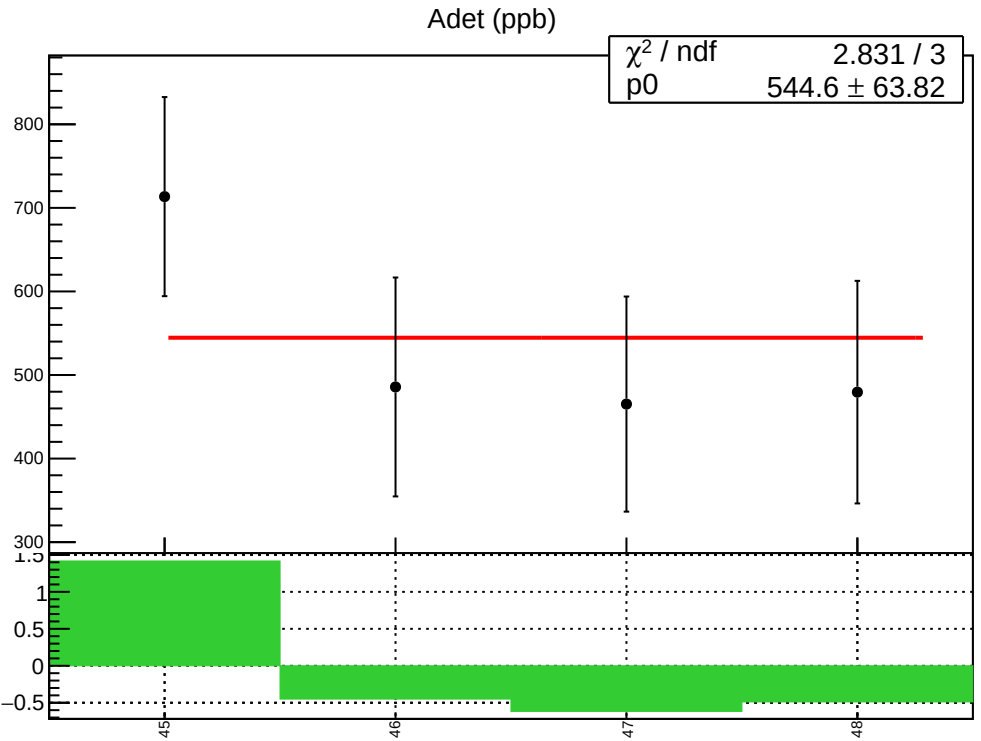
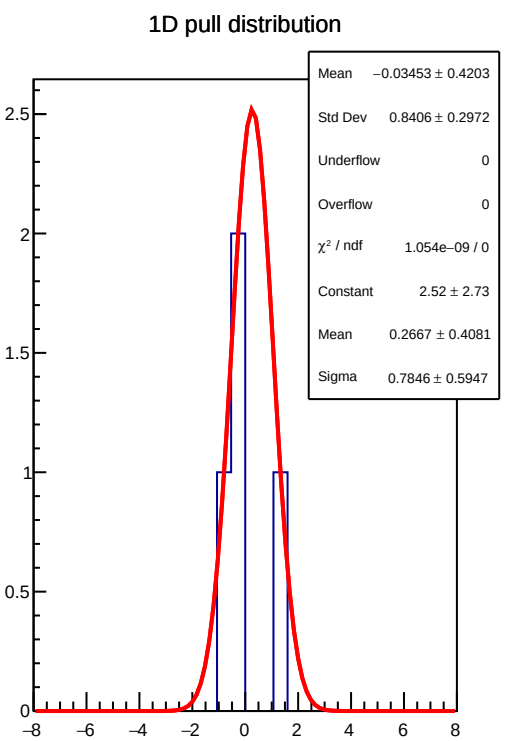
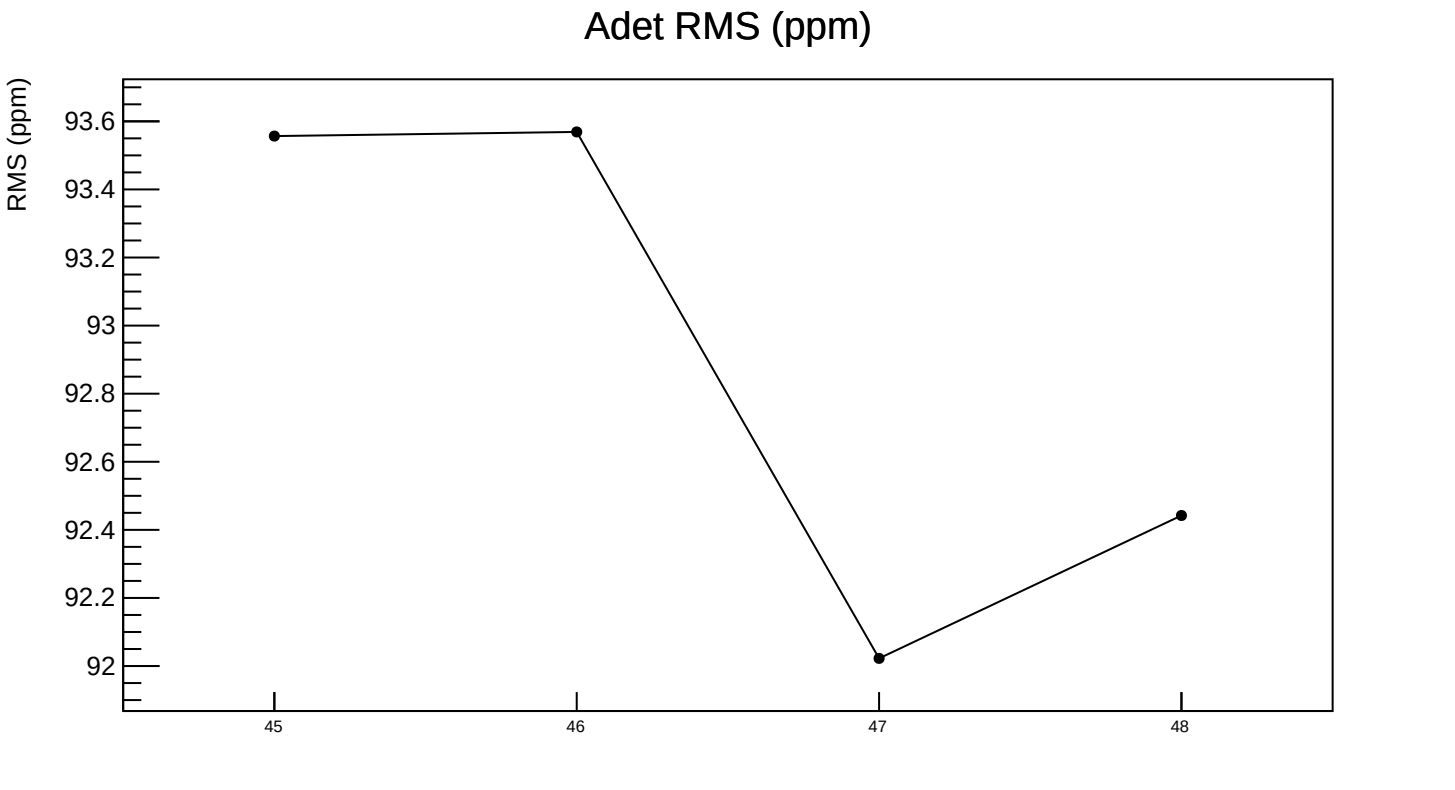
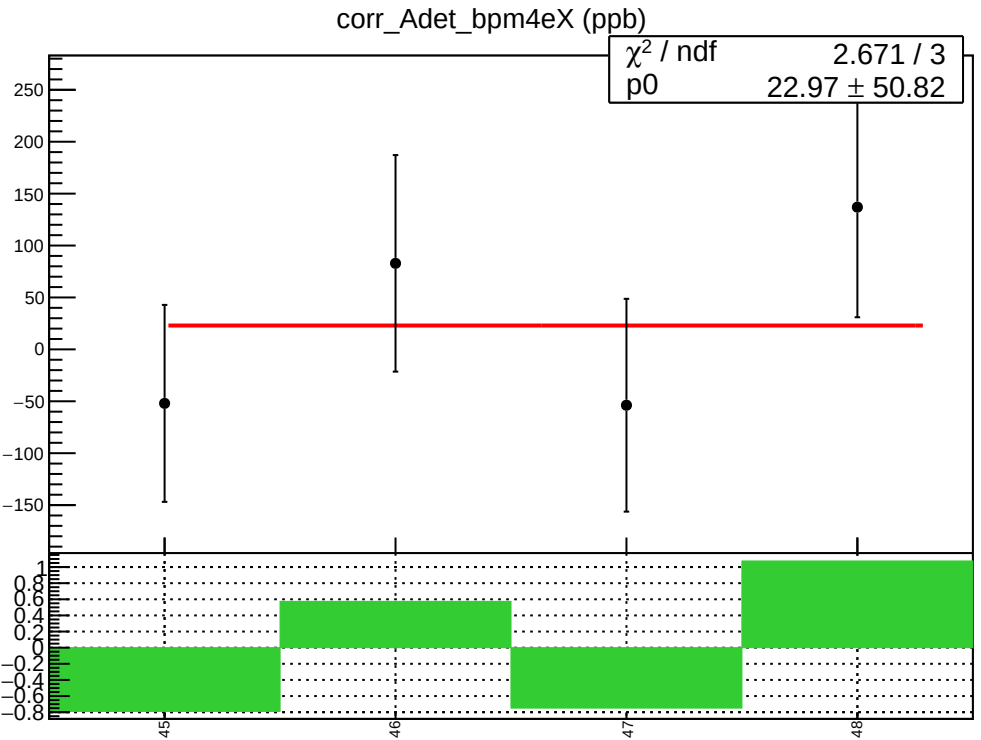
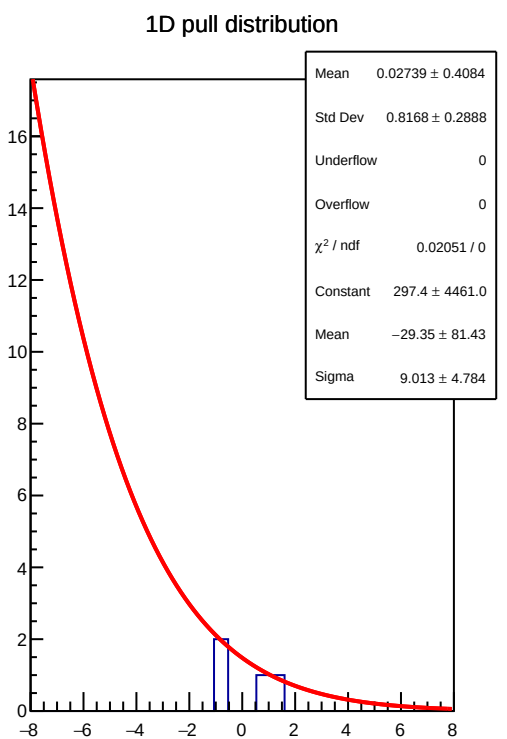
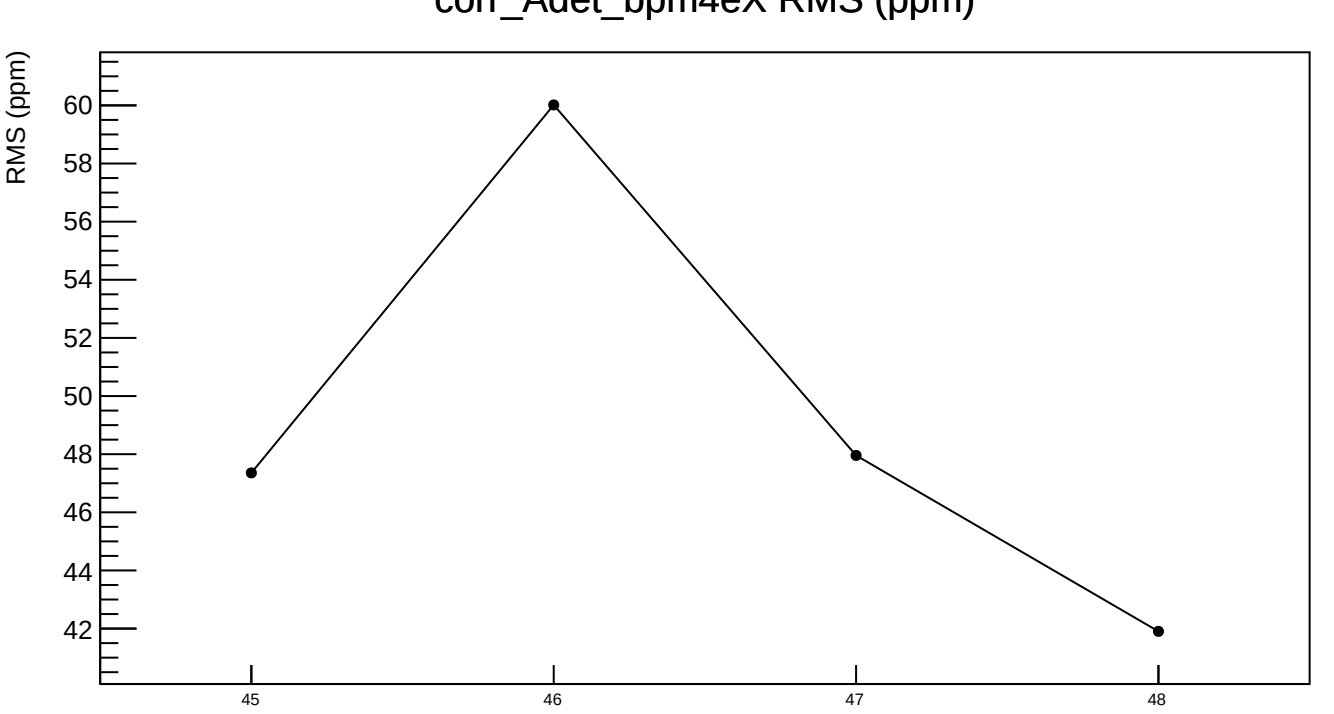

Adet (ppb)
χ² / ndf 2.831 / 3
p0 544.6 ± 63.82
800
700
600
500
400
300
1.5
1
0.5
0
−0.5
45
46
47
48

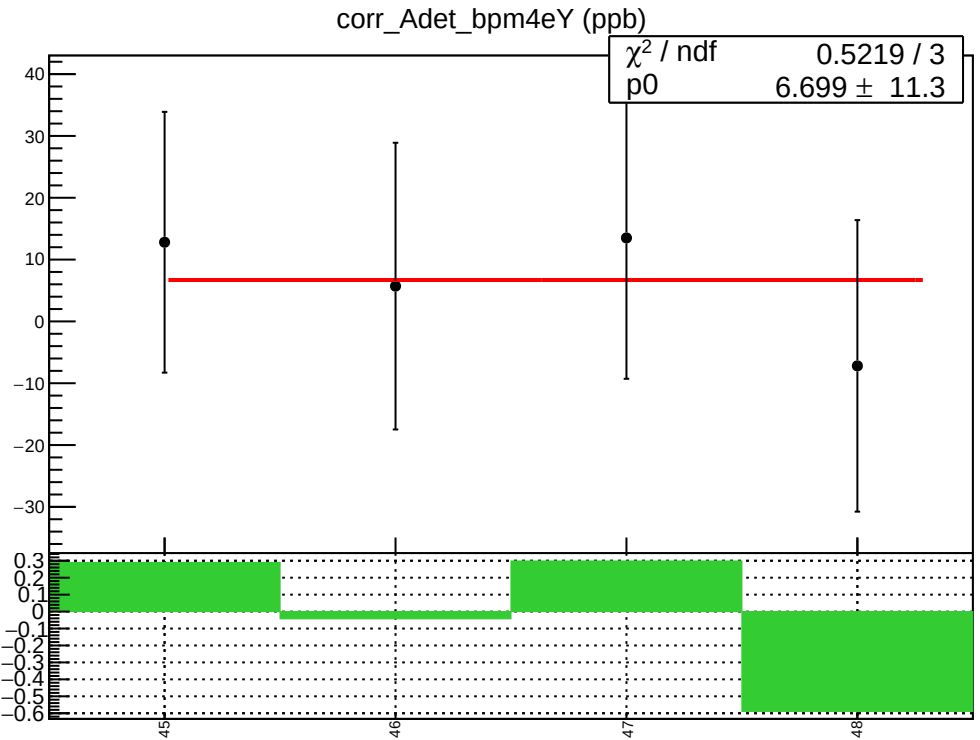

1D pull distribution
Mean −0.03453 ± 0.4203
Std Dev 0.8406 ± 0.2972
Underflow 0
Overflow 0
χ² / ndf 1.054e−09 / 0
Constant 2.52 ± 2.73
Mean 0.2667 ± 0.4081
Sigma 0.7846 ± 0.5947
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

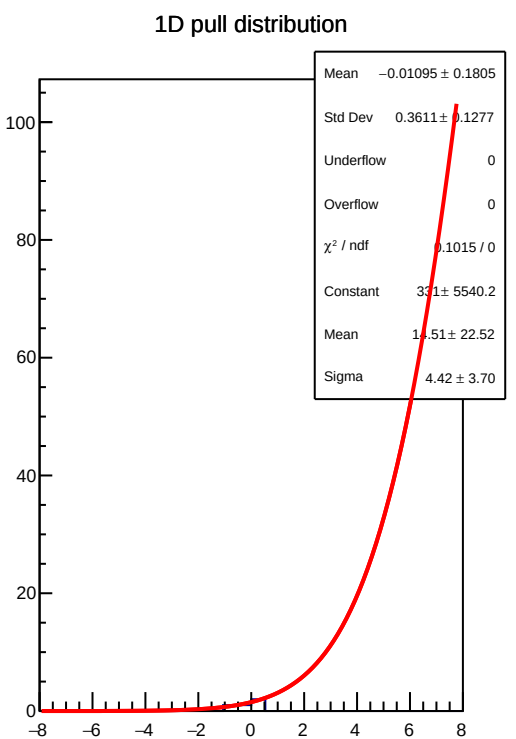

Adet RMS (ppm)
RMS (ppm)
93.6
93.4
93.2
93
92.8
92.6
92.4
92.2
92
45
46
47
48

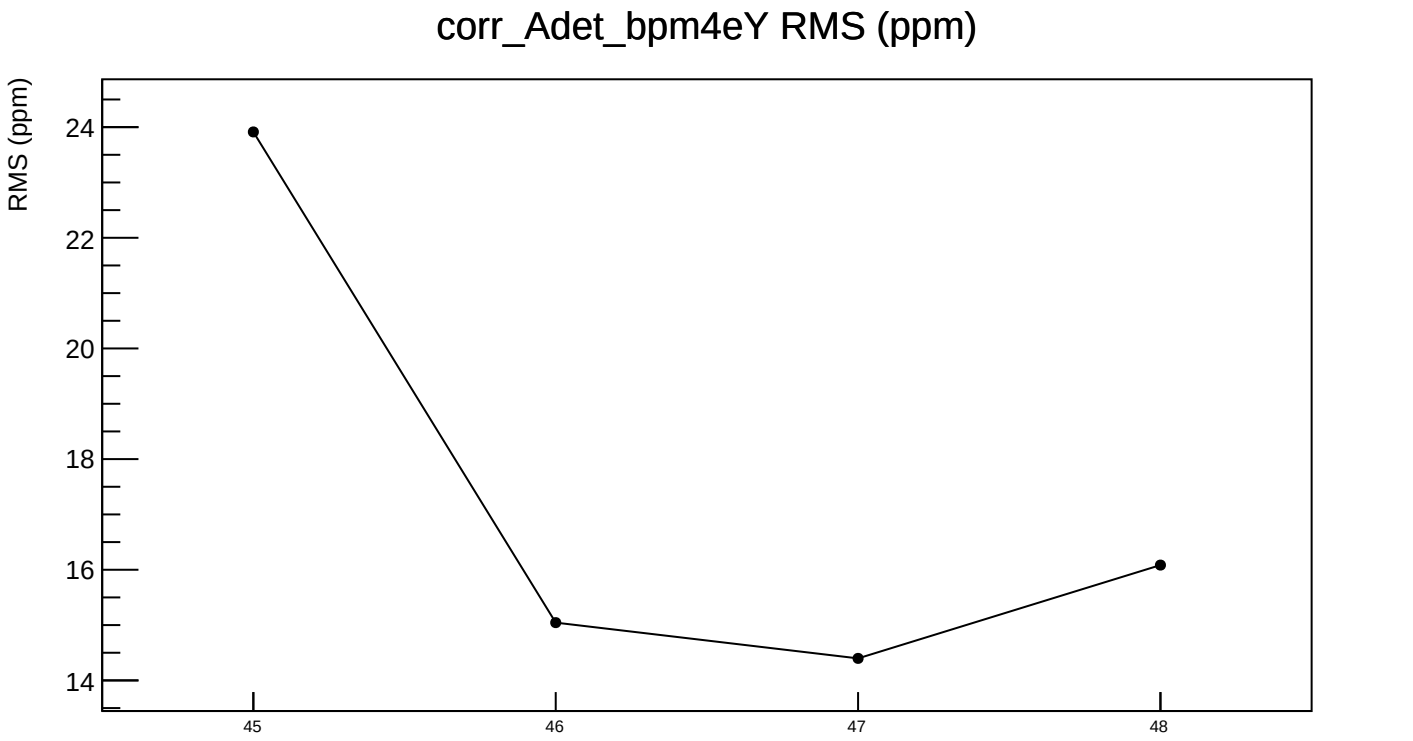

corr_Adet_bpm4eX (ppb)
χ² / ndf 2.671 / 3
p0 22.97 ± 50.82
250
200
150
100
50
0
−50
−100
−150
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

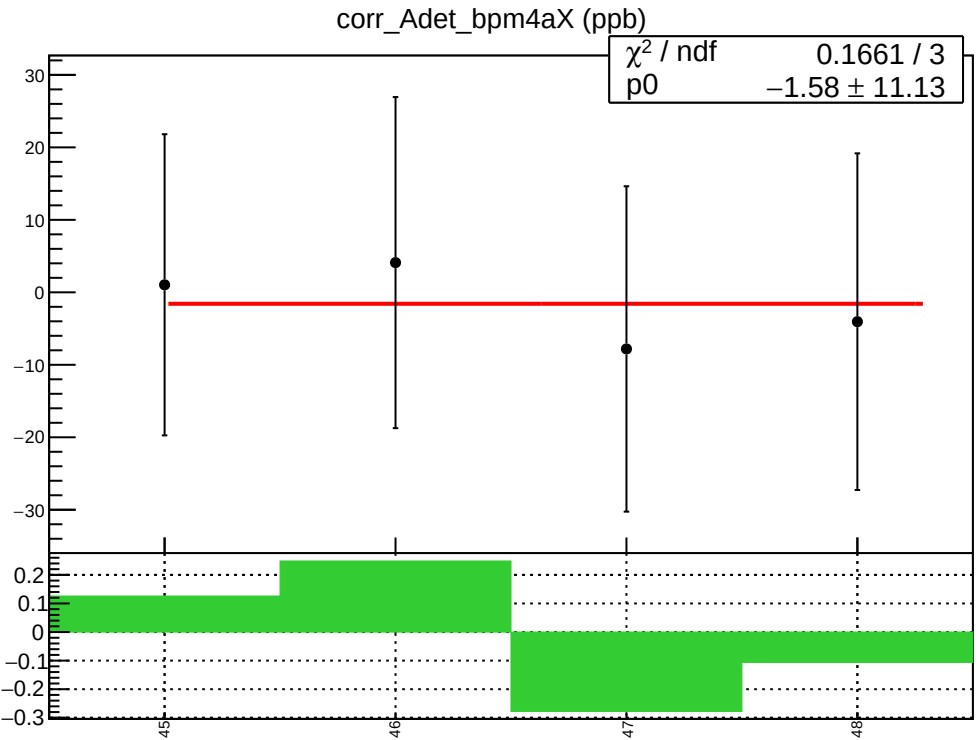

1D pull distribution
Mean 0.02739 ± 0.4084
Std Dev 0.8168 ± 0.2888
Underflow 0
Overflow 0
χ² / ndf 0.02051 / 0
Constant 297.4 ± 4461.0
Mean −29.35 ± 81.43
Sigma 9.013 ± 4.784
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

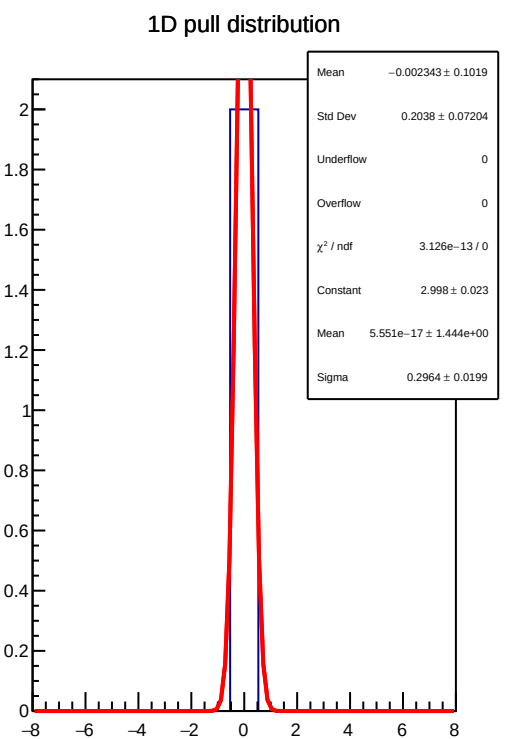

corr_Adet_bpm4eX RMS (ppm)
RMS (ppm)
60
58
56
54
52
50
48
46
44
42
45
46
47
48

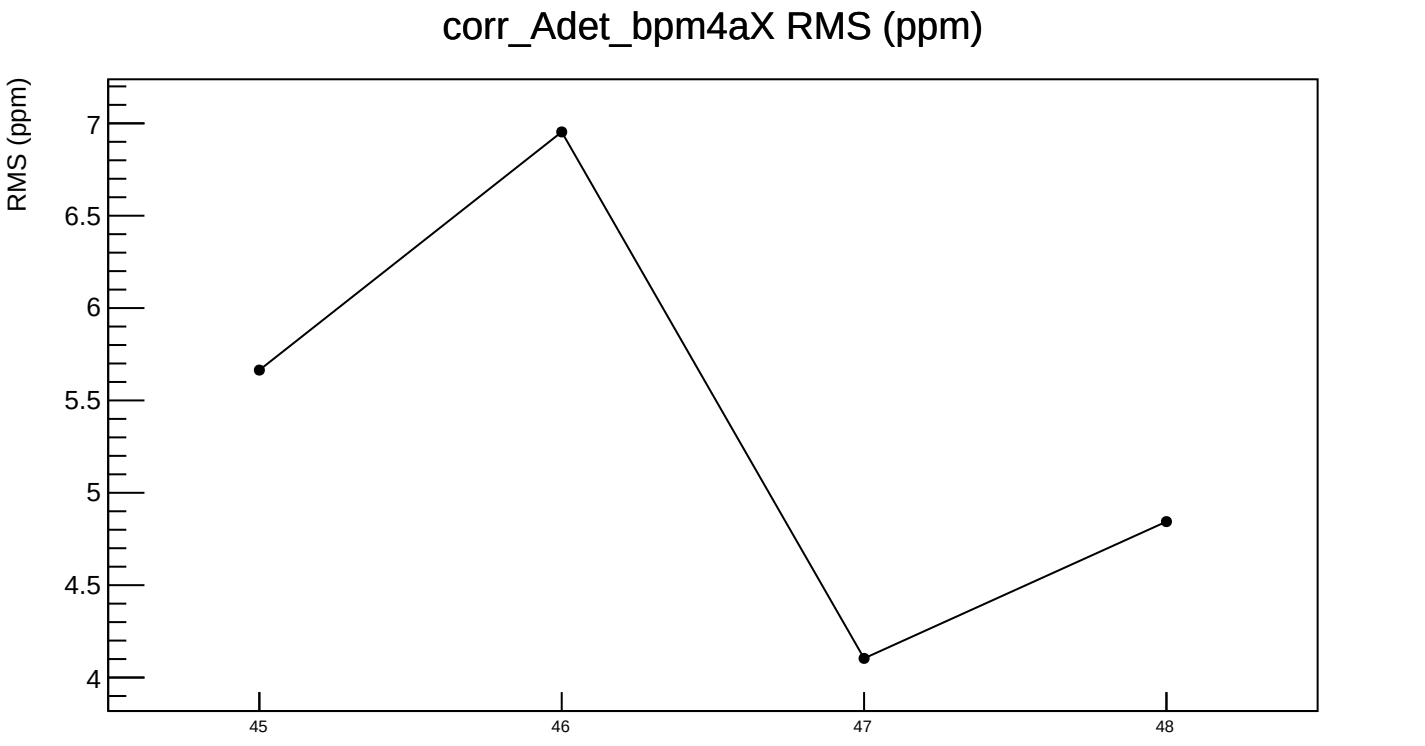

corr_Adet_bpm4eY (ppb)
χ² / ndf 0.5219 / 3
p0 6.699 ± 11.3
40
30
20
10
0
−10
−20
−30
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
−0.5
−0.6
45
46
47
48

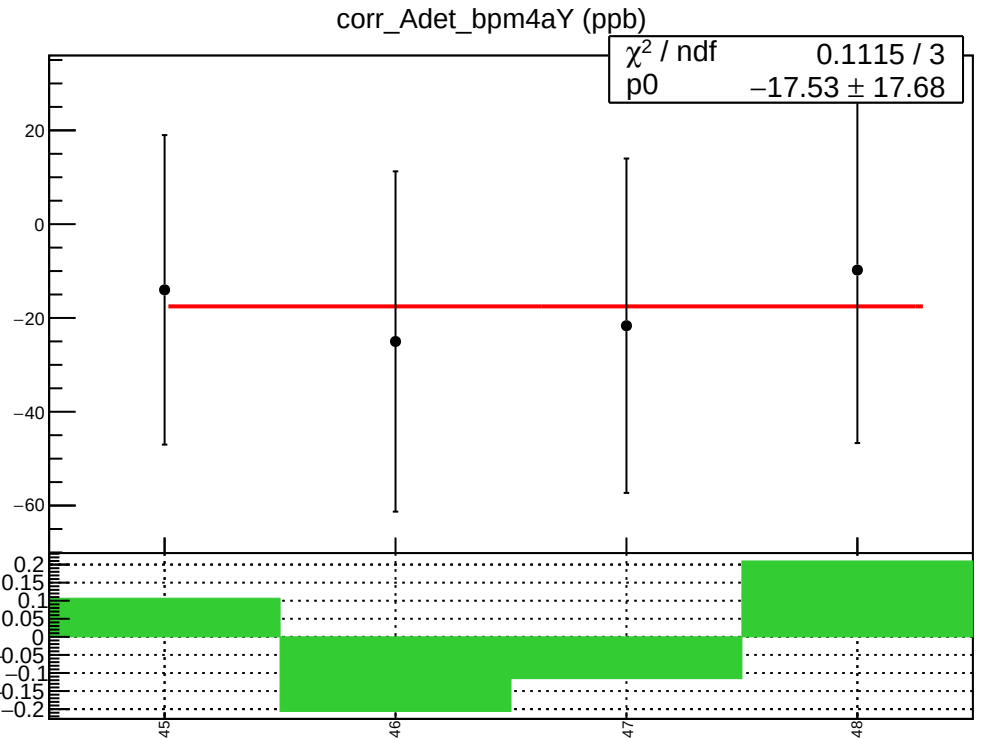

1D pull distribution
Mean −0.01095 ± 0.1805
Std Dev 0.3611 ± 0.1277
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 331 ± 5540.2
Mean 1.51 ± 22.52
Sigma 4.42 ± 3.70
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

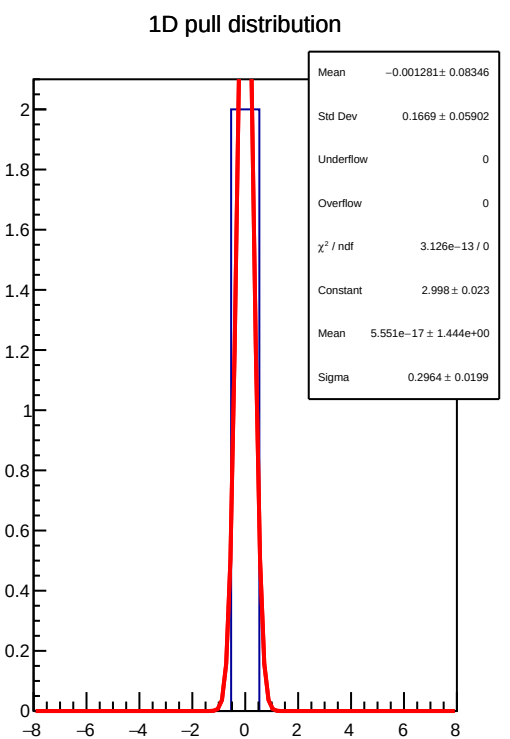

corr_Adet_bpm4eY RMS (ppm)
RMS (ppm)
24
22
20
18
16
14
45
46
47
48

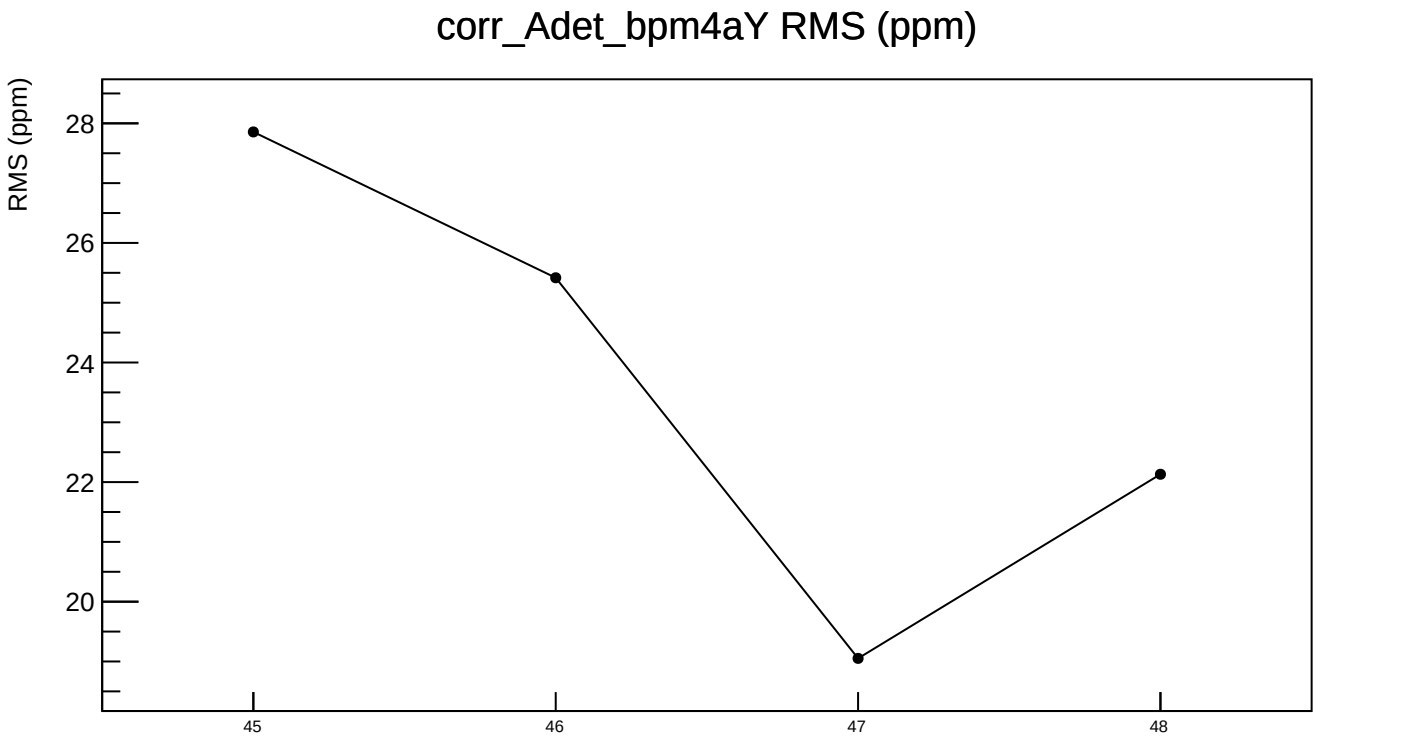

corr_Adet_bpm4aX (ppb)
χ² / ndf 0.1661 / 3
p0 −1.58 ± 11.13
30
20
10
0
−10
−20
−30
0.2
0.1
0
−0.1
−0.2
−0.3
45
46
47
48

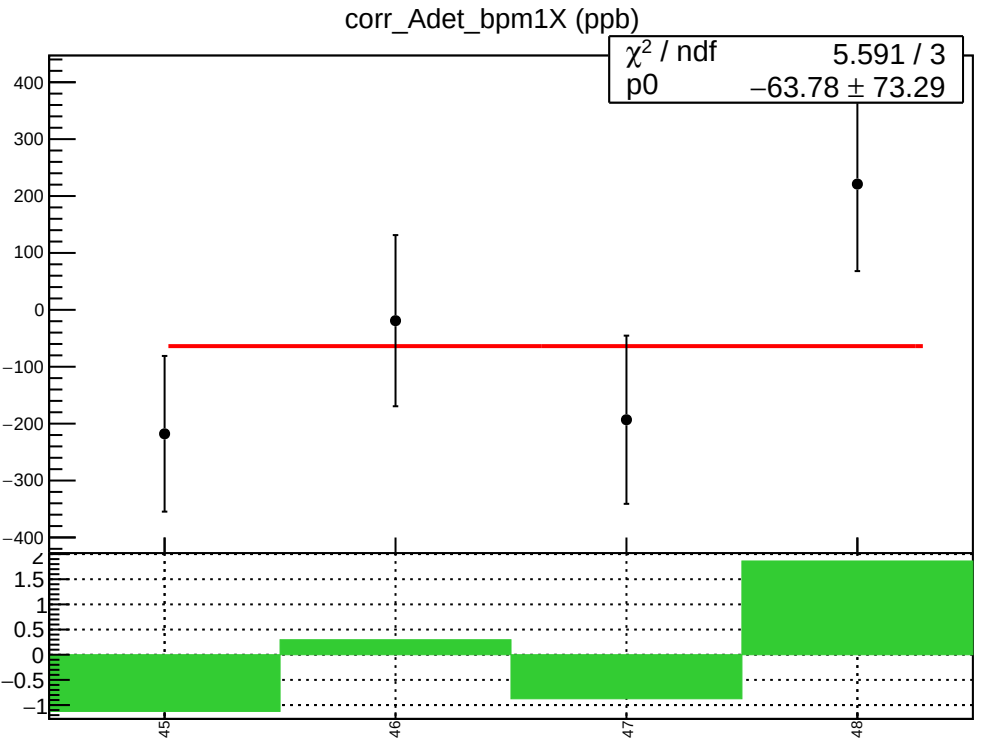

1D pull distribution
Mean −0.002343 ± 0.1019
Std Dev 0.2038 ± 0.07204
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

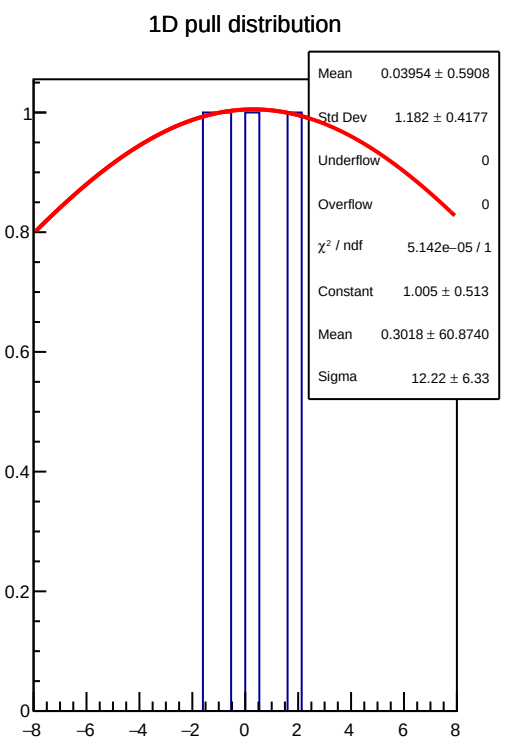

corr_Adet_bpm4aX RMS (ppm)
RMS (ppm)
7
6.5
6
5.5
5
4.5
4
45
46
47
48

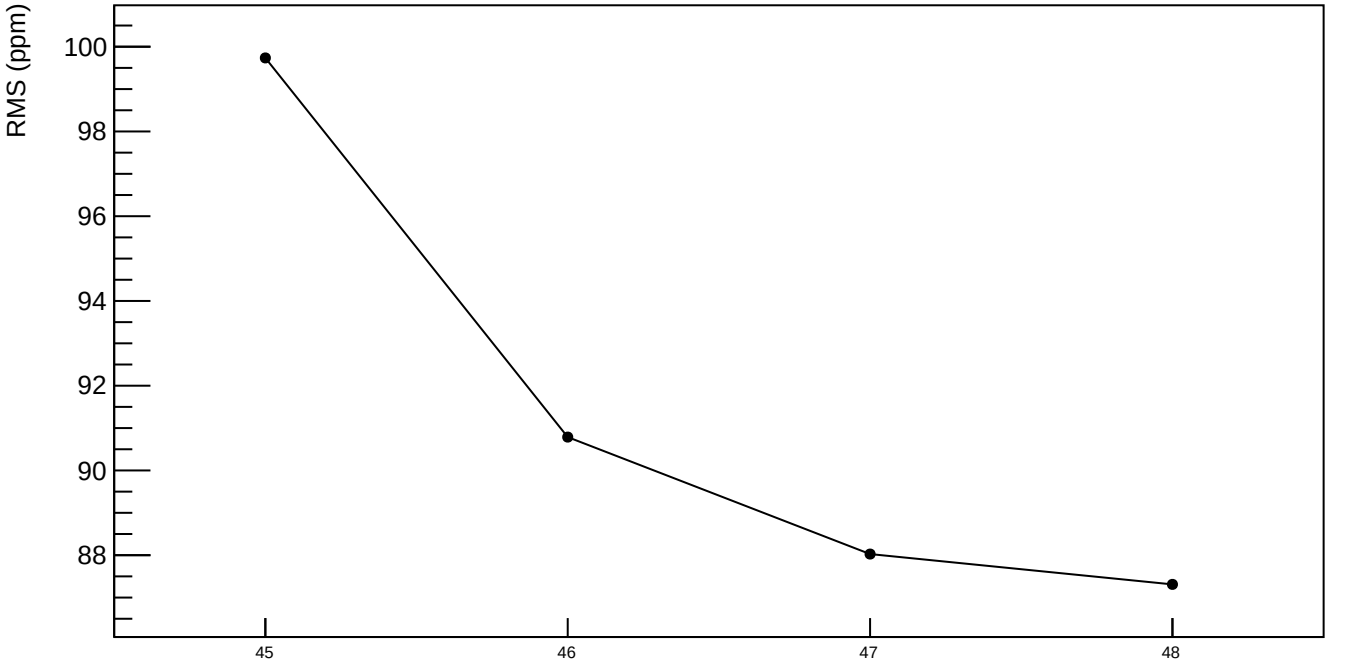

corr_Adet_bpm4aY (ppb)
χ² / ndf 0.1115 / 3
p0 −17.53 ± 17.68
20
0
−20
−40
−60
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
45
46
47
48

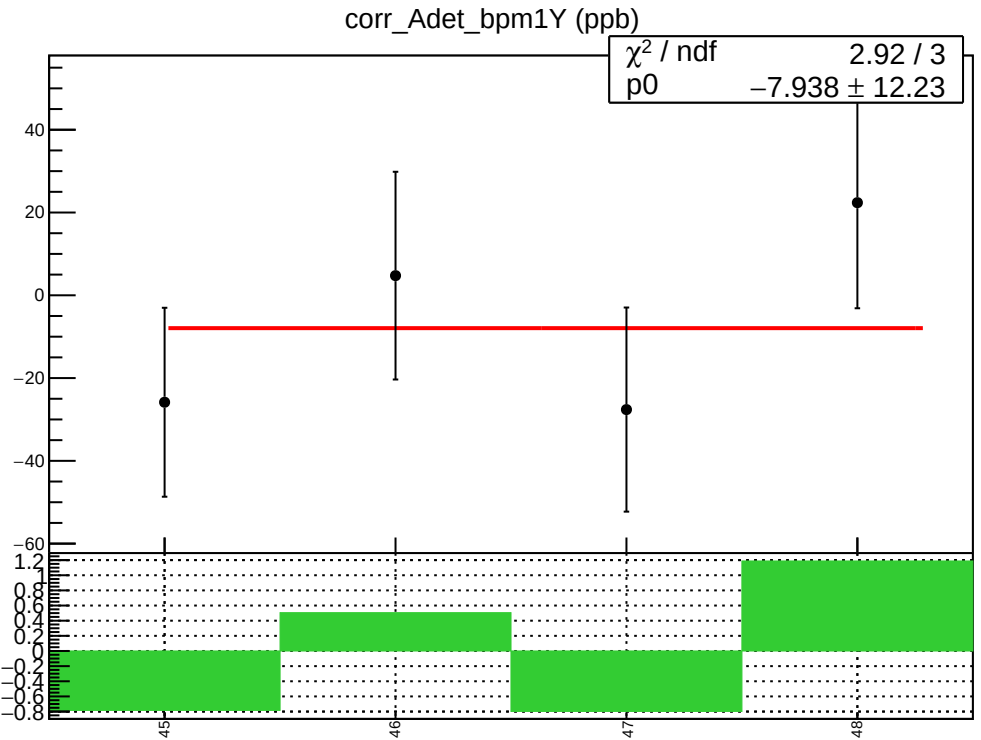

1D pull distribution
Mean −0.001281 ± 0.08346
Std Dev 0.1669 ± 0.05902
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

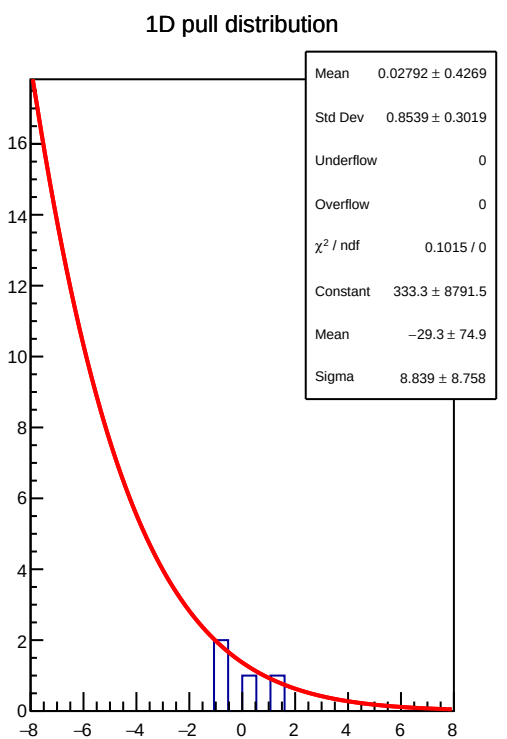

corr_Adet_bpm4aY RMS (ppm)
RMS (ppm)
28
26
24
22
20
45
46
47
48

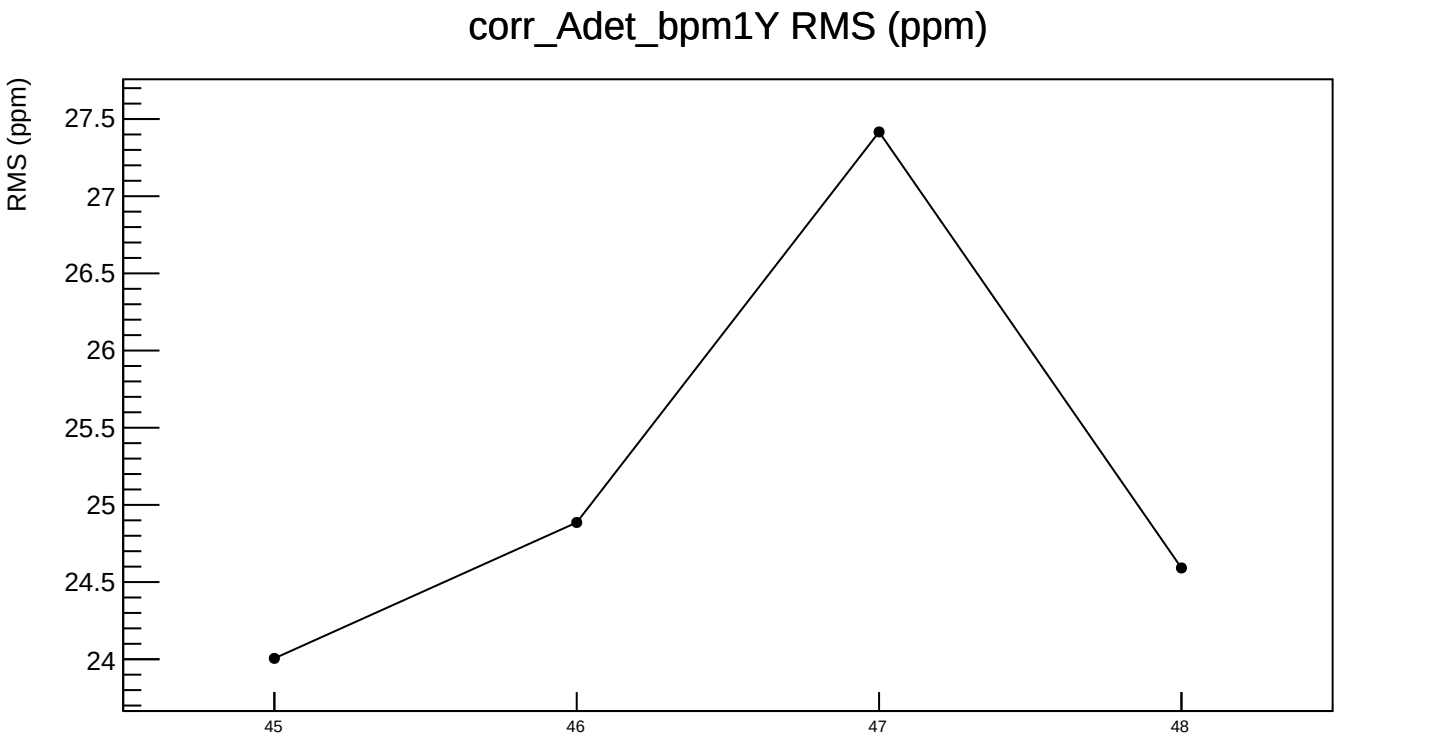

corr_Adet_bpm1X (ppb)
χ² / ndf 5.591 / 3
p0 −63.78 ± 73.29
400
300
200
100
0
−100
−200
−300
−400
2
1.5
1
0.5
0
−0.5
−1
45
46
47
48

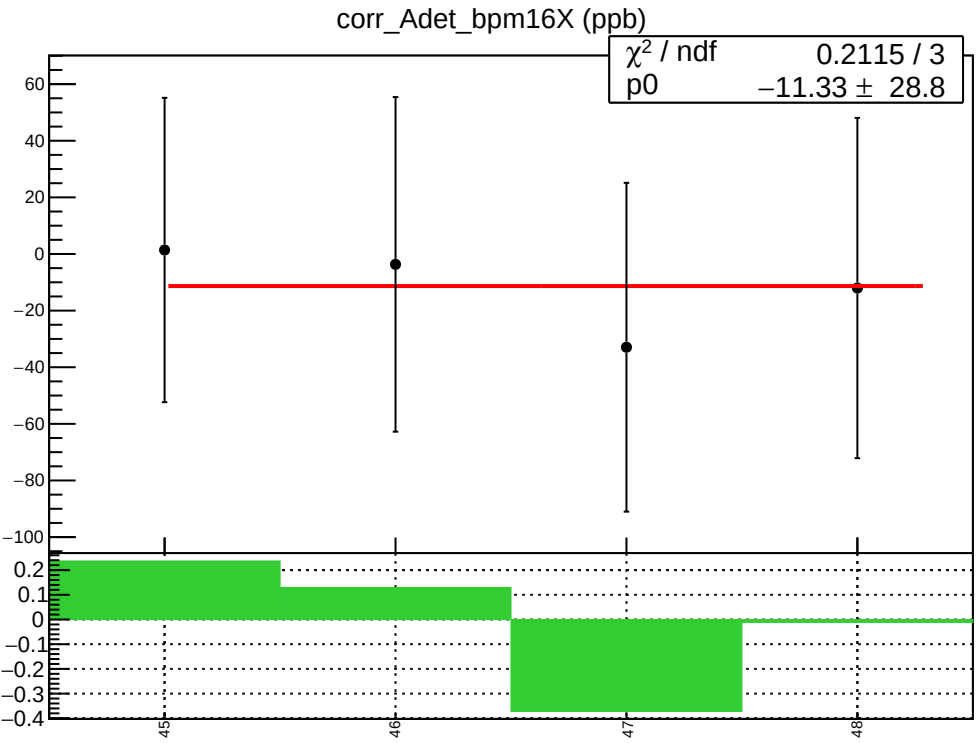

1D pull distribution
Mean 0.03954 ± 0.5908
Std Dev 1.182 ± 0.4177
Underflow 0
Overflow 0
χ² / ndf 5.142e−05 / 1
Constant 1.005 ± 0.513
Mean 0.3018 ± 60.8740
Sigma 12.22 ± 6.33
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

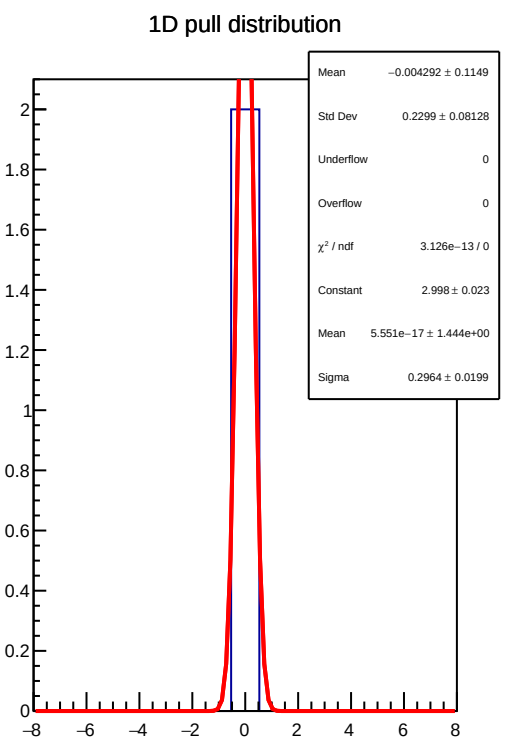

corr_Adet_bpm1X RMS (ppm)
RMS (ppm)
100
98
96
94
92
90
88
45
46
47
48

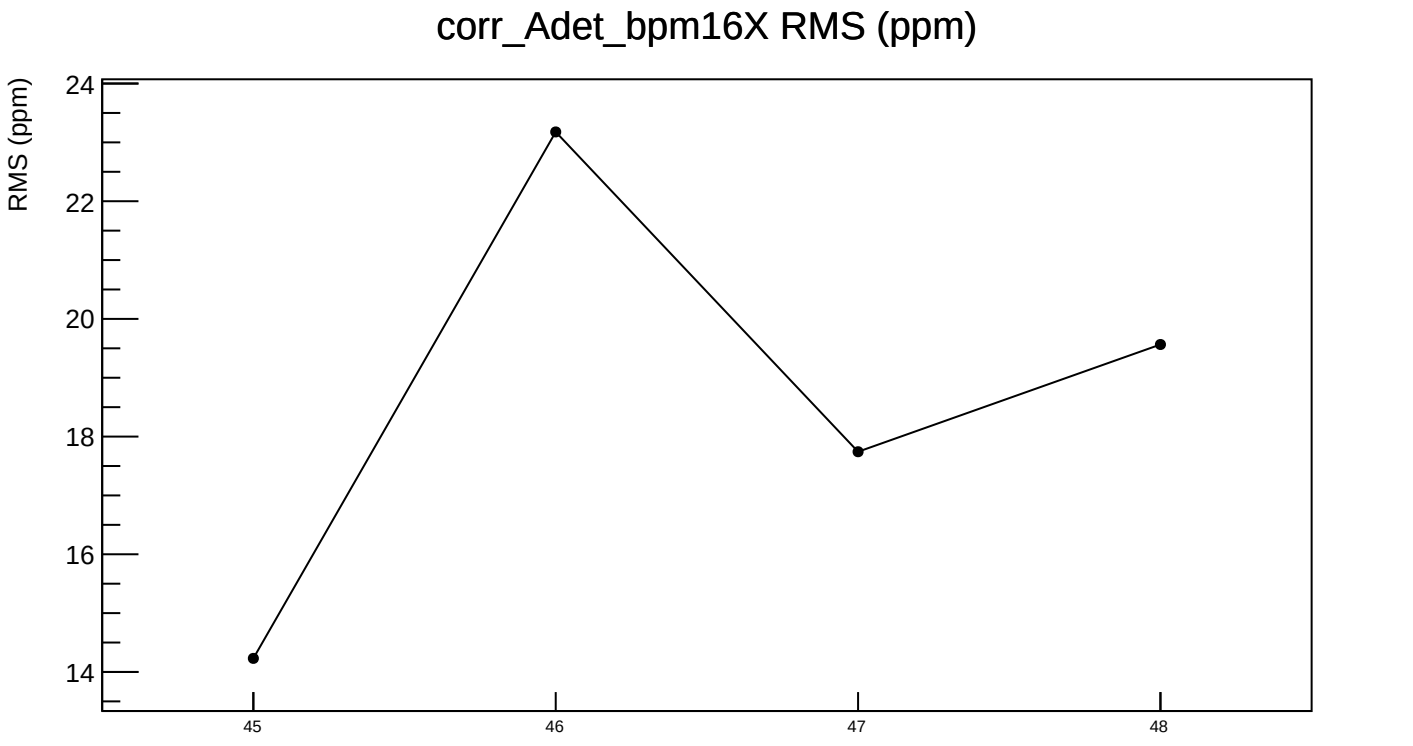

corr_Adet_bpm1Y (ppb)
χ² / ndf 2.92 / 3
p0 −7.938 ± 12.23
40
20
0
−20
−40
−60
1.2
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

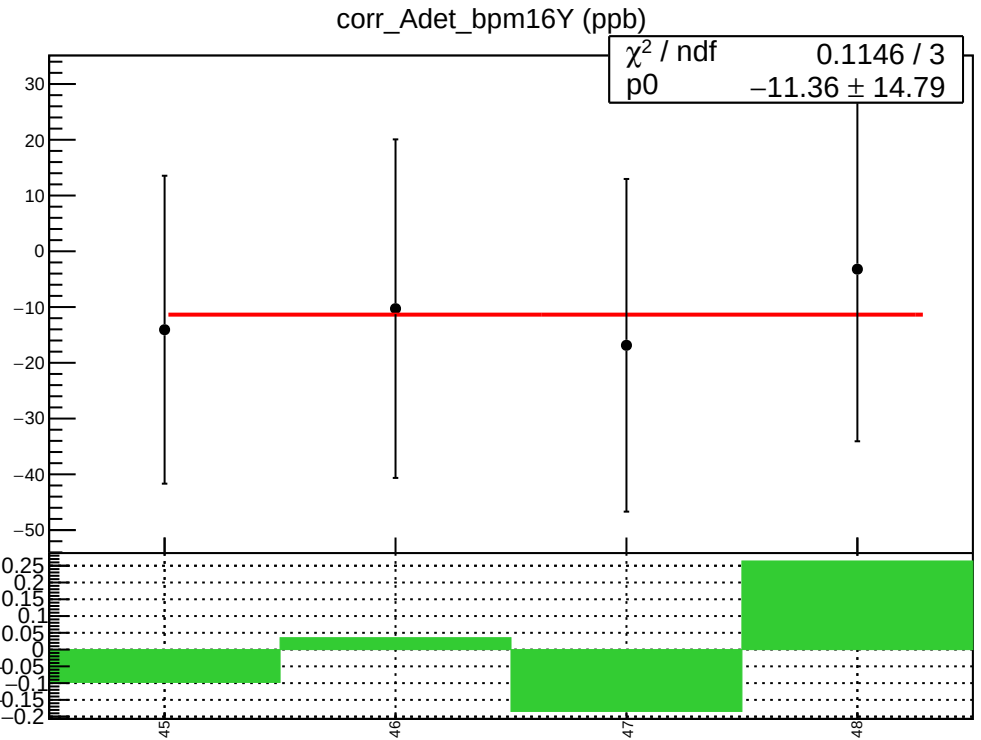

1D pull distribution
Mean 0.02792 ± 0.4269
Std Dev 0.8539 ± 0.3019
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

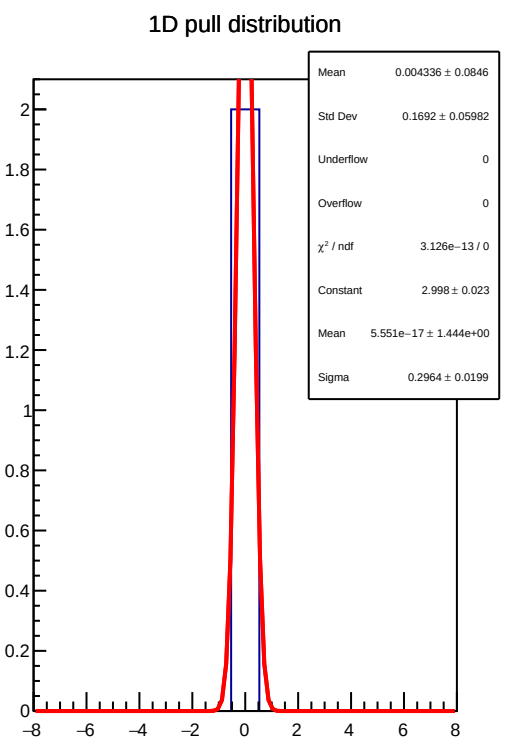

corr_Adet_bpm1Y RMS (ppm)
RMS (ppm)
27.5
27
26.5
26
25.5
25
24.5
24
45
46
47
48

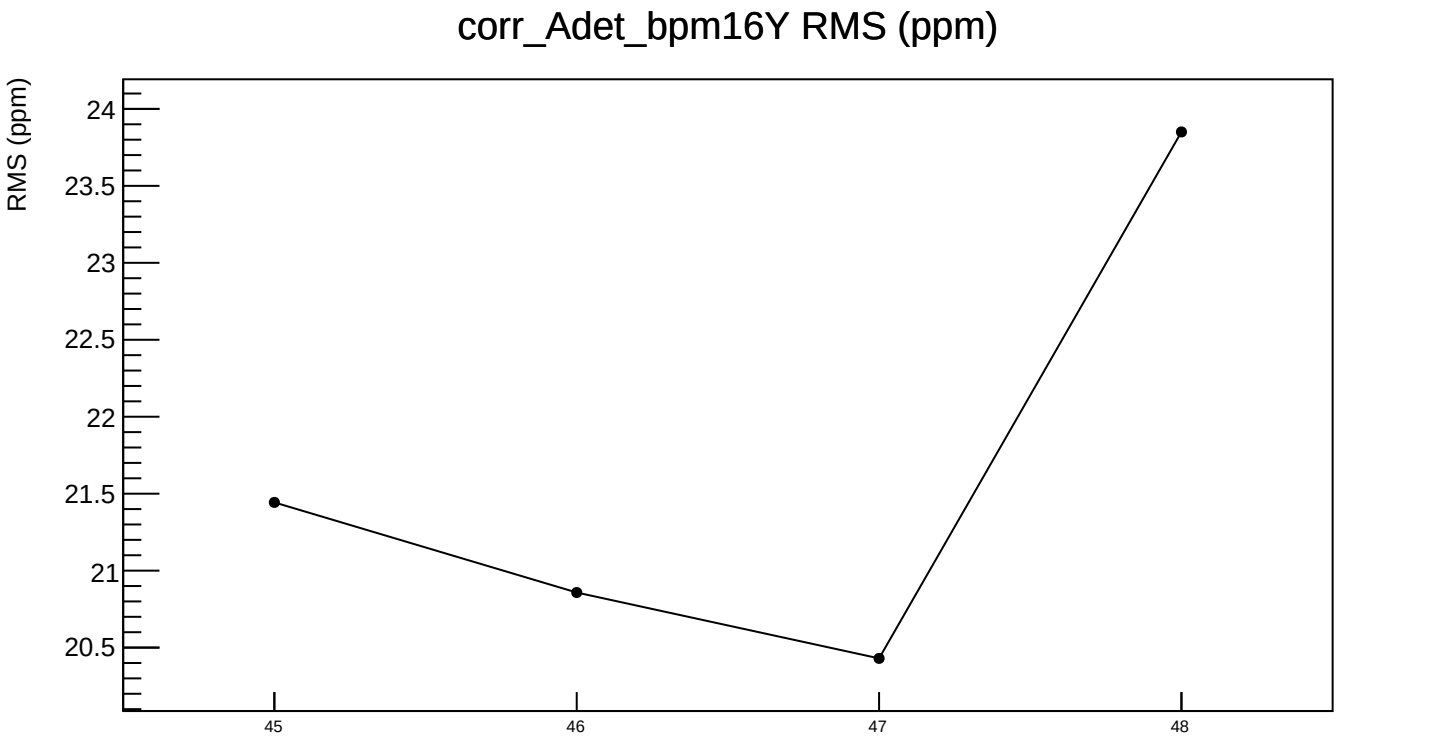

corr_Adet_bpm16X (ppb)
χ² / ndf 0.2115 / 3
p0 −11.33 ± 28.8
60
40
20
0
−20
−40
−60
−80
−100
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
45
46
47
48

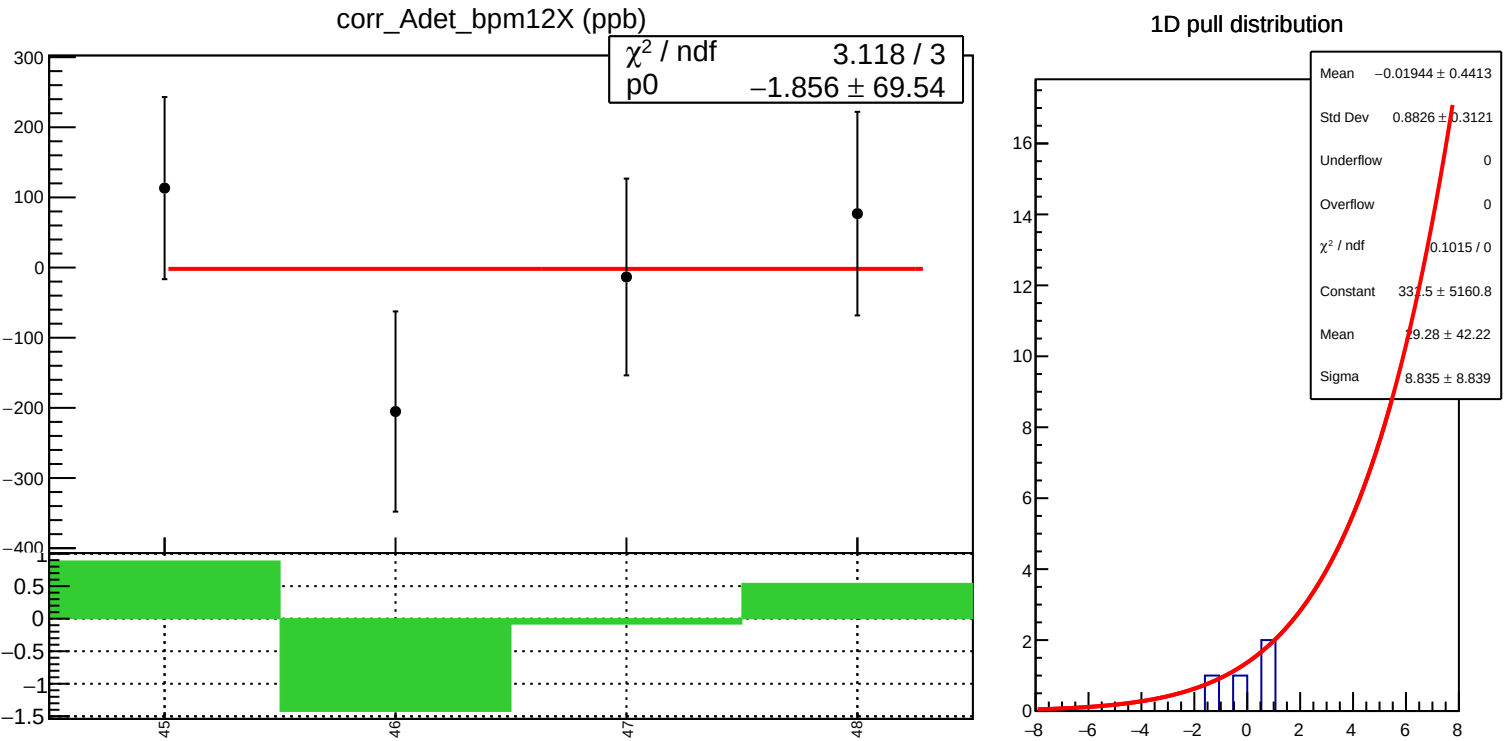

1D pull distribution
Mean −0.004292 ± 0.1149
Std Dev 0.2299 ± 0.08128
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

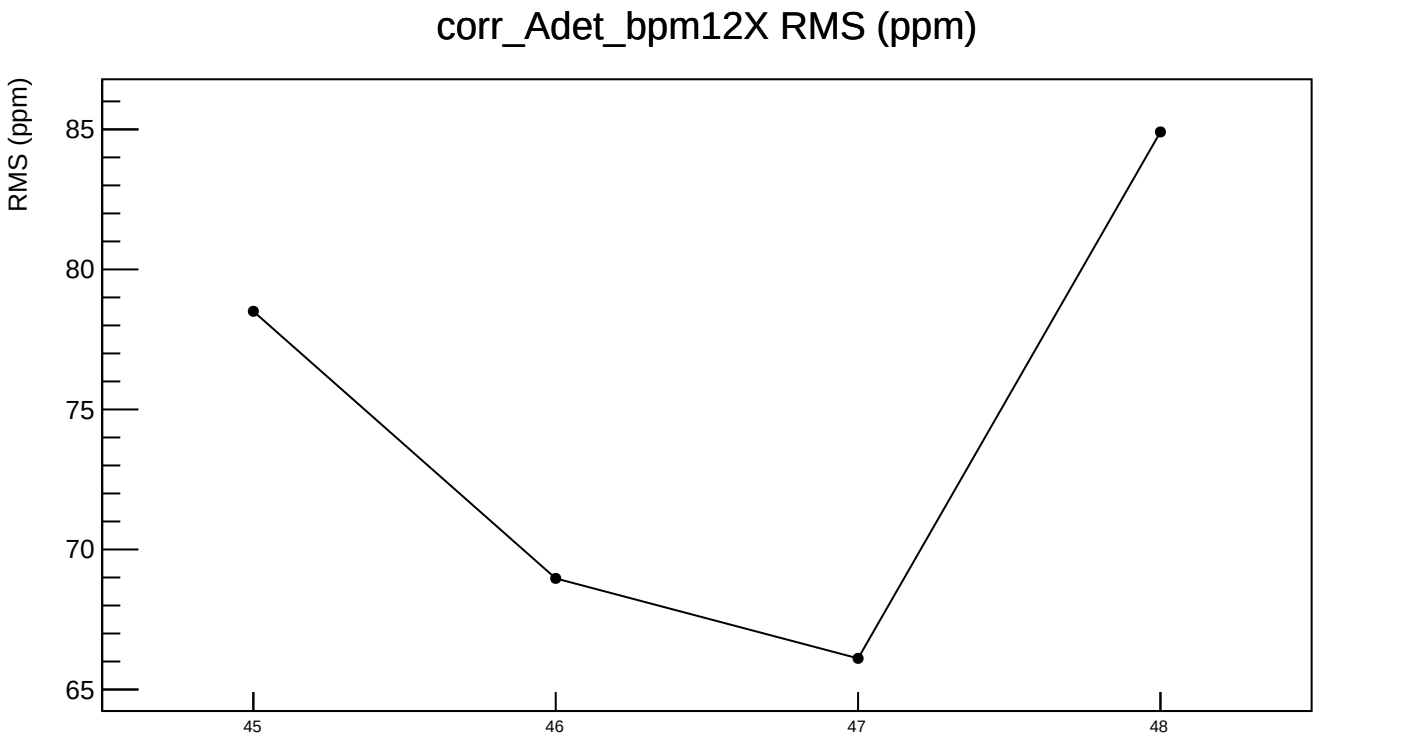

corr_Adet_bpm16X RMS (ppm)
RMS (ppm)
24
22
20
18
16
14
45
46
47
48

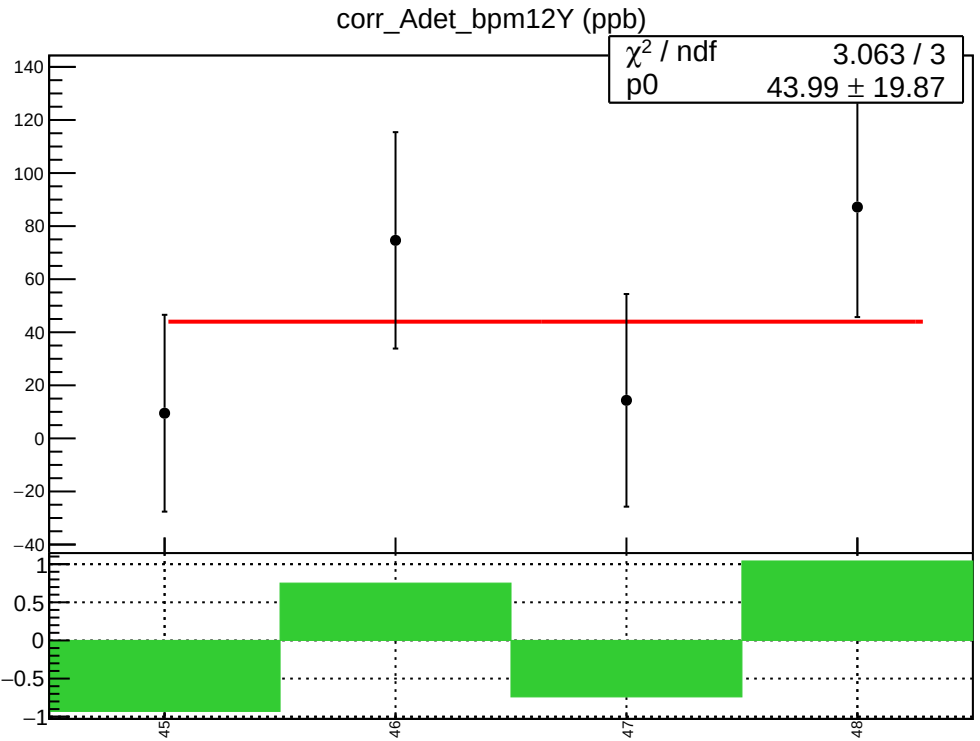

corr_Adet_bpm16Y (ppb)
χ² / ndf 0.1146 / 3
p0 −11.36 ± 14.79

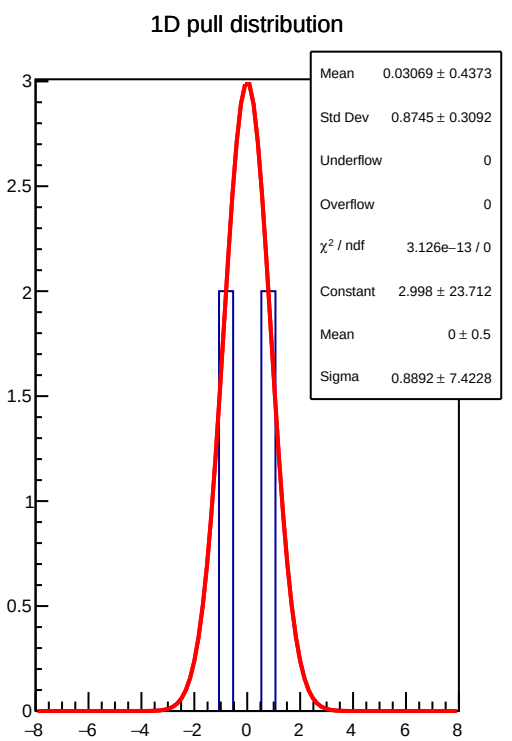

1D pull distribution
Mean 0.004336 ± 0.0846
Std Dev 0.1692 ± 0.05982
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean −5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199

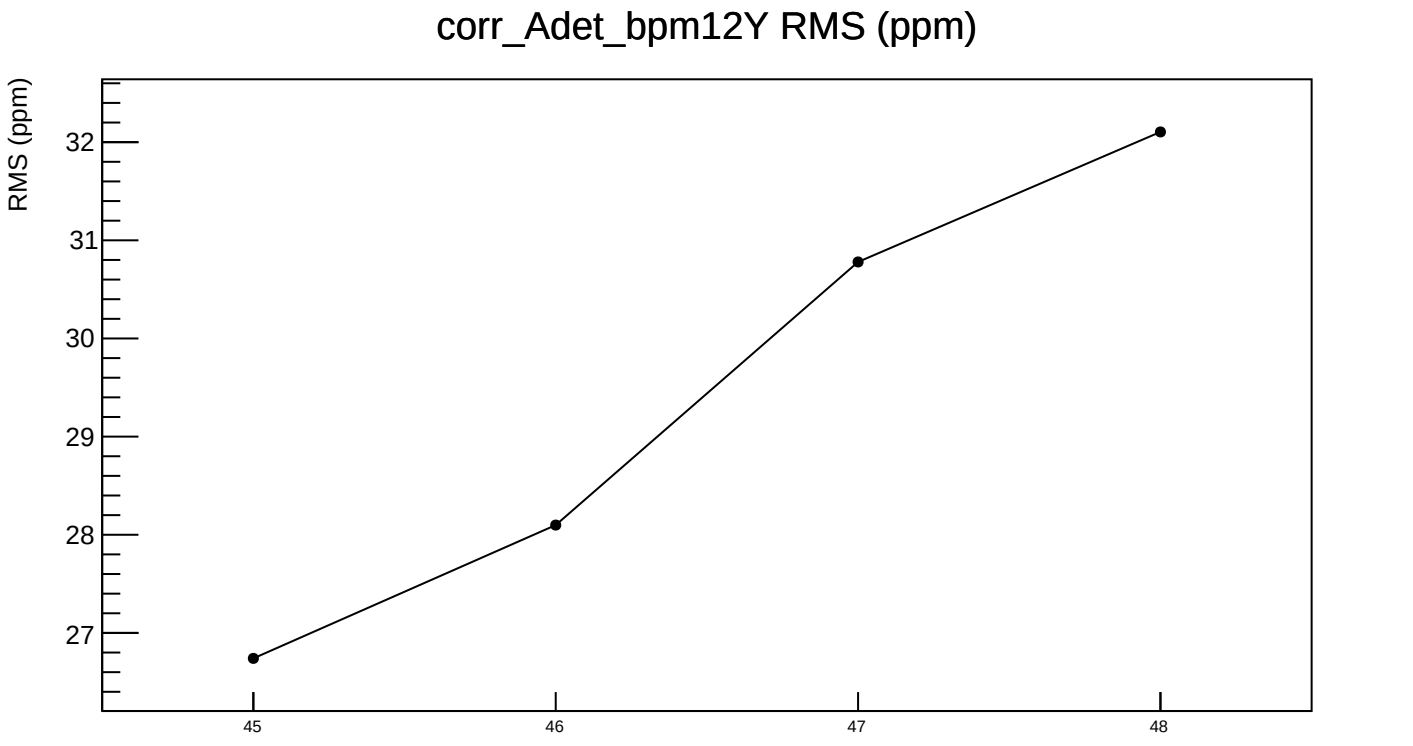

corr_Adet_bpm16Y RMS (ppm)
RMS (ppm)
24
23.5
23
22.5
22
21.5
21
20.5
45
46
47
48

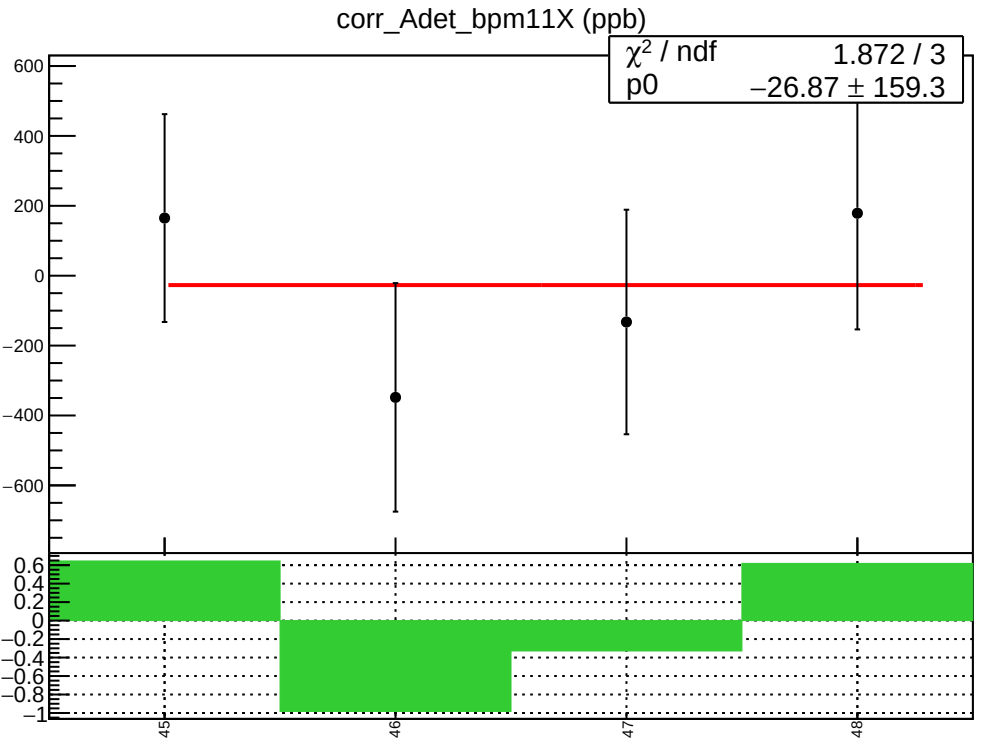

corr_Adet_bpm12X (ppb)
χ² / ndf 3.118 / 3
p0 −1.856 ± 69.54
1D pull distribution
Mean −0.01944 ± 0.4413
Std Dev 0.8826 ± 0.3121
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 331.5 ± 5160.8
Mean 29.28 ± 42.22
Sigma 8.835 ± 8.839

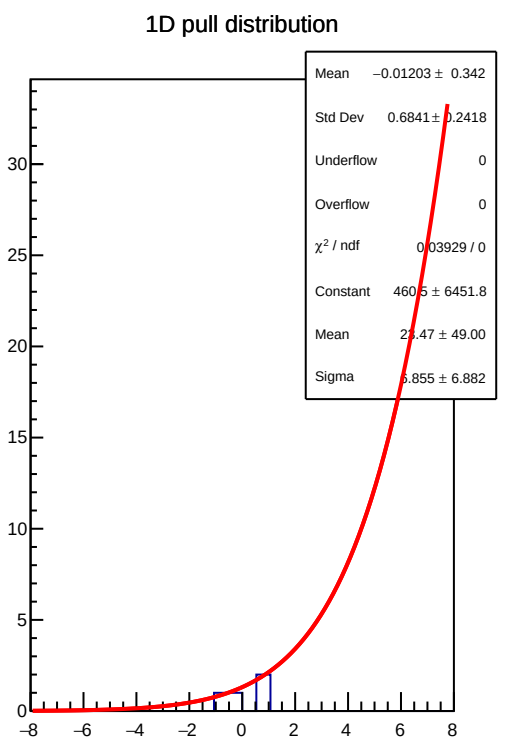

corr_Adet_bpm12X RMS (ppm)
RMS (ppm)
85
80
75
70
65
45
46
47
48

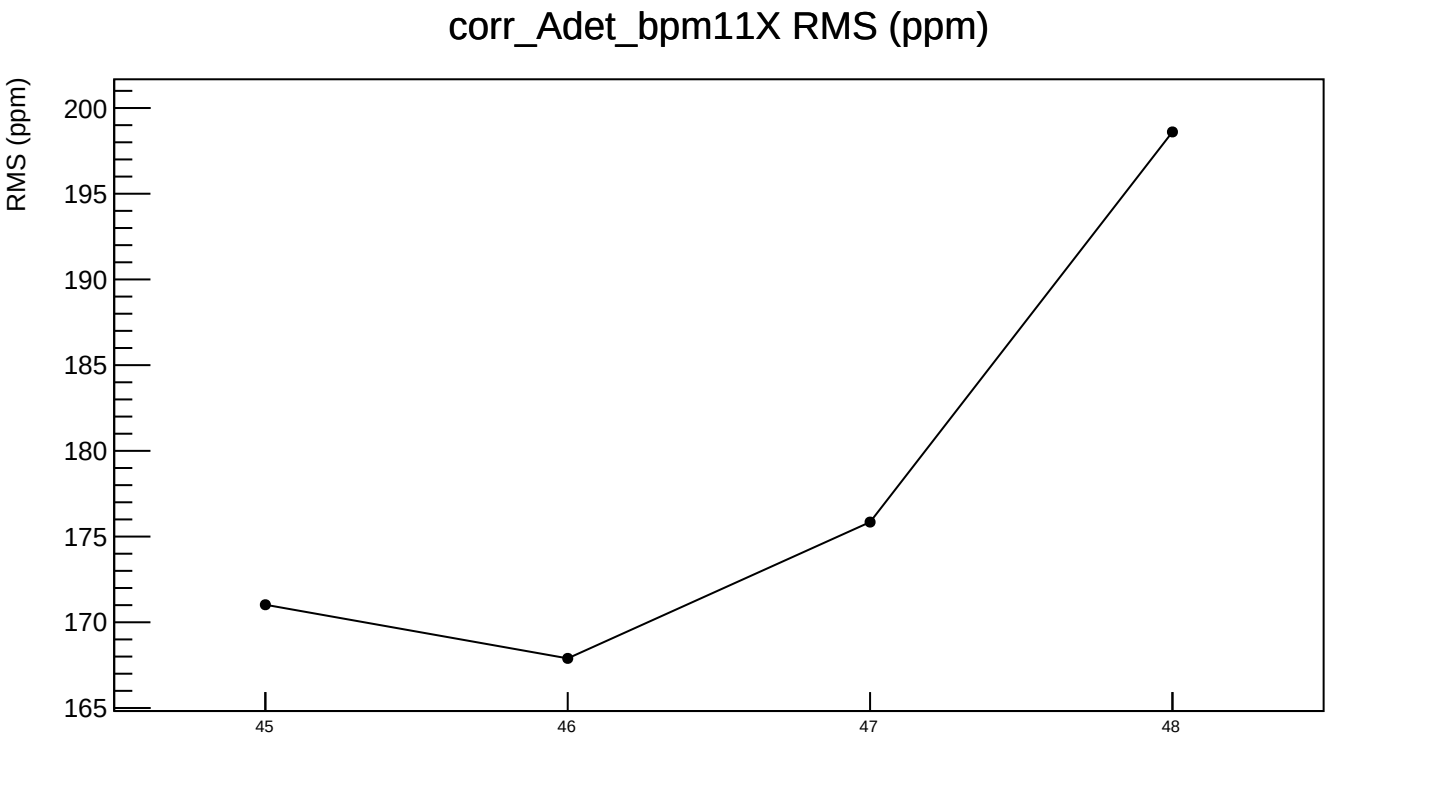

corr_Adet_bpm12Y (ppb)
χ² / ndf 3.063 / 3
p0 43.99 ± 19.87
140
120
100
80
60
40
20
0
−20
−40
1
0.5
0
−0.5
−1
45
46
47
48

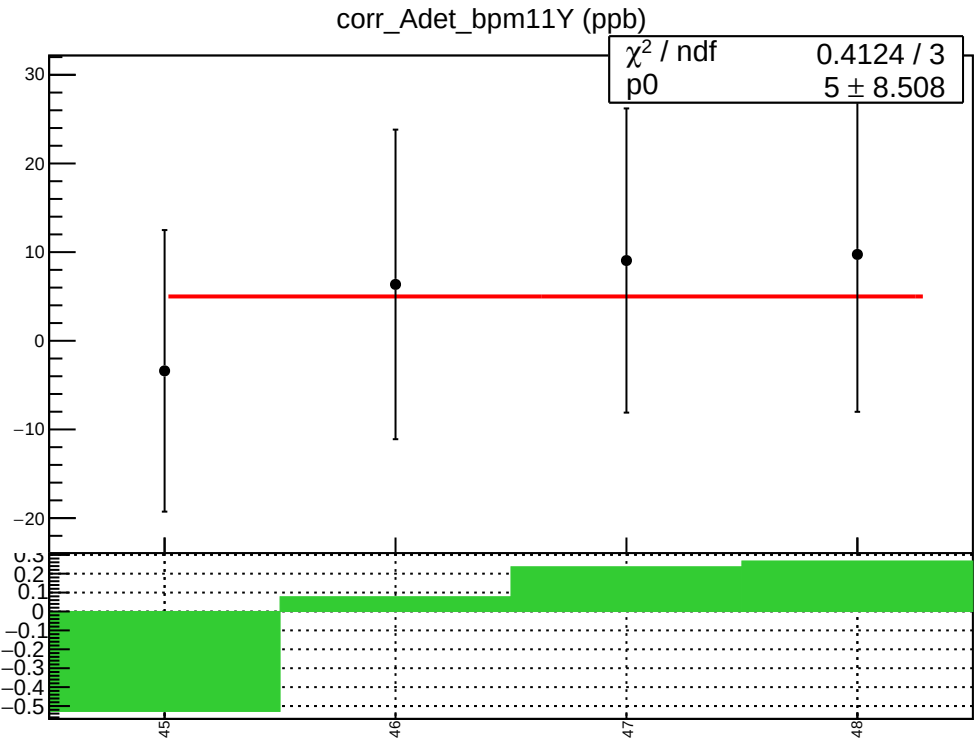

1D pull distribution
Mean 0.03069 ± 0.4373
Std Dev 0.8745 ± 0.3092
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

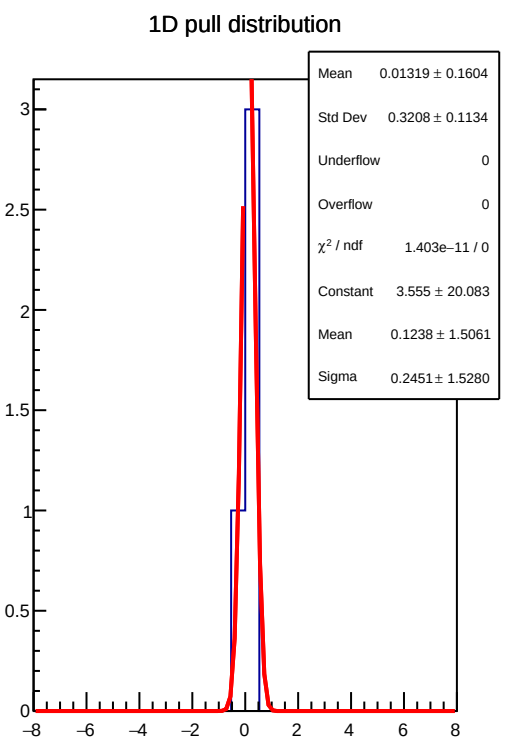

corr_Adet_bpm12Y RMS (ppm)
RMS (ppm)
32
31
30
29
28
27
45
46
47
48

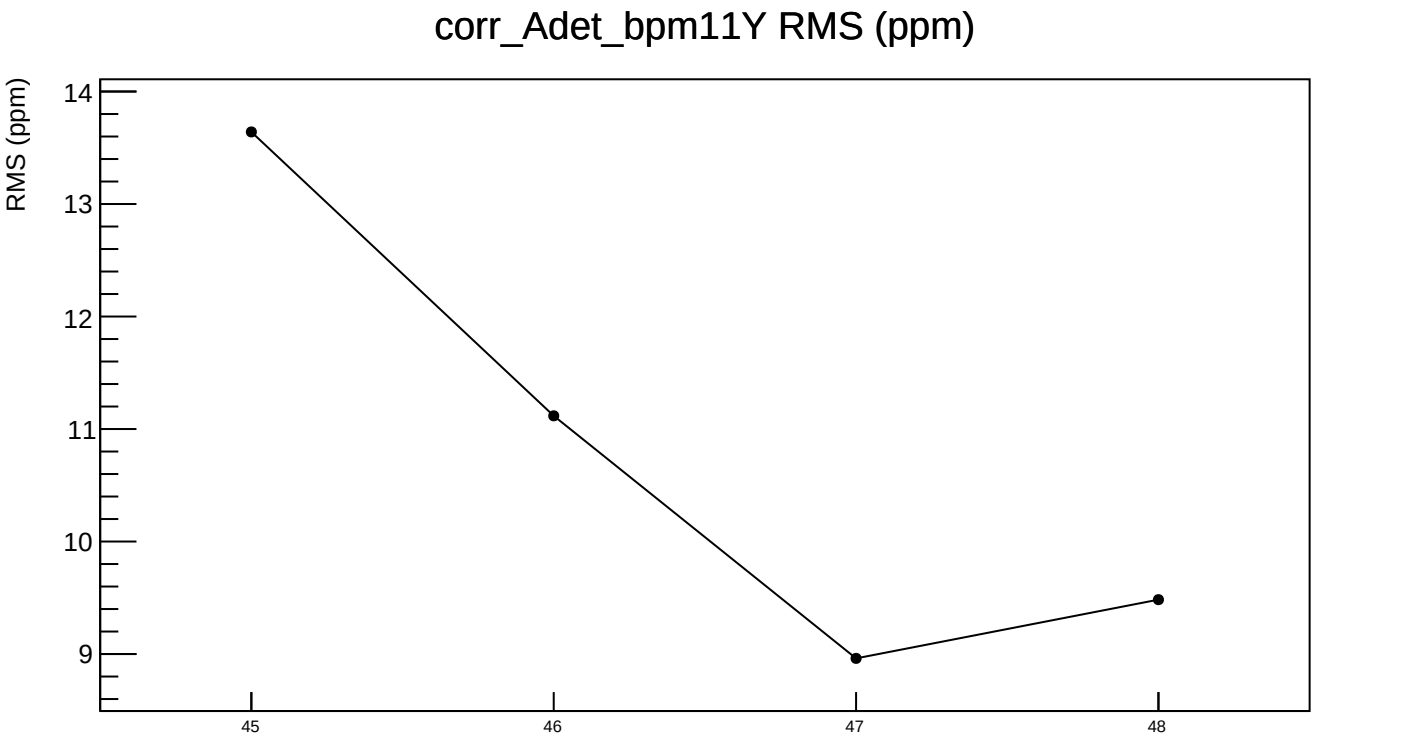

corr_Adet_bpm11X (ppb)
χ² / ndf 1.872 / 3
p0 −26.87 ± 159.3
600
400
200
0
−200
−400
−600
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
45
46
47
48

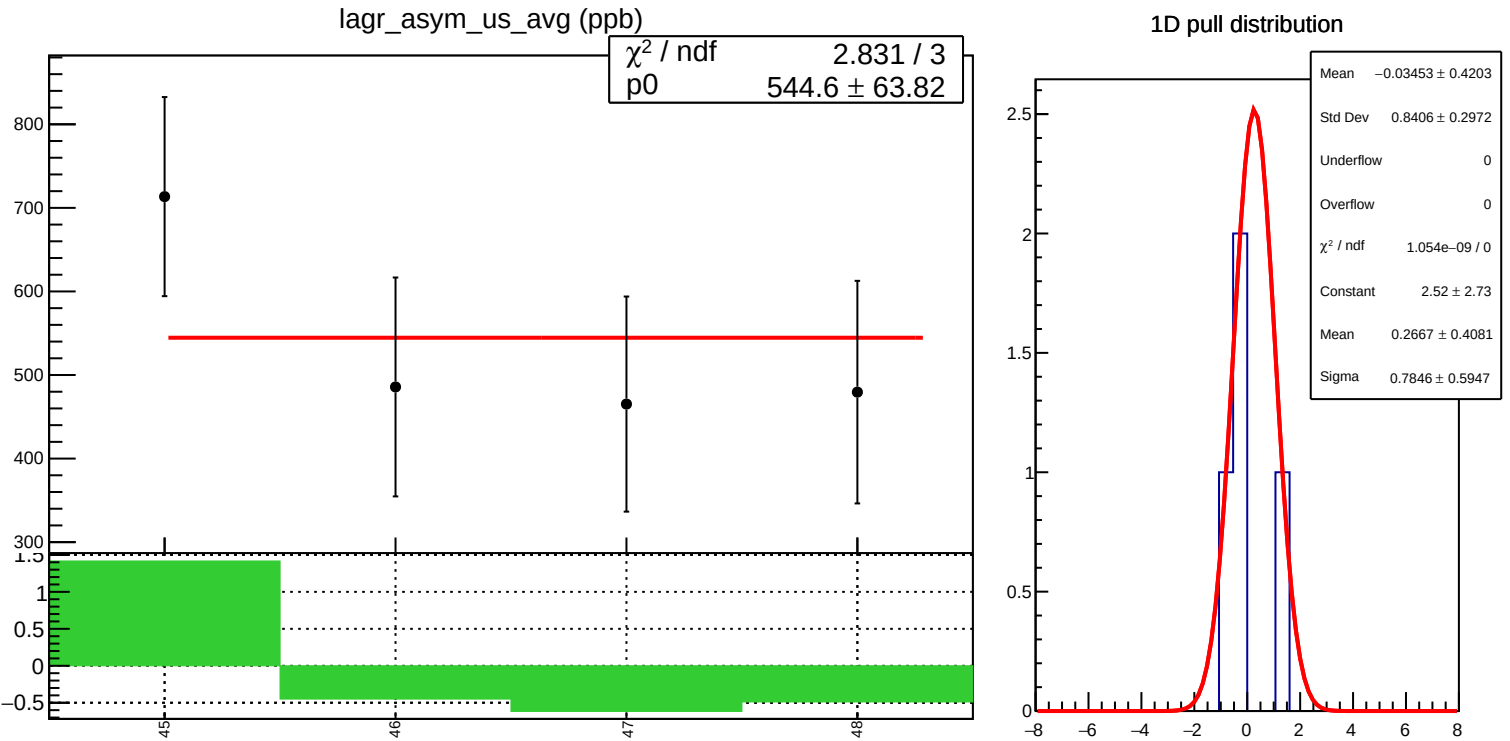

1D pull distribution
Mean −0.01203 ± 0.342
Std Dev 0.6841 ± 0.2418
Underflow 0
Overflow 0
χ² / ndf 0.03929 / 0
Constant 460.5 ± 6451.8
Mean 23.47 ± 49.00
Sigma 6.855 ± 6.882
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

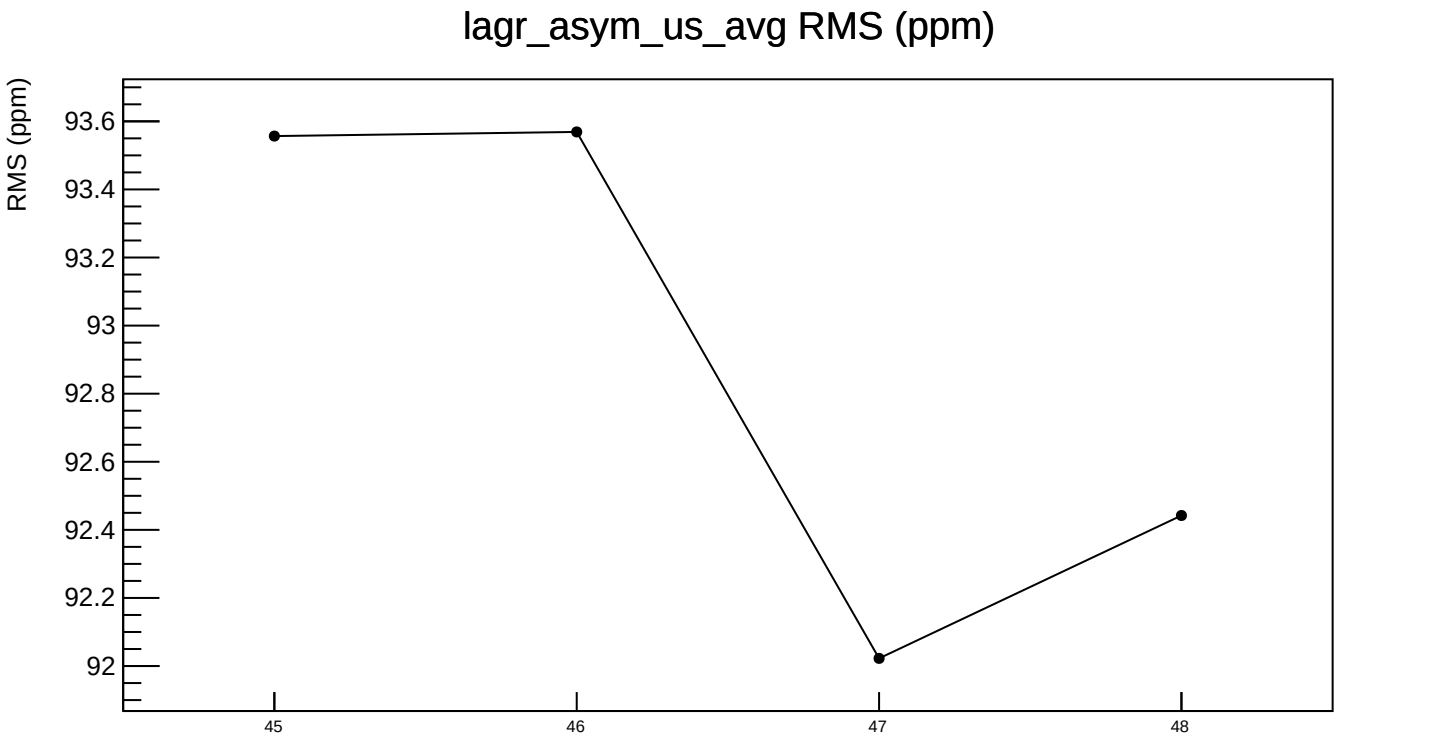

corr_Adet_bpm11X RMS (ppm)
RMS (ppm)
200
195
190
185
180
175
170
165
45
46
47
48

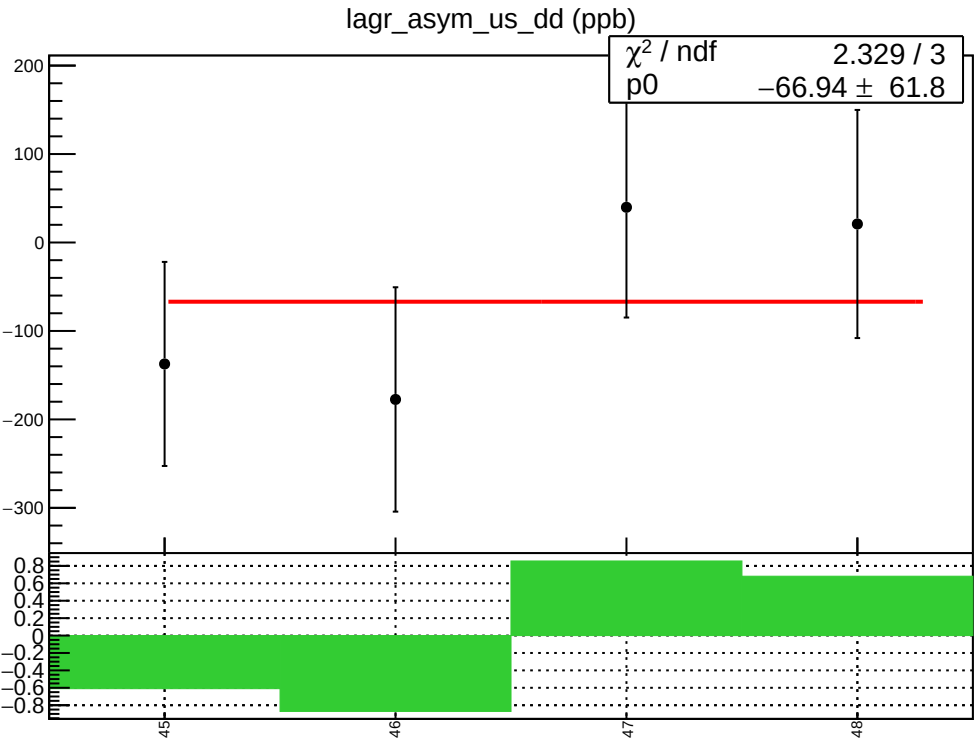

corr_Adet_bpm11Y (ppb)
χ² / ndf 0.4124 / 3
p0 5 ± 8.508
30
20
10
0
−10
−20
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
−0.5
45
46
47
48

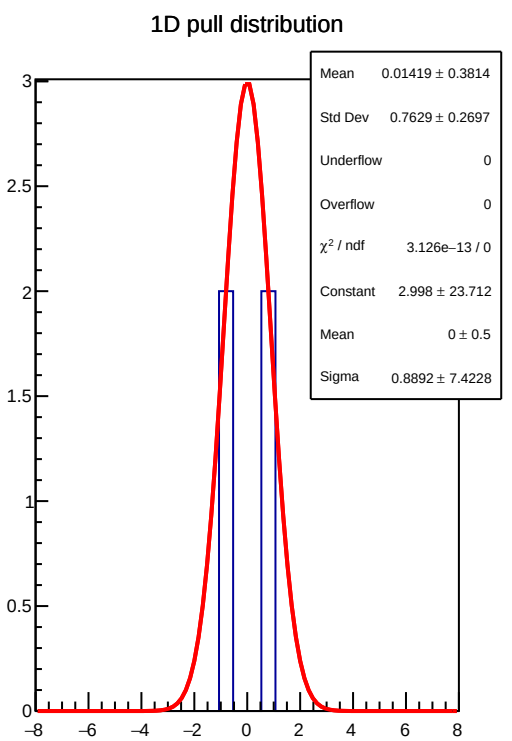

1D pull distribution
Mean 0.01319 ± 0.1604
Std Dev 0.3208 ± 0.1134
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

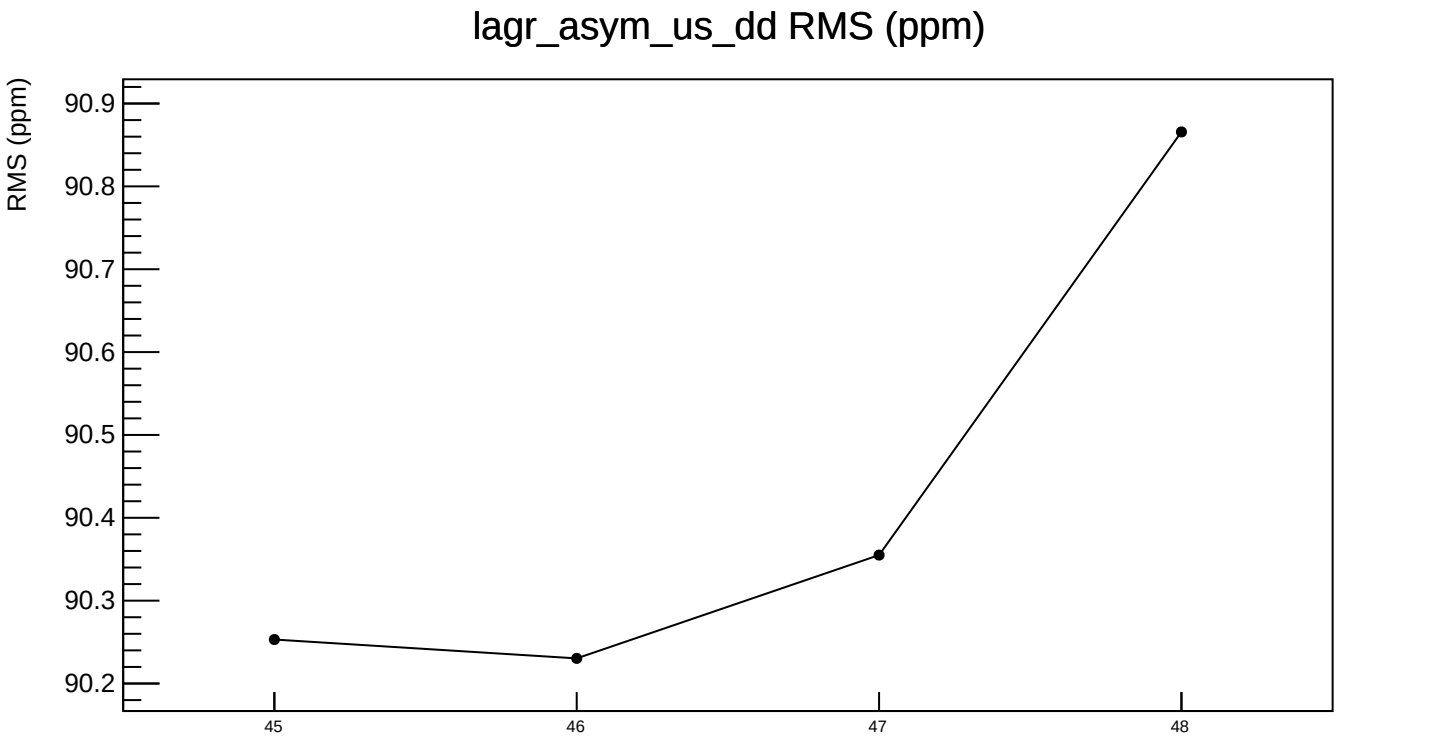

corr_Adet_bpm11Y RMS (ppm)
RMS (ppm)
14
13
12
11
10
9
45
46
47
48

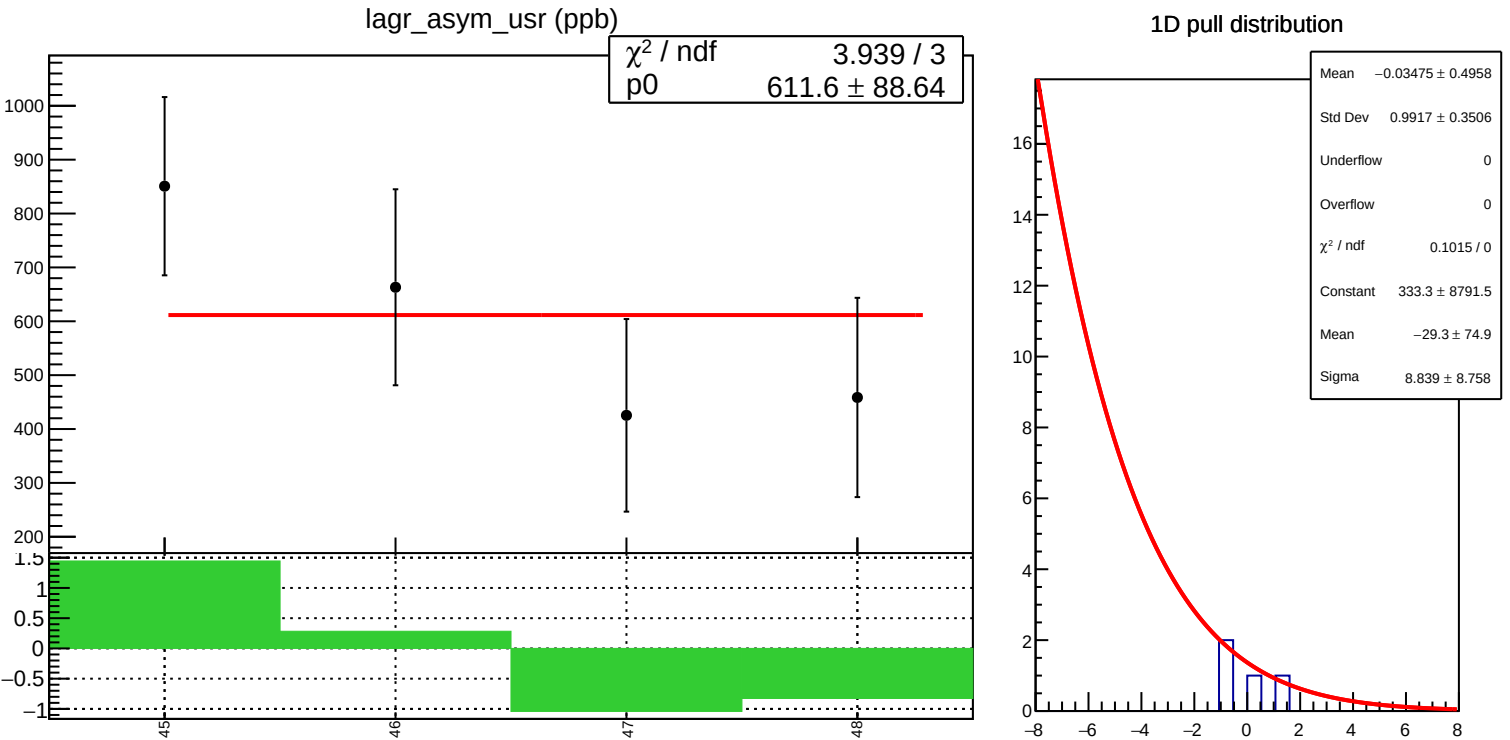

lagr_asym_us_avg (ppb)
χ² / ndf 2.831 / 3
p0 544.6 ± 63.82
800
700
600
500
400
300
1.5
1
0.5
0
−0.5
45
46
47
48
1D pull distribution
Mean −0.03453 ± 0.4203
Std Dev 0.8406 ± 0.2972
Underflow 0
Overflow 0
χ² / ndf 1.054e−09 / 0
Constant 2.52 ± 2.73
Mean 0.2667 ± 0.4081
Sigma 0.7846 ± 0.5947
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

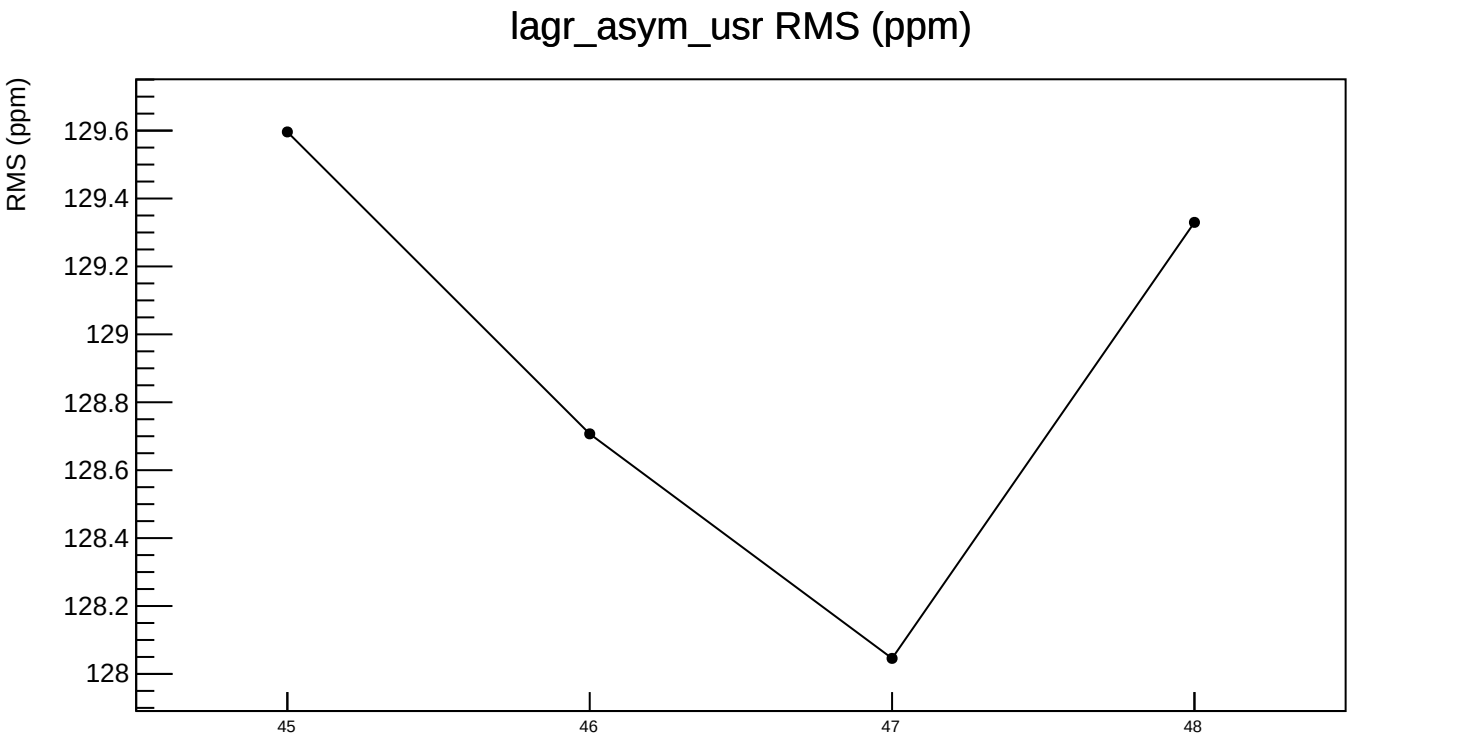

lagr_asym_us_avg RMS (ppm)
RMS (ppm)
93.6
93.4
93.2
93
92.8
92.6
92.4
92.2
92
45
46
47
48

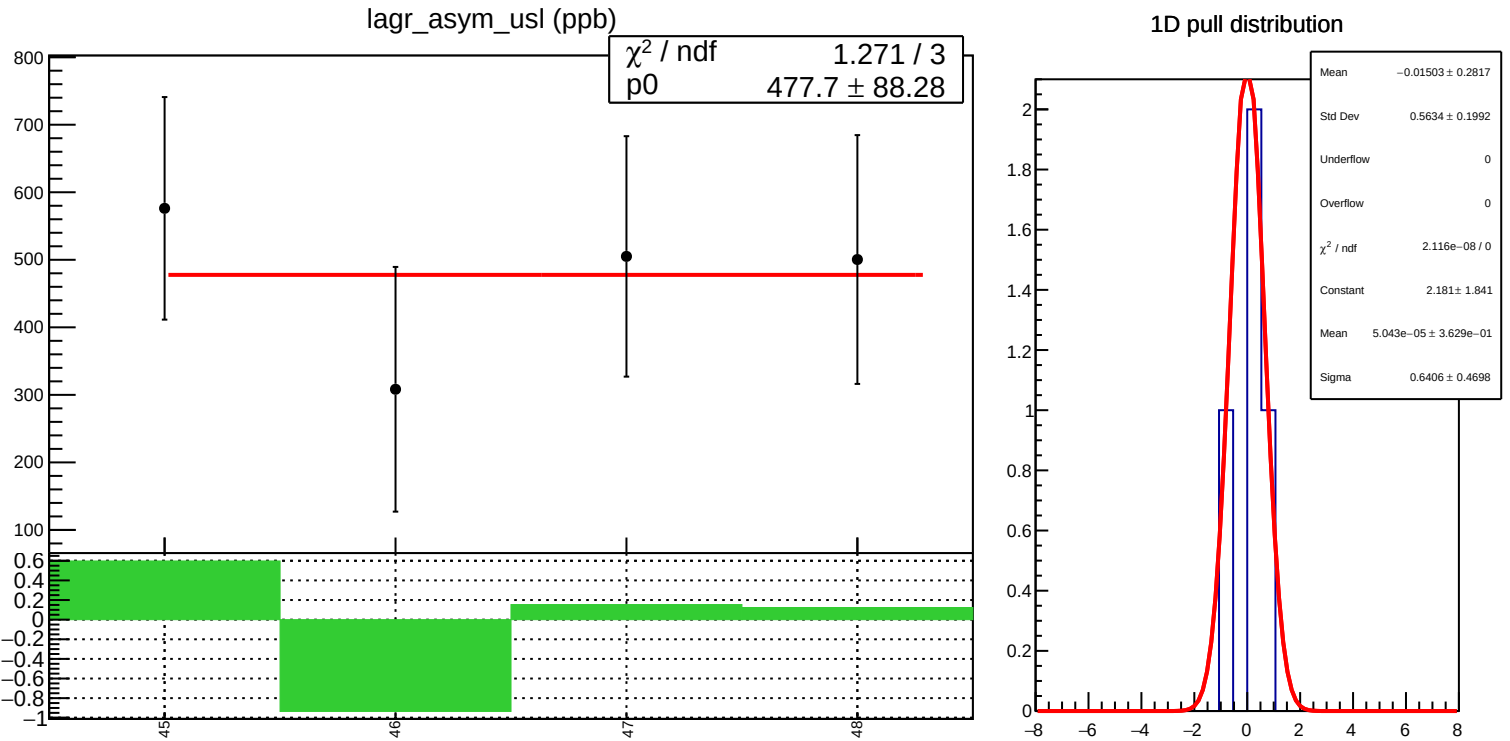

lagr_asym_us_dd (ppb)
χ² / ndf 2.329 / 3
p0 −66.94 ± 61.8
200
100
0
−100
−200
−300
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

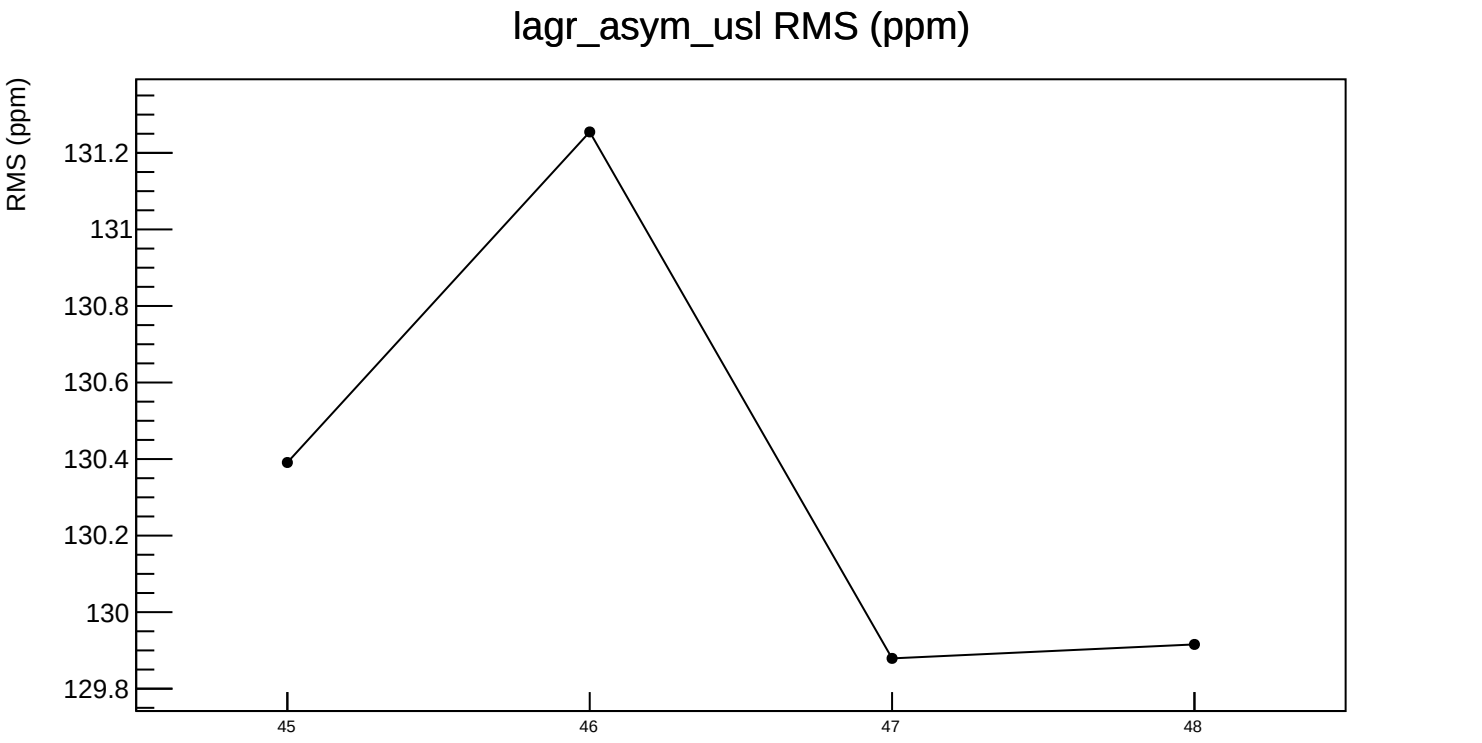

1D pull distribution
Mean 0.01419 ± 0.3814
Std Dev 0.7629 ± 0.2697
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

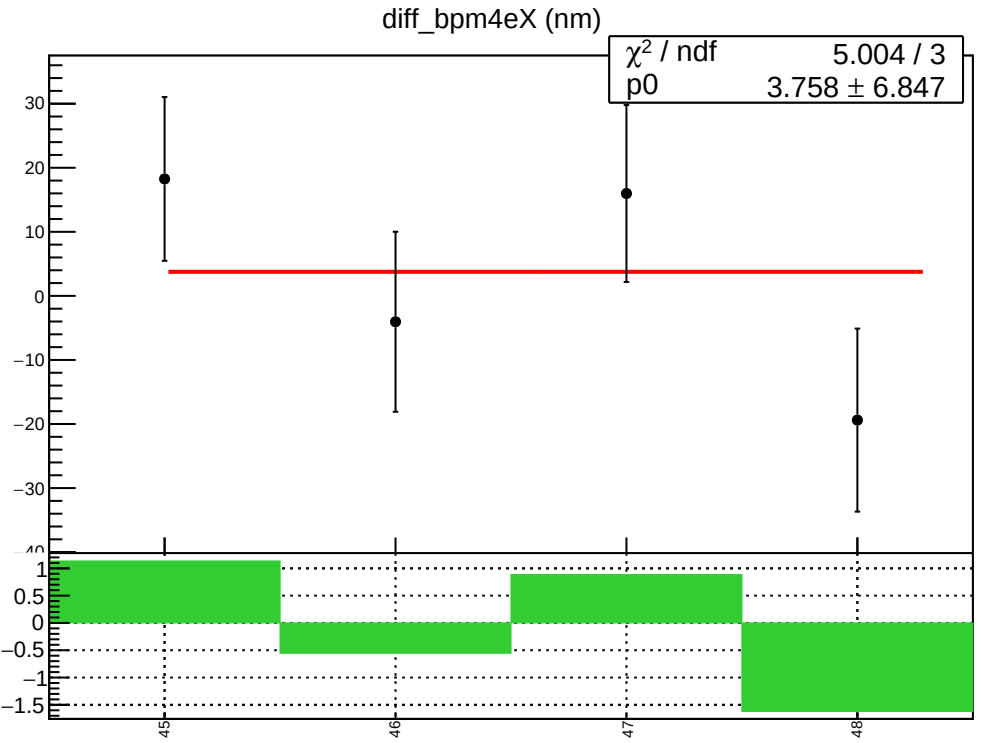

lagr_asym_us_dd RMS (ppm)
RMS (ppm)
90.9
90.8
90.7
90.6
90.5
90.4
90.3
90.2
45
46
47
48

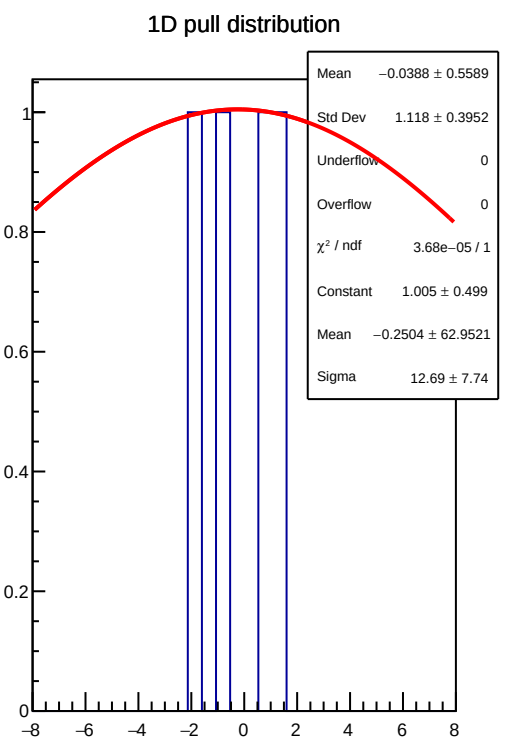

lagr_asym_usr (ppb)
χ² / ndf 3.939 / 3
p0 611.6 ± 88.64
1000
900
800
700
600
500
400
300
200
1.5
1
0.5
0
−0.5
−1
45
46
47
48
1D pull distribution
Mean −0.03475 ± 0.4958
Std Dev 0.9917 ± 0.3506
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

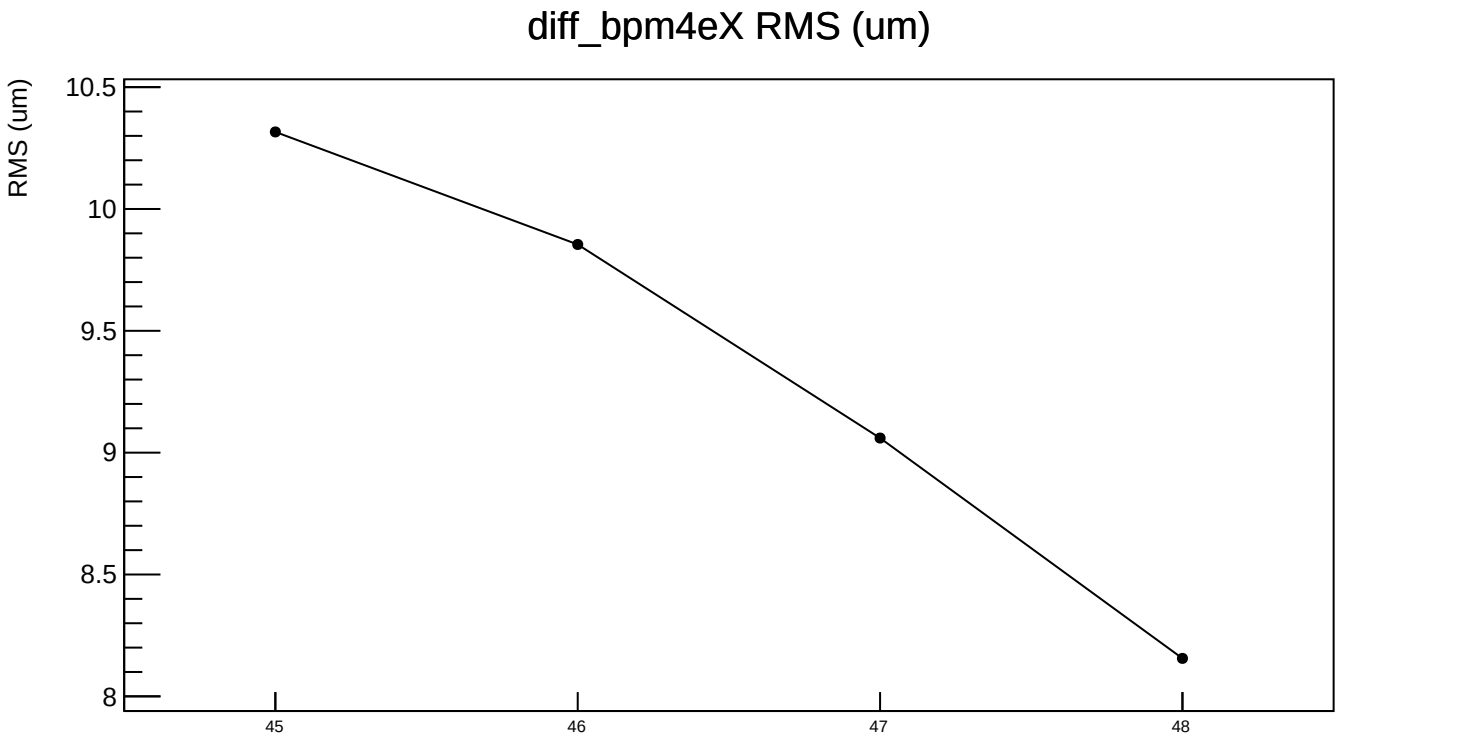

lagr_asym_usr RMS (ppm)
RMS (ppm)
129.6
129.4
129.2
129
128.8
128.6
128.4
128.2
128
45
46
47
48

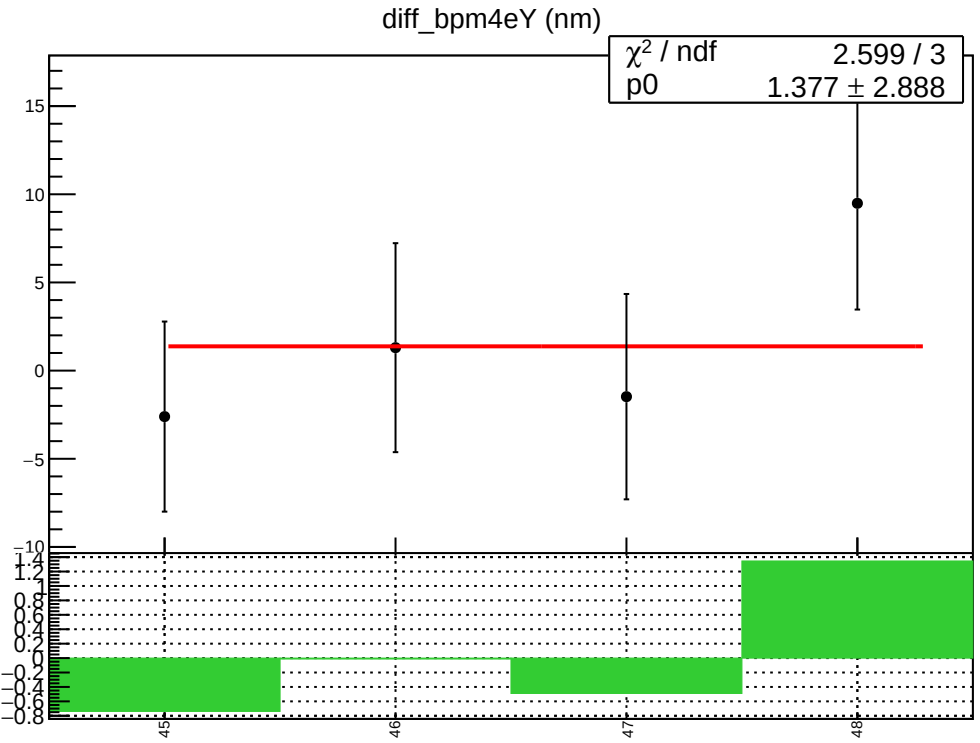

lagr_asym_usl (ppb)
χ² / ndf 1.271 / 3
p0 477.7 ± 88.28
800
700
600
500
400
300
200
100
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
45
46
47
48
1D pull distribution
Mean −0.01503 ± 0.2817
Std Dev 0.5634 ± 0.1992
Underflow 0
Overflow 0
χ² / ndf 2.116e−08 / 0
Constant 2.181 ± 1.841
Mean 5.043e−05 ± 3.629e−01
Sigma 0.6406 ± 0.4698
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

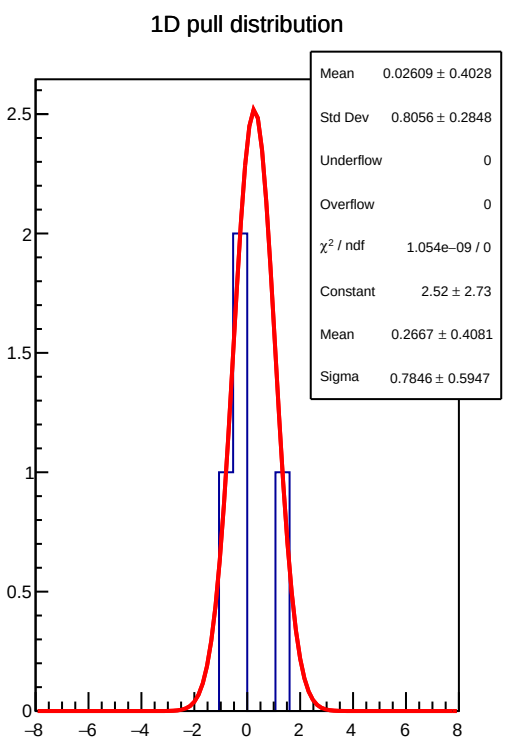

lagr_asym_usl RMS (ppm)
RMS (ppm)
131.2
131
130.8
130.6
130.4
130.2
130
129.8
45
46
47
48

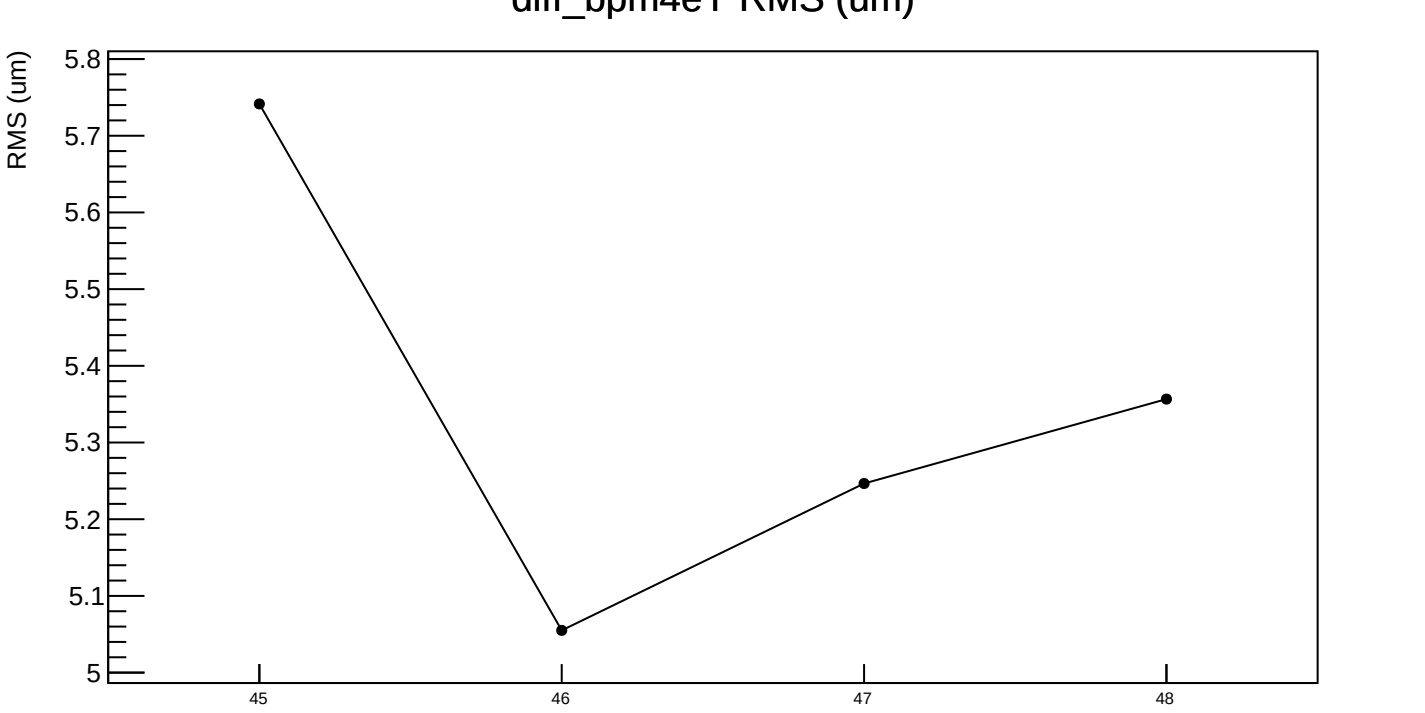

diff_bpm4eX (nm)
χ² / ndf 5.004 / 3
p0 3.758 ± 6.847
30
20
10
0
−10
−20
−30
1
0.5
0
−0.5
−1
−1.5
45
46
47
48

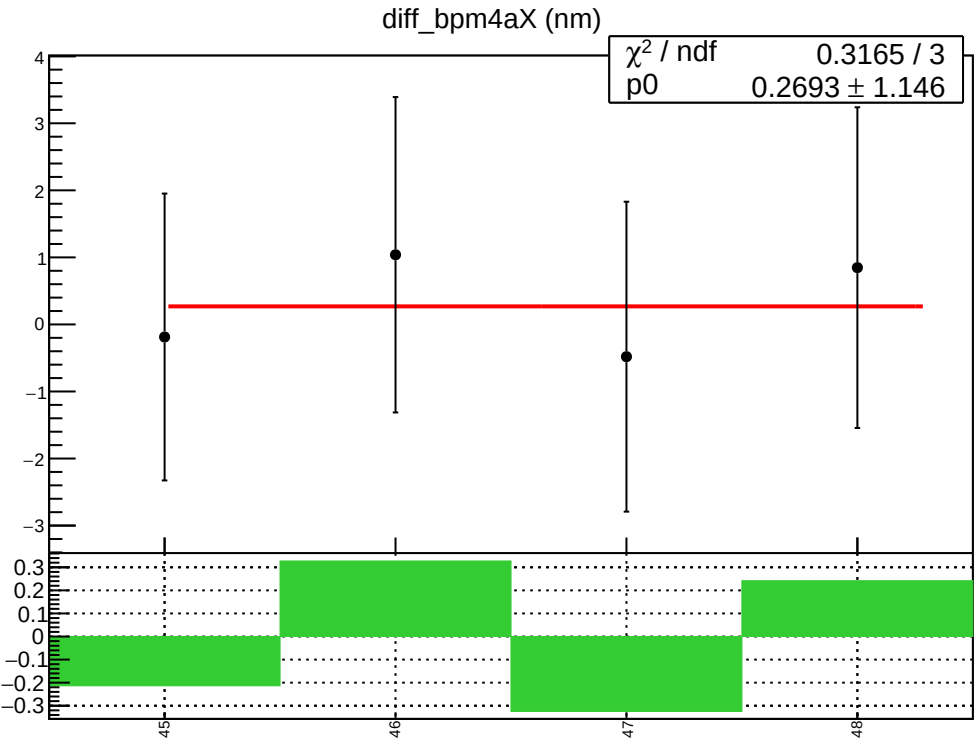

1D pull distribution
Mean −0.0388 ± 0.5589
Std Dev 1.118 ± 0.3952
Underflow 0
Overflow 0
χ² / ndf 3.68e−05 / 1
Constant 1.005 ± 0.499
Mean −0.2504 ± 62.9521
Sigma 12.69 ± 7.74
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

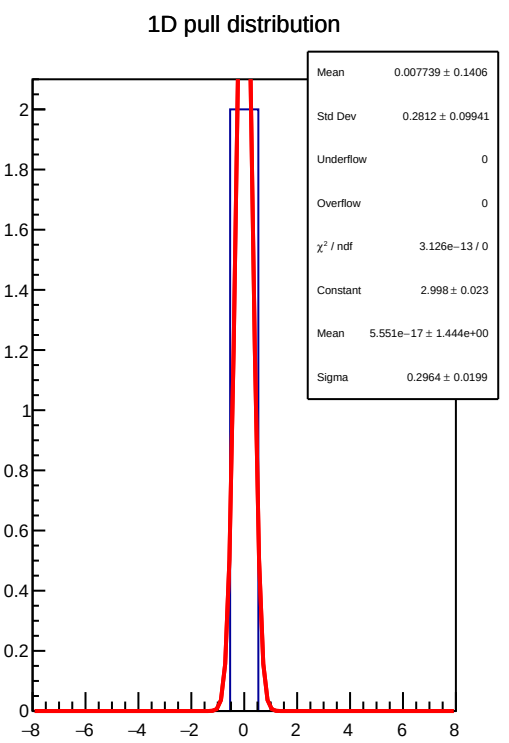

diff_bpm4eX RMS (um)
RMS (um)
10.5
10
9.5
9
8.5
8
45
46
47
48

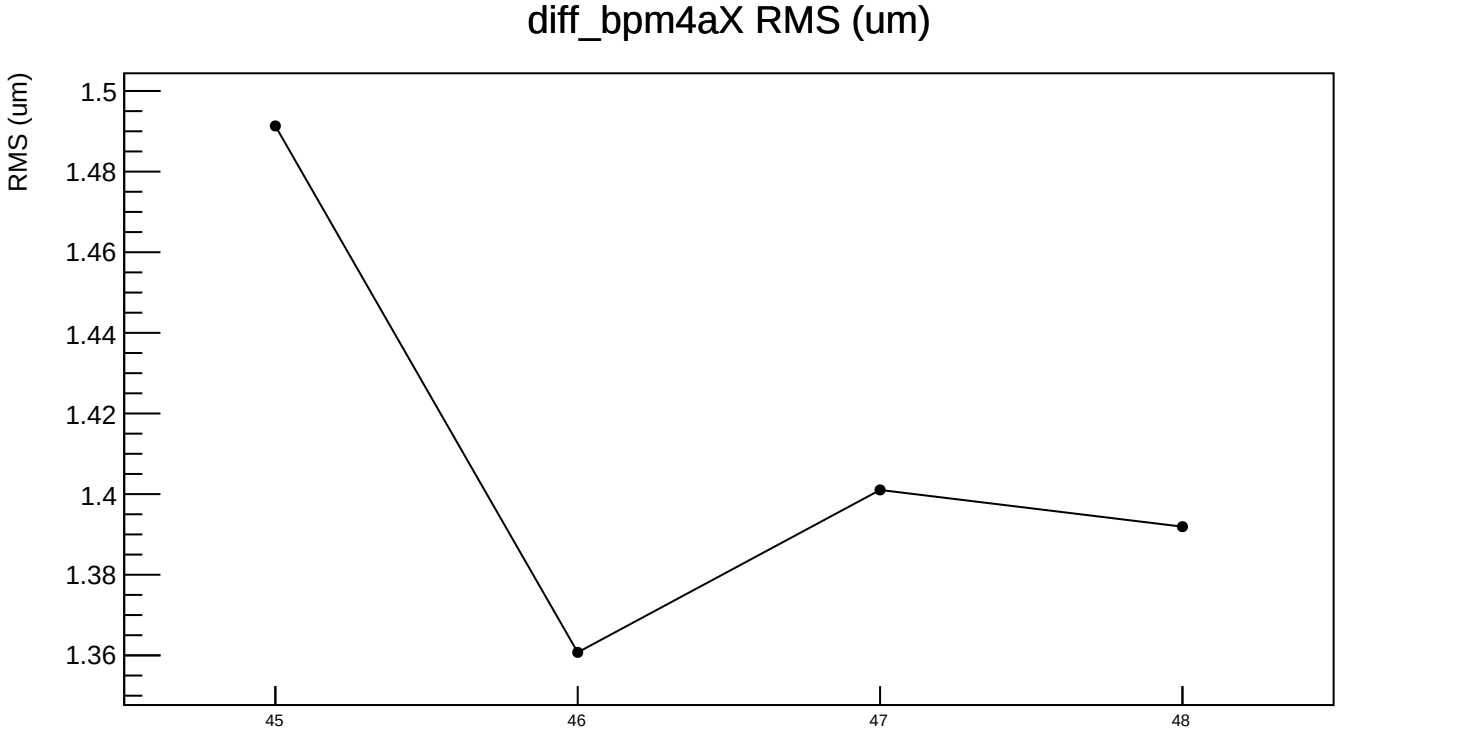

diff_bpm4eY (nm)
χ² / ndf 2.599 / 3
p0 1.377 ± 2.888
15
10
5
0
−5
−10
1.4
1.2
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

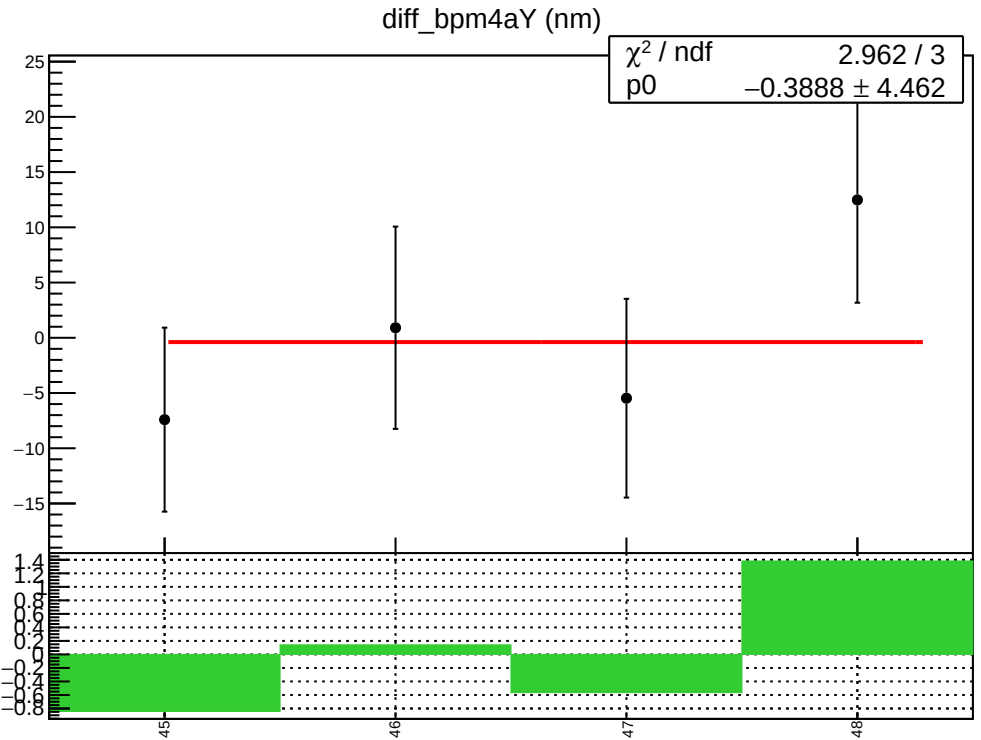

1D pull distribution
Mean 0.02609 ± 0.4028
Std Dev 0.8056 ± 0.2848
Underflow 0
Overflow 0
χ² / ndf 1.054e−09 / 0
Constant 2.52 ± 2.73
Mean 0.2667 ± 0.4081
Sigma 0.7846 ± 0.5947
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

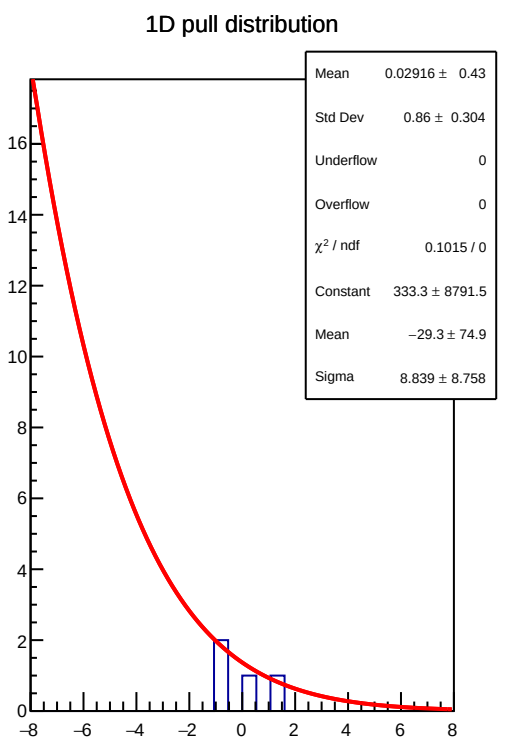

diff_bpm4eY RMS (um)
RMS (um)
5.8
5.7
5.6
5.5
5.4
5.3
5.2
5.1
5
45
46
47
48

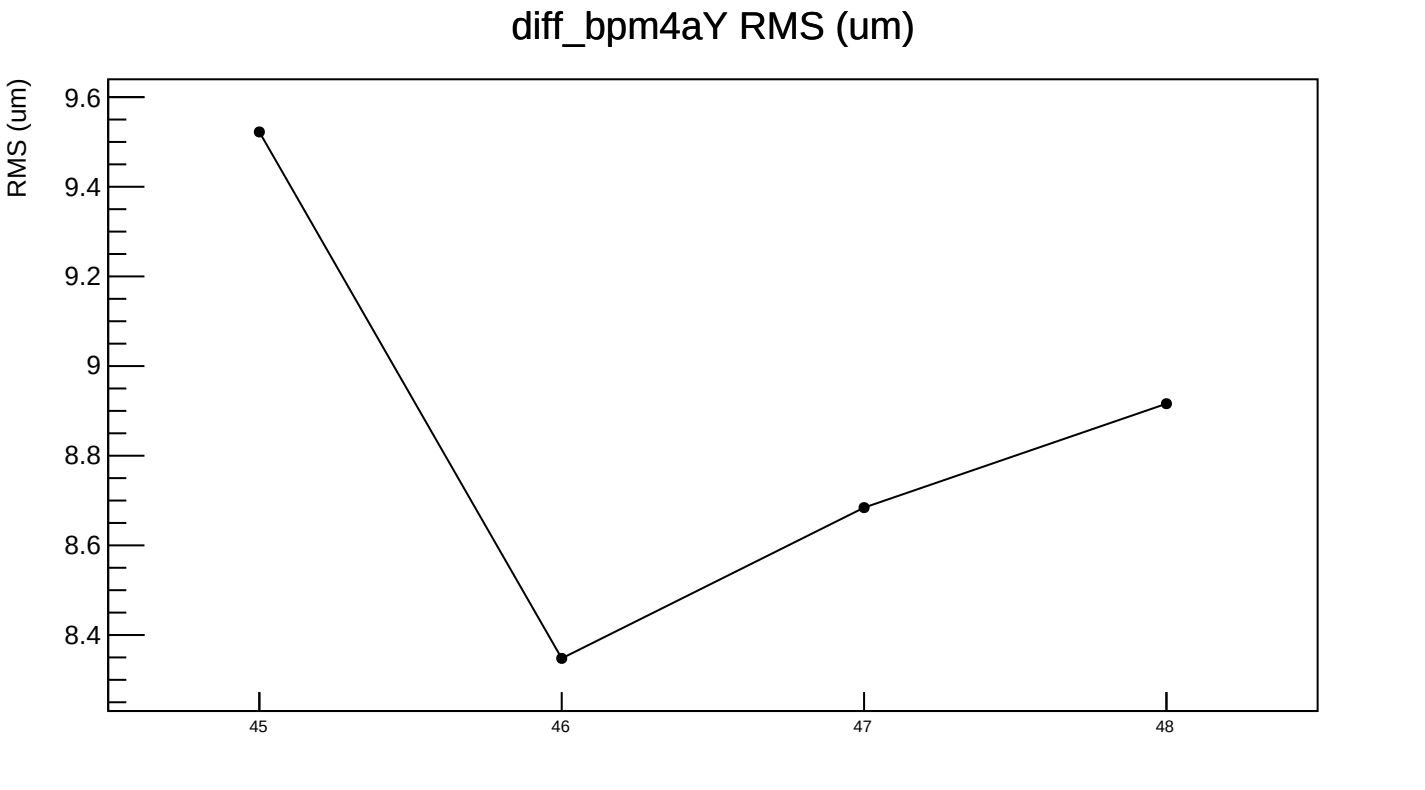

diff_bpm4aX (nm)
χ² / ndf 0.3165 / 3
p0 0.2693 ± 1.146
4
3
2
1
0
−1
−2
−3
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
45
46
47
48

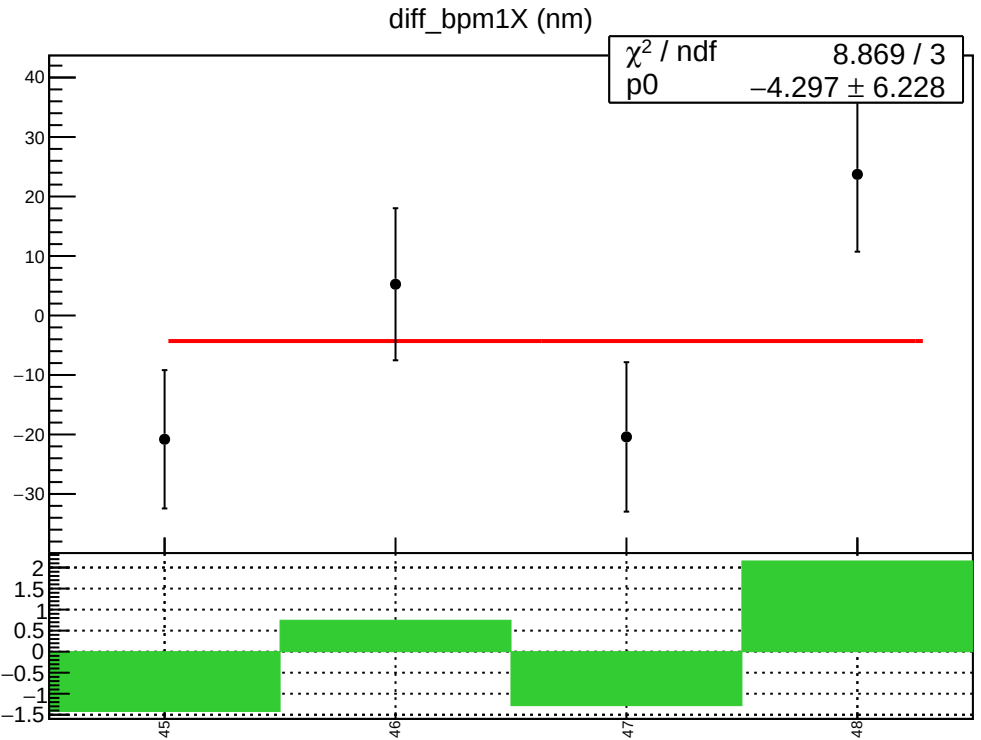

1D pull distribution
Mean 0.007739 ± 0.1406
Std Dev 0.2812 ± 0.09941
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

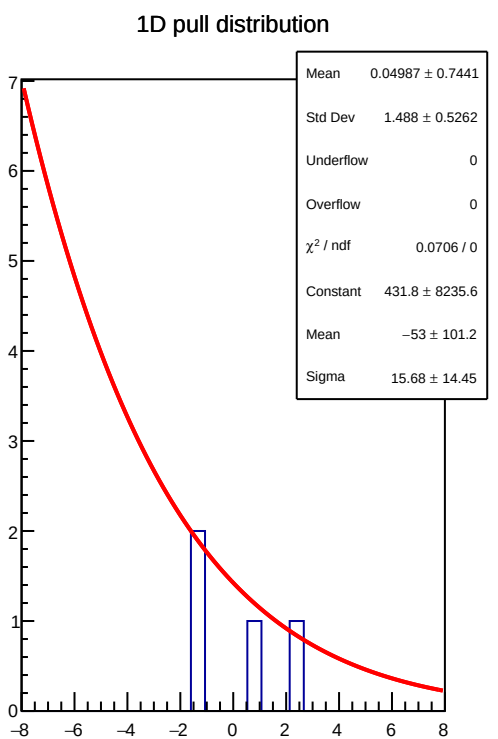

diff_bpm4aX RMS (um)
RMS (um)
1.5
1.48
1.46
1.44
1.42
1.4
1.38
1.36
45
46
47
48

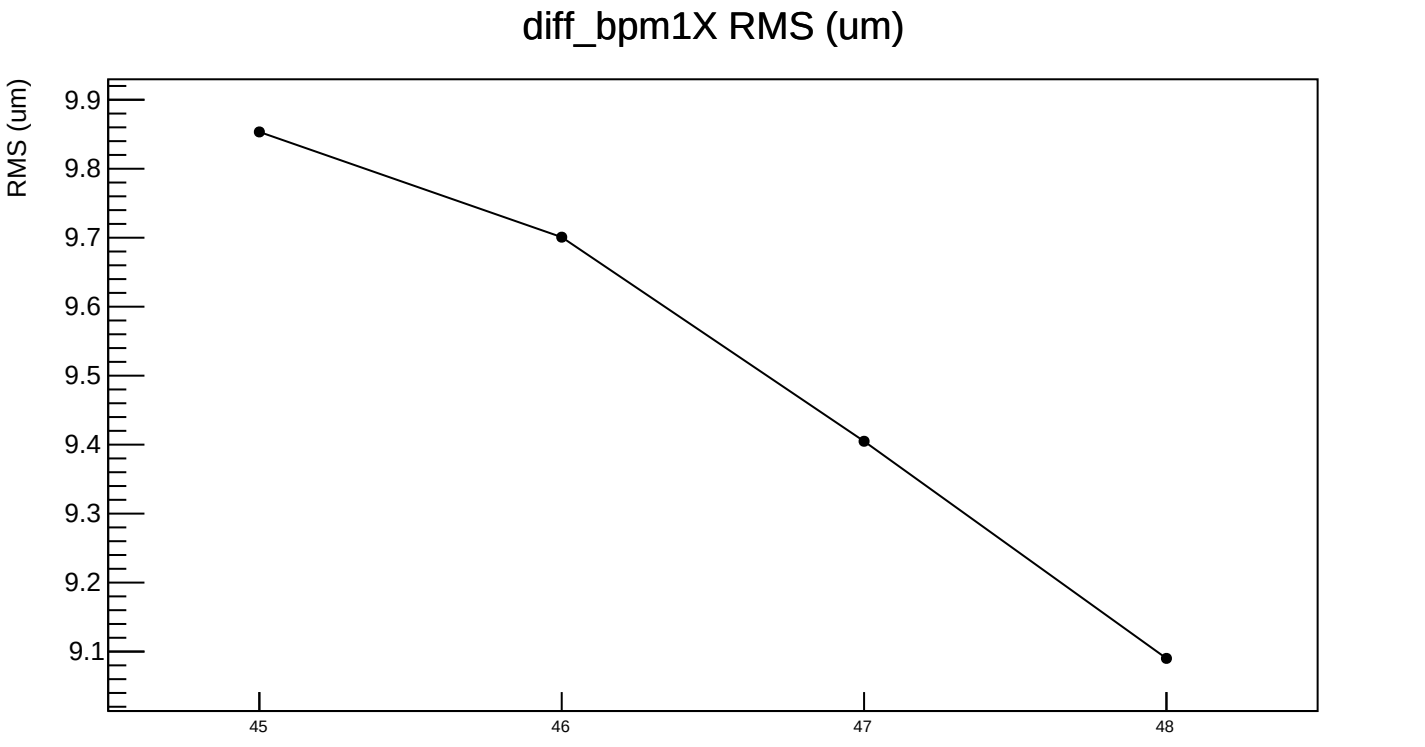

diff_bpm4aY (nm)
χ² / ndf 2.962 / 3
p0 −0.3888 ± 4.462
25
20
15
10
5
0
−5
−10
−15
1.4
1.2
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

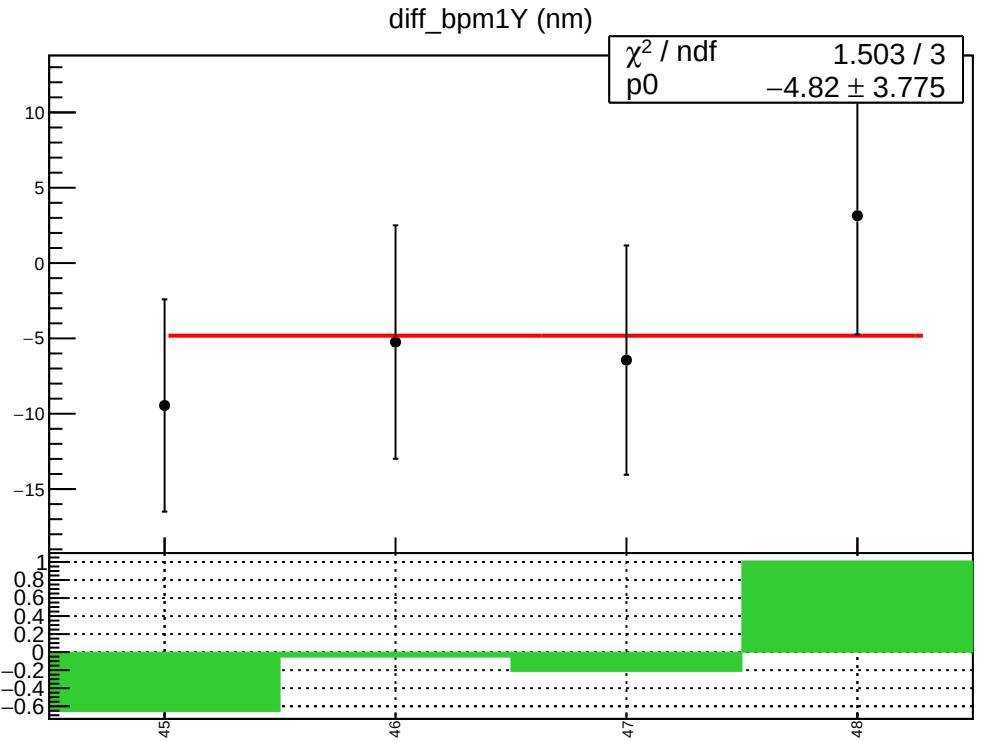

1D pull distribution
Mean 0.02916 ± 0.43
Std Dev 0.86 ± 0.304
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

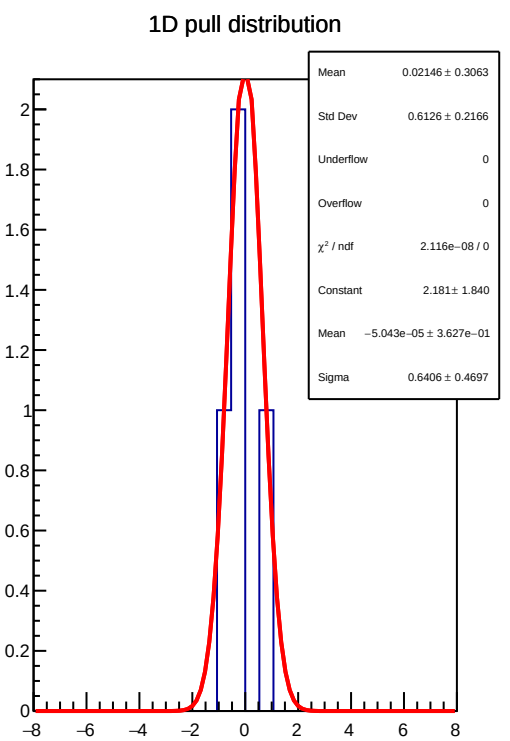

diff_bpm4aY RMS (um)
RMS (um)
9.6
9.4
9.2
9
8.8
8.6
8.4
45
46
47
48

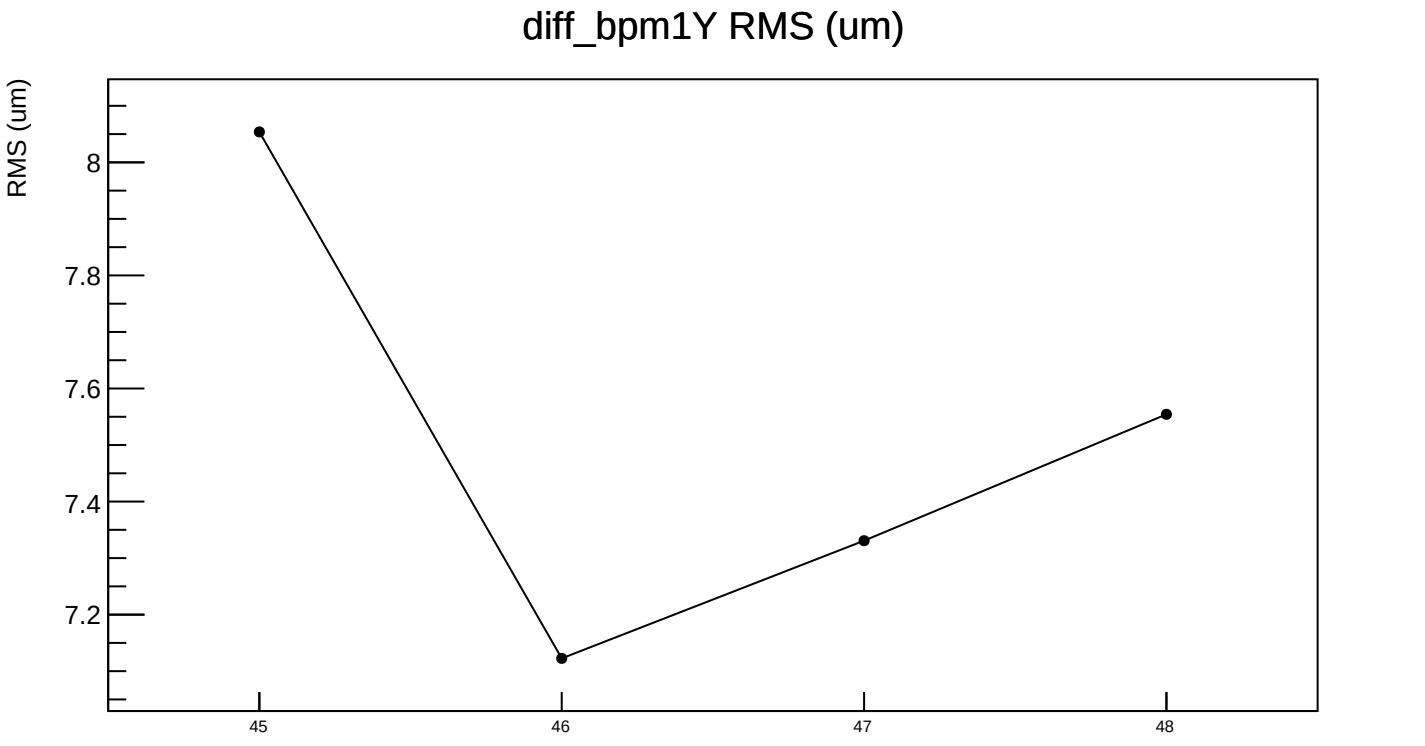

diff_bpm1X (nm)
χ² / ndf 8.869 / 3
p0 −4.297 ± 6.228
40
30
20
10
0
−10
−20
−30
2
1.5
1
0.5
0
−0.5
−1
−1.5
45
46
47
48

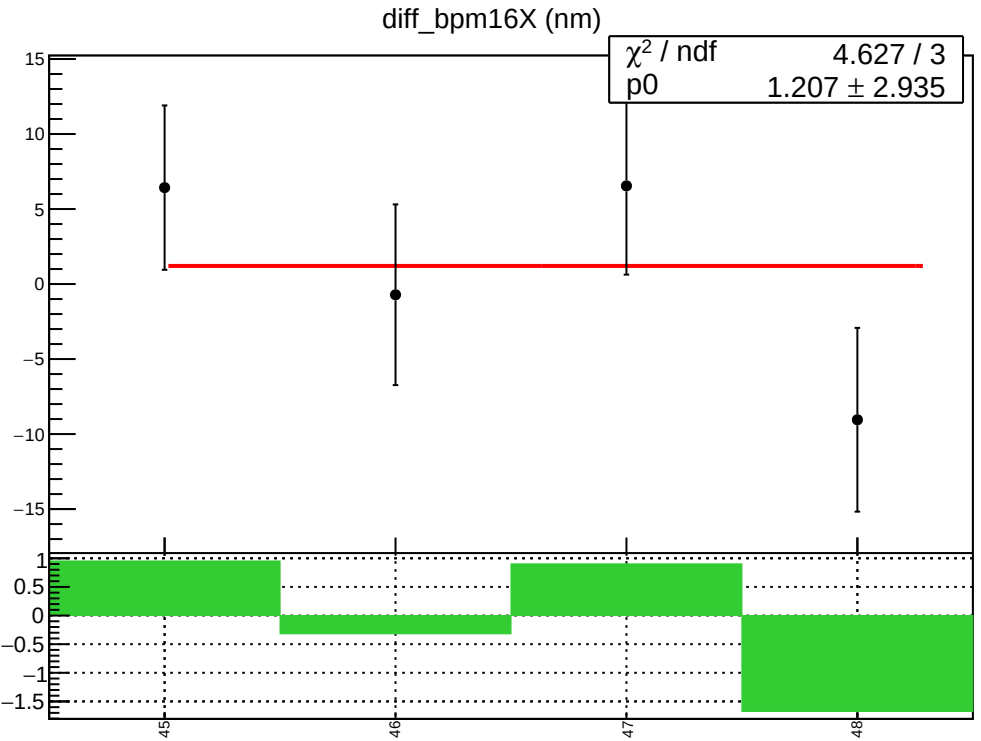

1D pull distribution
Mean 0.04987 ± 0.7441
Std Dev 1.488 ± 0.5262
Underflow 0
Overflow 0
χ² / ndf 0.0706 / 0
Constant 431.8 ± 8235.6
Mean −53 ± 101.2
Sigma 15.68 ± 14.45
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

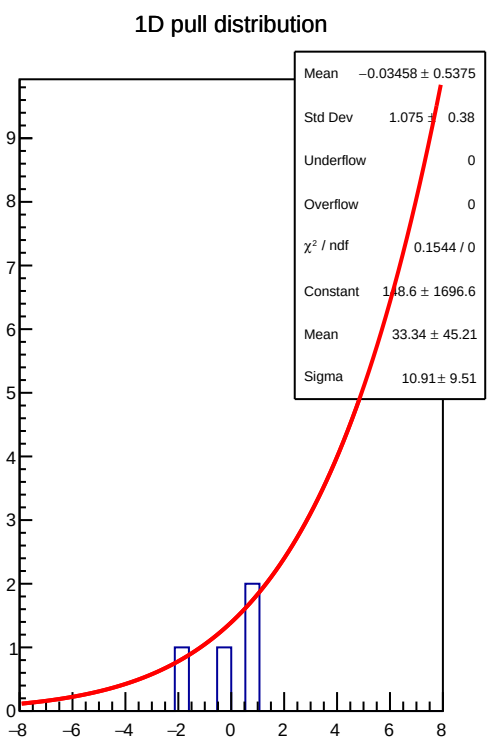

diff_bpm1X RMS (um)
RMS (um)
9.9
9.8
9.7
9.6
9.5
9.4
9.3
9.2
9.1
45
46
47
48

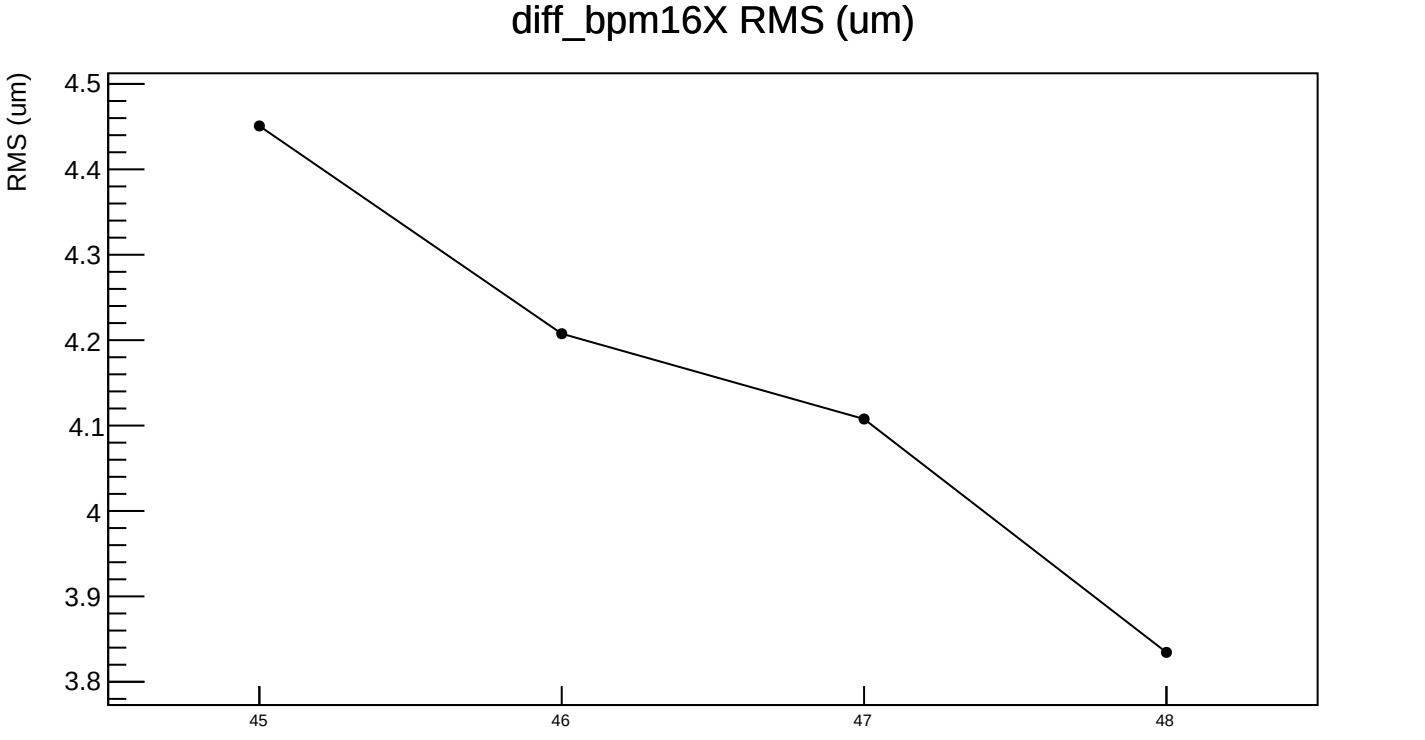

diff_bpm1Y (nm)
χ² / ndf 1.503 / 3
p0 −4.82 ± 3.775
10
5
0
−5
−10
−15
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48

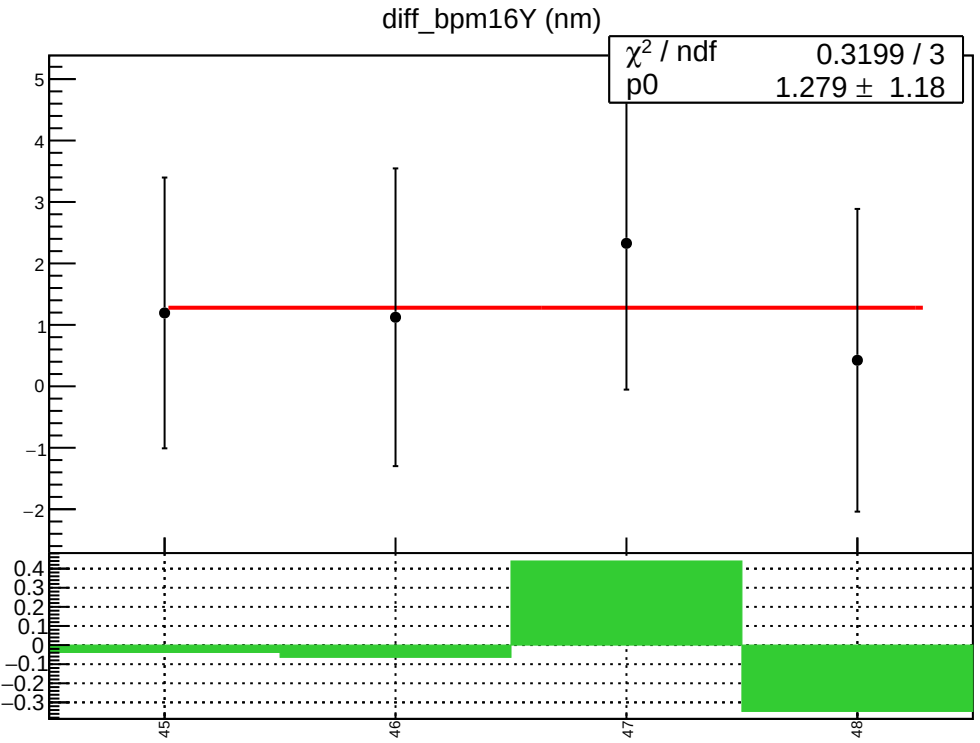

1D pull distribution
Mean 0.02146 ± 0.3063
Std Dev 0.6126 ± 0.2166
Underflow 0
Overflow 0
χ² / ndf 2.116e−08 / 0
Constant 2.181 ± 1.840
Mean −5.043e−05 ± 3.627e−01
Sigma 0.6406 ± 0.4697
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

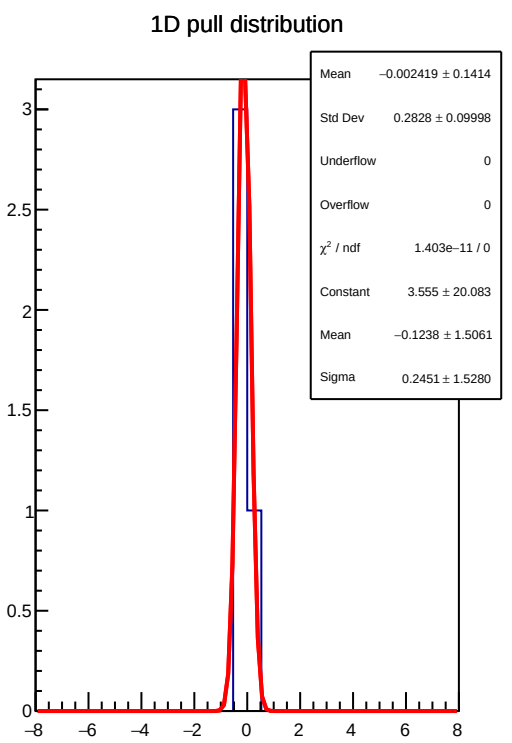

diff_bpm1Y RMS (um)
RMS (um)
8
7.8
7.6
7.4
7.2
45
46
47
48

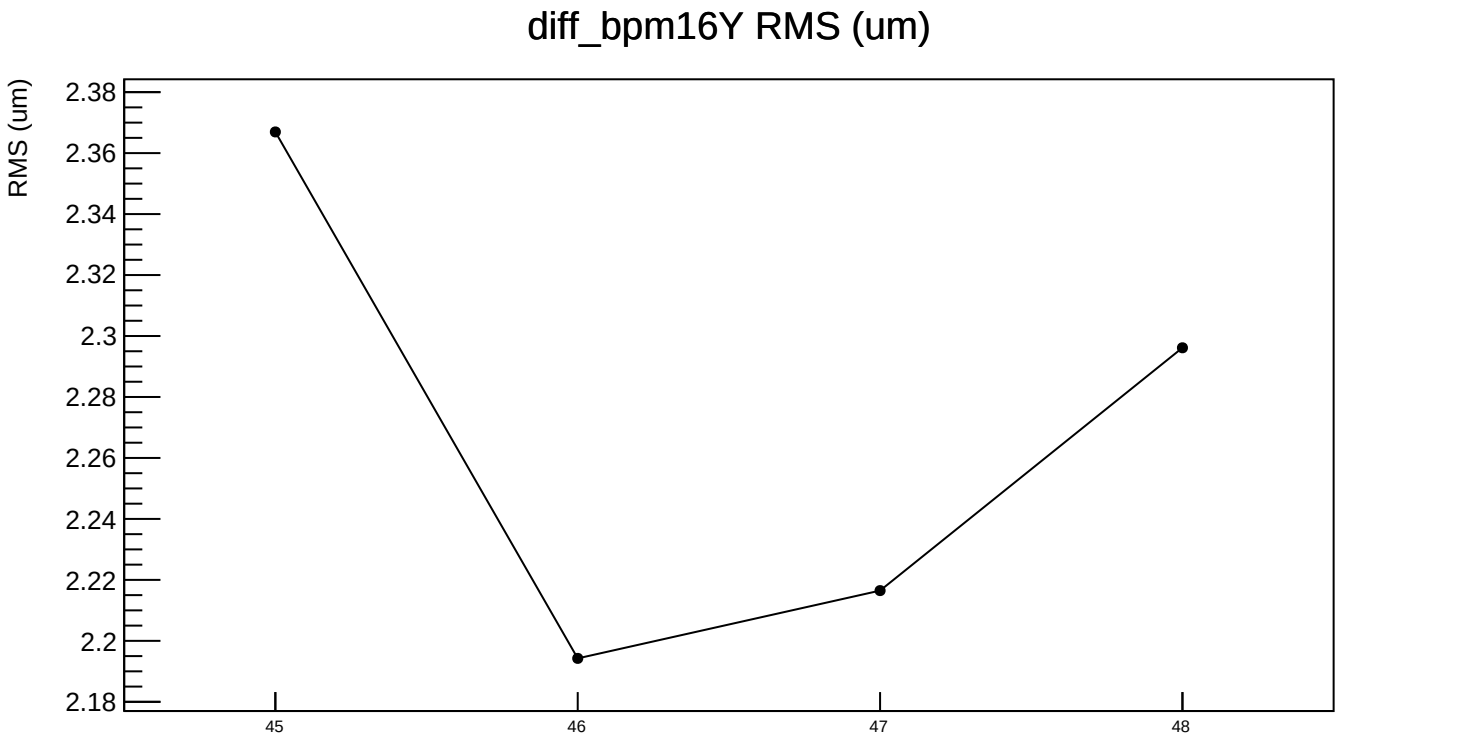

diff_bpm16X (nm)
χ² / ndf 4.627 / 3
p0 1.207 ± 2.935
15
10
5
0
−5
−10
−15
1
0.5
0
−0.5
−1
−1.5
45
46
47
48

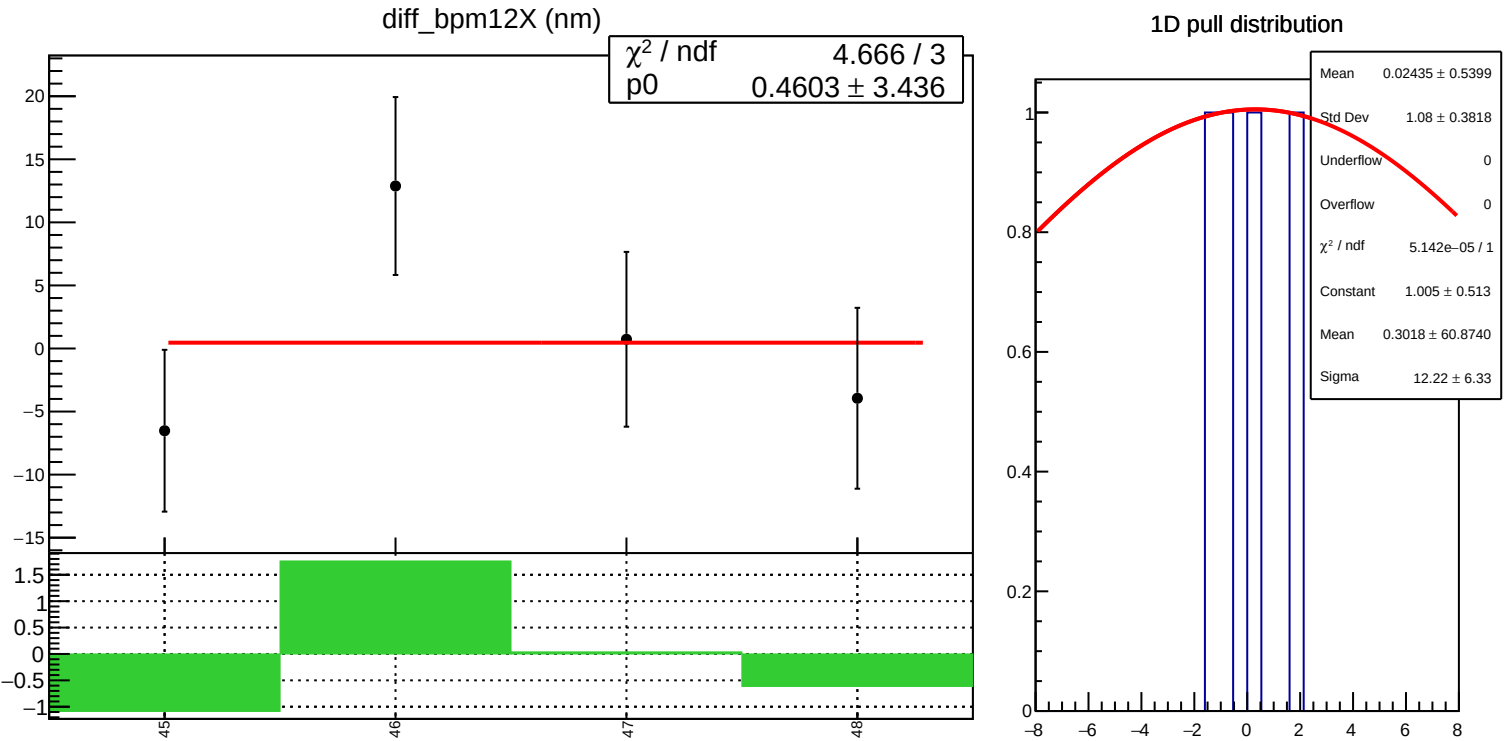

1D pull distribution
Mean −0.03458 ± 0.5375
Std Dev 1.075 ± 0.38
Underflow 0
Overflow 0
χ² / ndf 0.1544 / 0
Constant 1.48.6 ± 1696.6
Mean 33.34 ± 45.21
Sigma 10.91± 9.51
9
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

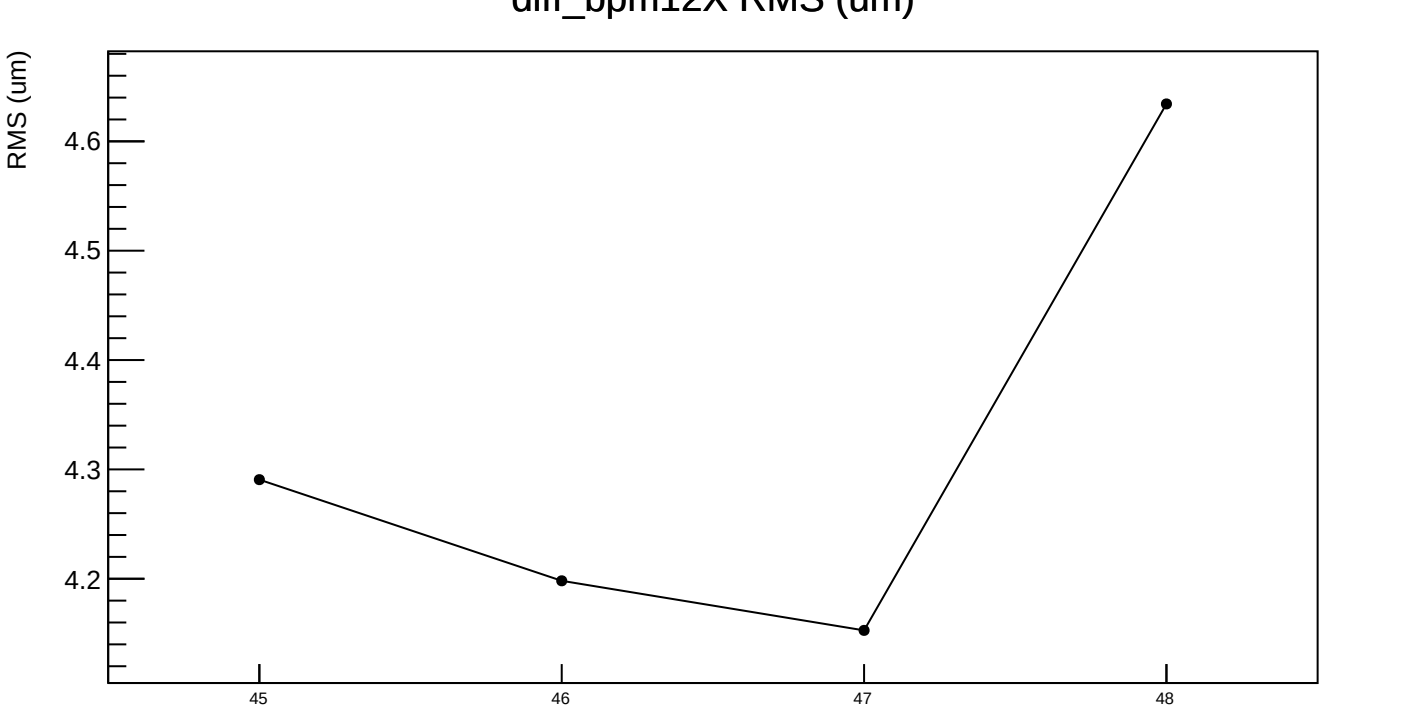

diff_bpm16X RMS (um)
RMS (um)
4.5
4.4
4.3
4.2
4.1
4
3.9
3.8
45
46
47
48

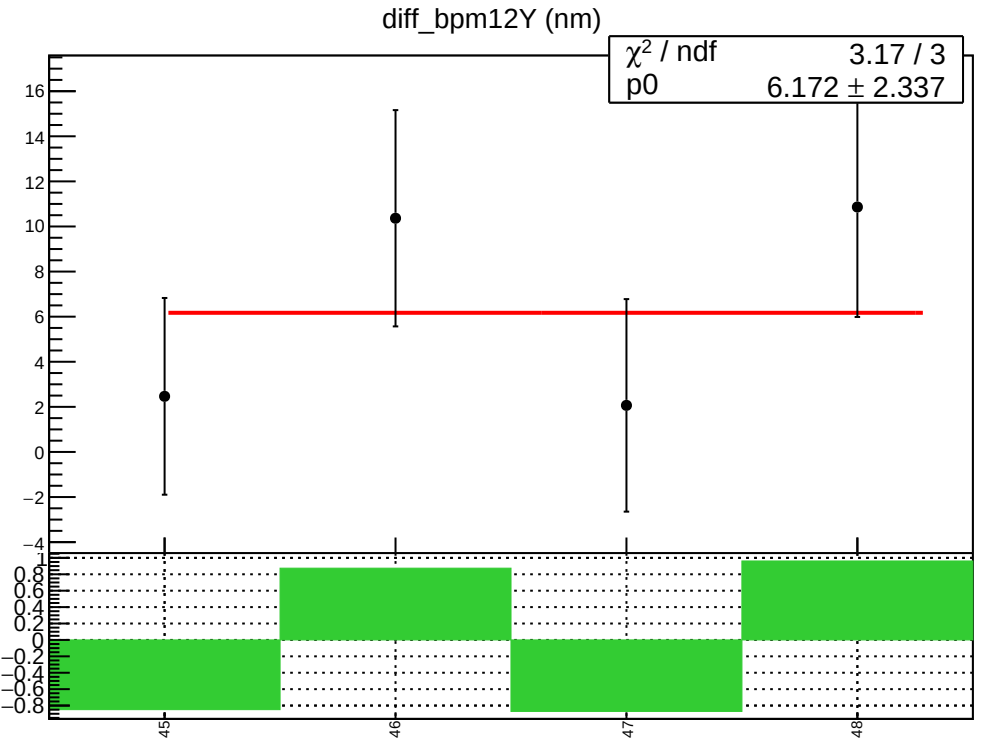

diff_bpm16Y (nm)
χ² / ndf 0.3199 / 3
p0 1.279 ± 1.18
5
4
3
2
1
0
−1
−2
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
45
46
47
48

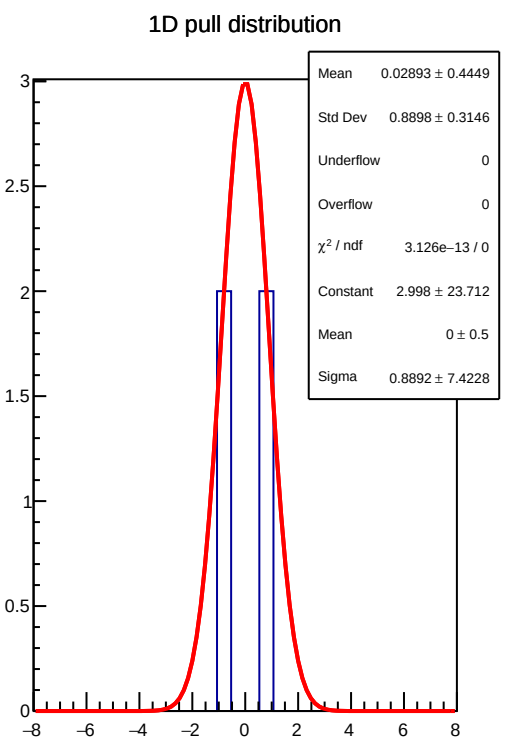

1D pull distribution
Mean −0.002419 ± 0.1414
Std Dev 0.2828 ± 0.09998
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean −0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

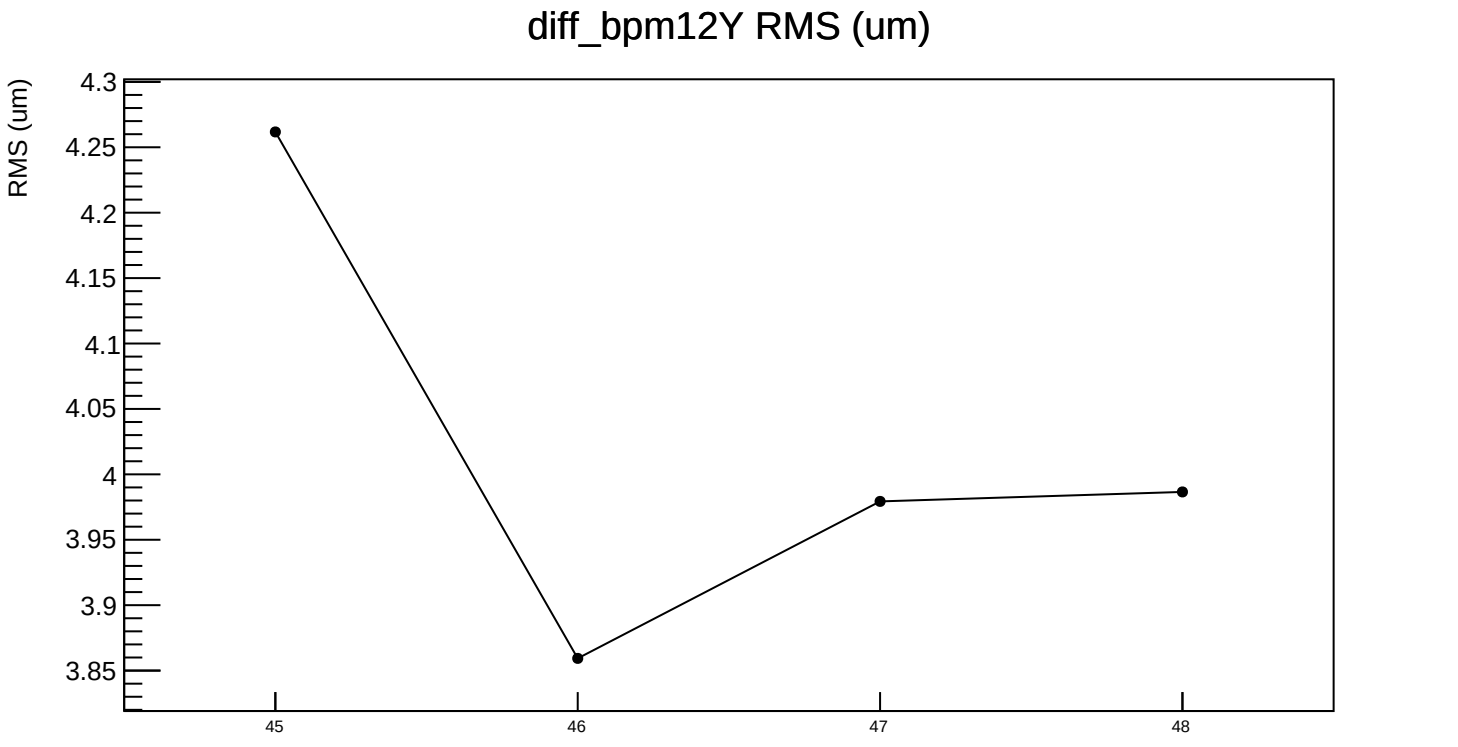

diff_bpm16Y RMS (um)
RMS (um)
2.38
2.36
2.34
2.32
2.3
2.28
2.26
2.24
2.22
2.2
2.18
45
46
47
48

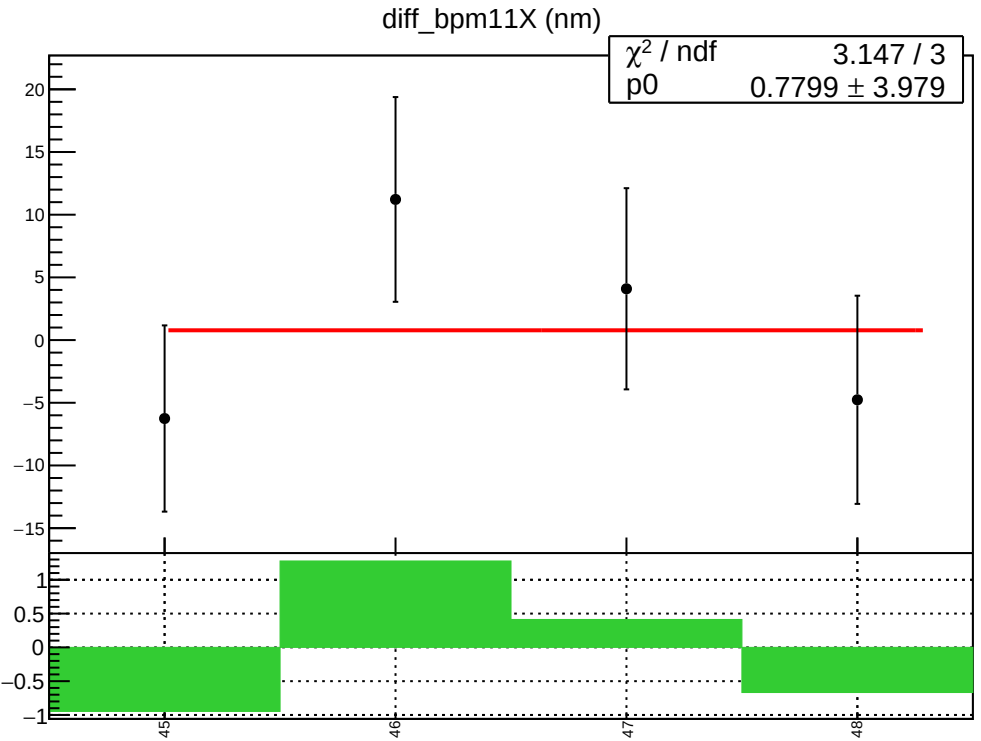

diff_bpm12X (nm)
χ² / ndf 4.666 / 3
p0 0.4603 ± 3.436
20
15
10
5
0
−5
−10
−15
1.5
1
0.5
0
−0.5
−1
45
46
47
48
1D pull distribution
Mean 0.02435 ± 0.5399
Std Dev 1.08 ± 0.3818
Underflow 0
Overflow 0
χ² / ndf 5.142e−05 / 1
Constant 1.005 ± 0.513
Mean 0.3018 ± 60.8740
Sigma 12.22 ± 6.33
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

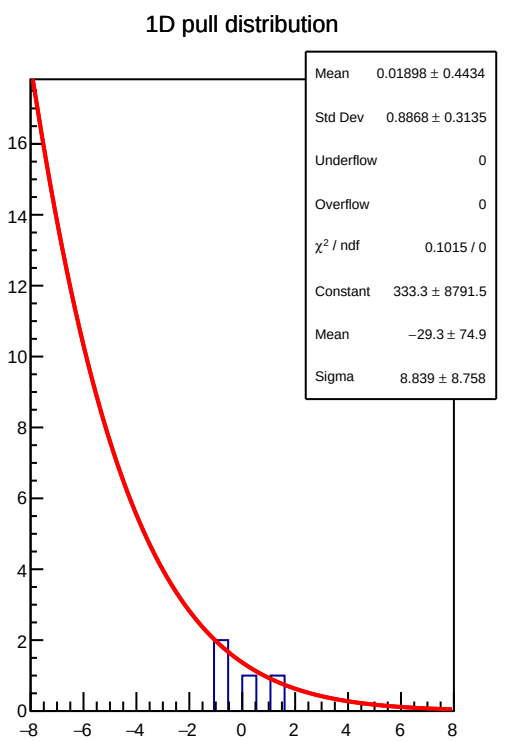

diff_bpm12X RMS (um)
RMS (um)
4.6
4.5
4.4
4.3
4.2
45
46
47
48

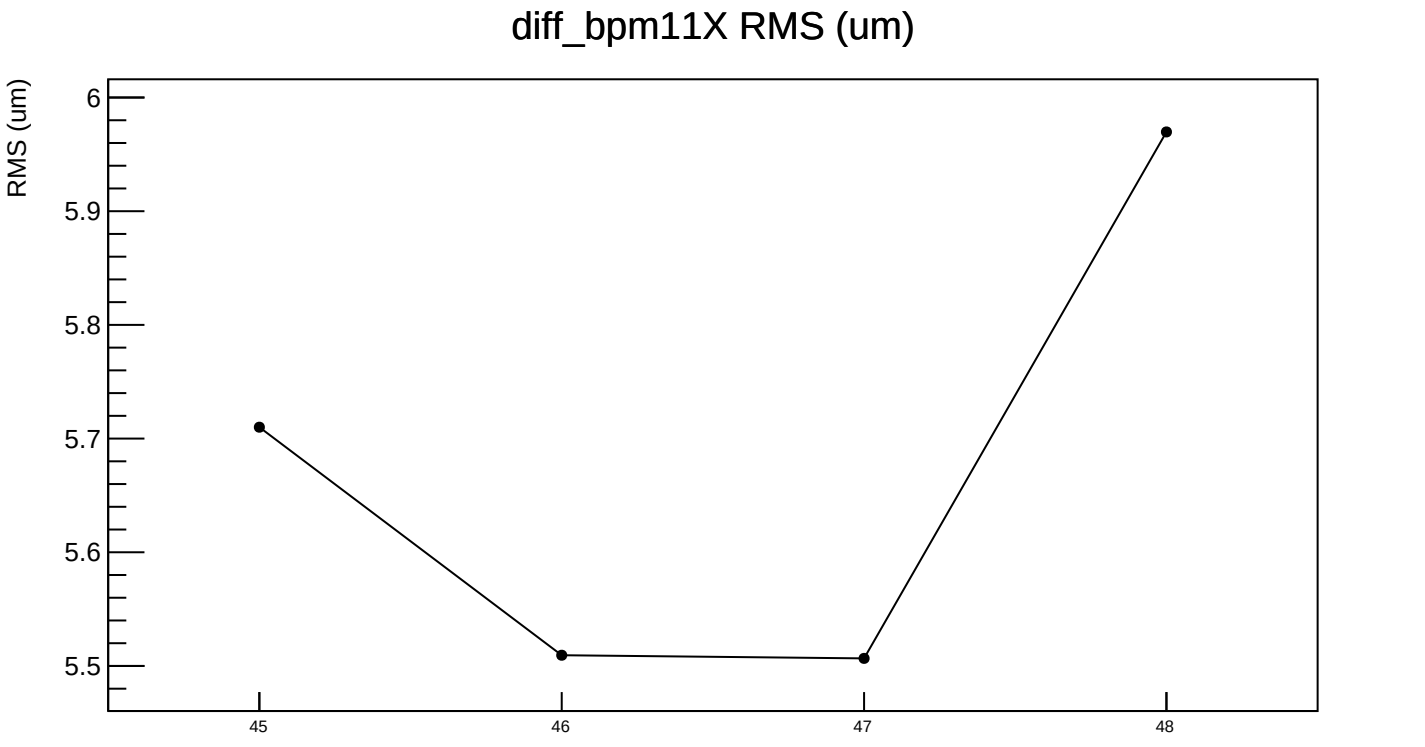

diff_bpm12Y (nm)
χ² / ndf 3.17 / 3
p0 6.172 ± 2.337
16
14
12
10
8
6
4
2
0
−2
−4
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

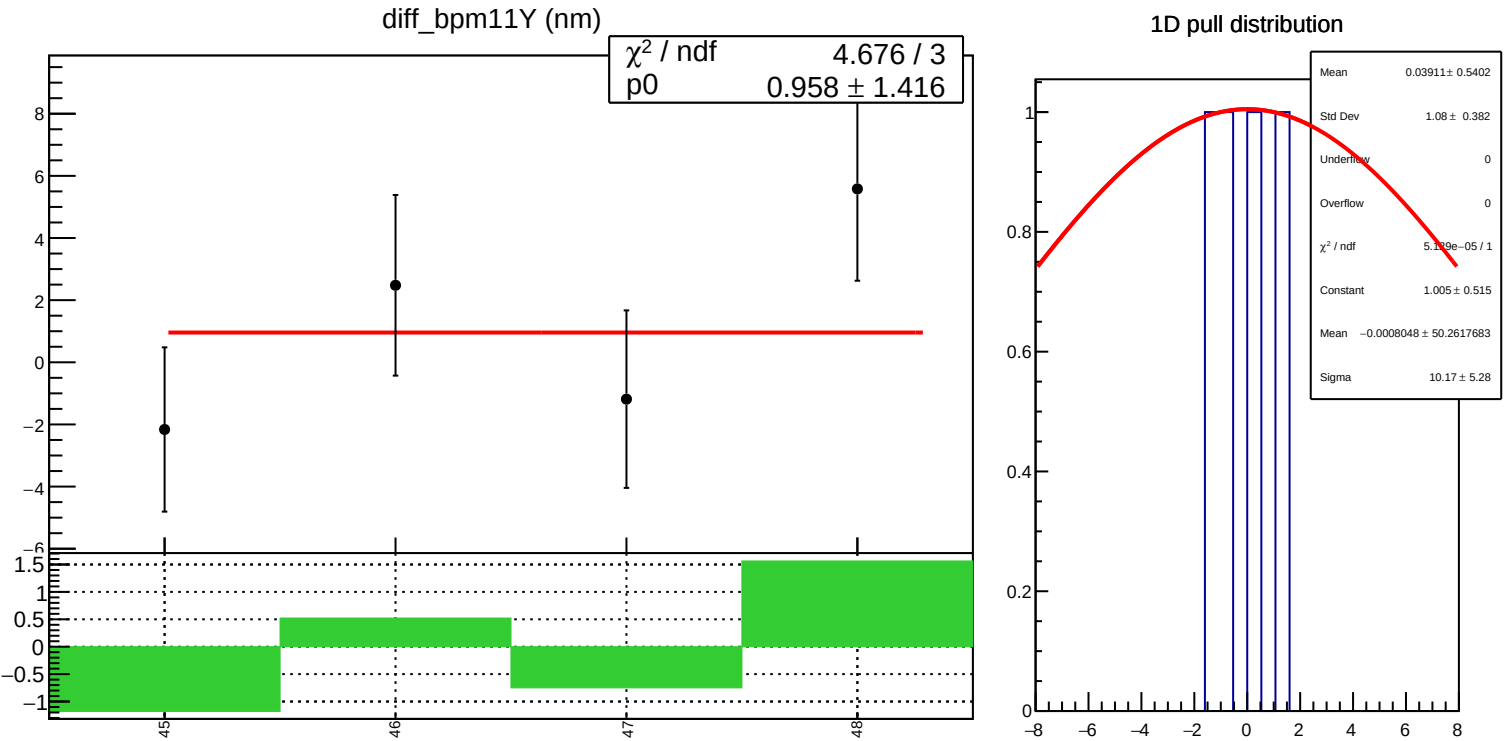

1D pull distribution
Mean 0.02893 ± 0.4449
Std Dev 0.8898 ± 0.3146
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

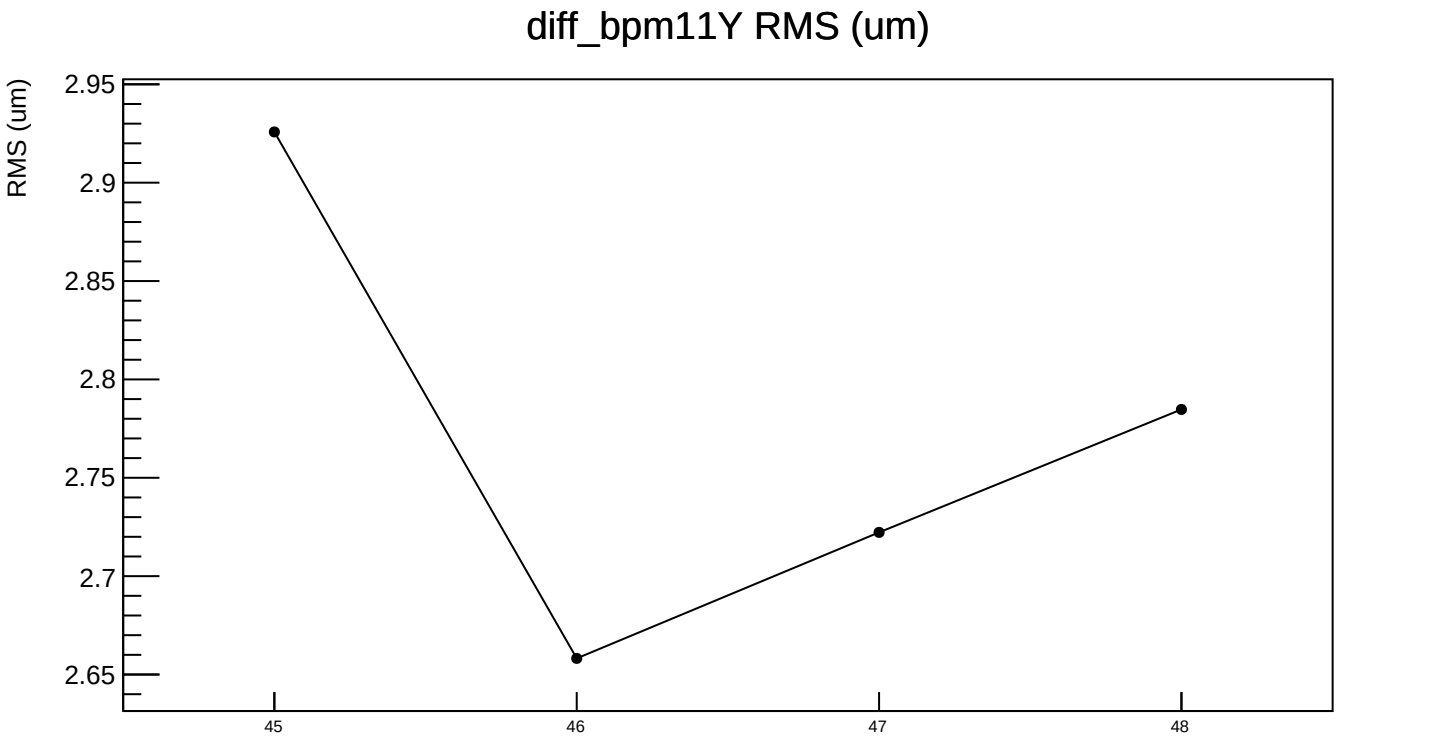

diff_bpm12Y RMS (um)
RMS (um)
4.3
4.25
4.2
4.15
4.1
4.05
4
3.95
3.9
3.85
45
46
47
48

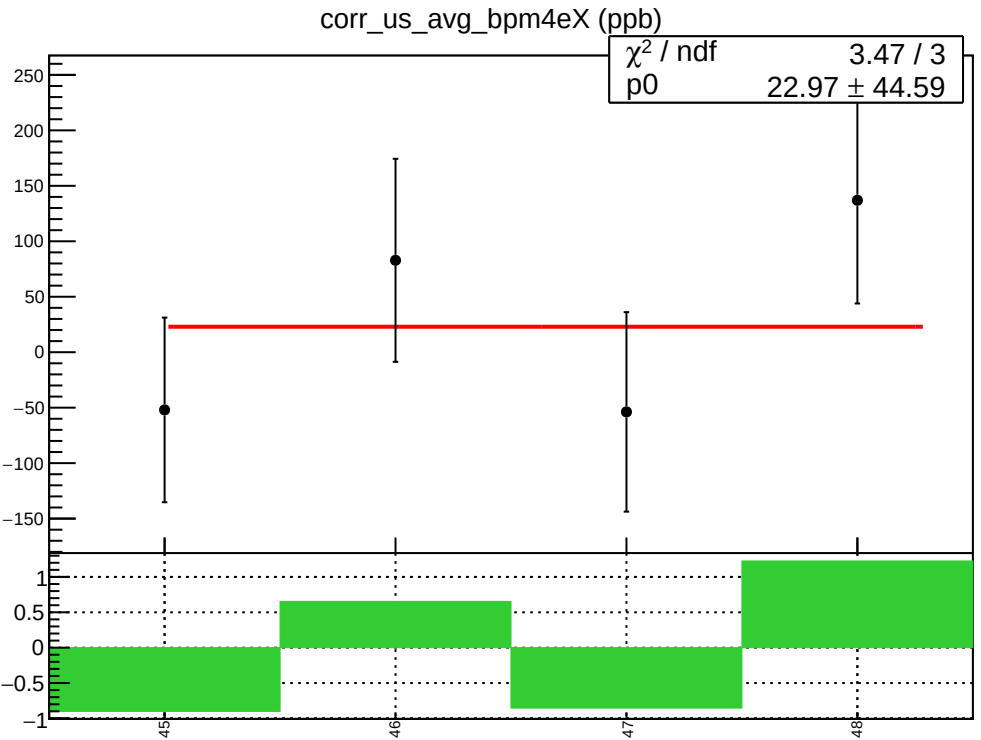

diff_bpm11X (nm)
χ² / ndf 3.147 / 3
p0 0.7799 ± 3.979
20
15
10
5
0
−5
−10
−15
1
0.5
0
−0.5
−1
45
46
47
48

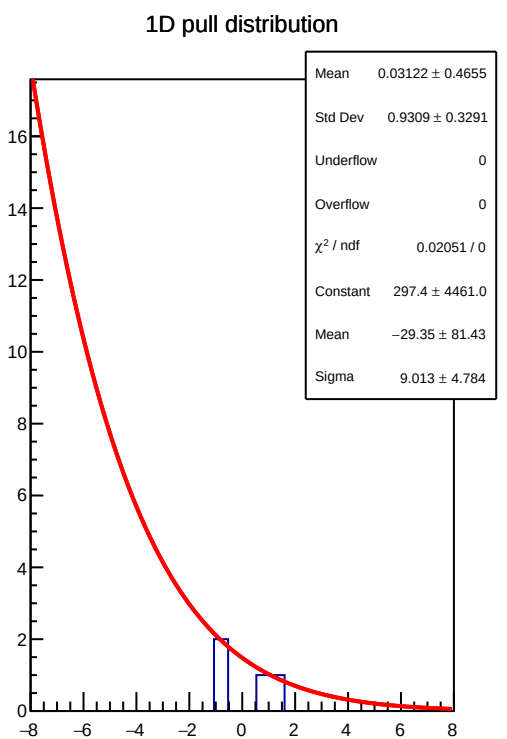

1D pull distribution
Mean 0.01898 ± 0.4434
Std Dev 0.8868 ± 0.3135
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

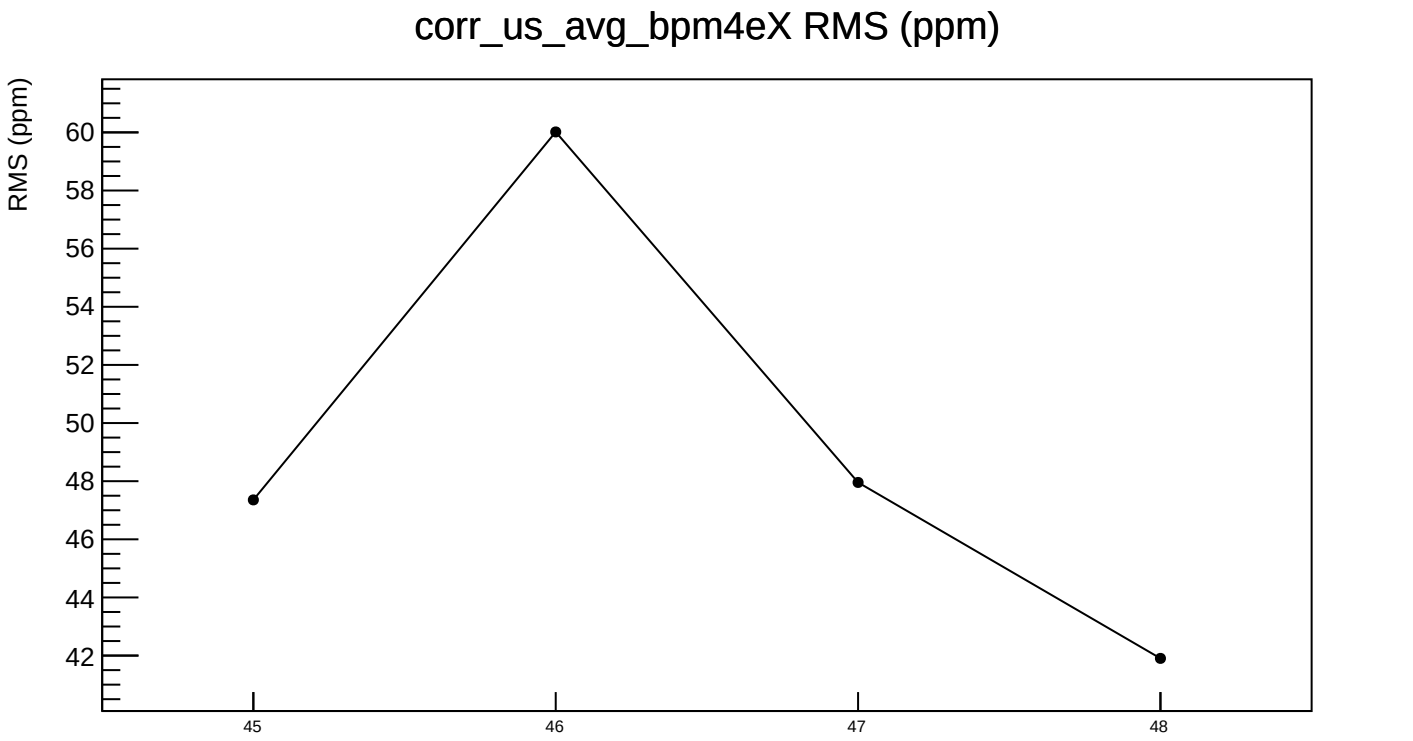

diff_bpm11X RMS (um)
RMS (um)
6
5.9
5.8
5.7
5.6
5.5
45
46
47
48

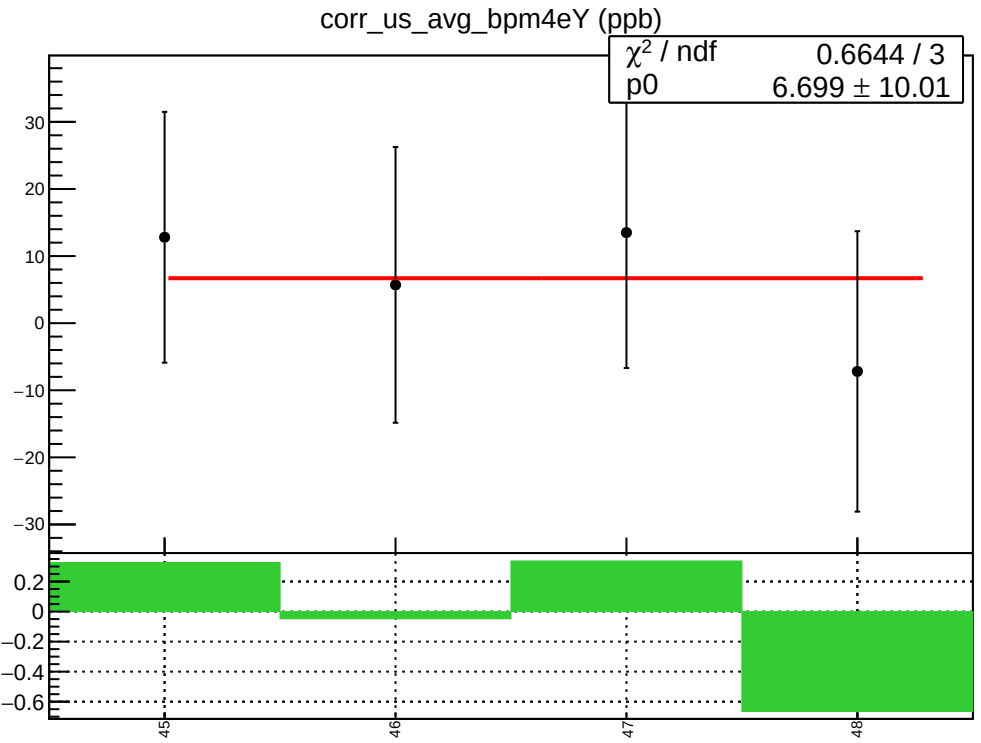

diff_bpm11Y (nm)
χ² / ndf 4.676 / 3
p0 0.958 ± 1.416
8
6
4
2
0
−2
−4
−6
1.5
1
0.5
0
−0.5
−1
45
46
47
48
1D pull distribution
Mean 0.03911± 0.5402
Std Dev 1.08 ± 0.382
Underflow 0
Overflow 0
χ² / ndf 5.179e−05 / 1
Constant 1.005 ± 0.515
Mean −0.0008048 ± 50.2617683
Sigma 10.17 ± 5.28
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

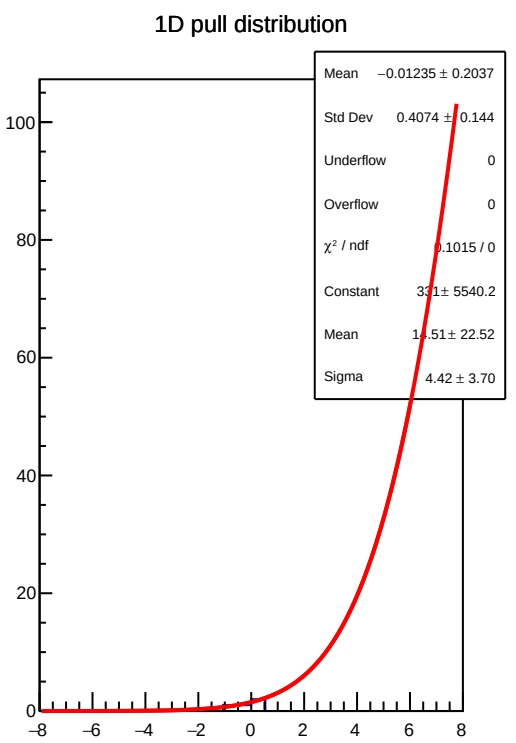

diff_bpm11Y RMS (um)
RMS (um)
2.95
2.9
2.85
2.8
2.75
2.7
2.65
45
46
47
48

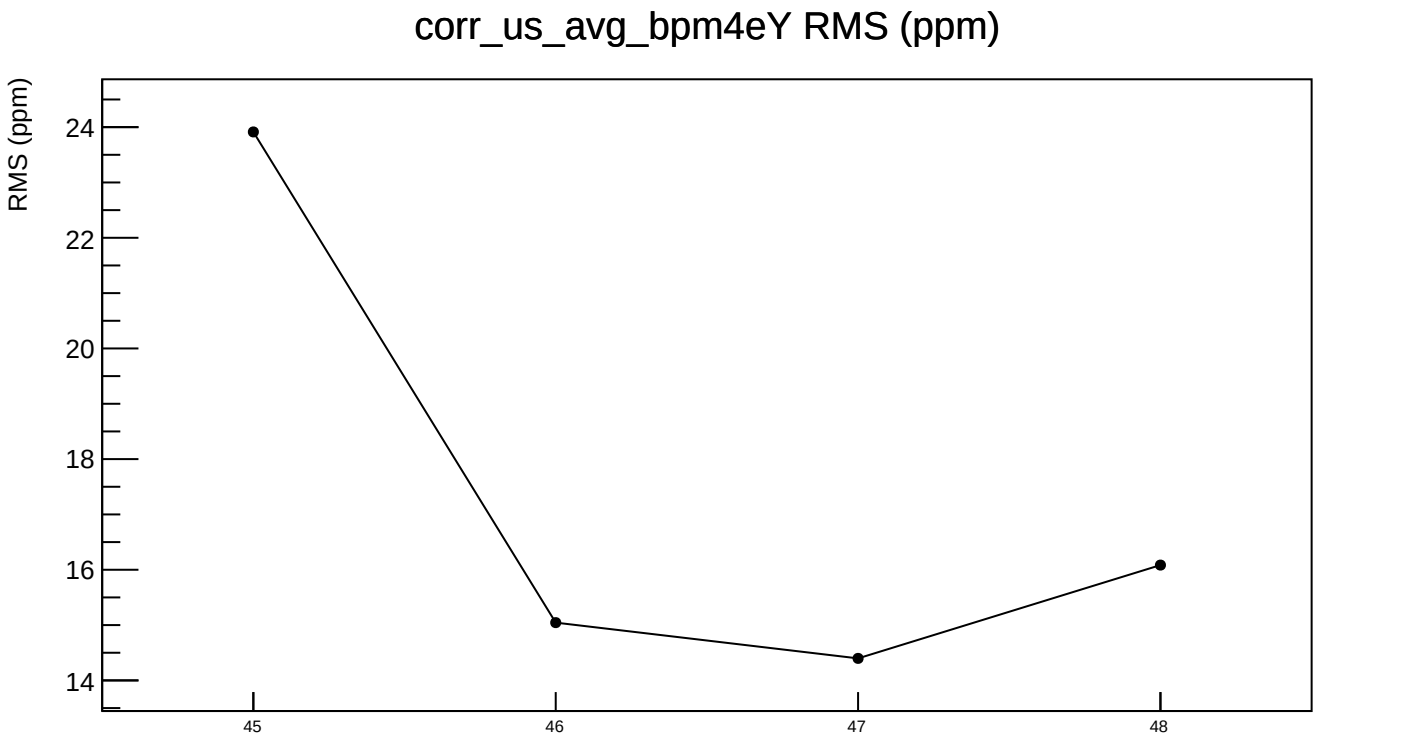

corr_us_avg_bpm4eX (ppb)
χ² / ndf 3.47 / 3
p0 22.97 ± 44.59
250
200
150
100
50
0
−50
−100
−150
1
0.5
0
−0.5
−1
45
46
47
48

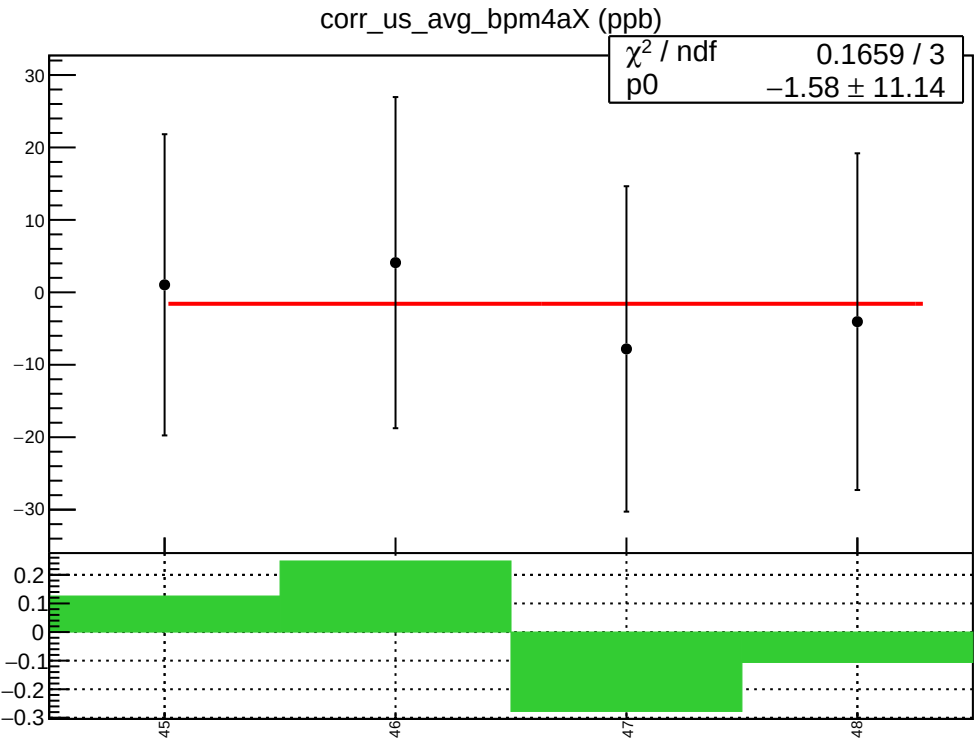

1D pull distribution
Mean 0.03122 ± 0.4655
Std Dev 0.9309 ± 0.3291
Underflow 0
Overflow 0
χ² / ndf 0.02051 / 0
Constant 297.4 ± 4461.0
Mean −29.35 ± 81.43
Sigma 9.013 ± 4.784
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

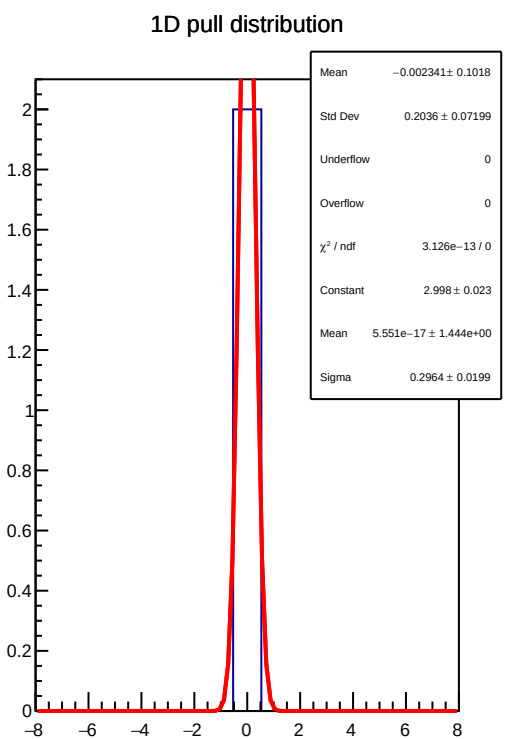

corr_us_avg_bpm4eX RMS (ppm)
RMS (ppm)
60
58
56
54
52
50
48
46
44
42
45
46
47
48

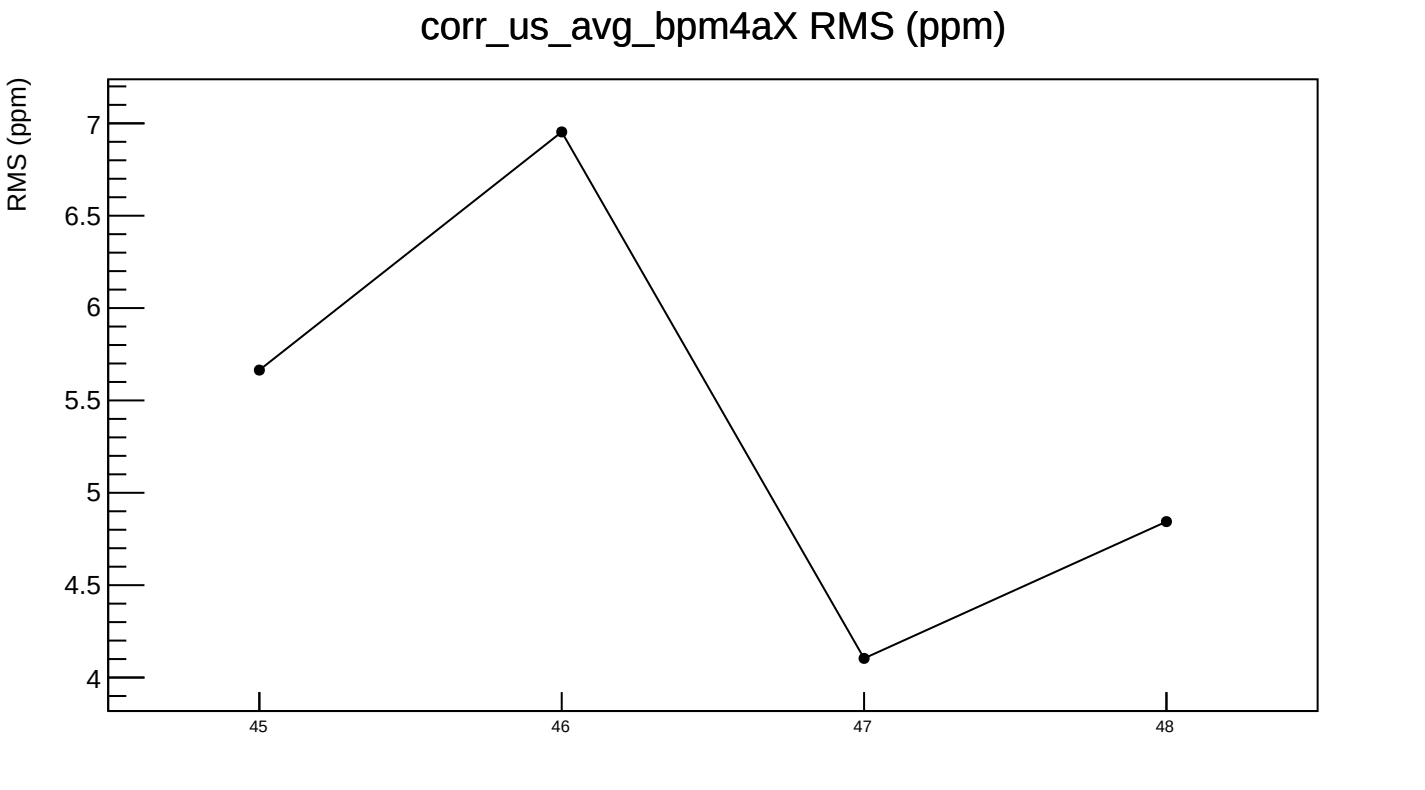

corr_us_avg_bpm4eY (ppb)
χ² / ndf 0.6644 / 3
p0 6.699 ± 10.01
30
20
10
0
−10
−20
−30
0.2
0
−0.2
−0.4
−0.6
45
46
47
48

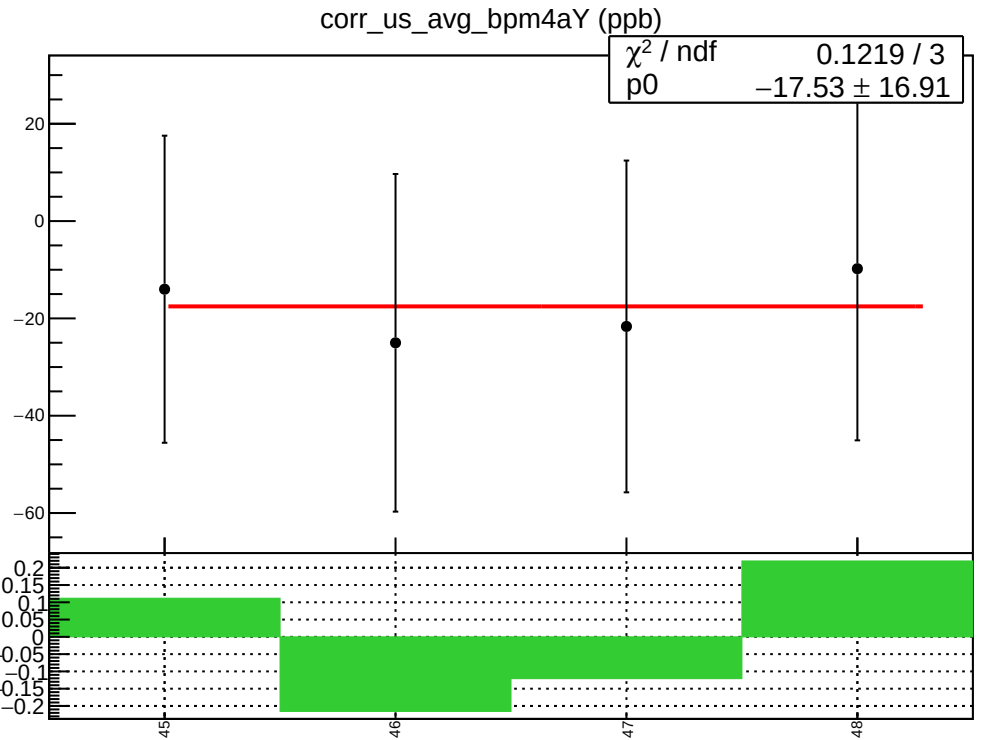

1D pull distribution
Mean −0.01235 ± 0.2037
Std Dev 0.4074 ± 0.144
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 331± 5540.2
Mean 1.51± 22.52
Sigma 4.42 ± 3.70
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

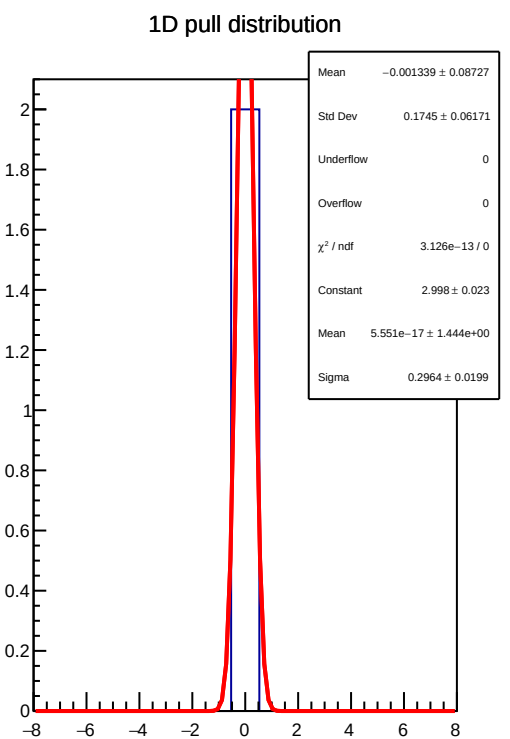

corr_us_avg_bpm4eY RMS (ppm)
RMS (ppm)
24
22
20
18
16
14
45
46
47
48

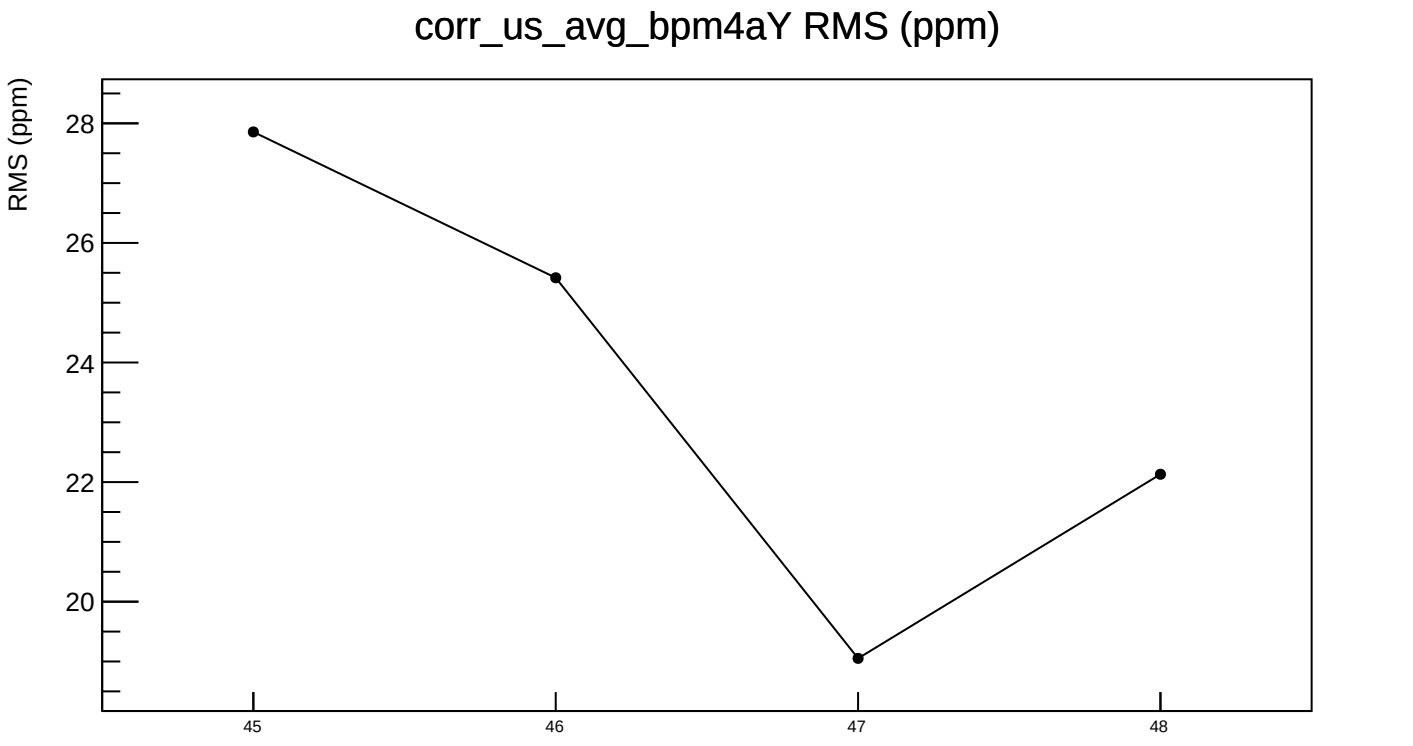

corr_us_avg_bpm4aX (ppb)
χ² / ndf 0.1659 / 3
p0 −1.58 ± 11.14
30
20
10
0
−10
−20
−30
0.2
0.1
0
−0.1
−0.2
−0.3
45
46
47
48

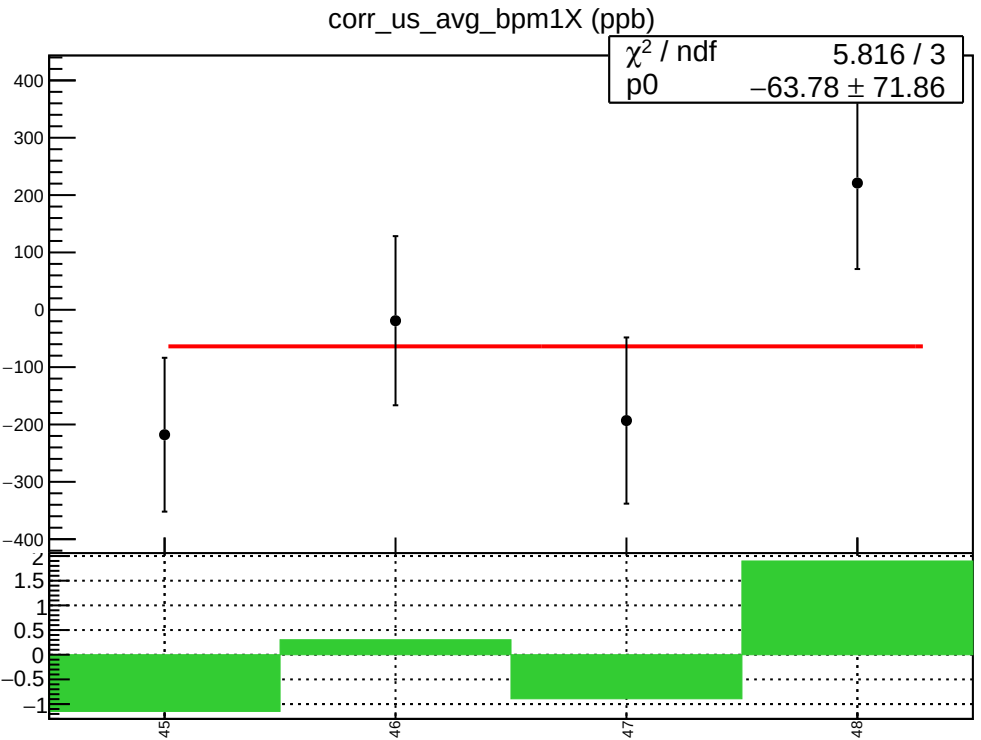

1D pull distribution
Mean −0.002341± 0.1018
Std Dev 0.2036 ± 0.07199
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

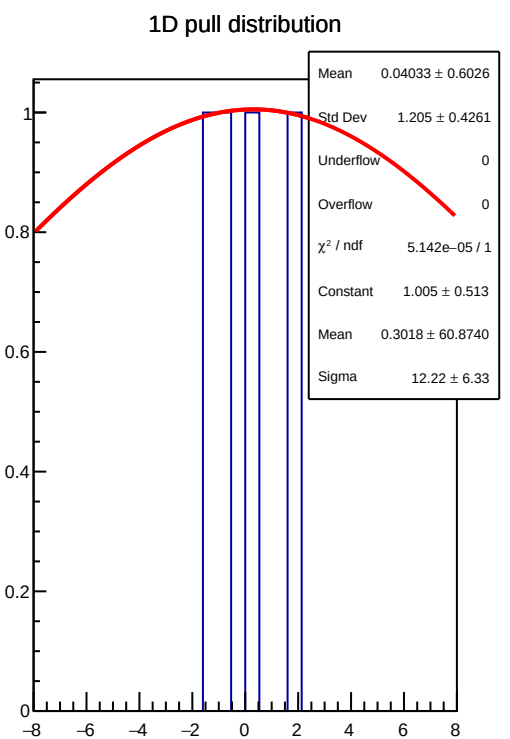

corr_us_avg_bpm4aX RMS (ppm)
RMS (ppm)
7
6.5
6
5.5
5
4.5
4
45
46
47
48

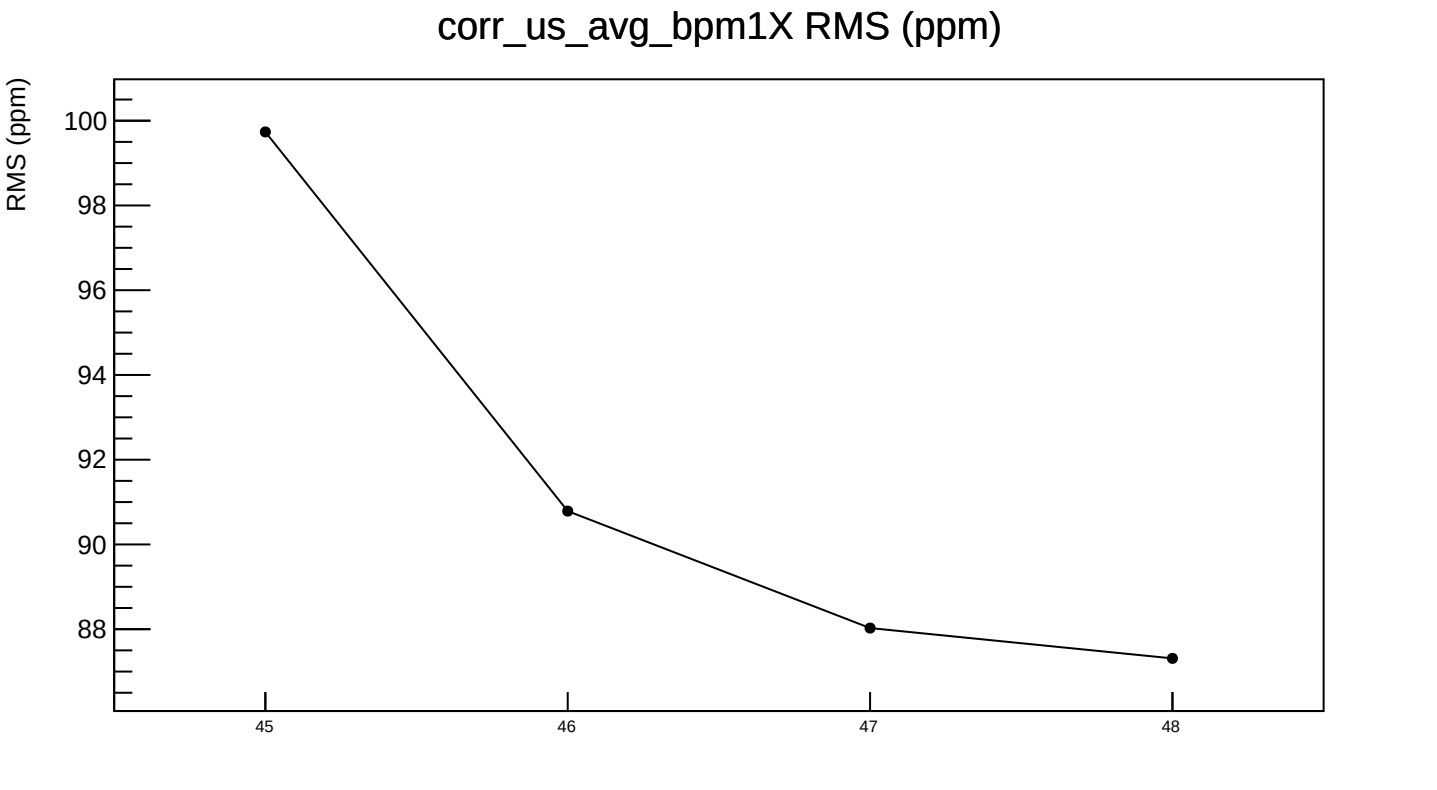

corr_us_avg_bpm4aY (ppb)
χ² / ndf 0.1219 / 3
p0 −17.53 ± 16.91
20
0
−20
−40
−60
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
45
46
47
48

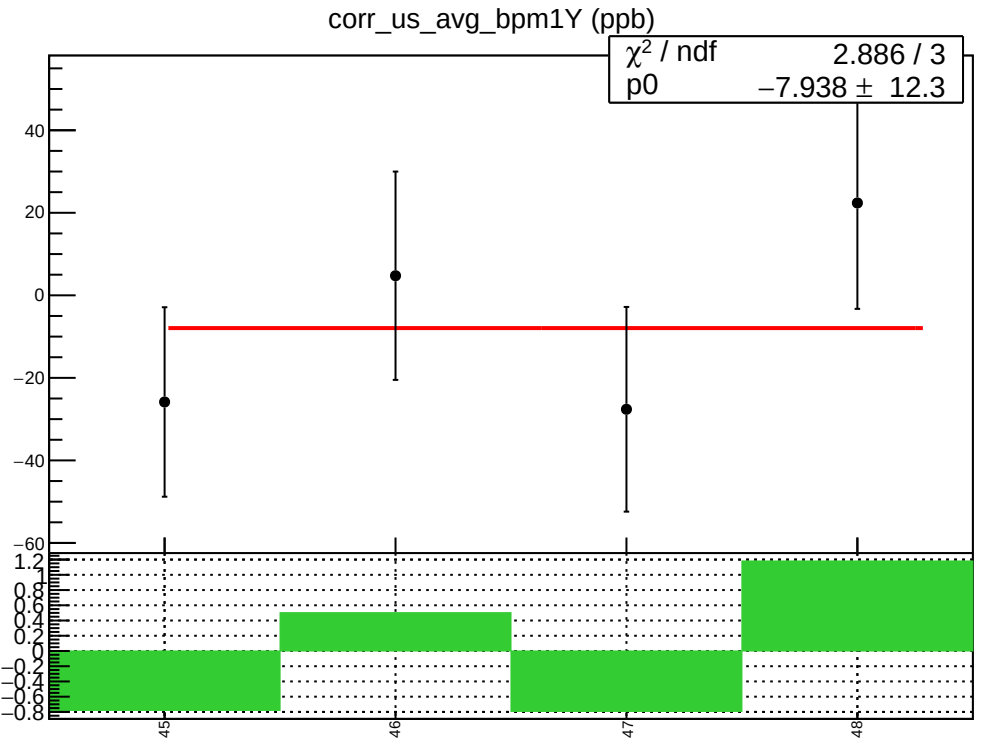

1D pull distribution
Mean −0.001339 ± 0.08727
Std Dev 0.1745 ± 0.06171
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

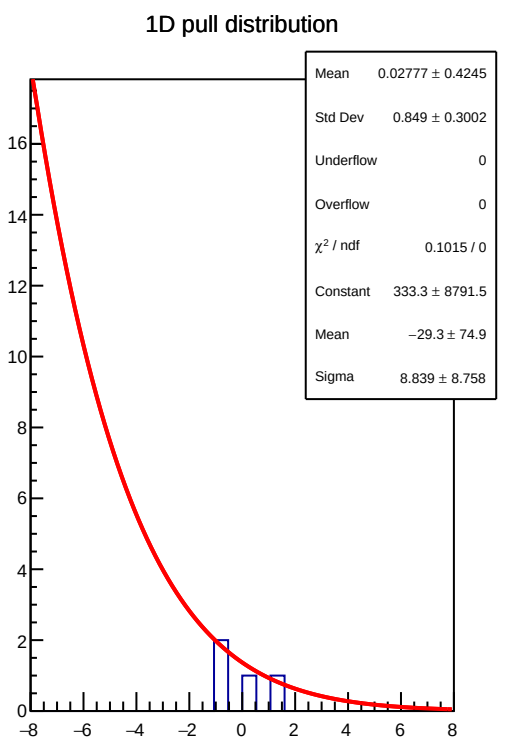

corr_us_avg_bpm4aY RMS (ppm)
RMS (ppm)
28
26
24
22
20
45
46
47
48

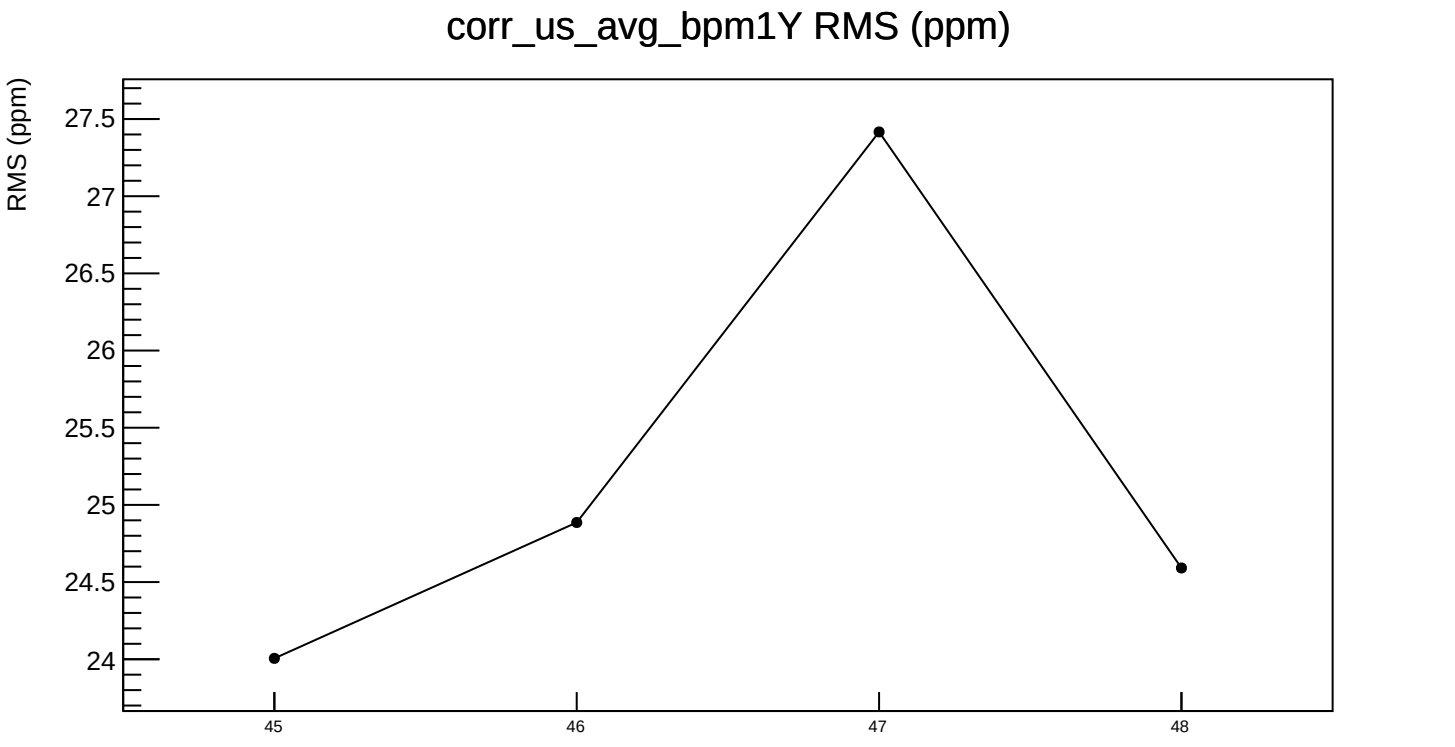

corr_us_avg_bpm1X (ppb)
χ² / ndf 5.816 / 3
p0 −63.78 ± 71.86
400
300
200
100
0
−100
−200
−300
−400
2
1.5
1
0.5
0
−0.5
−1
45
46
47
48

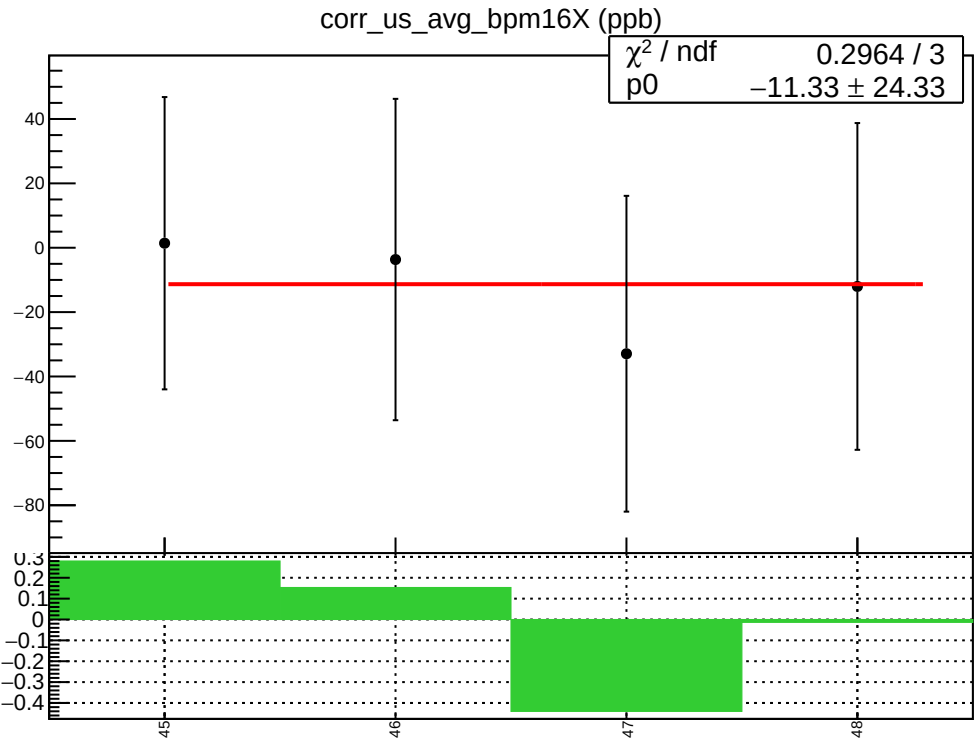

1D pull distribution
Mean 0.04033 ± 0.6026
Std Dev 1.205 ± 0.4261
Underflow 0
Overflow 0
χ² / ndf 5.142e−05 / 1
Constant 1.005 ± 0.513
Mean 0.3018 ± 60.8740
Sigma 12.22 ± 6.33
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

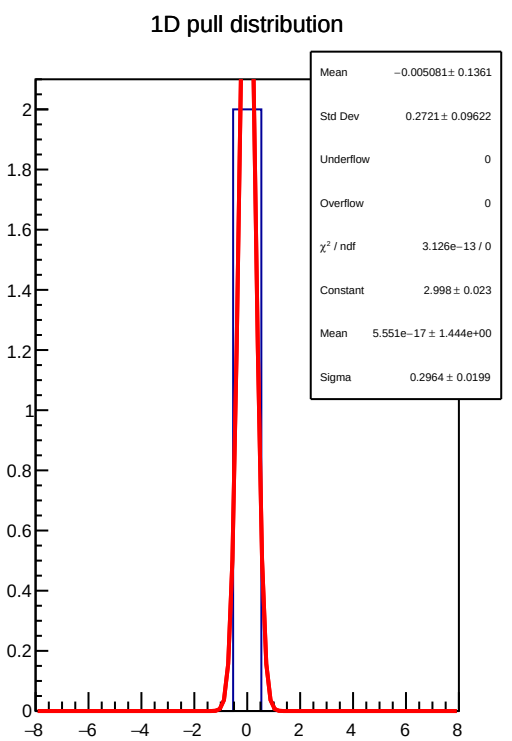

corr_us_avg_bpm1X RMS (ppm)
RMS (ppm)
100
98
96
94
92
90
88
45
46
47
48

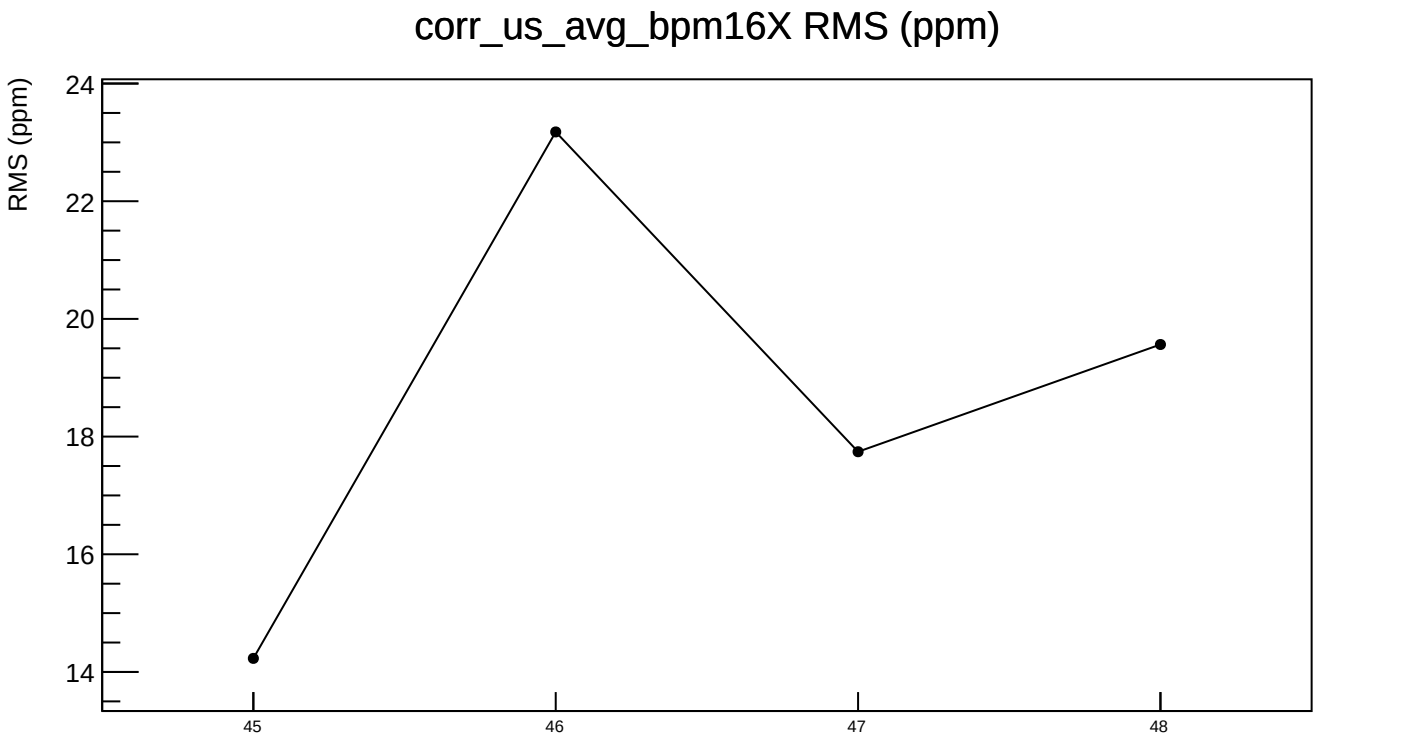

corr_us_avg_bpm1Y (ppb)
χ² / ndf 2.886 / 3
p0 −7.938 ± 12.3
40
20
0
−20
−40
−60
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

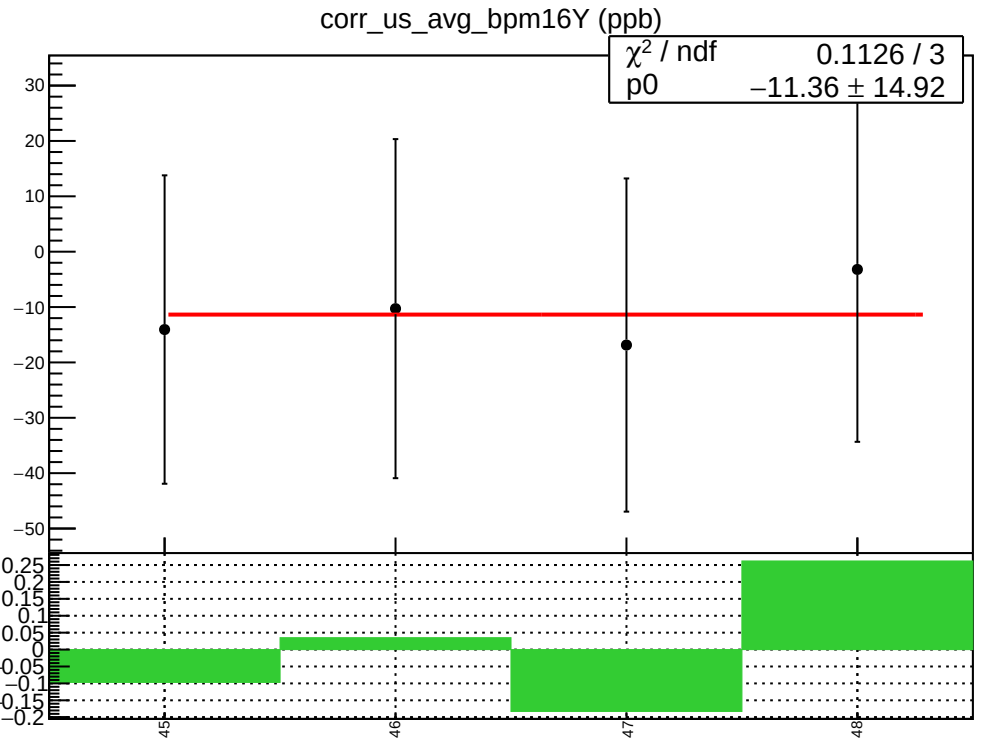

1D pull distribution
Mean 0.02777 ± 0.4245
Std Dev 0.849 ± 0.3002
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

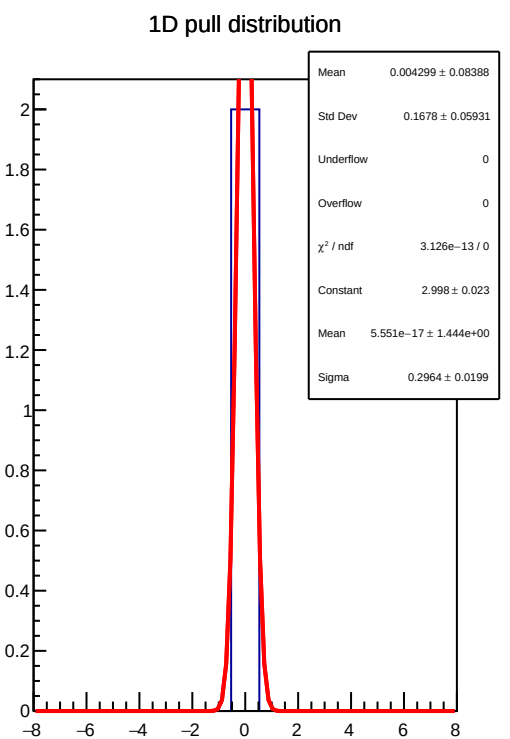

corr_us_avg_bpm1Y RMS (ppm)
RMS (ppm)
27.5
27
26.5
26
25.5
25
24.5
24
45
46
47
48

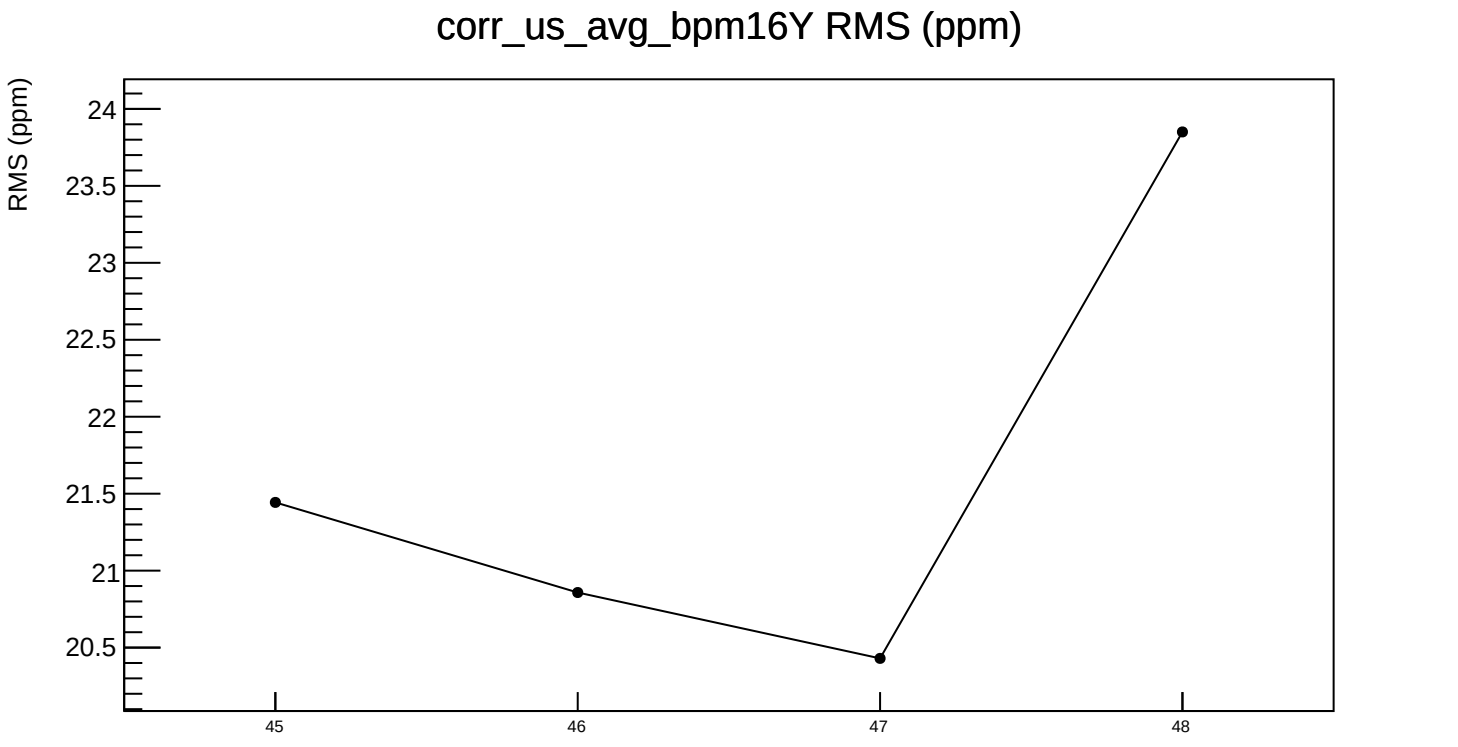

corr_us_avg_bpm16X (ppb)
χ² / ndf 0.2964 / 3
p0 −11.33 ± 24.33
40
20
0
−20
−40
−60
−80
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
45
46
47
48

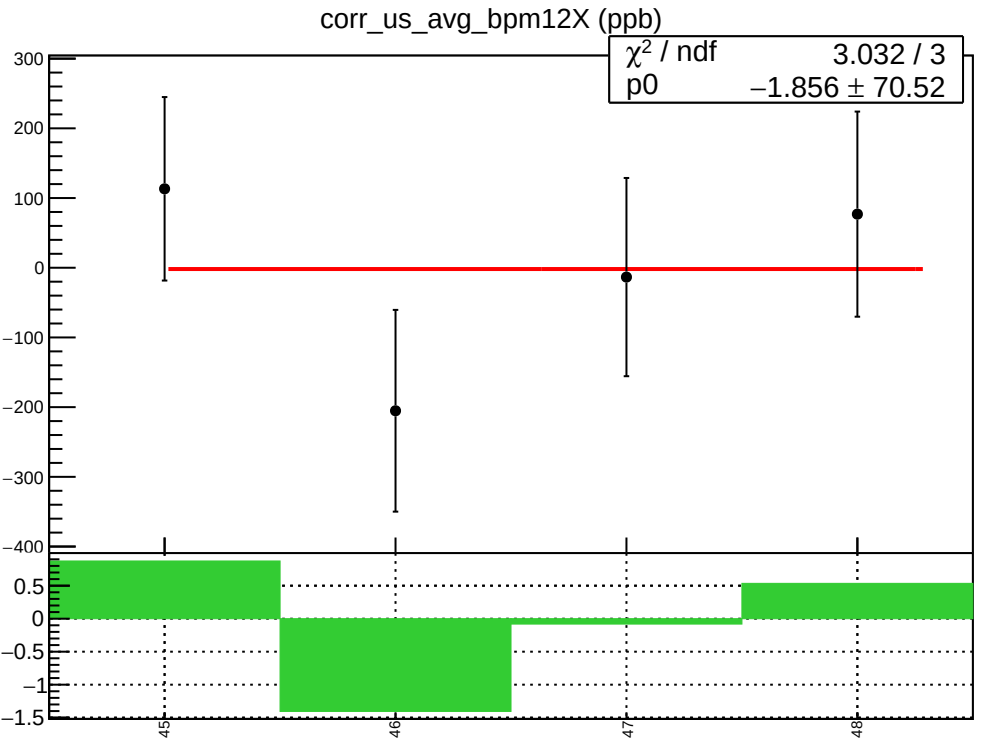

1D pull distribution
Mean −0.005081 ± 0.1361
Std Dev 0.2721 ± 0.09622
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

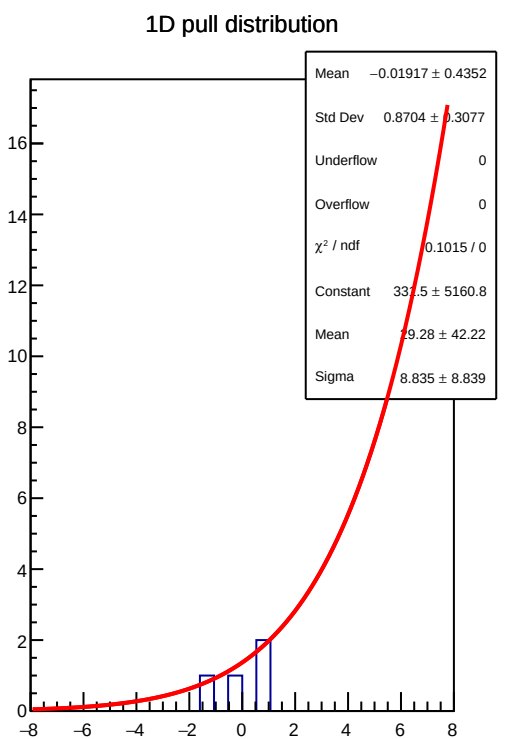

corr_us_avg_bpm16X RMS (ppm)
RMS (ppm)
24
22
20
18
16
14
45
46
47
48

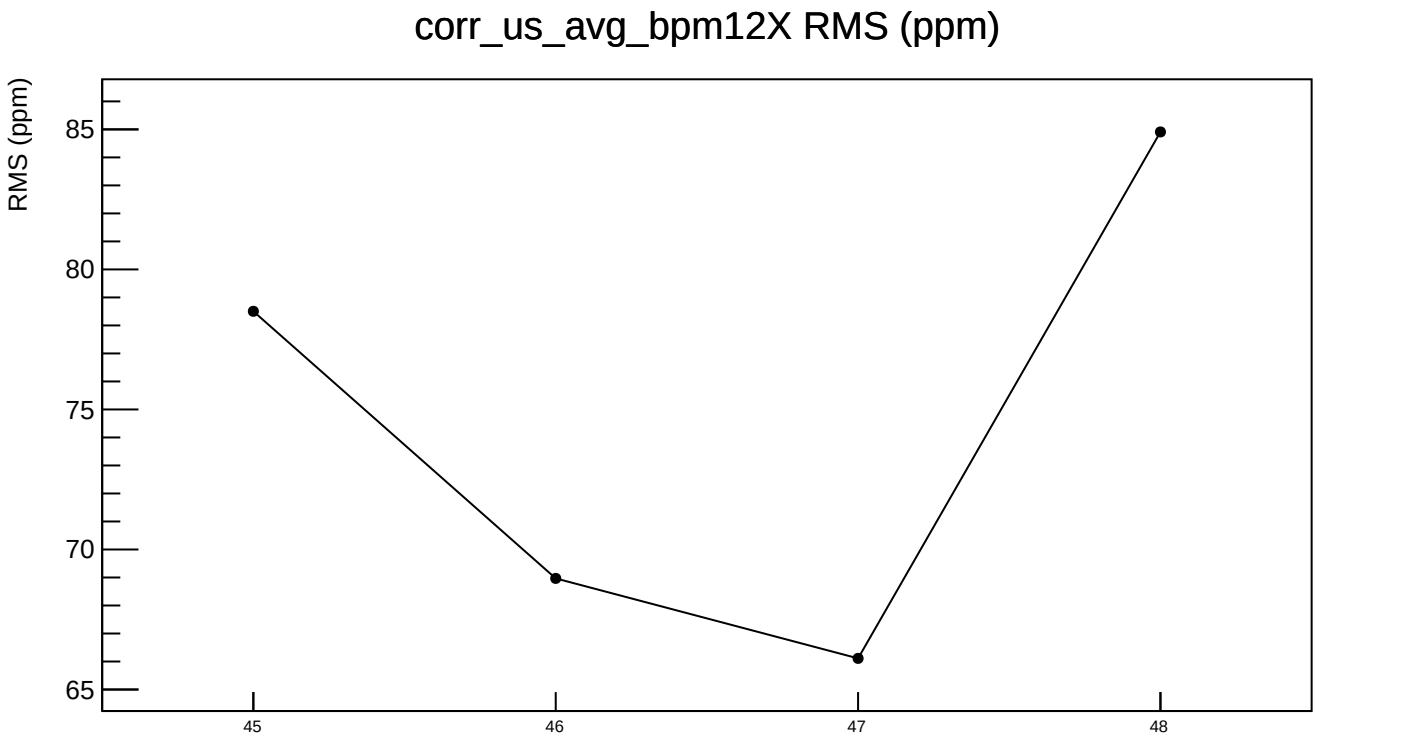

corr_us_avg_bpm16Y (ppb)
χ² / ndf 0.1126 / 3
p0 −11.36 ± 14.92
30
20
10
0
−10
−20
−30
−40
−50
0.25
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
45
46
47
48

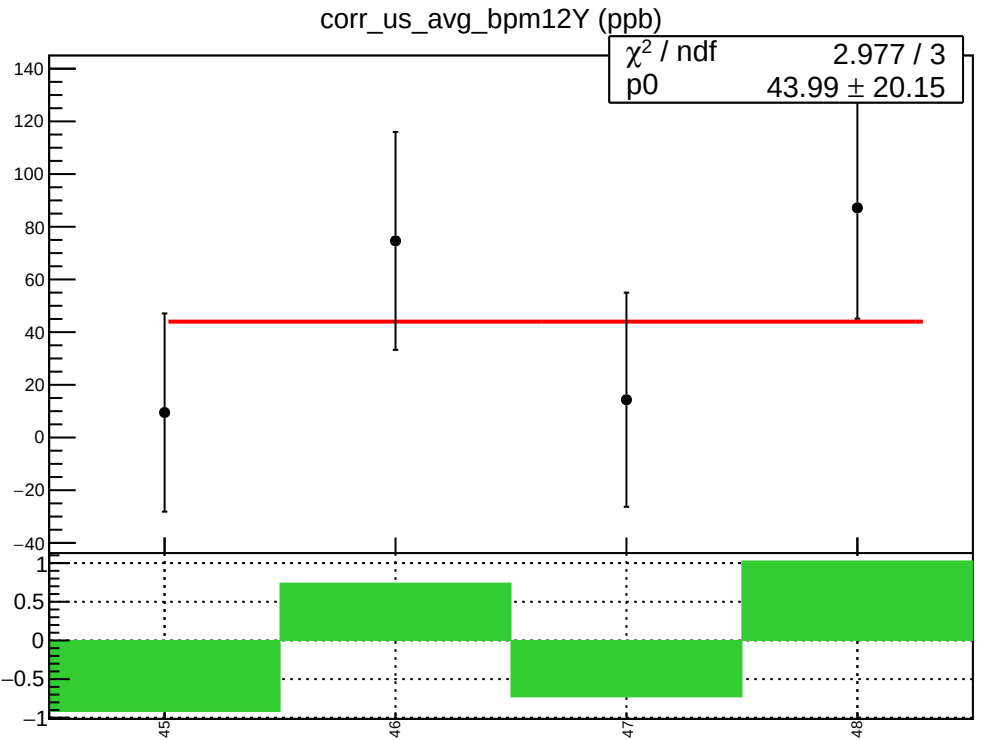

1D pull distribution
Mean 0.004299 ± 0.08388
Std Dev 0.1678 ± 0.05931
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean −5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

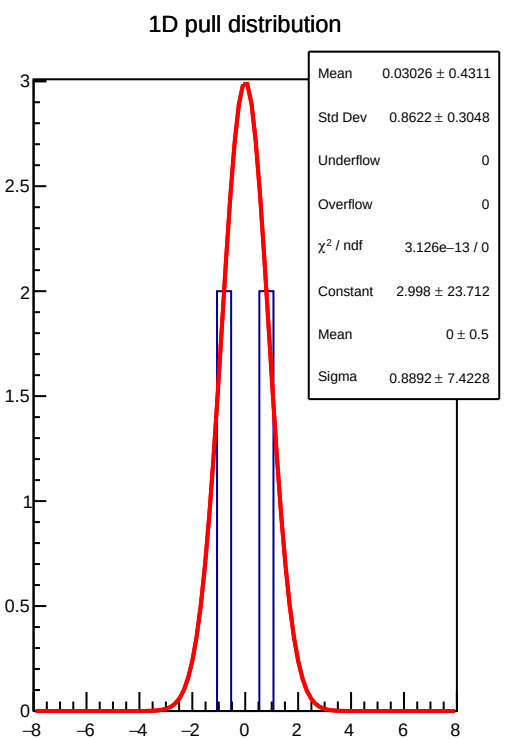

corr_us_avg_bpm16Y RMS (ppm)
RMS (ppm)
24
23.5
23
22.5
22
21.5
21
20.5
45
46
47
48

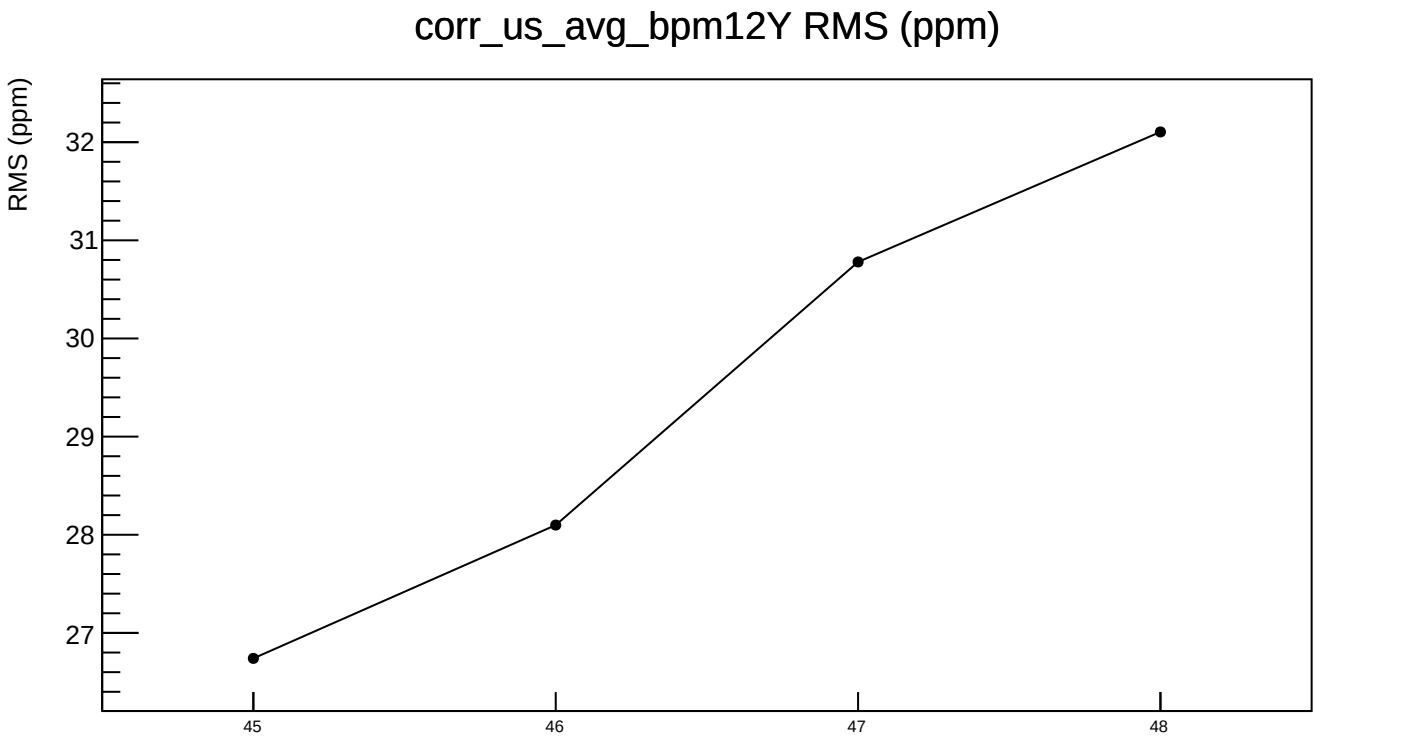

corr_us_avg_bpm12X (ppb)
χ² / ndf 3.032 / 3
p0 −1.856 ± 70.52
300
200
100
0
−100
−200
−300
−400
0.5
0
−0.5
−1
−1.5
45
46
47
48

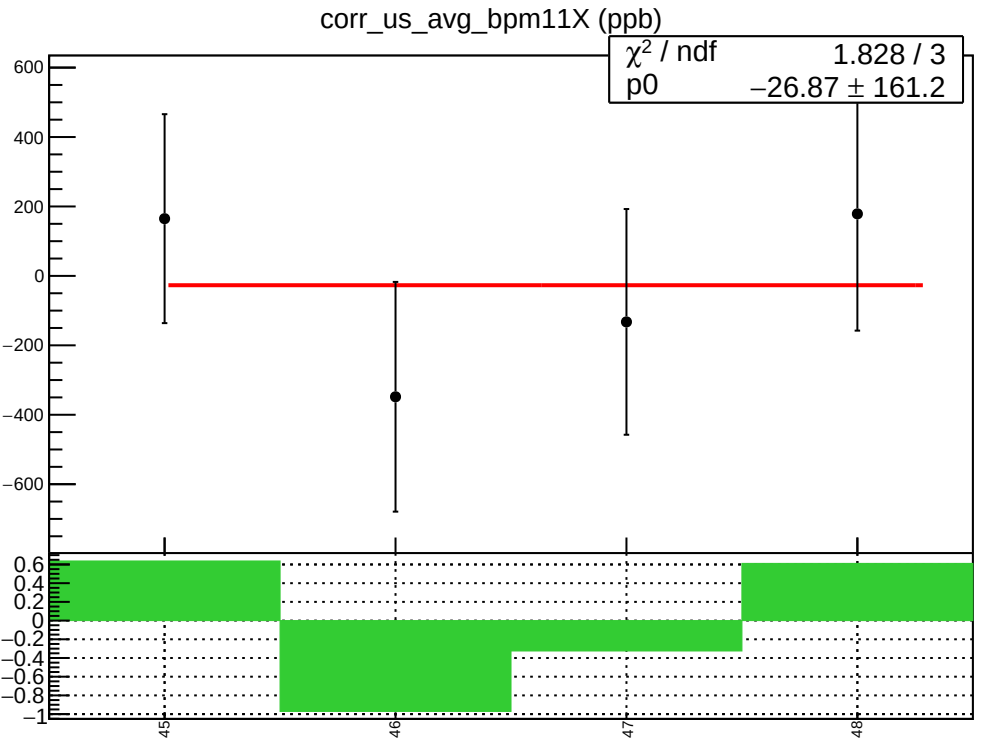

1D pull distribution
Mean −0.01917 ± 0.4352
Std Dev 0.8704 ± 0.3077
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 331.5 ± 5160.8
Mean 29.28 ± 42.22
Sigma 8.835 ± 8.839
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

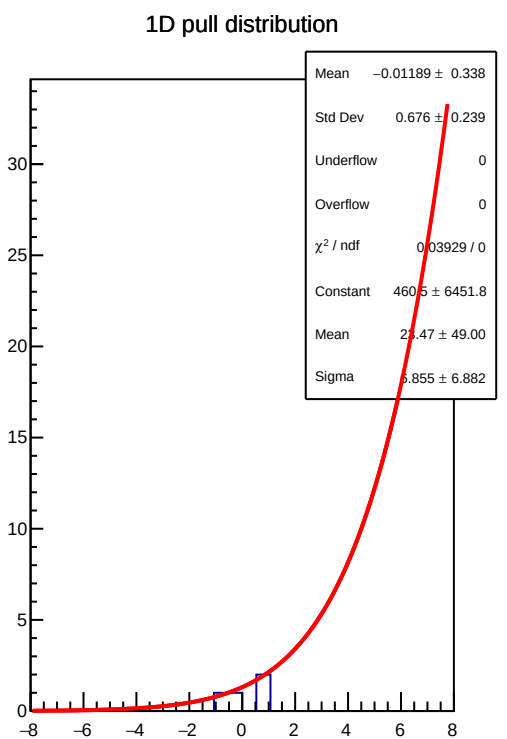

corr_us_avg_bpm12X RMS (ppm)
RMS (ppm)
85
80
75
70
65
45
46
47
48

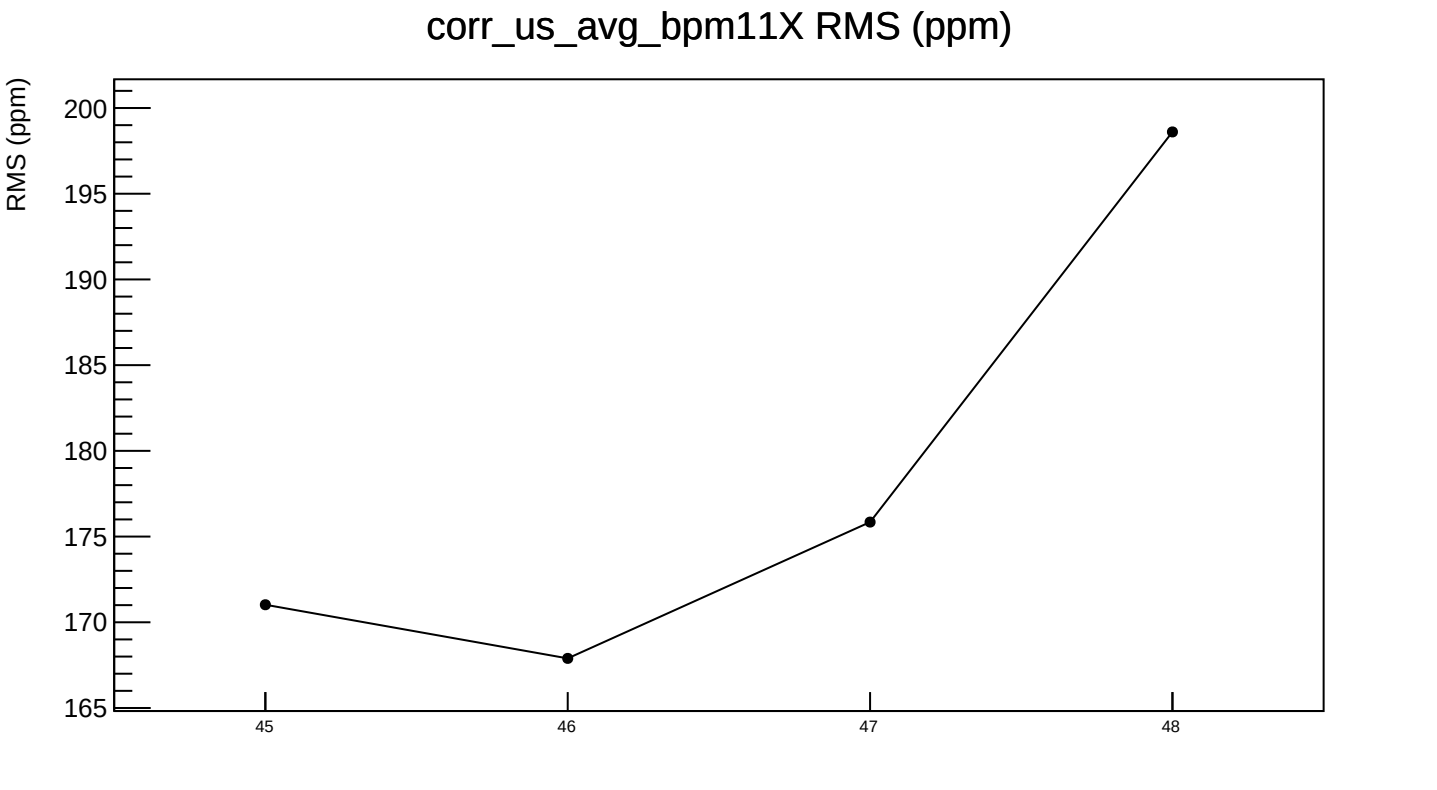

corr_us_avg_bpm12Y (ppb)
χ² / ndf 2.977 / 3
p0 43.99 ± 20.15
140
120
100
80
60
40
20
0
−20
−40
1
0.5
0
−0.5
−1
45
46
47
48

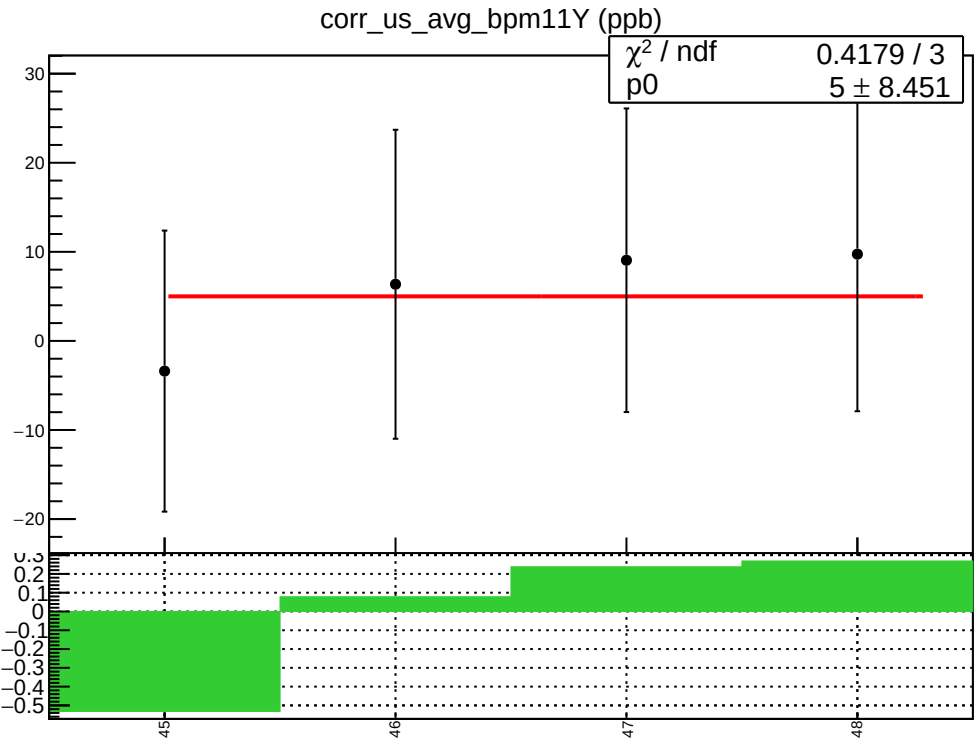

1D pull distribution
Mean 0.03026 ± 0.4311
Std Dev 0.8622 ± 0.3048
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

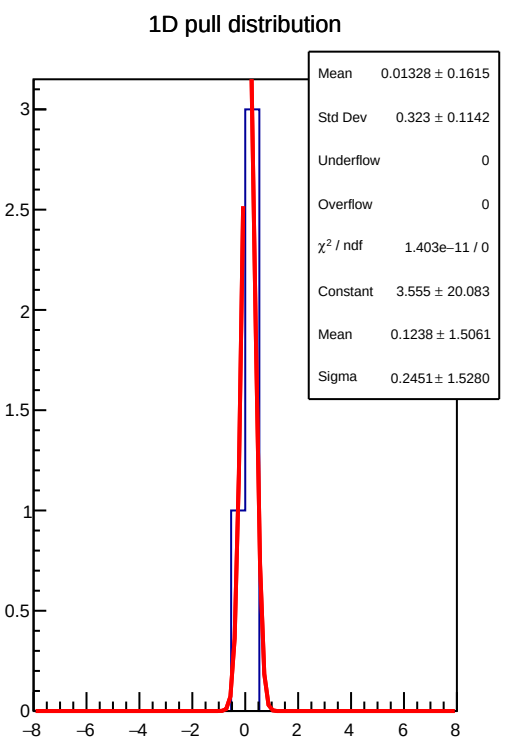

corr_us_avg_bpm12Y RMS (ppm)
RMS (ppm)
32
31
30
29
28
27
45
46
47
48

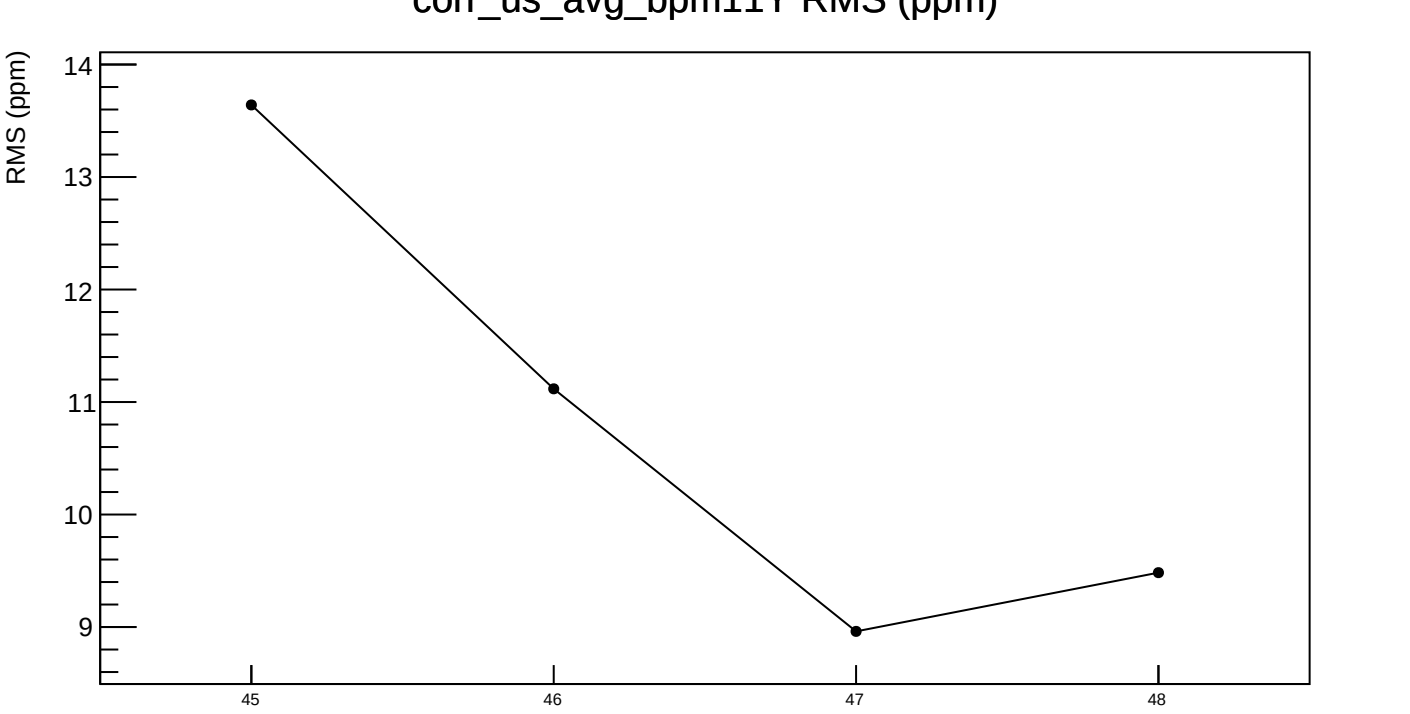

corr_us_avg_bpm11X (ppb)
χ² / ndf 1.828 / 3
p0 −26.87 ± 161.2
600
400
200
0
−200
−400
−600
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
45
46
47
48

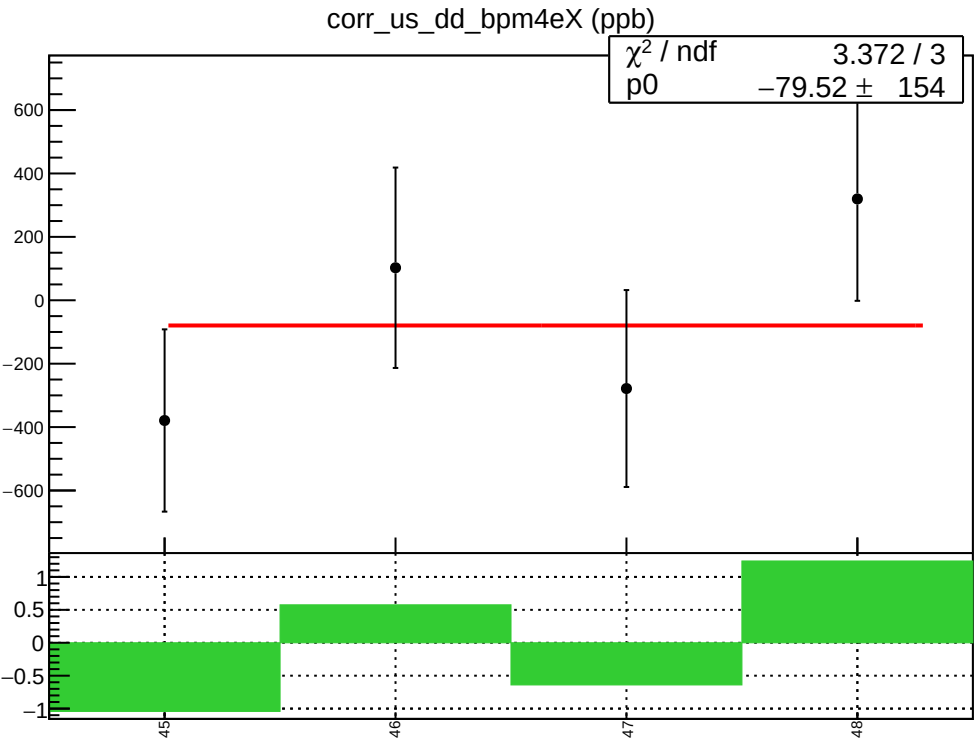

1D pull distribution
Mean −0.01189 ± 0.338
Std Dev 0.676 ± 0.239
Underflow 0
Overflow 0
χ² / ndf 0.03929 / 0
Constant 460.5 ± 6451.8
Mean 23.47 ± 49.00
Sigma 6.855 ± 6.882
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

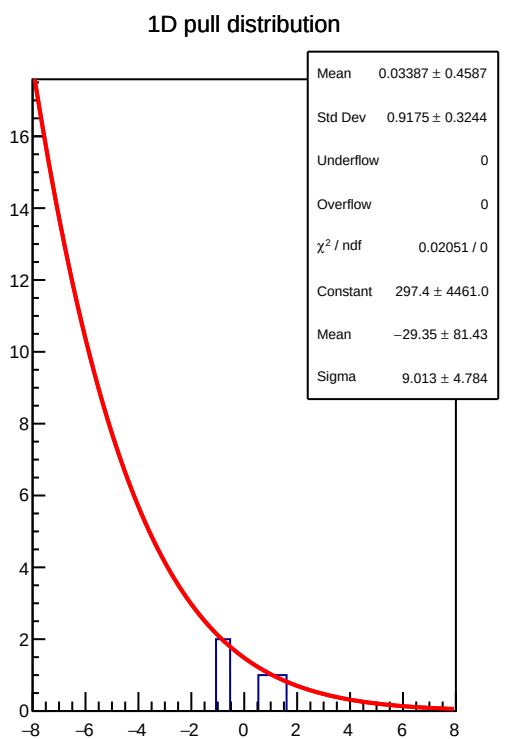

corr_us_avg_bpm11X RMS (ppm)
RMS (ppm)
200
195
190
185
180
175
170
165
45
46
47
48

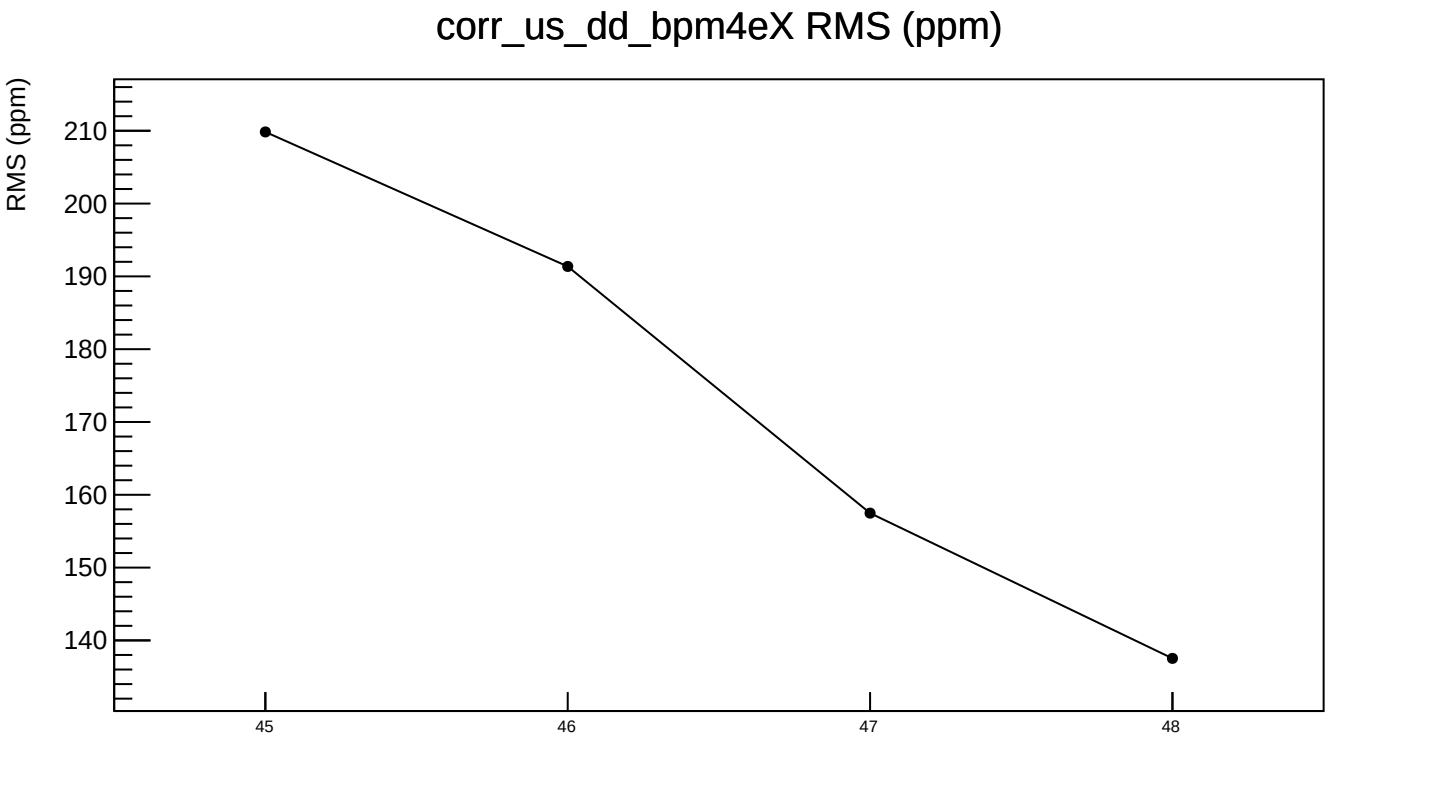

corr_us_avg_bpm11Y (ppb)
χ² / ndf 0.4179 / 3
p0 5 ± 8.451
30
20
10
0
−10
−20
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
−0.5
45
46
47
48

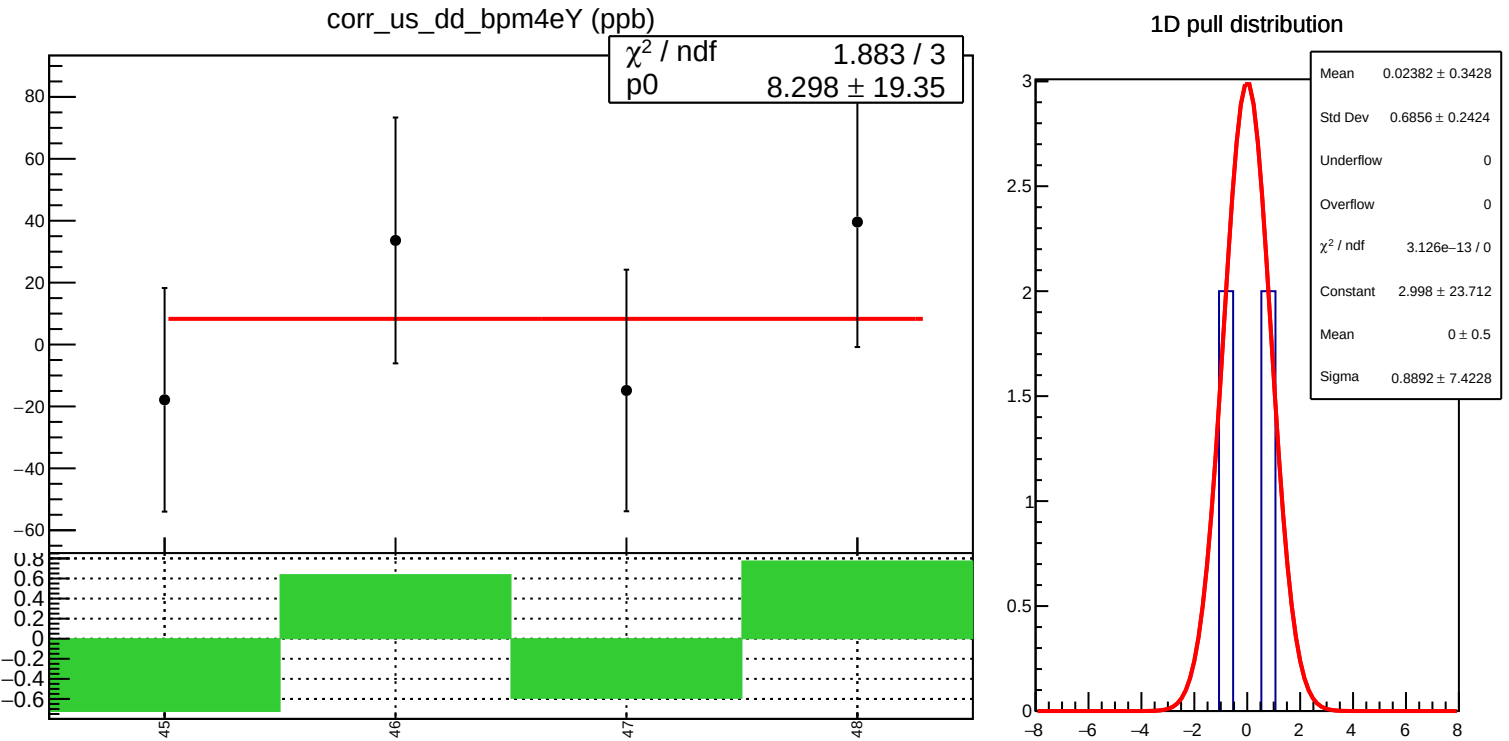

1D pull distribution
Mean 0.01328 ± 0.1615
Std Dev 0.323 ± 0.1142
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

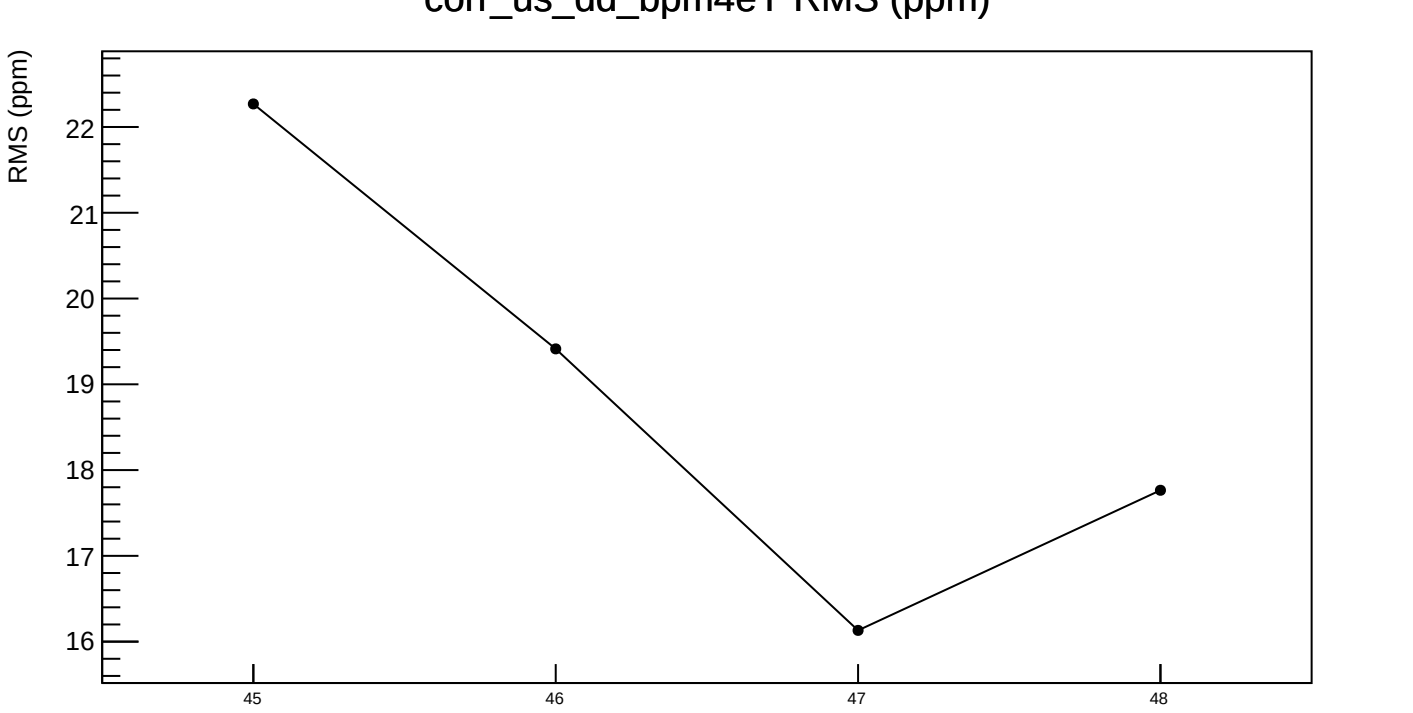

corr_us_avg_bpm11Y RMS (ppm)
RMS (ppm)
14
13
12
11
10
9
45
46
47
48

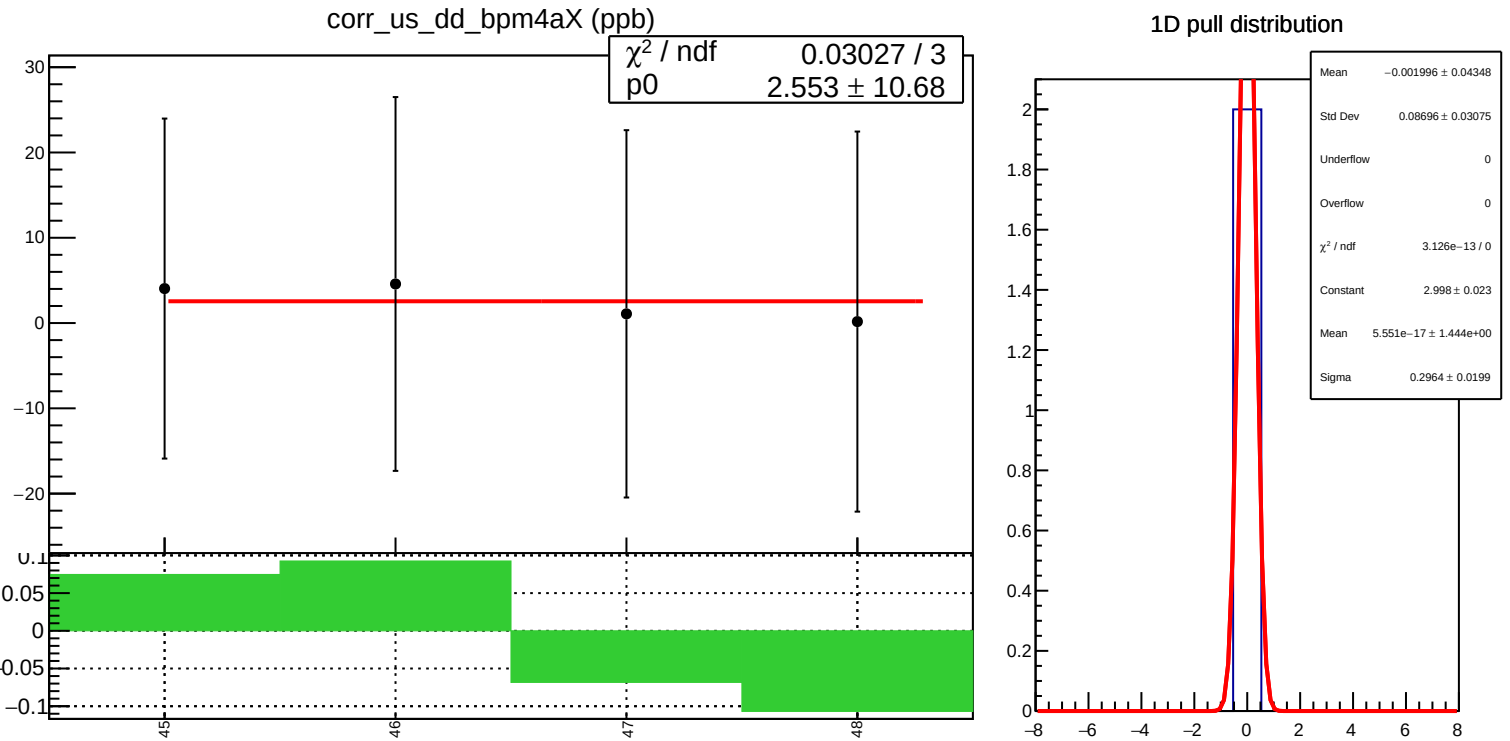

corr_us_dd_bpm4eX (ppb)
χ² / ndf 3.372 / 3
p0 −79.52 ± 154
600
400
200
0
−200
−400
−600
1
0.5
0
−0.5
−1
45
46
47
48

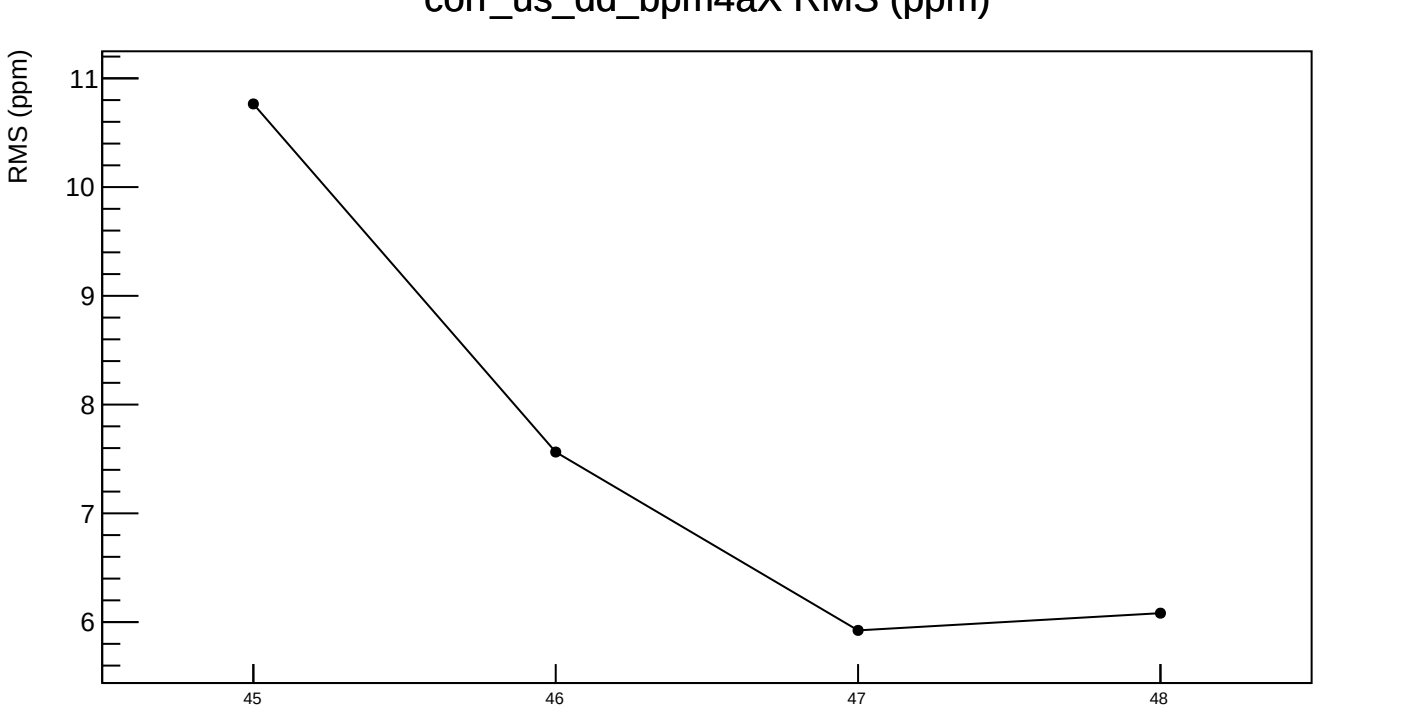

1D pull distribution
Mean 0.03387 ± 0.4587
Std Dev 0.9175 ± 0.3244
Underflow 0
Overflow 0
χ² / ndf 0.02051 / 0
Constant 297.4 ± 4461.0
Mean −29.35 ± 81.43
Sigma 9.013 ± 4.784
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

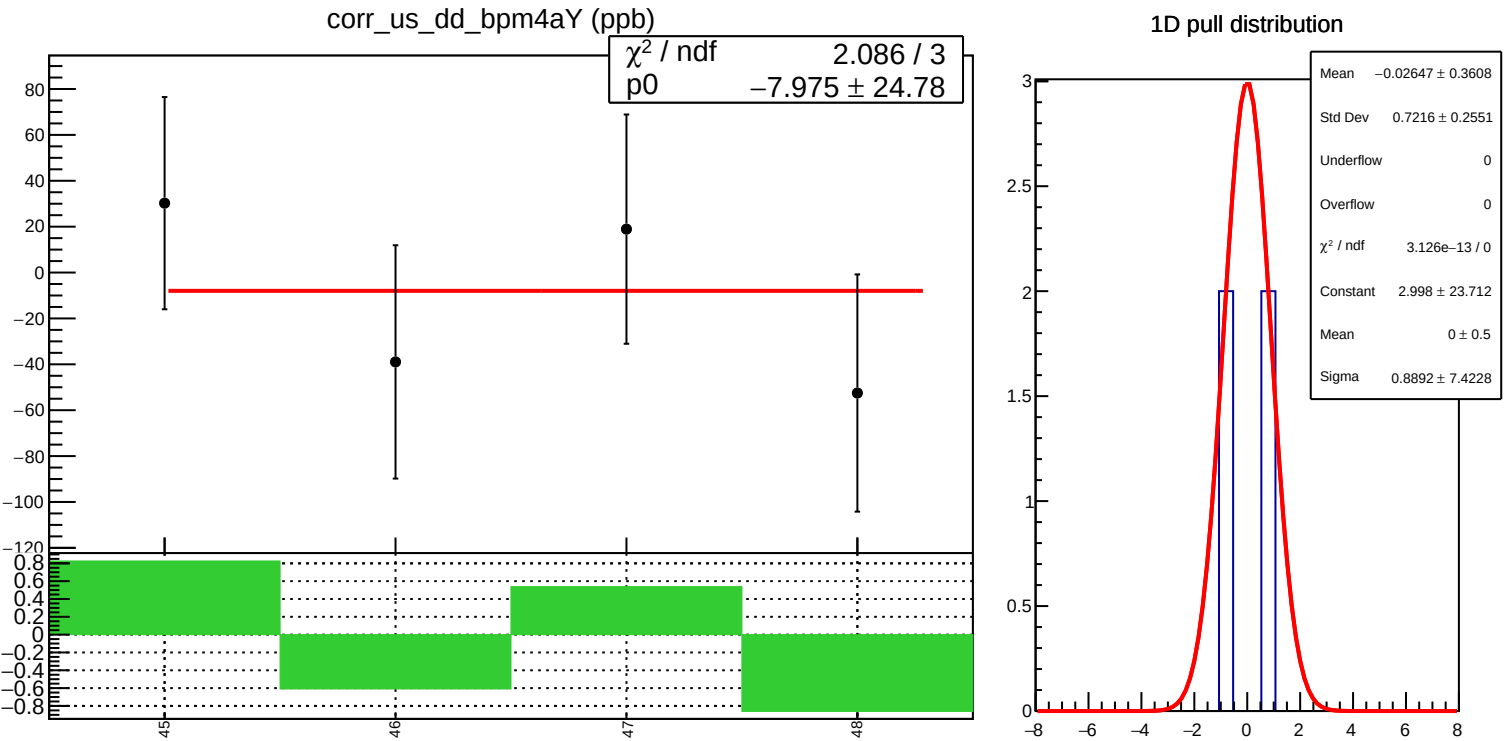

corr_us_dd_bpm4eX RMS (ppm)
RMS (ppm)
210
200
190
180
170
160
150
140
45
46
47
48

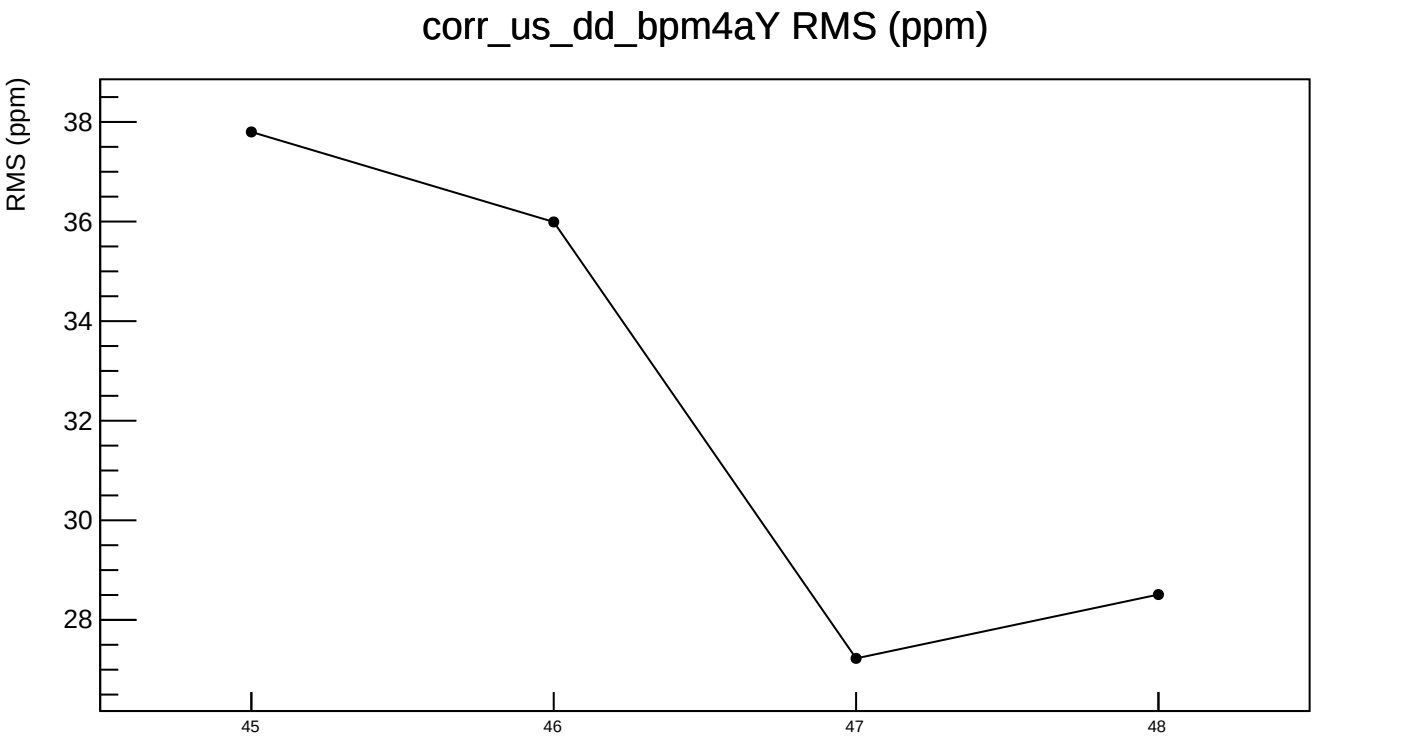

corr_us_dd_bpm4eY (ppb)
χ² / ndf 1.883 / 3
p0 8.298 ± 19.35
80
60
40
20
0
−20
−40
−60
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48
1D pull distribution
Mean 0.02382 ± 0.3428
Std Dev 0.6856 ± 0.2424
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

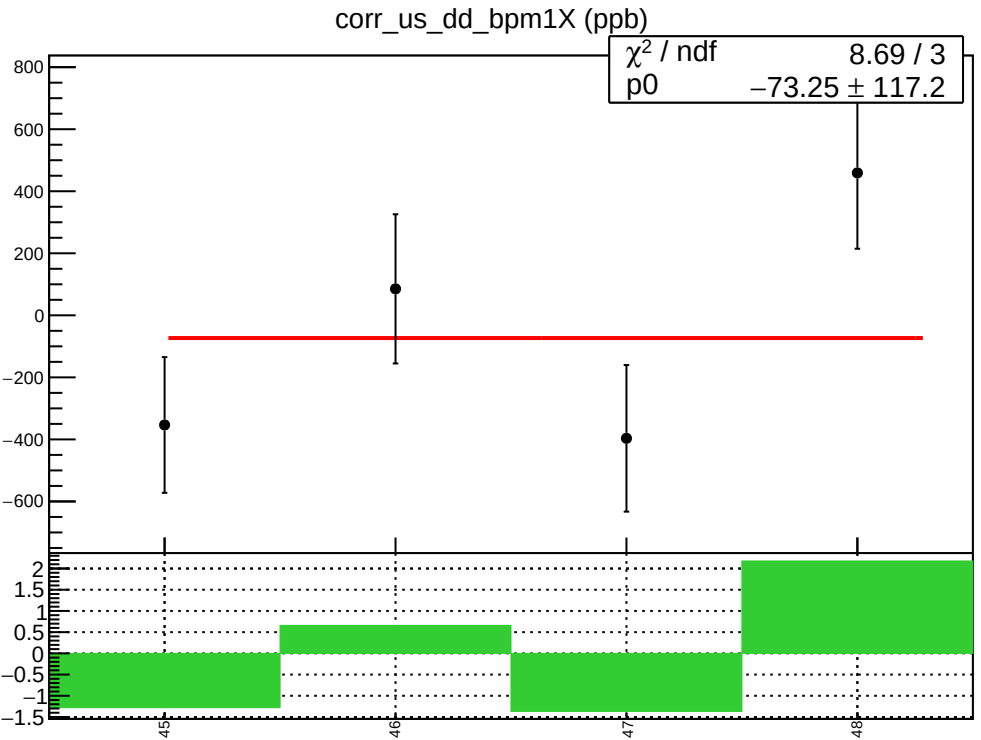

corr_us_dd_bpm4eY RMS (ppm)
RMS (ppm)
22
21
20
19
18
17
16
45
46
47
48

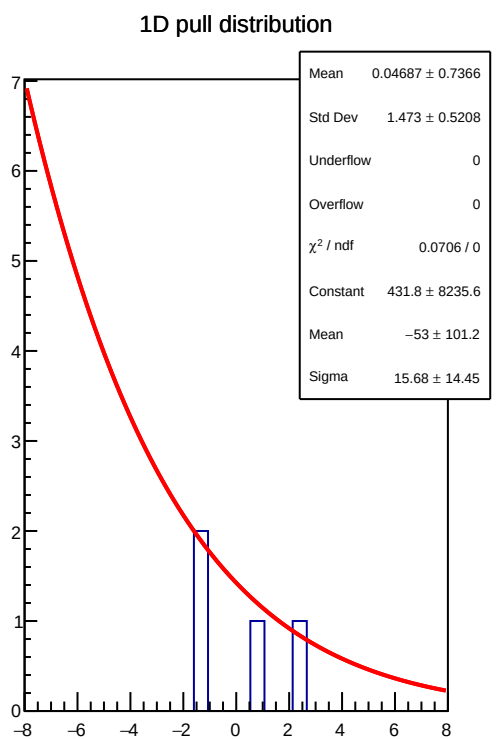

corr_us_dd_bpm4aX (ppb)
χ² / ndf 0.03027 / 3
p0 2.553 ± 10.68
1D pull distribution
Mean −0.001996 ± 0.04348
Std Dev 0.08696 ± 0.03075
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199

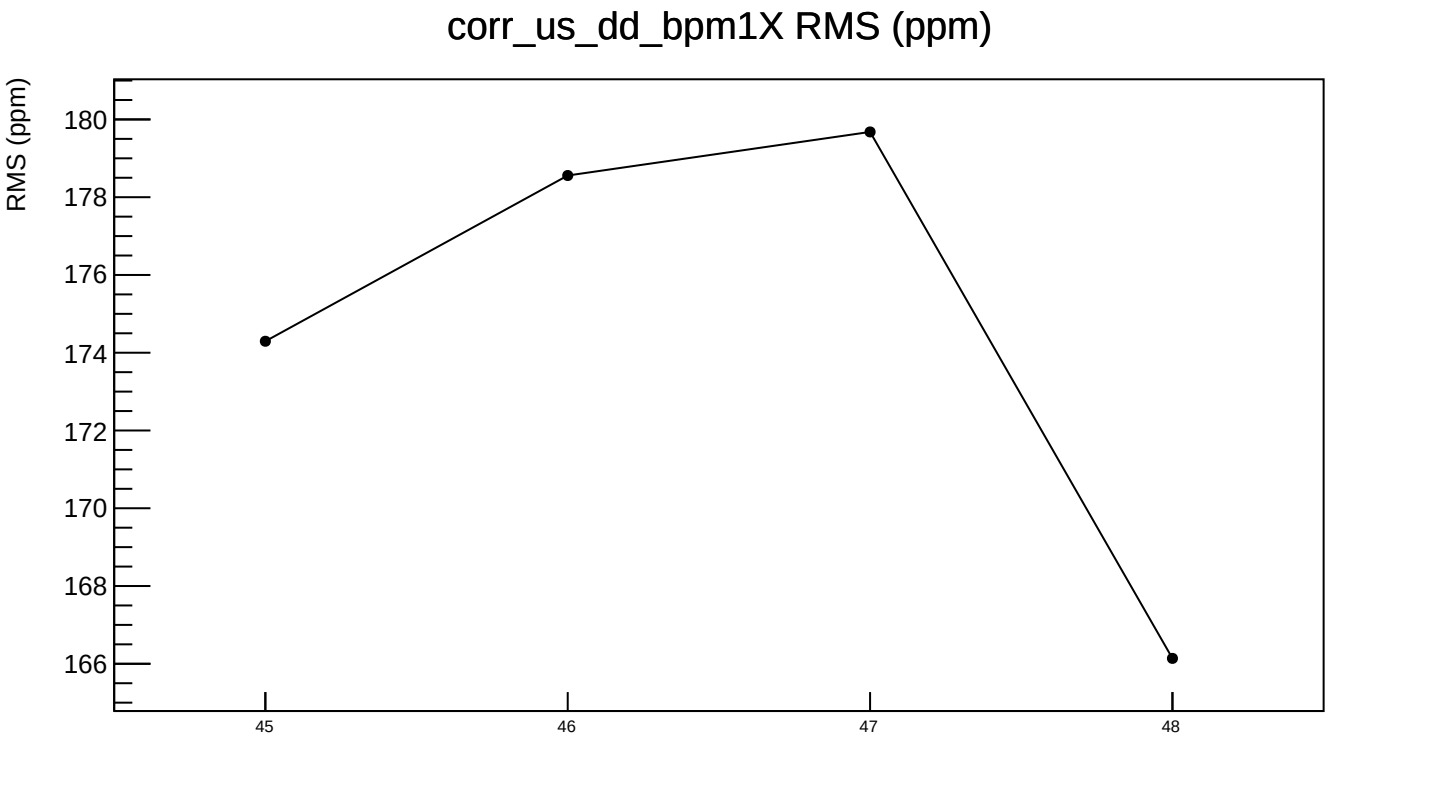

corr_us_dd_bpm4aX RMS (ppm)
RMS (ppm)
11
10
9
8
7
6
45
46
47
48

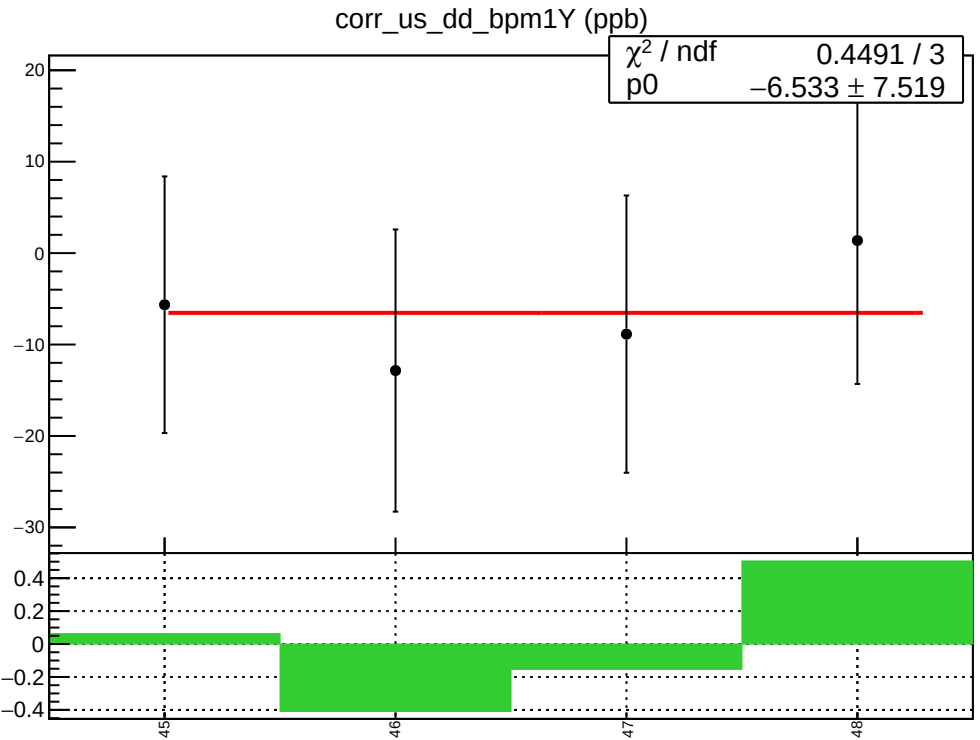

corr_us_dd_bpm4aY (ppb)
χ² / ndf 2.086 / 3
p0 −7.975 ± 24.78
80
60
40
20
0
−20
−40
−60
−80
−100
−120
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48
1D pull distribution
Mean −0.02647 ± 0.3608
Std Dev 0.7216 ± 0.2551
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

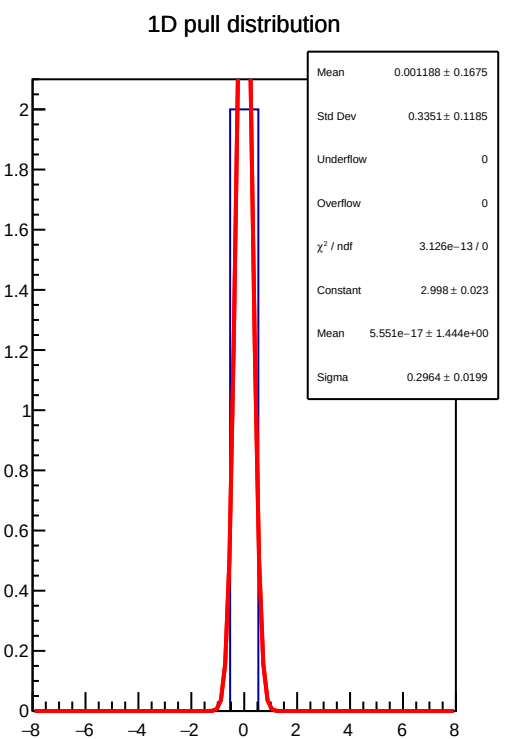

corr_us_dd_bpm4aY RMS (ppm)
RMS (ppm)
38
36
34
32
30
28
45
46
47
48

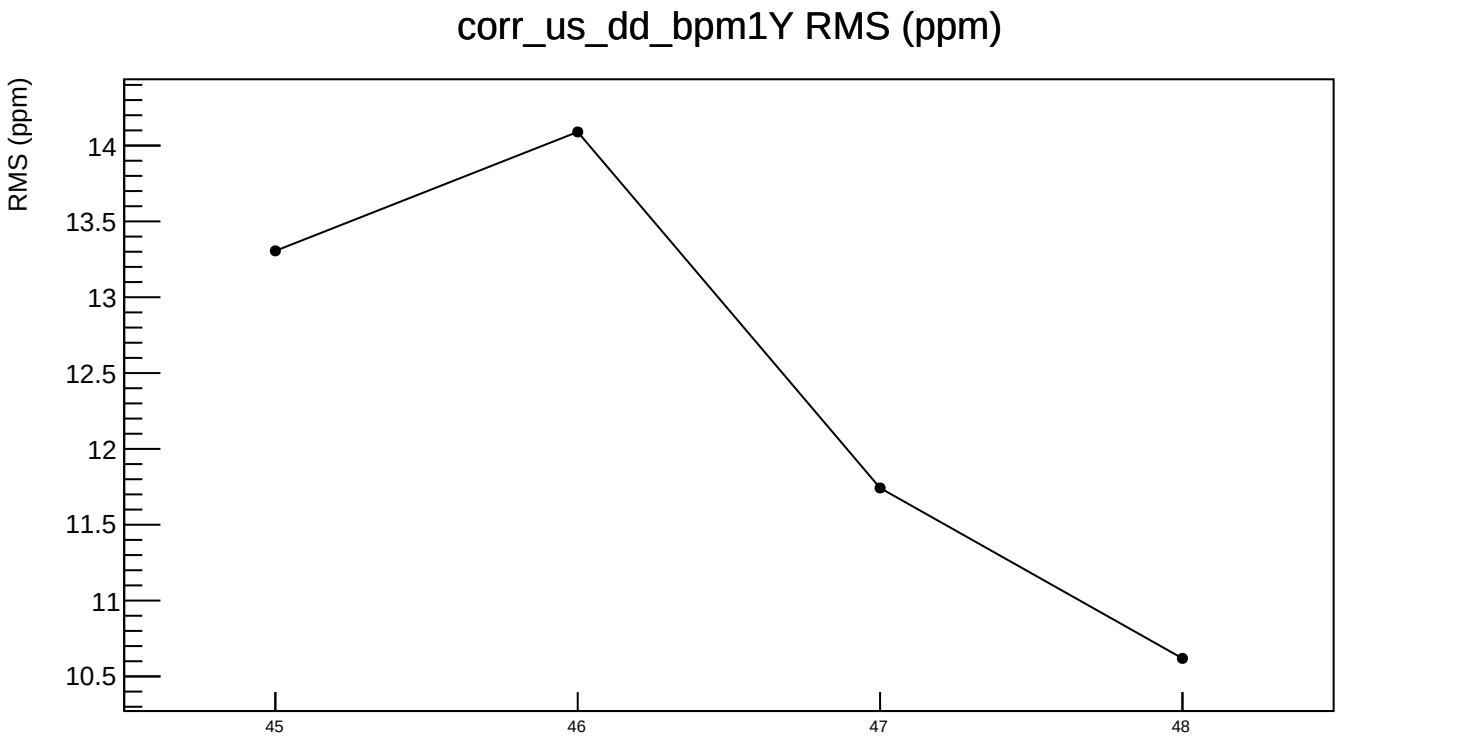

corr_us_dd_bpm1X (ppb)
χ² / ndf 8.69 / 3
p0 −73.25 ± 117.2
800
600
400
200
0
−200
−400
−600
2
1.5
1
0.5
0
−0.5
−1
−1.5
45
46
47
48

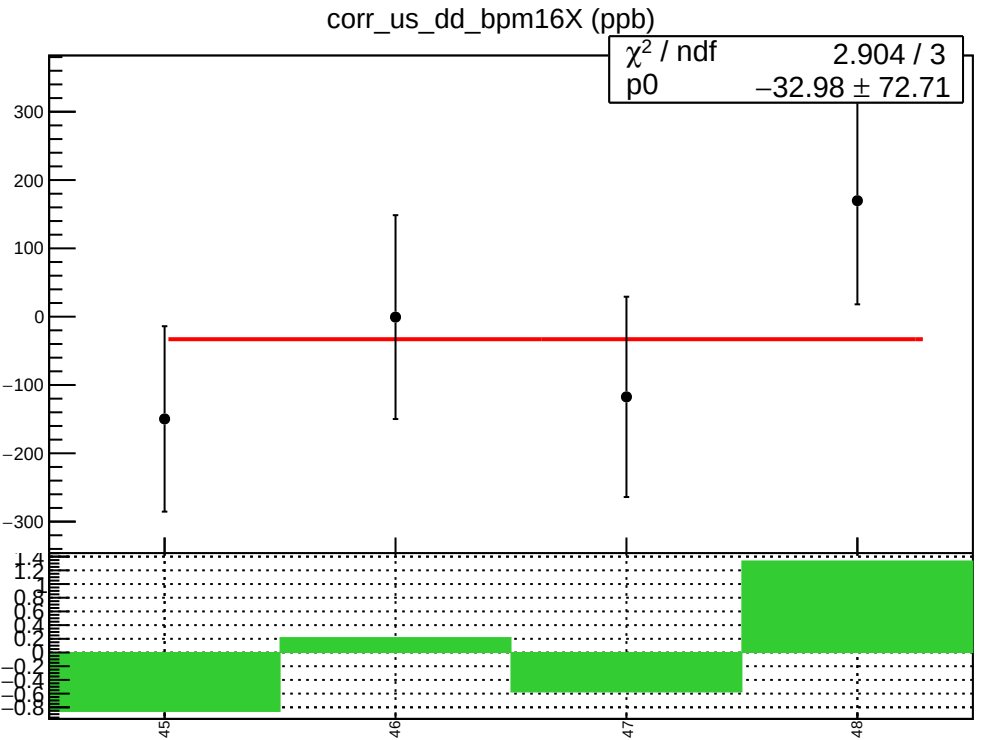

1D pull distribution
Mean 0.04687 ± 0.7366
Std Dev 1.473 ± 0.5208
Underflow 0
Overflow 0
χ² / ndf 0.0706 / 0
Constant 431.8 ± 8235.6
Mean −53 ± 101.2
Sigma 15.68 ± 14.45
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

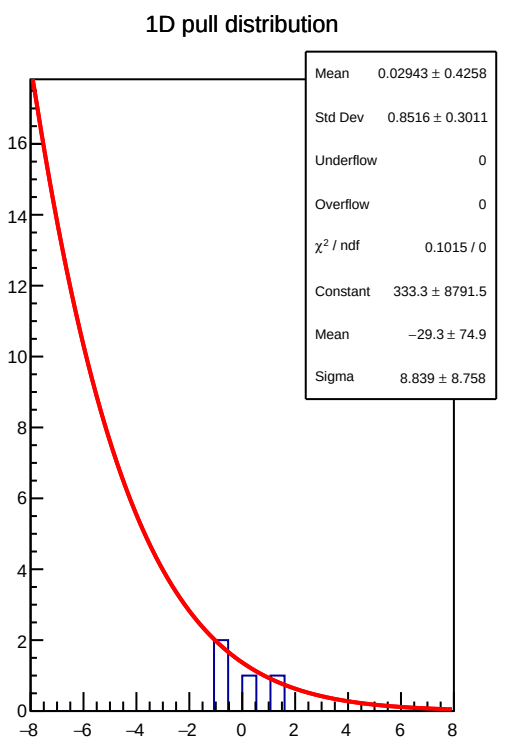

corr_us_dd_bpm1X RMS (ppm)
RMS (ppm)
180
178
176
174
172
170
168
166
45
46
47
48

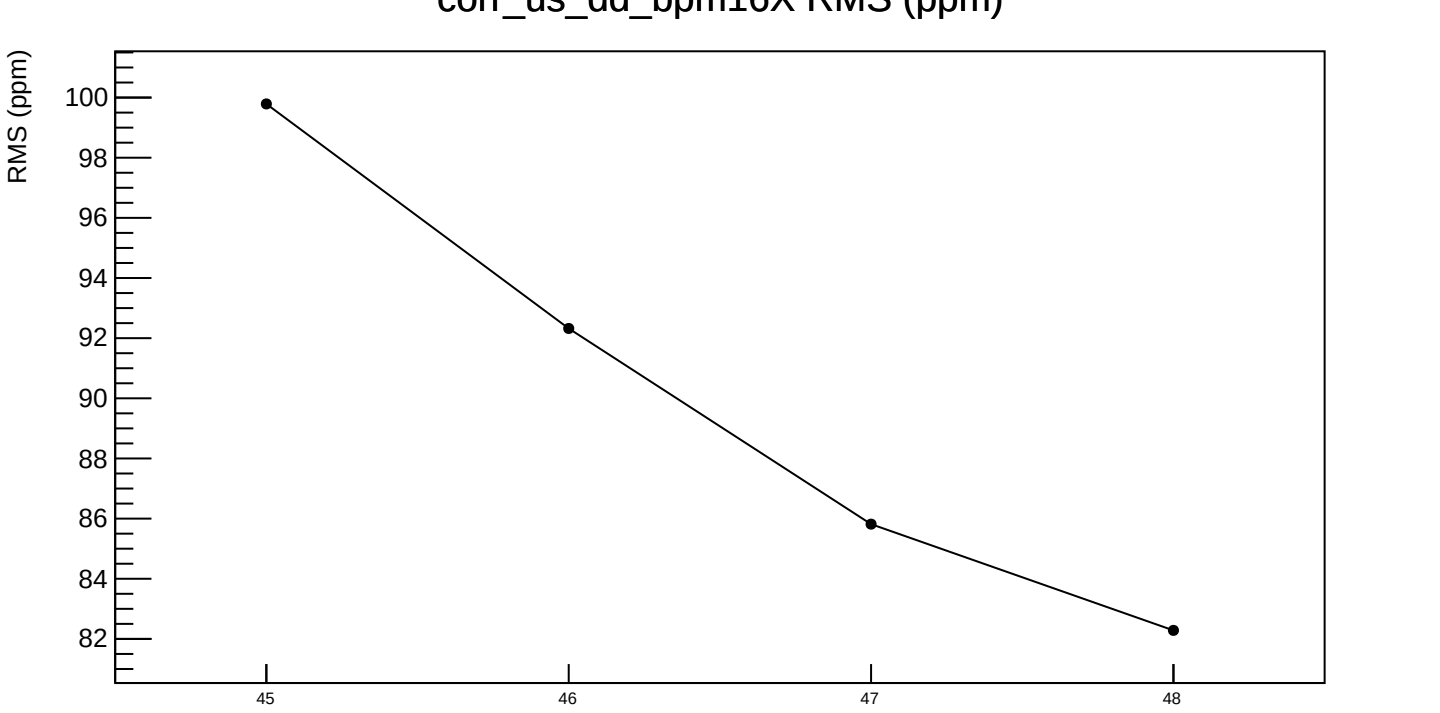

corr_us_dd_bpm1Y (ppb)
χ² / ndf 0.4491 / 3
p0 −6.533 ± 7.519
20
10
0
−10
−20
−30
0.4
0.2
0
−0.2
−0.4
45
46
47
48

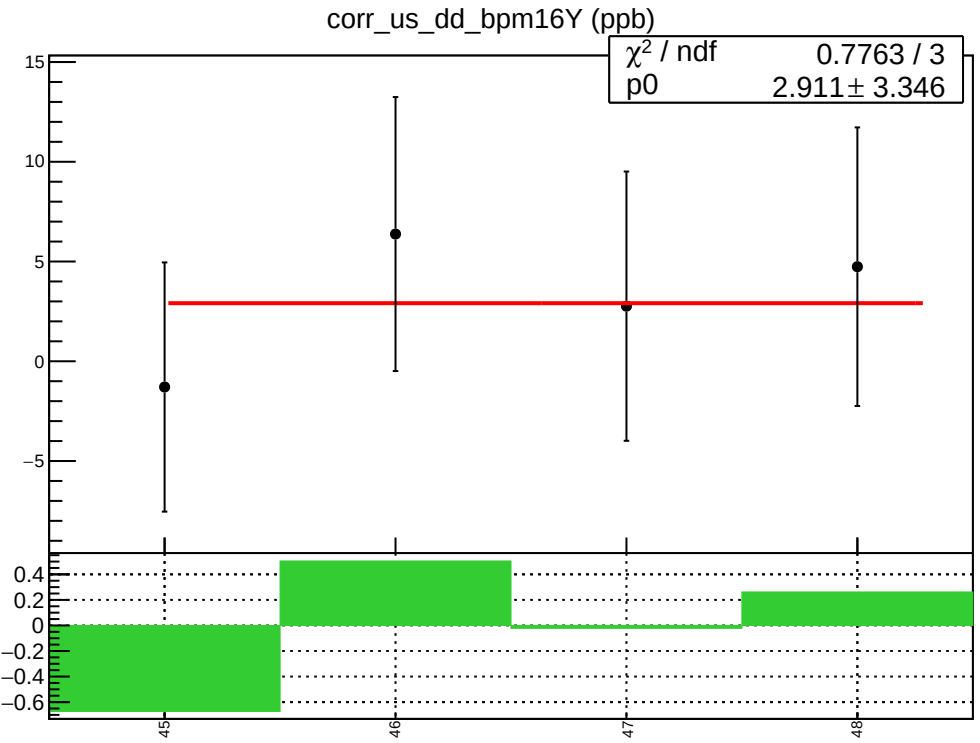

1D pull distribution
Mean 0.001188 ± 0.1675
Std Dev 0.3351 ± 0.1185
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

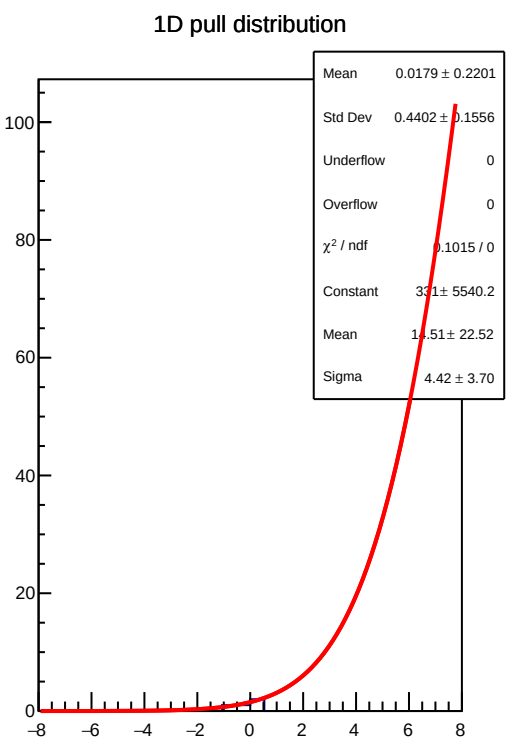

corr_us_dd_bpm1Y RMS (ppm)
RMS (ppm)
14
13.5
13
12.5
12
11.5
11
10.5
45
46
47
48

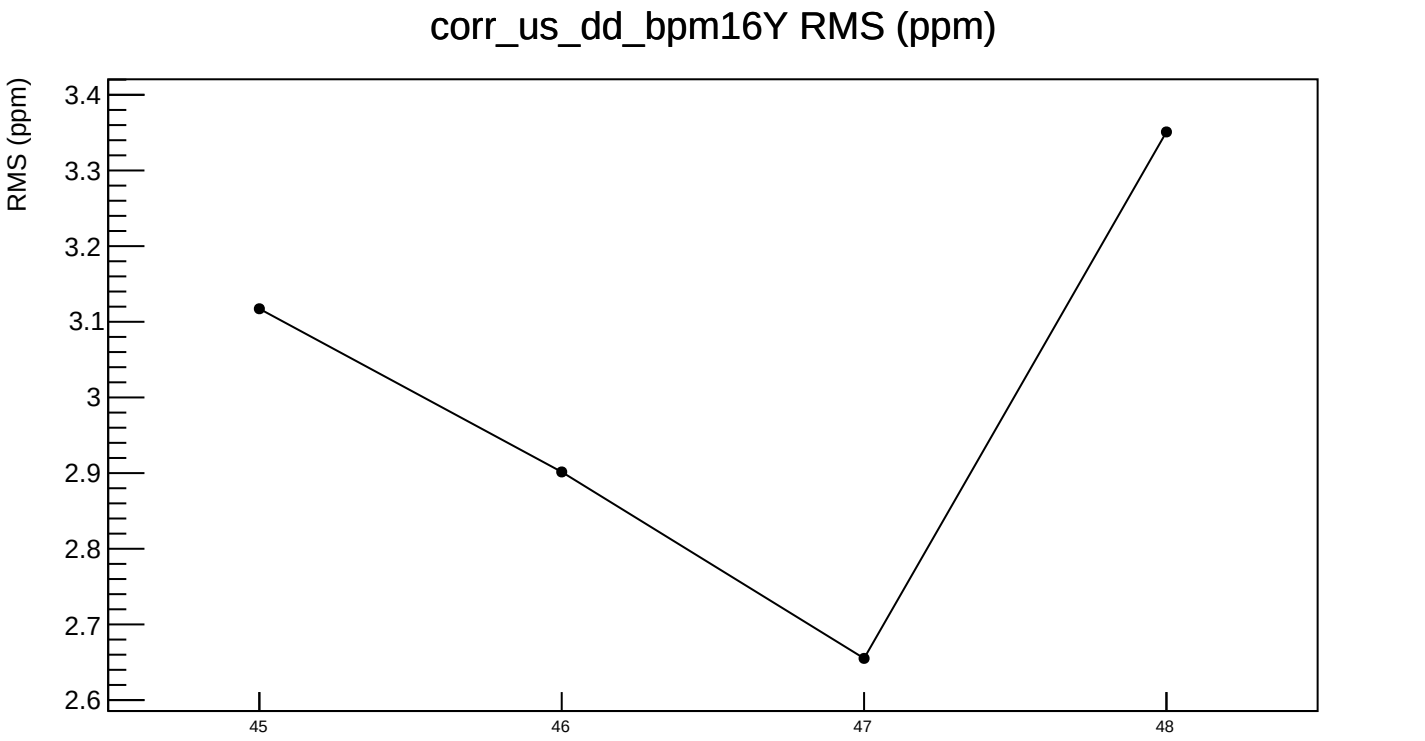

corr_us_dd_bpm16X (ppb)
χ² / ndf 2.904 / 3
p0 −32.98 ± 72.71
300
200
100
0
−100
−200
−300
1.4
1.2
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

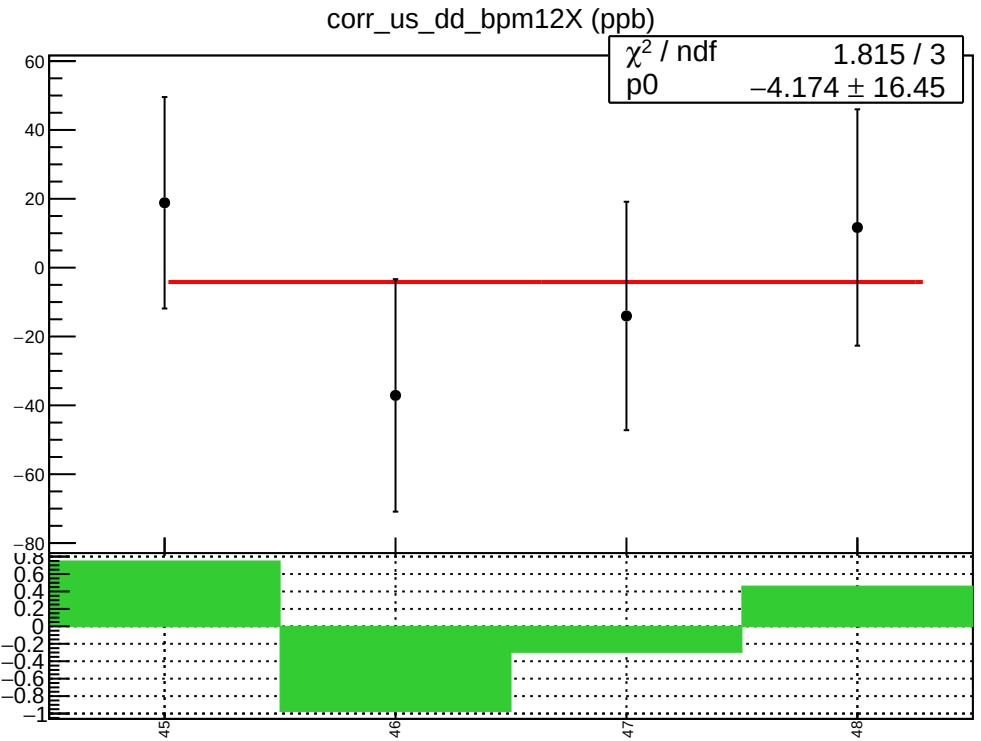

1D pull distribution
Mean 0.02943 ± 0.4258
Std Dev 0.8516 ± 0.3011
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

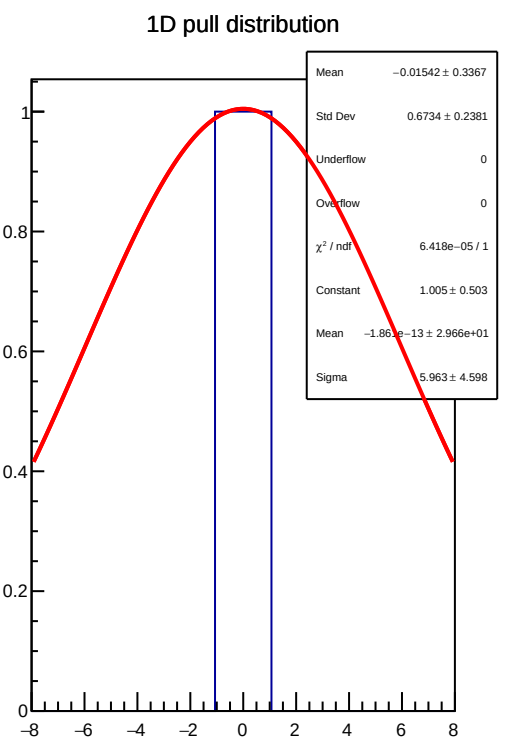

corr_us_dd_bpm16X RMS (ppm)
RMS (ppm)
100
98
96
94
92
90
88
86
84
82
45
46
47
48

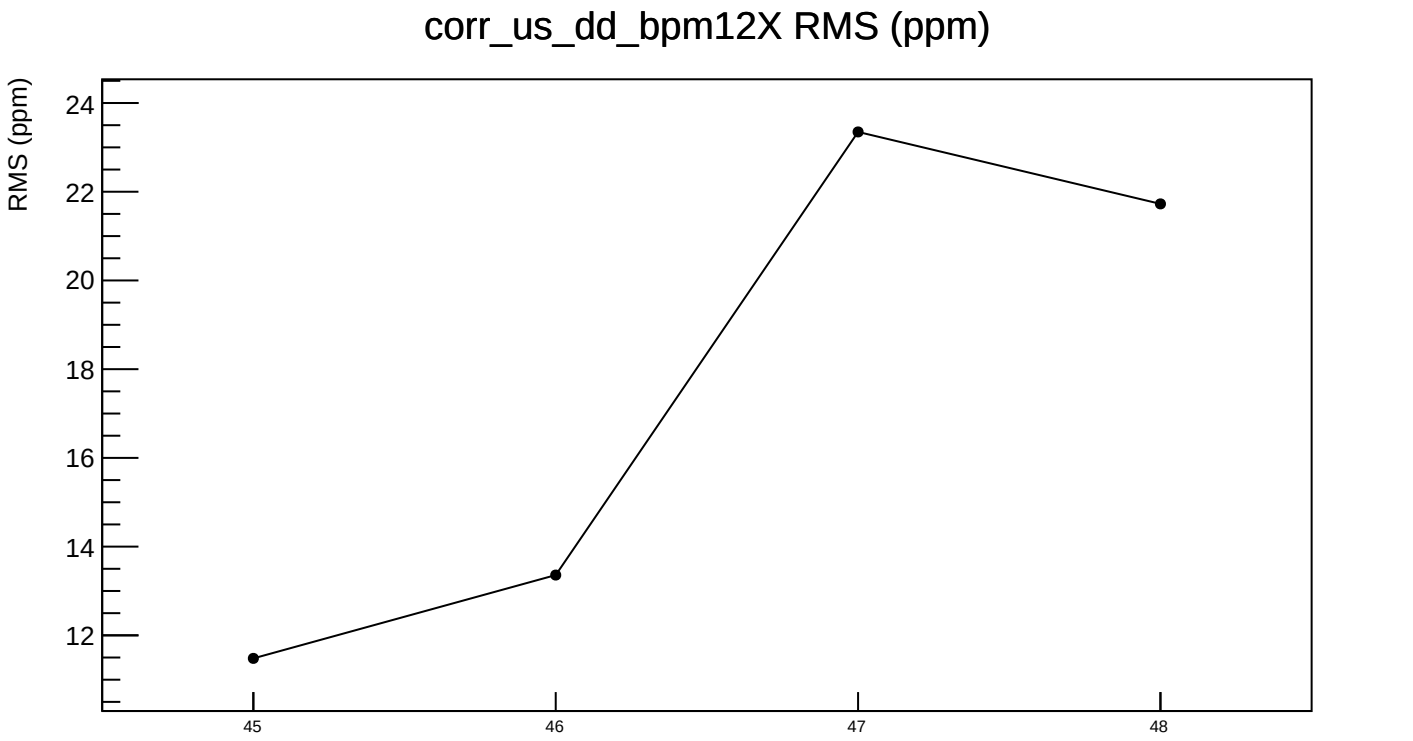

corr_us_dd_bpm16Y (ppb)
χ² / ndf 0.7763 / 3
p0 2.911 ± 3.346
15
10
5
0
−5
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48

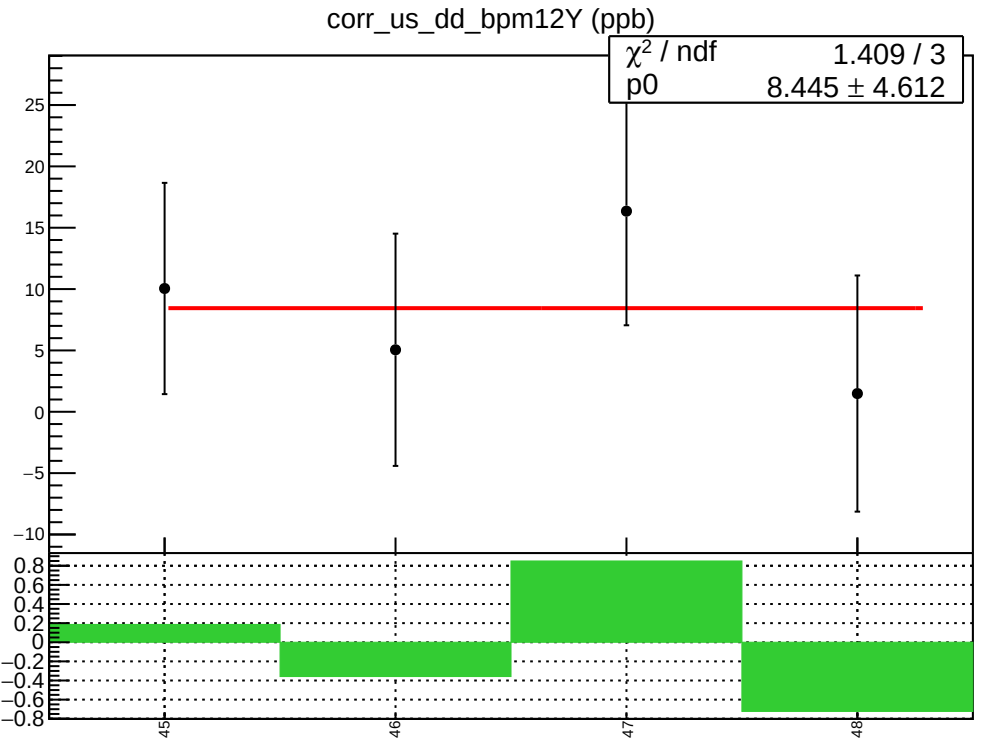

1D pull distribution
Mean 0.0179 ± 0.2201
Std Dev 0.4402 ± 0.1556
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 331 ± 5540.2
Mean 1.51 ± 22.52
Sigma 4.42 ± 3.70
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

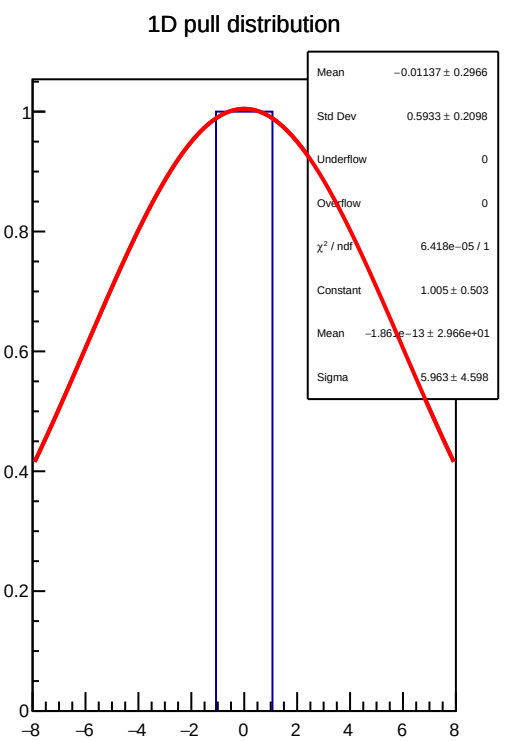

corr_us_dd_bpm16Y RMS (ppm)
RMS (ppm)
3.4
3.3
3.2
3.1
3
2.9
2.8
2.7
2.6
45
46
47
48

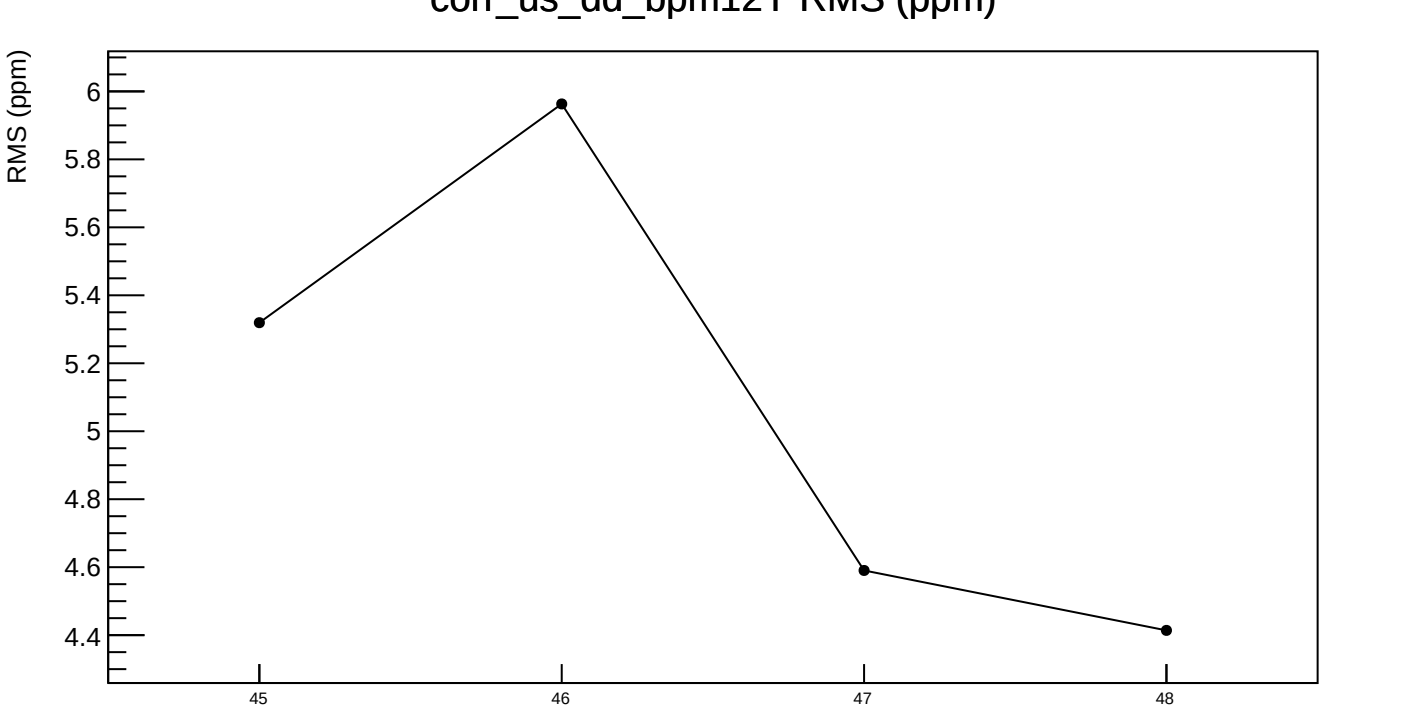

corr_us_dd_bpm12X (ppb)
χ² / ndf 1.815 / 3
p0 −4.174 ± 16.45
60
40
20
0
−20
−40
−60
−80
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
45
46
47
48

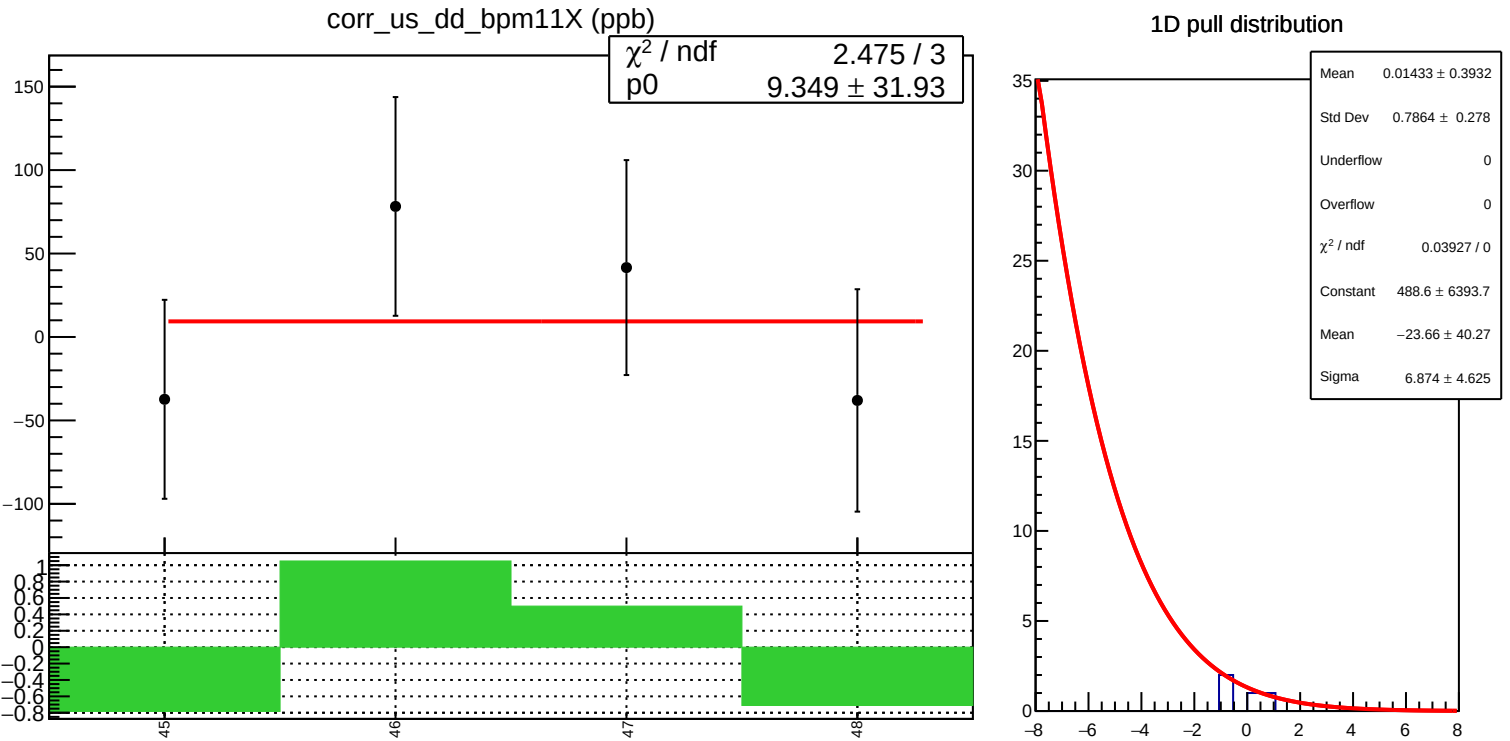

1D pull distribution
Mean −0.01542 ± 0.3367
Std Dev 0.6734 ± 0.2381
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

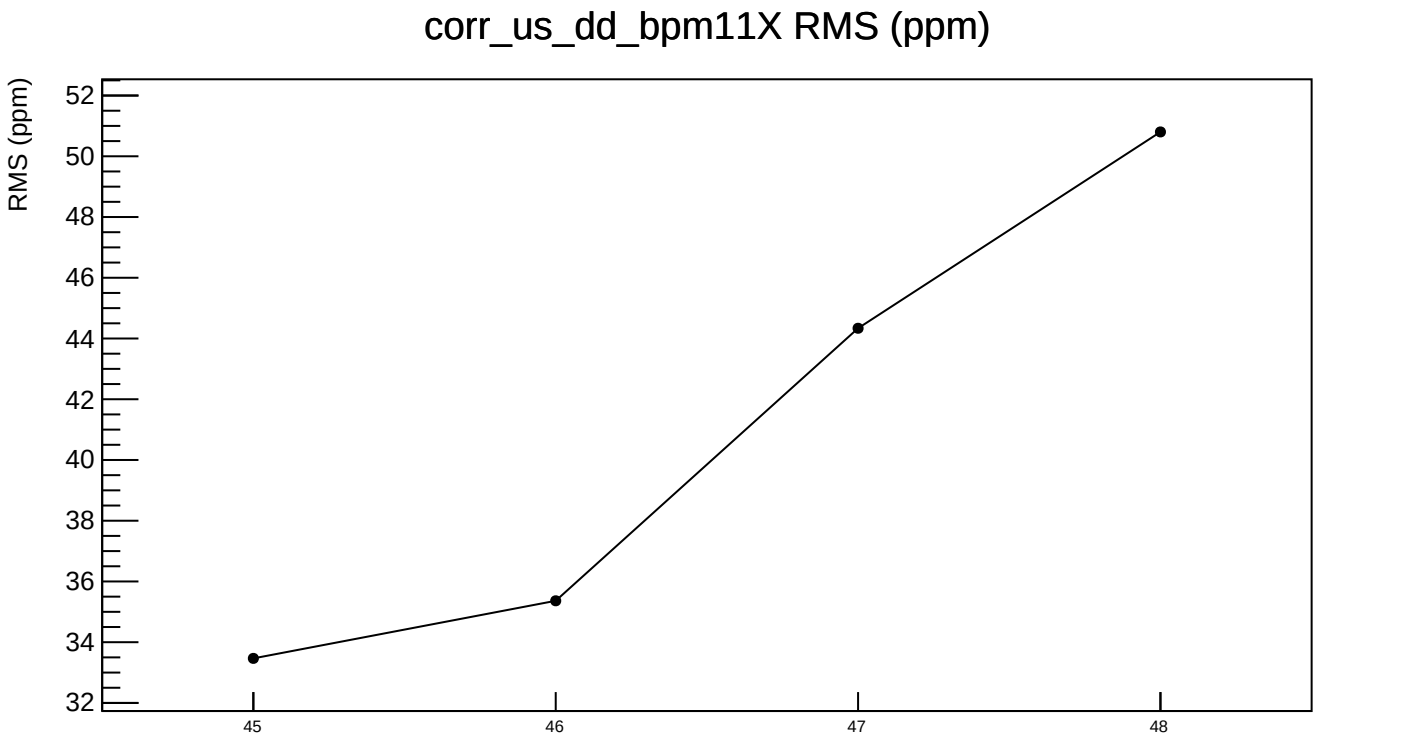

corr_us_dd_bpm12X RMS (ppm)
RMS (ppm)
24
22
20
18
16
14
12
45
46
47
48

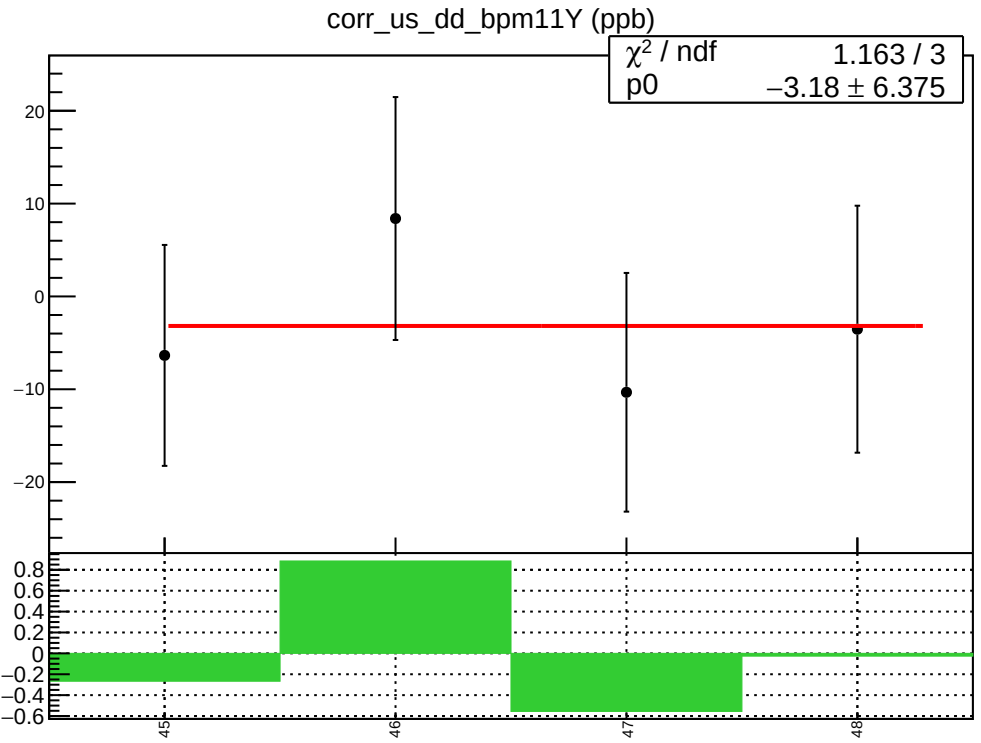

corr_us_dd_bpm12Y (ppb)
χ² / ndf 1.409 / 3
p0 8.445 ± 4.612
25
20
15
10
5
0
−5
−10
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

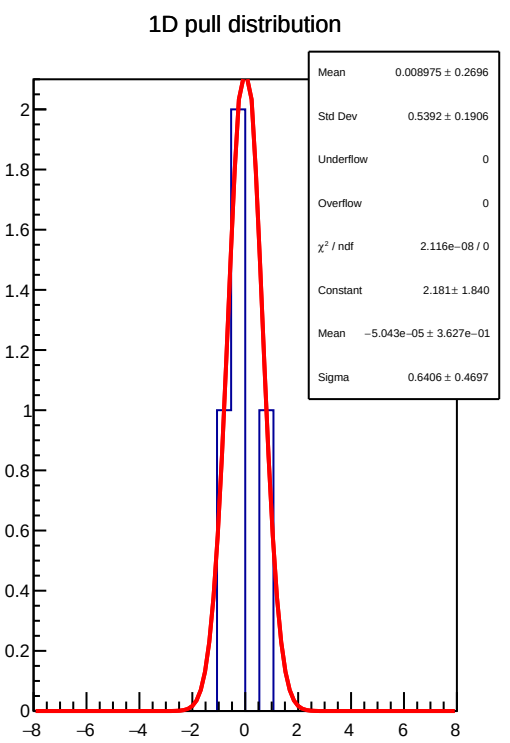

1D pull distribution
Mean −0.01137 ± 0.2966
Std Dev 0.5933 ± 0.2098
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

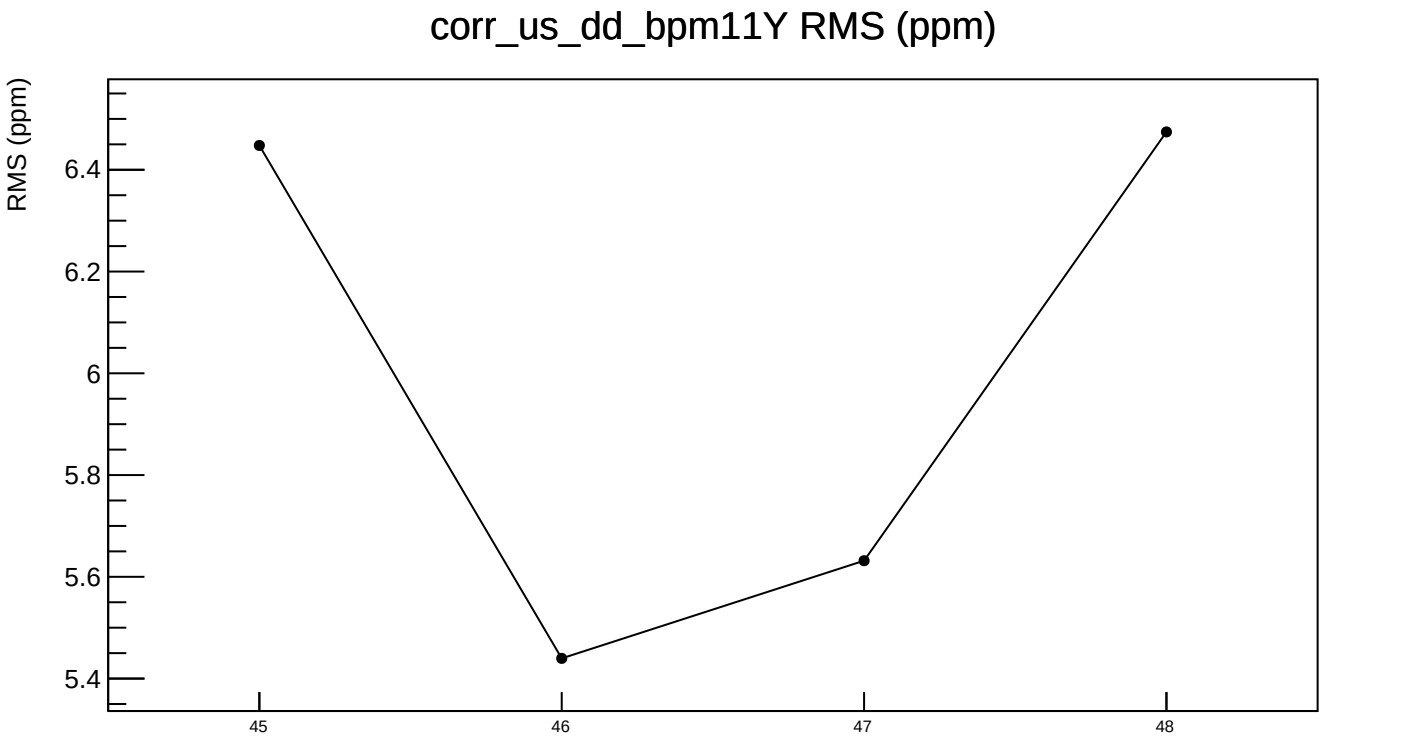

corr_us_dd_bpm12Y RMS (ppm)
RMS (ppm)
6
5.8
5.6
5.4
5.2
5
4.8
4.6
4.4
45
46
47
48

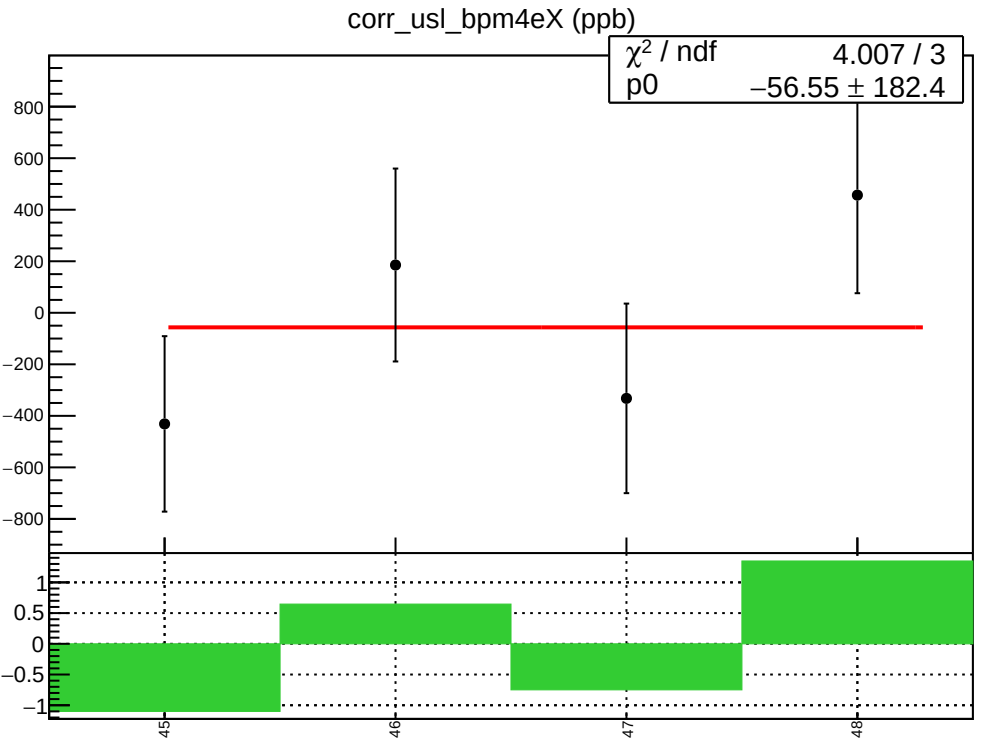

corr_us_dd_bpm11X (ppb)
χ² / ndf 2.475 / 3
p0 9.349 ± 31.93
150
100
50
0
−50
−100
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48
1D pull distribution
Mean 0.01433 ± 0.3932
Std Dev 0.7864 ± 0.278
Underflow 0
Overflow 0
χ² / ndf 0.03927 / 0
Constant 488.6 ± 6393.7
Mean −23.66 ± 40.27
Sigma 6.874 ± 4.625
35
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

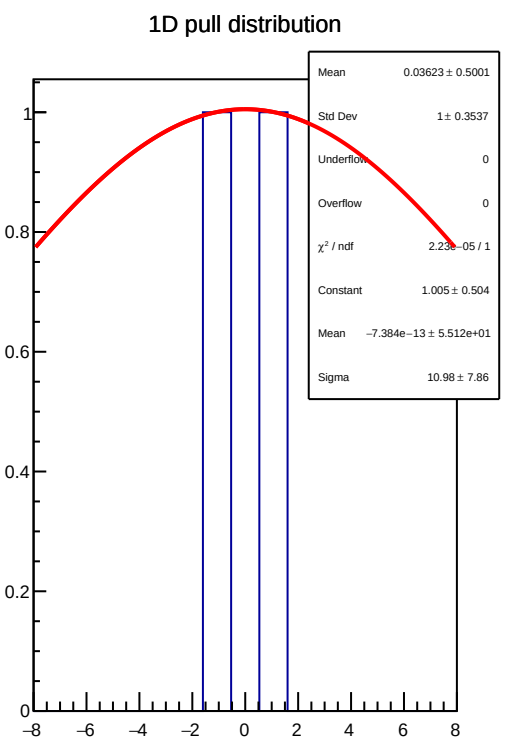

corr_us_dd_bpm11X RMS (ppm)
RMS (ppm)
52
50
48
46
44
42
40
38
36
34
32
45
46
47
48

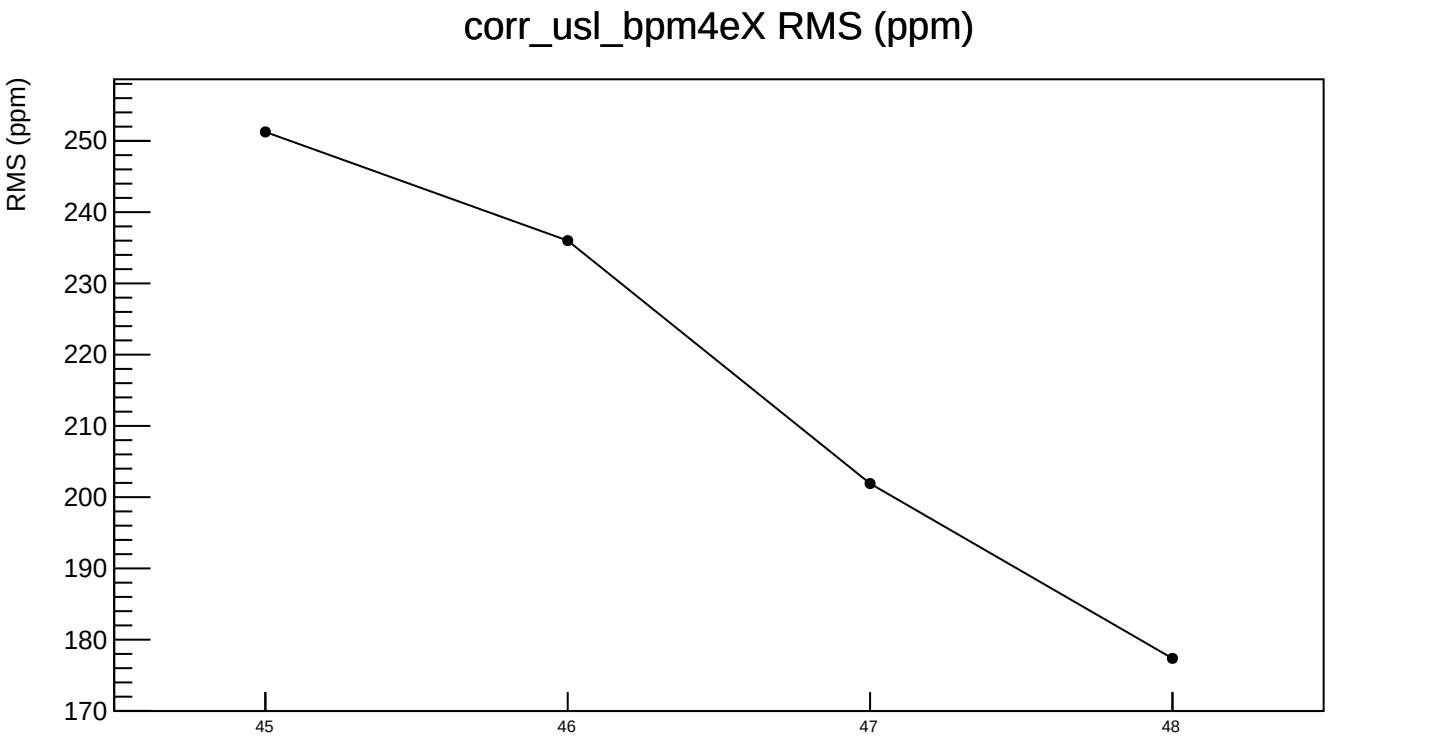

corr_us_dd_bpm11Y (ppb)
χ² / ndf 1.163 / 3
p0 −3.18 ± 6.375
20
10
0
−10
−20
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48

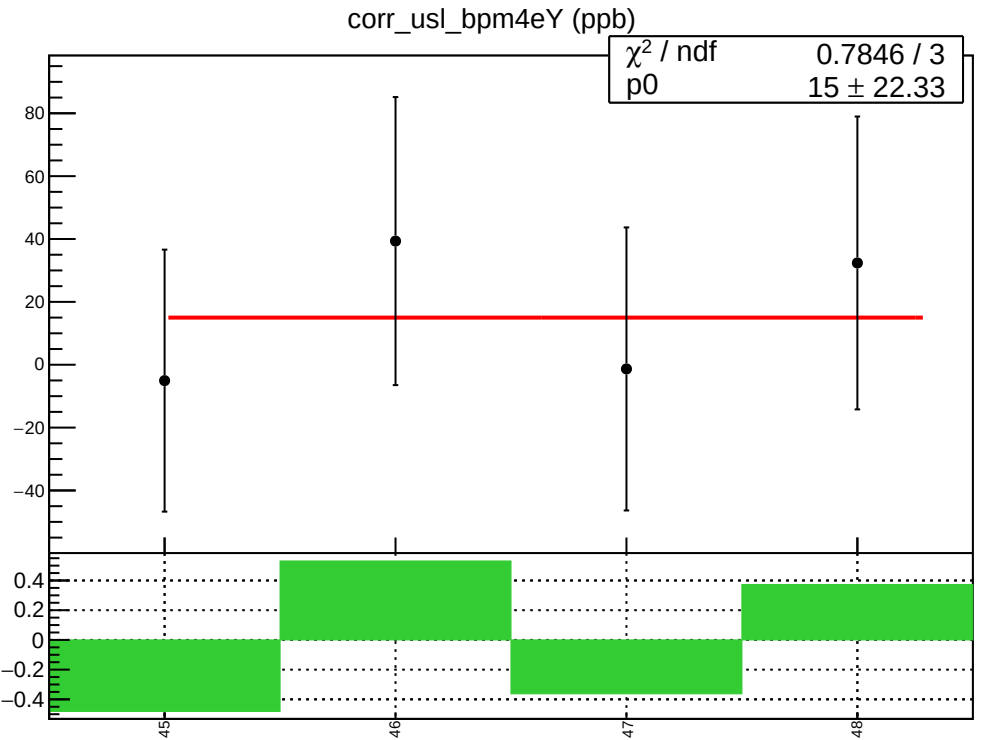

1D pull distribution
Mean 0.008975 ± 0.2696
Std Dev 0.5392 ± 0.1906
Underflow 0
Overflow 0
χ² / ndf 2.116e−08 / 0
Constant 2.181 ± 1.840
Mean −5.043e−05 ± 3.627e−01
Sigma 0.6406 ± 0.4697
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

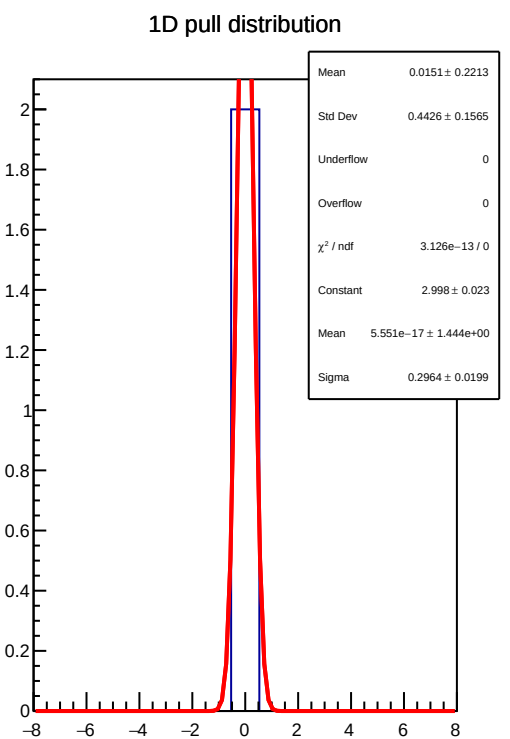

corr_us_dd_bpm11Y RMS (ppm)
RMS (ppm)
6.4
6.2
6
5.8
5.6
5.4
45
46
47
48

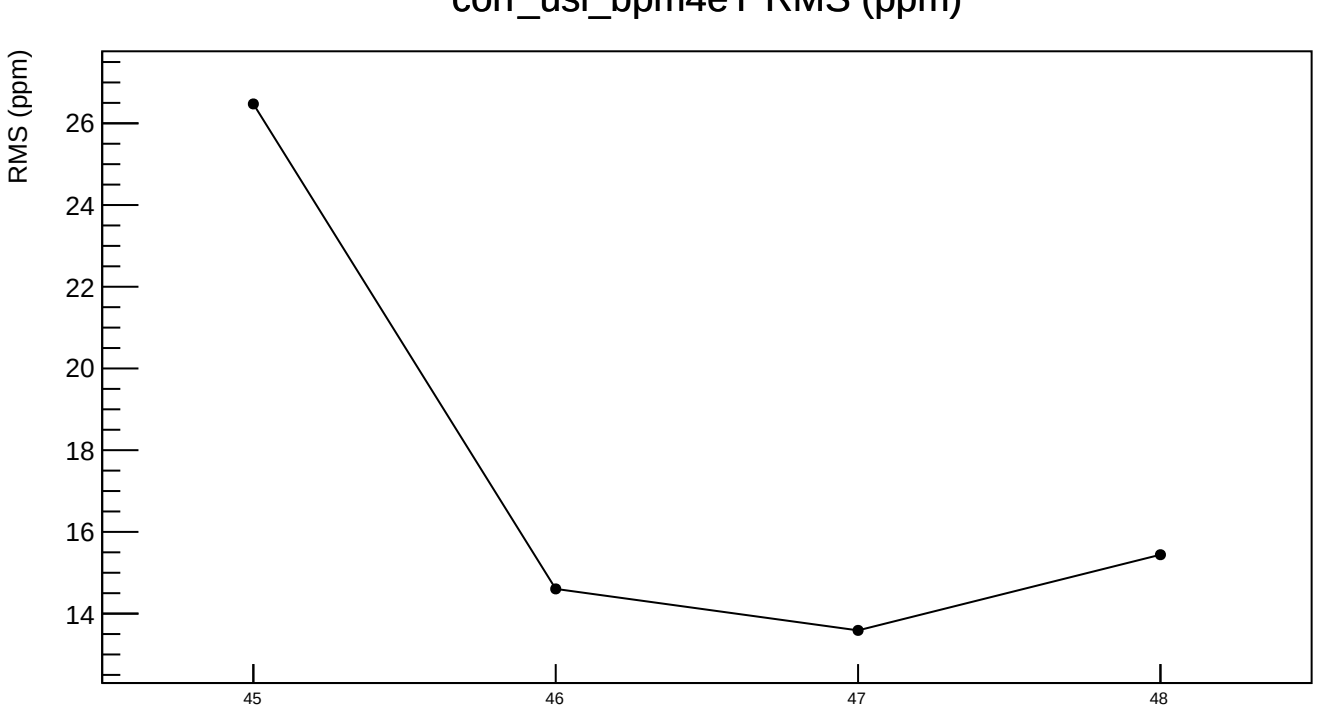

corr_usl_bpm4eX (ppb)
χ² / ndf 4.007 / 3
p0 −56.55 ± 182.4
800
600
400
200
0
−200
−400
−600
−800
1
0.5
0
−0.5
−1
45
46
47
48

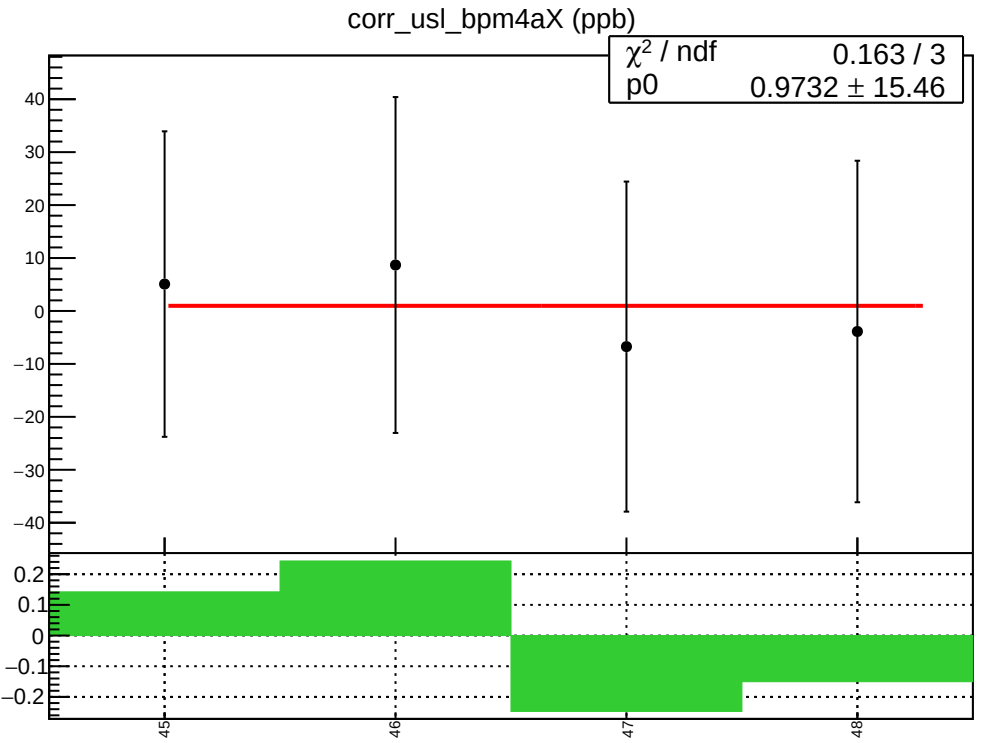

1D pull distribution
Mean 0.03623 ± 0.5001
Std Dev 1 ± 0.3537
Underflow 0
Overflow 0
χ² / ndf 2.23e−05 / 1
Constant 1.005 ± 0.504
Mean −7.384e−13 ± 5.512e+01
Sigma 10.98 ± 7.86
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

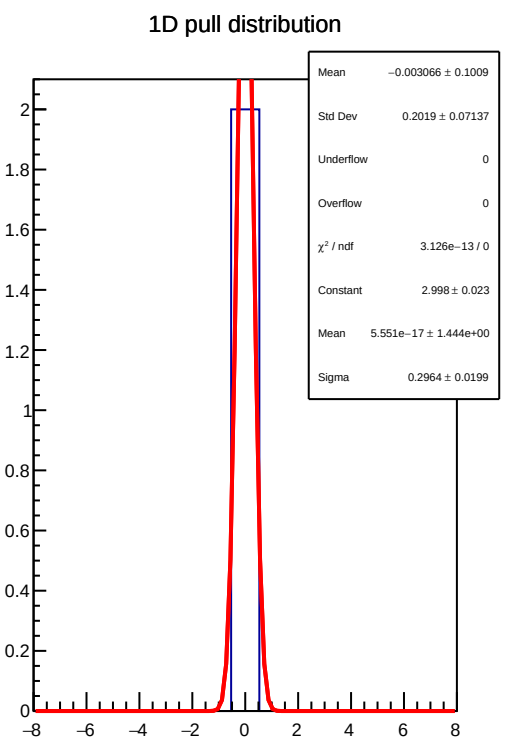

corr_usl_bpm4eX RMS (ppm)
RMS (ppm)
250
240
230
220
210
200
190
180
170
45
46
47
48

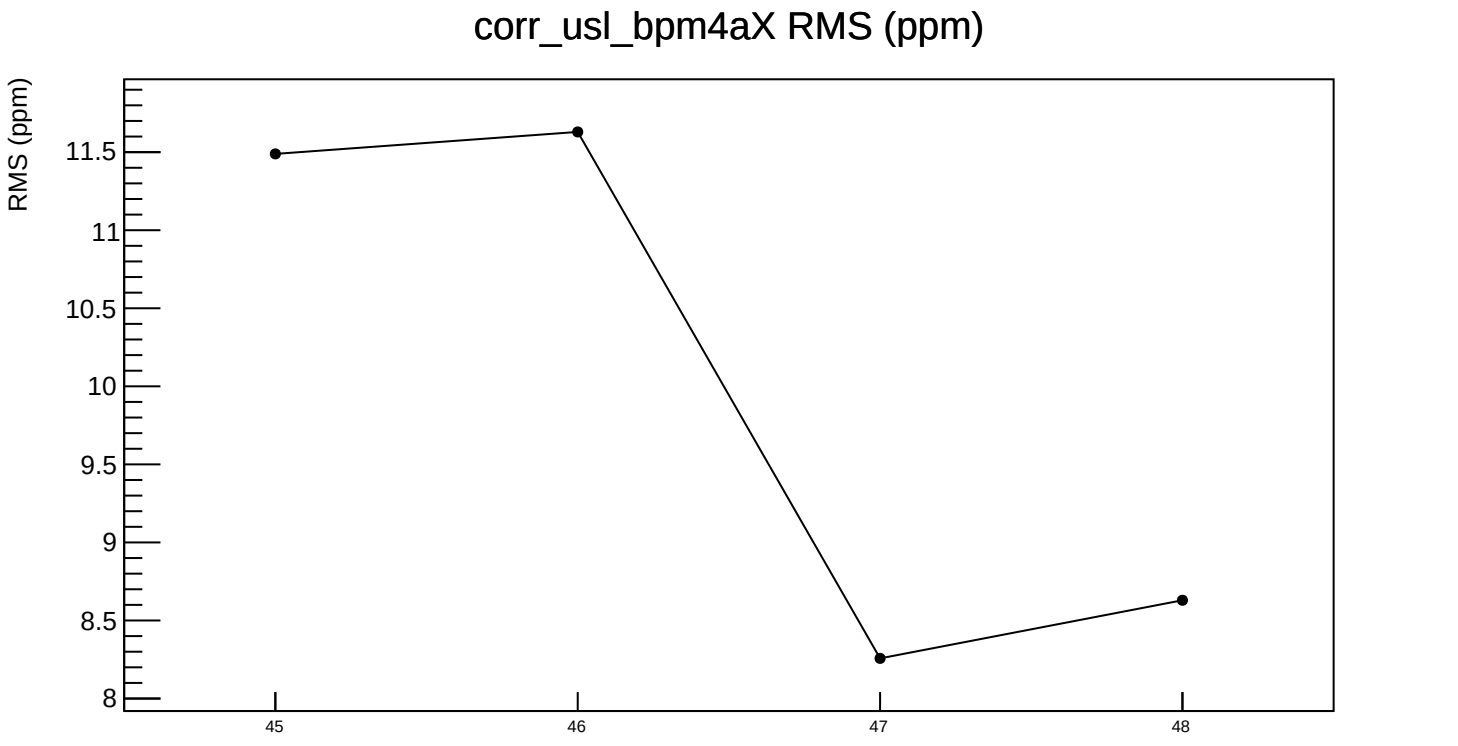

corr_usl_bpm4eY (ppb)
χ² / ndf 0.7846 / 3
p0 15 ± 22.33
80
60
40
20
0
−20
−40
0.4
0.2
0
−0.2
−0.4
45
46
47
48

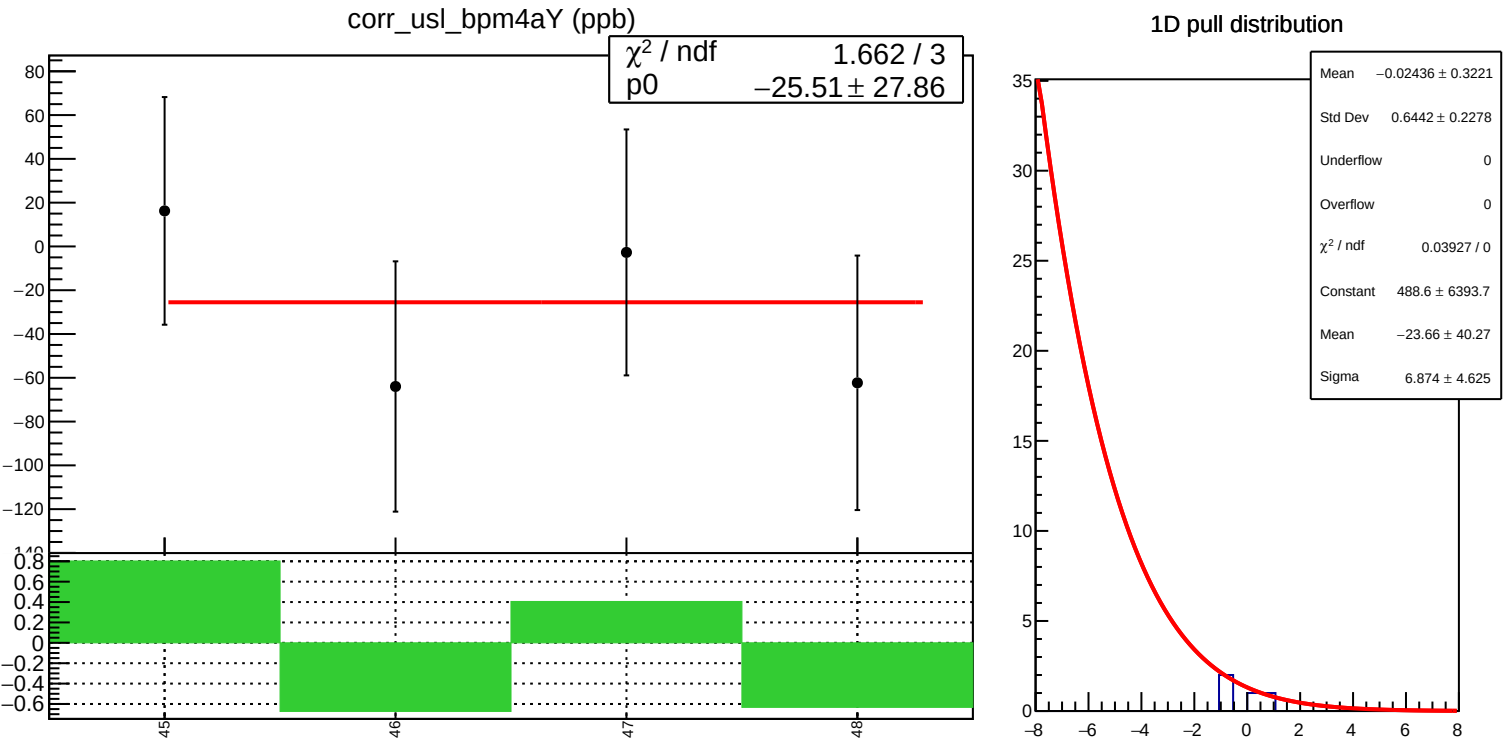

1D pull distribution
Mean 0.0151 ± 0.2213
Std Dev 0.4426 ± 0.1565
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

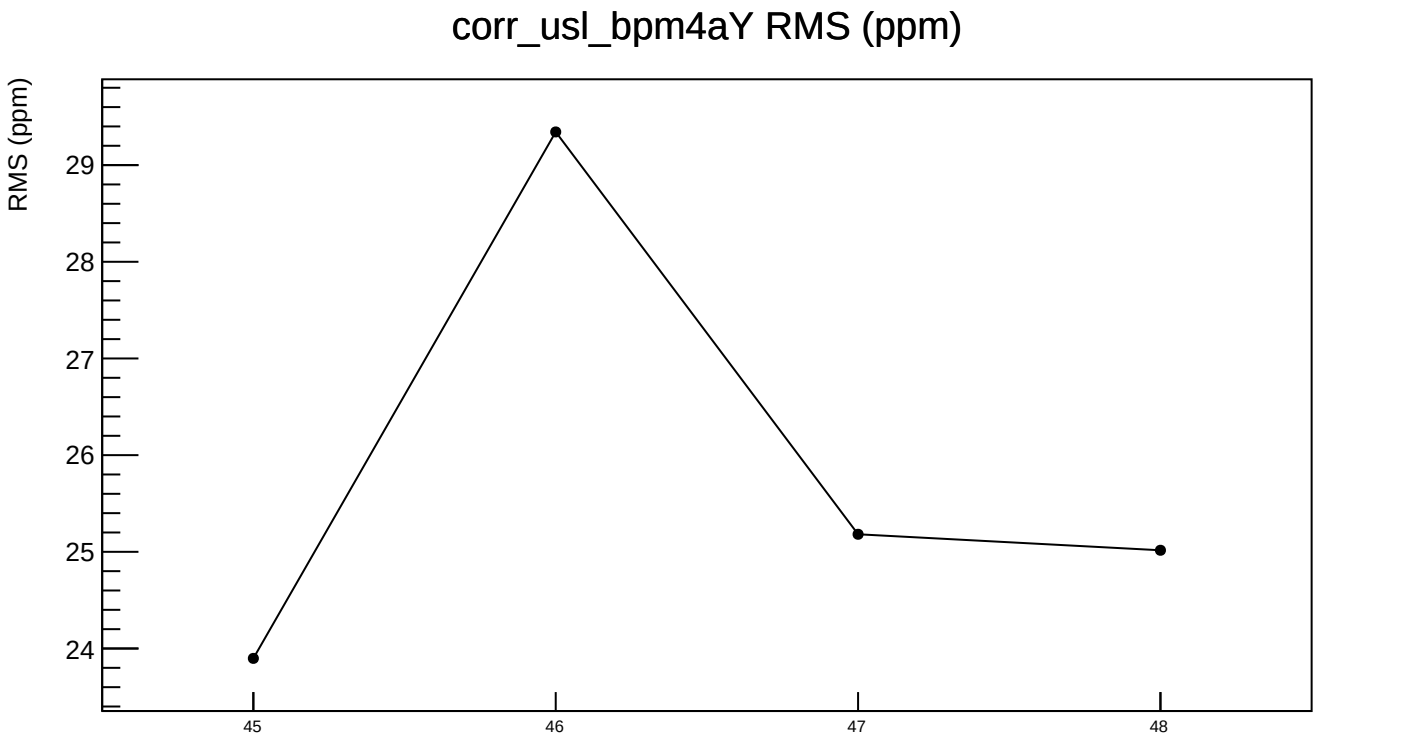

corr_usl_bpm4eY RMS (ppm)
RMS (ppm)
26
24
22
20
18
16
14
45
46
47
48

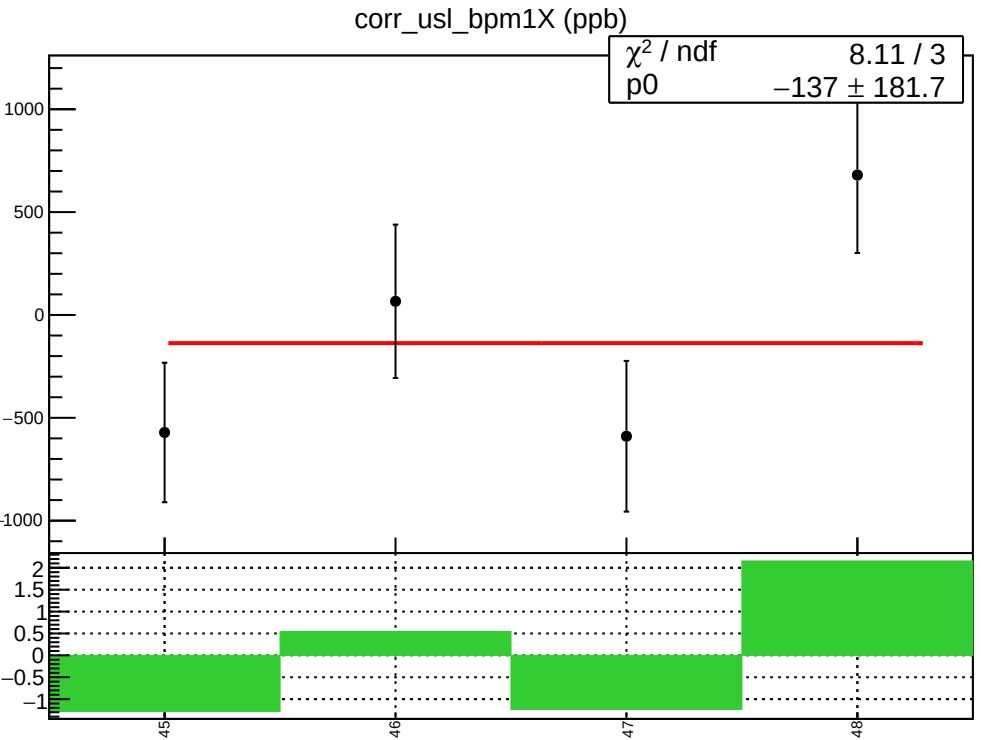

corr_usl_bpm4aX (ppb)
χ² / ndf 0.163 / 3
p0 0.9732 ± 15.46
40
30
20
10
0
−10
−20
−30
−40
0.2
0.1
0
−0.1
−0.2
45
46
47
48

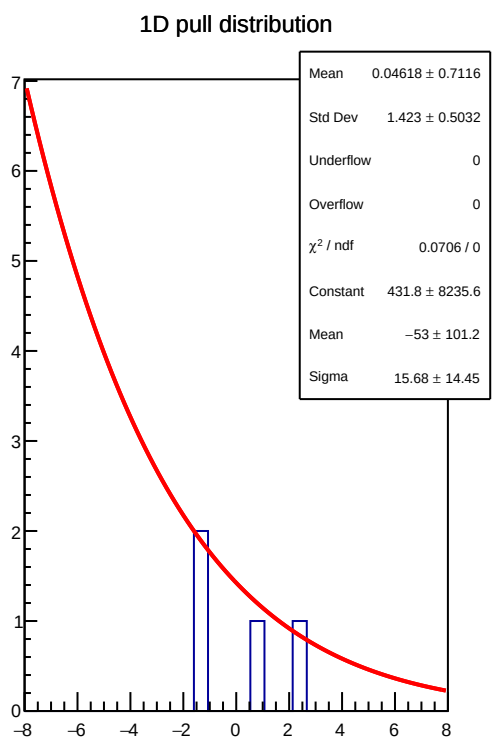

1D pull distribution
Mean −0.003066 ± 0.1009
Std Dev 0.2019 ± 0.07137
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

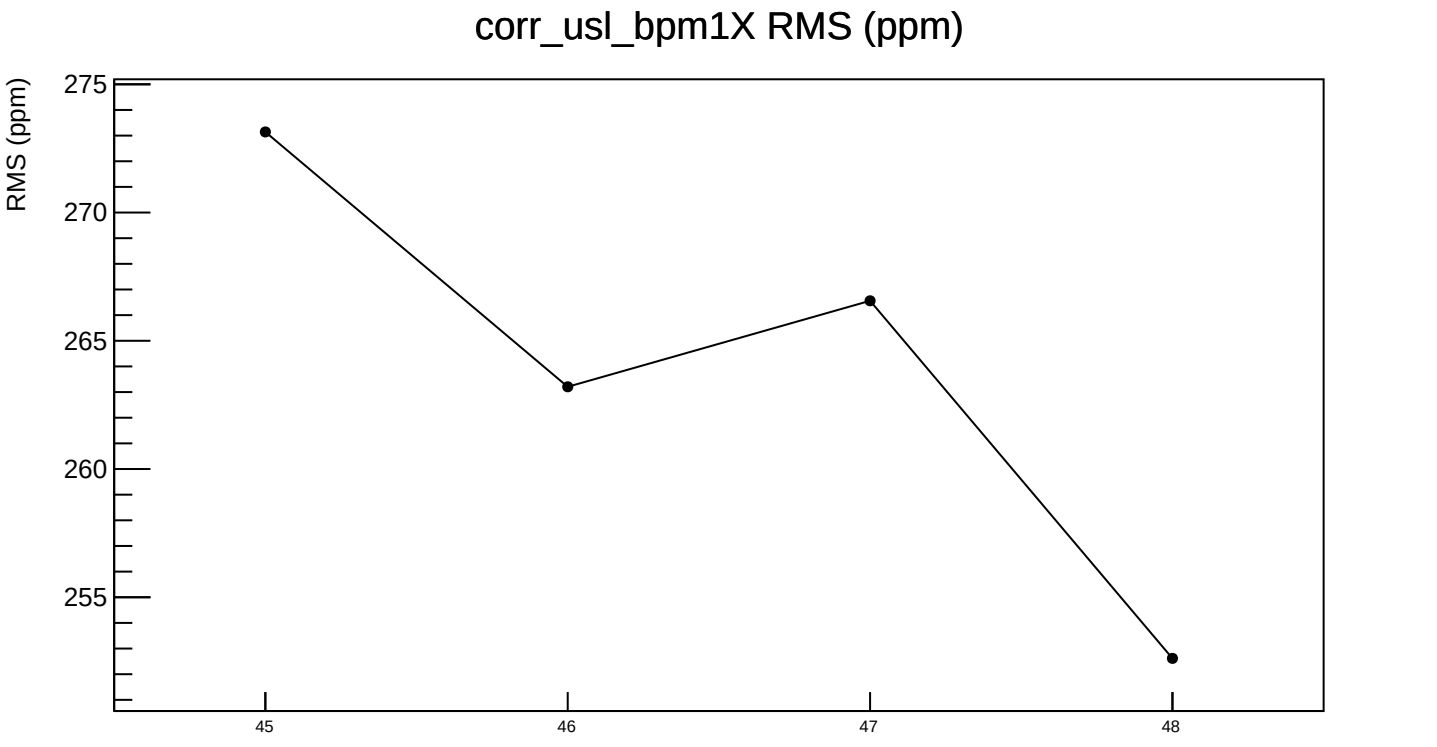

corr_usl_bpm4aX RMS (ppm)
RMS (ppm)
11.5
11
10.5
10
9.5
9
8.5
8
45
46
47
48

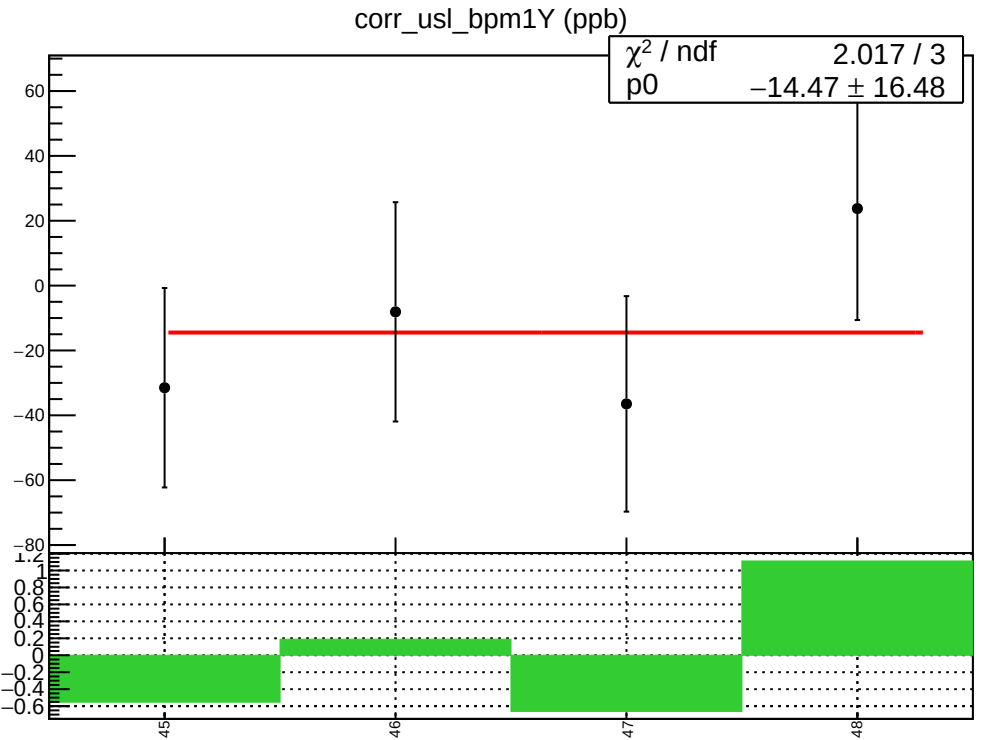

corr_usl_bpm4aY (ppb)
χ² / ndf 1.662 / 3
p0 −25.51 ± 27.86
80
60
40
20
0
−20
−40
−60
−80
−100
−120
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48
1D pull distribution
Mean −0.02436 ± 0.3221
Std Dev 0.6442 ± 0.2278
Underflow 0
Overflow 0
χ² / ndf 0.03927 / 0
Constant 488.6 ± 6393.7
Mean −23.66 ± 40.27
Sigma 6.874 ± 4.625
35
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

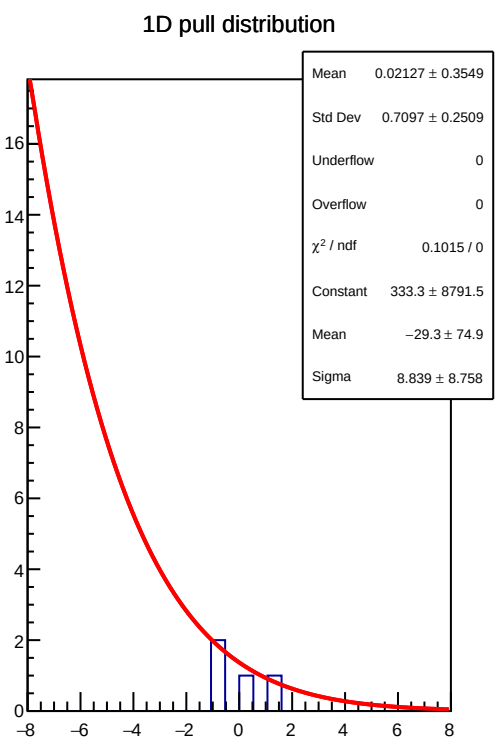

corr_usl_bpm4aY RMS (ppm)
RMS (ppm)
29
28
27
26
25
24
45
46
47
48

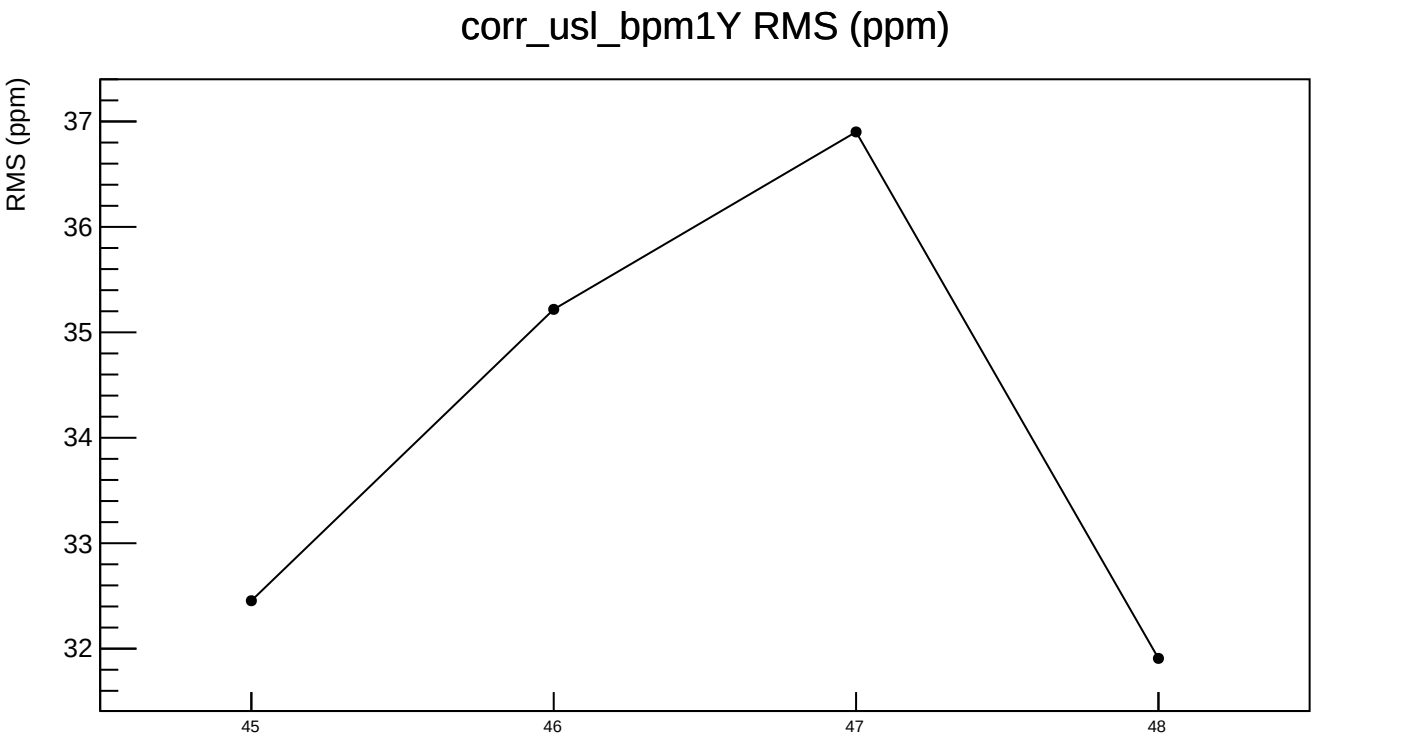

corr_usl_bpm1X (ppb)
χ² / ndf 8.11 / 3
p0 −137 ± 181.7
1000
500
0
−500
−1000
2
1.5
1
0.5
0
−0.5
−1
45
46
47
48

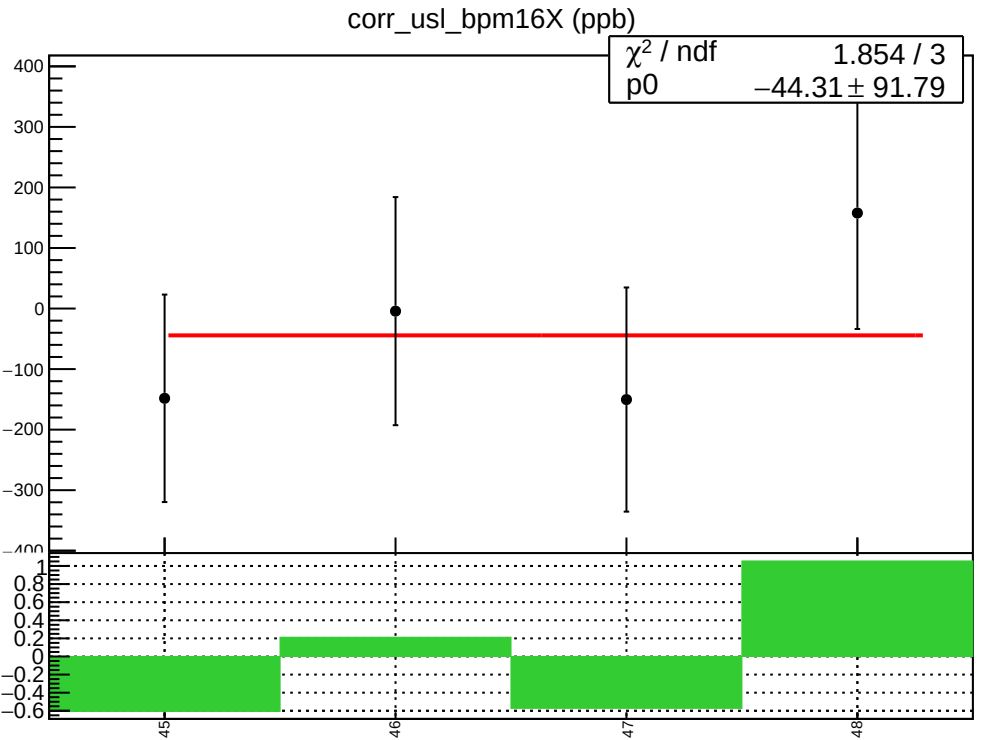

1D pull distribution
Mean 0.04618 ± 0.7116
Std Dev 1.423 ± 0.5032
Underflow 0
Overflow 0
χ² / ndf 0.0706 / 0
Constant 431.8 ± 8235.6
Mean −53 ± 101.2
Sigma 15.68 ± 14.45
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

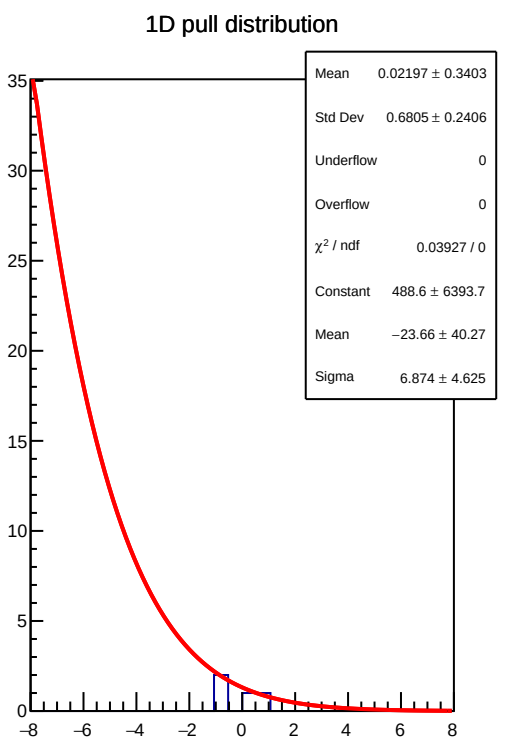

corr_usl_bpm1X RMS (ppm)
RMS (ppm)
275
270
265
260
255
45
46
47
48

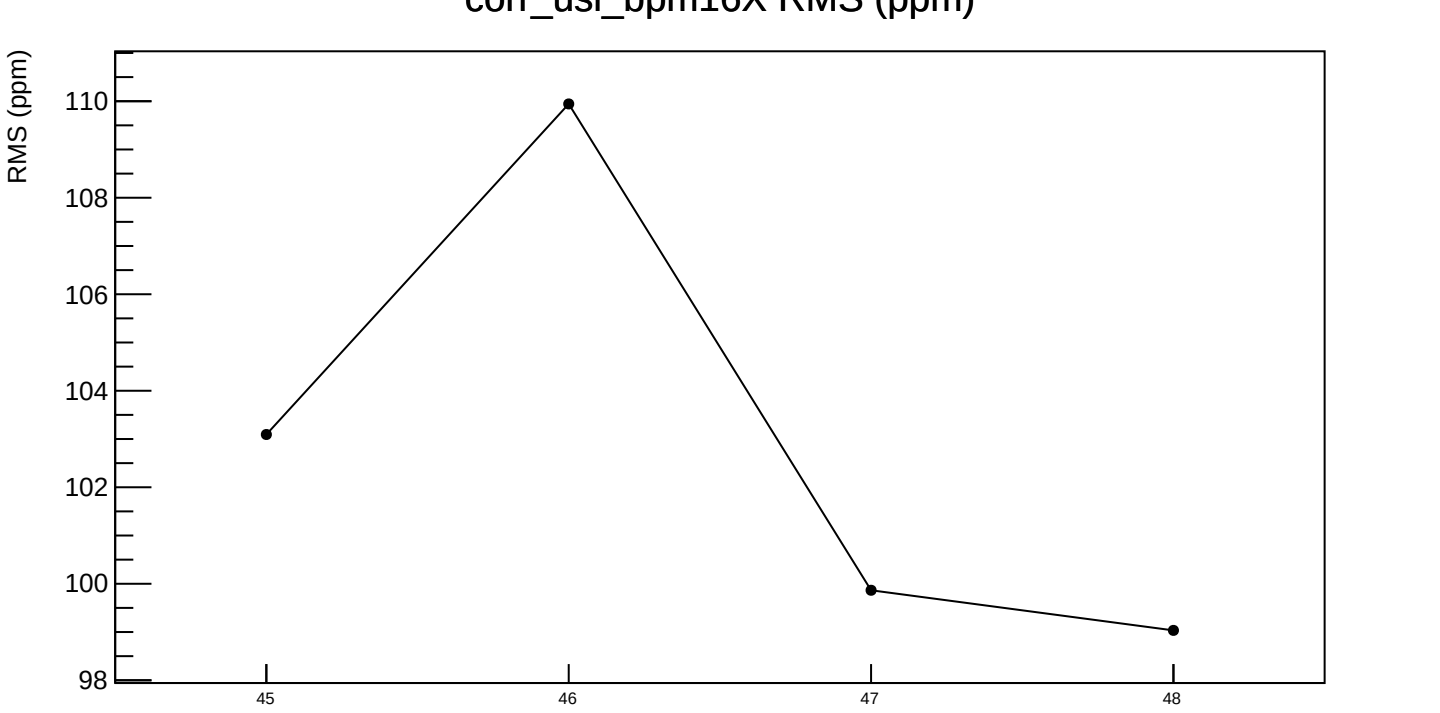

corr_usl_bpm1Y (ppb)
χ² / ndf 2.017 / 3
p0 −14.47 ± 16.48
60
40
20
0
−20
−40
−60
−80
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48

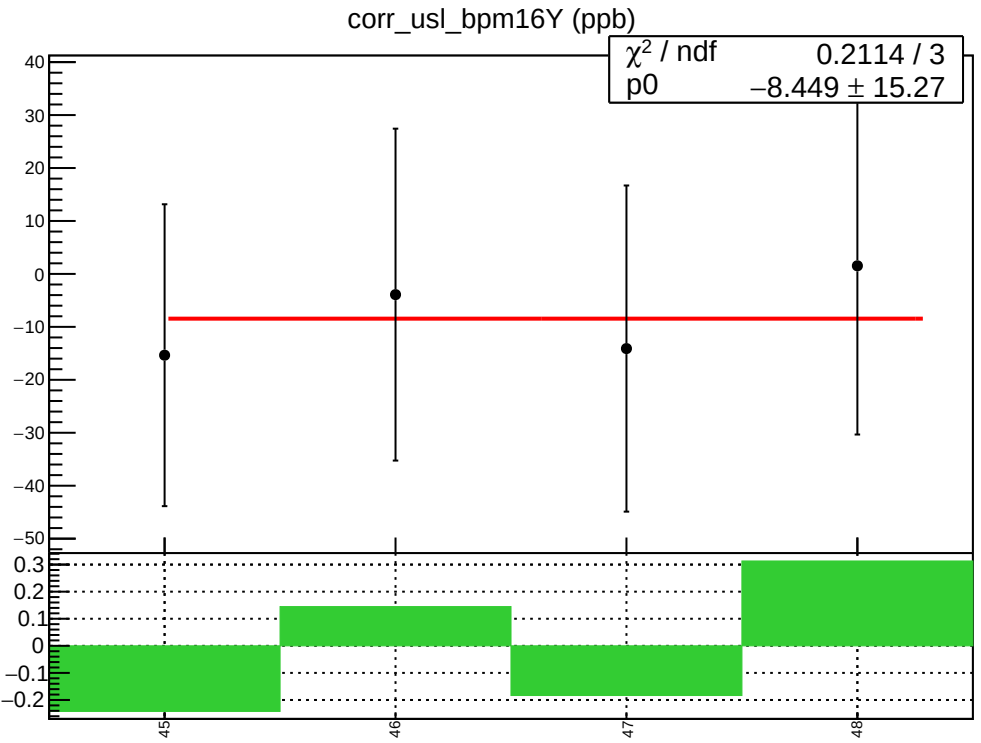

1D pull distribution
Mean 0.02127 ± 0.3549
Std Dev 0.7097 ± 0.2509
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

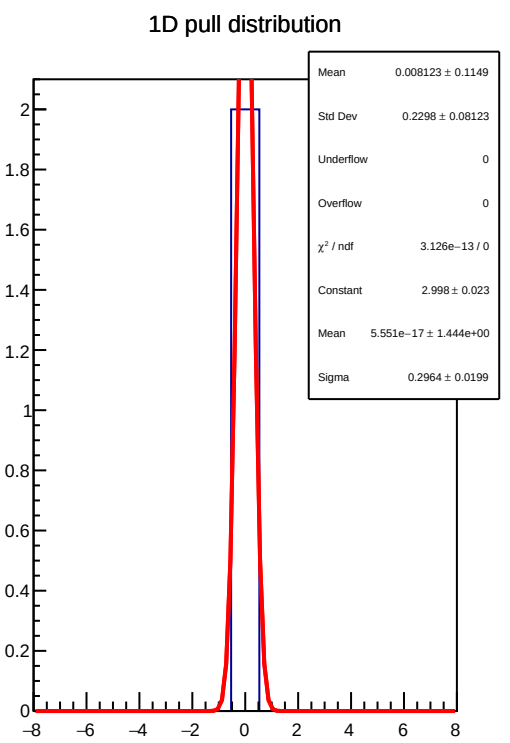

corr_usl_bpm1Y RMS (ppm)
RMS (ppm)
37
36
35
34
33
32
45
46
47
48

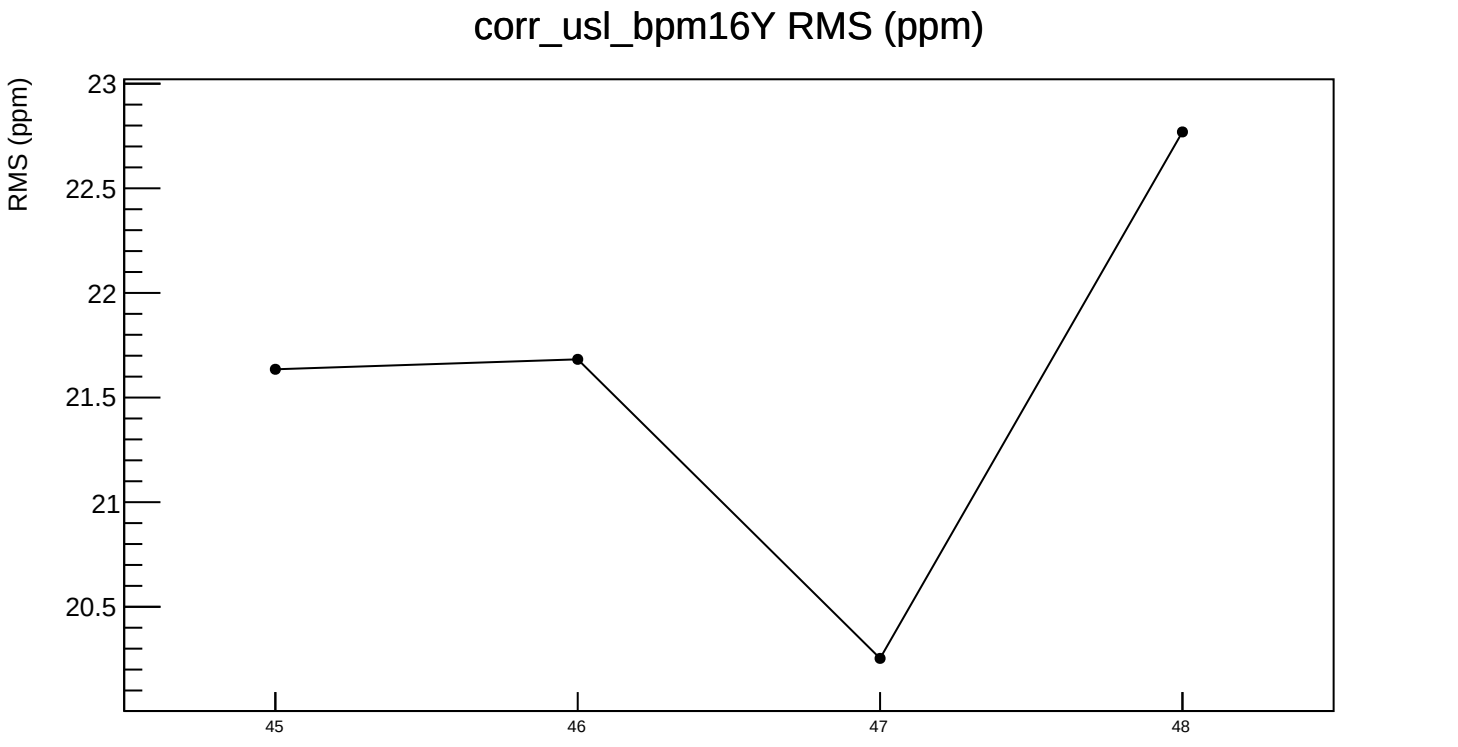

corr_usl_bpm16X (ppb)
χ² / ndf 1.854 / 3
p0 −44.31 ± 91.79
400
300
200
100
0
−100
−200
−300
−400
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48

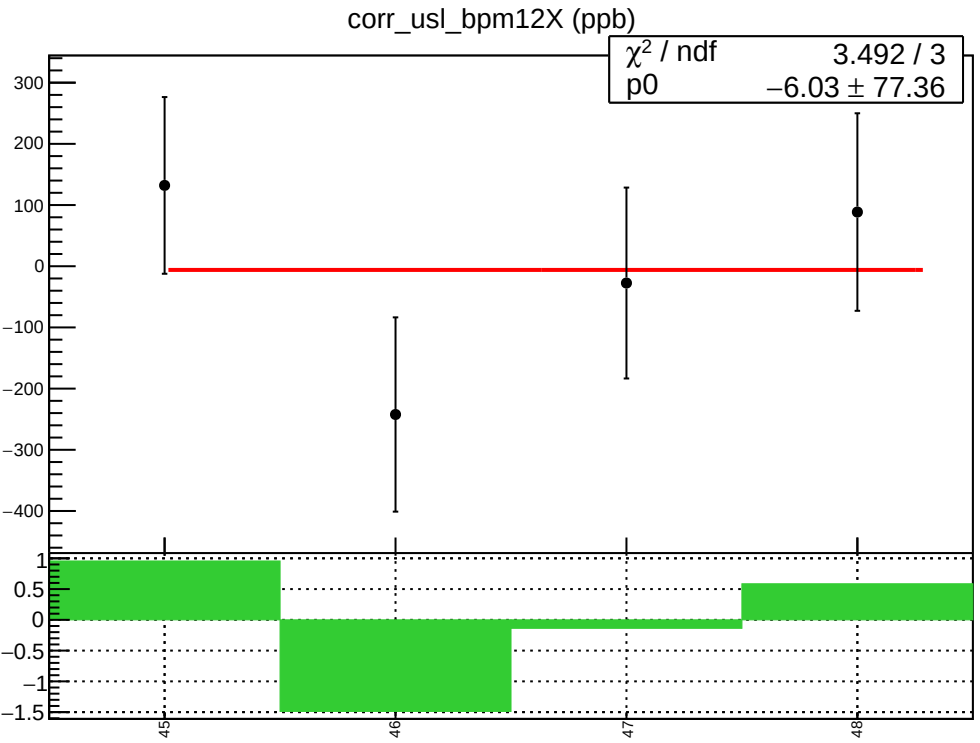

1D pull distribution
Mean 0.02197 ± 0.3403
Std Dev 0.6805 ± 0.2406
Underflow 0
Overflow 0
χ² / ndf 0.03927 / 0
Constant 488.6 ± 6393.7
Mean −23.66 ± 40.27
Sigma 6.874 ± 4.625
35
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

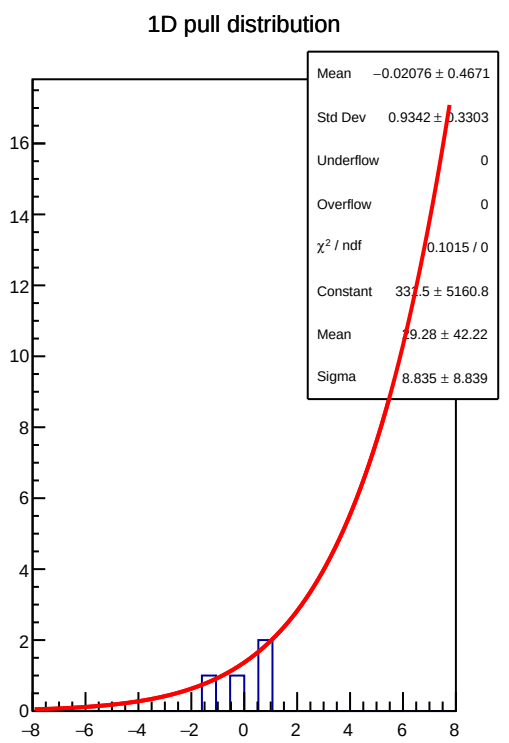

corr_usl_bpm16X RMS (ppm)
RMS (ppm)
110
108
106
104
102
100
98
45
46
47
48

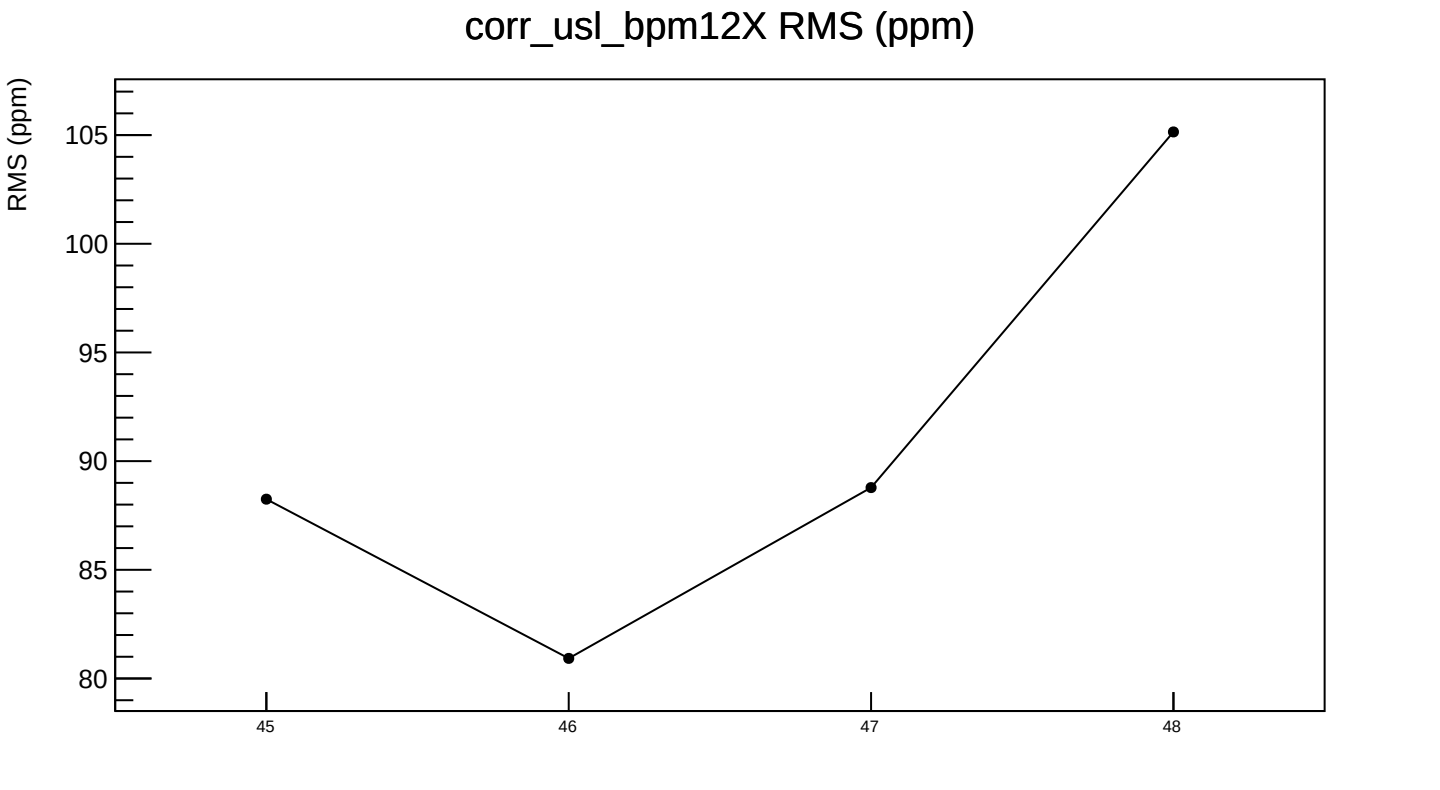

corr_usl_bpm16Y (ppb)
χ² / ndf 0.2114 / 3
p0 −8.449 ± 15.27
40
30
20
10
0
−10
−20
−30
−40
−50
0.3
0.2
0.1
0
−0.1
−0.2
45
46
47
48

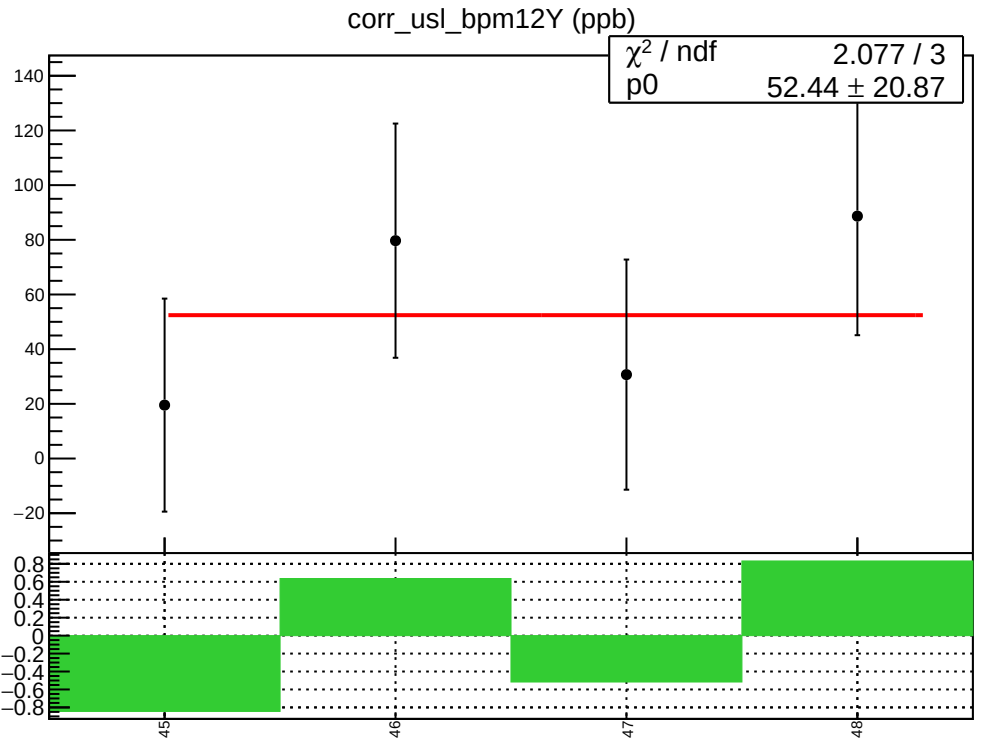

1D pull distribution
Mean 0.008123 ± 0.1149
Std Dev 0.2298 ± 0.08123
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

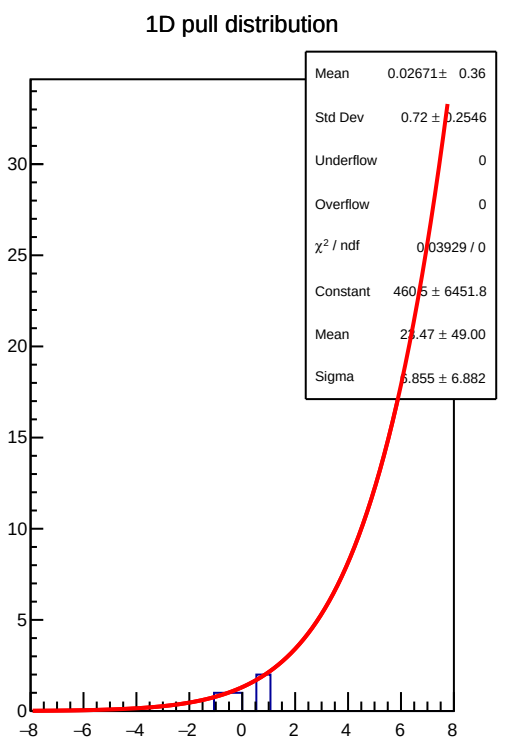

corr_usl_bpm16Y RMS (ppm)
RMS (ppm)
23
22.5
22
21.5
21
20.5
45
46
47
48

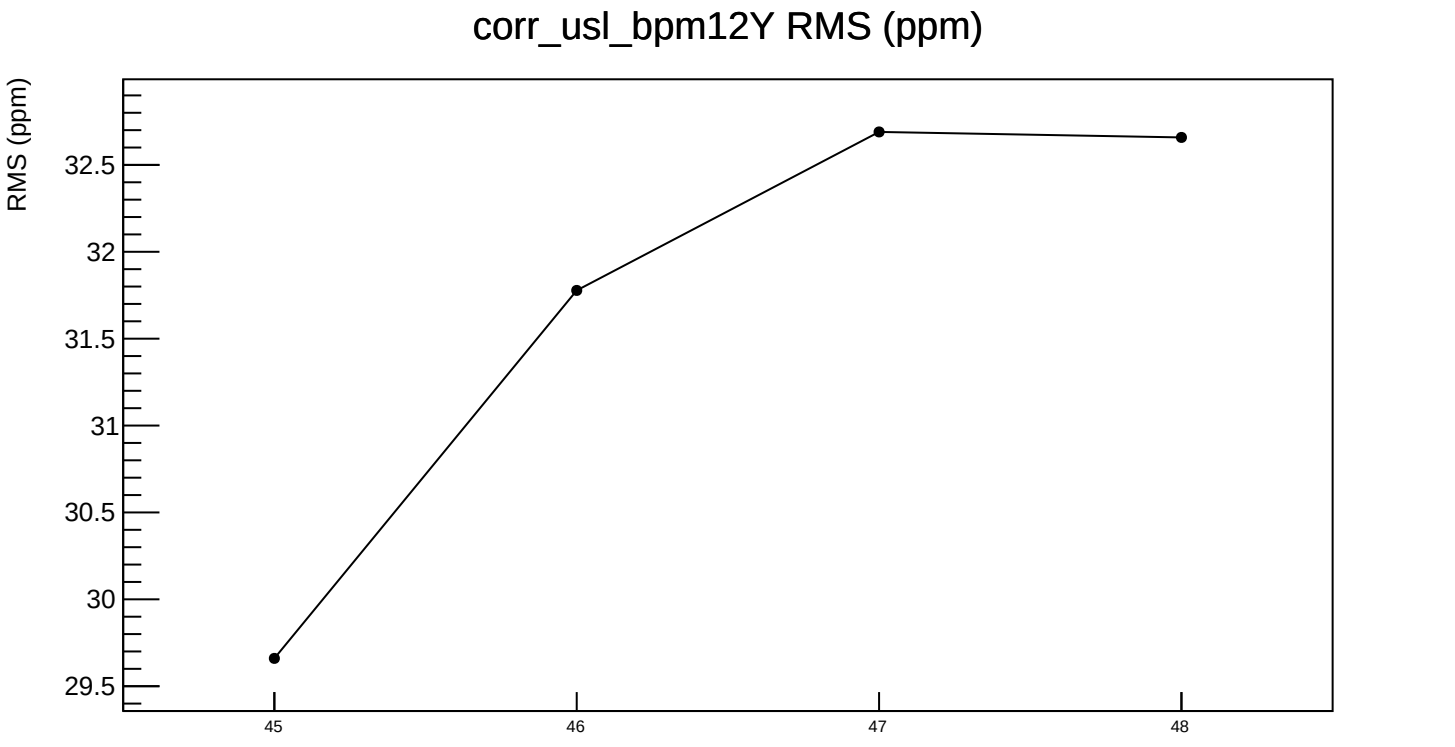

corr_usl_bpm12X (ppb)
χ² / ndf 3.492 / 3
p0 −6.03 ± 77.36
300
200
100
0
−100
−200
−300
−400
1
0.5
0
−0.5
−1
−1.5
45
46
47
48

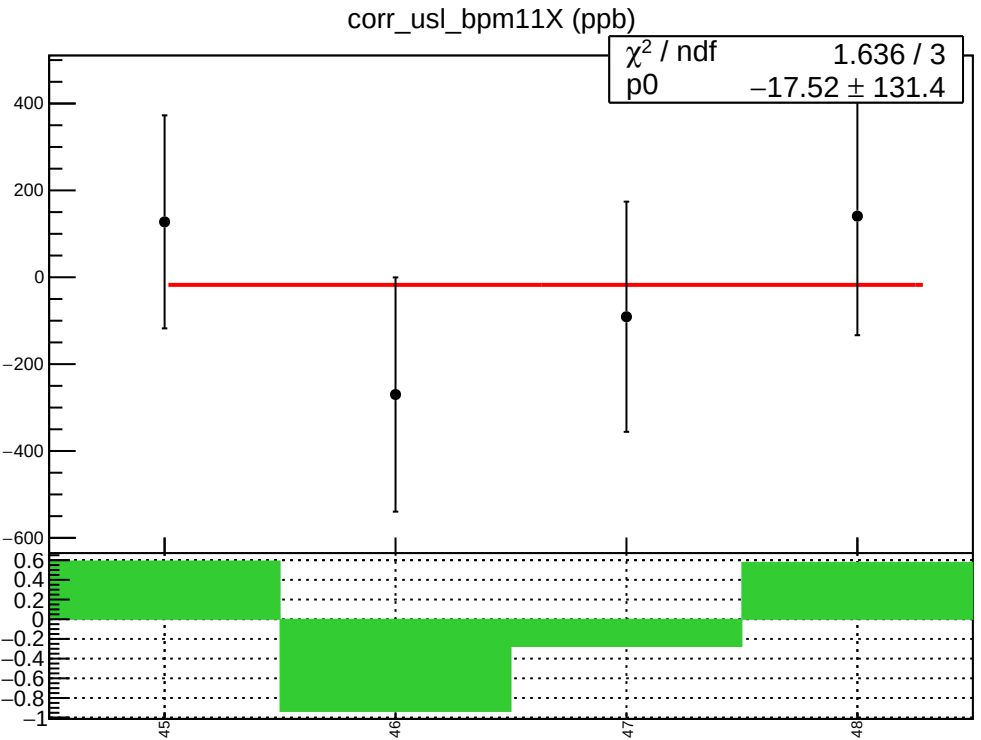

1D pull distribution
Mean −0.02076 ± 0.4671
Std Dev 0.9342 ± 0.3303
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 331.5 ± 5160.8
Mean 29.28 ± 42.22
Sigma 8.835 ± 8.839
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

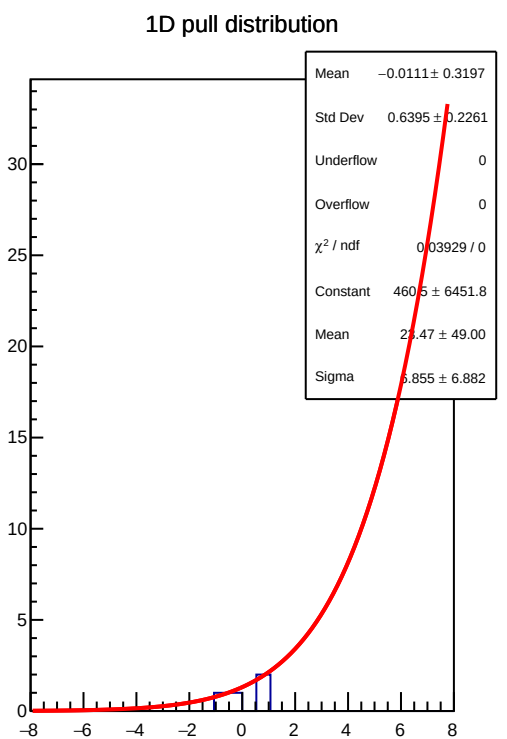

corr_usl_bpm12X RMS (ppm)
RMS (ppm)
105
100
95
90
85
80
45
46
47
48

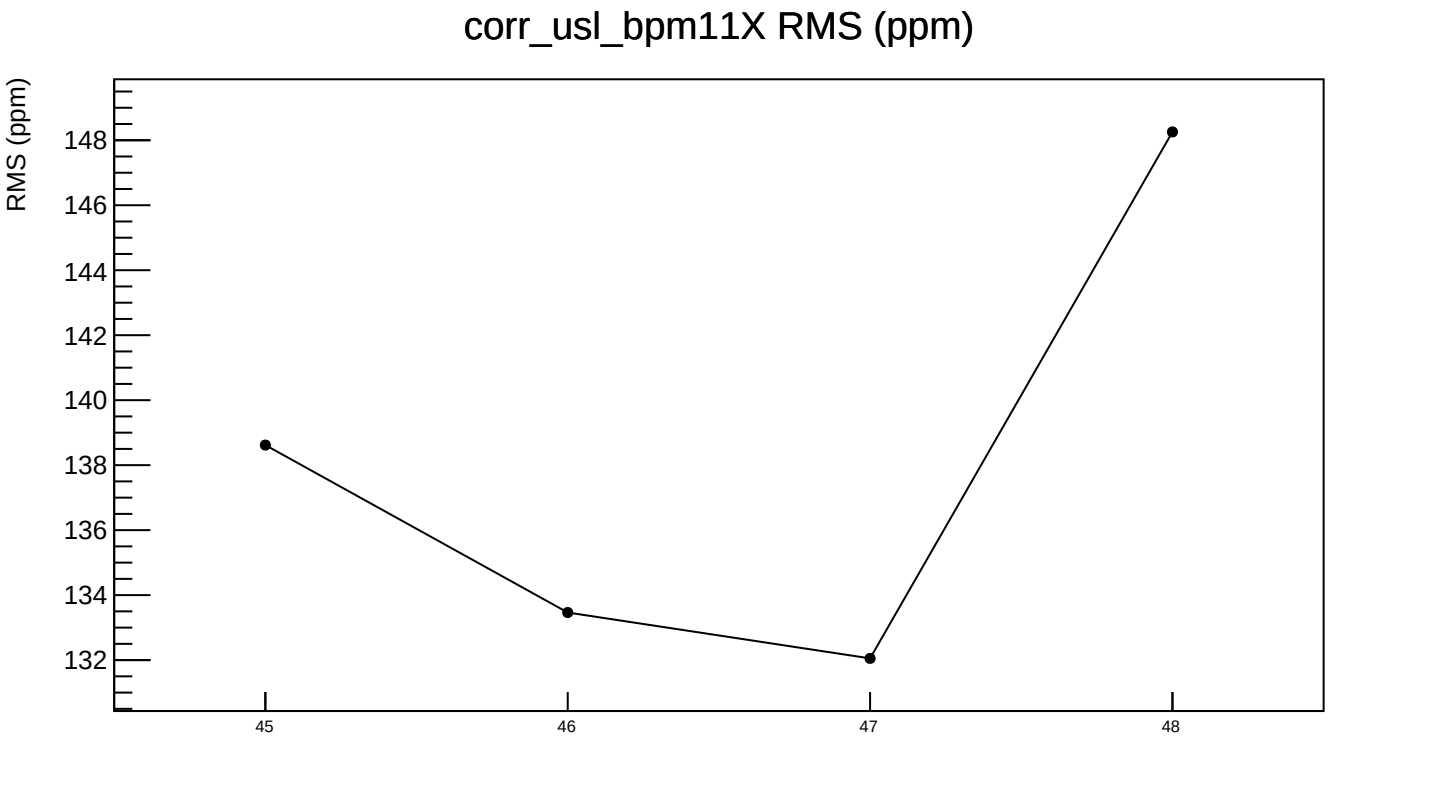

corr_usl_bpm12Y (ppb)
χ² / ndf 2.077 / 3
p0 52.44 ± 20.87
140
120
100
80
60
40
20
0
−20
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48

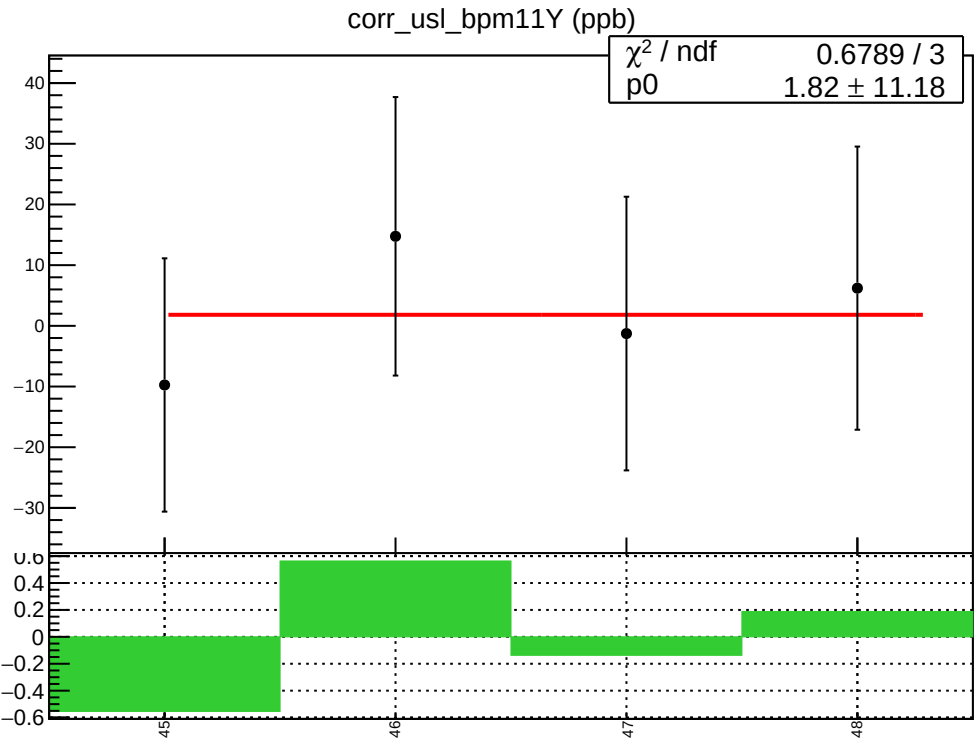

1D pull distribution
Mean 0.02671± 0.36
Std Dev 0.72 ± 0.2546
Underflow 0
Overflow 0
χ² / ndf 0.03929 / 0
Constant 460.5 ± 6451.8
Mean 23.47 ± 49.00
Sigma 6.855 ± 6.882
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

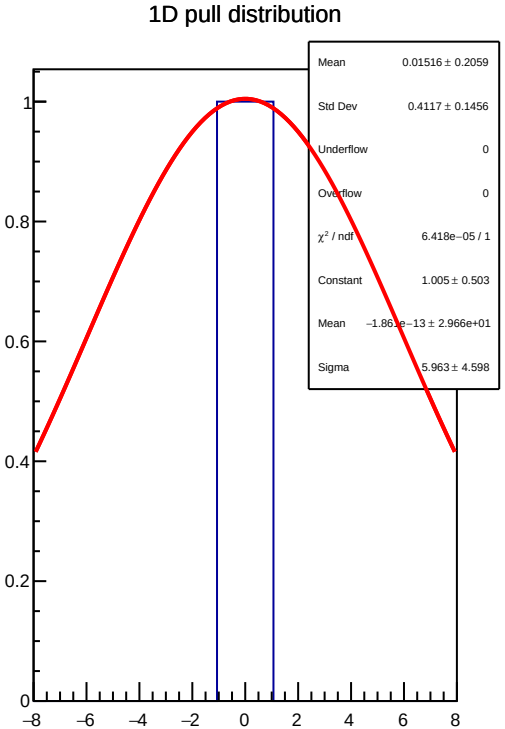

corr_usl_bpm12Y RMS (ppm)
RMS (ppm)
32.5
32
31.5
31
30.5
30
29.5
45
46
47
48

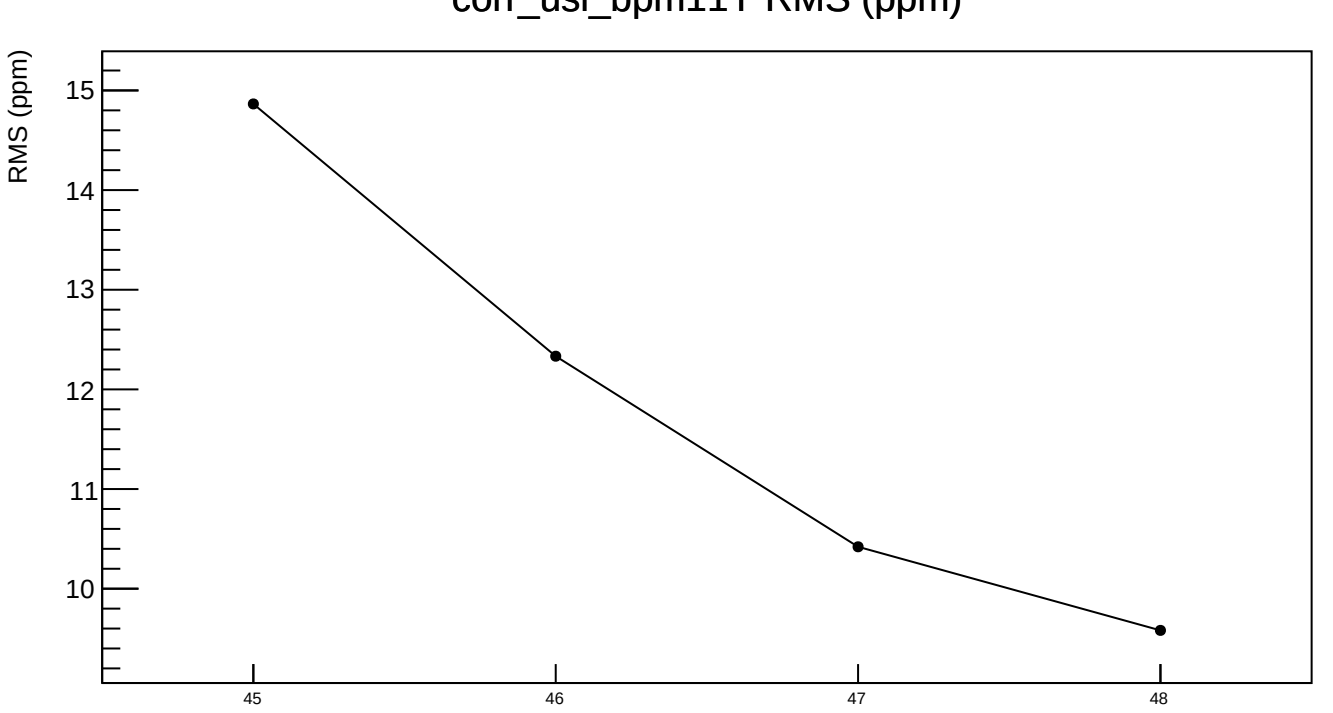

corr_usl_bpm11X (ppb)
χ² / ndf 1.636 / 3
p0 −17.52 ± 131.4
400
200
0
−200
−400
−600
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
45
46
47
48

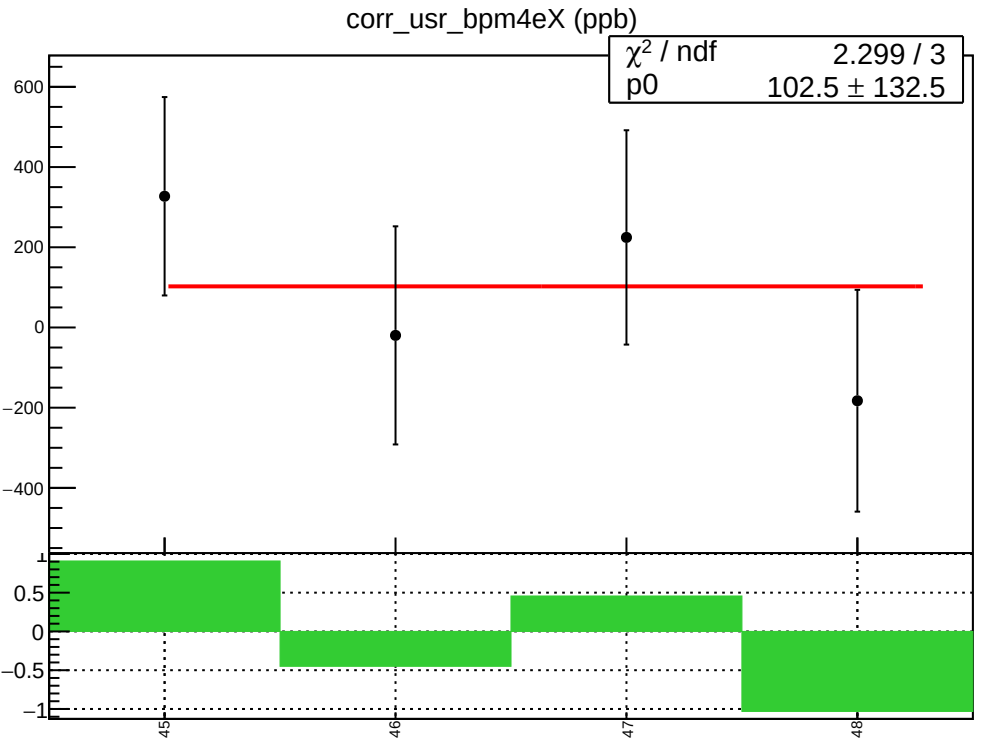

1D pull distribution
Mean −0.0111 ± 0.3197
Std Dev 0.6395 ± 0.2261
Underflow 0
Overflow 0
χ² / ndf 0.03929 / 0
Constant 460.5 ± 6451.8
Mean 23.47 ± 49.00
Sigma 6.855 ± 6.882
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

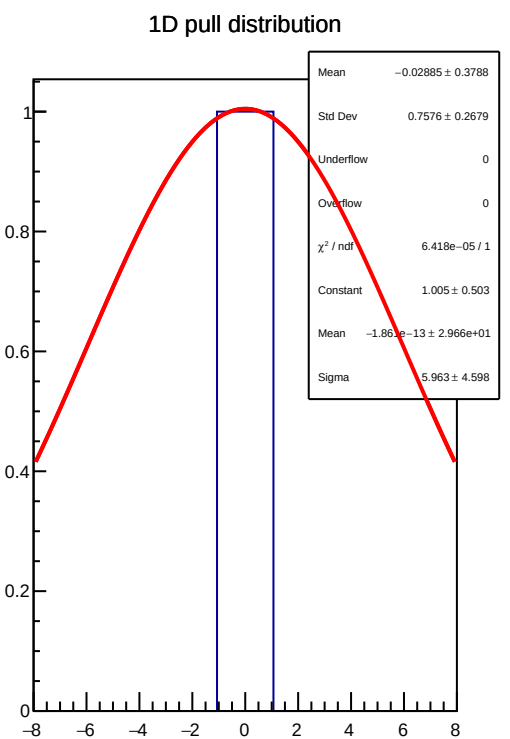

corr_usl_bpm11X RMS (ppm)
RMS (ppm)
148
146
144
142
140
138
136
134
132
45
46
47
48

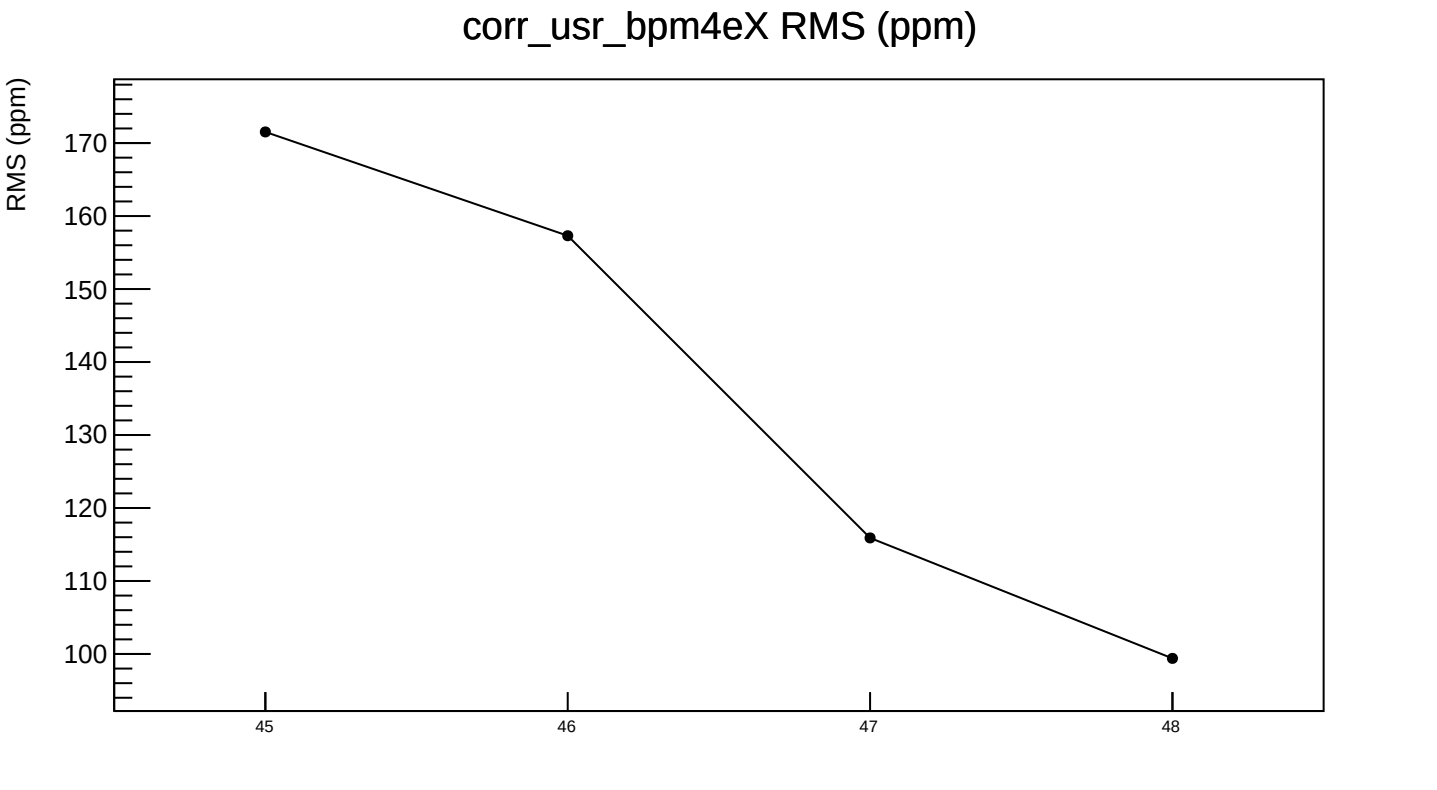

corr_usl_bpm11Y (ppb)
χ² / ndf 0.6789 / 3
p0 1.82 ± 11.18
40
30
20
10
0
−10
−20
−30
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48

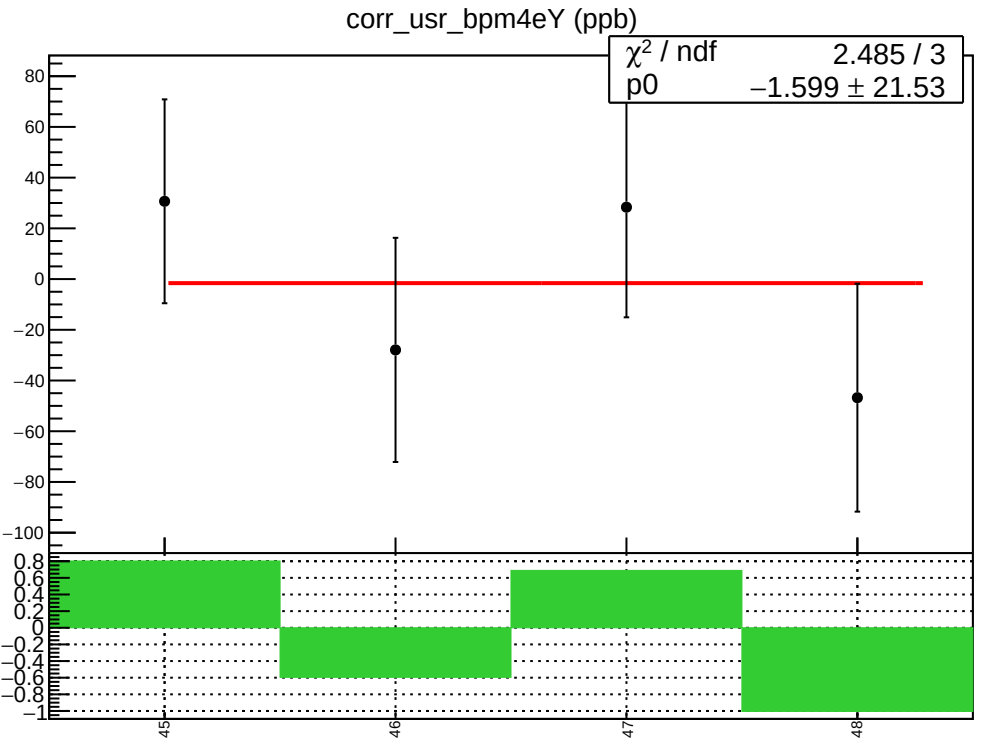

1D pull distribution
Mean 0.01516 ± 0.2059
Std Dev 0.4117 ± 0.1456
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

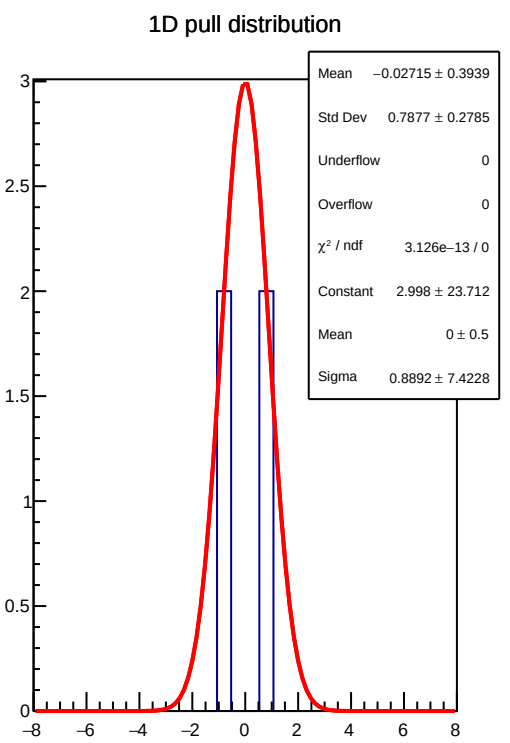

corr_usl_bpm11Y RMS (ppm)
RMS (ppm)
15
14
13
12
11
10
45
46
47
48

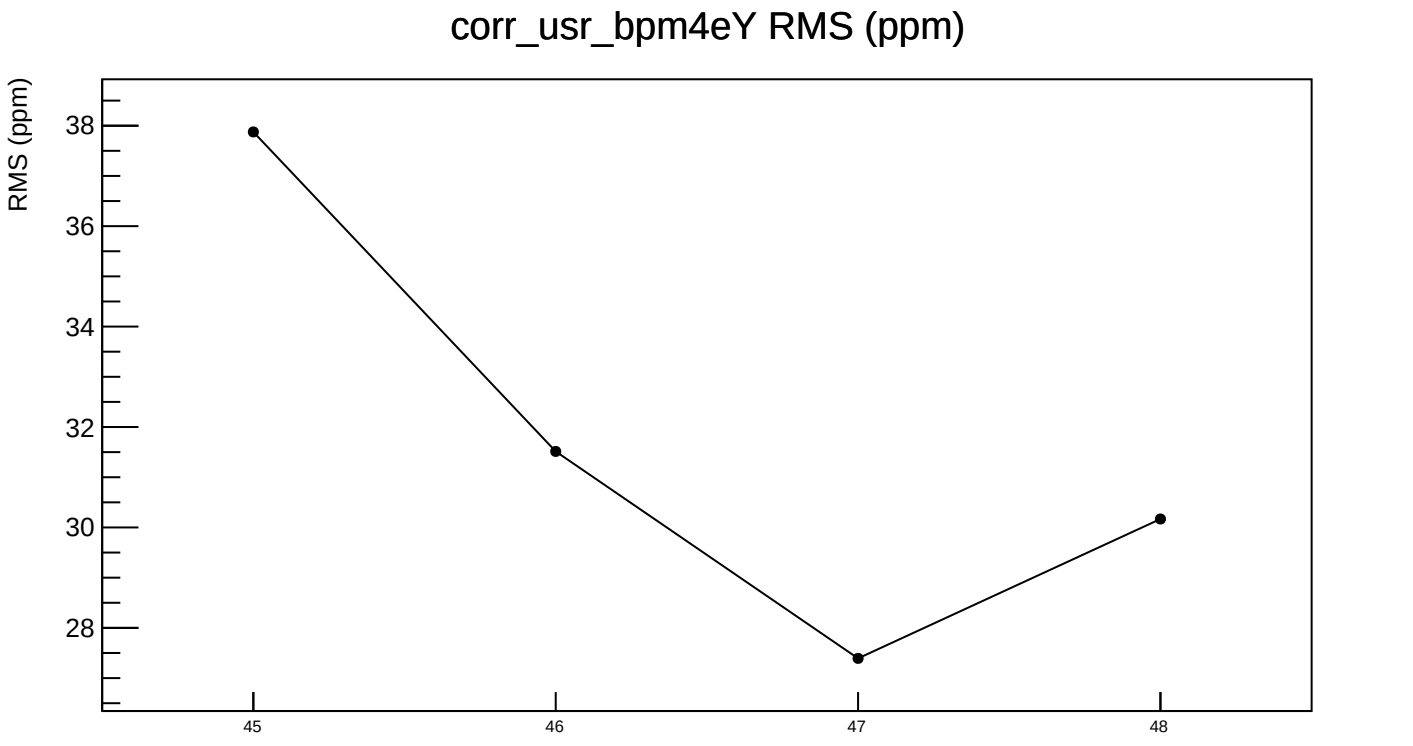

corr_usr_bpm4eX (ppb)
χ² / ndf 2.299 / 3
p0 102.5 ± 132.5
600
400
200
0
−200
−400
0.5
0
−0.5
−1
45
46
47
48

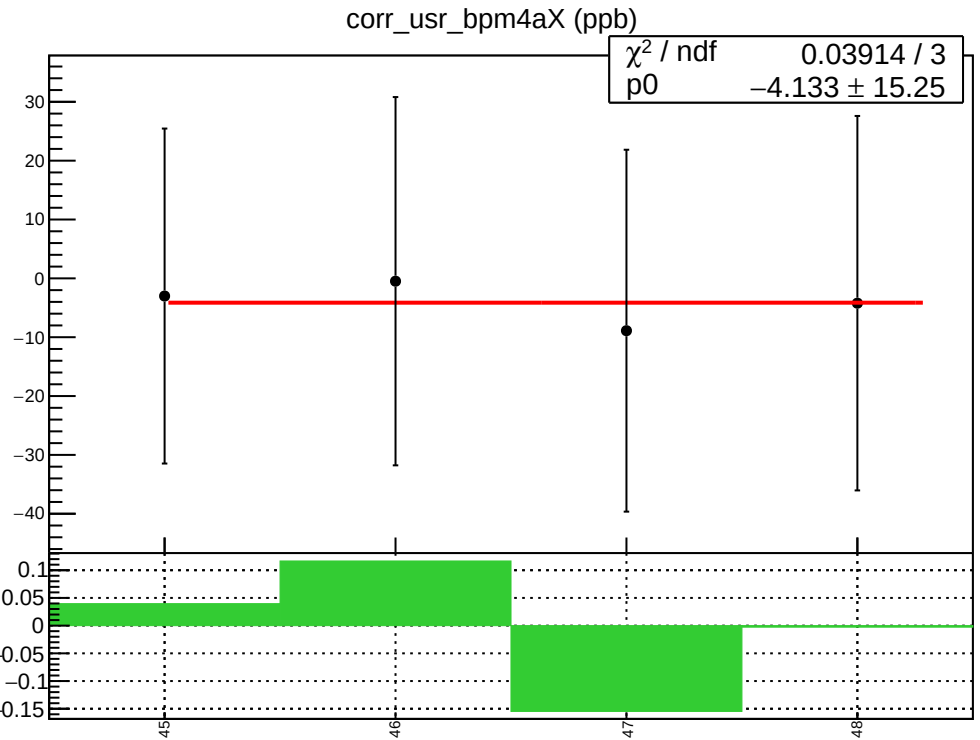

1D pull distribution
Mean −0.02885 ± 0.3788
Std Dev 0.7576 ± 0.2679
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

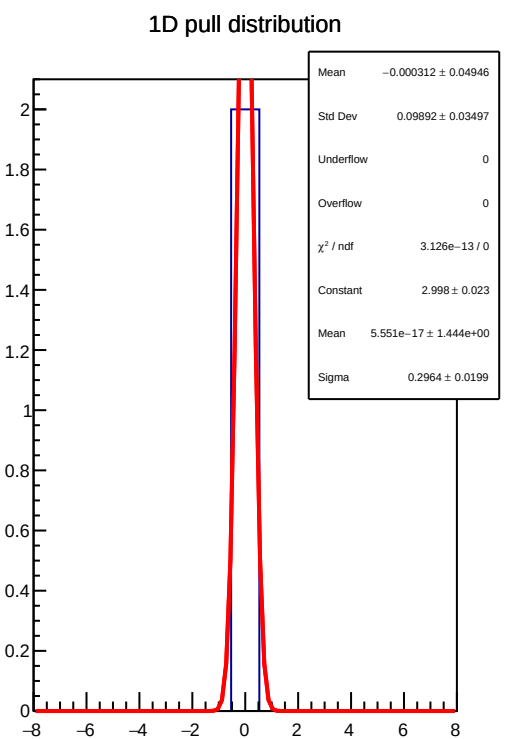

corr_usr_bpm4eX RMS (ppm)
RMS (ppm)
170
160
150
140
130
120
110
100
45
46
47
48

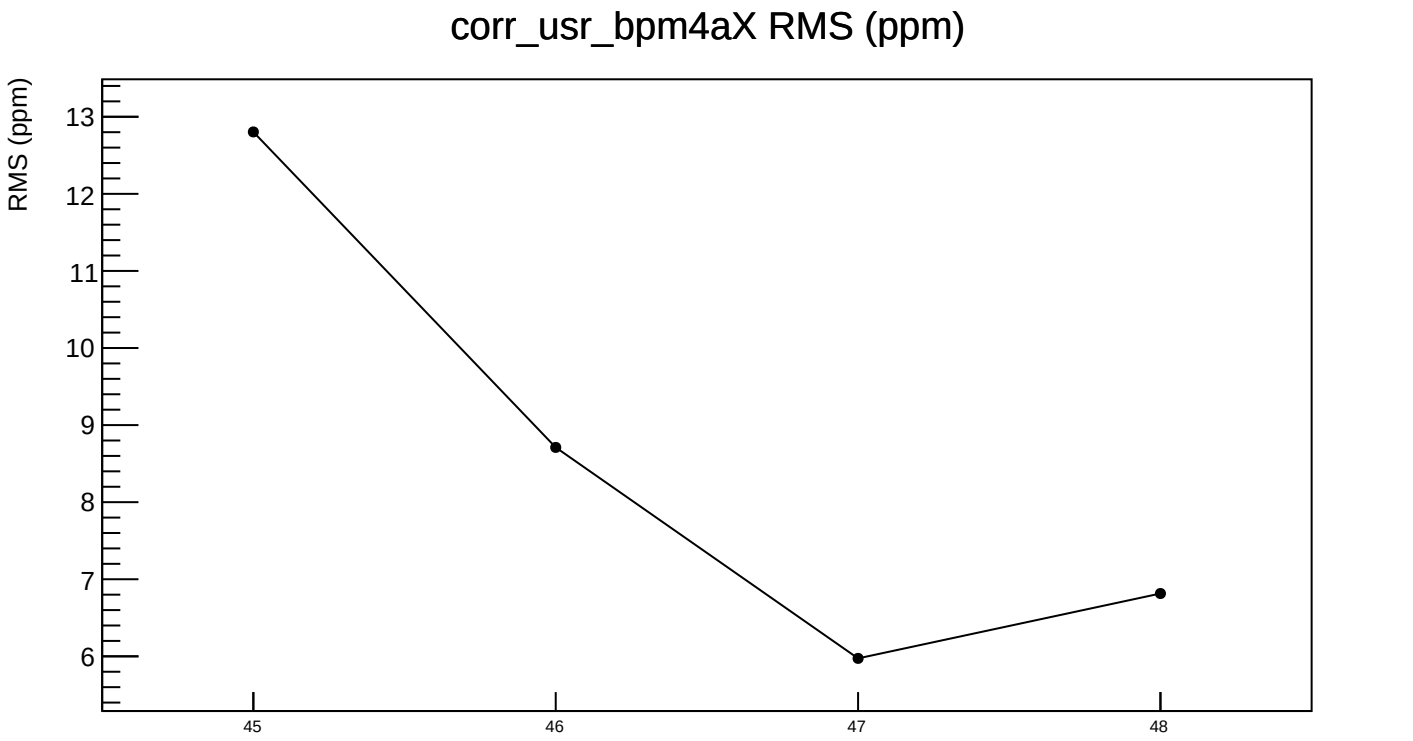

corr_usr_bpm4eY (ppb)
χ² / ndf 2.485 / 3
p0 −1.599 ± 21.53
80
60
40
20
0
−20
−40
−60
−80
−100
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
45
46
47
48

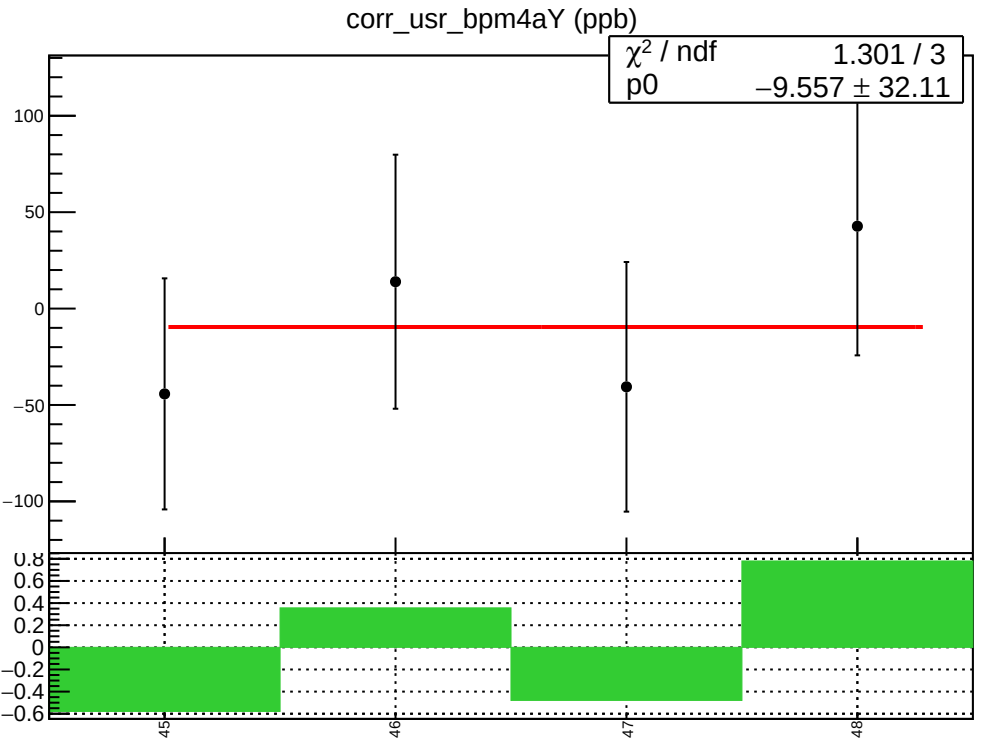

1D pull distribution
Mean −0.02715 ± 0.3939
Std Dev 0.7877 ± 0.2785
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

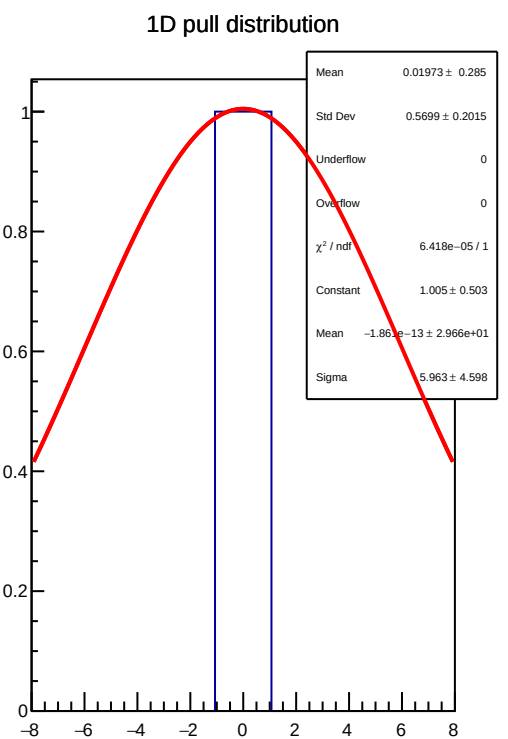

corr_usr_bpm4eY RMS (ppm)
RMS (ppm)
38
36
34
32
30
28
45
46
47
48

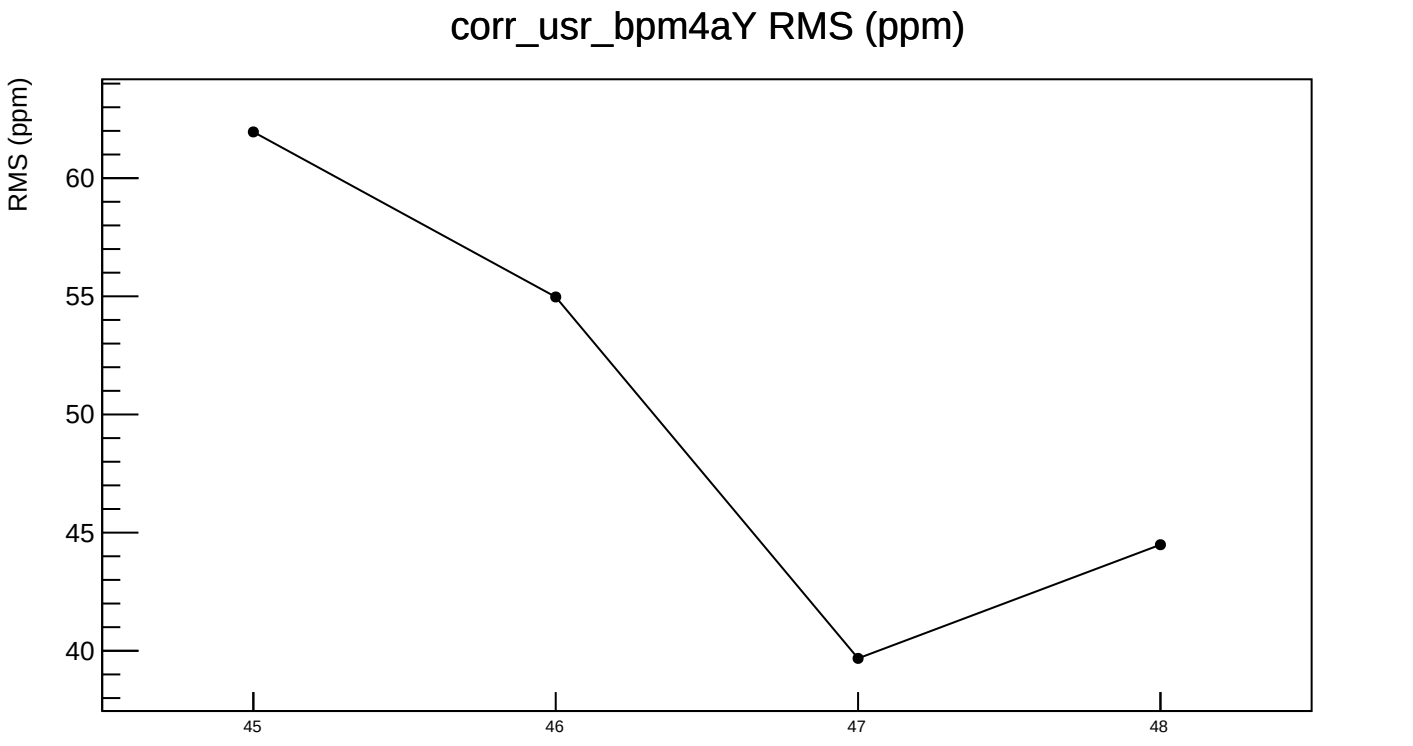

corr_usr_bpm4aX (ppb)
χ² / ndf 0.03914 / 3
p0 −4.133 ± 15.25
30
20
10
0
−10
−20
−30
−40
0.1
0.05
0
−0.05
−0.1
−0.15
45
46
47
48

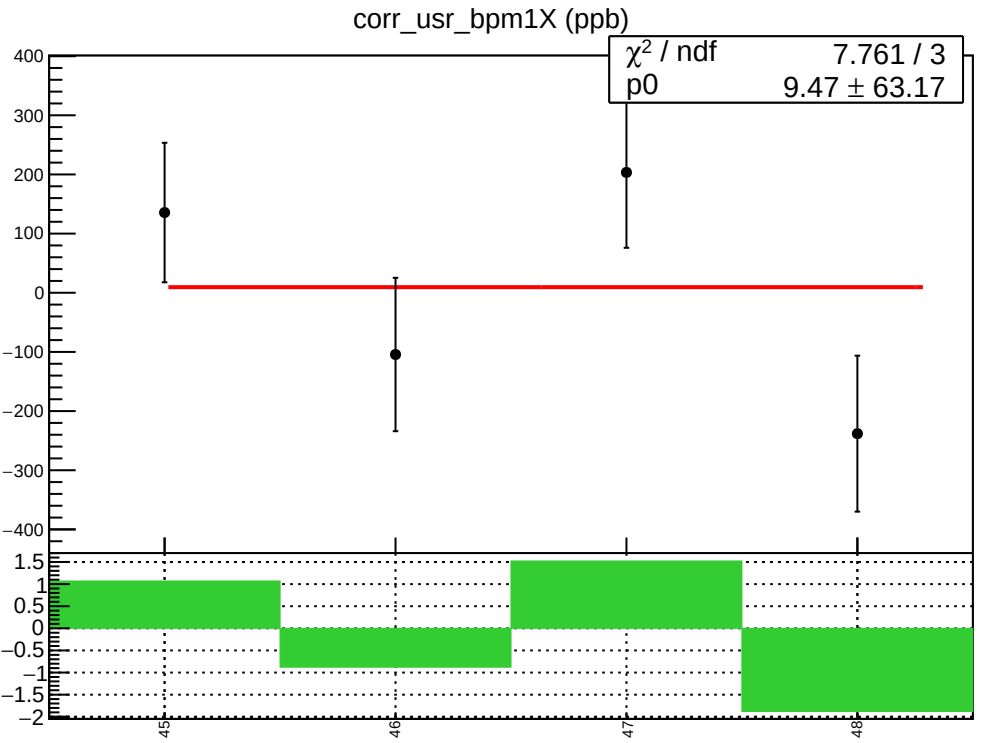

1D pull distribution
Mean −0.000312 ± 0.04946
Std Dev 0.09892 ± 0.03497
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

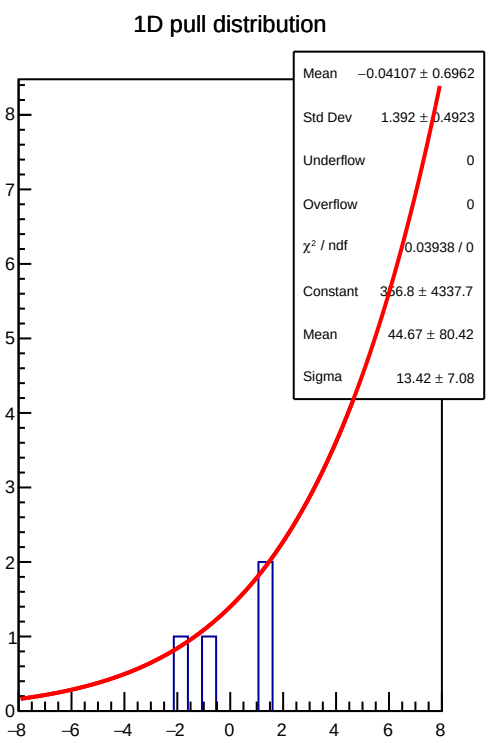

corr_usr_bpm4aX RMS (ppm)
RMS (ppm)
13
12
11
10
9
8
7
6
45
46
47
48

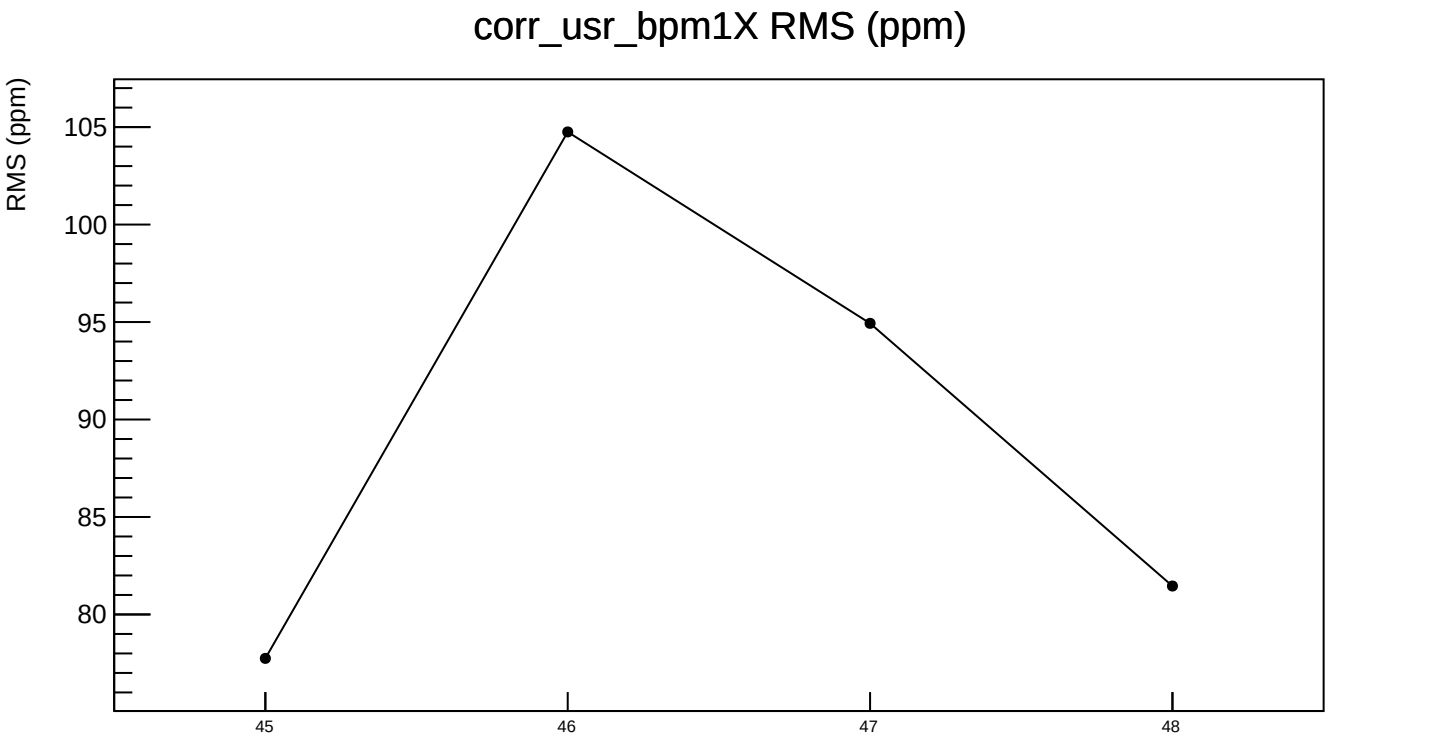

corr_usr_bpm4aY (ppb)
χ² / ndf 1.301 / 3
p0 −9.557 ± 32.11
100
50
0
−50
−100
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
45
46
47
48

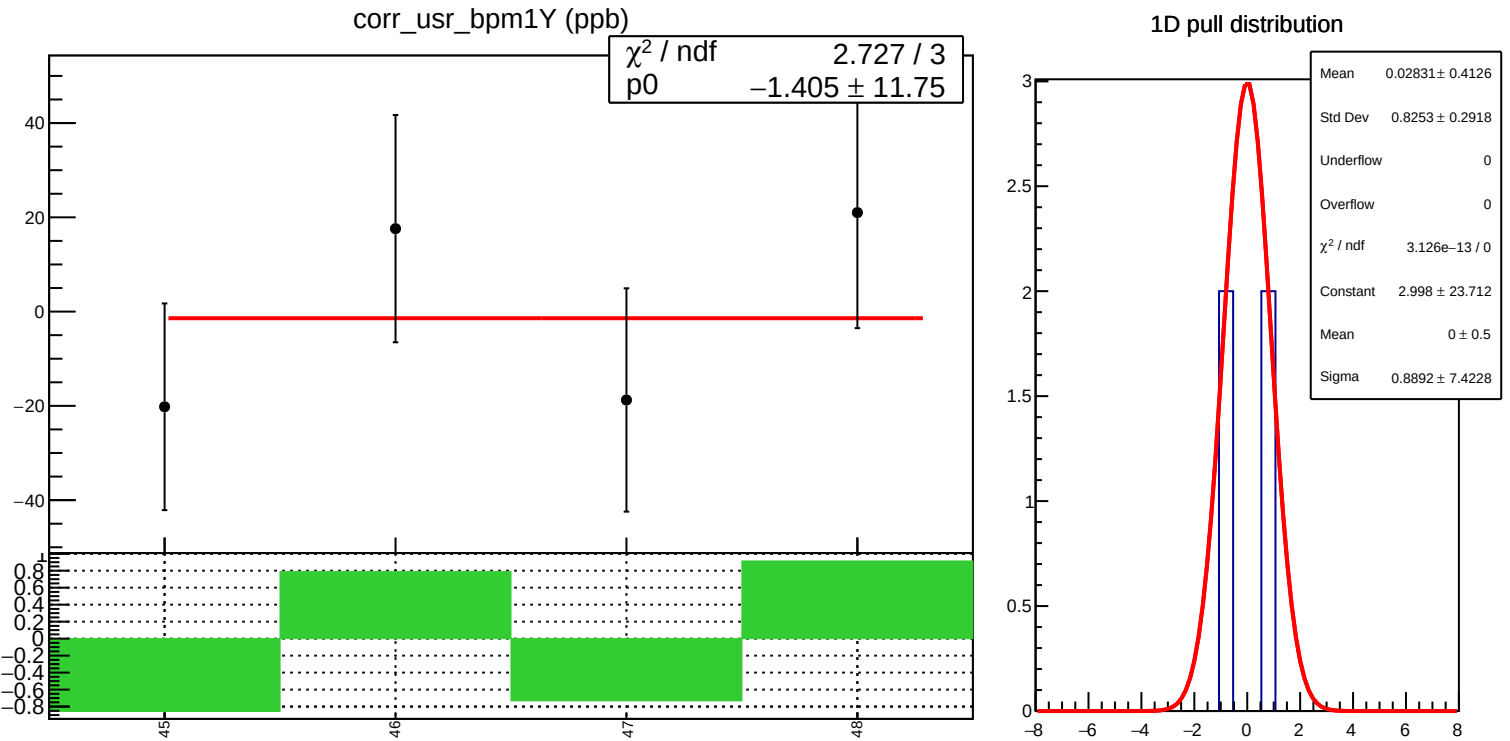

1D pull distribution
Mean 0.01973 ± 0.285
Std Dev 0.5699 ± 0.2015
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

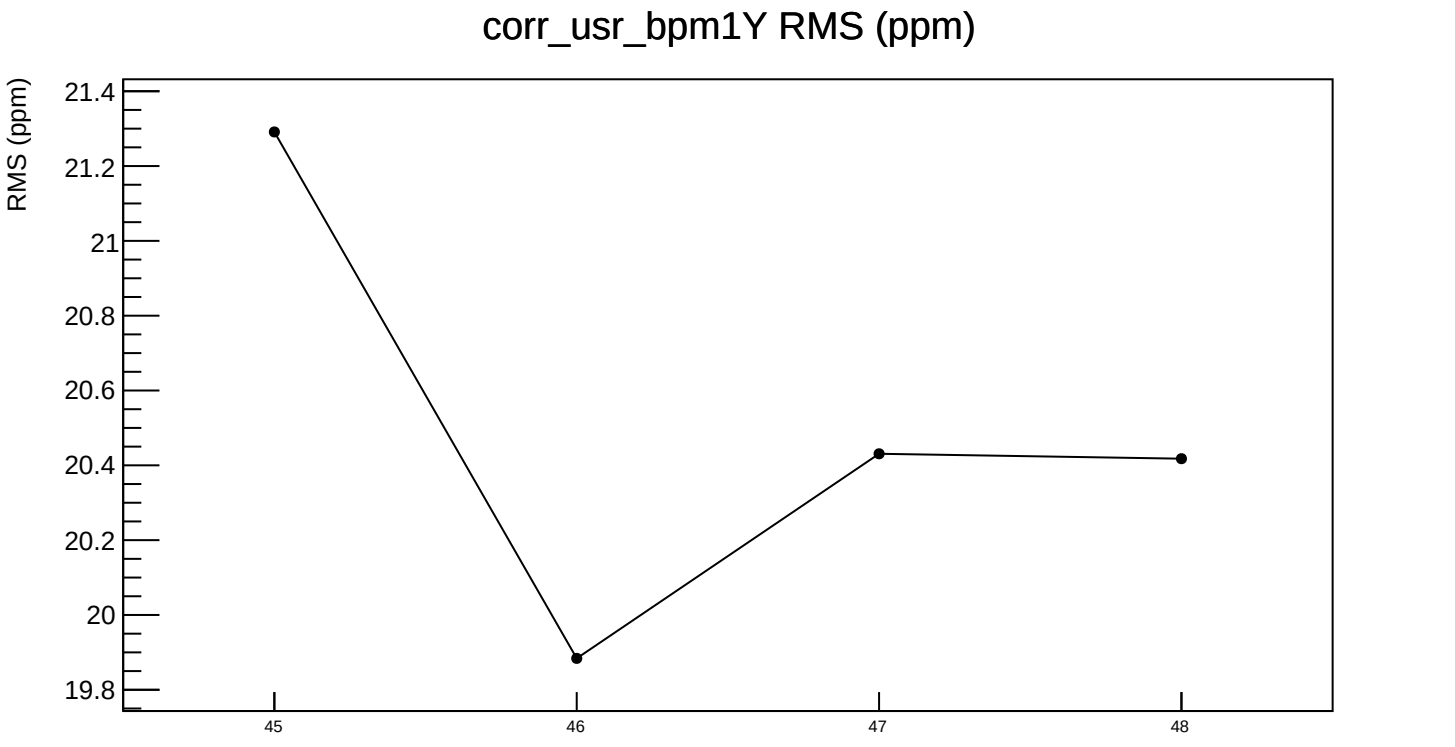

corr_usr_bpm4aY RMS (ppm)
RMS (ppm)
60
55
50
45
40
45
46
47
48

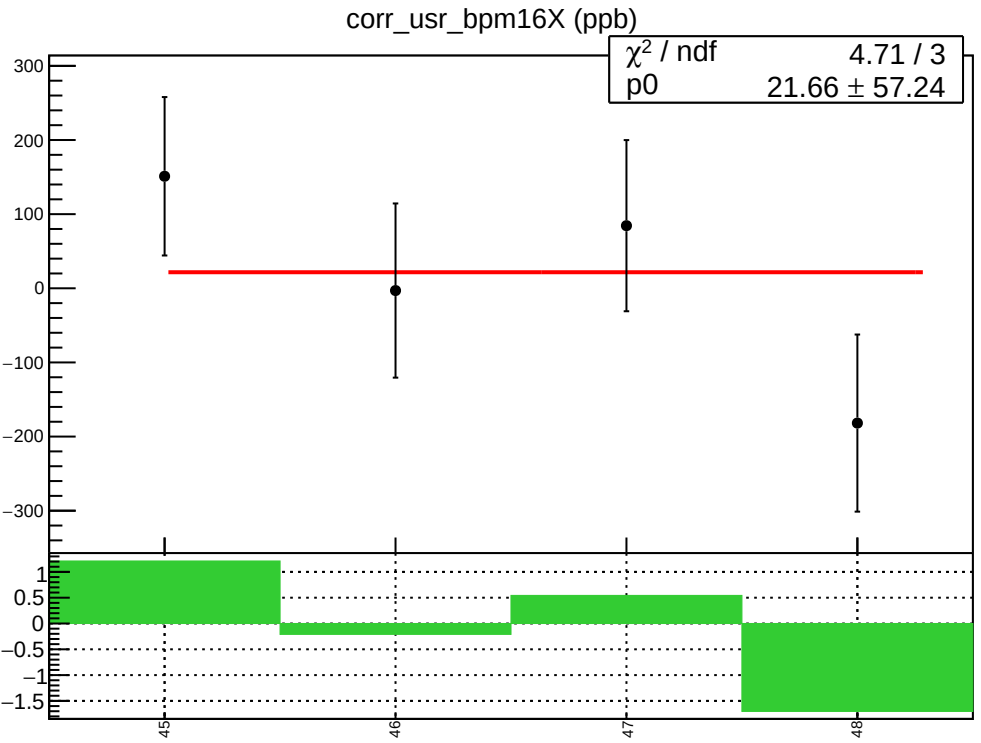

corr_usr_bpm1X (ppb)
χ² / ndf 7.761 / 3
p0 9.47 ± 63.17
400
300
200
100
0
−100
−200
−300
−400
1.5
1
0.5
0
−0.5
−1
−1.5
−2
45
46
47
48

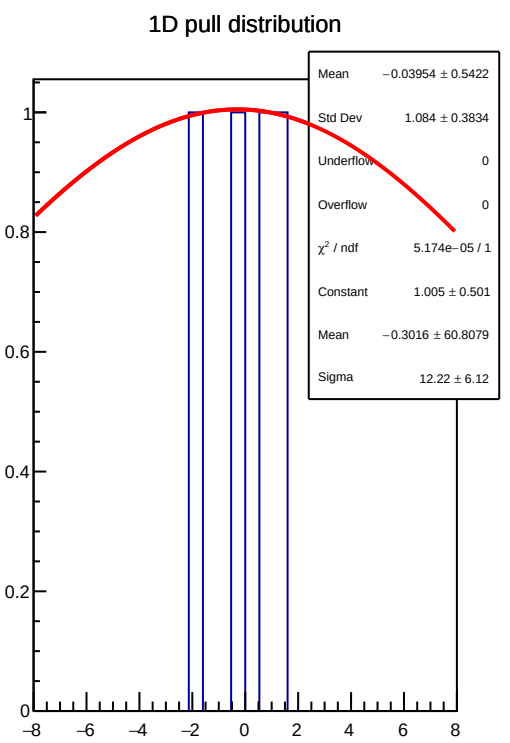

1D pull distribution
Mean −0.04107 ± 0.6962
Std Dev 1.392 ± 0.4923
Underflow 0
Overflow 0
χ² / ndf 0.03938 / 0
Constant 356.8 ± 4337.7
Mean 44.67 ± 80.42
Sigma 13.42 ± 7.08
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

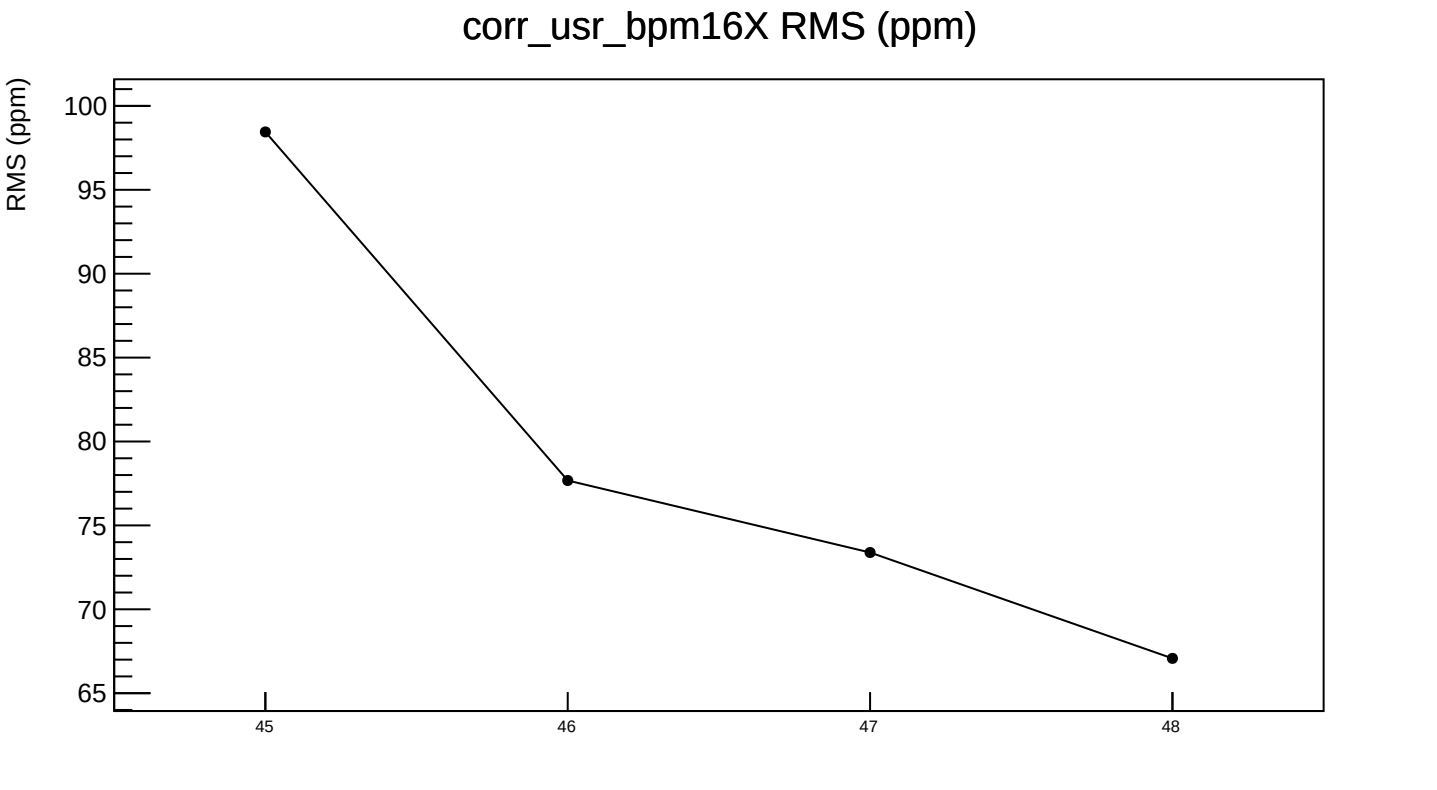

corr_usr_bpm1X RMS (ppm)
RMS (ppm)
105
100
95
90
85
80
45
46
47
48

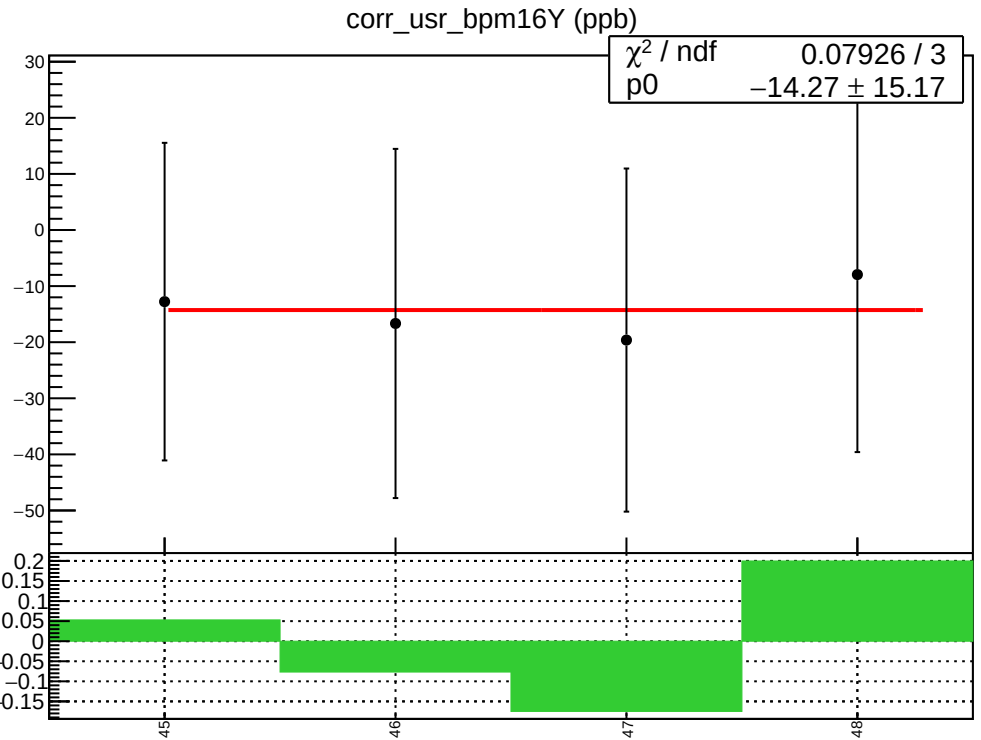

corr_usr_bpm1Y (ppb)
χ² / ndf 2.727 / 3
p0 −1.405 ± 11.75
40
20
0
−20
−40
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
45
46
47
48
1D pull distribution
Mean 0.02831 ± 0.4126
Std Dev 0.8253 ± 0.2918
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

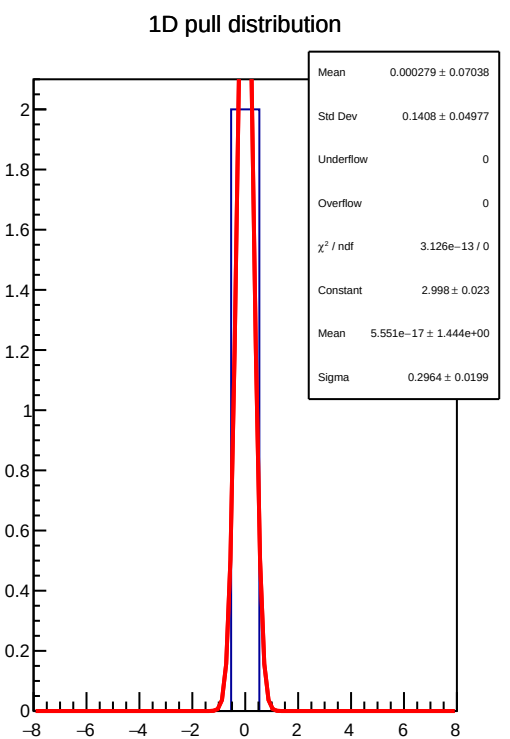

corr_usr_bpm1Y RMS (ppm)
RMS (ppm)
21.4
21.2
21
20.8
20.6
20.4
20.2
20
19.8
45
46
47
48

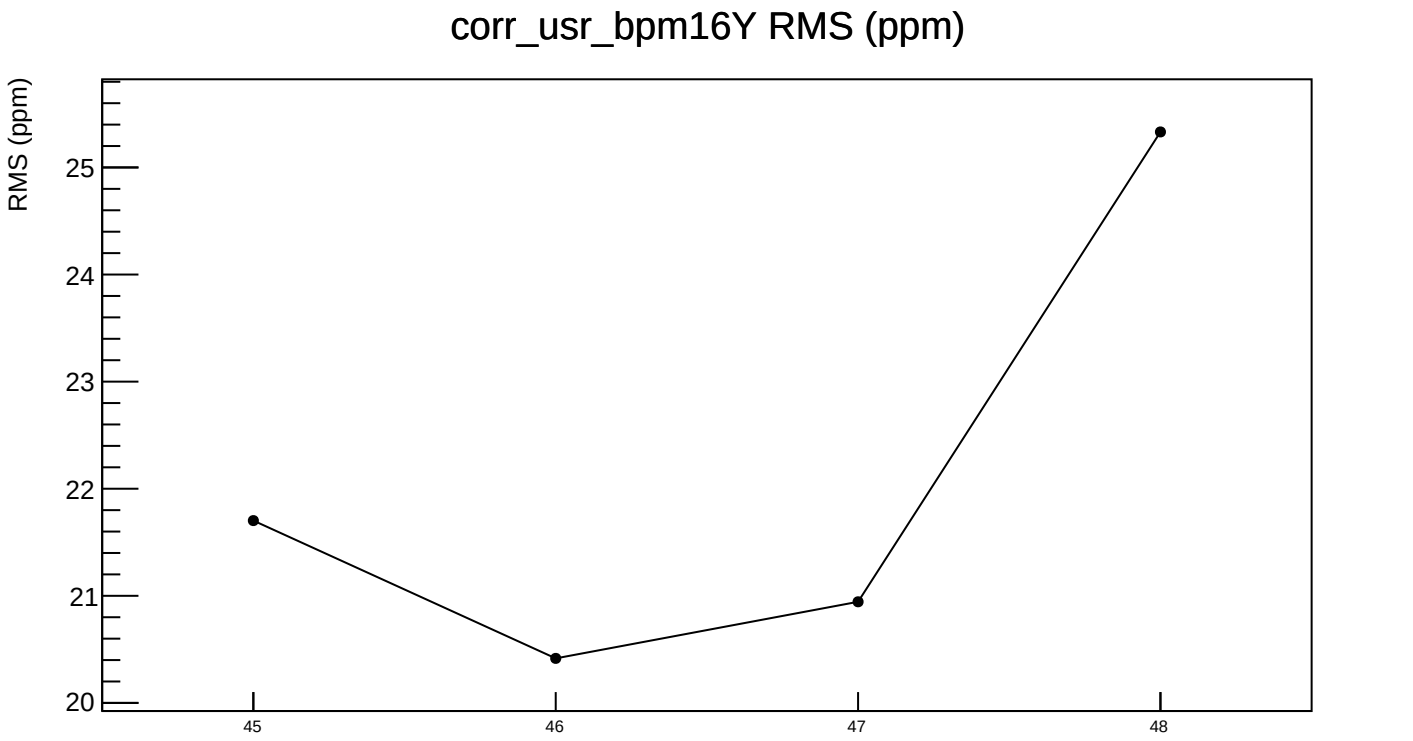

corr_usr_bpm16X (ppb)
χ² / ndf 4.71 / 3
p0 21.66 ± 57.24
300
200
100
0
−100
−200
−300
1
0.5
0
−0.5
−1
−1.5
45
46
47
48

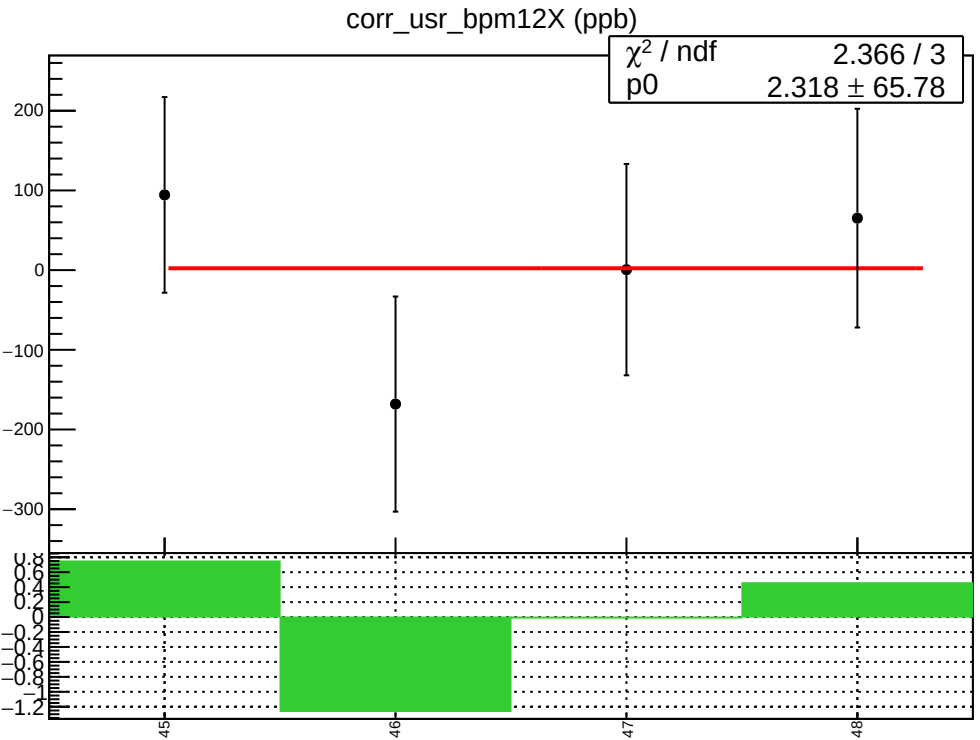

1D pull distribution
Mean −0.03954 ± 0.5422
Std Dev 1.084 ± 0.3834
Underflow 0
Overflow 0
χ² / ndf 5.174e−05 / 1
Constant 1.005 ± 0.501
Mean −0.3016 ± 60.8079
Sigma 12.22 ± 6.12
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

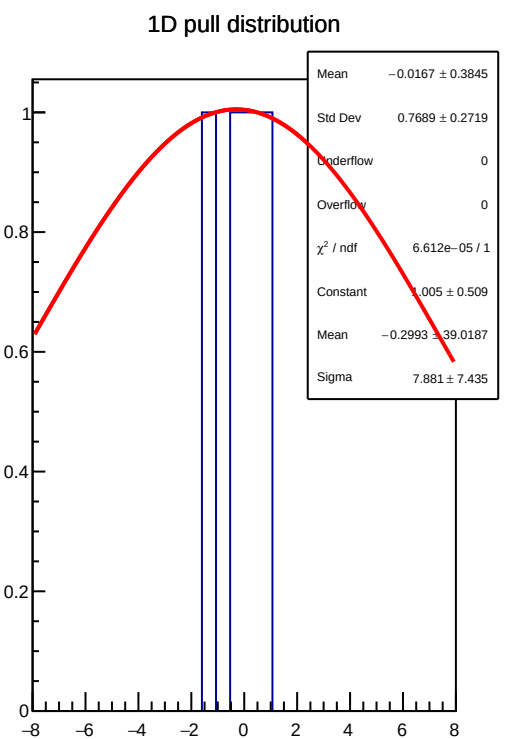

corr_usr_bpm16X RMS (ppm)
RMS (ppm)
100
95
90
85
80
75
70
65
45
46
47
48

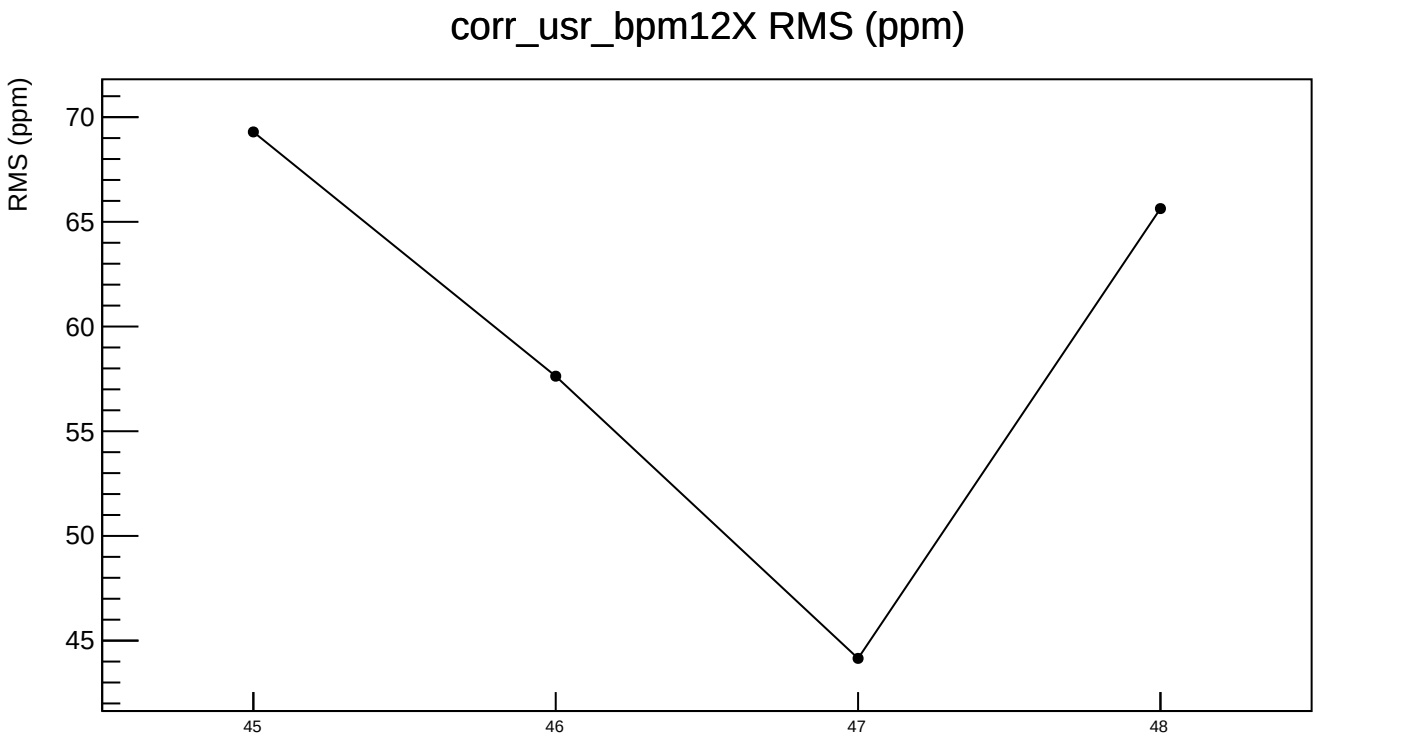

corr_usr_bpm16Y (ppb)
χ² / ndf 0.07926 / 3
p0 −14.27 ± 15.17
30
20
10
0
−10
−20
−30
−40
−50
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
45
46
47
48

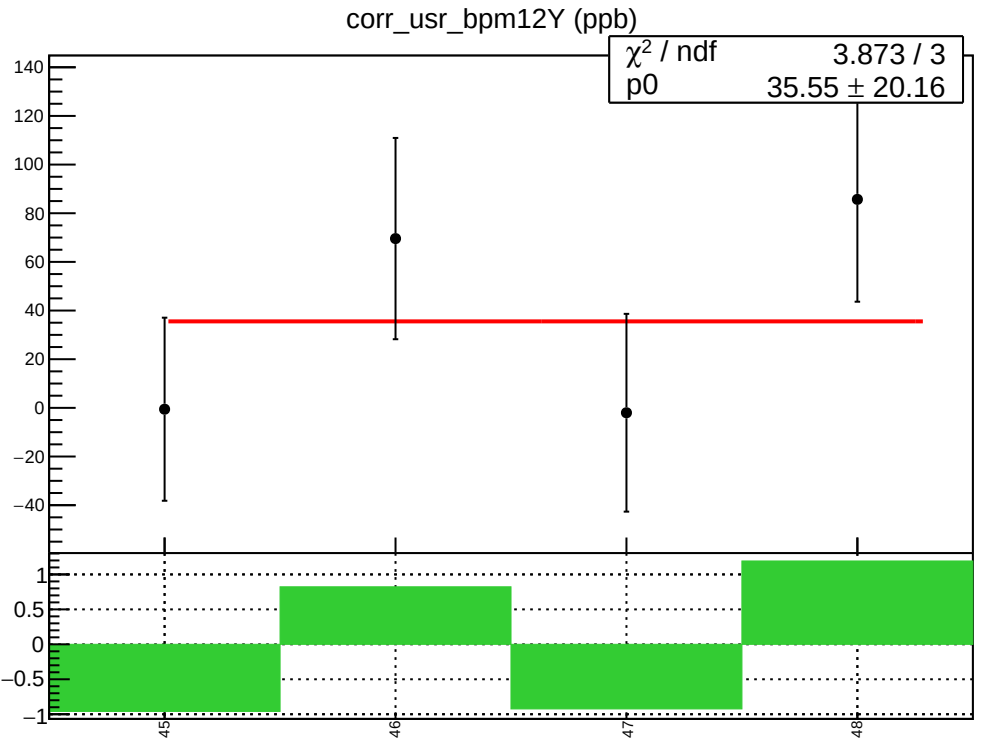

1D pull distribution
Mean 0.000279 ± 0.07038
Std Dev 0.1408 ± 0.04977
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

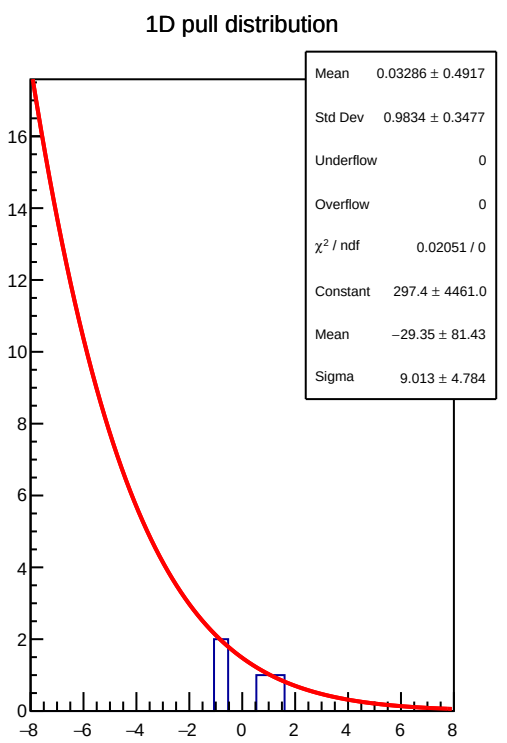

corr_usr_bpm16Y RMS (ppm)
RMS (ppm)
25
24
23
22
21
20
45
46
47
48

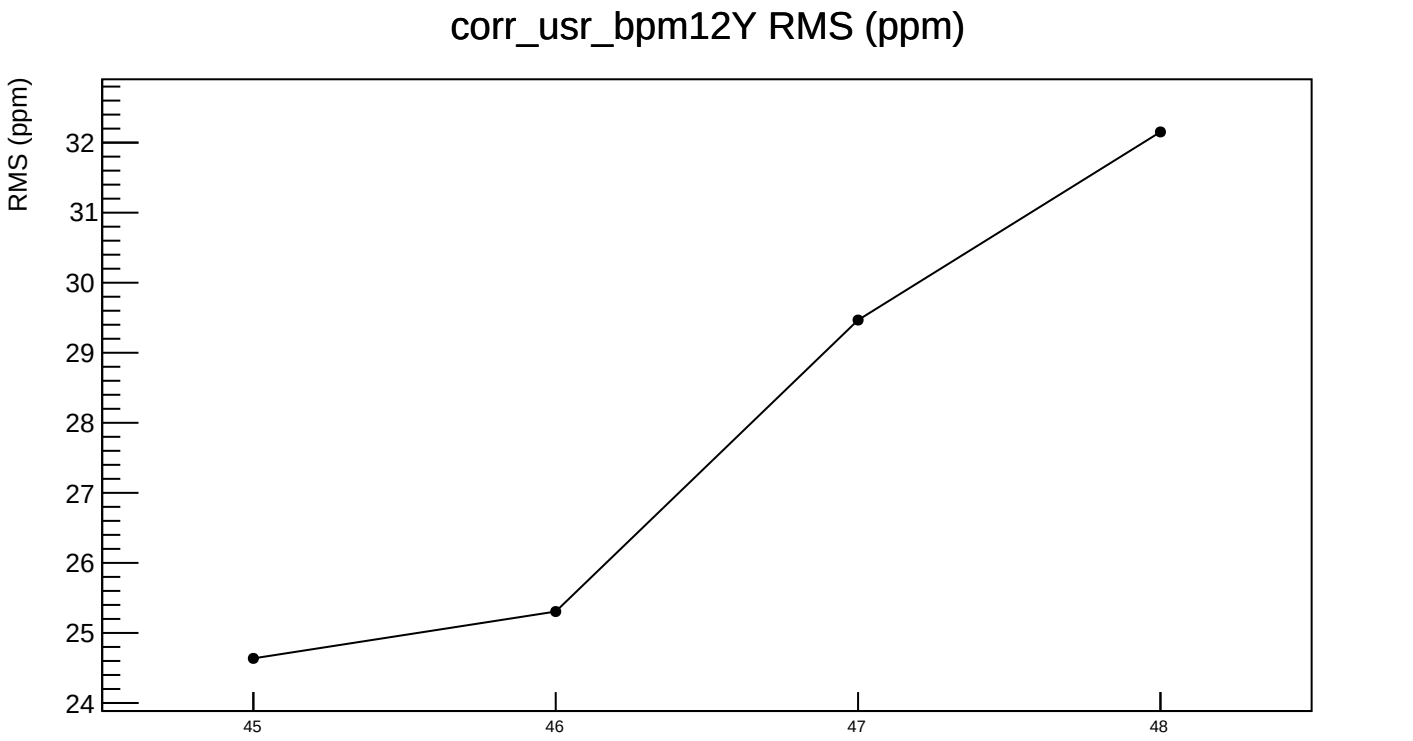

corr_usr_bpm12X (ppb)
χ² / ndf 2.366 / 3
p0 2.318 ± 65.78
200
100
0
−100
−200
−300
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−1.2
45
46
47
48

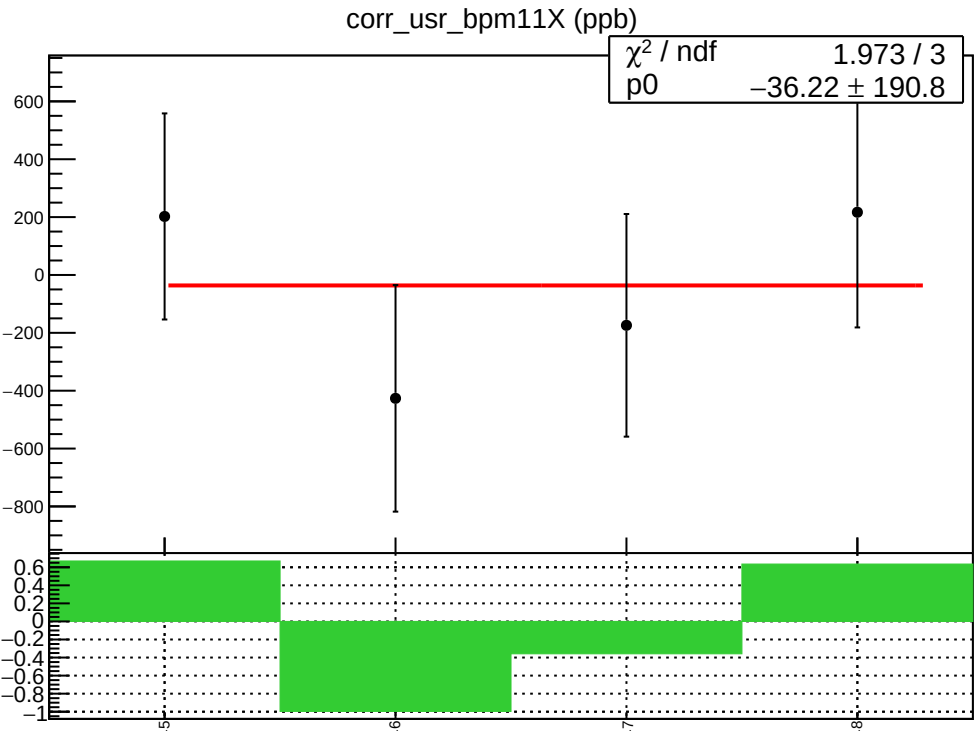

1D pull distribution
Mean −0.0167 ± 0.3845
Std Dev 0.7689 ± 0.2719
Underflow 0
Overflow 0
χ² / ndf 6.612e−05 / 1
Constant 1.005 ± 0.509
Mean −0.2993 ± 39.0187
Sigma 7.881 ± 7.435
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

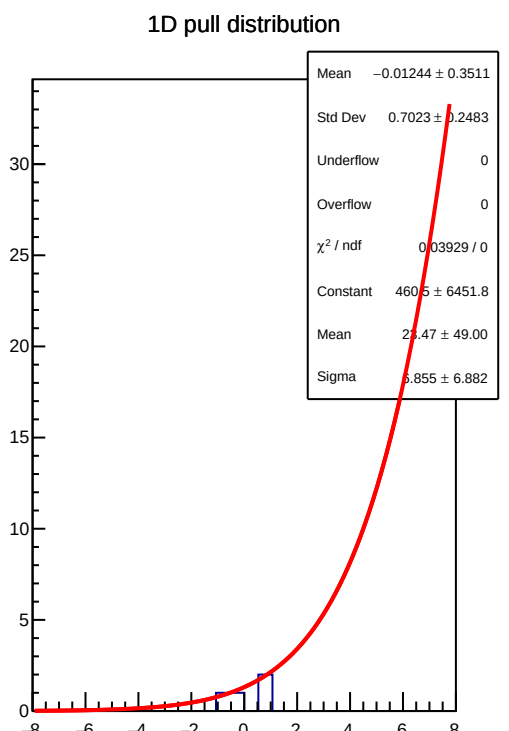

corr_usr_bpm12X RMS (ppm)
RMS (ppm)
70
65
60
55
50
45
45
46
47
48

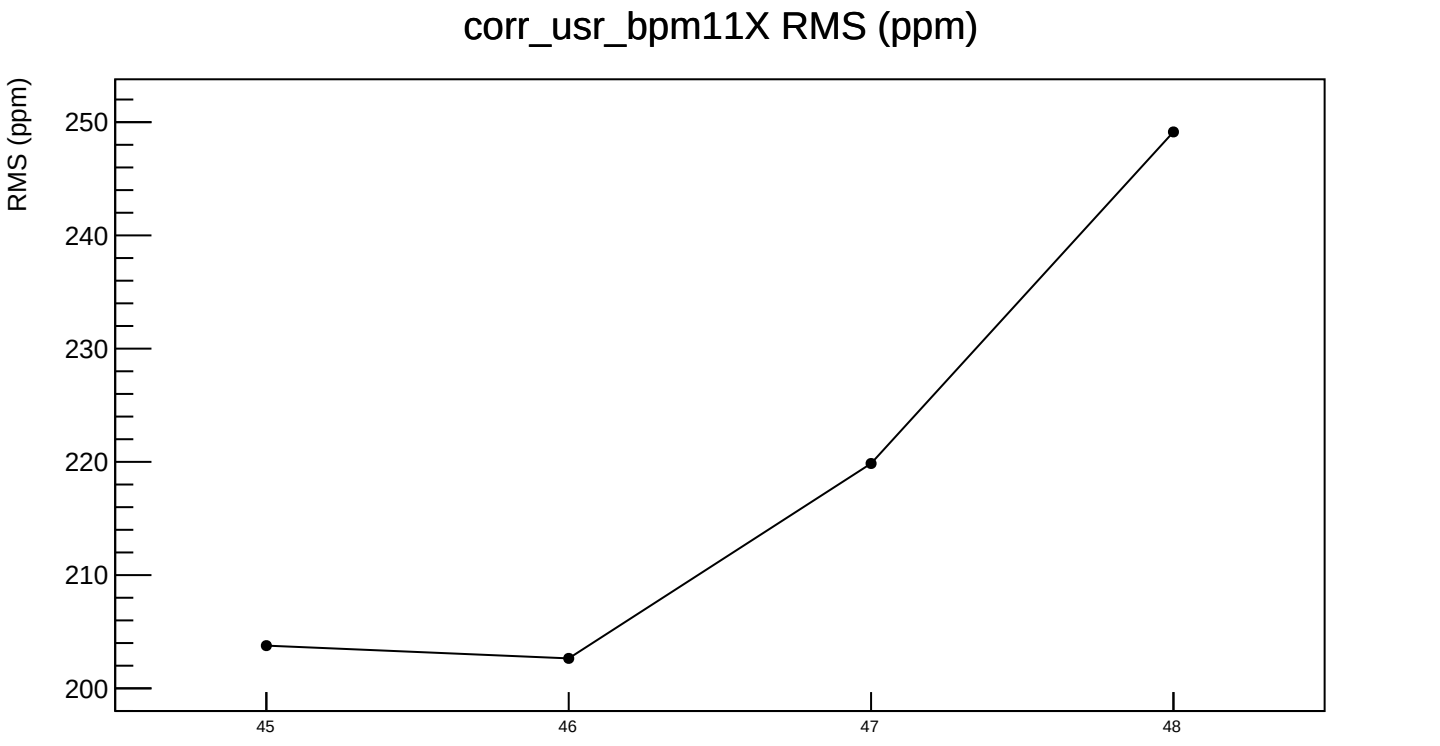

corr_usr_bpm12Y (ppb)
χ² / ndf 3.873 / 3
p0 35.55 ± 20.16
140
120
100
80
60
40
20
0
−20
−40
1
0.5
0
−0.5
−1
45
46
47
48

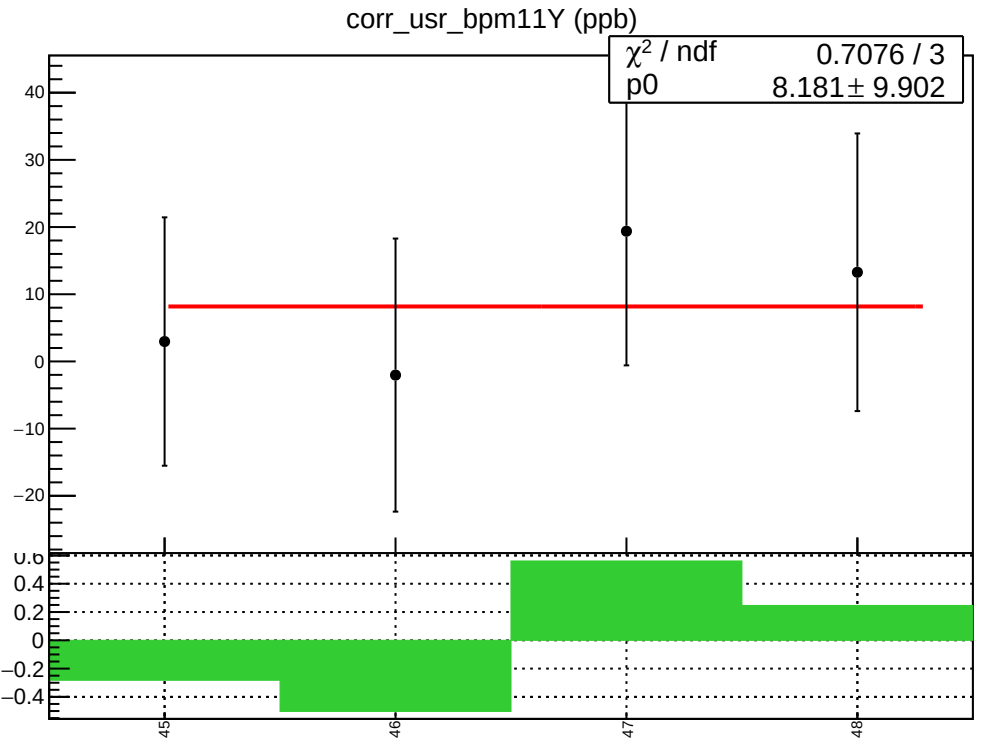

1D pull distribution
Mean 0.03286 ± 0.4917
Std Dev 0.9834 ± 0.3477
Underflow 0
Overflow 0
χ² / ndf 0.02051 / 0
Constant 297.4 ± 4461.0
Mean −29.35 ± 81.43
Sigma 9.013 ± 4.784
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

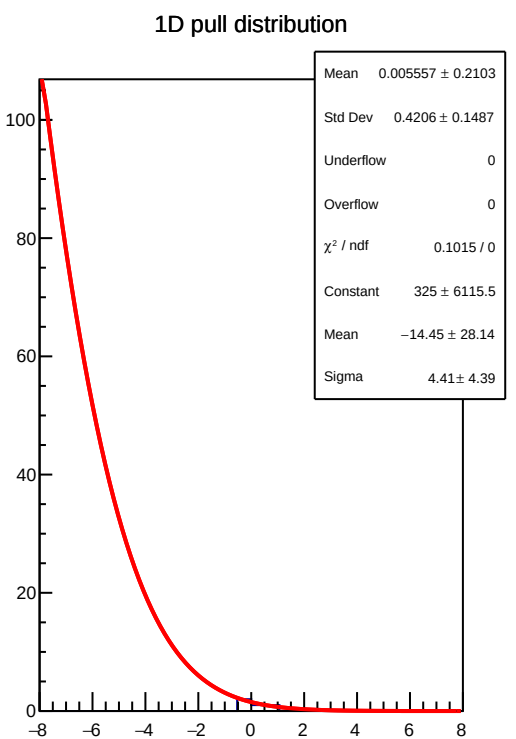

corr_usr_bpm12Y RMS (ppm)
RMS (ppm)
32
31
30
29
28
27
26
25
24
45
46
47
48

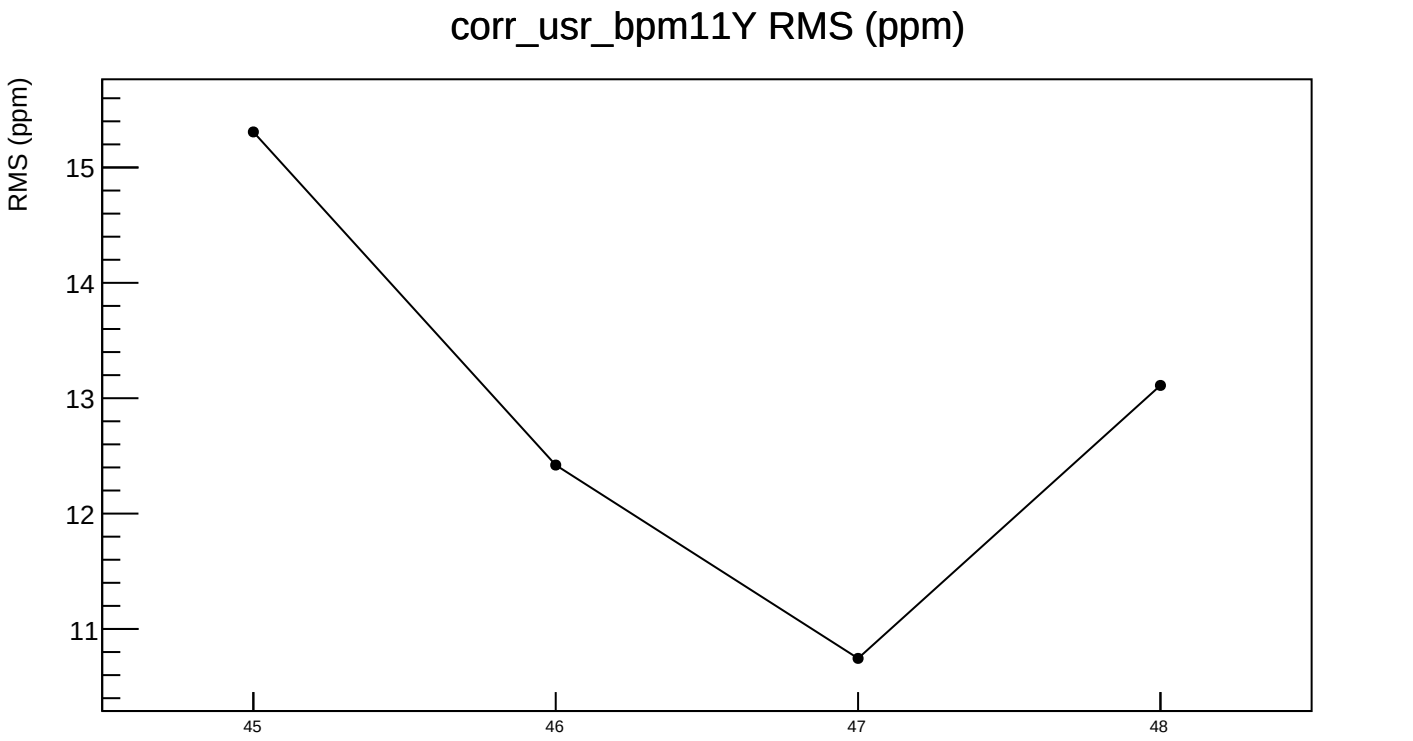

corr_usr_bpm11X (ppb)
χ² / ndf 1.973 / 3
p0 −36.22 ± 190.8
600
400
200
0
−200
−400
−600
−800
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
45
46
47
48


1D pull distribution
Mean −0.01244 ± 0.3511
Std Dev 0.7023 ± 0.2483
Underflow 0
Overflow 0
χ² / ndf 0.03929 / 0
Constant 460.5 ± 6451.8
Mean 23.47 ± 49.00
Sigma 6.855 ± 6.882
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8


corr_usr_bpm11X RMS (ppm)
RMS (ppm)
250
240
230
220
210
200
45
46
47
48


corr_usr_bpm11Y (ppb)
χ² / ndf 0.7076 / 3
p0 8.181 ± 9.902
40
30
20
10
0
−10
−20
0.6
0.4
0.2
0
−0.2
−0.4
45
46
47
48


1D pull distribution
Mean 0.005557 ± 0.2103
Std Dev 0.4206 ± 0.1487
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 325 ± 6115.5
Mean −14.45 ± 28.14
Sigma 4.41 ± 4.39
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8


corr_usr_bpm11Y RMS (ppm)
RMS (ppm)
15
14
13
12
11
45
46
47
48