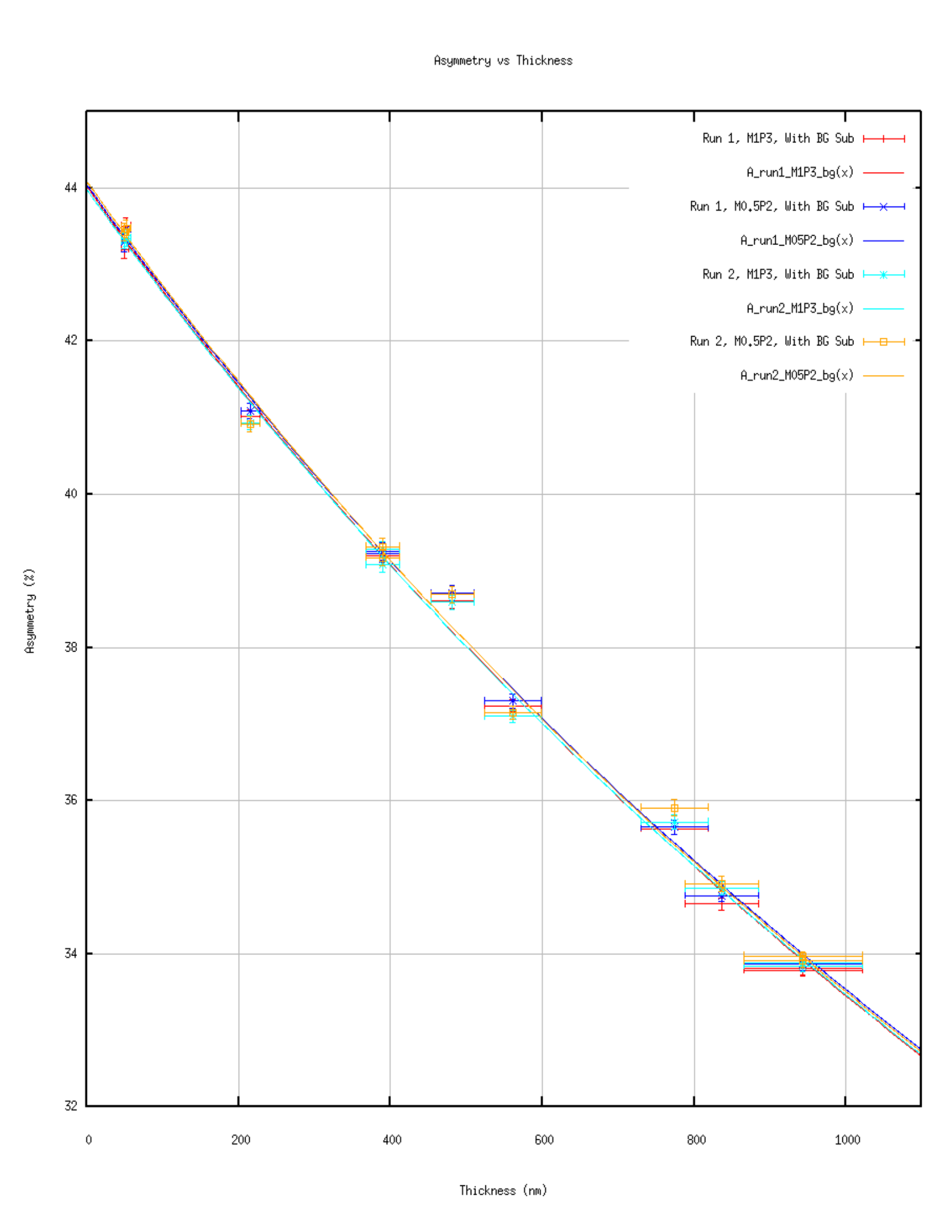

Asymmetry vs Thickness, Run 2
-1 to +3, No BG Sub
A_M1P3(x)
-1 to +3 With BG Sub
A_M1P3_bg(x)
-0.5 to +2, No BG Sub
A_M05P2(x)
-0.5 to +2 With BG Sub
A_M05P2_bg(x)
44
42
40
38
36
34
32
0
200
400
600
800
1000
Thickness (nm)

A(t) = A_0 / (1 + lambda * t) Fit Parameters; Run 1 vs Run 2				
Energy Cut/Background Subtraction	**A_0 (%)**	**Lambda**	**Chi^2 / NDF**	**P_0**
-1 to +3 Sigma, **No** Background Subtraction, **Run 1**	44.0353 +/- 0.0911	0.3192 +/- 0.0092	0.9640	86.344 +/- 0.538
-1 to +3 Sigma, Background Subtracted, **Run 1**	44.0184 +/- 0.1062	0.3157 +/- 0.0096	0.7440	86.311 +/- 0.549
-1 to +3 Sigma, **No** Background Subtraction, **Run 2**	43.9704 +/- 0.0995	0.3143 +/- 0.0094	0.6233	86.216 +/- 0.543
-1 to +3 Sigma, Background Subtracted, **Run 2**	43.9844 +/- 0.1001	0.3142 +/- 0.0094	0.6246	86.244 +/- 0.544
-0.5 to +2 Sigma, **No** Background Subtraction, **Run 1**				
-0.5 to +2 Sigma, Background Subtracted, **Run 1**	44.0454 +/- 0.1125	0.3133 +/- 0.0098	0.4923	86.364 +/- 0.554
-0.5 to +2 Sigma, **No** Background Subtraction, **Run 2**	43.9701 +/- 0.0995	0.3143 +/- 0.0094	0.6247	86.216 +/- 0.543
-0.5 to +2 Sigma, Background Subtracted, **Run 2**	44.0889 +/- 0.1070	0.3158 +/- 0.0097	0.9253	86.449 +/- 0.550


Asymmetry vs Thickness
Run 1, M1P3, No BG Sub
A_run1_M1P3(x)
Run 1, M1P3, With BG Sub
A_run1_M1P3_bg(x)
Asymmetry (%)
Thickness (nm)
44
42
40
38
36
34
32
0
200
400
600
800
1000


Asymmetry vs Thickness
Run 1, M1P3, With BG Sub
A_run1_M1P3_bg(x)
Run 1, M0.5P2, With BG Sub
A_run1_M05P2_bg(x)
Asymmetry (%)
Thickness (nm)
44
42
40
38
36
34
32
0
200
400
600
800
1000


Asymmetry vs Thickness
Run 1, M1P3, No BG Sub
A_run1_M1P3(x)
Run 1, M1P3, With BG Sub
A_run1_M1P3_bg(x)
Run 1, M0.5P2, With BG Sub
A_run1_M05P2_bg(x)
Asymmetry (%)
44
42
40
38
36
34
32
0
200
400
600
800
1000
Thickness (nm)


Asymmetry vs Thickness
Run 1, M1P3, With BG Sub
A_run1_M1P3_bg(x)
Run 1, M0.5P2, With BG Sub
A_run1_M05P2_bg(x)
Run 2, M1P3, With BG Sub
A_run2_M1P3_bg(x)
Run 2, M0.5P2, With BG Sub
A_run2_M05P2_bg(x)
Asymmetry (%)
44
42
40
38
36
34
32
0
200
400
600
800
1000
Thickness (nm)