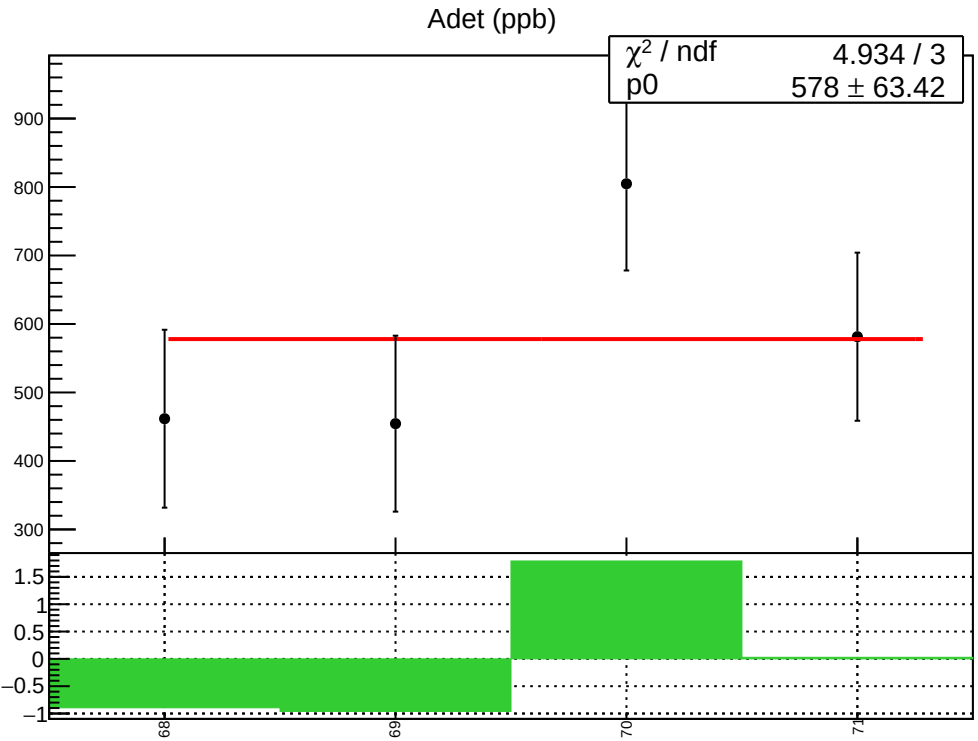
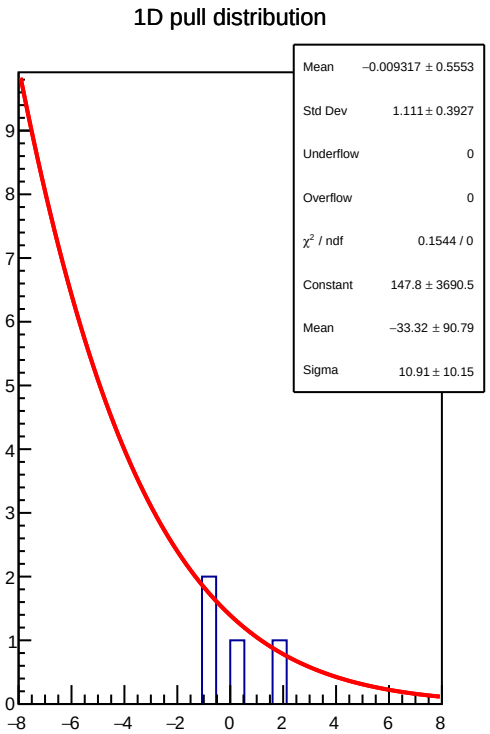
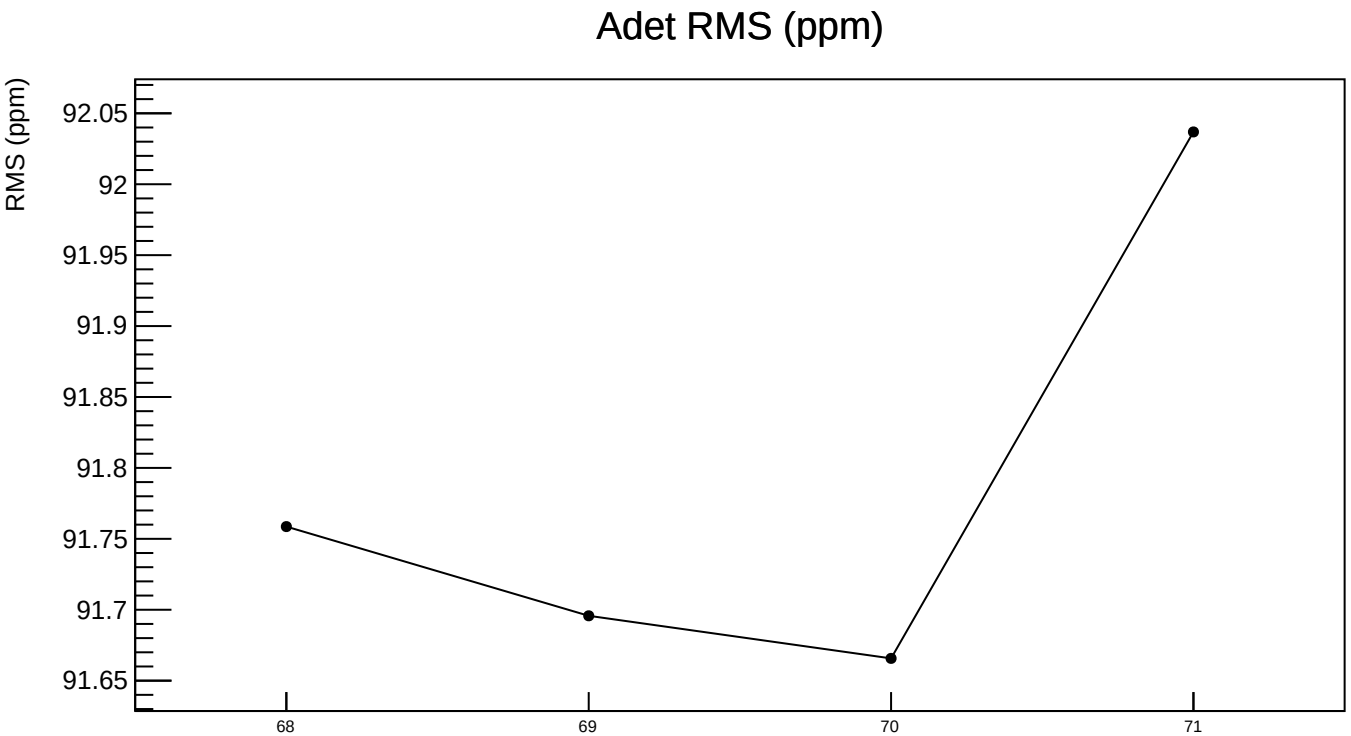
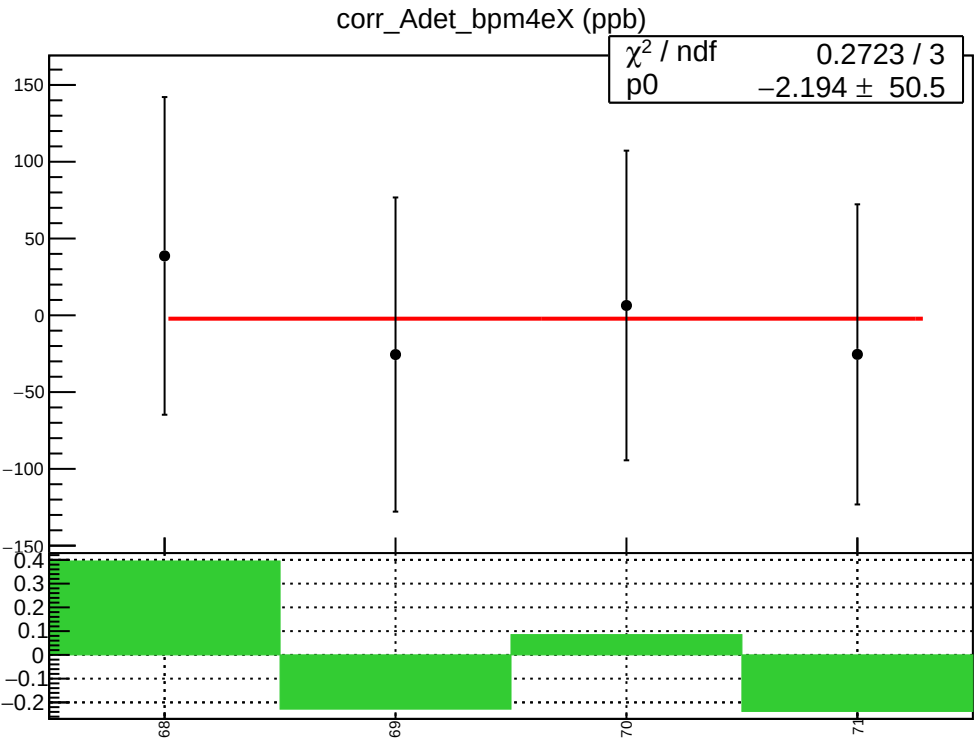
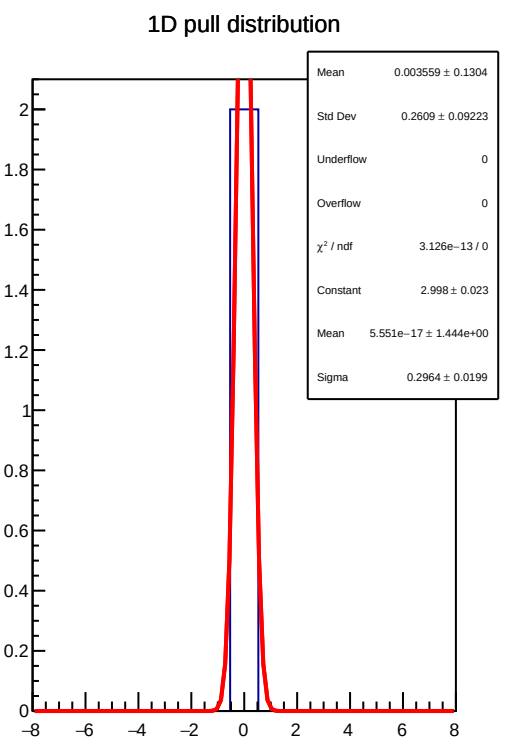
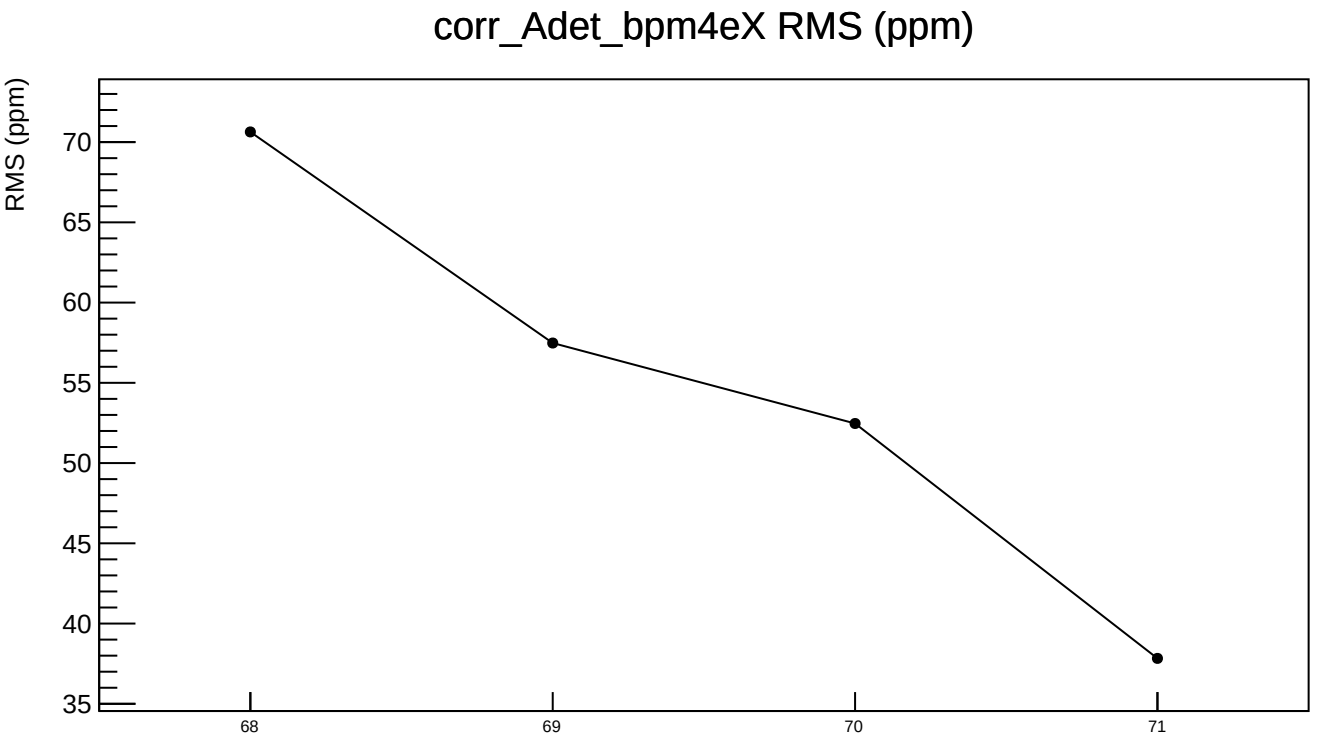

Adet (ppb)
χ² / ndf 4.934 / 3
p0 578 ± 63.42
900
800
700
600
500
400
300
1.5
1
0.5
0
−0.5
−1
68
69
70
71

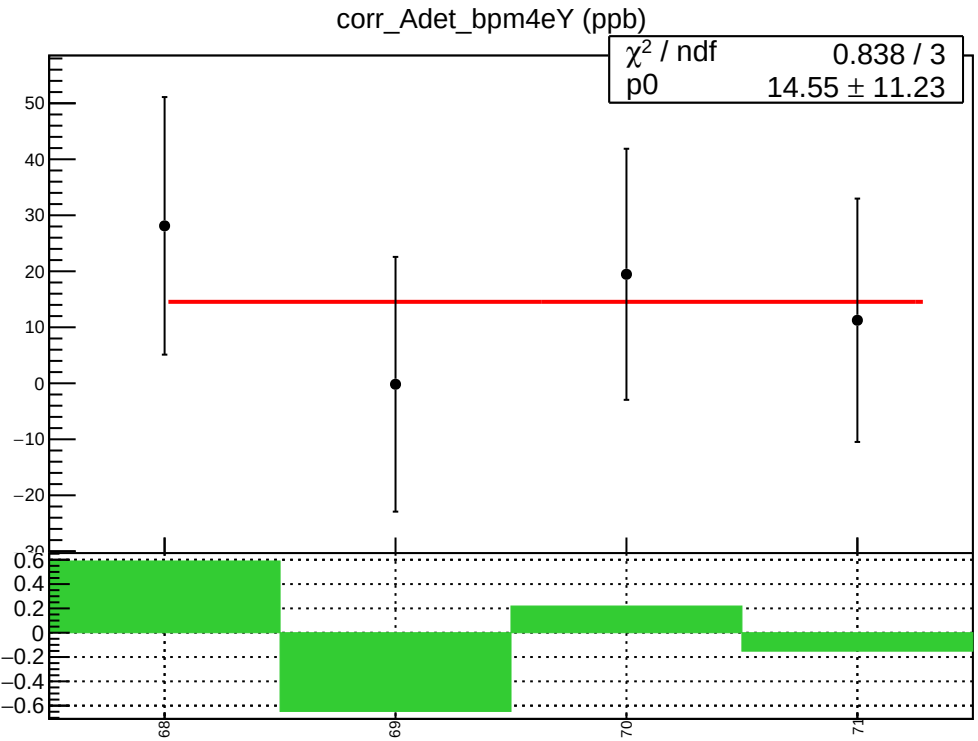

1D pull distribution
Mean −0.009317 ± 0.5553
Std Dev 1.111 ± 0.3927
Underflow 0
Overflow 0
χ² / ndf 0.1544 / 0
Constant 147.8 ± 3690.5
Mean −33.32 ± 90.79
Sigma 10.91 ± 10.15
9
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

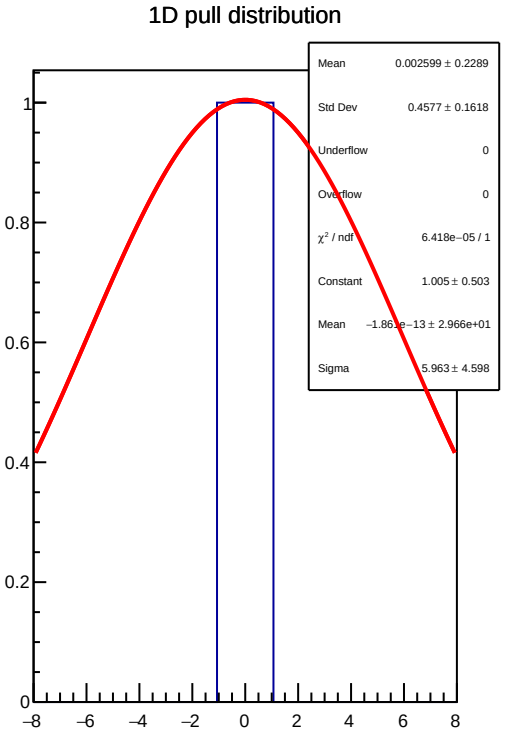

Adet RMS (ppm)
RMS (ppm)
92.05
92
91.95
91.9
91.85
91.8
91.75
91.7
91.65
68
69
70
71

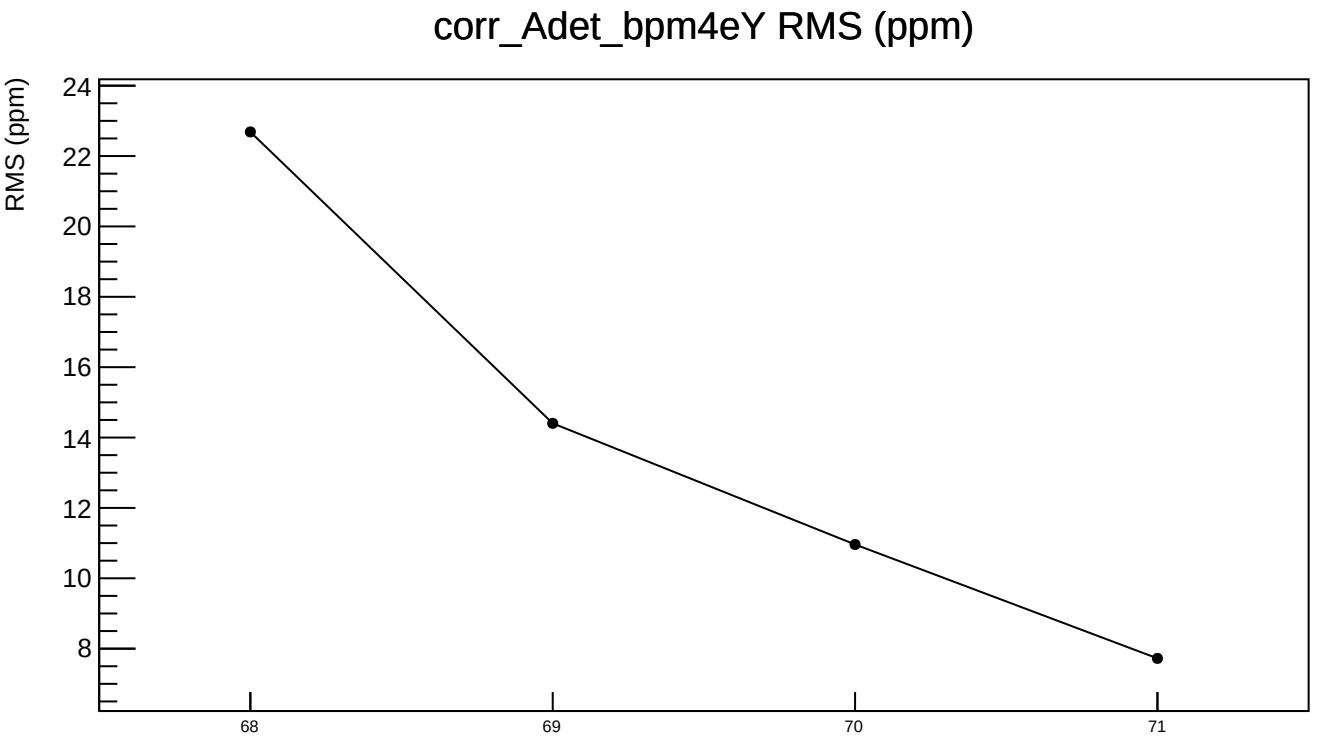

corr_Adet_bpm4eX (ppb)
χ² / ndf 0.2723 / 3
p0 −2.194 ± 50.5
150
100
50
0
−50
−100
−150
0.4
0.3
0.2
0.1
0
−0.1
−0.2
68
69
70
71

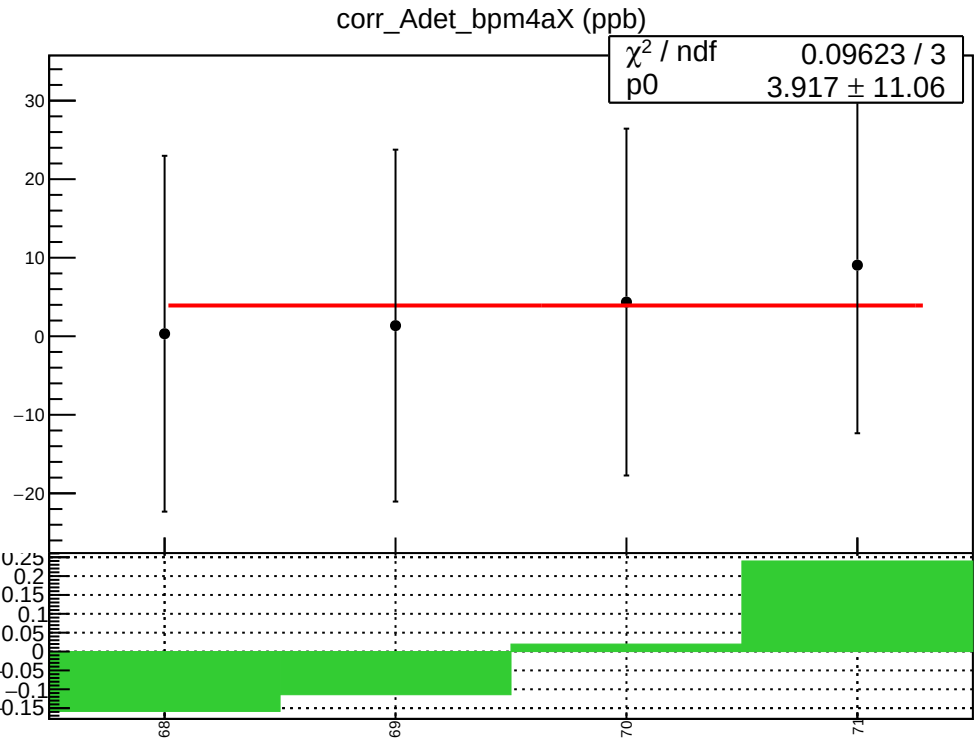

1D pull distribution
Mean 0.003559 ± 0.1304
Std Dev 0.2609 ± 0.09223
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

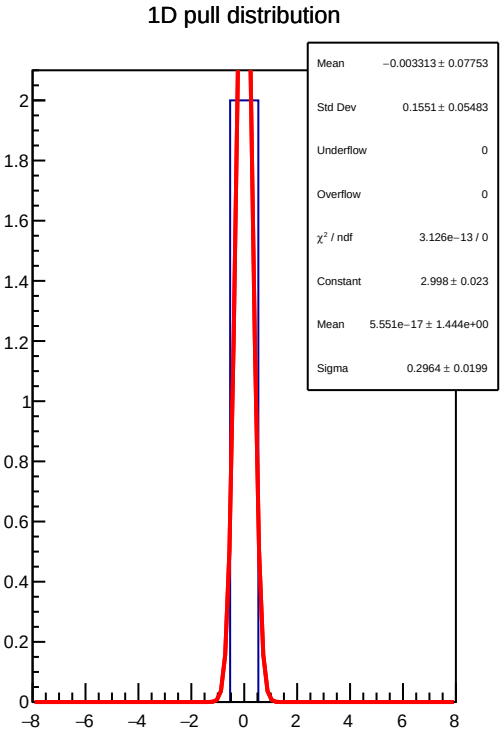

corr_Adet_bpm4eX RMS (ppm)
RMS (ppm)
70
65
60
55
50
45
40
35
68
69
70
71

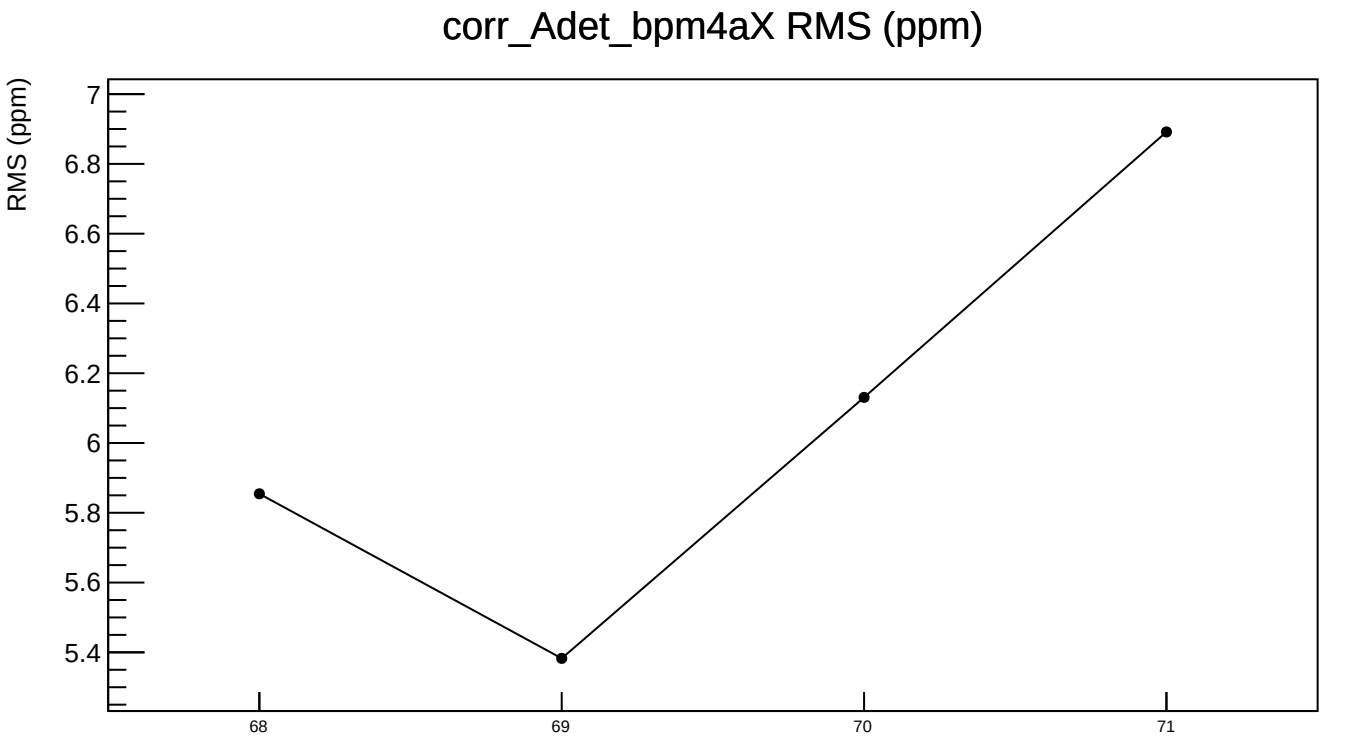

corr_Adet_bpm4eY (ppb)
χ² / ndf 0.838 / 3
p0 14.55 ± 11.23
50
40
30
20
10
0
−10
−20
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71

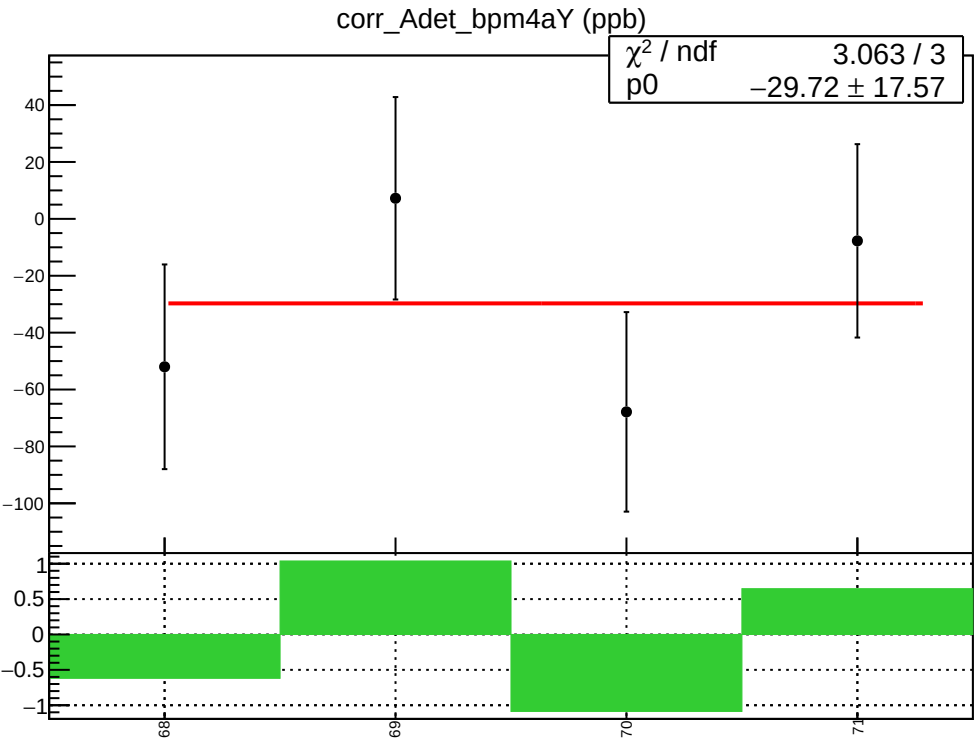

1D pull distribution
Mean 0.002599 ± 0.2289
Std Dev 0.4577 ± 0.1618
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

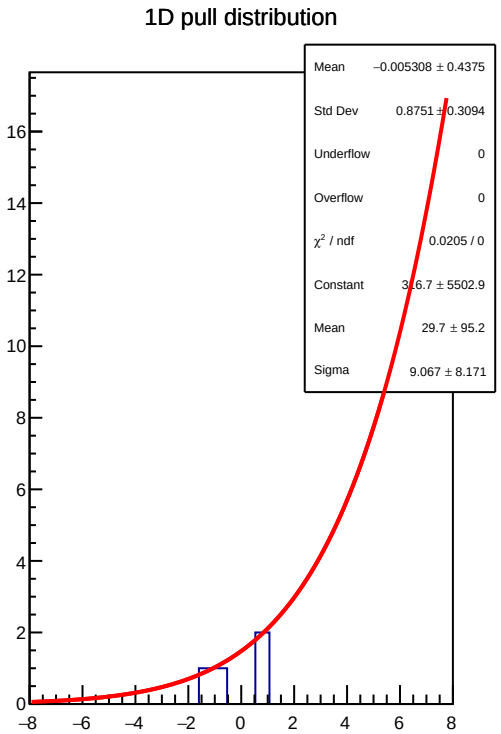

corr_Adet_bpm4eY RMS (ppm)
RMS (ppm)
24
22
20
18
16
14
12
10
8
68
69
70
71

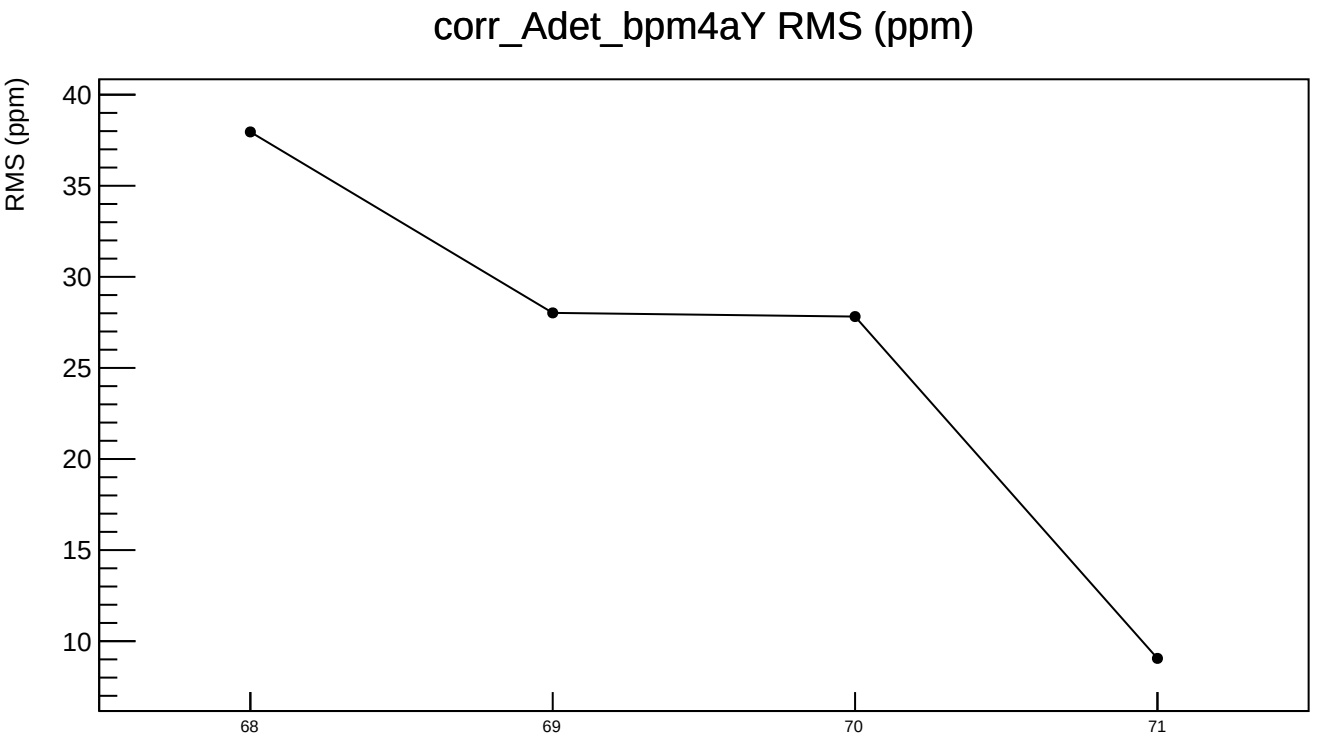

corr_Adet_bpm4aX (ppb)
χ² / ndf 0.09623 / 3
p0 3.917 ± 11.06
30
20
10
0
−10
−20
0.25
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
68
69
70
71

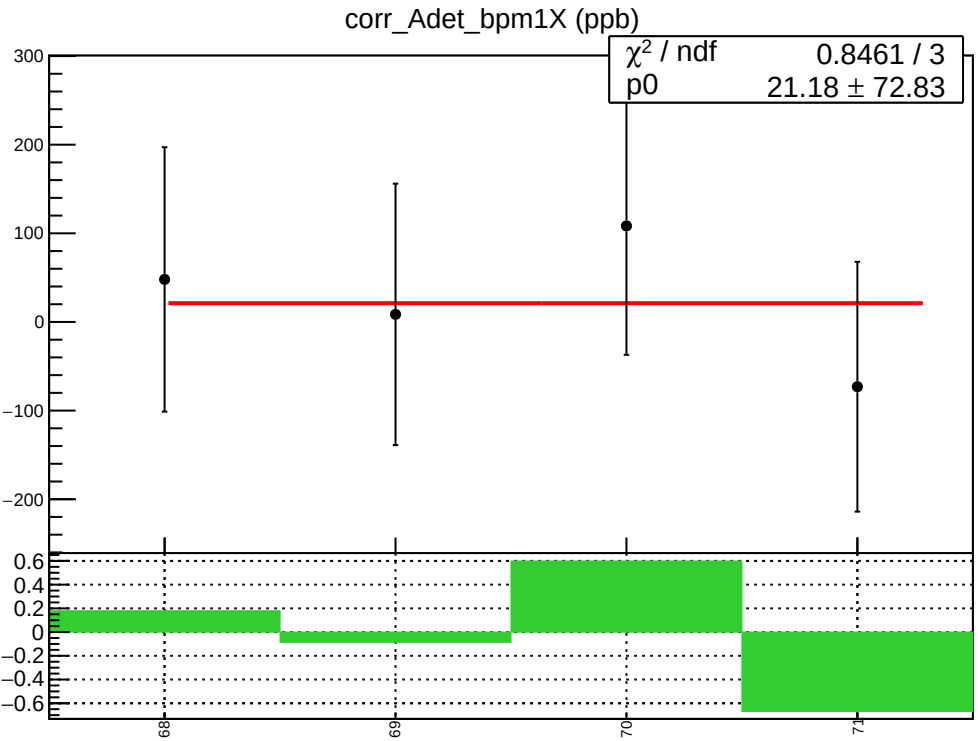

1D pull distribution
Mean −0.003313 ± 0.07753
Std Dev 0.1551 ± 0.05483
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

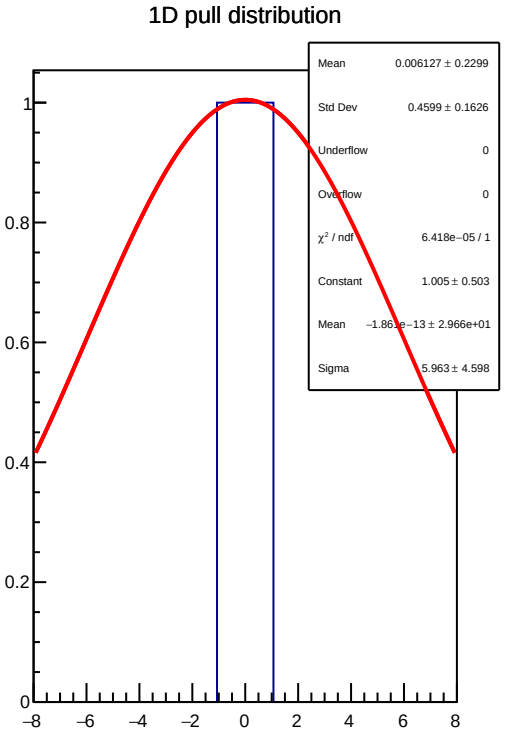

corr_Adet_bpm4aX RMS (ppm)
RMS (ppm)
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
68
69
70
71


corr_Adet_bpm4aY (ppb)
χ² / ndf 3.063 / 3
p0 −29.72 ± 17.57
40
20
0
−20
−40
−60
−80
−100
1
0.5
0
−0.5
−1
68
69
70
71

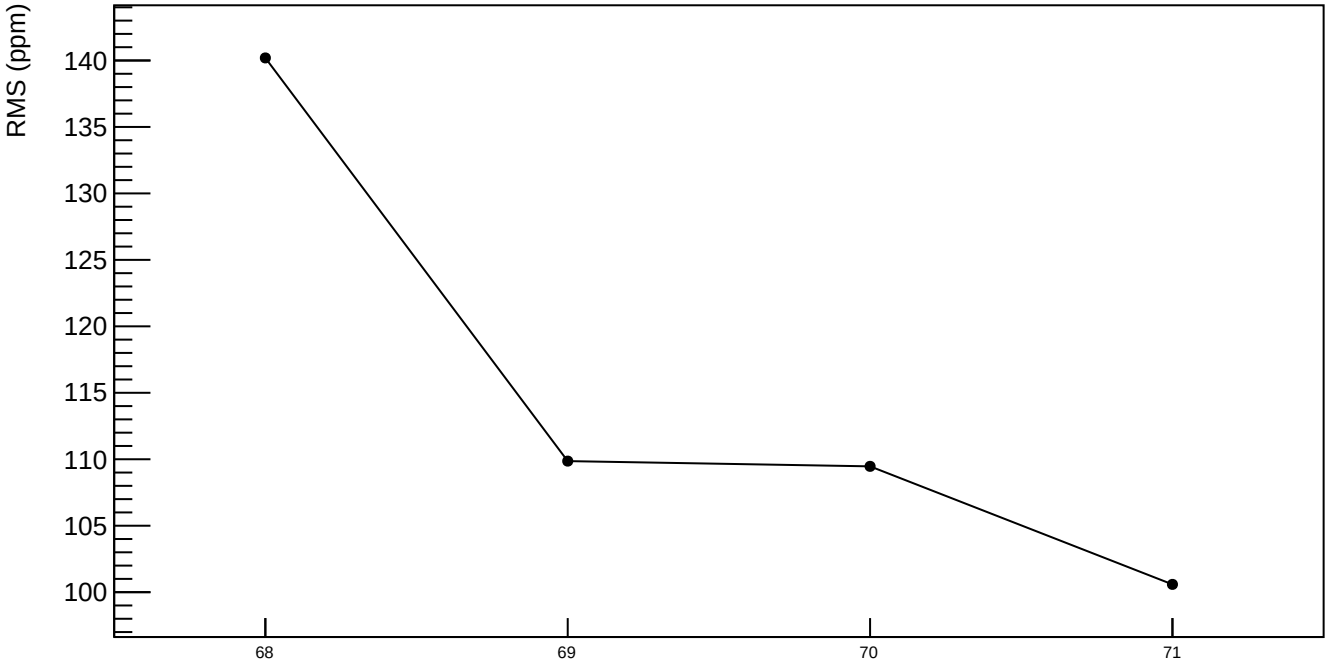

1D pull distribution
Mean −0.005308 ± 0.4375
Std Dev 0.8751 ± 0.3094
Underflow 0
Overflow 0
χ² / ndf 0.0205 / 0
Constant 316.7 ± 5502.9
Mean 29.7 ± 95.2
Sigma 9.067 ± 8.171
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

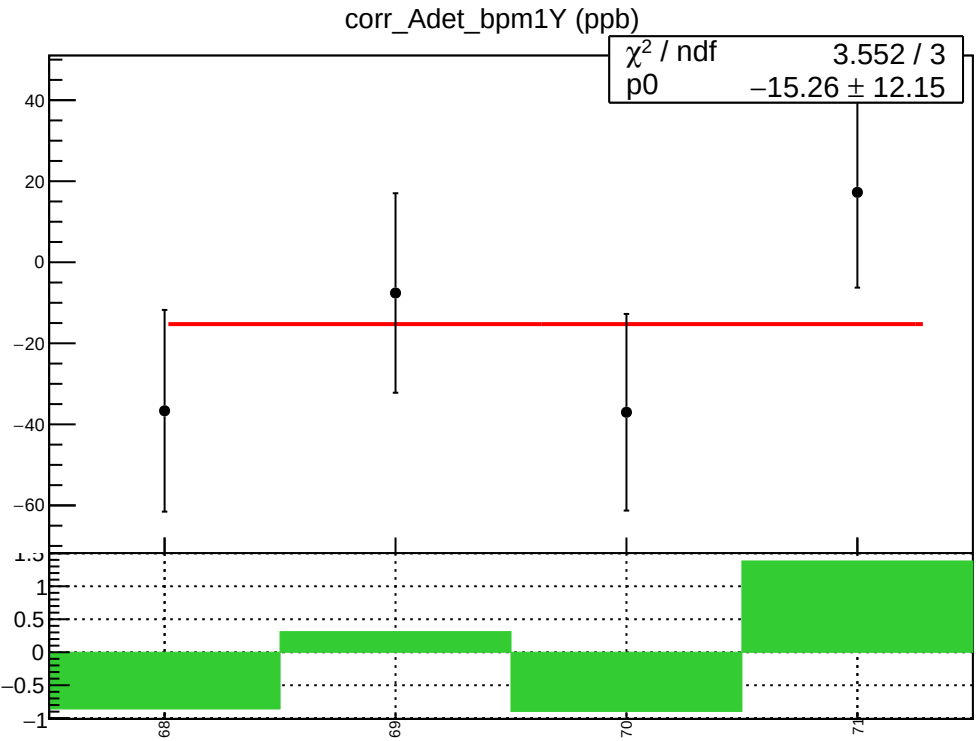

corr_Adet_bpm4aY RMS (ppm)
RMS (ppm)
40
35
30
25
20
15
10
68
69
70
71

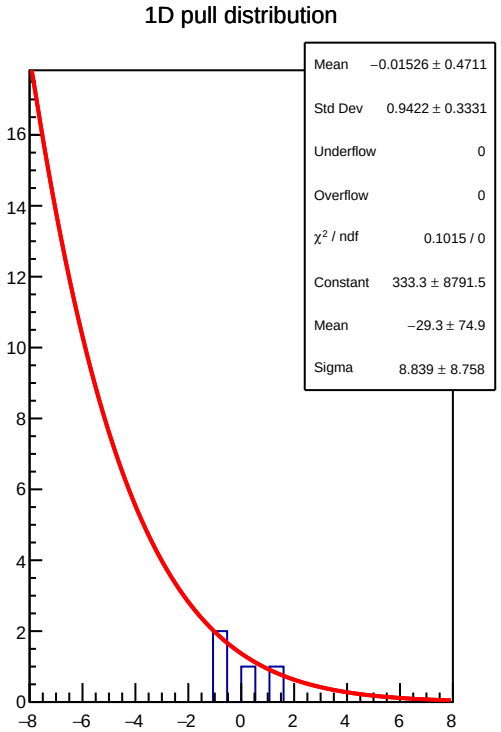

corr_Adet_bpm1X (ppb)
χ² / ndf 0.8461 / 3
p0 21.18 ± 72.83
300
200
100
0
−100
−200
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71

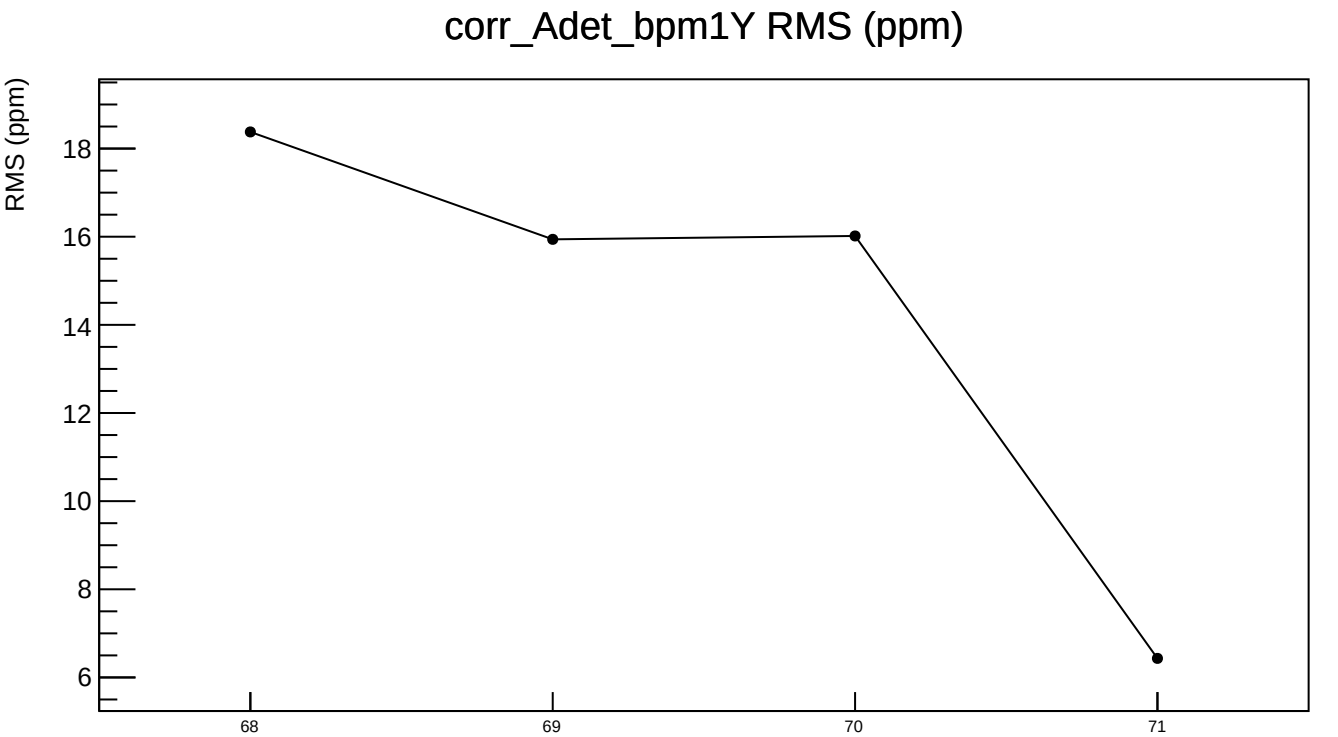

1D pull distribution
Mean 0.006127 ± 0.2299
Std Dev 0.4599 ± 0.1626
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

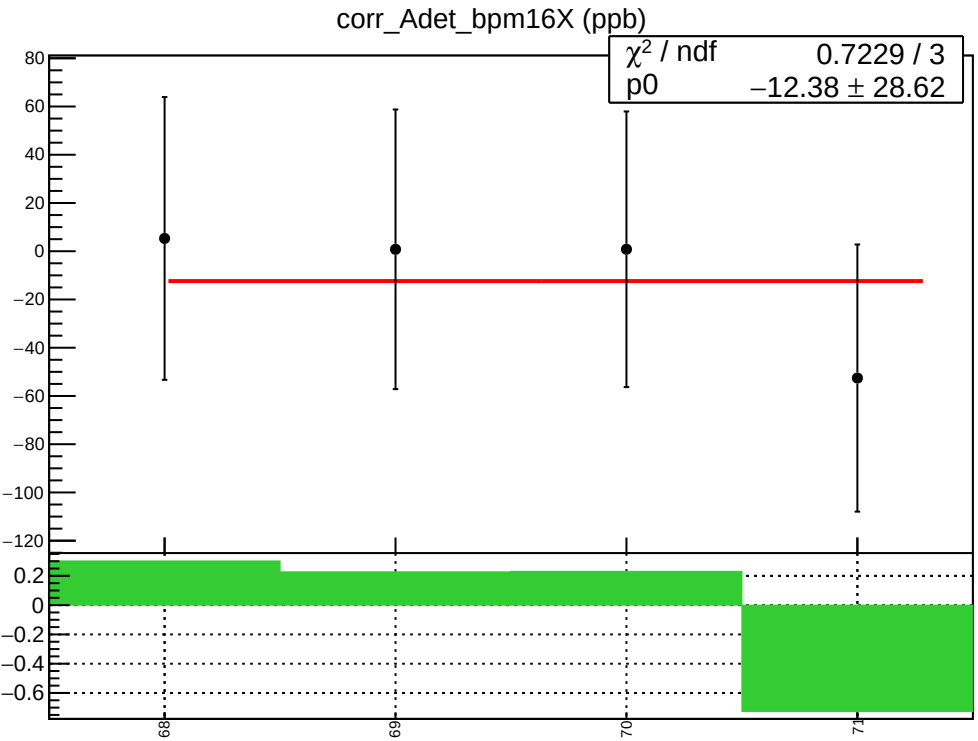
corr_Adet_bpm1X RMS (ppm)

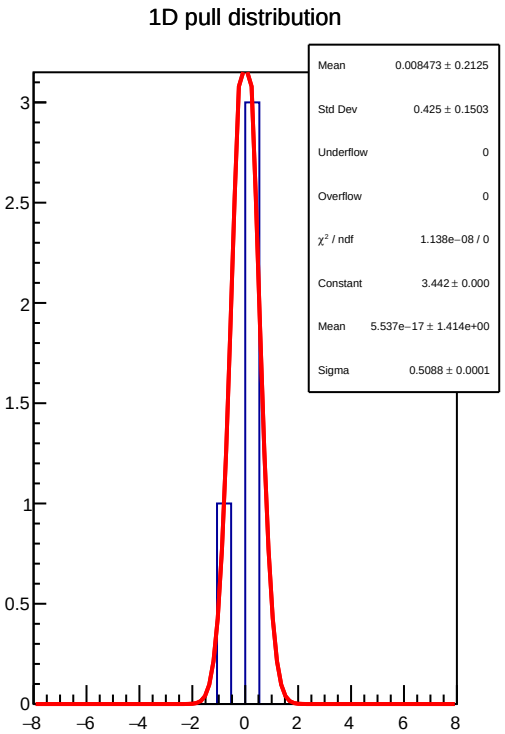



corr_Adet_bpm1Y (ppb)
χ² / ndf 3.552 / 3
p0 −15.26 ± 12.15
40
20
0
−20
−40
−60
1.5
1
0.5
0
−0.5
−1
68
69
70
71

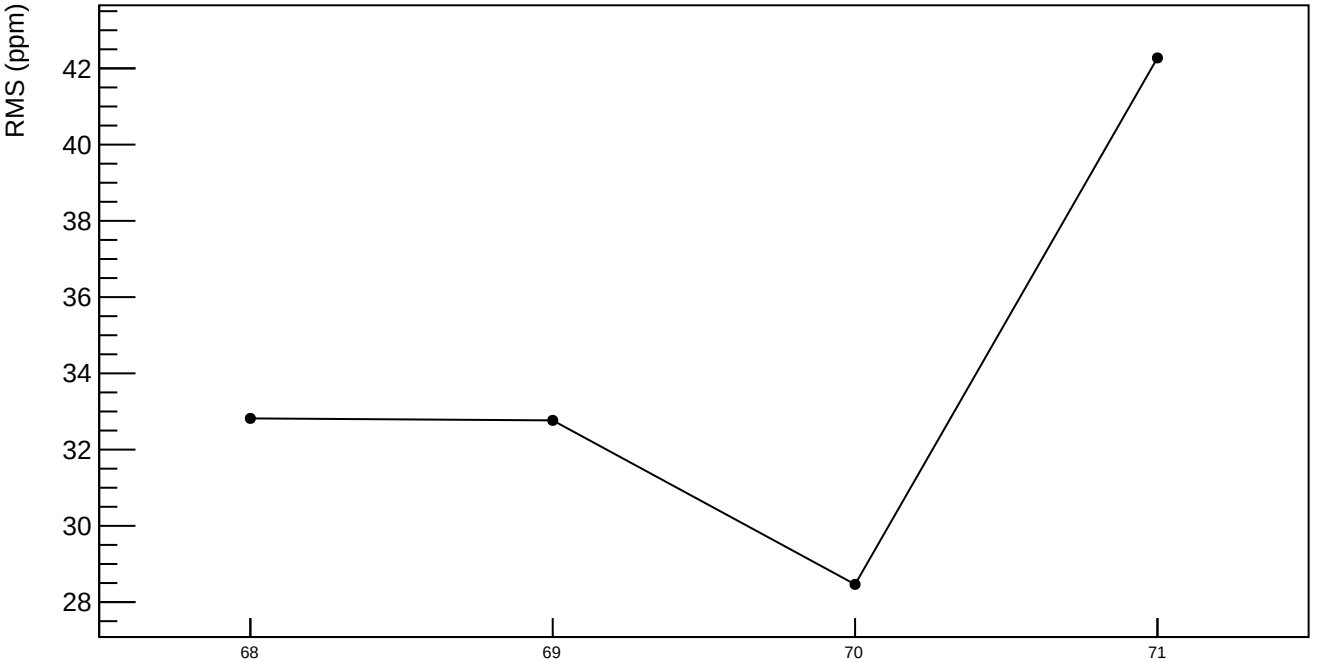

1D pull distribution
Mean −0.01526 ± 0.4711
Std Dev 0.9422 ± 0.3331
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

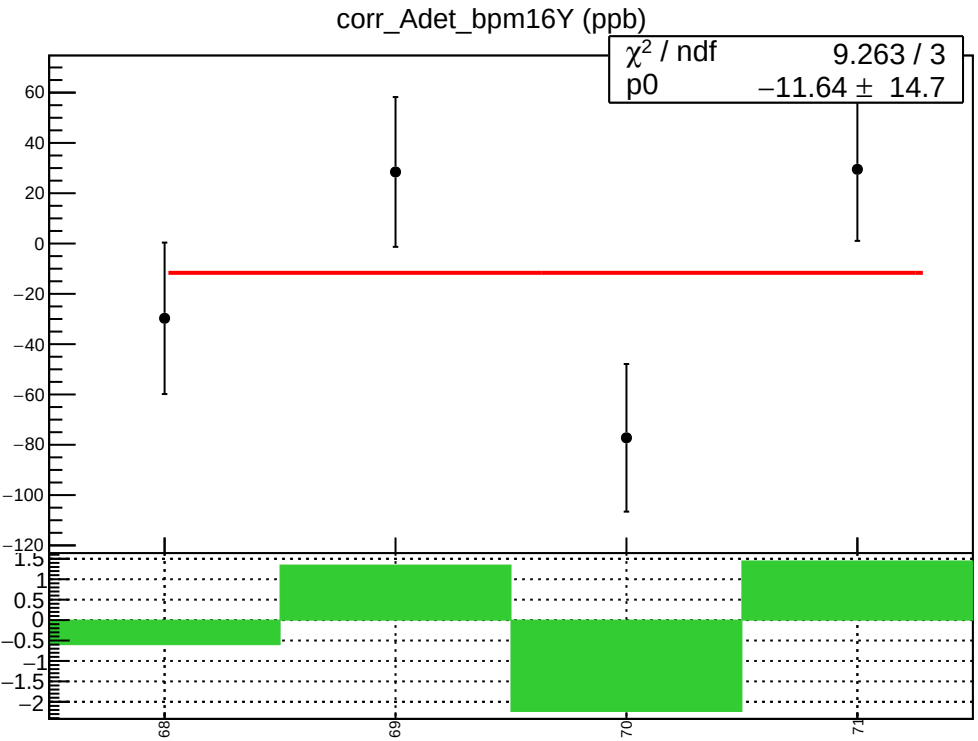

corr_Adet_bpm1Y RMS (ppm)
RMS (ppm)
18
16
14
12
10
8
6
68
69
70
71

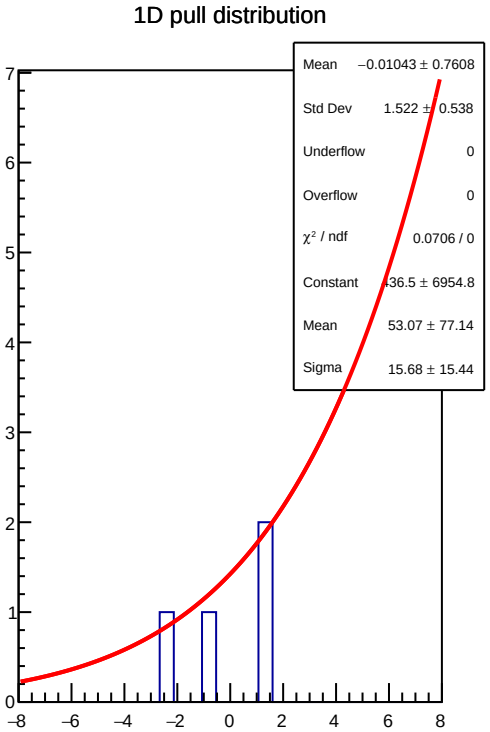

corr_Adet_bpm16X (ppb)
χ² / ndf 0.7229 / 3
p0 −12.38 ± 28.62
80
60
40
20
0
−20
−40
−60
−80
−100
−120
0.2
0
−0.2
−0.4
−0.6
68
69
70
71

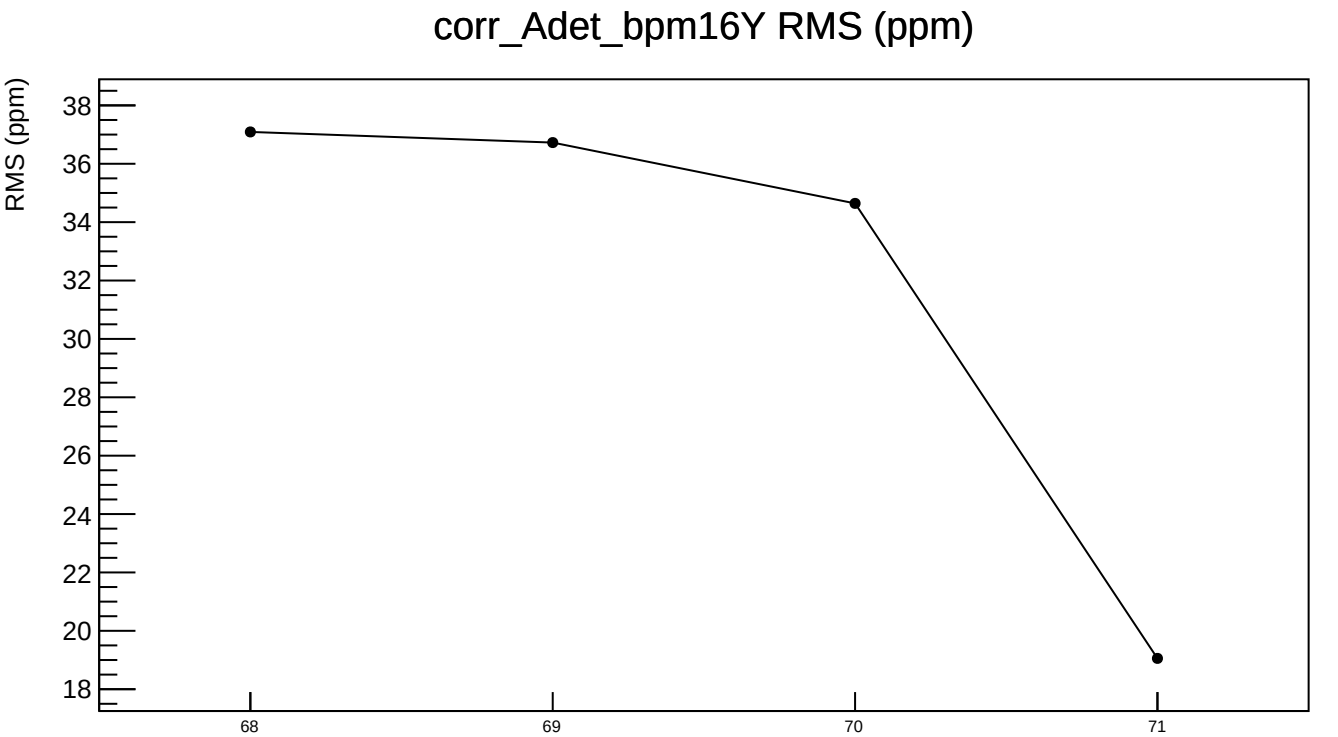

1D pull distribution
Mean 0.008473 ± 0.2125
Std Dev 0.425 ± 0.1503
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.537e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0001
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

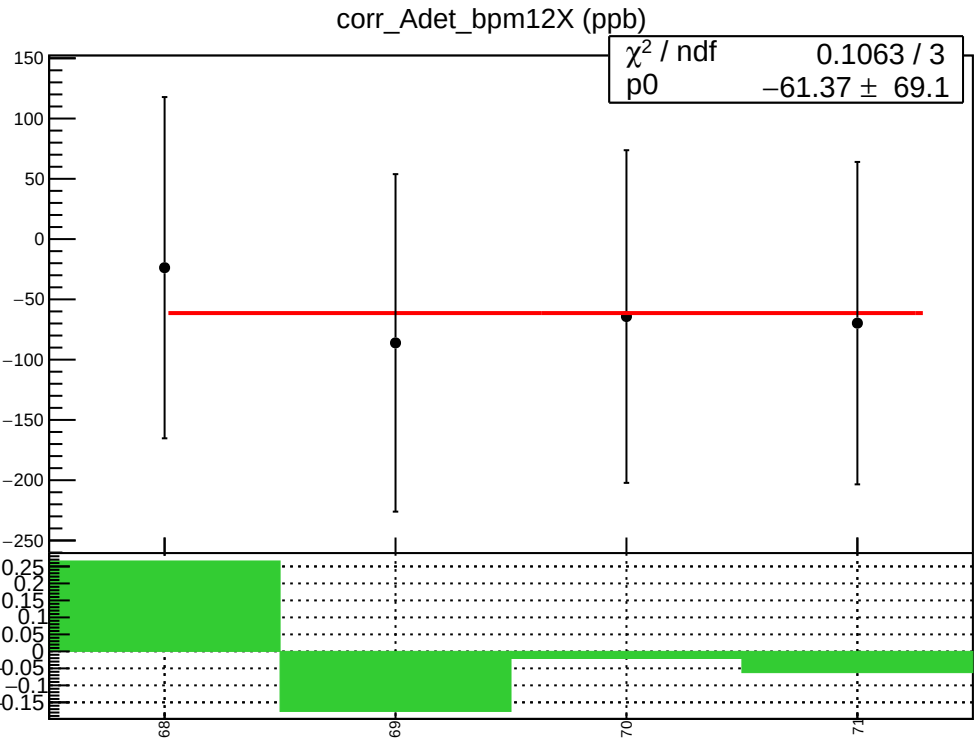
corr_Adet_bpm16X RMS (ppm)

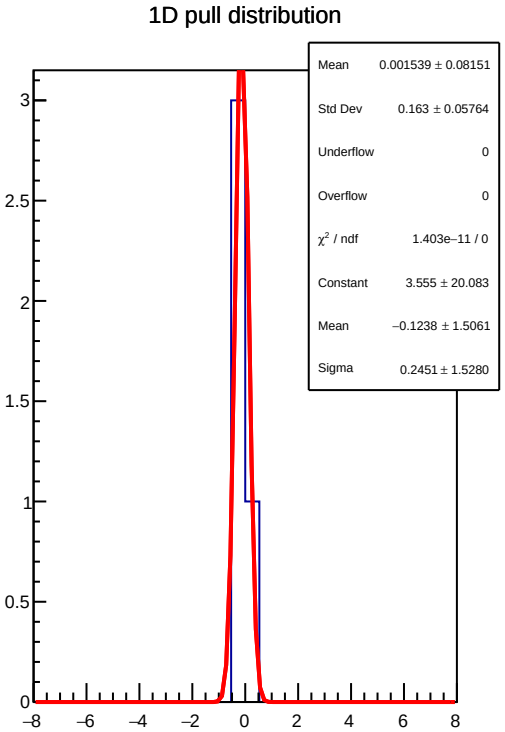



corr_Adet_bpm16Y (ppb)
χ² / ndf 9.263 / 3
p0 −11.64 ± 14.7
60
40
20
0
−20
−40
−60
−80
−100
−120
1.5
1
0.5
0
−0.5
−1
−1.5
−2
68
69
70
71

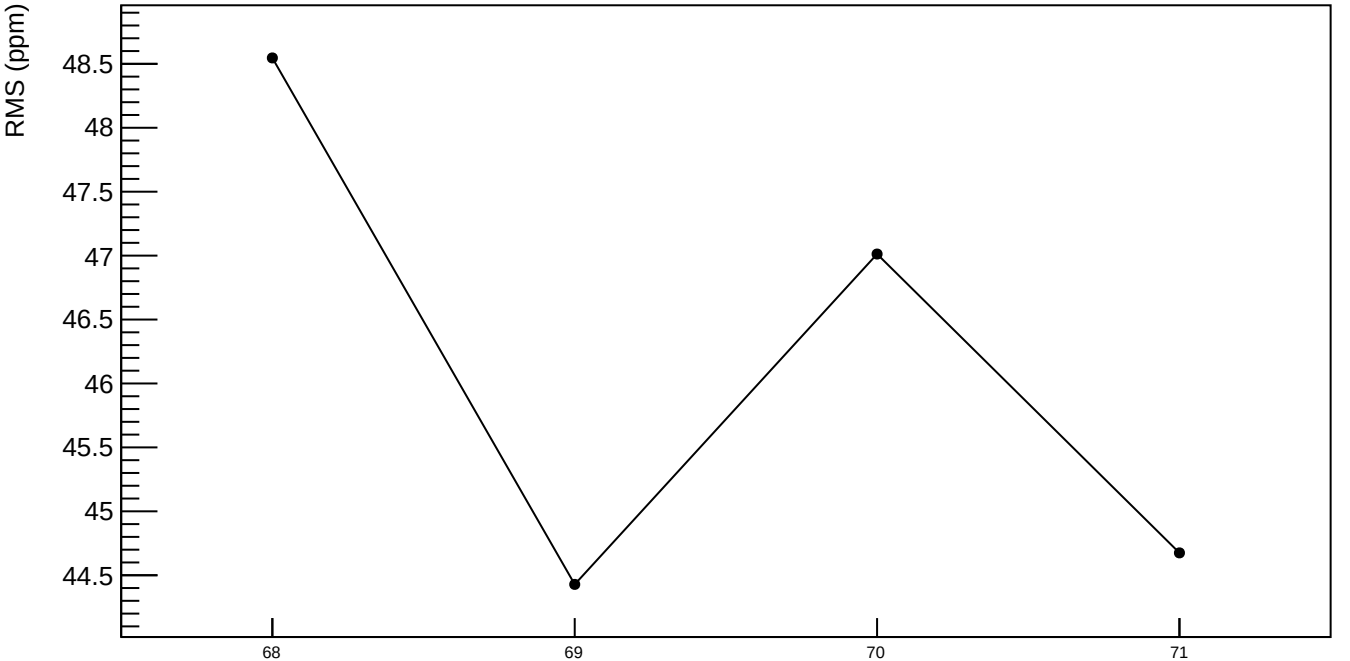

1D pull distribution
Mean −0.01043 ± 0.7608
Std Dev 1.522 ± 0.538
Underflow 0
Overflow 0
χ² / ndf 0.0706 / 0
Constant 436.5 ± 6954.8
Mean 53.07 ± 77.14
Sigma 15.68 ± 15.44
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

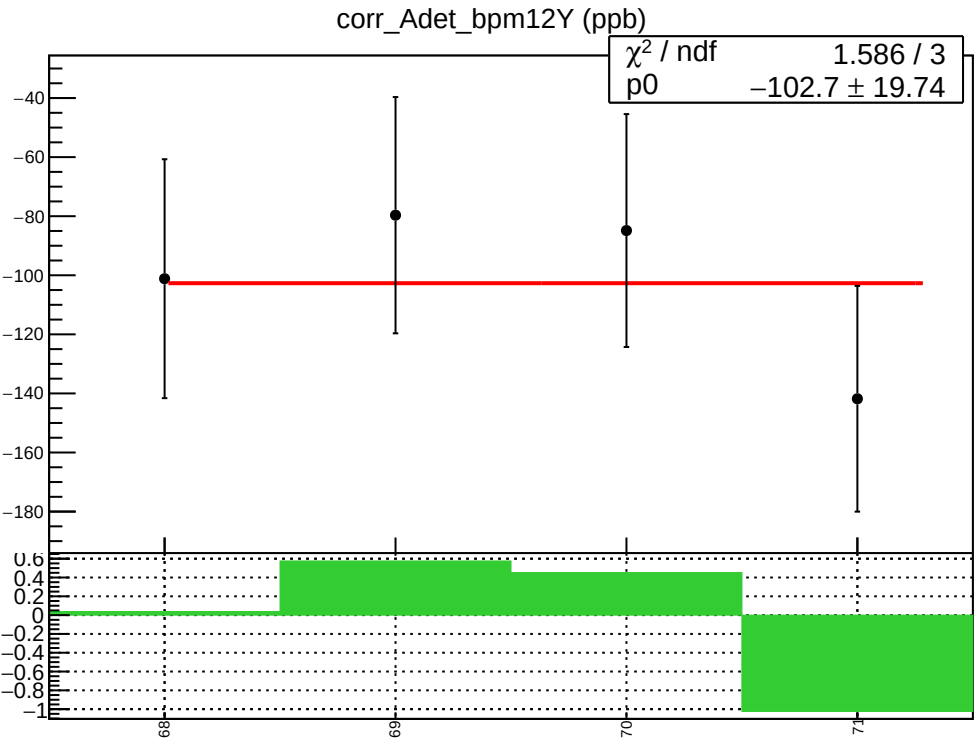

corr_Adet_bpm16Y RMS (ppm)
RMS (ppm)
38
36
34
32
30
28
26
24
22
20
18
68
69
70
71

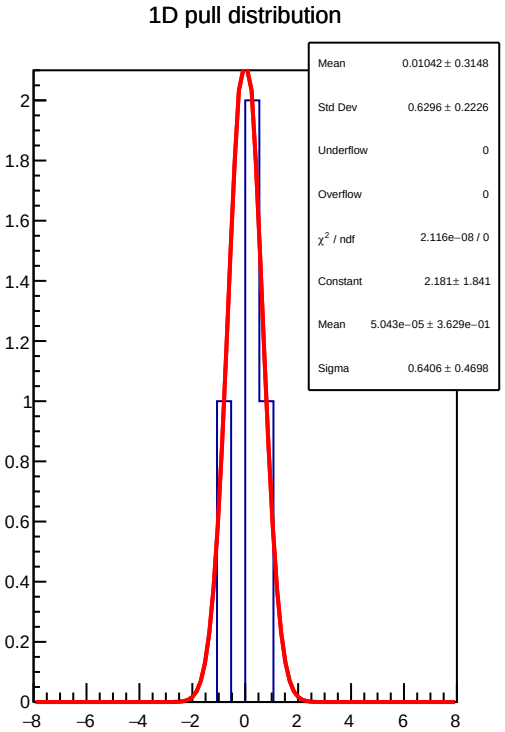

corr_Adet_bpm12X (ppb)
χ² / ndf 0.1063 / 3
p0 −61.37 ± 69.1
150
100
50
0
−50
−100
−150
−200
−250
0.25
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
68
69
70
71

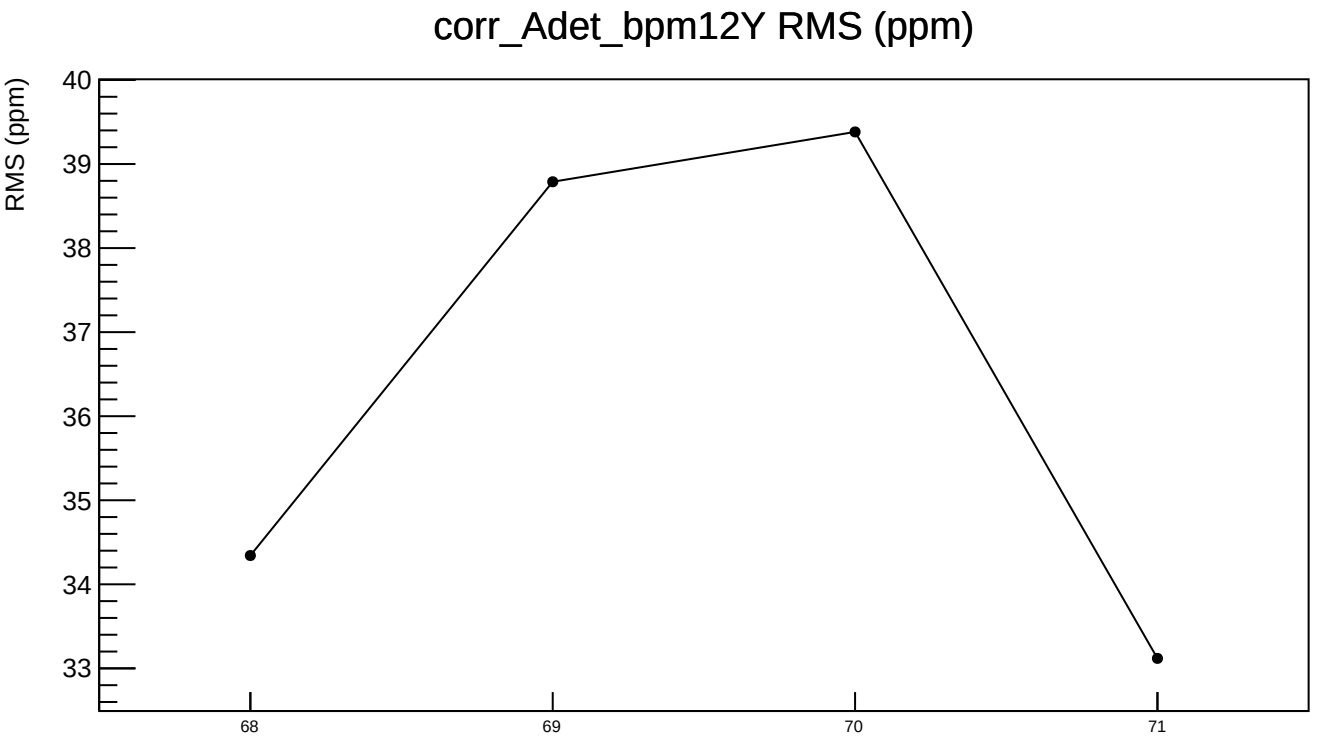

1D pull distribution
Mean 0.001539 ± 0.08151
Std Dev 0.163 ± 0.05764
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean −0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

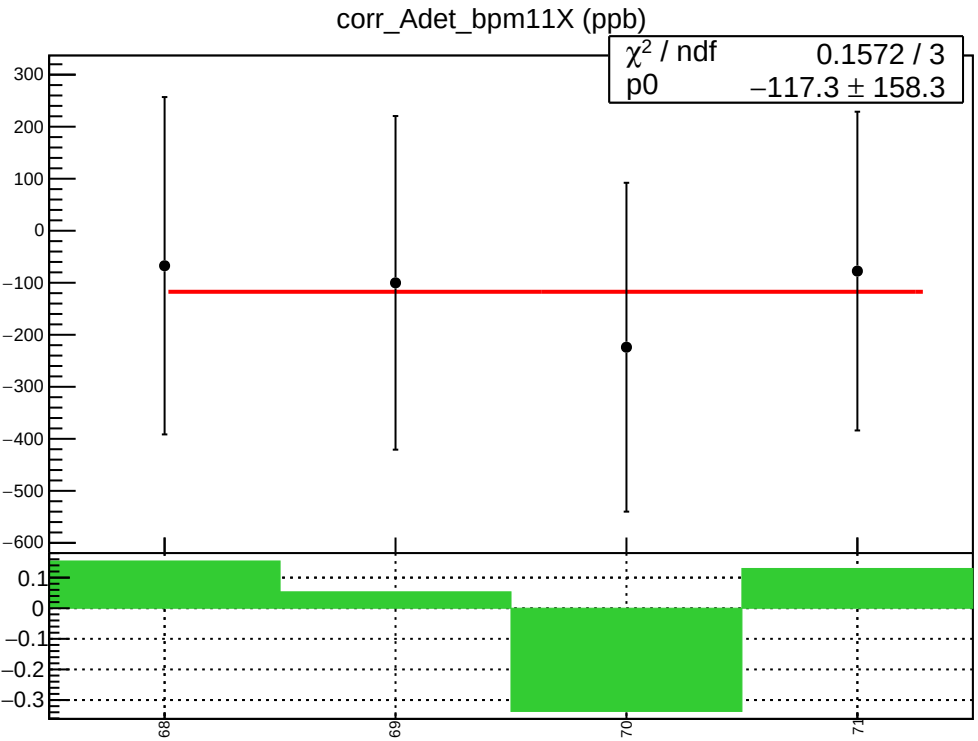
corr_Adet_bpm12X RMS (ppm)

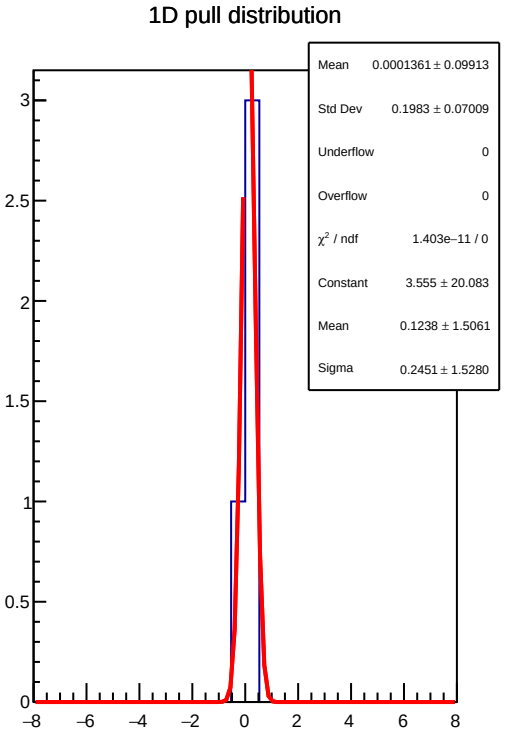



corr_Adet_bpm12Y (ppb)
χ^2 / ndf 1.586 / 3
p0 −102.7 ± 19.74
−40
−60
−80
−100
−120
−140
−160
−180
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
68
69
70
71

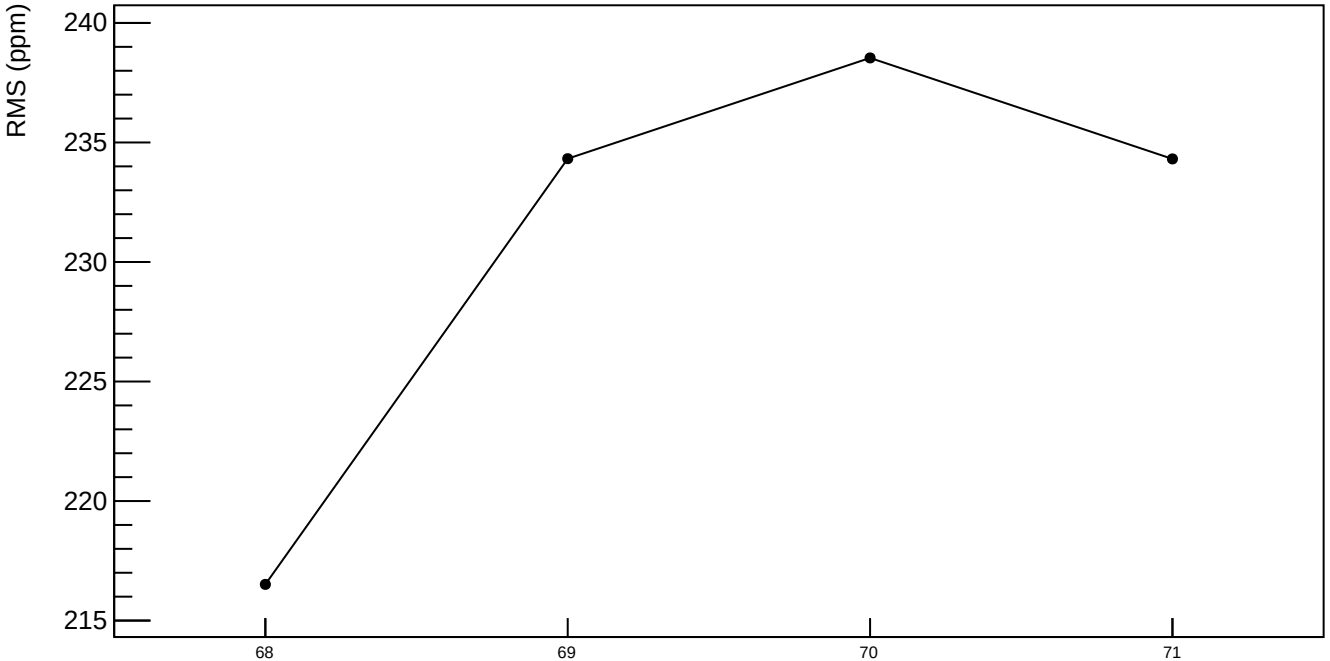

1D pull distribution
Mean 0.01042 ± 0.3148
Std Dev 0.6296 ± 0.2226
Underflow 0
Overflow 0
χ^2 / ndf 2.116e−08 / 0
Constant 2.181± 1.841
Mean 5.043e−05 ± 3.629e−01
Sigma 0.6406 ± 0.4698
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

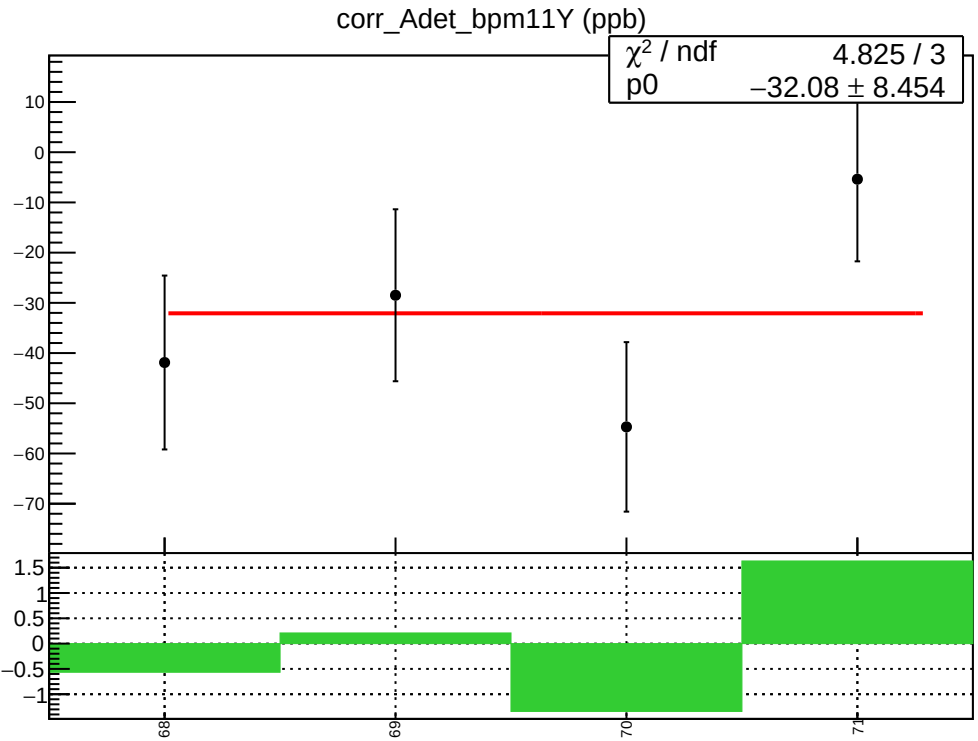

corr_Adet_bpm12Y RMS (ppm)
RMS (ppm)
40
39
38
37
36
35
34
33
68
69
70
71

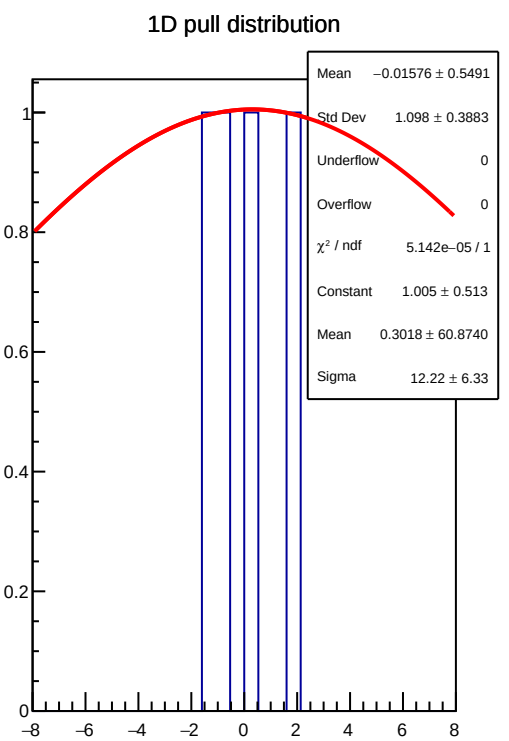

corr_Adet_bpm11X (ppb)
χ² / ndf 0.1572 / 3
p0 −117.3 ± 158.3
300
200
100
0
−100
−200
−300
−400
−500
−600
0.1
0
−0.1
−0.2
−0.3
68
69
70
71

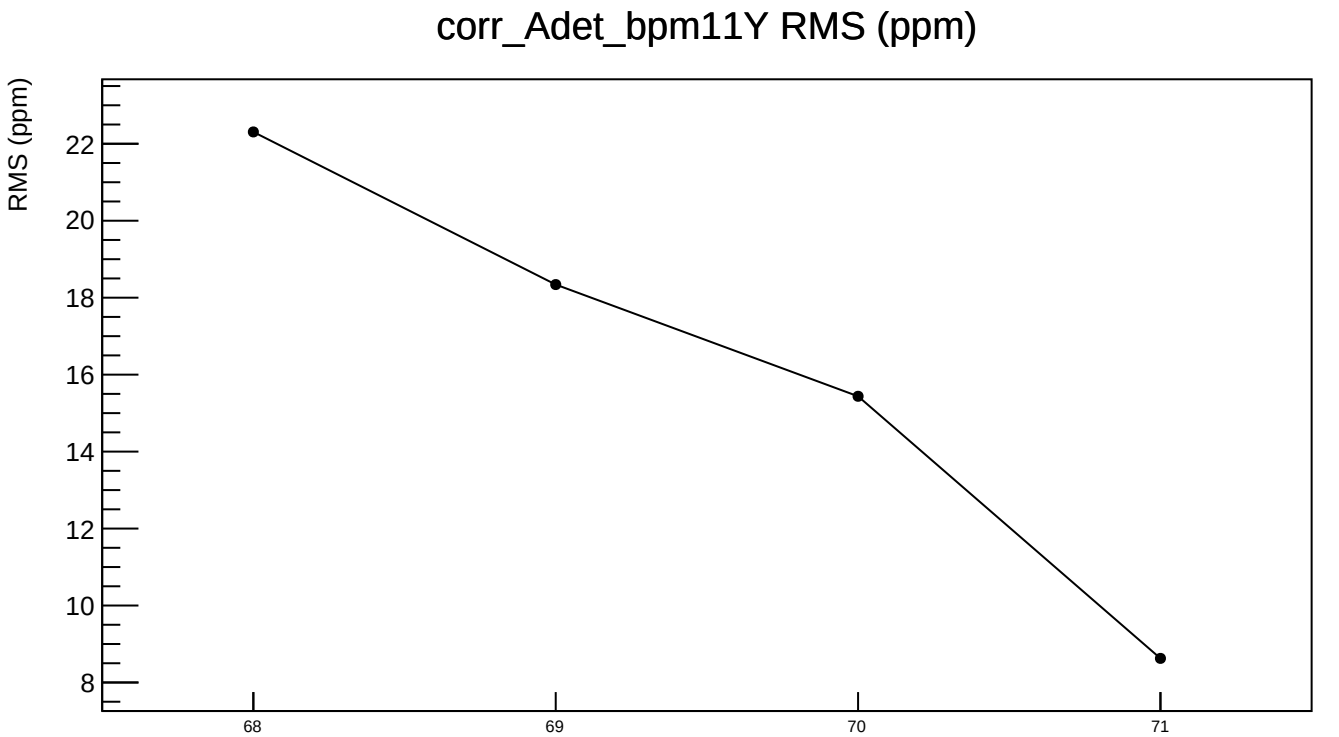

1D pull distribution
Mean 0.0001361 ± 0.09913
Std Dev 0.1983 ± 0.07009
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

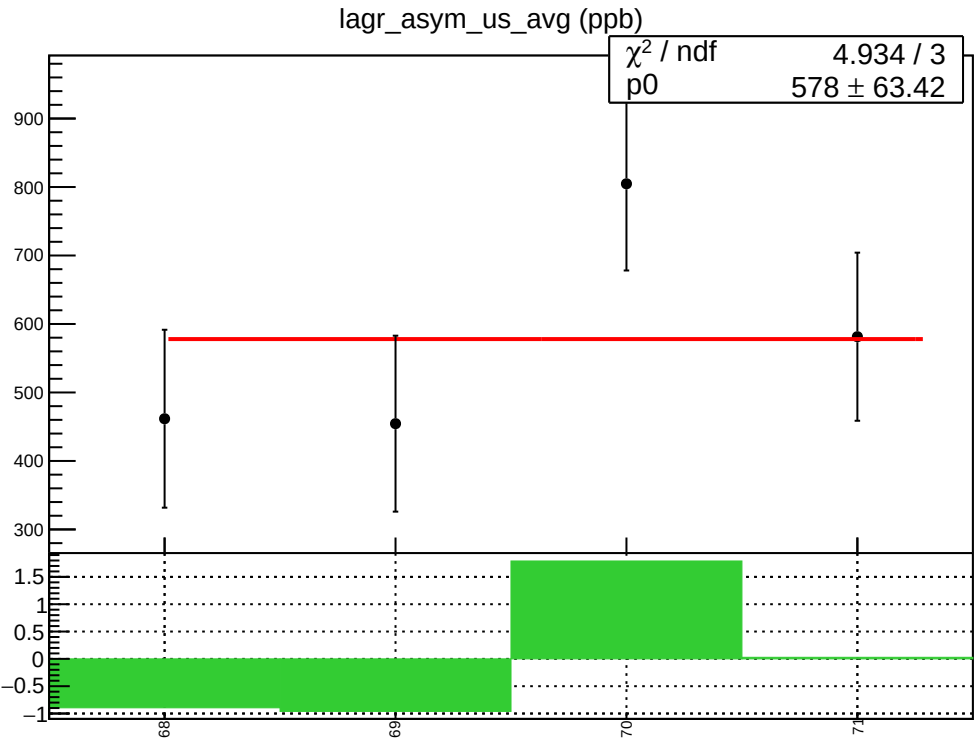
corr_Adet_bpm11X RMS (ppm)

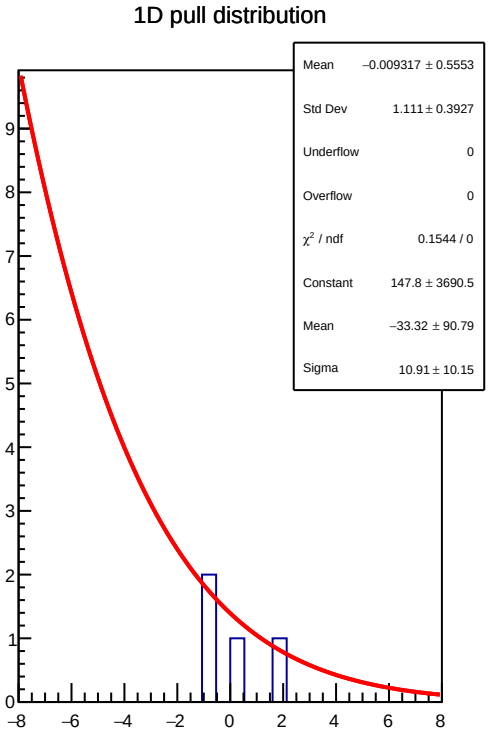


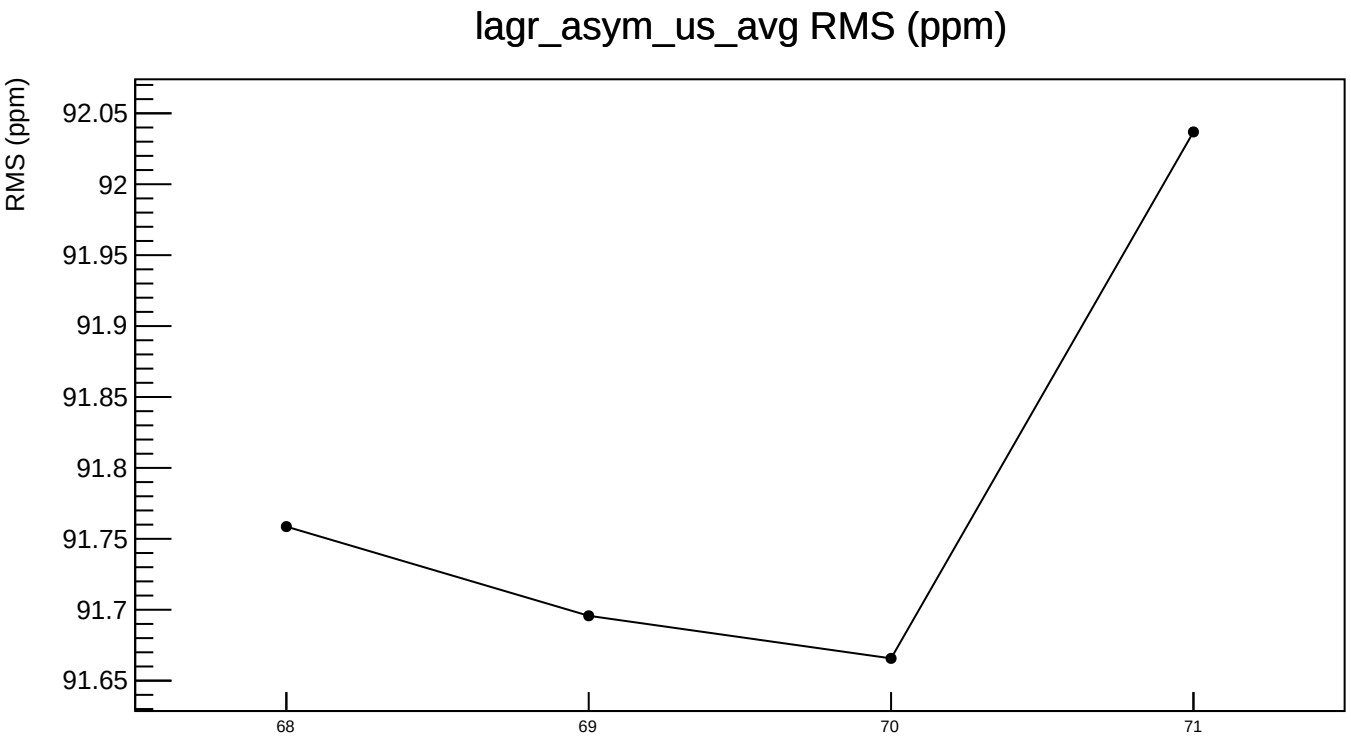

corr_Adet_bpm11Y (ppb)
χ² / ndf 4.825 / 3
p0 −32.08 ± 8.454
10
0
−10
−20
−30
−40
−50
−60
−70
1.5
1
0.5
0
−0.5
−1
68
69
70
71

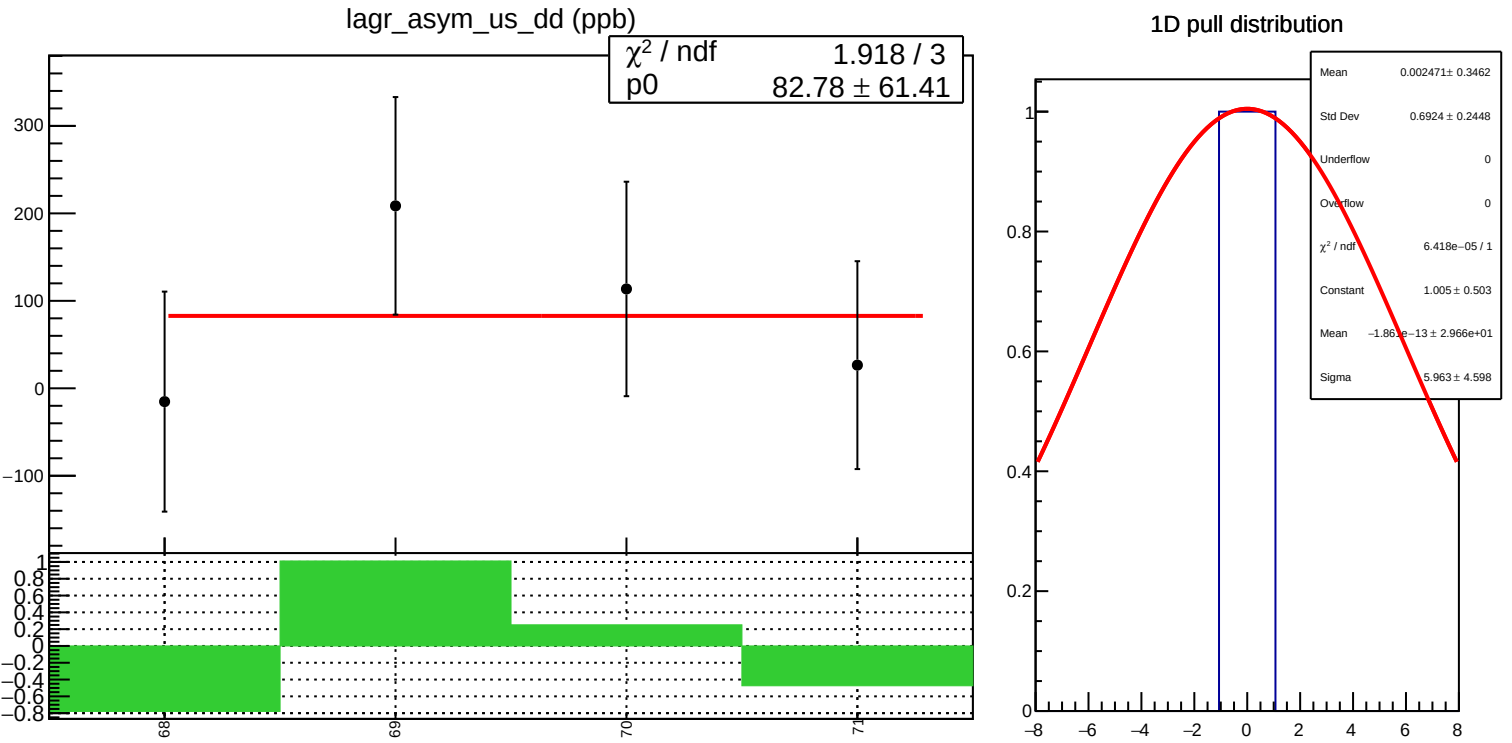

1D pull distribution
Mean −0.01576 ± 0.5491
Std Dev 1.098 ± 0.3883
Underflow 0
Overflow 0
χ² / ndf 5.142e−05 / 1
Constant 1.005 ± 0.513
Mean 0.3018 ± 60.8740
Sigma 12.22 ± 6.33
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

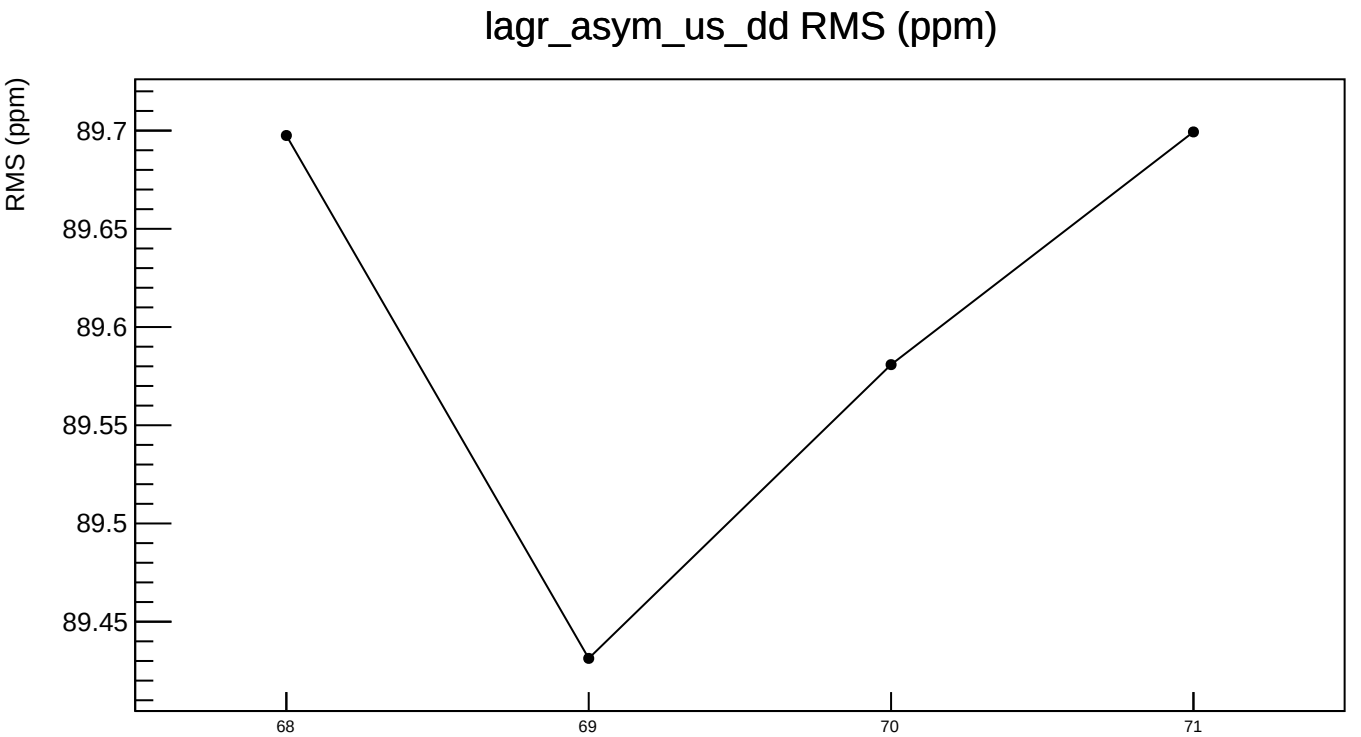

corr_Adet_bpm11Y RMS (ppm)
RMS (ppm)
22
20
18
16
14
12
10
8
68
69
70
71

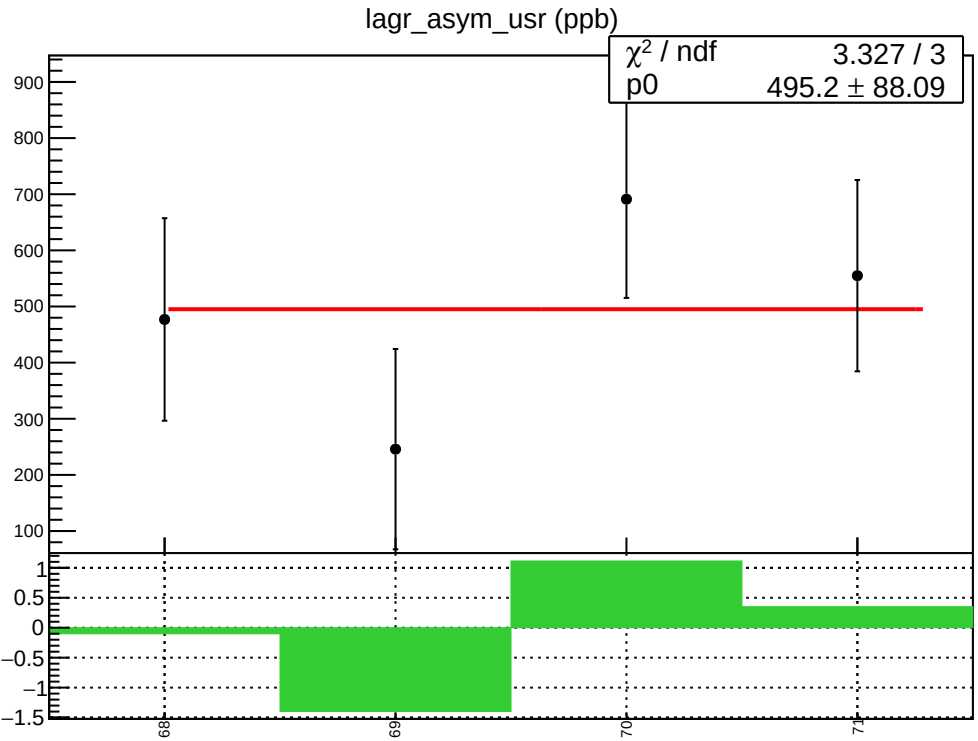

lagr_asym_us_avg (ppb)
χ^2 / ndf 4.934 / 3
p0 578 ± 63.42
900
800
700
600
500
400
300
1.5
1
0.5
0
−0.5
−1
68
69
70
71

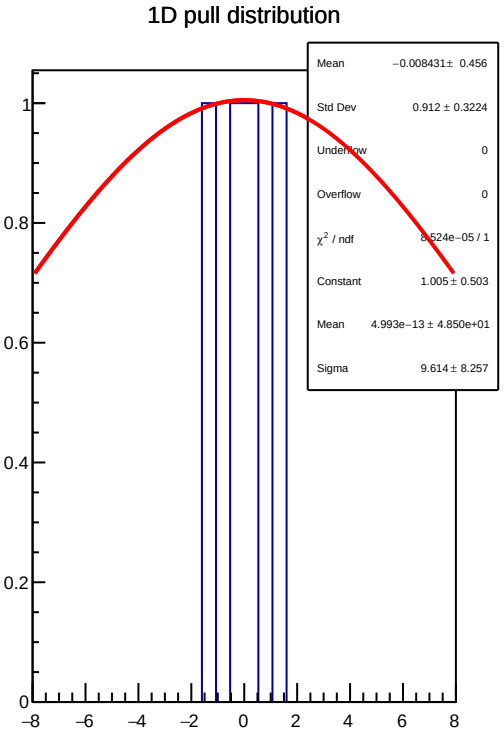

1D pull distribution
Mean −0.009317 ± 0.5553
Std Dev 1.111 ± 0.3927
Underflow 0
Overflow 0
χ^2 / ndf 0.1544 / 0
Constant 147.8 ± 3690.5
Mean −33.32 ± 90.79
Sigma 10.91 ± 10.15
9
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

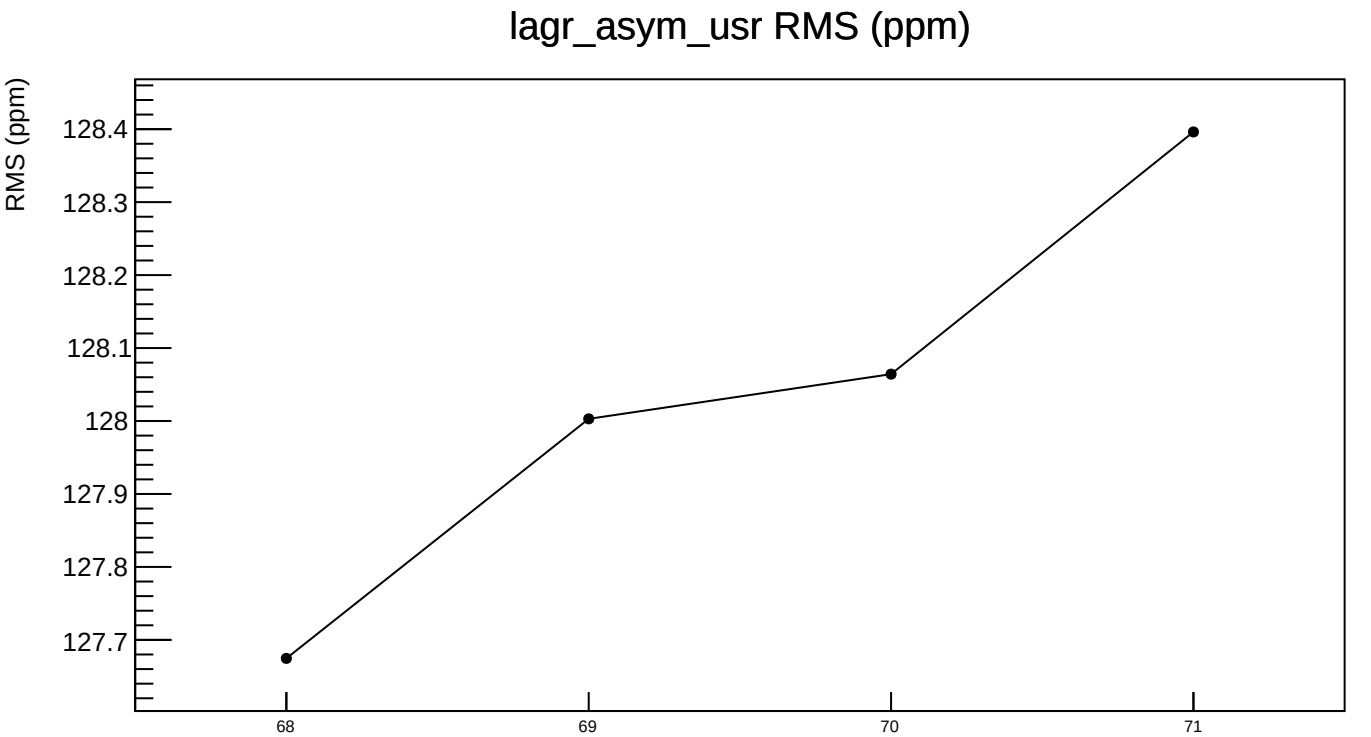

lagr_asym_us_avg RMS (ppm)
RMS (ppm)
92.05
92
91.95
91.9
91.85
91.8
91.75
91.7
91.65
68
69
70
71

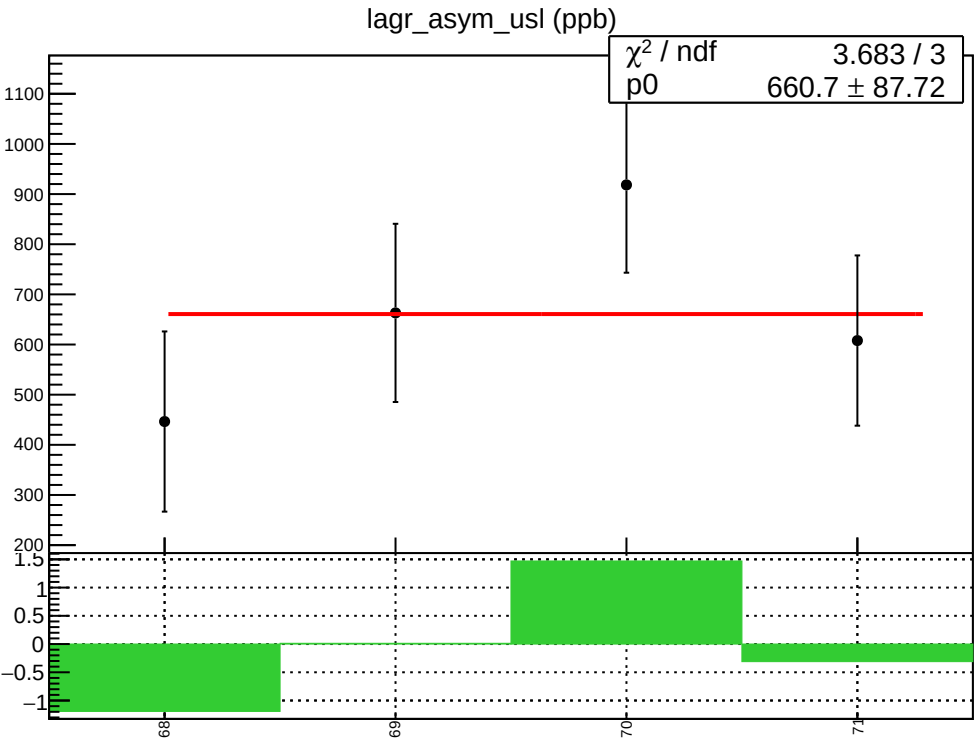

lagr_asym_us_dd (ppb)
χ² / ndf 1.918 / 3
p0 82.78 ± 61.41
300
200
100
0
−100
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
68
69
70
71
1D pull distribution
Mean 0.002471 ± 0.3462
Std Dev 0.6924 ± 0.2448
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

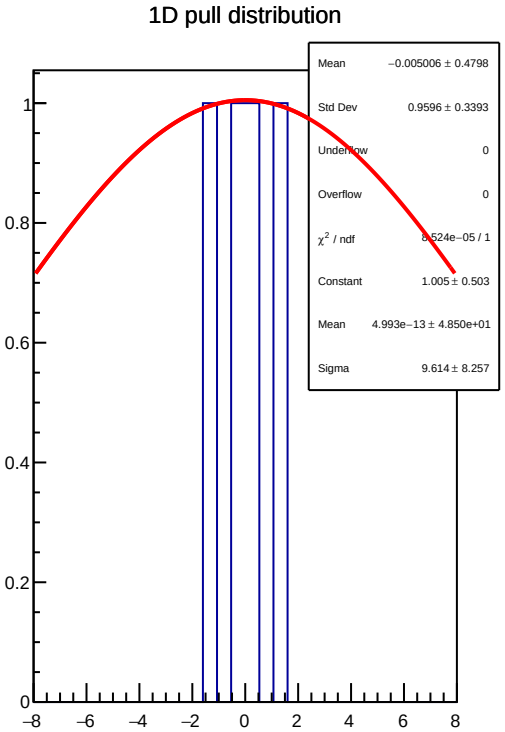

lagr_asym_us_dd RMS (ppm)
RMS (ppm)
89.7
89.65
89.6
89.55
89.5
89.45
68
69
70
71

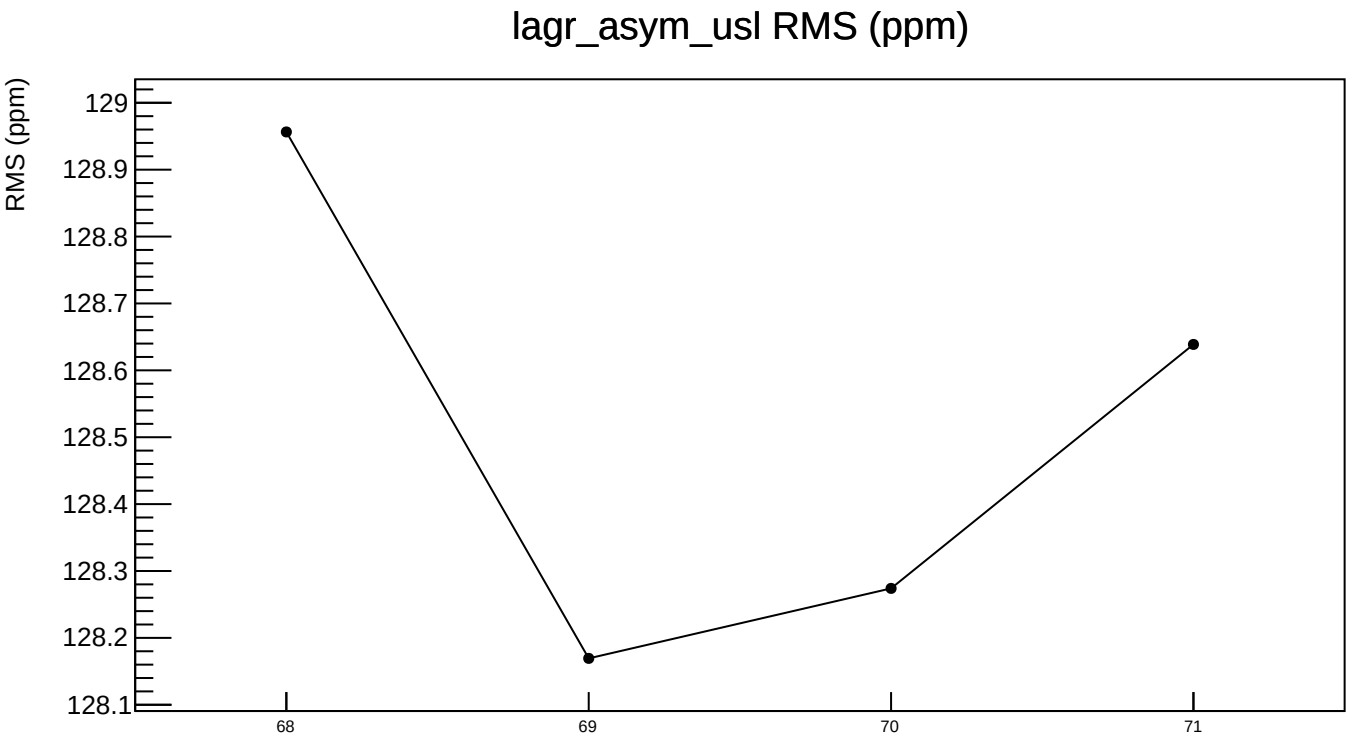

lagr_asym_usr (ppb)
χ² / ndf 3.327 / 3
p0 495.2 ± 88.09
900
800
700
600
500
400
300
200
100
1
0.5
0
−0.5
−1
−1.5
68
69
70
71

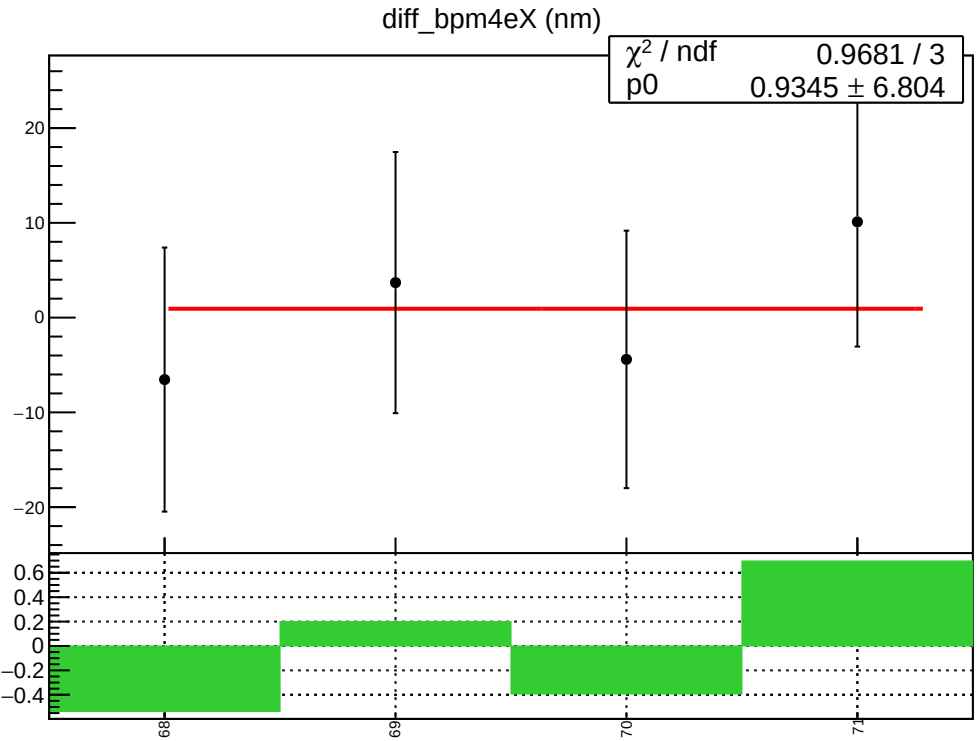

1D pull distribution
Mean −0.008431 ± 0.456
Std Dev 0.912 ± 0.3224
Underflow 0
Overflow 0
χ² / ndf 8.524e−05 / 1
Constant 1.005 ± 0.503
Mean 4.993e−13 ± 4.850e+01
Sigma 9.614 ± 8.257
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

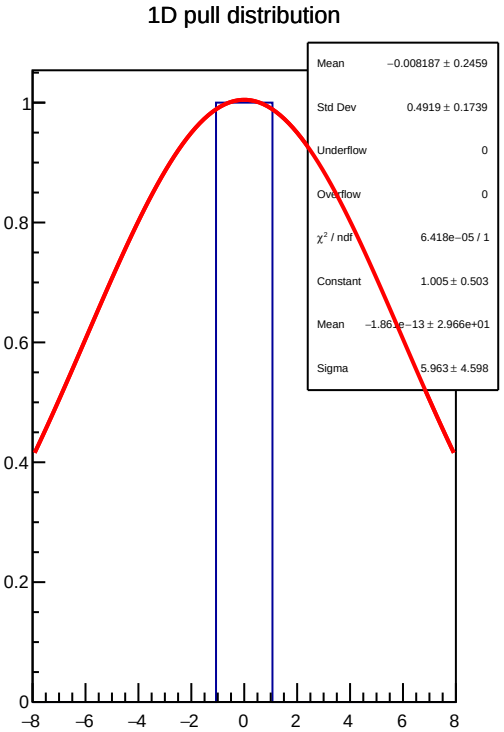

lagr_asym_usr RMS (ppm)
RMS (ppm)
128.4
128.3
128.2
128.1
128
127.9
127.8
127.7
68
69
70
71

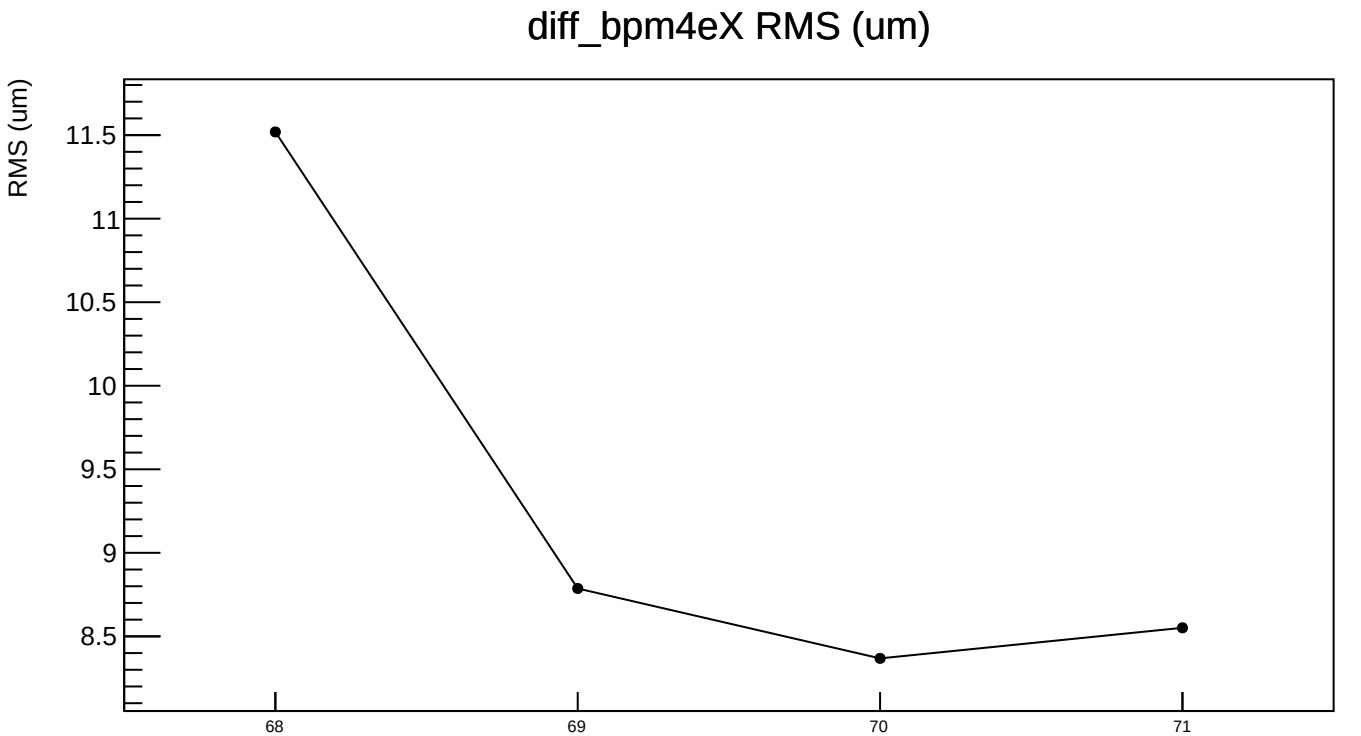

lagr_asym_usl (ppb)
χ² / ndf 3.683 / 3
p0 660.7 ± 87.72
1100
1000
900
800
700
600
500
400
300
200
1.5
1
0.5
0
−0.5
−1
68
69
70
71

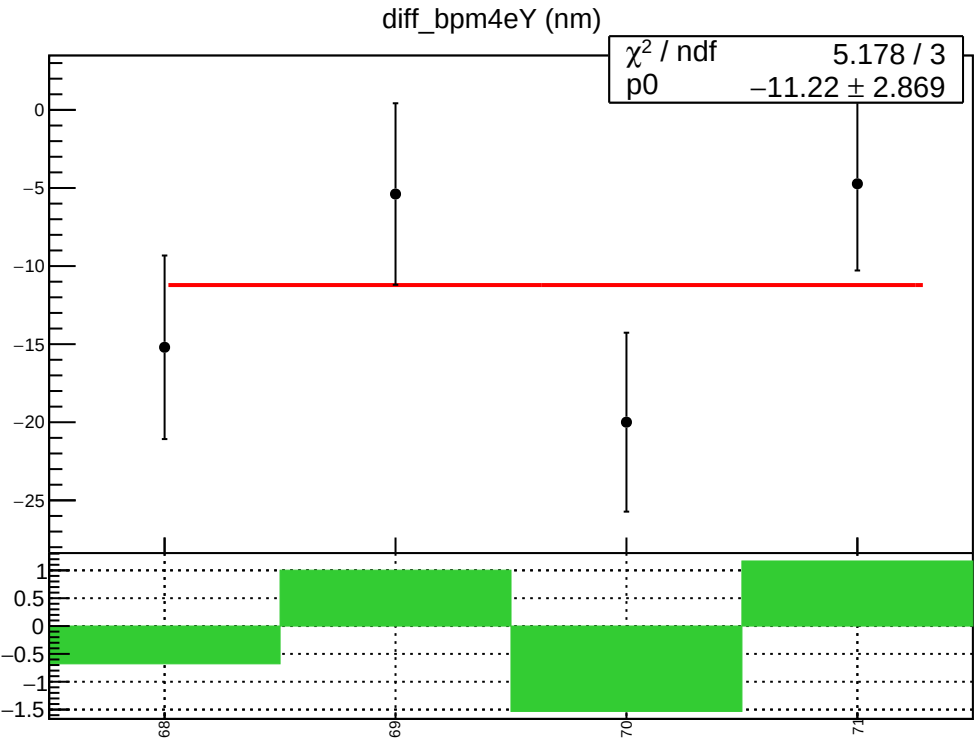

1D pull distribution
Mean −0.005006 ± 0.4798
Std Dev 0.9596 ± 0.3393
Underflow 0
Overflow 0
χ² / ndf 8.524e−05 / 1
Constant 1.005 ± 0.503
Mean 4.993e−13 ± 4.850e+01
Sigma 9.614 ± 8.257
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

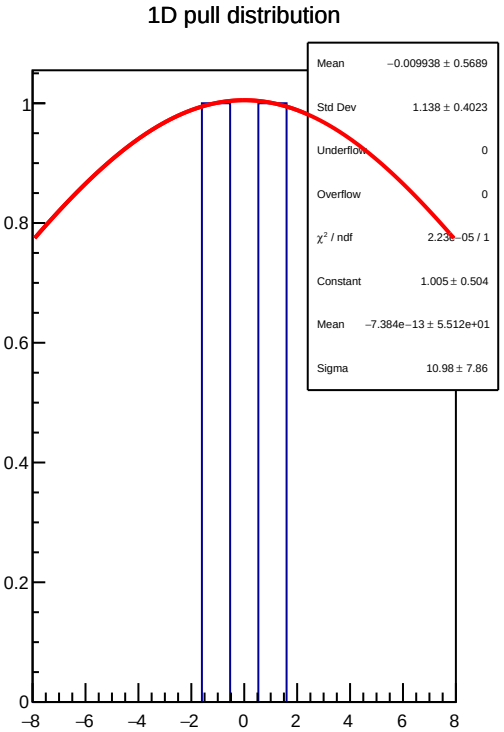

lagr_asym_usl RMS (ppm)
RMS (ppm)
129
128.9
128.8
128.7
128.6
128.5
128.4
128.3
128.2
128.1
68
69
70
71

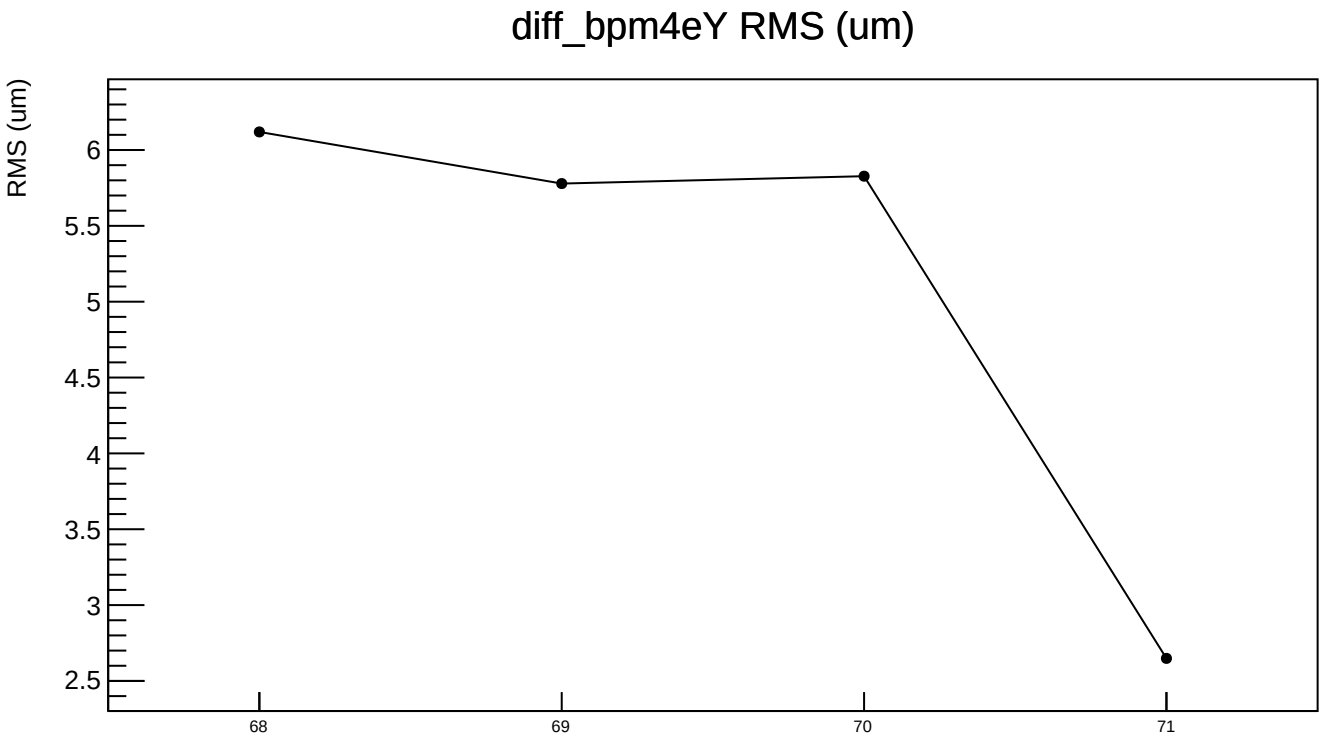

diff_bpm4eX (nm)
χ² / ndf 0.9681 / 3
p0 0.9345 ± 6.804
20
10
0
−10
−20
0.6
0.4
0.2
0
−0.2
−0.4
68
69
70
71

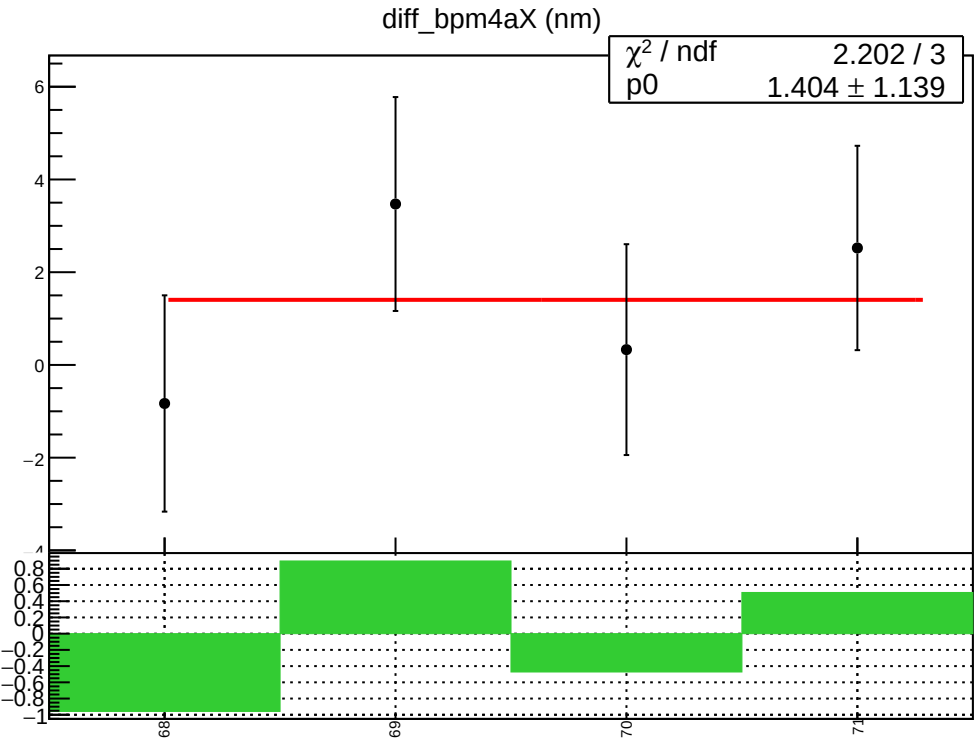

1D pull distribution
Mean −0.008187 ± 0.2459
Std Dev 0.4919 ± 0.1739
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

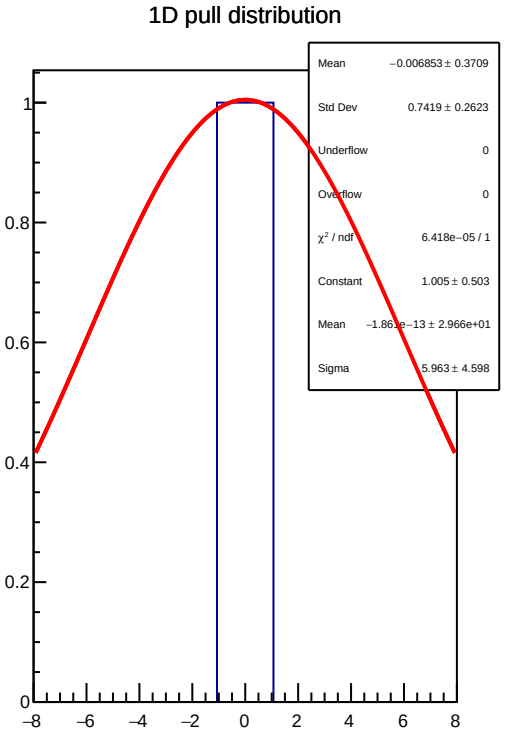

diff_bpm4eX RMS (um)
RMS (um)
11.5
11
10.5
10
9.5
9
8.5
68
69
70
71

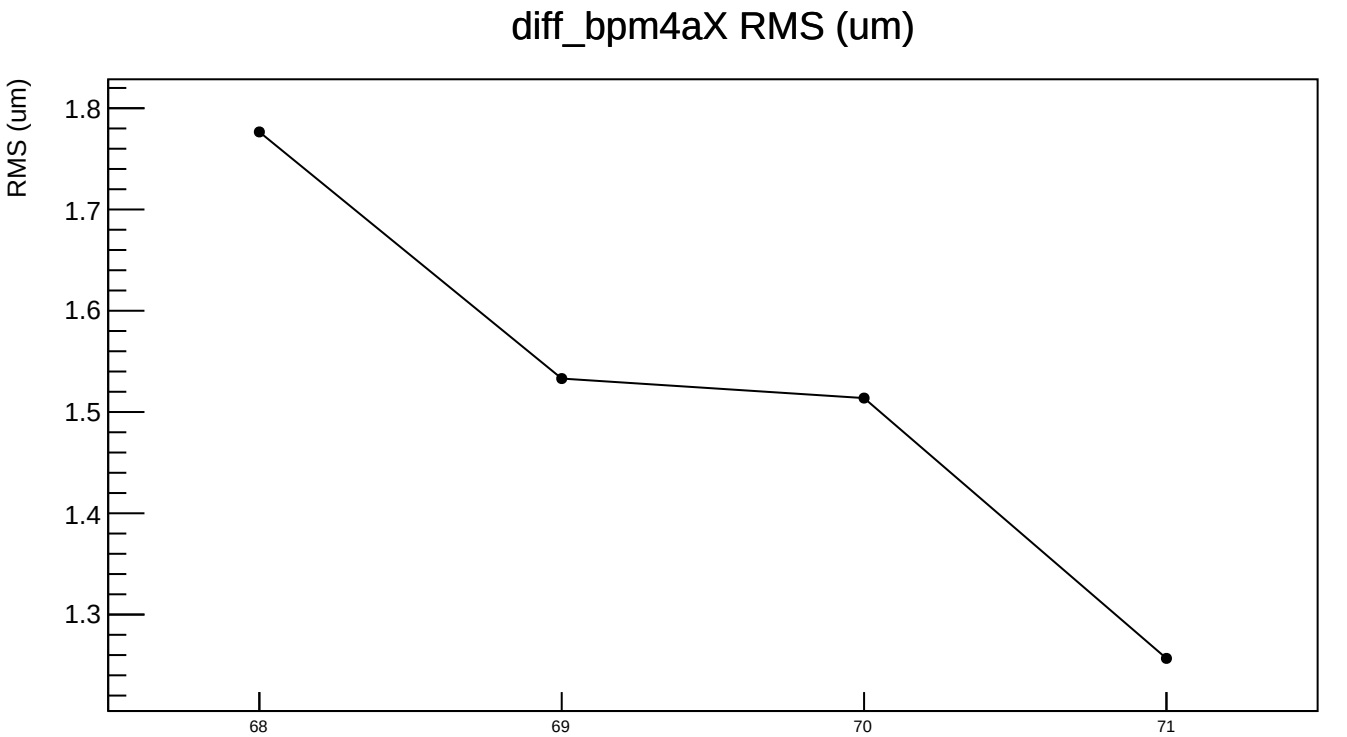

diff_bpm4eY (nm)
χ² / ndf 5.178 / 3
p0 −11.22 ± 2.869
0
−5
−10
−15
−20
−25
1
0.5
0
−0.5
−1
−1.5
68
69
70
71

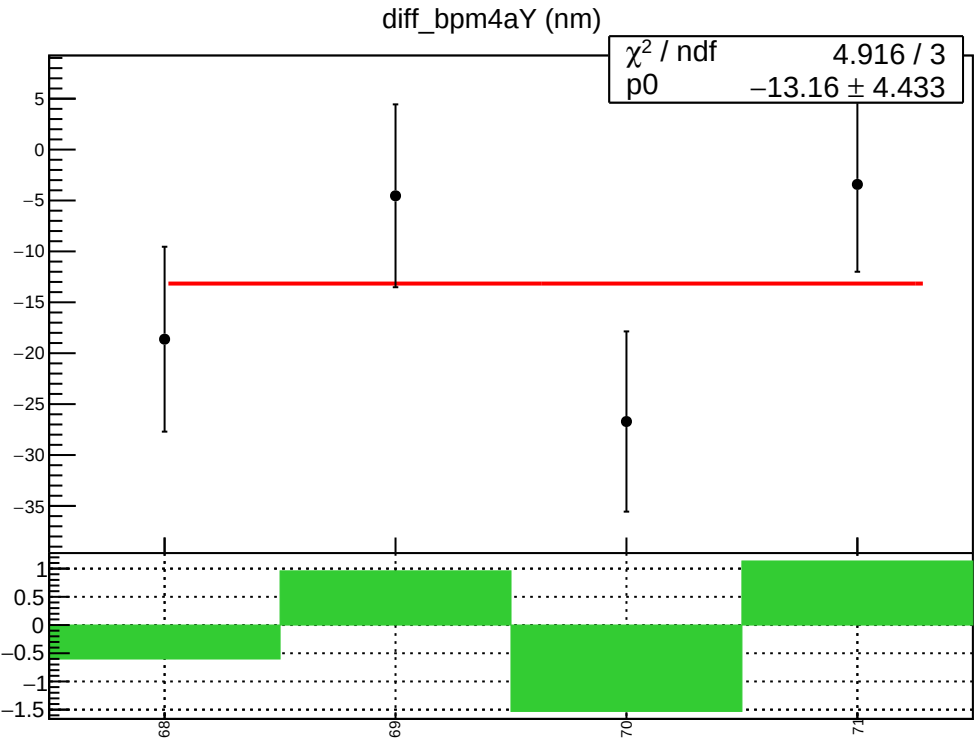

1D pull distribution
Mean −0.009938 ± 0.5689
Std Dev 1.138 ± 0.4023
Underflow 0
Overflow 0
χ² / ndf 2.23e−05 / 1
Constant 1.005 ± 0.504
Mean −7.384e−13 ± 5.512e+01
Sigma 10.98 ± 7.86
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

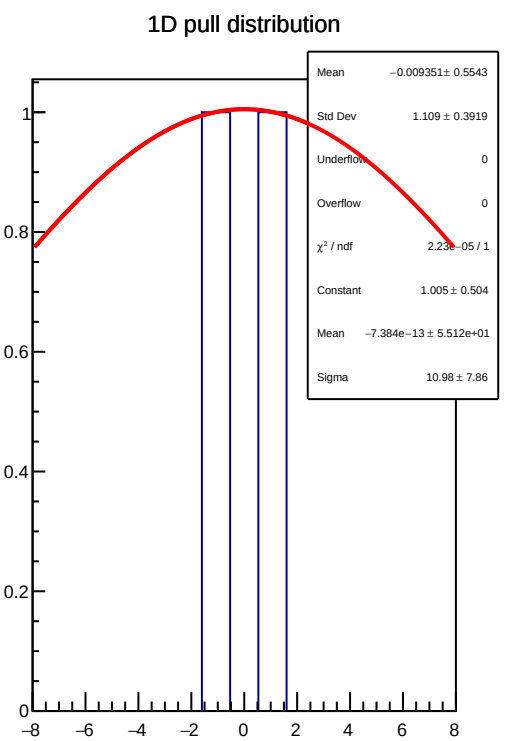

diff_bpm4eY RMS (um)
RMS (um)
6
5.5
5
4.5
4
3.5
3
2.5
68
69
70
71

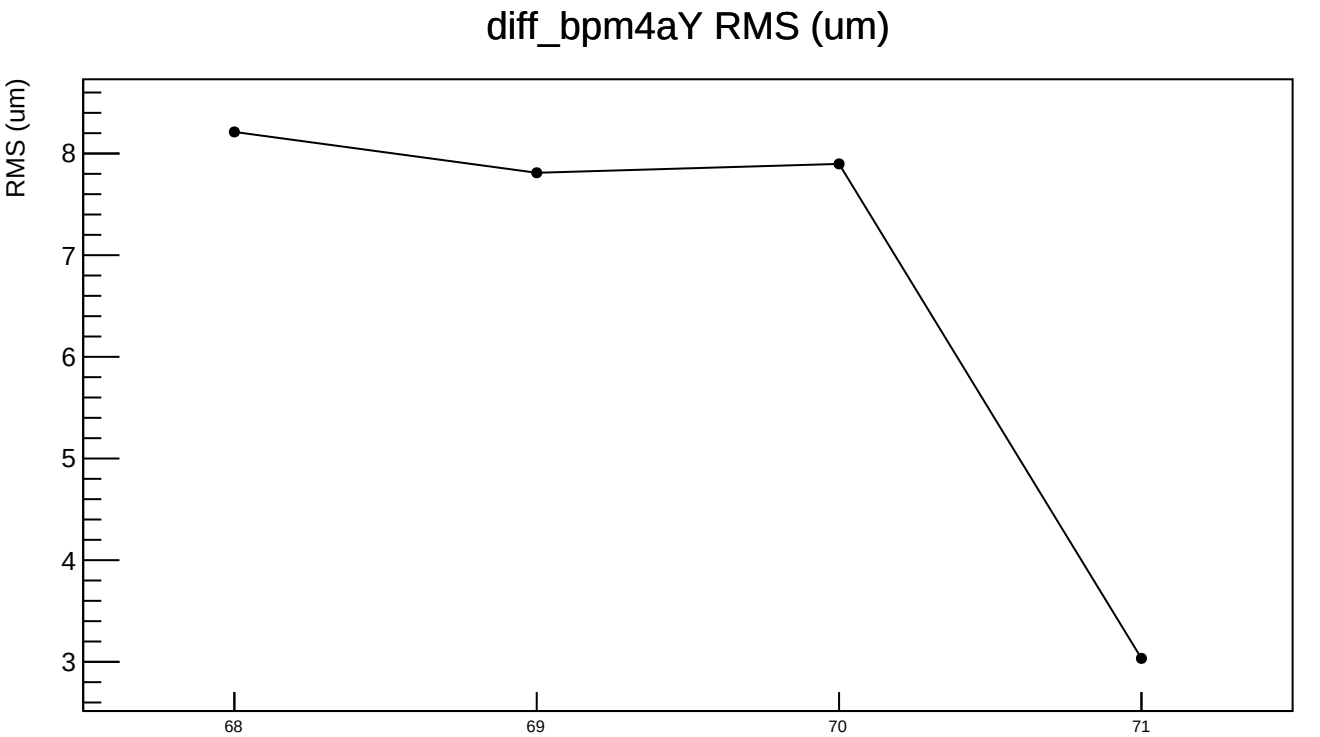

diff_bpm4aX (nm)
χ² / ndf 2.202 / 3
p0 1.404 ± 1.139
6
4
2
0
−2
−4
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
68
69
70
71

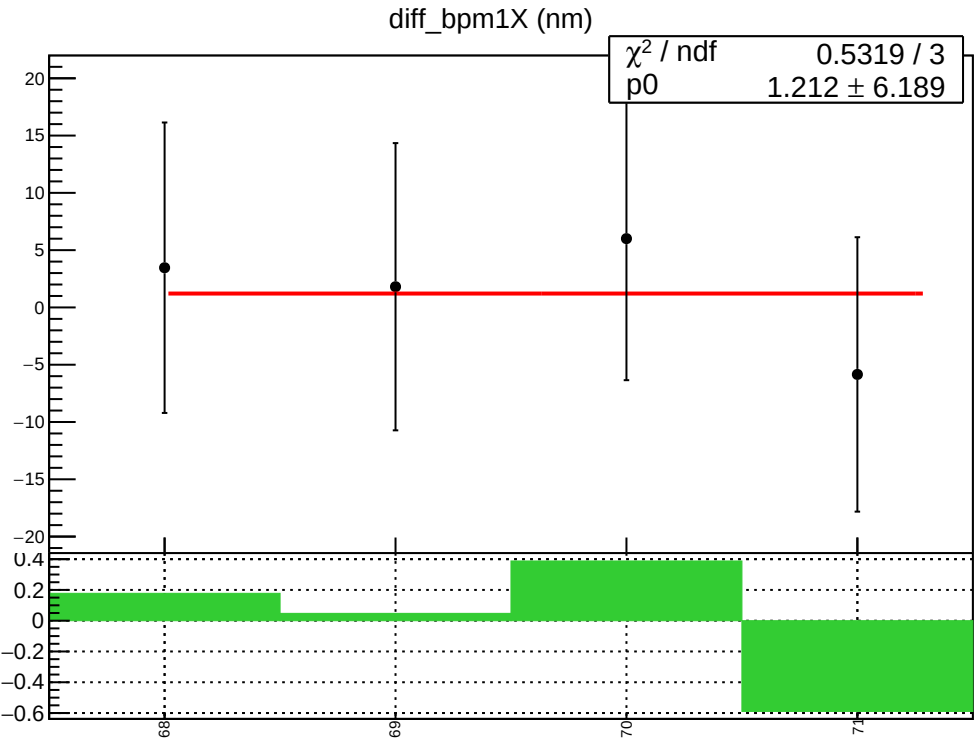

1D pull distribution
Mean −0.006853 ± 0.3709
Std Dev 0.7419 ± 0.2623
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

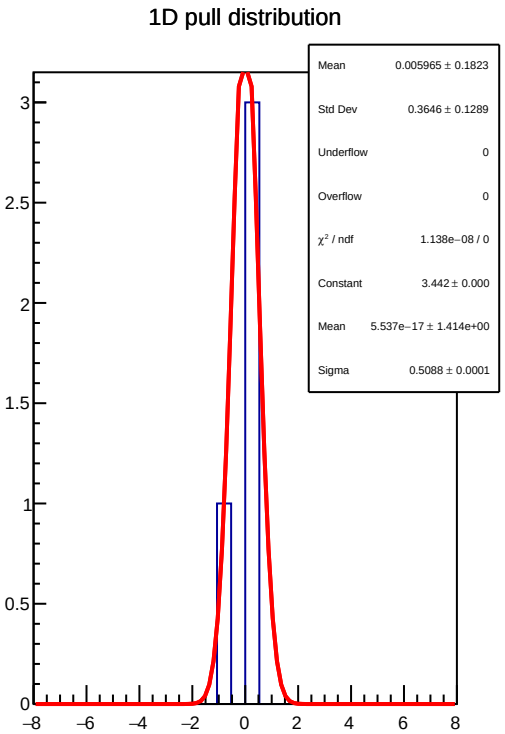

diff_bpm4aX RMS (um)
RMS (um)
1.8
1.7
1.6
1.5
1.4
1.3
68
69
70
71

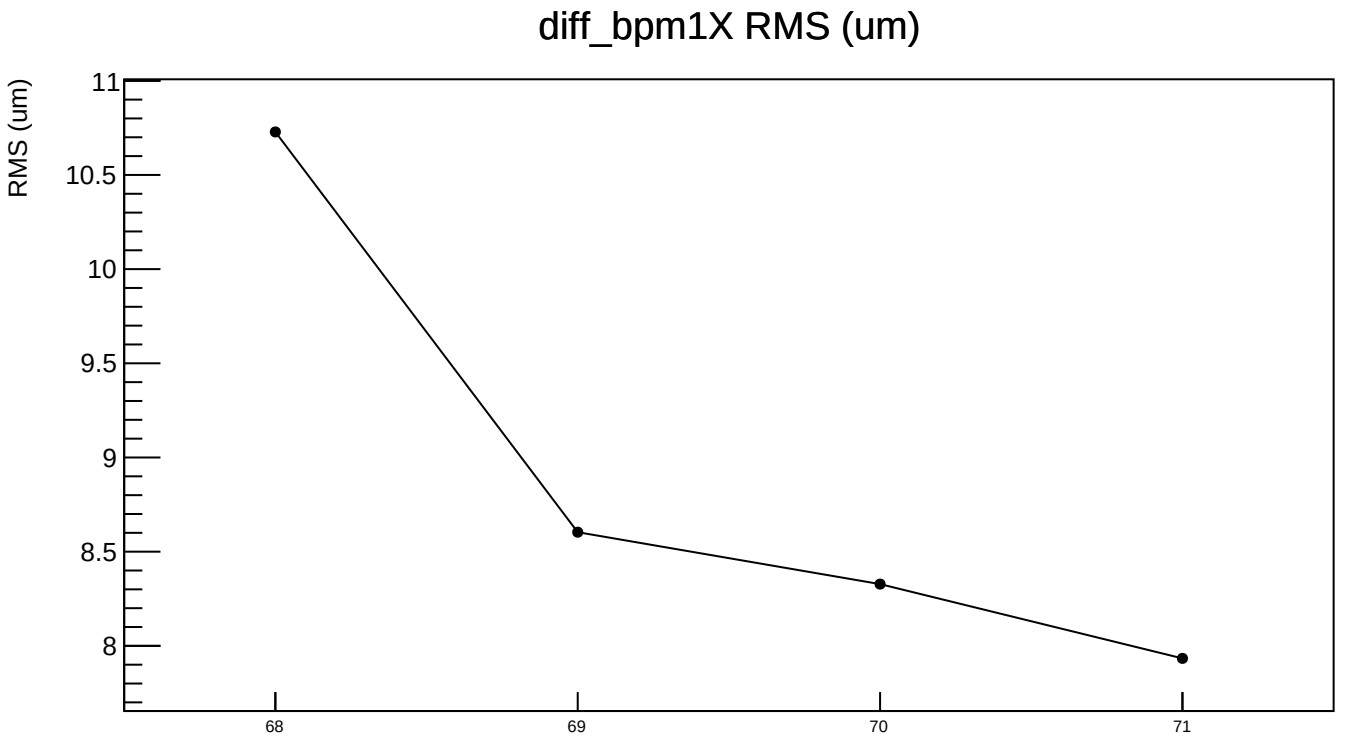

diff_bpm4aY (nm)
χ² / ndf 4.916 / 3
p0 −13.16 ± 4.433
5
0
−5
−10
−15
−20
−25
−30
−35
1
0.5
0
−0.5
−1
−1.5
68
69
70
71

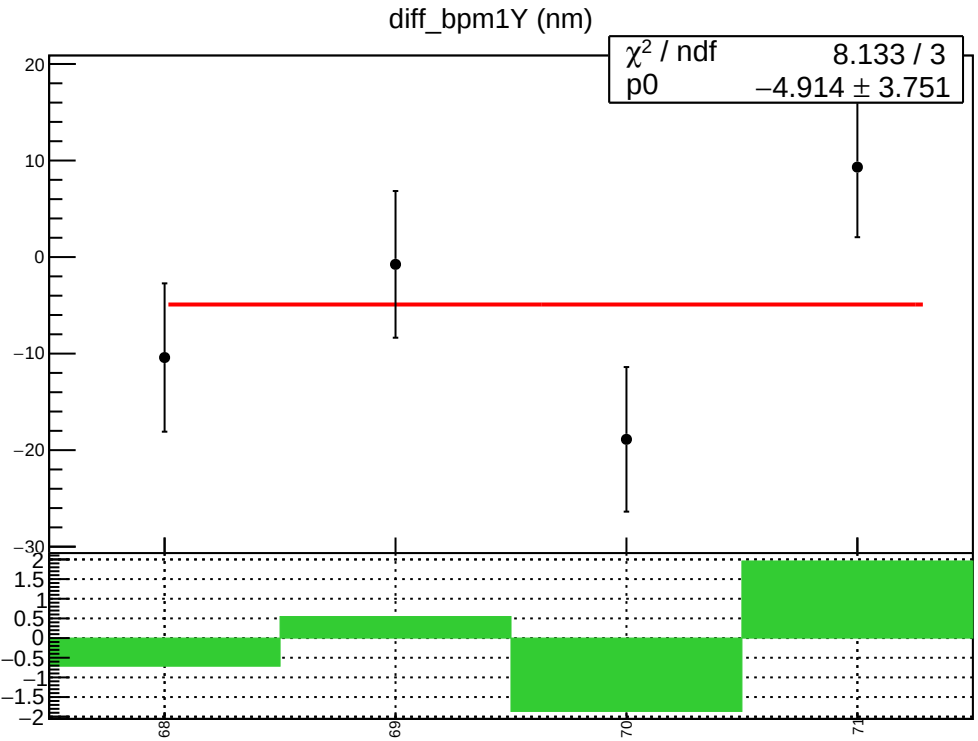

1D pull distribution
Mean −0.009351 ± 0.5543
Std Dev 1.109 ± 0.3919
Underflow 0
Overflow 0
χ² / ndf 2.23e−05 / 1
Constant 1.005 ± 0.504
Mean −7.384e−13 ± 5.512e+01
Sigma 10.98 ± 7.86
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

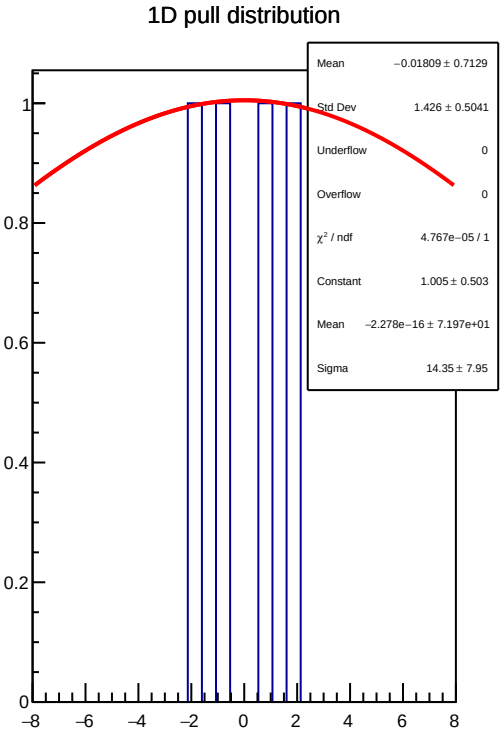

diff_bpm4aY RMS (um)
RMS (um)
8
7
6
5
4
3
68
69
70
71

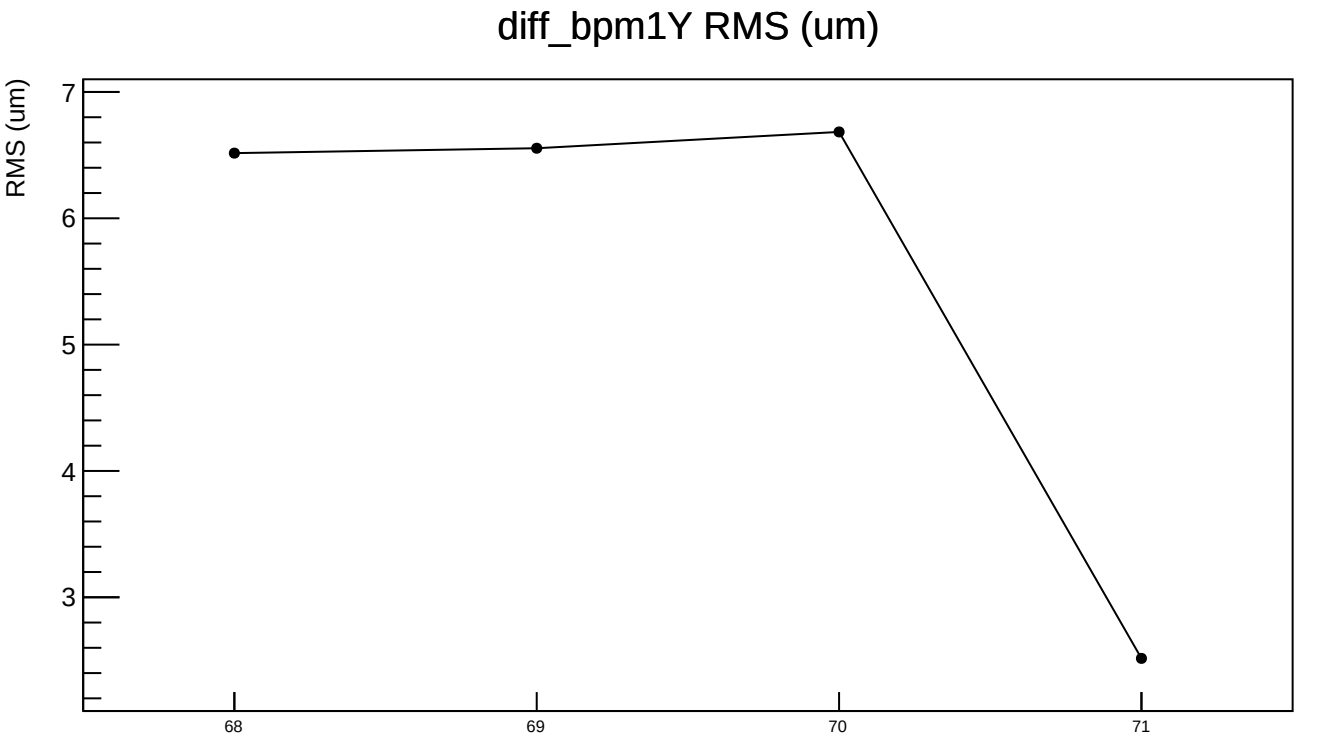

diff_bpm1X (nm)
χ² / ndf 0.5319 / 3
p0 1.212 ± 6.189
20
15
10
5
0
−5
−10
−15
−20
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71

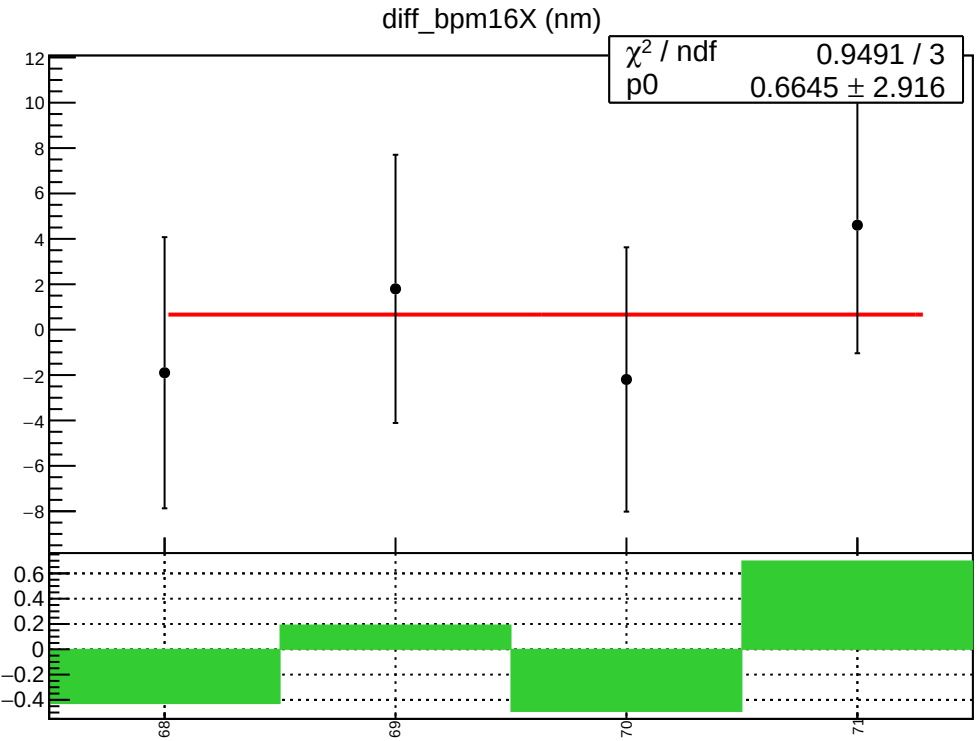

1D pull distribution
Mean 0.005965 ± 0.1823
Std Dev 0.3646 ± 0.1289
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.537e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0001
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

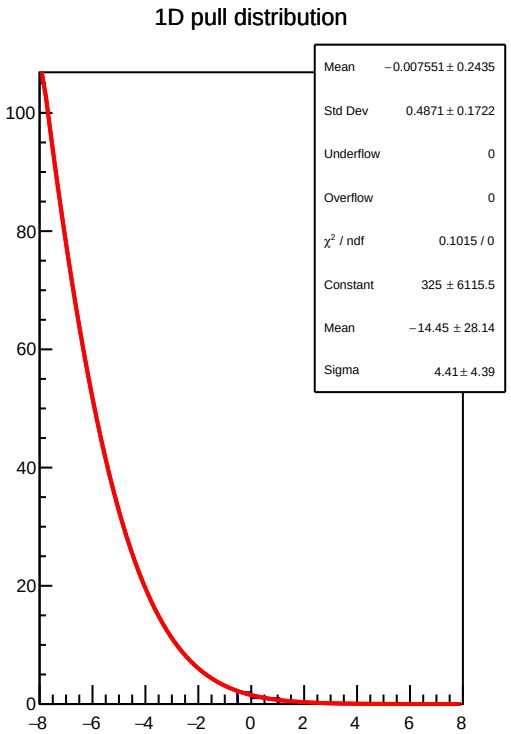

diff_bpm1X RMS (um)
RMS (um)
11
10.5
10
9.5
9
8.5
8
68
69
70
71


diff_bpm1Y (nm)
χ² / ndf 8.133 / 3
p0 −4.914 ± 3.751
20
10
0
−10
−20
−30
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
68
69
70
71

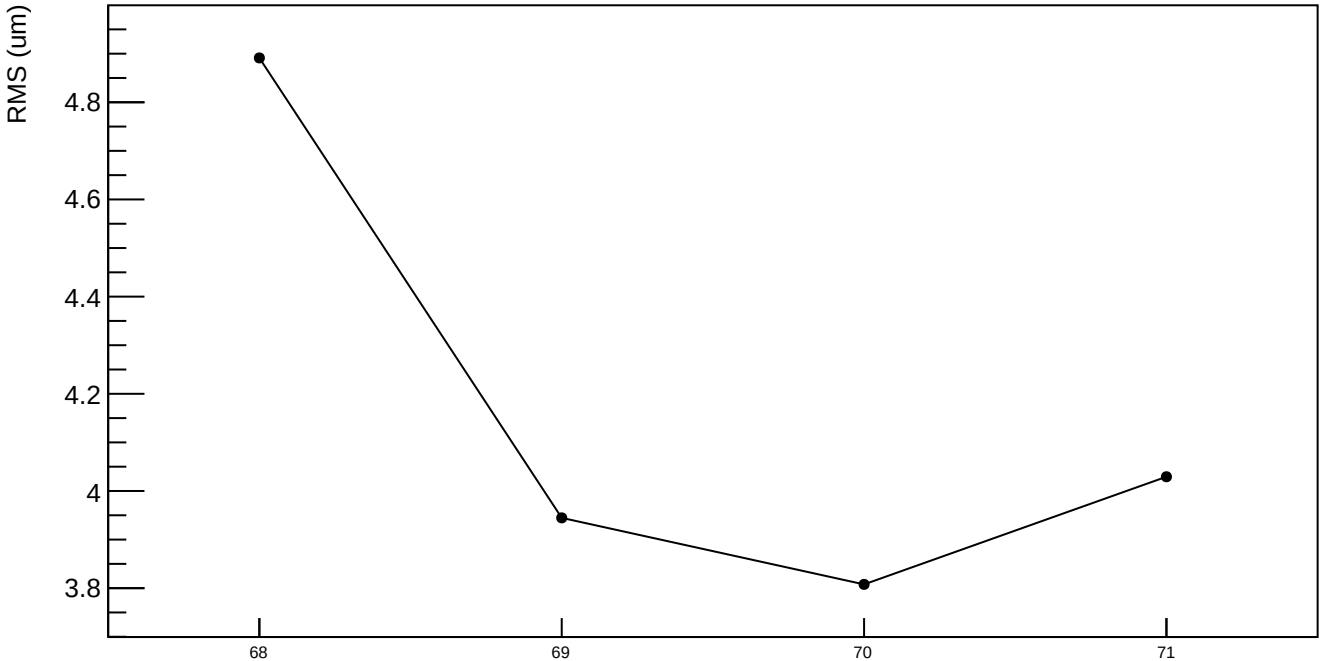

1D pull distribution
Mean −0.01809 ± 0.7129
Std Dev 1.426 ± 0.5041
Underflow 0
Overflow 0
χ² / ndf 4.767e−05 / 1
Constant 1.005 ± 0.503
Mean −2.278e−16 ± 7.197e+01
Sigma 14.35 ± 7.95
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

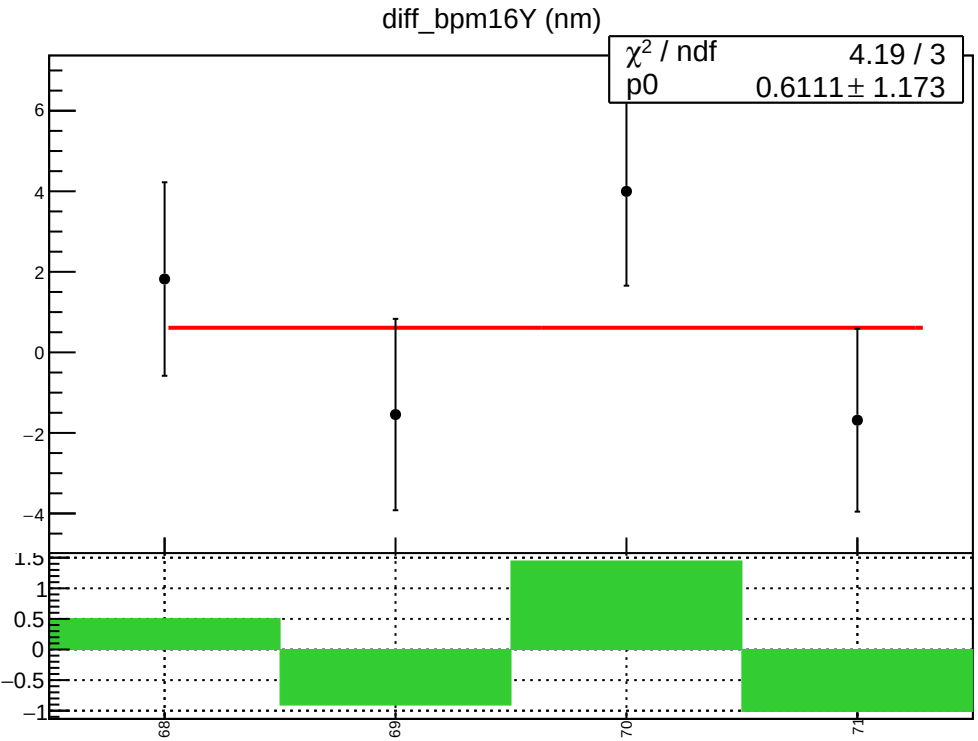

diff_bpm1Y RMS (um)
RMS (um)
7
6
5
4
3
68
69
70
71

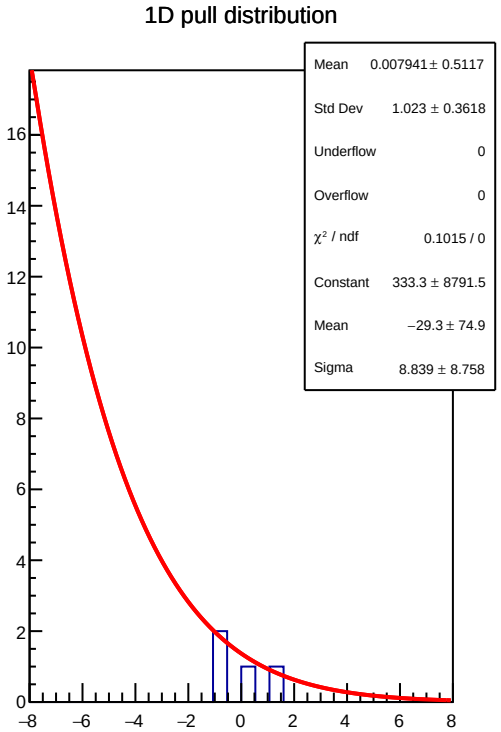

diff_bpm16X (nm)
χ² / ndf 0.9491 / 3
p0 0.6645 ± 2.916
12
10
8
6
4
2
0
−2
−4
−6
−8
0.6
0.4
0.2
0
−0.2
−0.4
68
69
70
71

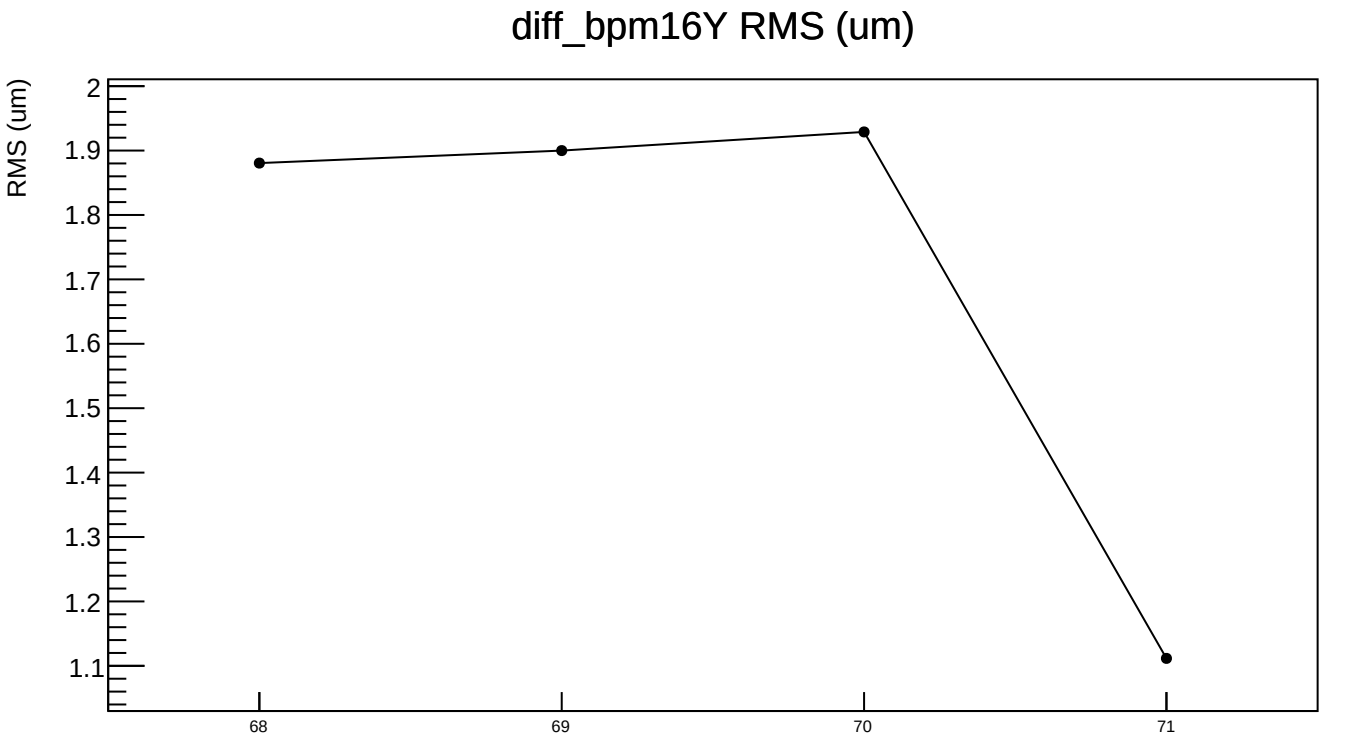

1D pull distribution
Mean −0.007551 ± 0.2435
Std Dev 0.4871 ± 0.1722
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 325 ± 6115.5
Mean −14.45 ± 28.14
Sigma 4.41 ± 4.39
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

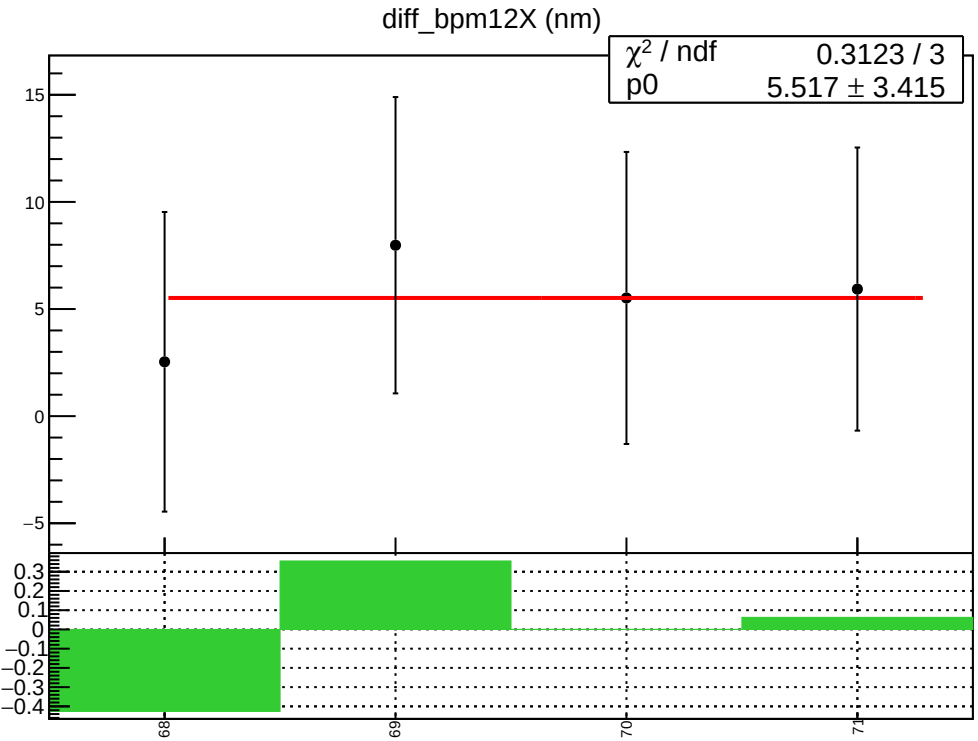
diff_bpm16X RMS (um)

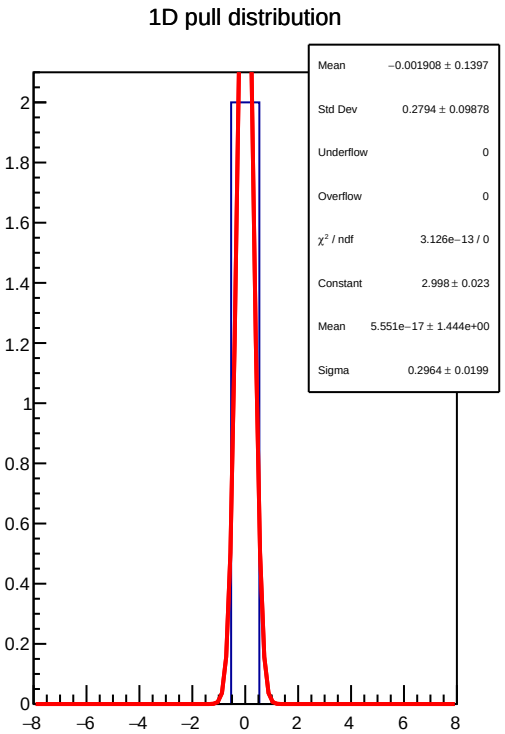



diff_bpm16Y (nm)
χ² / ndf 4.19 / 3
p0 0.6111 ± 1.173
6
4
2
0
−2
−4
1.5
1
0.5
0
−0.5
−1
68
69
70
71

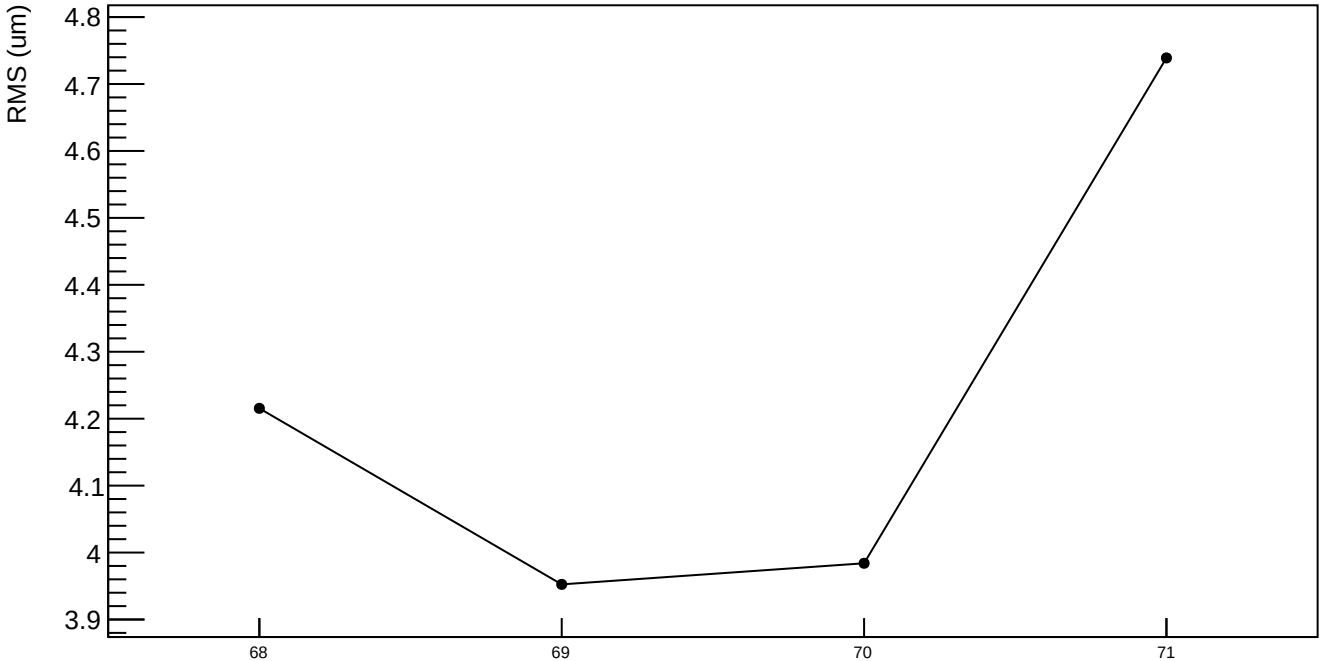

1D pull distribution
Mean 0.007941 ± 0.5117
Std Dev 1.023 ± 0.3618
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

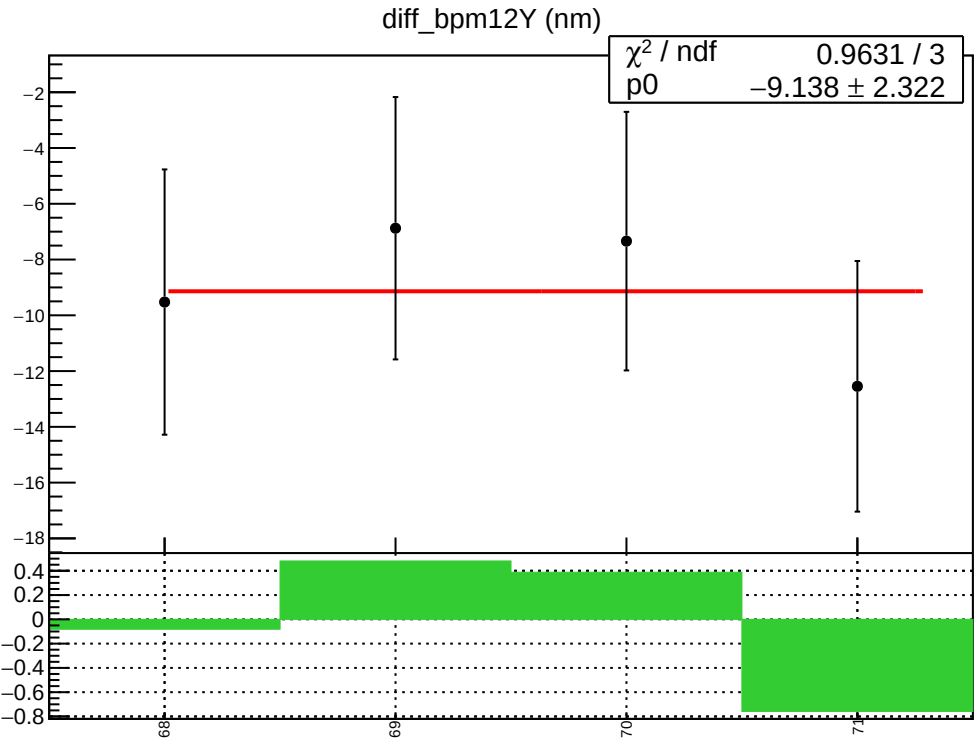

diff_bpm16Y RMS (um)
RMS (um)
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
68
69
70
71

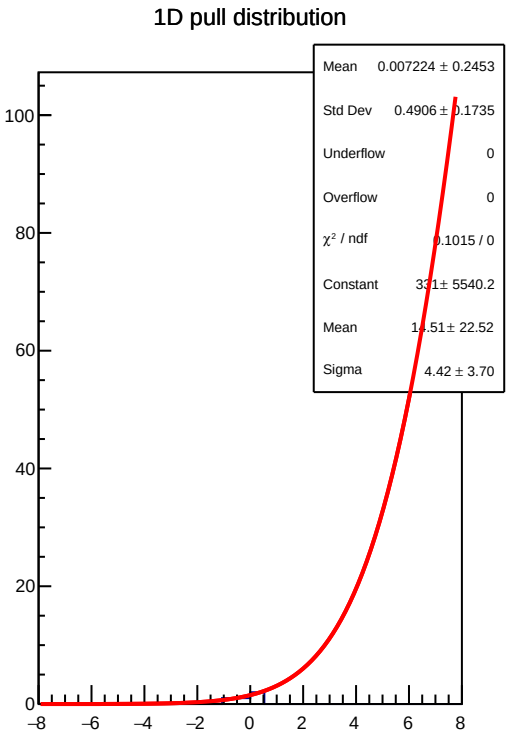

diff_bpm12X (nm)
χ² / ndf 0.3123 / 3
p0 5.517 ± 3.415
15
10
5
0
−5
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
68
69
70
71


1D pull distribution
Mean −0.001908 ± 0.1397
Std Dev 0.2794 ± 0.09878
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

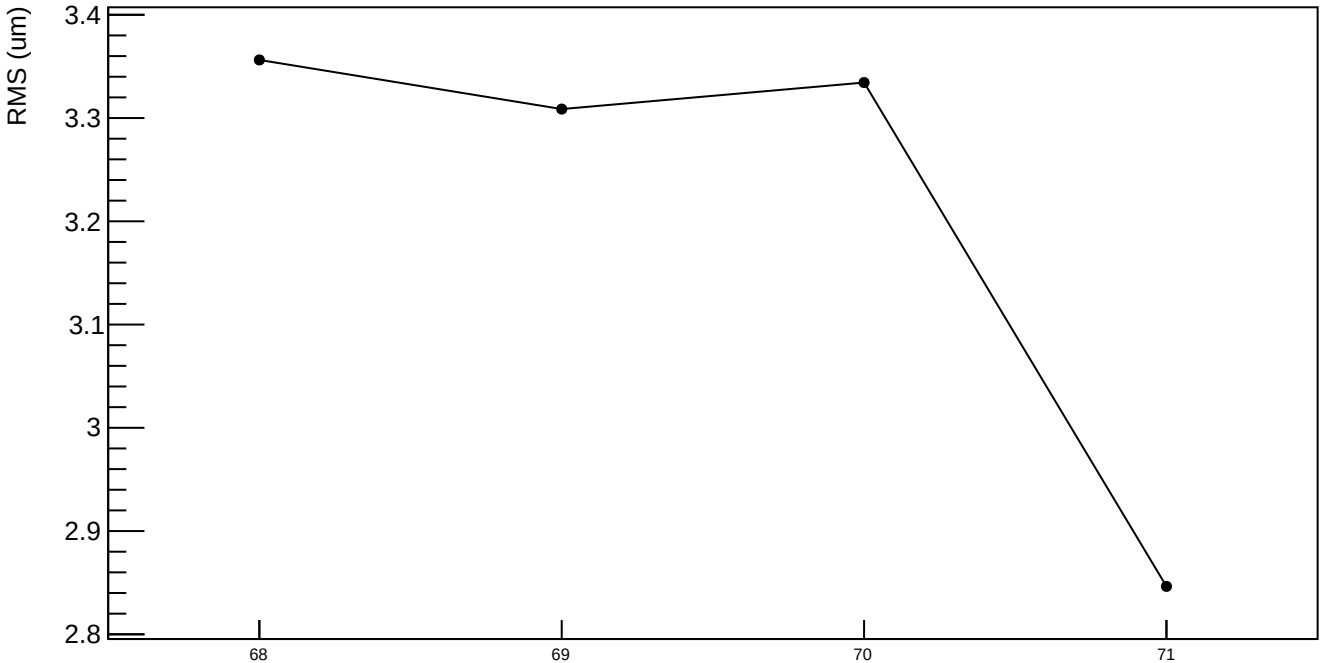
diff_bpm12X RMS (um)

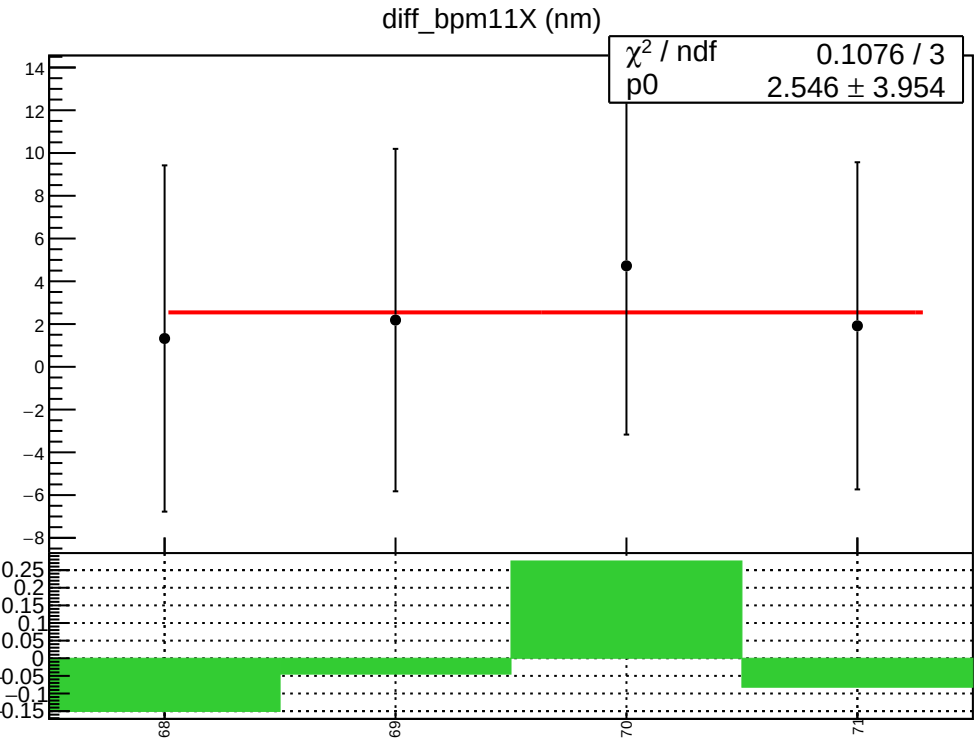


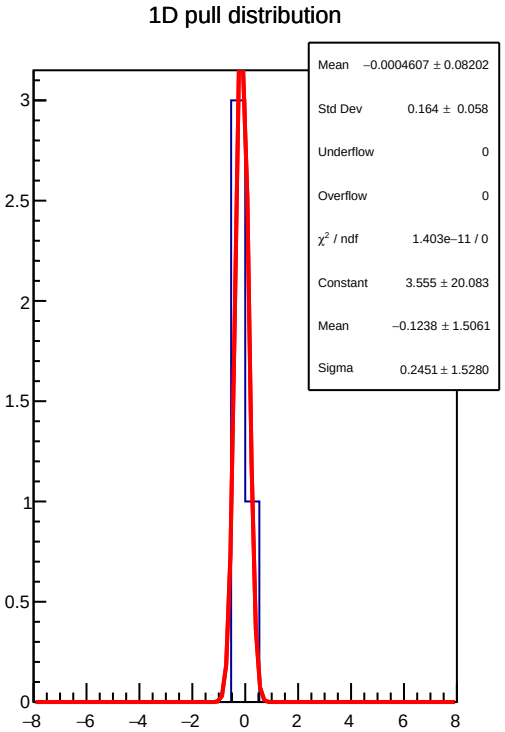

diff_bpm12Y (nm)
χ² / ndf 0.9631 / 3
p0 −9.138 ± 2.322
−2
−4
−6
−8
−10
−12
−14
−16
−18
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
68
69
70
71


1D pull distribution
Mean 0.007224 ± 0.2453
Std Dev 0.4906 ± 0.1735
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

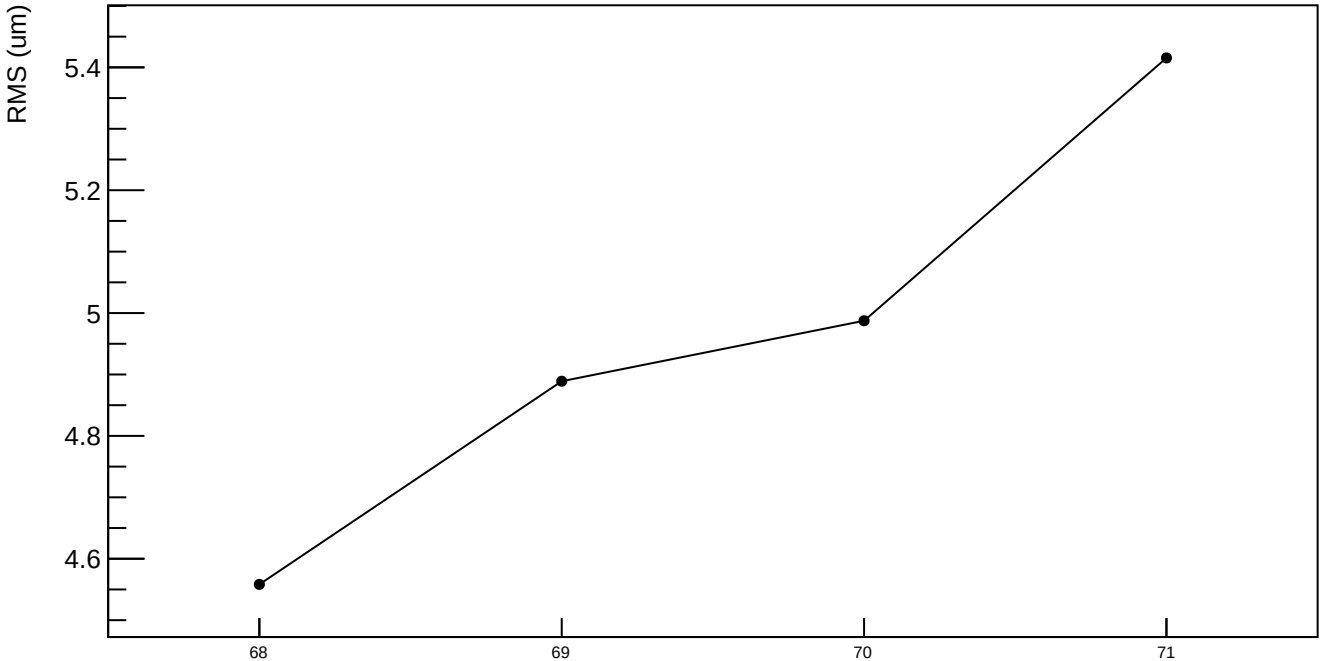
diff_bpm12Y RMS (um)

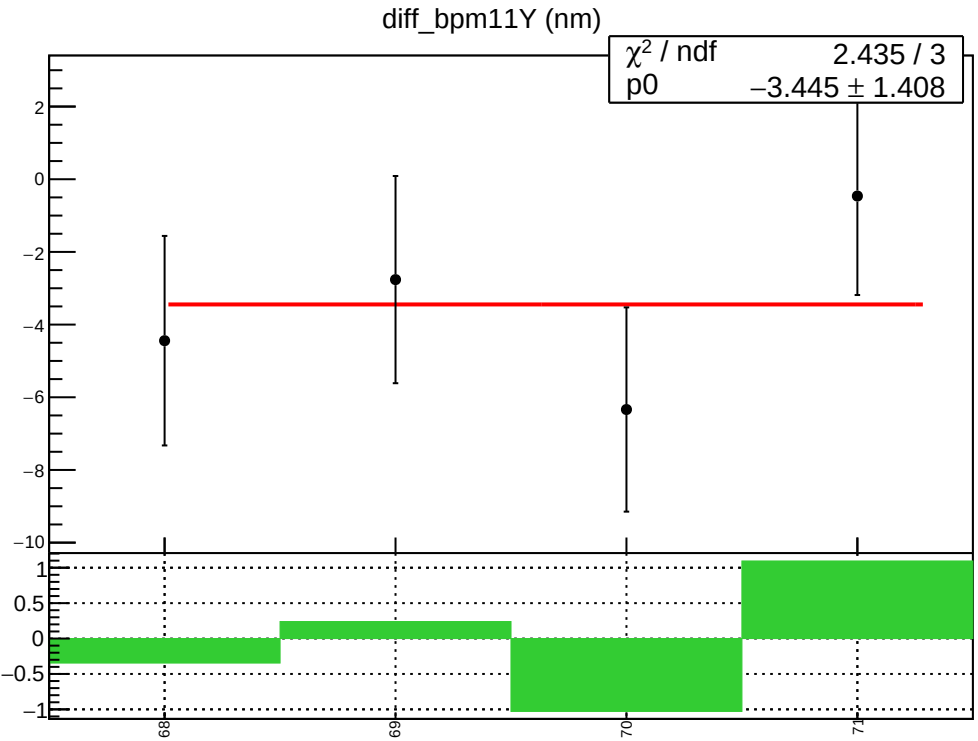


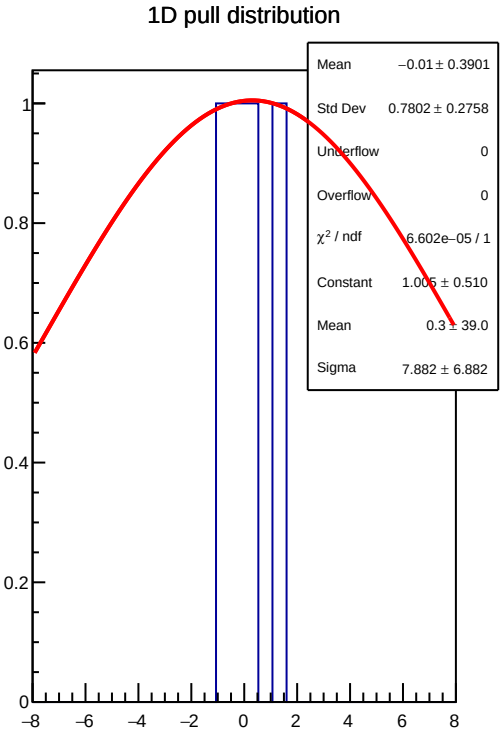

diff_bpm11X (nm)
χ² / ndf 0.1076 / 3
p0 2.546 ± 3.954
14
12
10
8
6
4
2
0
−2
−4
−6
−8
0.25
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
68
69
70
71

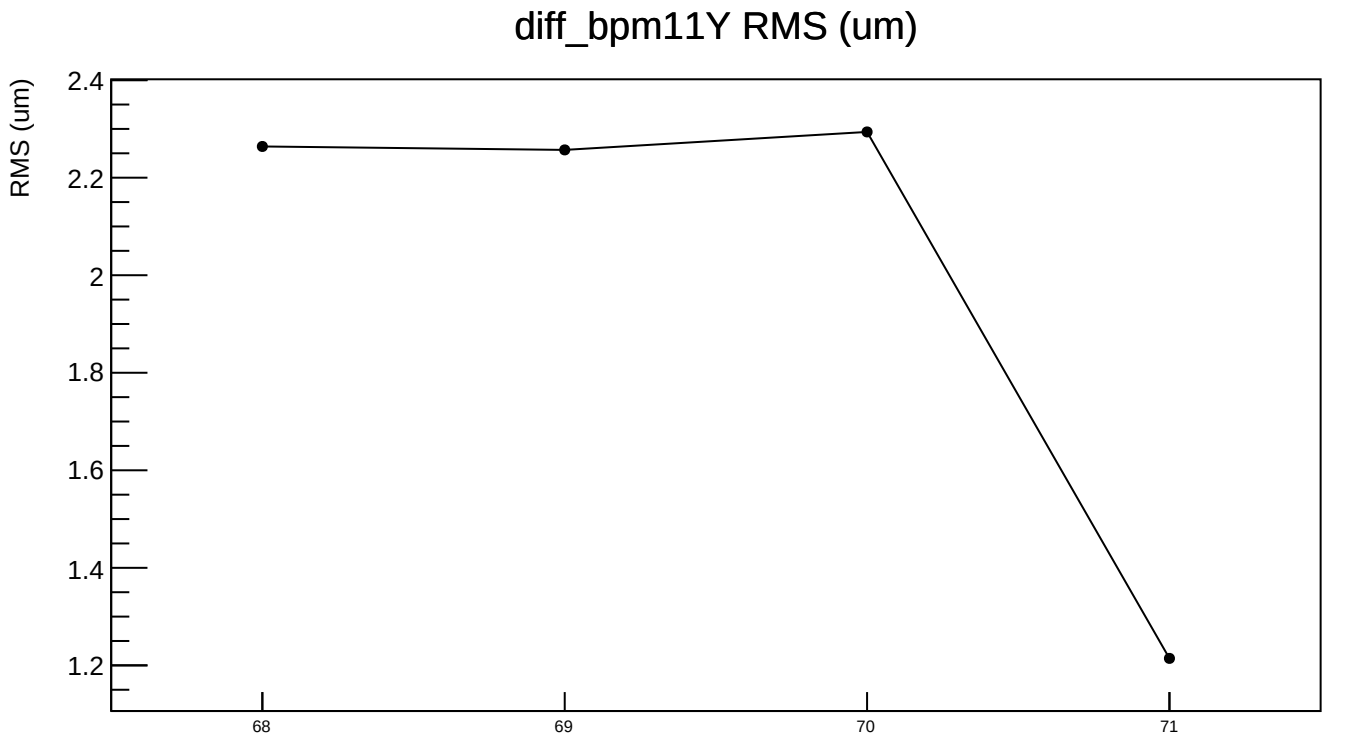

1D pull distribution
Mean −0.0004607 ± 0.08202
Std Dev 0.164 ± 0.058
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean −0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

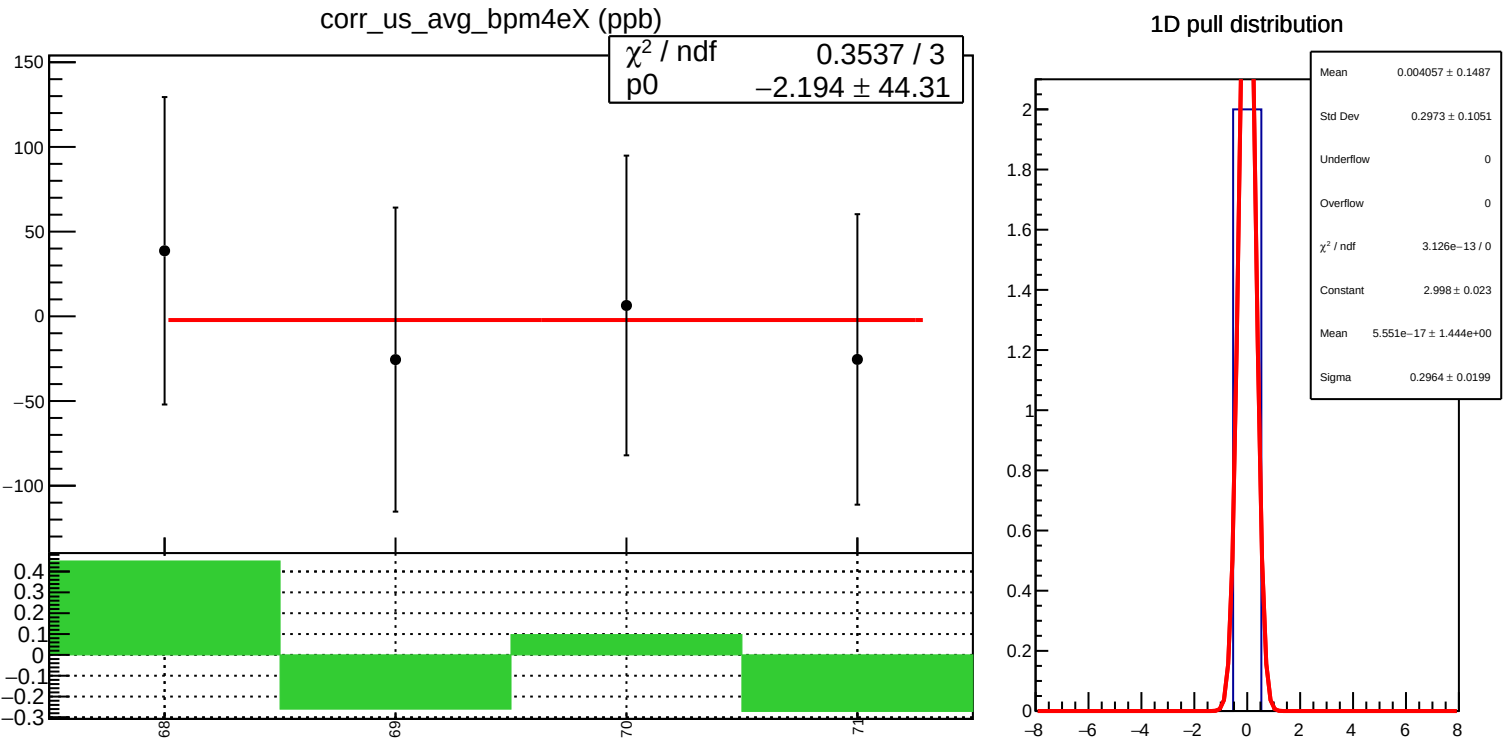
diff_bpm11X RMS (um)

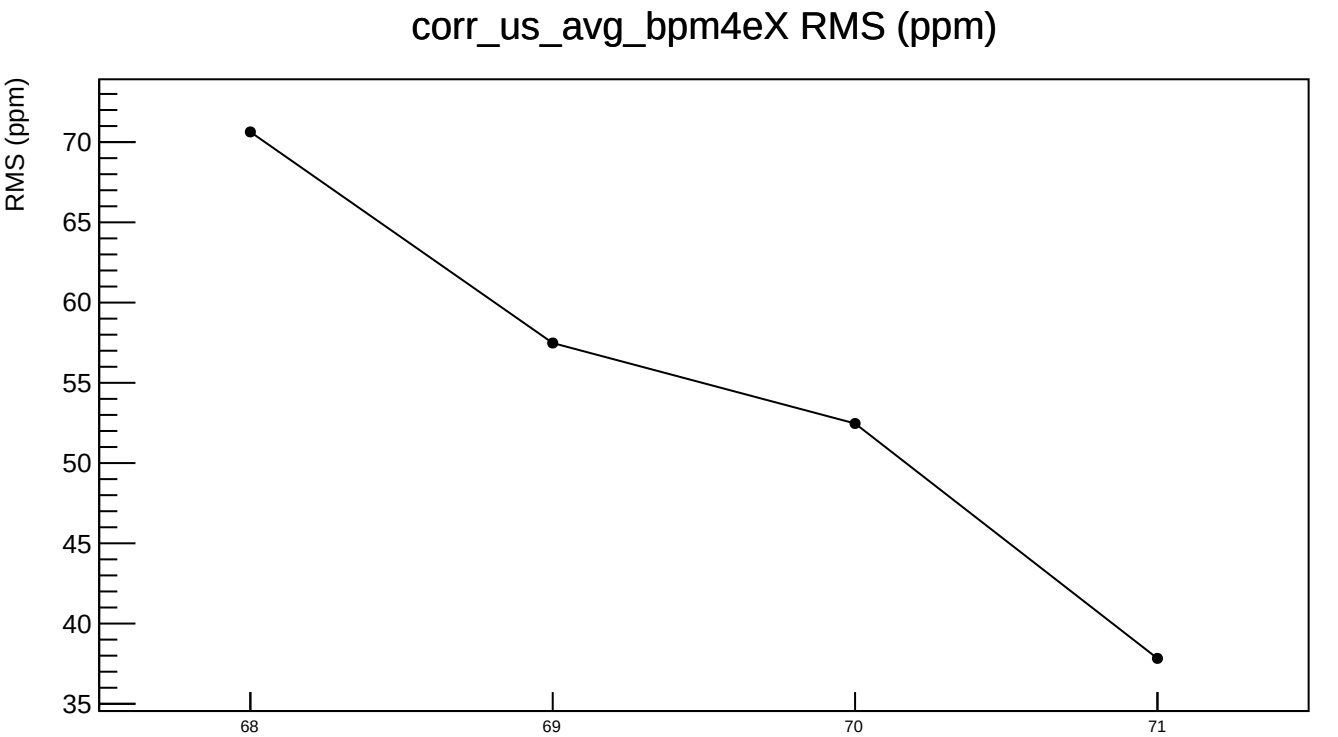


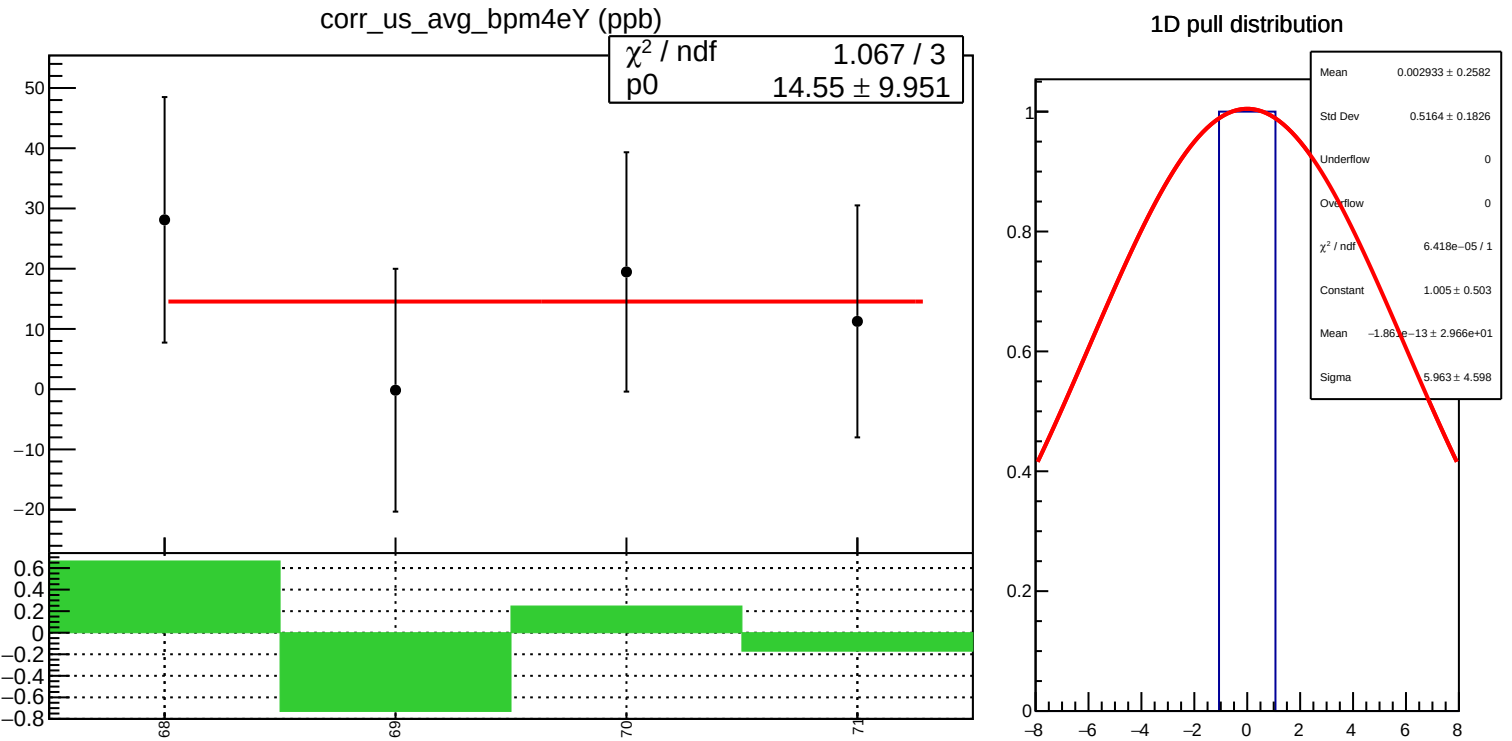

diff_bpm11Y (nm)
χ² / ndf 2.435 / 3
p0 −3.445 ± 1.408
2
0
−2
−4
−6
−8
−10
1
0.5
0
−0.5
−1
68
69
70
71

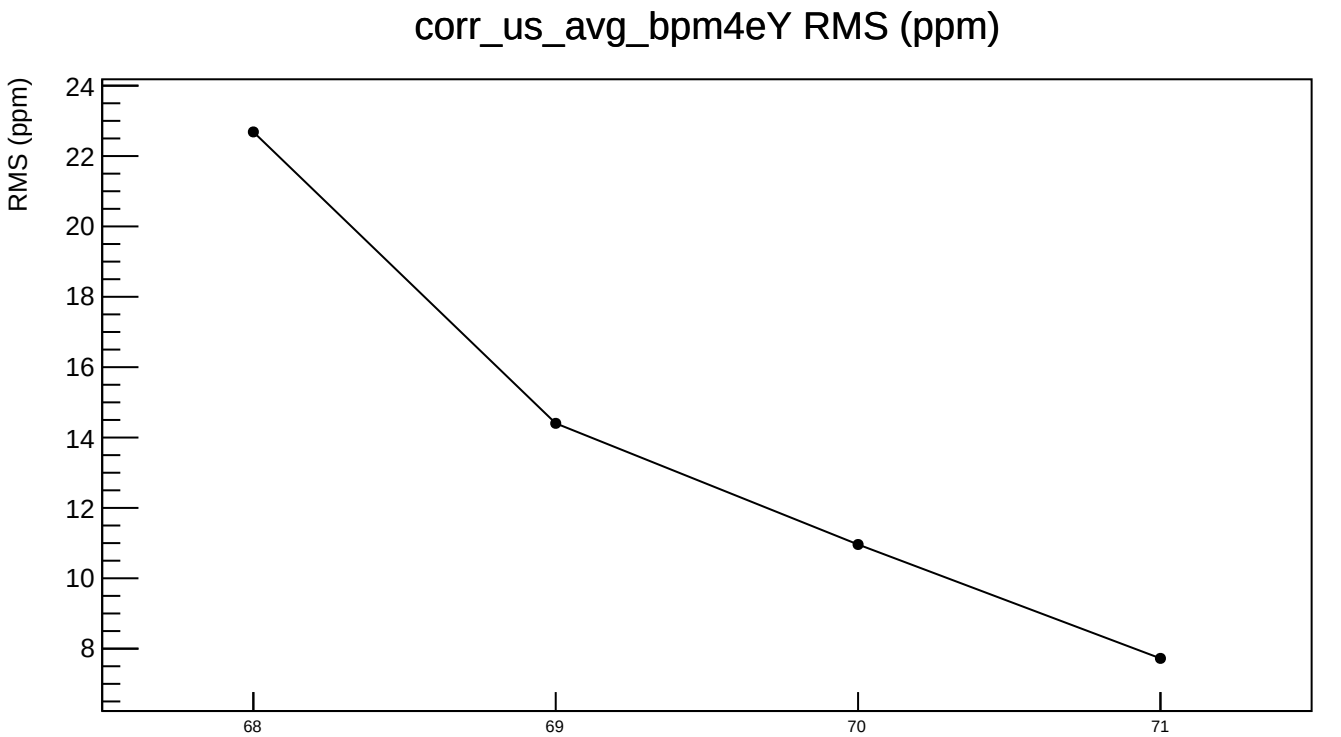

1D pull distribution
Mean −0.01 ± 0.3901
Std Dev 0.7802 ± 0.2758
Underflow 0
Overflow 0
χ² / ndf 6.602e−05 / 1
Constant 1.005 ± 0.510
Mean 0.3 ± 39.0
Sigma 7.882 ± 6.882
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

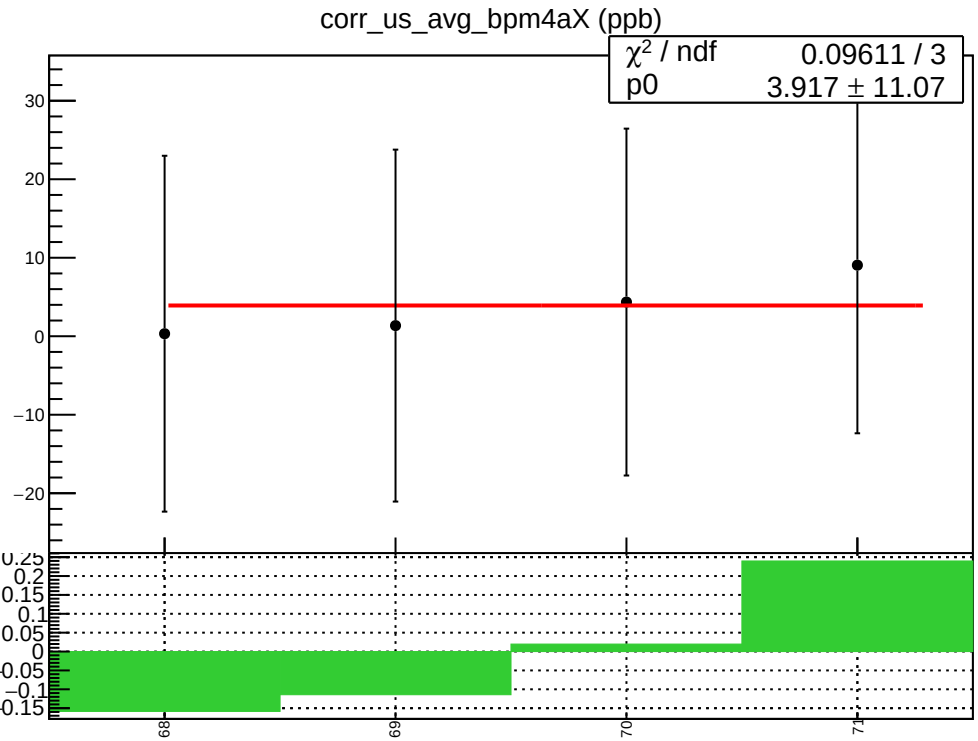

diff_bpm11Y RMS (um)
RMS (um)
2.4
2.2
2
1.8
1.6
1.4
1.2
68
69
70
71

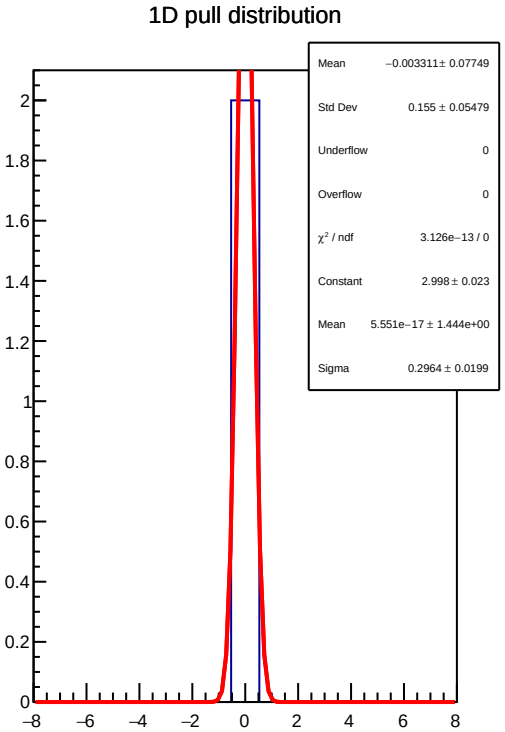

corr_us_avg_bpm4eX (ppb)
χ² / ndf 0.3537 / 3
p0 −2.194 ± 44.31
150
100
50
0
−50
−100
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
68
69
70
71
1D pull distribution
Mean 0.004057 ± 0.1487
Std Dev 0.2973 ± 0.1051
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 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

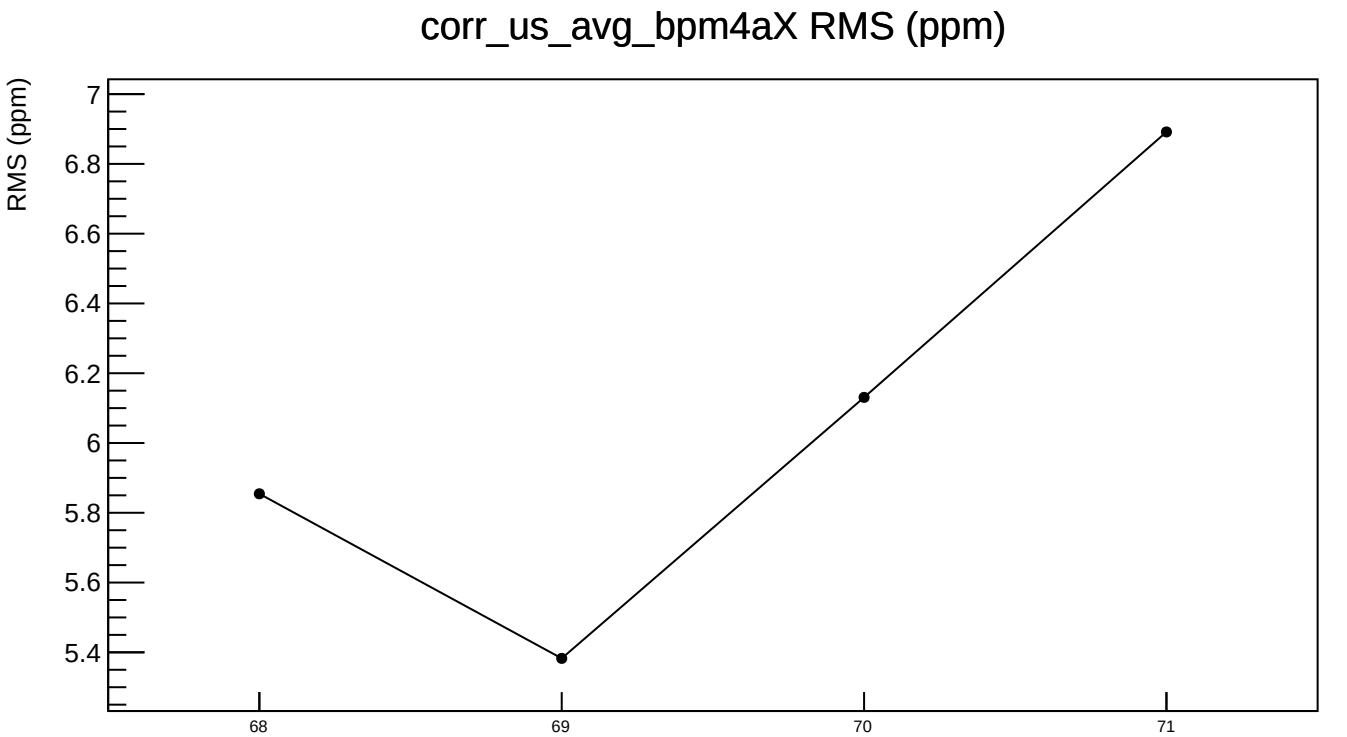

corr_us_avg_bpm4eX RMS (ppm)
RMS (ppm)
70
65
60
55
50
45
40
35
68
69
70
71

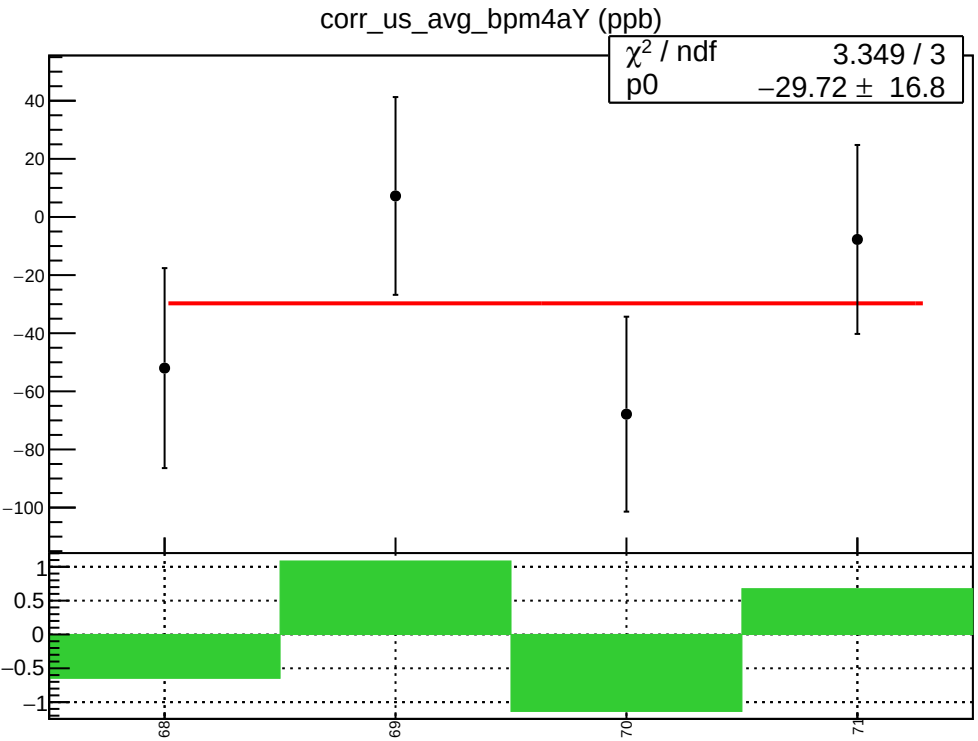

corr_us_avg_bpm4eY (ppb)
χ² / ndf 1.067 / 3
p0 14.55 ± 9.951
50
40
30
20
10
0
−10
−20
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
68
69
70
71
1D pull distribution
Mean 0.002933 ± 0.2582
Std Dev 0.5164 ± 0.1826
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

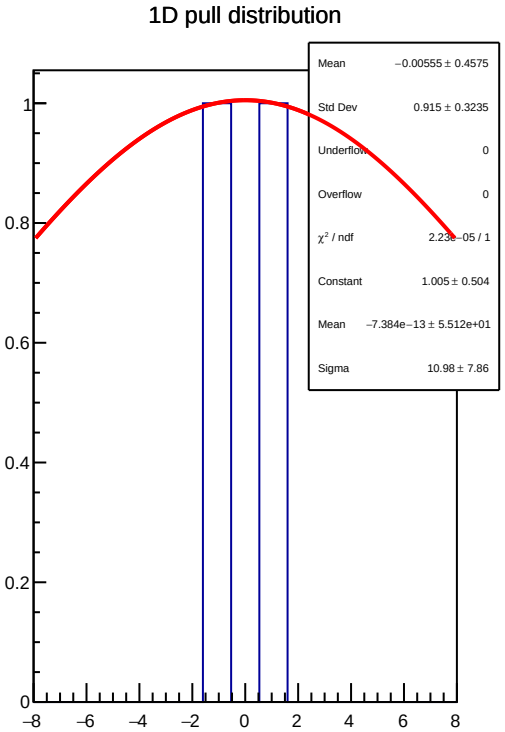

corr_us_avg_bpm4eY RMS (ppm)
RMS (ppm)
24
22
20
18
16
14
12
10
8
68
69
70
71

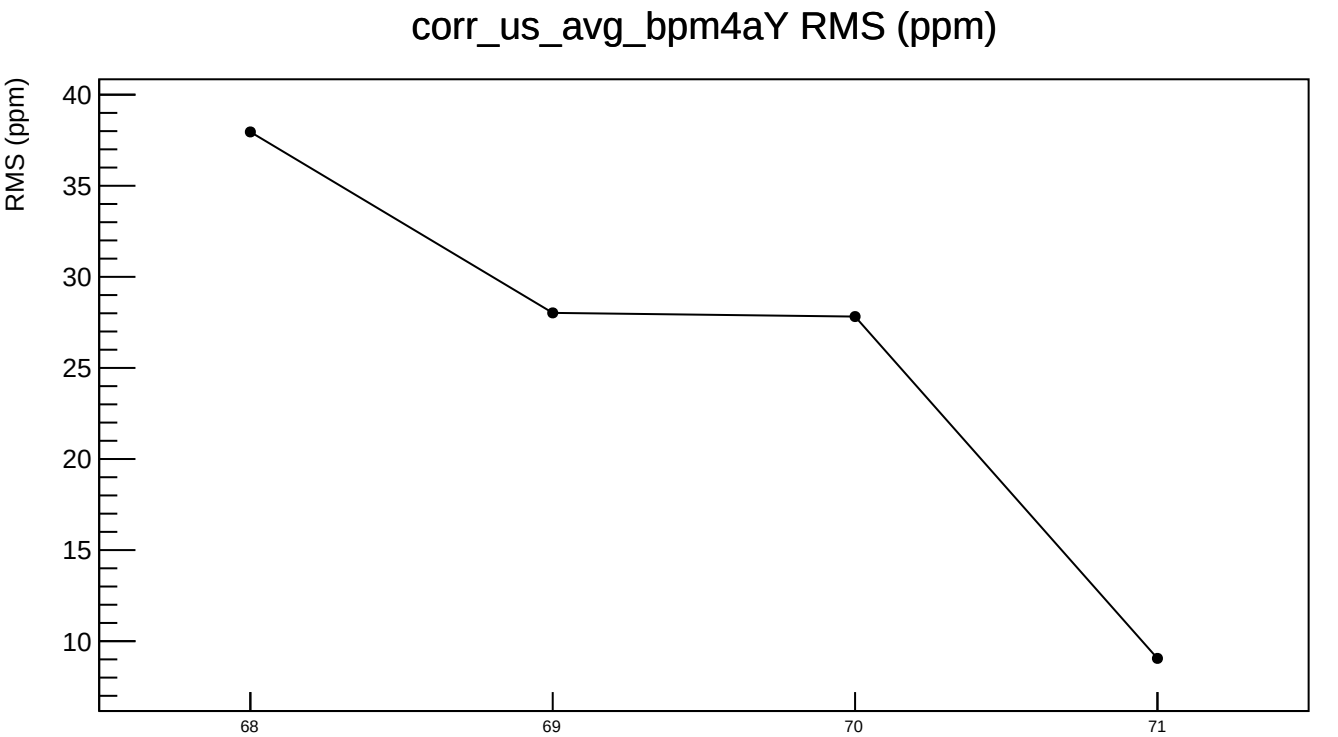

corr_us_avg_bpm4aX (ppb)
χ² / ndf 0.09611 / 3
p0 3.917 ± 11.07
30
20
10
0
−10
−20
0.25
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
68
69
70
71

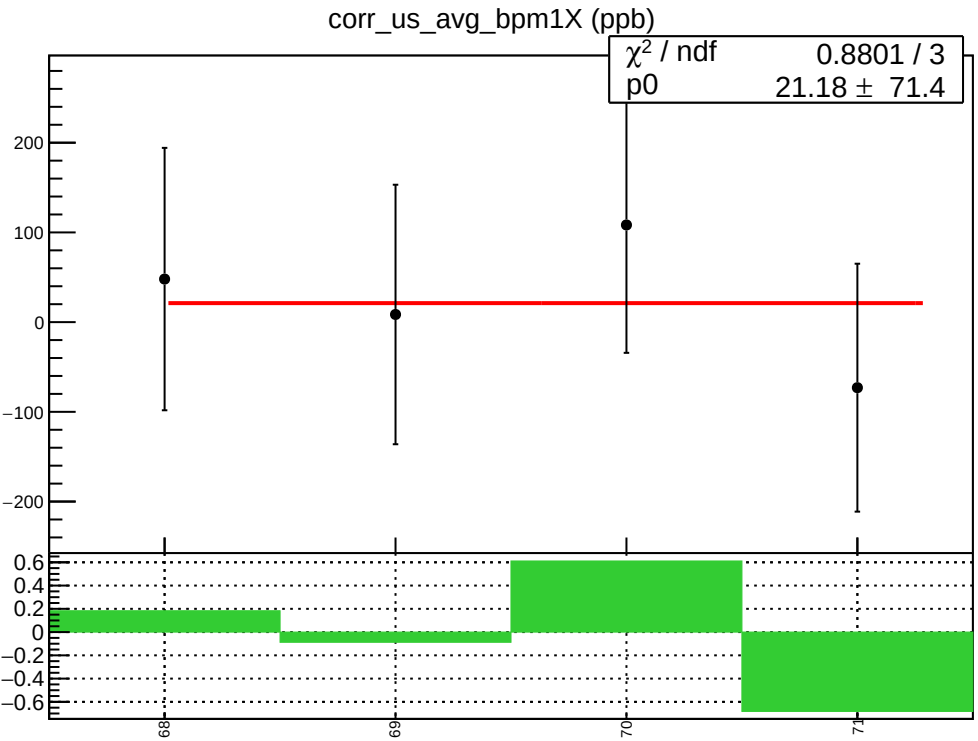

1D pull distribution
Mean −0.003311 ± 0.07749
Std Dev 0.155 ± 0.05479
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

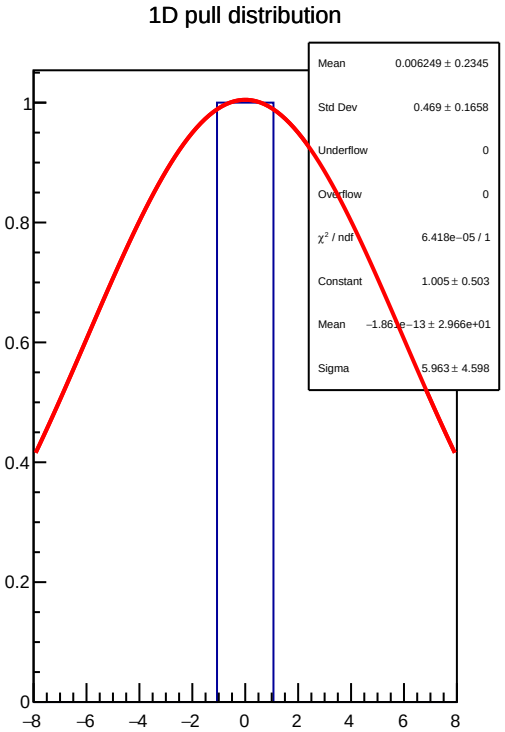

corr_us_avg_bpm4aX RMS (ppm)
RMS (ppm)
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
68
69
70
71

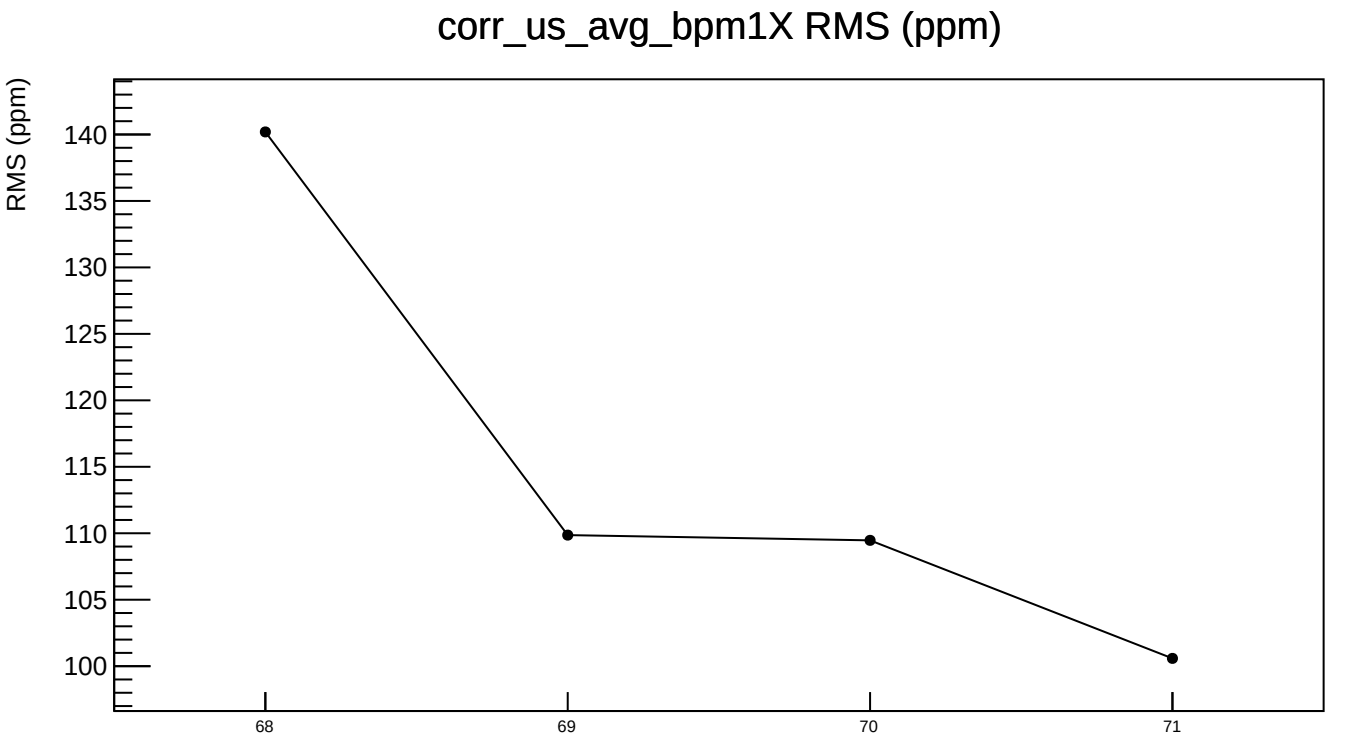

corr_us_avg_bpm4aY (ppb)
χ² / ndf 3.349 / 3
p0 −29.72 ± 16.8
40
20
0
−20
−40
−60
−80
−100
1
0.5
0
−0.5
−1
68
69
70
71

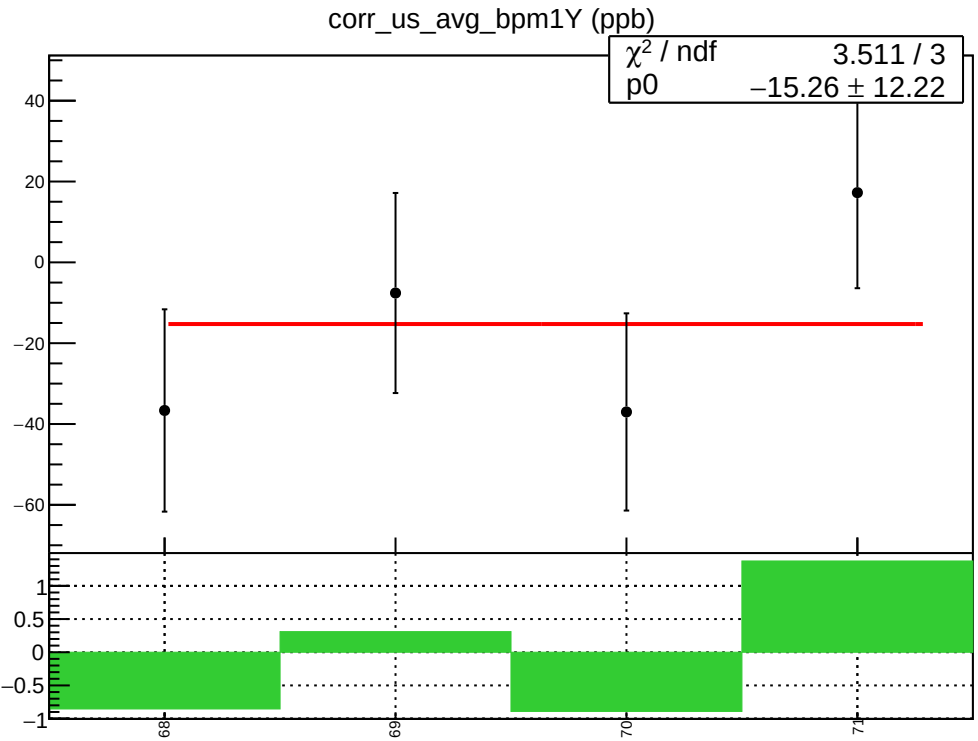

1D pull distribution
Mean −0.00555 ± 0.4575
Std Dev 0.915 ± 0.3235
Underflow 0
Overflow 0
χ² / ndf 2.23e−05 / 1
Constant 1.005 ± 0.504
Mean −7.384e−13 ± 5.512e+01
Sigma 10.98 ± 7.86
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

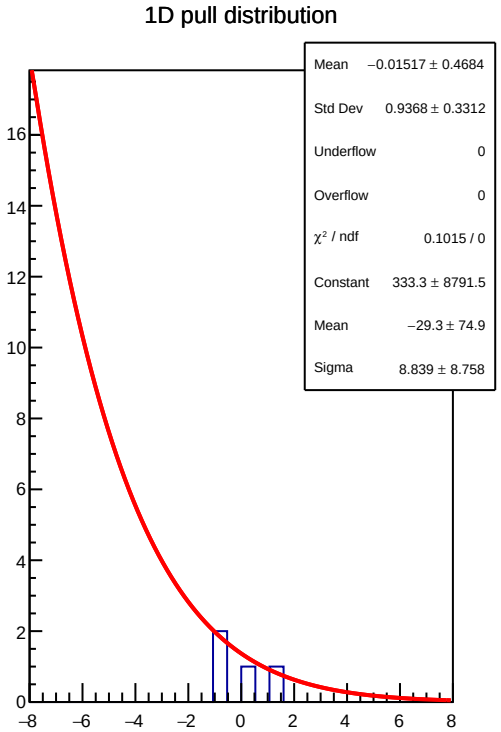

corr_us_avg_bpm4aY RMS (ppm)
RMS (ppm)
40
35
30
25
20
15
10
68
69
70
71

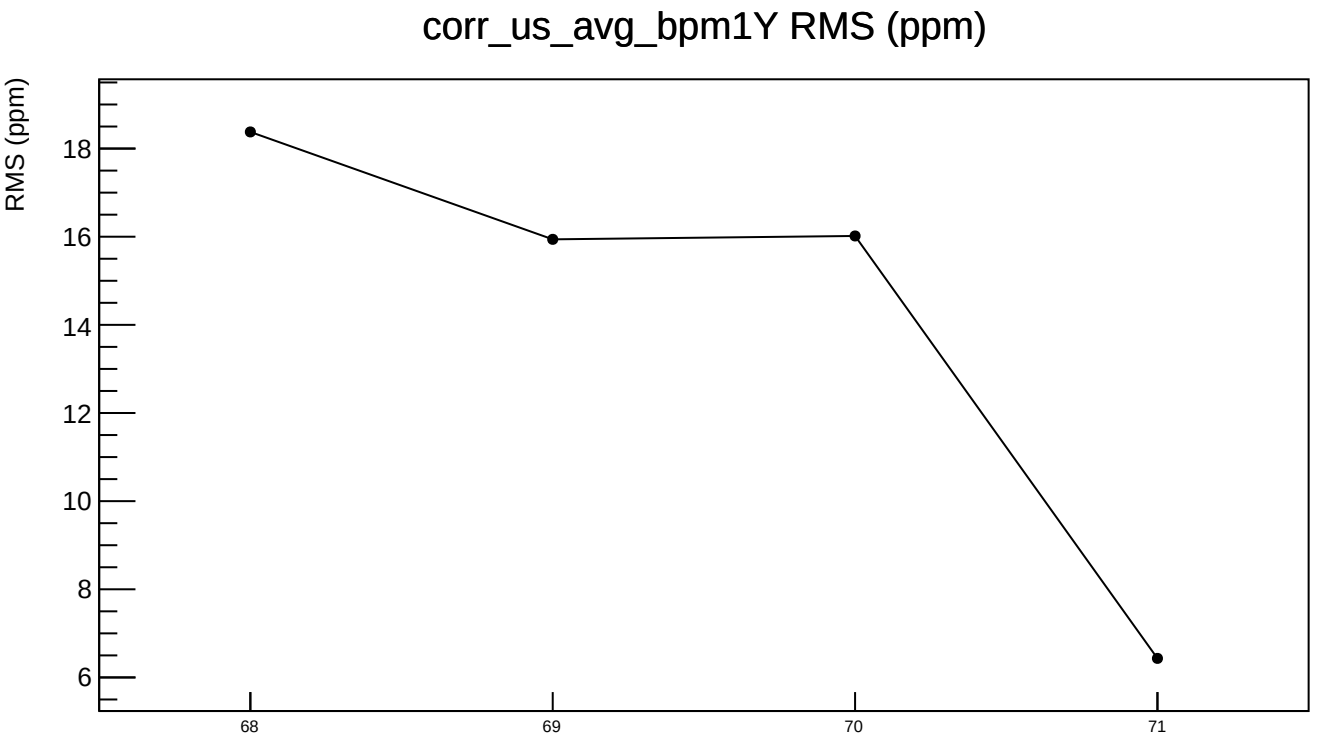

corr_us_avg_bpm1X (ppb)
χ² / ndf 0.8801 / 3
p0 21.18 ± 71.4
200
100
0
−100
−200
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71

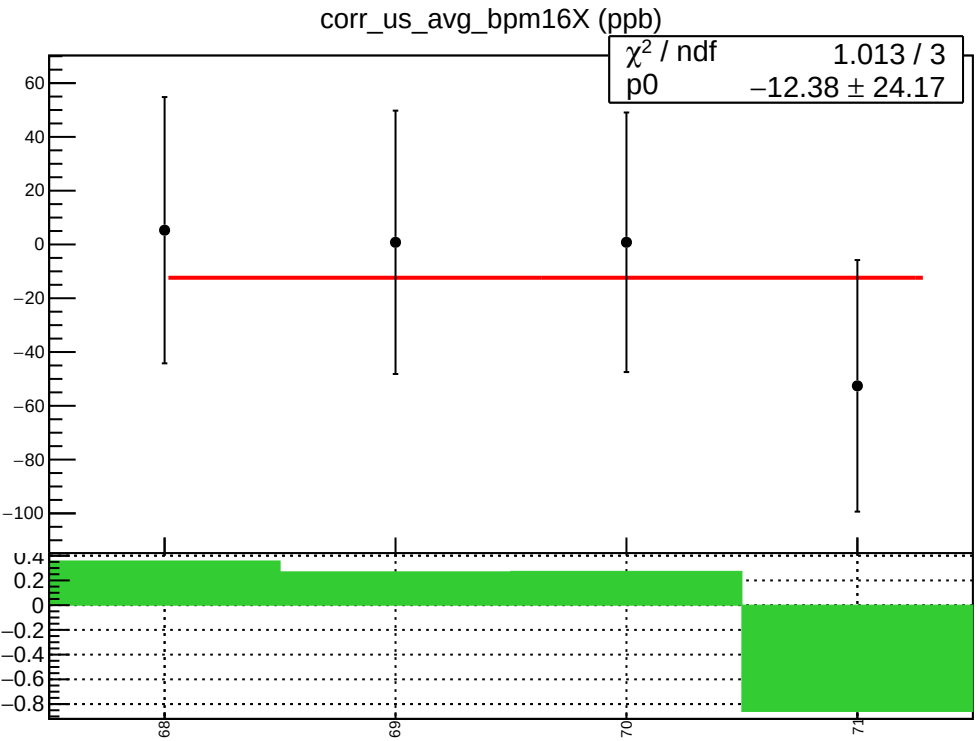

1D pull distribution
Mean 0.006249 ± 0.2345
Std Dev 0.469 ± 0.1658
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

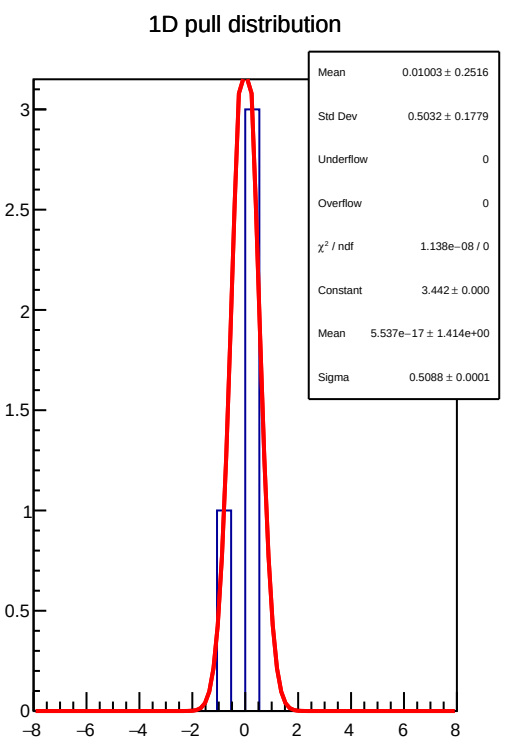

corr_us_avg_bpm1X RMS (ppm)
RMS (ppm)
140
135
130
125
120
115
110
105
100
68
69
70
71


corr_us_avg_bpm1Y (ppb)
χ² / ndf 3.511 / 3
p0 −15.26 ± 12.22
40
20
0
−20
−40
−60
1
0.5
0
−0.5
−1
68
69
70
71

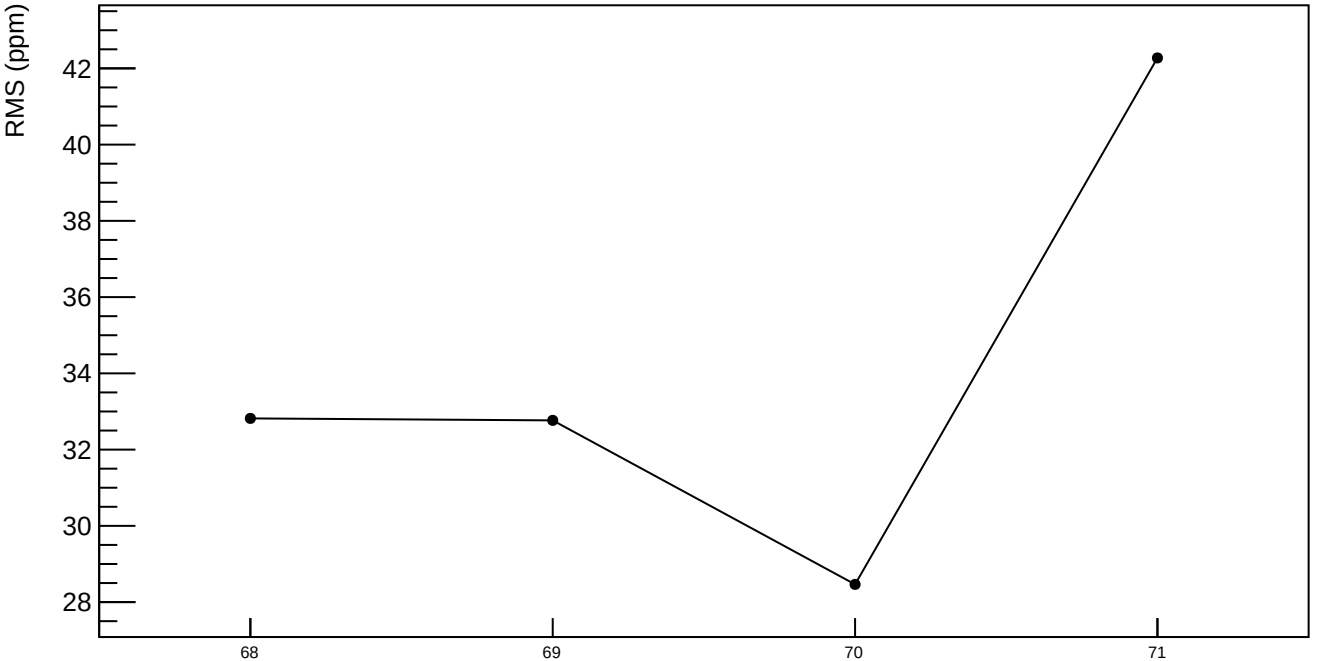

1D pull distribution
Mean −0.01517 ± 0.4684
Std Dev 0.9368 ± 0.3312
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 333.3 ± 8791.5
Mean −29.3 ± 74.9
Sigma 8.839 ± 8.758
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

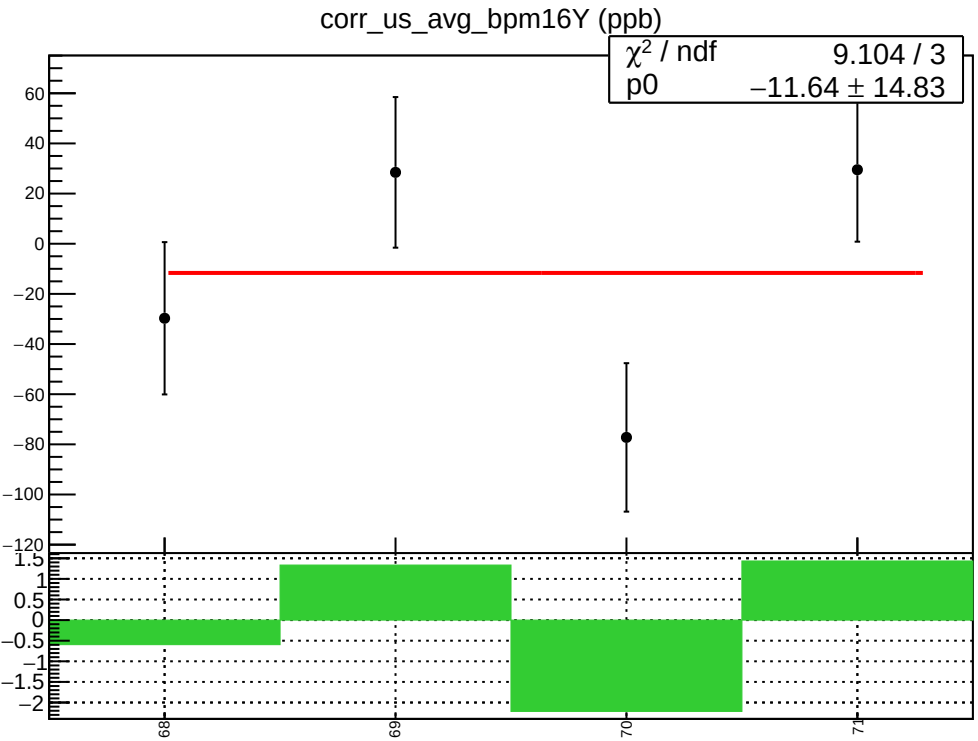

corr_us_avg_bpm1Y RMS (ppm)
RMS (ppm)
18
16
14
12
10
8
6
68
69
70
71

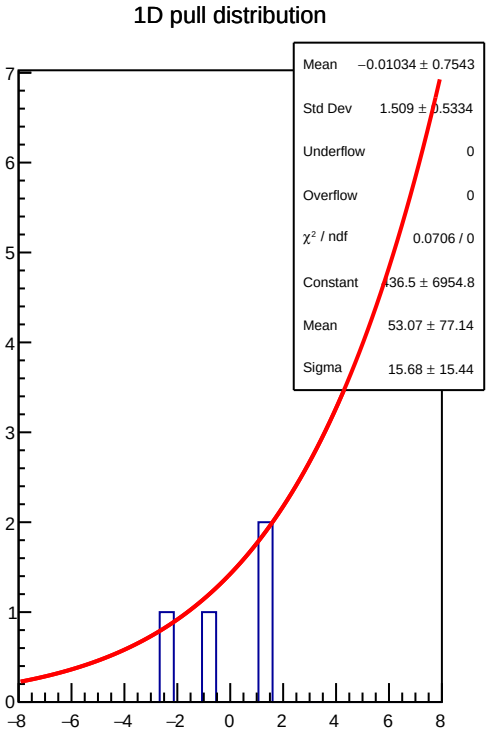

corr_us_avg_bpm16X (ppb)
χ² / ndf 1.013 / 3
p0 −12.38 ± 24.17
60
40
20
0
−20
−40
−60
−80
−100
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
68
69
70
71

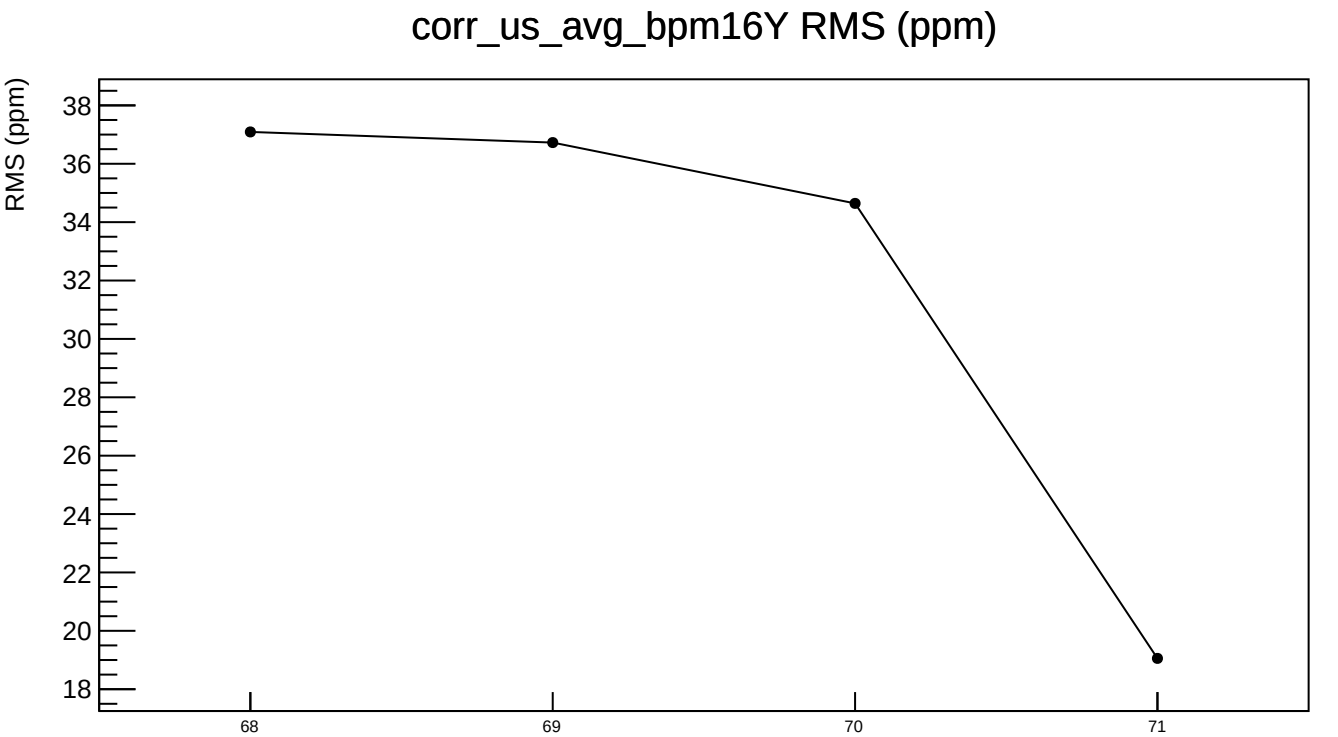

1D pull distribution
Mean 0.01003 ± 0.2516
Std Dev 0.5032 ± 0.1779
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.537e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0001
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

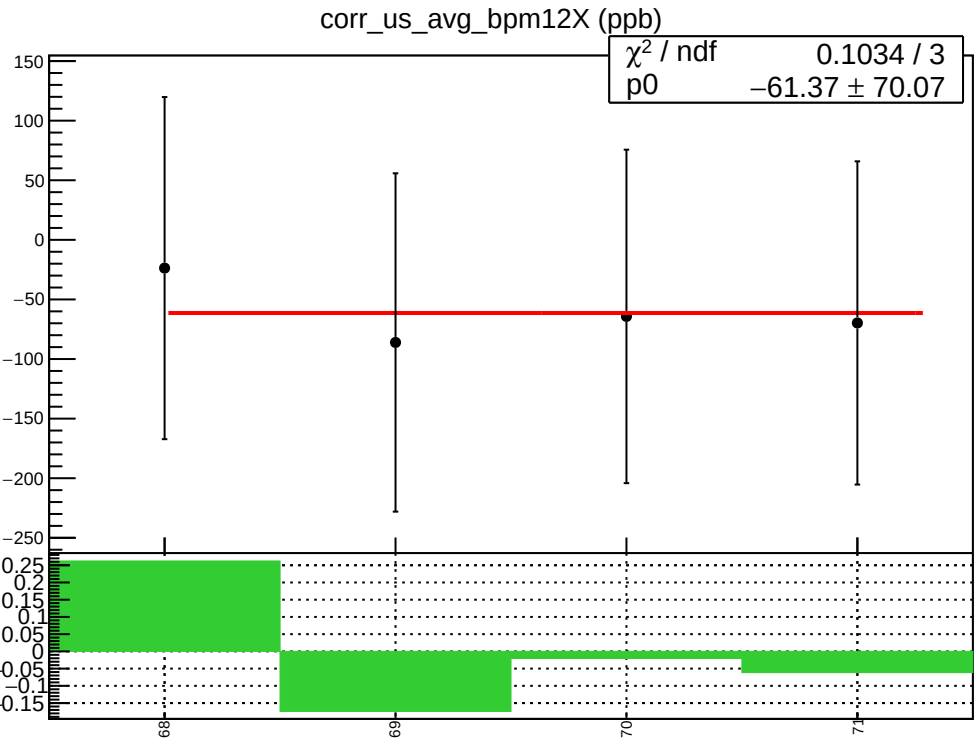
corr_us_avg_bpm16X RMS (ppm)

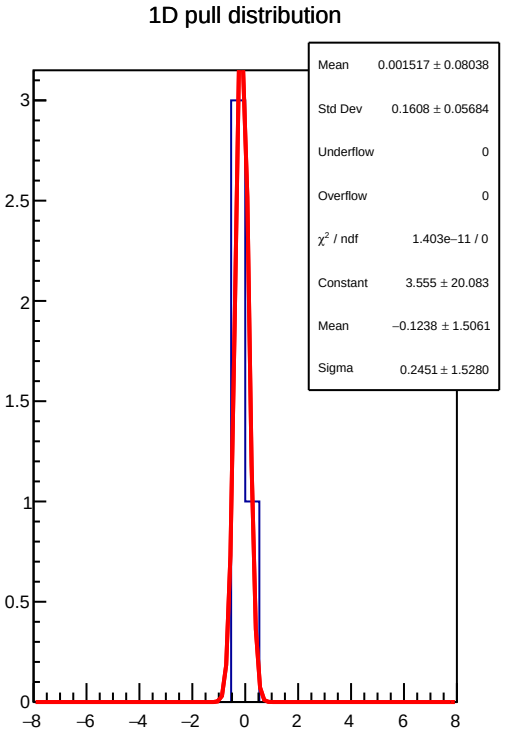



corr_us_avg_bpm16Y (ppb)
χ² / ndf 9.104 / 3
p0 −11.64 ± 14.83
60
40
20
0
−20
−40
−60
−80
−100
−120
1.5
1
0.5
0
−0.5
−1
−1.5
−2
68
69
70
71

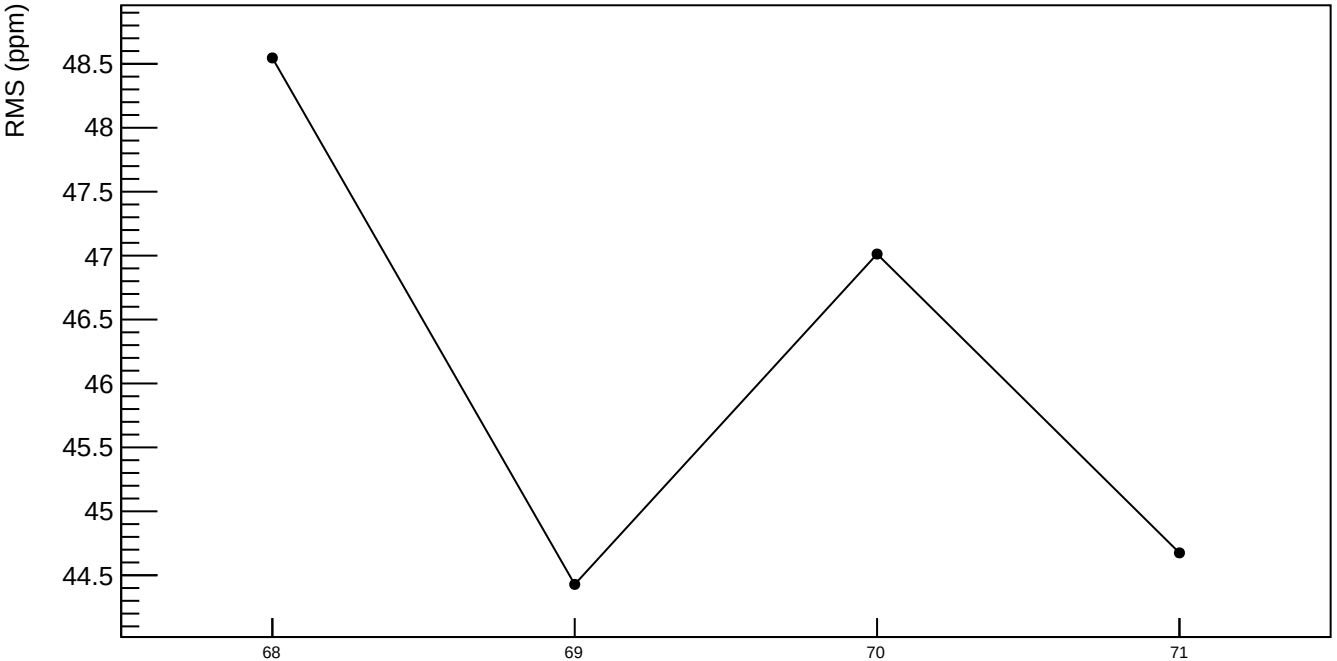

1D pull distribution
Mean −0.01034 ± 0.7543
Std Dev 1.509 ± 0.5334
Underflow 0
Overflow 0
χ² / ndf 0.0706 / 0
Constant 436.5 ± 6954.8
Mean 53.07 ± 77.14
Sigma 15.68 ± 15.44
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

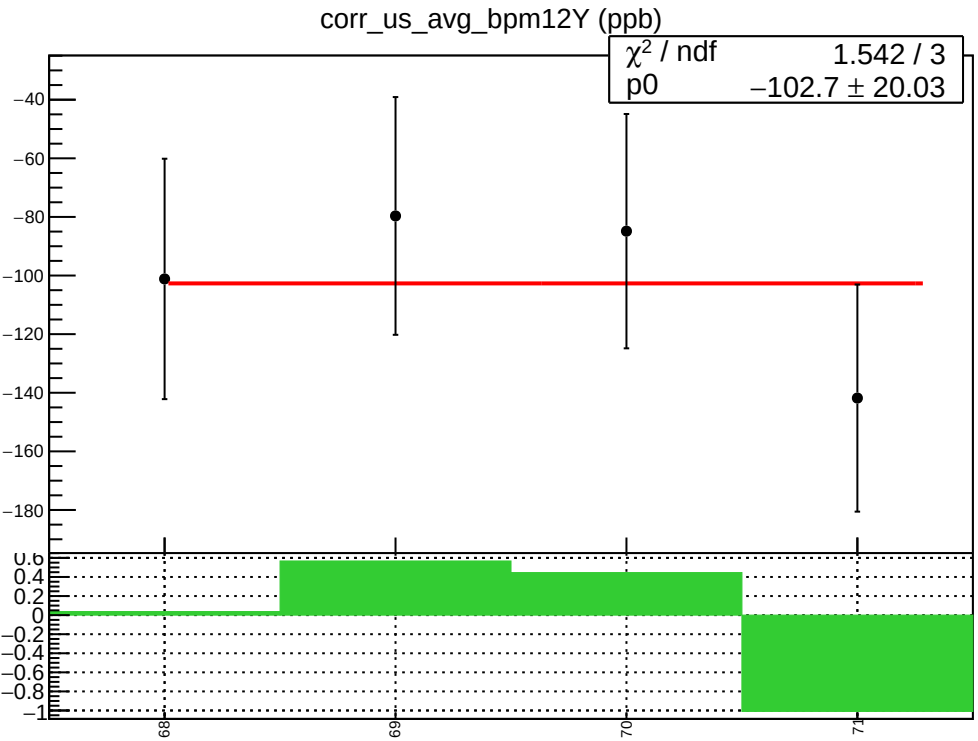

corr_us_avg_bpm16Y RMS (ppm)
RMS (ppm)
38
36
34
32
30
28
26
24
22
20
18
68
69
70
71

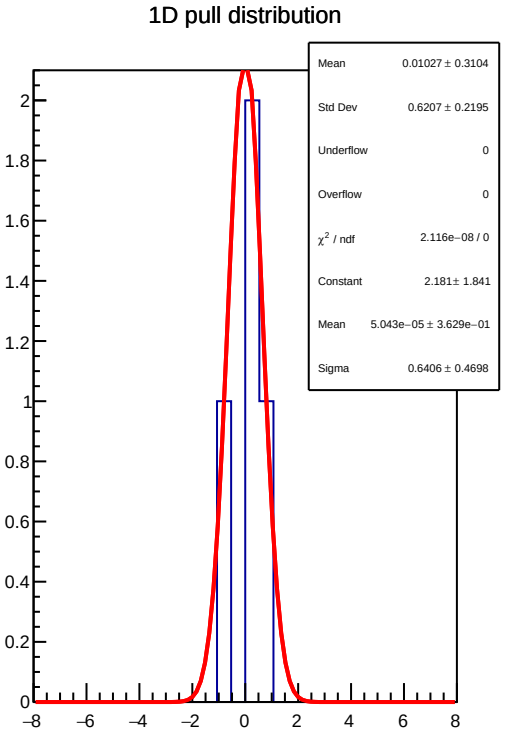

corr_us_avg_bpm12X (ppb)
χ² / ndf 0.1034 / 3
p0 −61.37 ± 70.07
150
100
50
0
−50
−100
−150
−200
−250
0.25
0.2
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
68
69
70
71


1D pull distribution
Mean 0.001517 ± 0.08038
Std Dev 0.1608 ± 0.05684
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

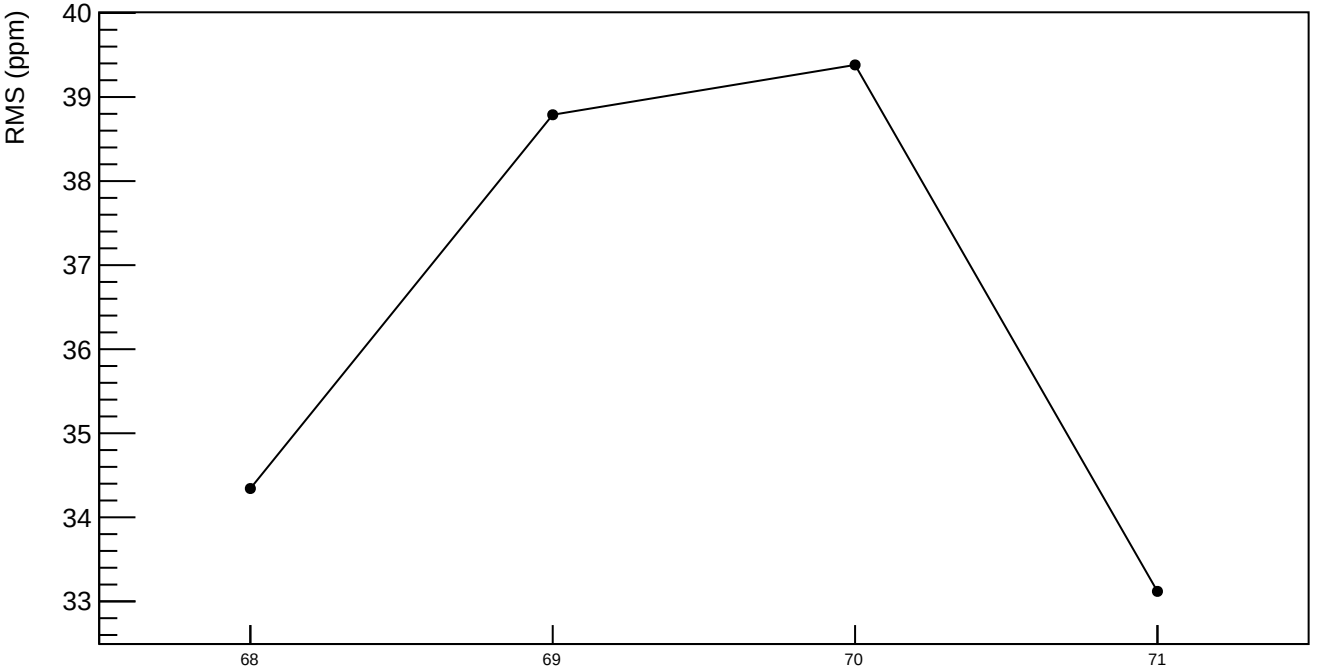
corr_us_avg_bpm12X RMS (ppm)

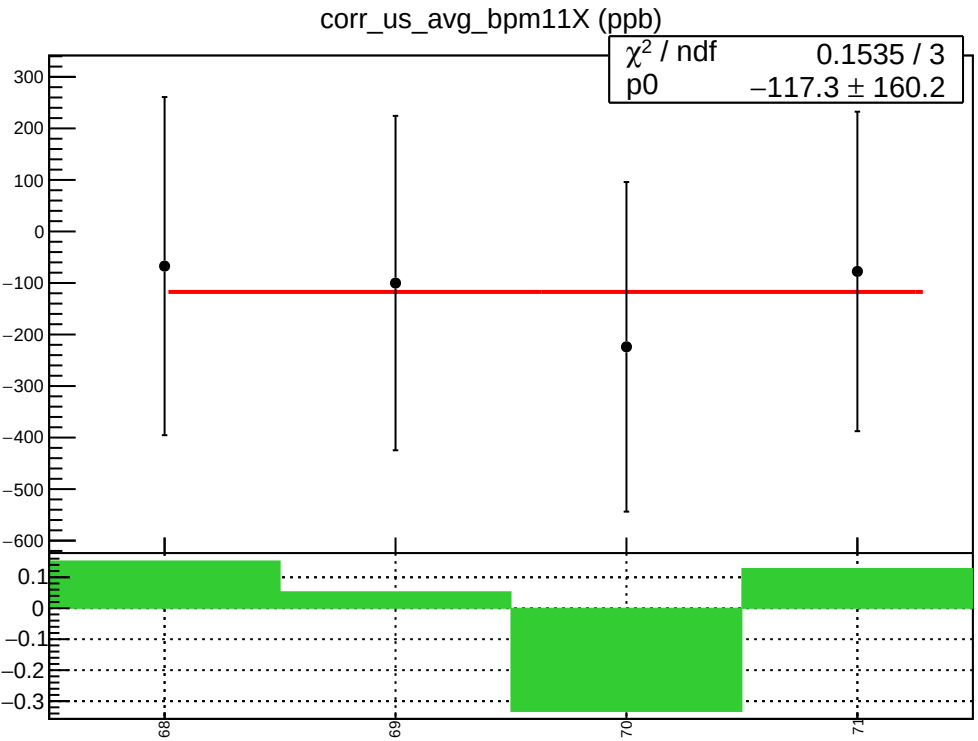


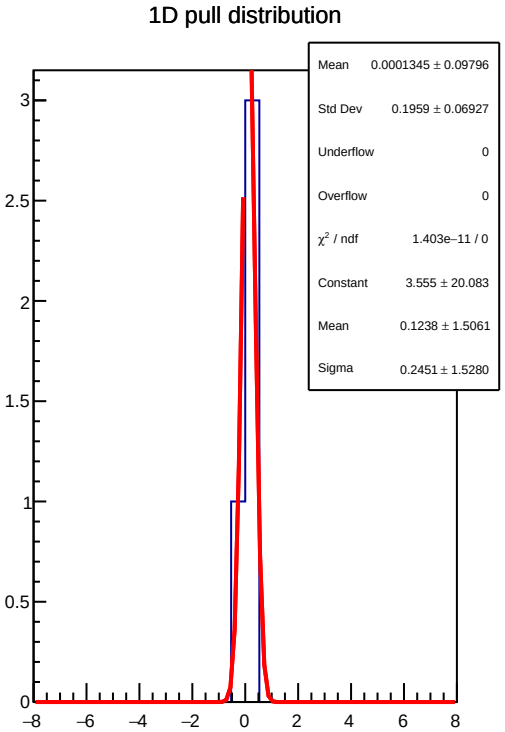

corr_us_avg_bpm12Y (ppb)
χ² / ndf 1.542 / 3
p0 −102.7 ± 20.03
−40
−60
−80
−100
−120
−140
−160
−180
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
68
69
70
71


1D pull distribution
Mean 0.01027 ± 0.3104
Std Dev 0.6207 ± 0.2195
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

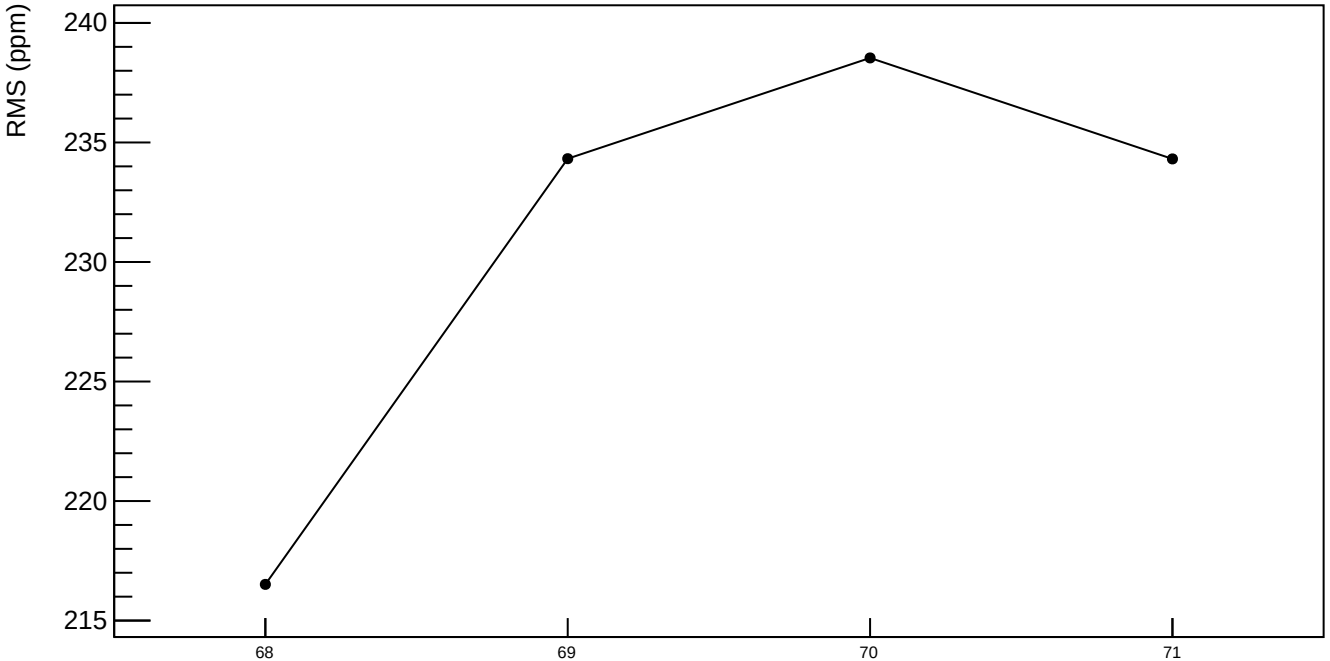
corr_us_avg_bpm12Y RMS (ppm)

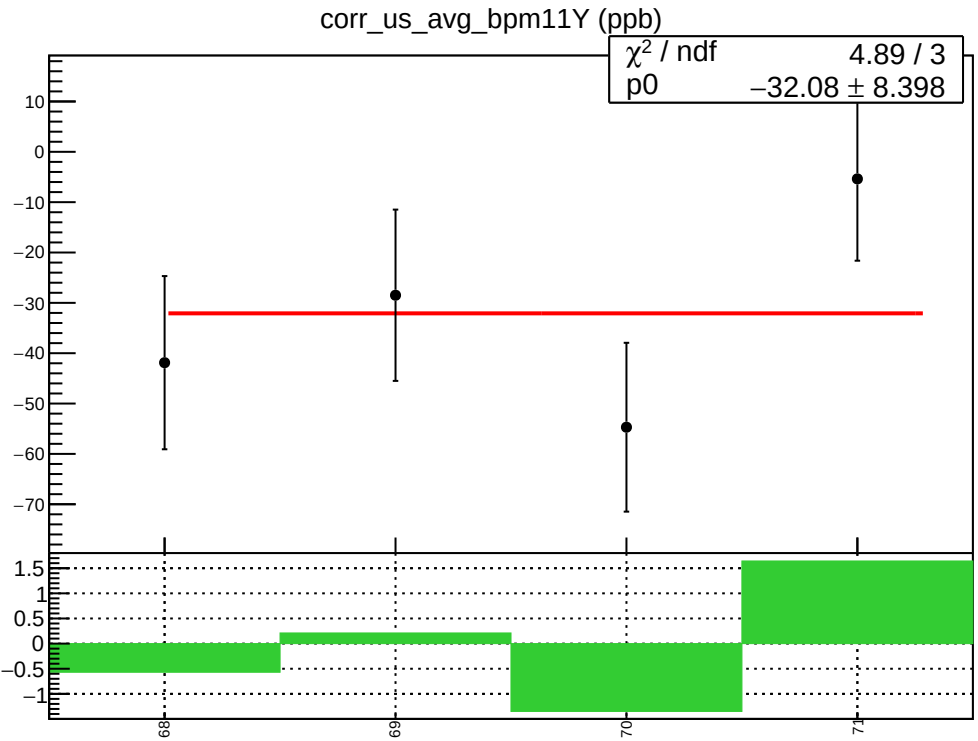


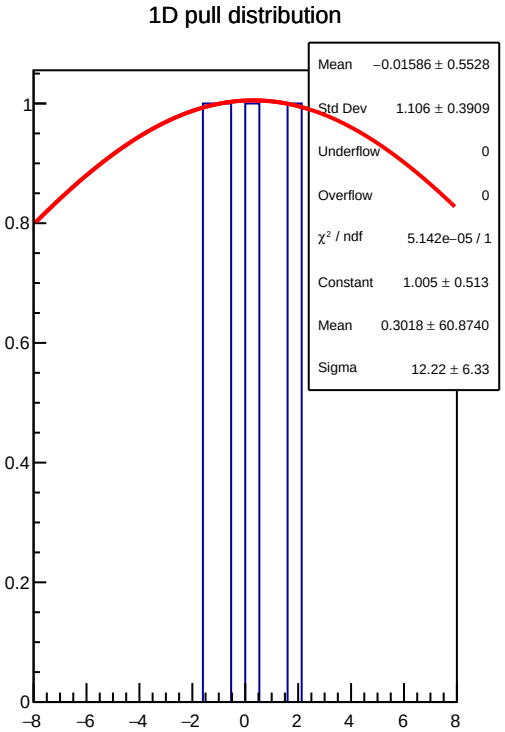

corr_us_avg_bpm11X (ppb)
χ² / ndf 0.1535 / 3
p0 −117.3 ± 160.2
300
200
100
0
−100
−200
−300
−400
−500
−600
0.1
0
−0.1
−0.2
−0.3
68
69
70
71

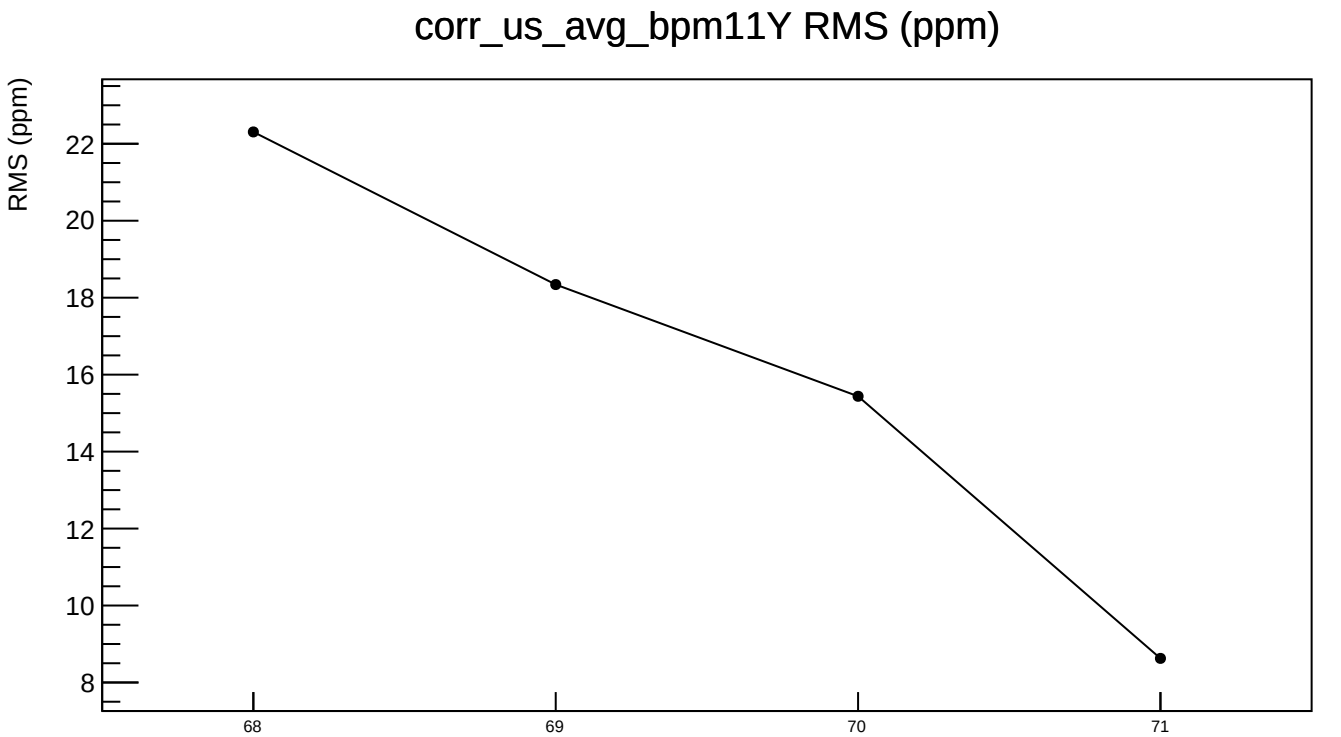

1D pull distribution
Mean 0.0001345 ± 0.09796
Std Dev 0.1959 ± 0.06927
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

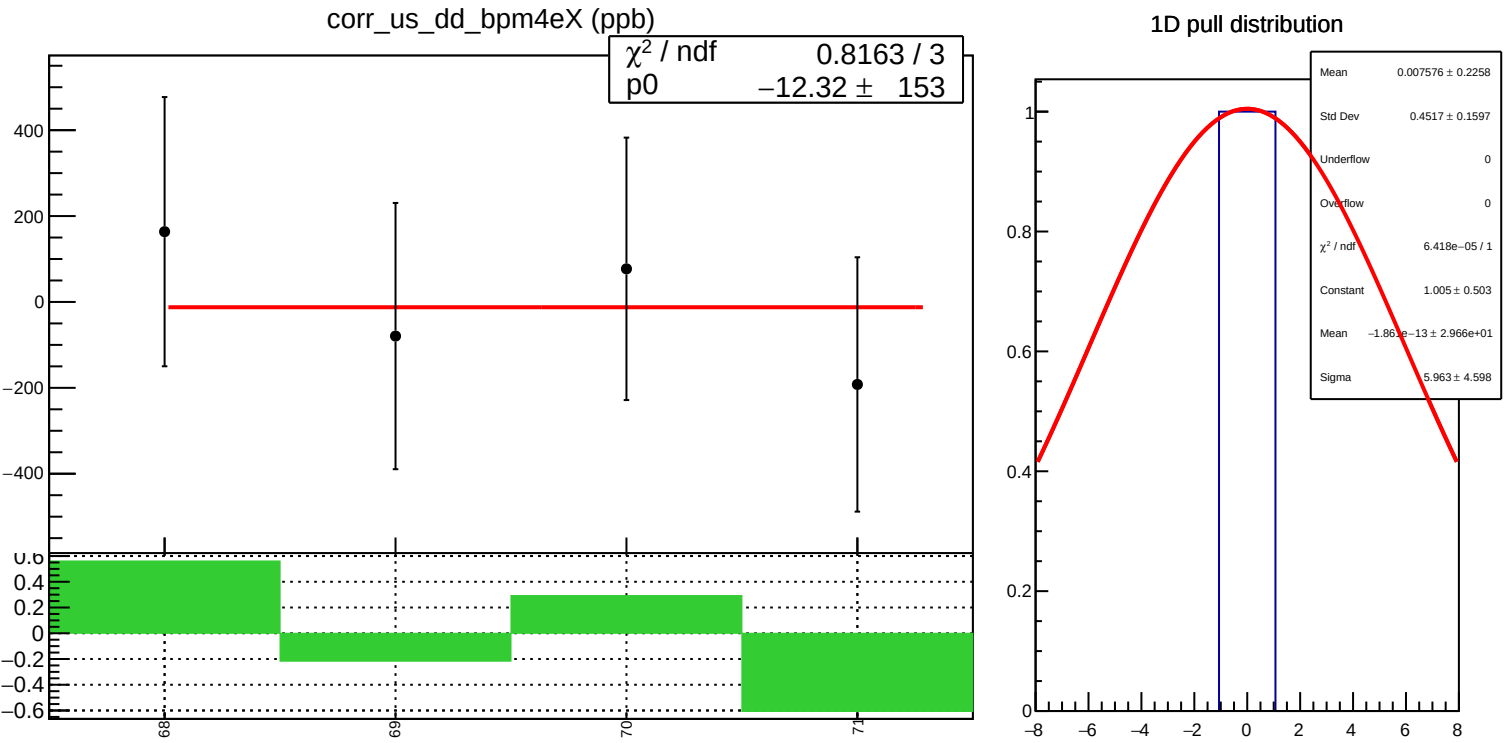
corr_us_avg_bpm11X RMS (ppm)



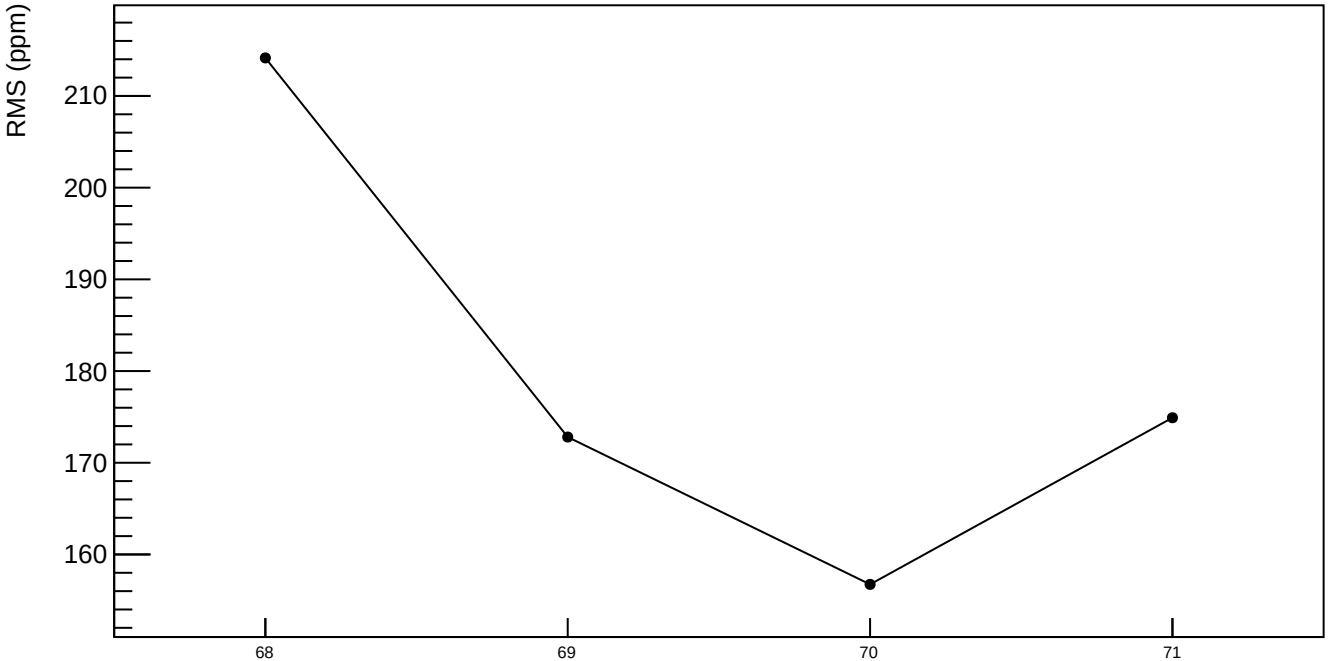

corr_us_avg_bpm11Y (ppb)
χ² / ndf 4.89 / 3
p0 −32.08 ± 8.398
10
0
−10
−20
−30
−40
−50
−60
−70
1.5
1
0.5
0
−0.5
−1
68
69
70
71

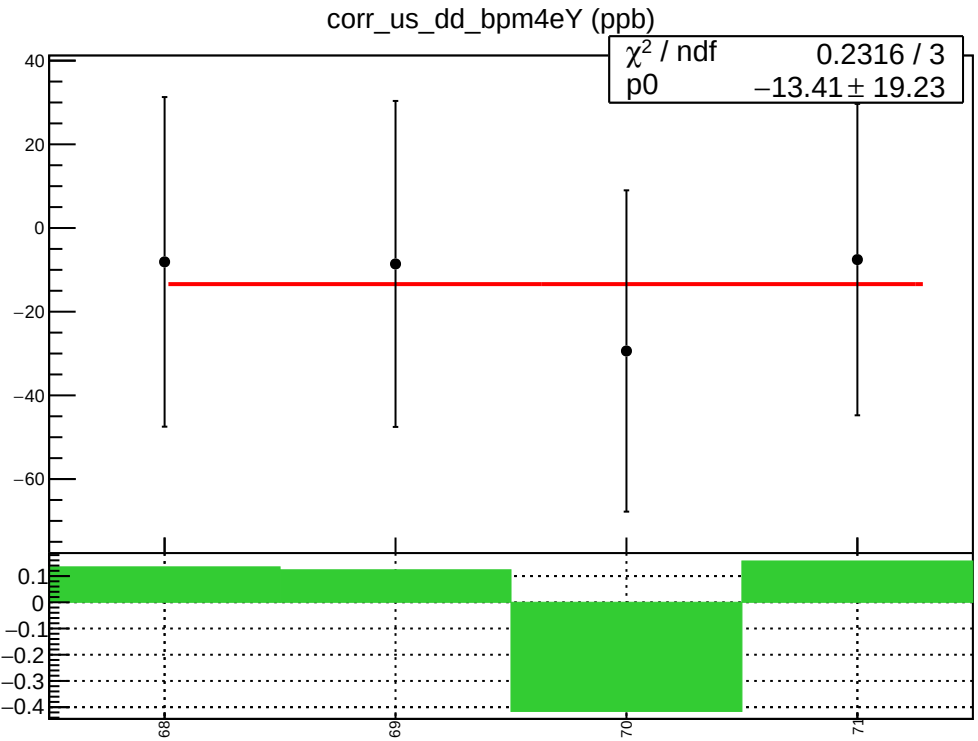

1D pull distribution
Mean −0.01586 ± 0.5528
Std Dev 1.106 ± 0.3909
Underflow 0
Overflow 0
χ² / ndf 5.142e−05 / 1
Constant 1.005 ± 0.513
Mean 0.3018 ± 60.8740
Sigma 12.22 ± 6.33
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

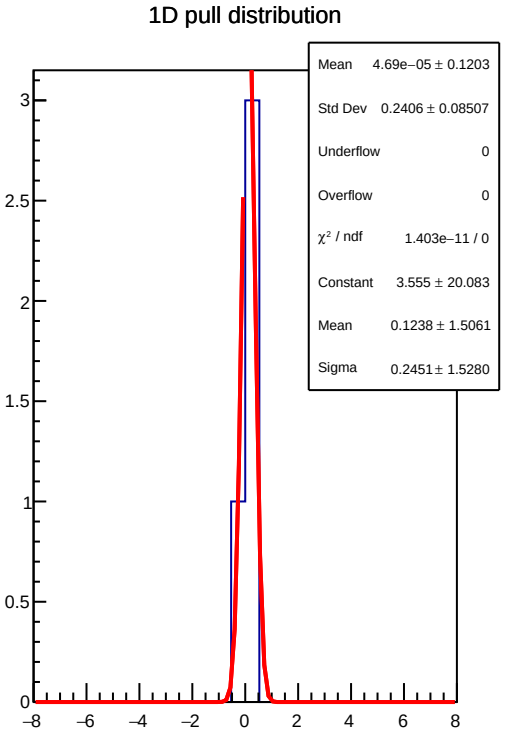

corr_us_avg_bpm11Y RMS (ppm)
RMS (ppm)
22
20
18
16
14
12
10
8
68
69
70
71

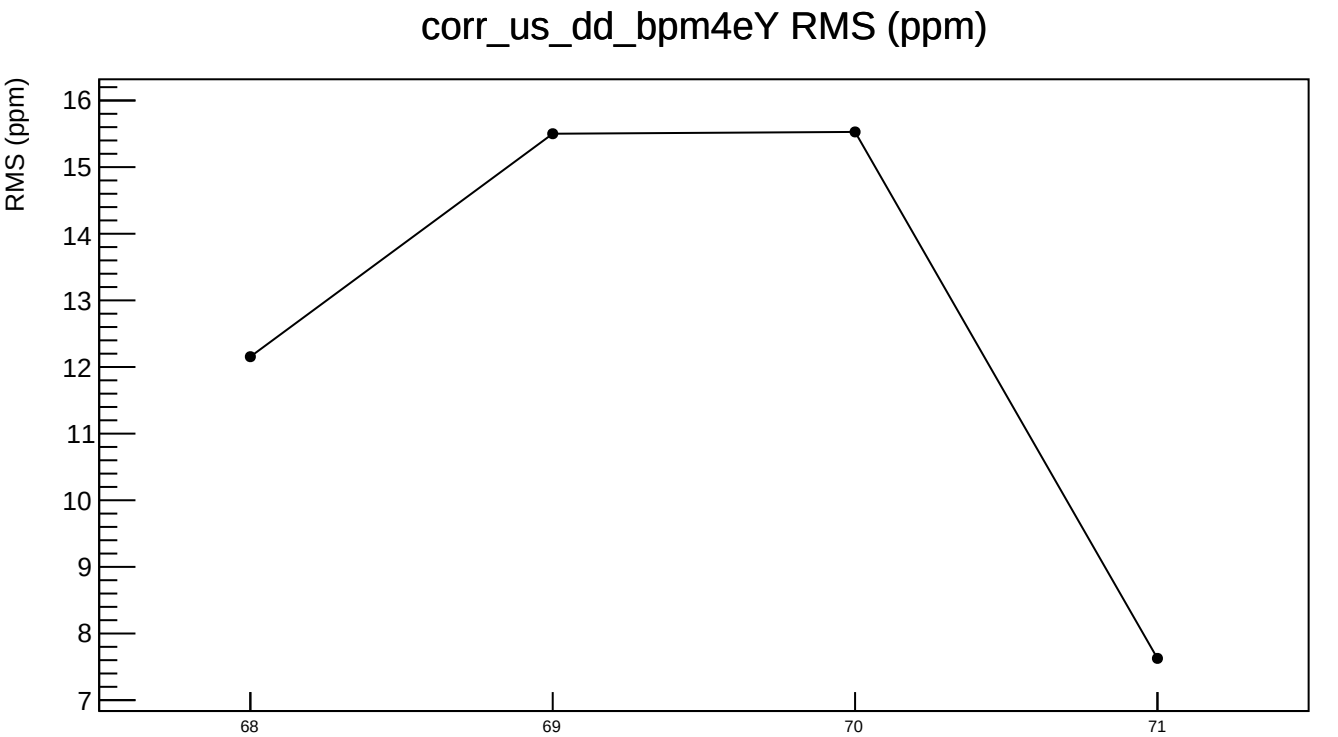

corr_us_dd_bpm4eX (ppb)
χ² / ndf 0.8163 / 3
p0 −12.32 ± 153
400
200
0
−200
−400
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71
1D pull distribution
Mean 0.007576 ± 0.2258
Std Dev 0.4517 ± 0.1597
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

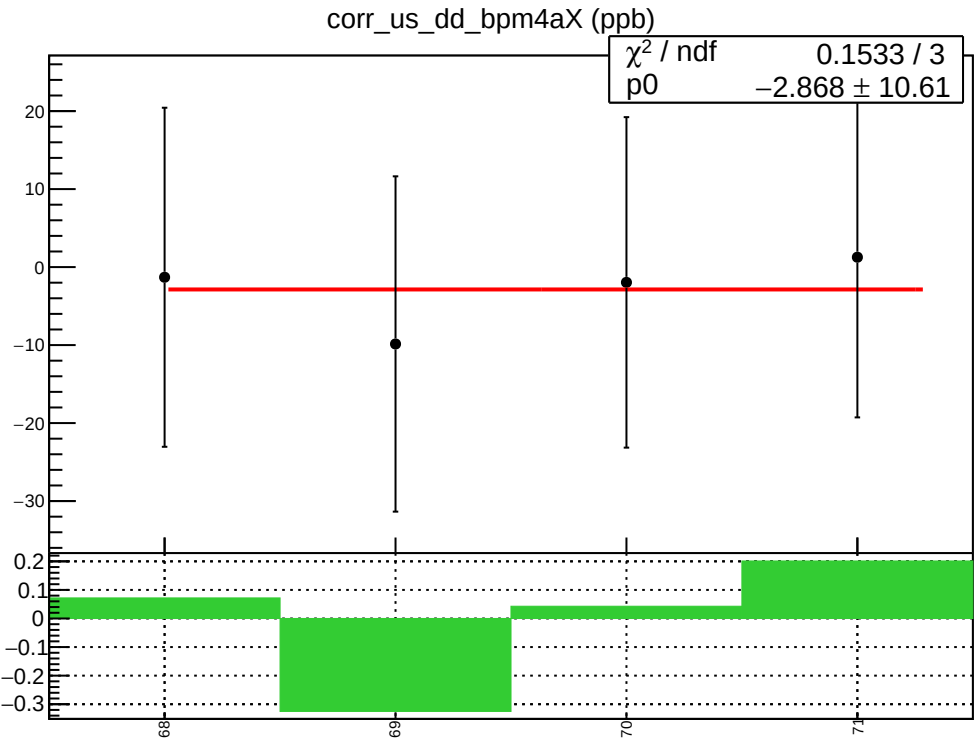
corr_us_dd_bpm4eX RMS (ppm)

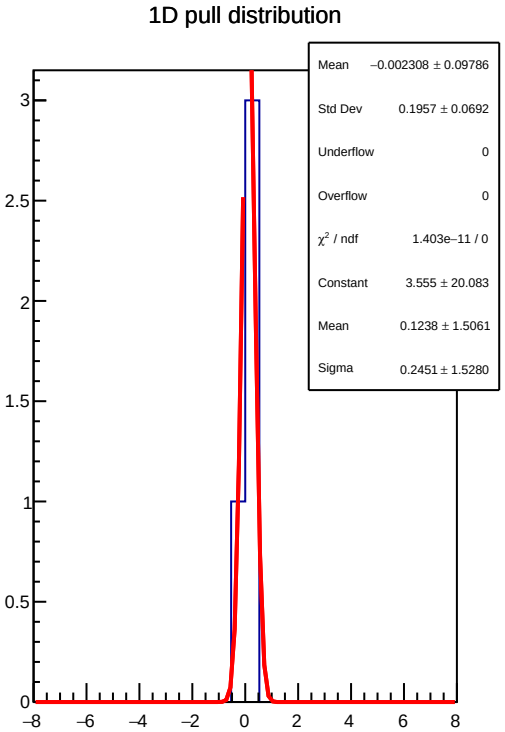


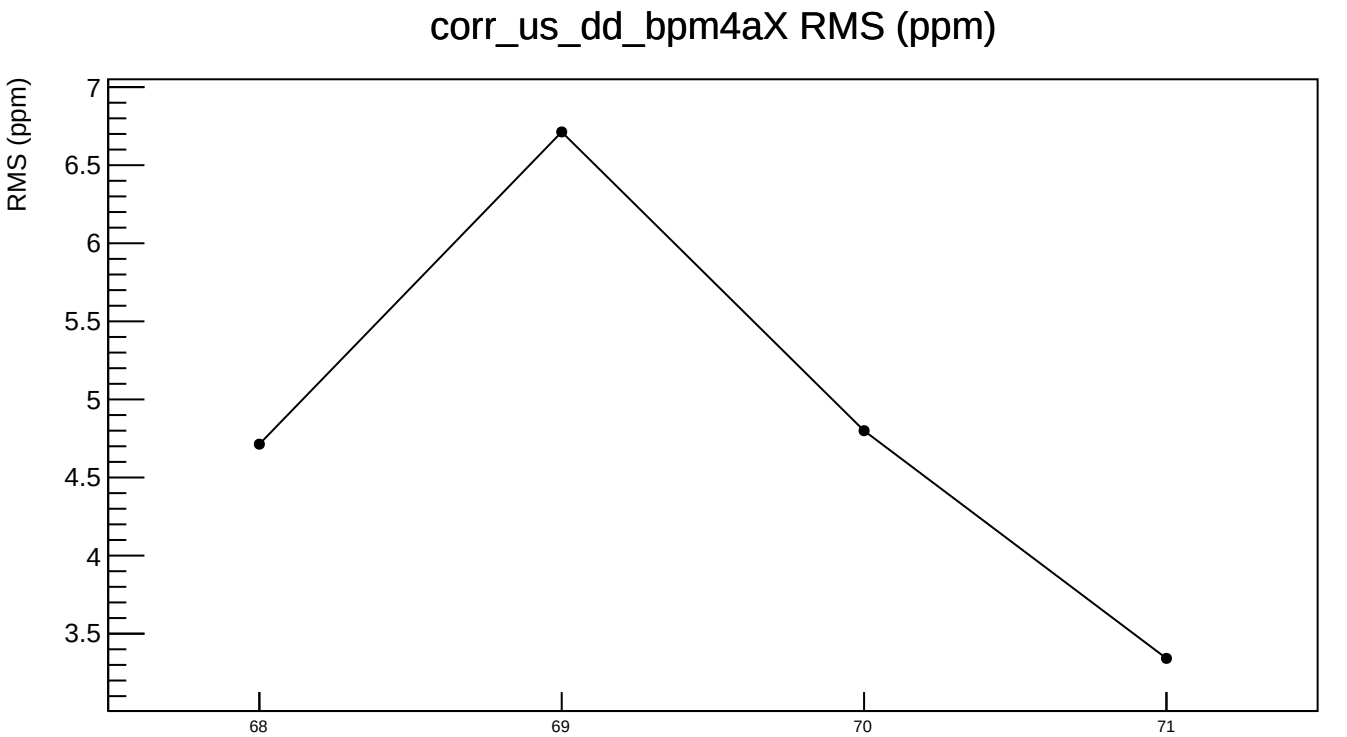

corr_us_dd_bpm4eY (ppb)
χ² / ndf 0.2316 / 3
p0 −13.41 ± 19.23
40
20
0
−20
−40
−60
0.1
0
−0.1
−0.2
−0.3
−0.4
68
69
70
71

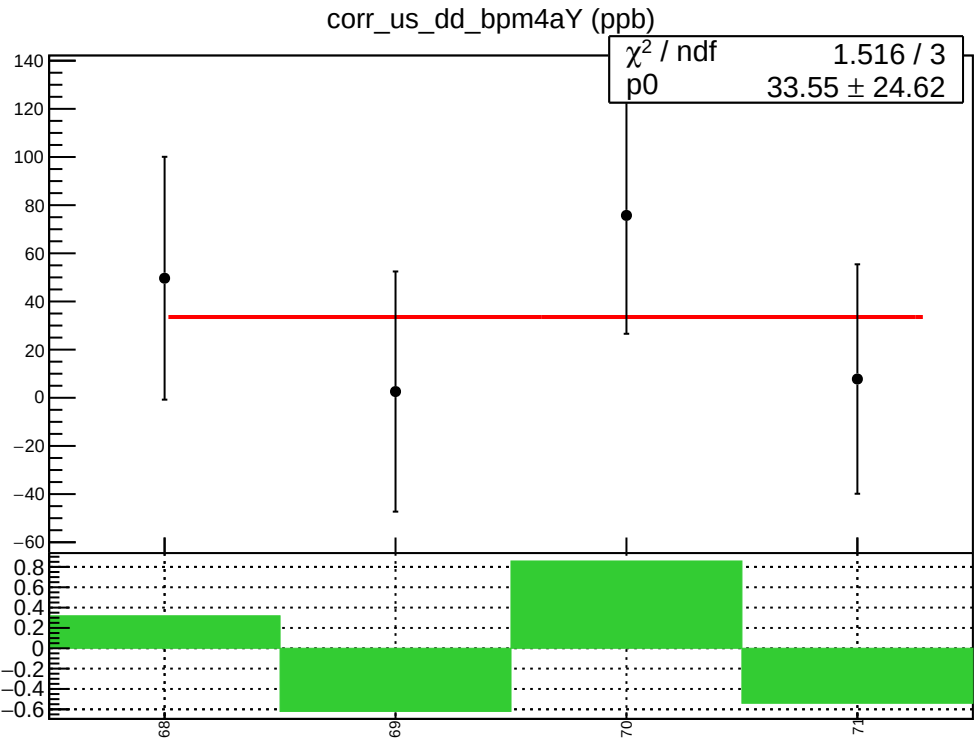

1D pull distribution
Mean 4.69e−05 ± 0.1203
Std Dev 0.2406 ± 0.08507
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

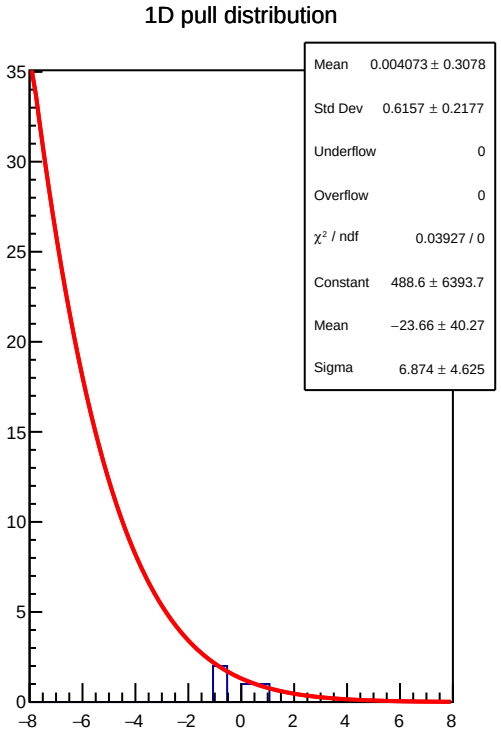

corr_us_dd_bpm4eY RMS (ppm)
RMS (ppm)
16
15
14
13
12
11
10
9
8
7
68
69
70
71


corr_us_dd_bpm4aX (ppb)
χ² / ndf 0.1533 / 3
p0 −2.868 ± 10.61
20
10
0
−10
−20
−30
0.2
0.1
0
−0.1
−0.2
−0.3
68
69
70
71

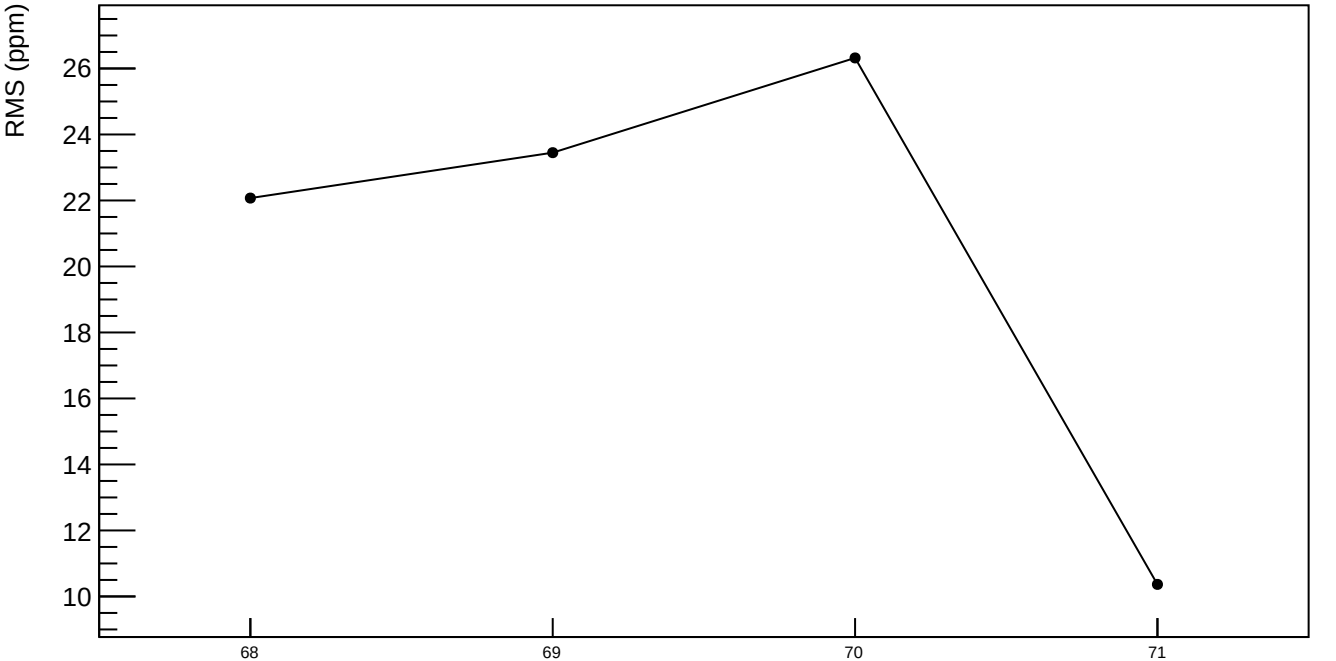

1D pull distribution
Mean −0.002308 ± 0.09786
Std Dev 0.1957 ± 0.0692
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

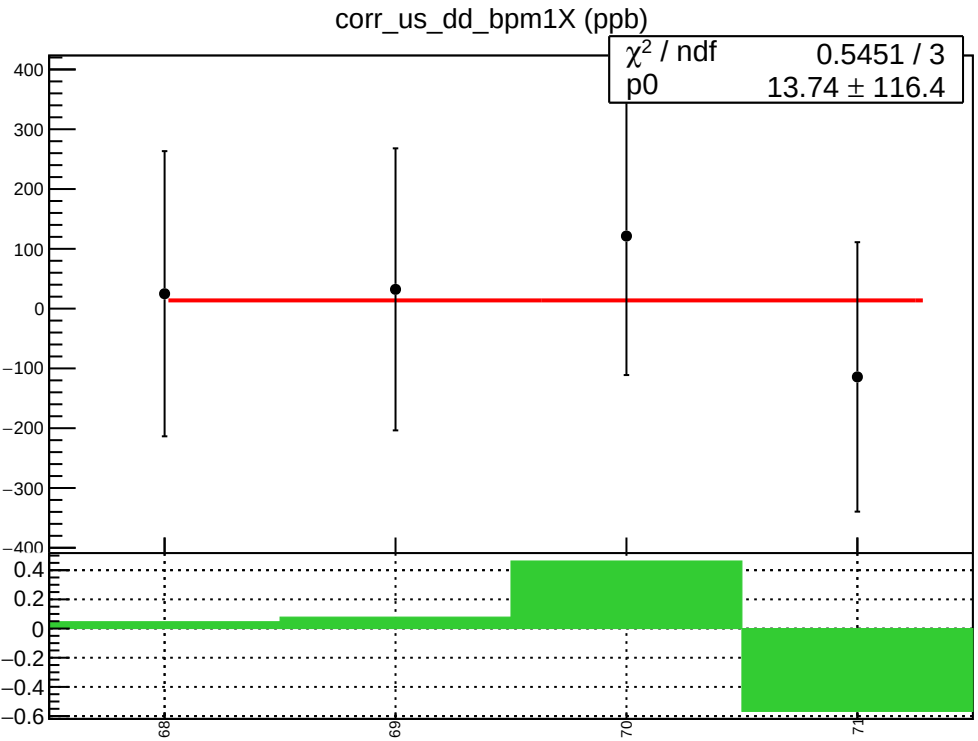

corr_us_dd_bpm4aX RMS (ppm)
RMS (ppm)
7
6.5
6
5.5
5
4.5
4
3.5
68
69
70
71

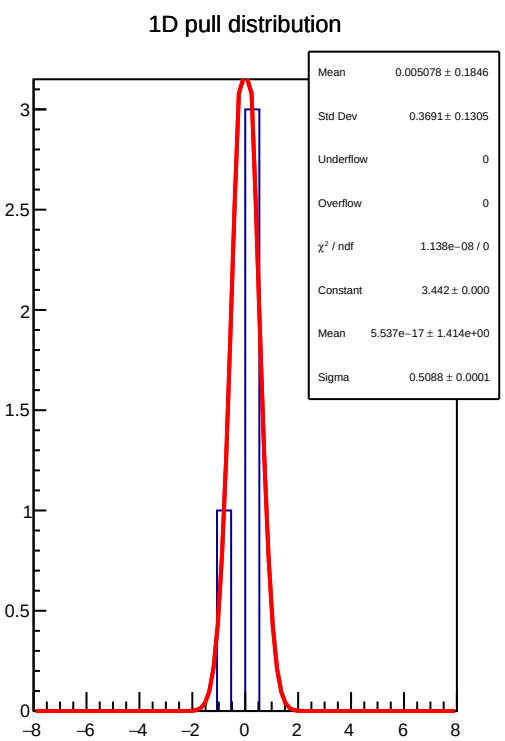

corr_us_dd_bpm4aY (ppb)
χ² / ndf 1.516 / 3
p0 33.55 ± 24.62
140
120
100
80
60
40
20
0
−20
−40
−60
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71

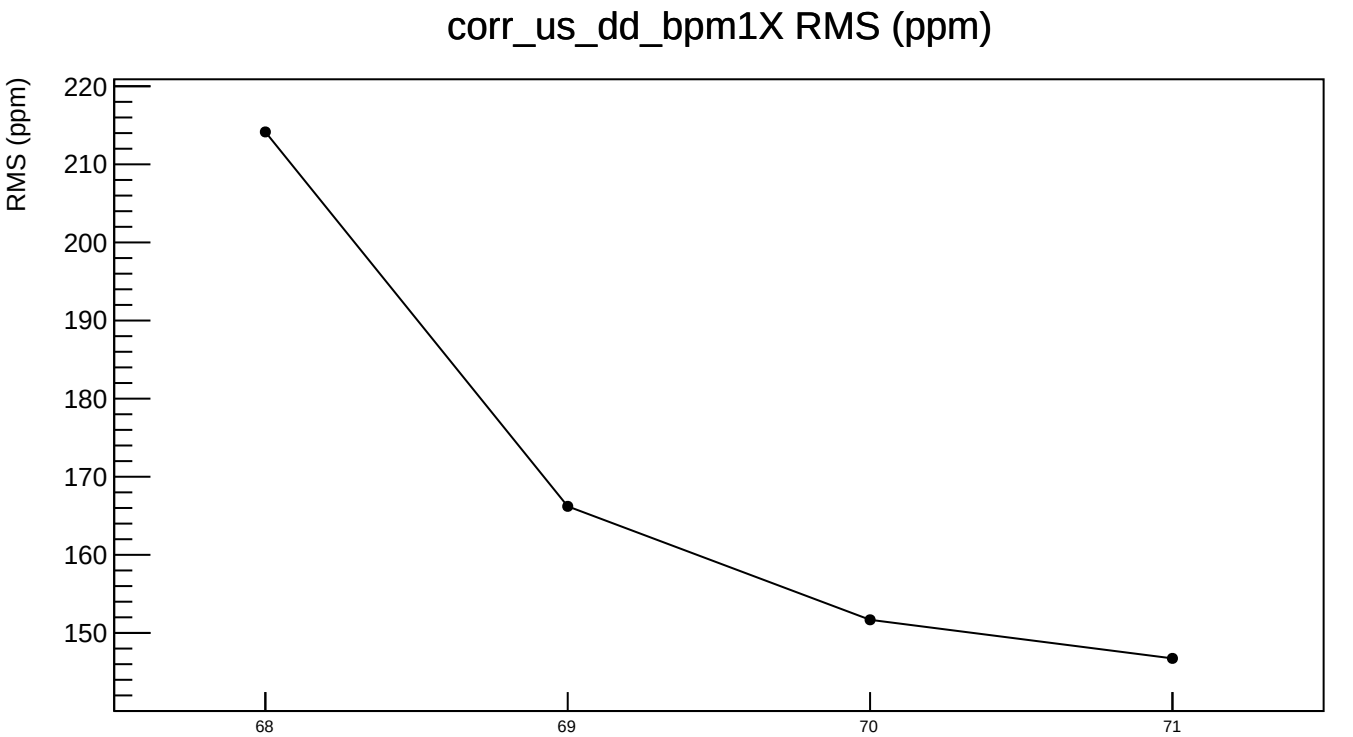

1D pull distribution
Mean 0.004073 ± 0.3078
Std Dev 0.6157 ± 0.2177
Underflow 0
Overflow 0
χ² / ndf 0.03927 / 0
Constant 488.6 ± 6393.7
Mean −23.66 ± 40.27
Sigma 6.874 ± 4.625
35
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

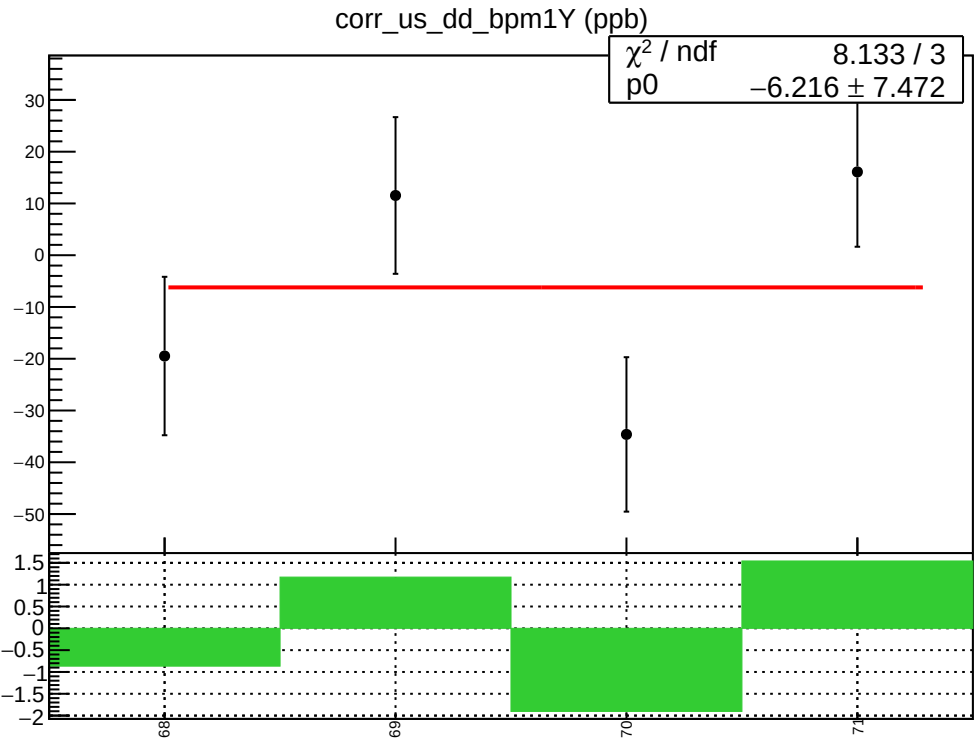
corr_us_dd_bpm4aY RMS (ppm)

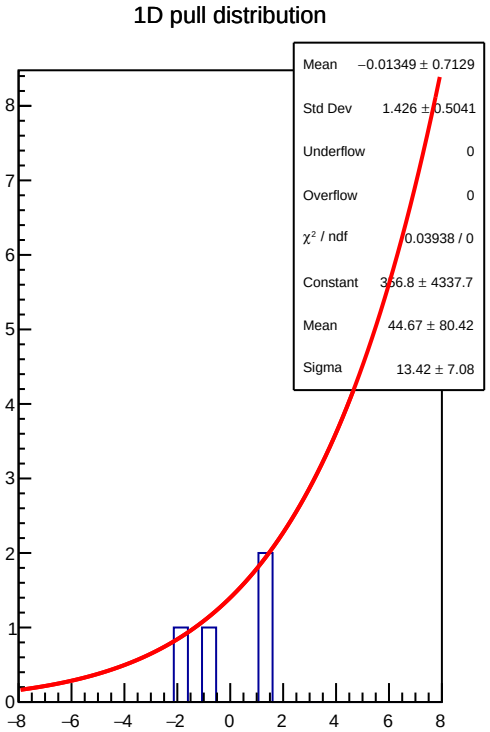


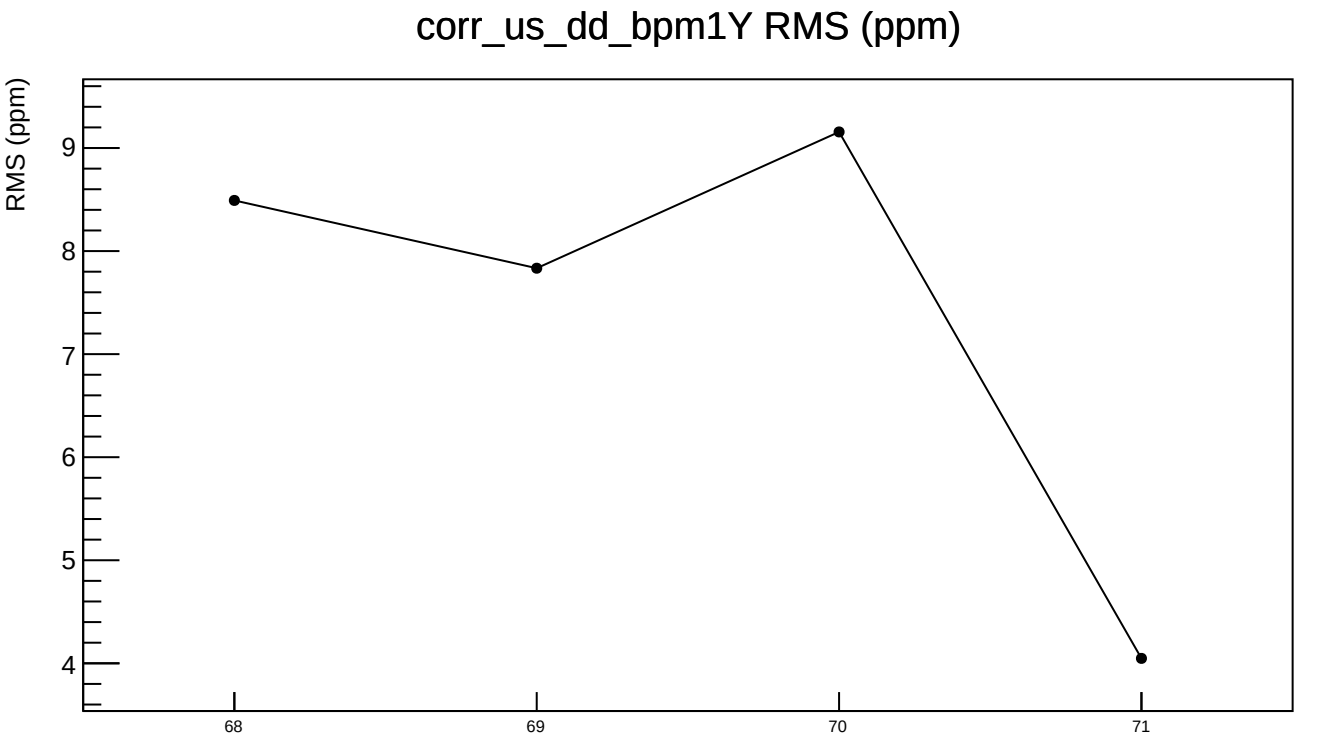

corr_us_dd_bpm1X (ppb)
χ² / ndf 0.5451 / 3
p0 13.74 ± 116.4
400
300
200
100
0
−100
−200
−300
−400
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71

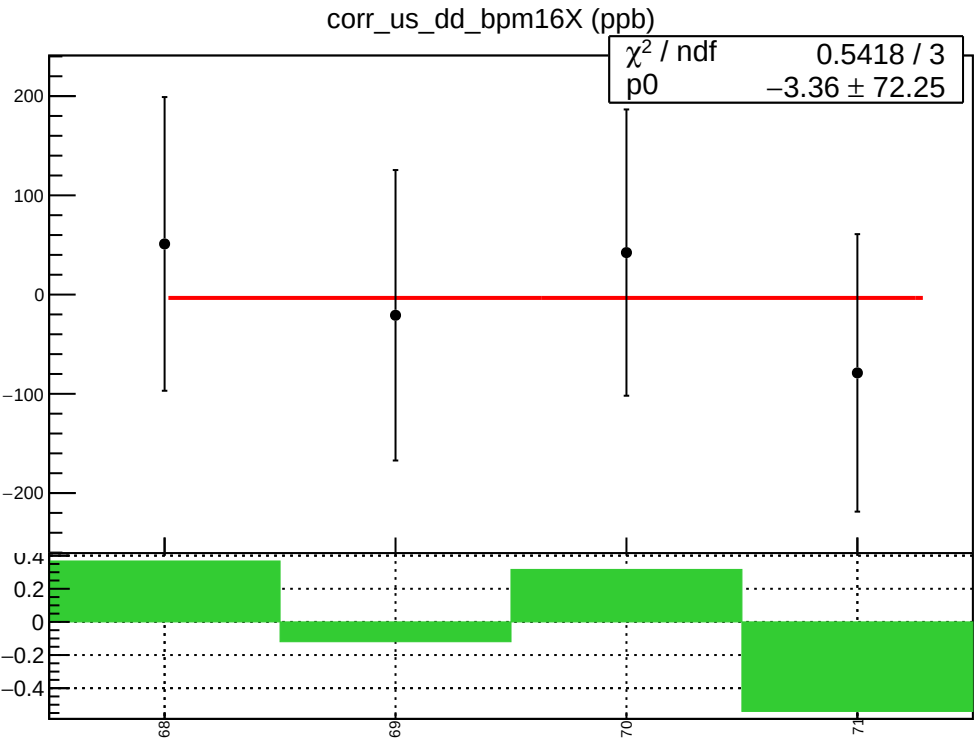

1D pull distribution
Mean 0.005078 ± 0.1846
Std Dev 0.3691 ± 0.1305
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.537e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0001
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

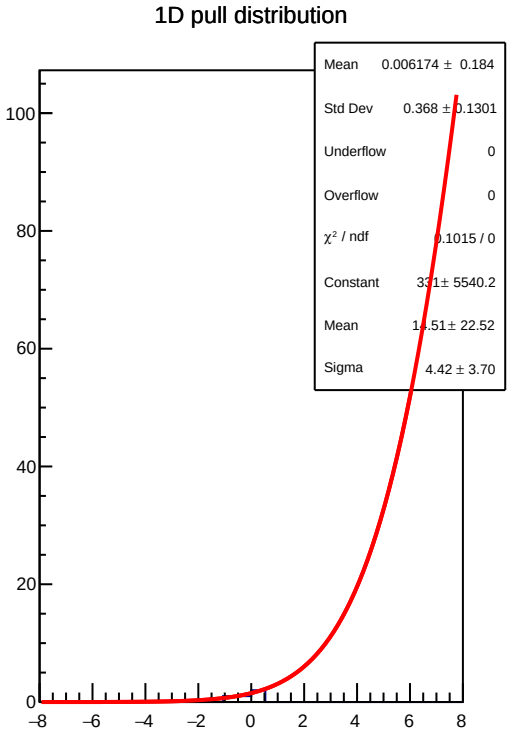

corr_us_dd_bpm1X RMS (ppm)
RMS (ppm)
220
210
200
190
180
170
160
150
68
69
70
71


corr_us_dd_bpm1Y (ppb)
χ² / ndf 8.133 / 3
p0 −6.216 ± 7.472
30
20
10
0
−10
−20
−30
−40
−50
1.5
1
0.5
0
−0.5
−1
−1.5
−2
68
69
70
71

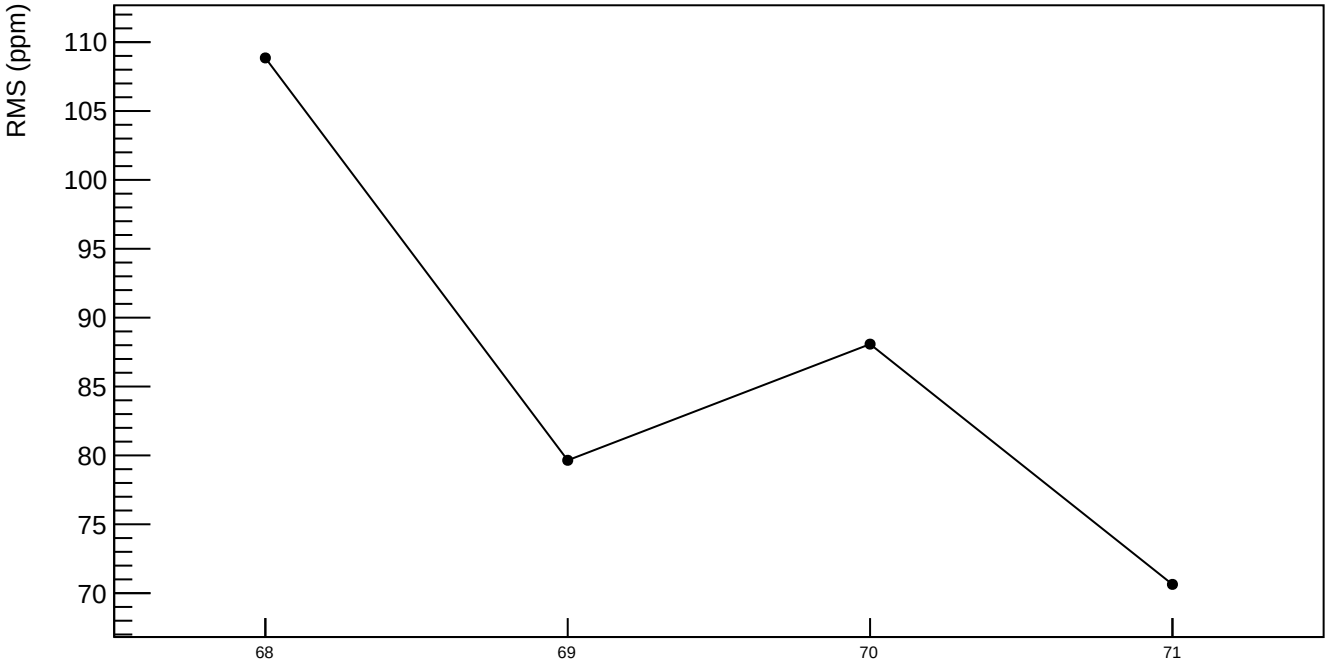

1D pull distribution
Mean −0.01349 ± 0.7129
Std Dev 1.426 ± 0.5041
Underflow 0
Overflow 0
χ² / ndf 0.03938 / 0
Constant 366.8 ± 4337.7
Mean 44.67 ± 80.42
Sigma 13.42 ± 7.08
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

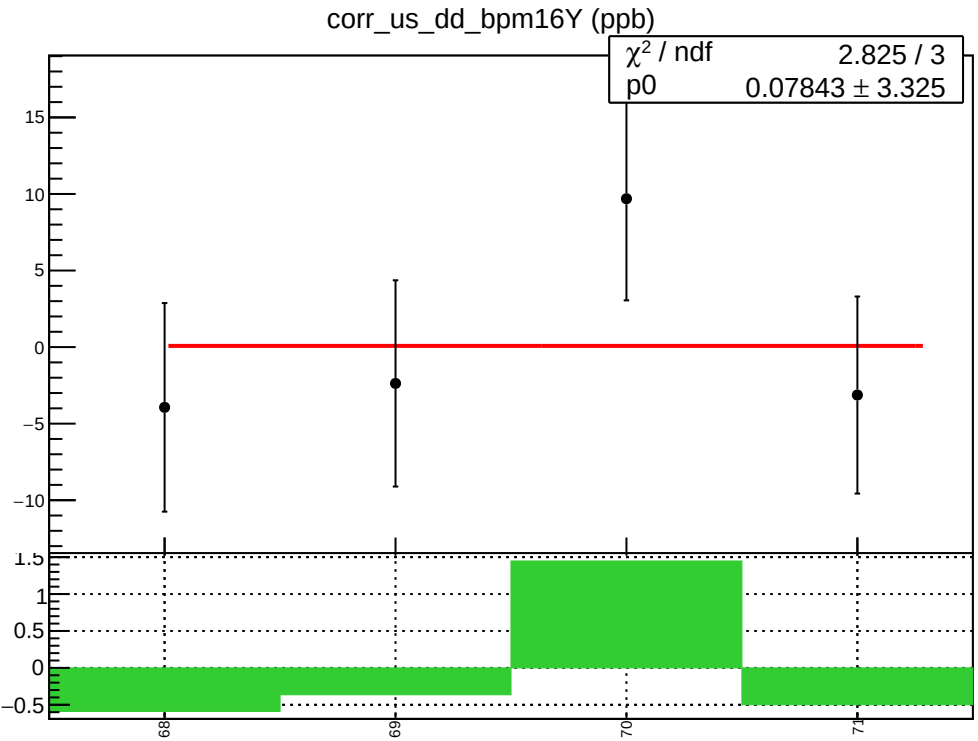

corr_us_dd_bpm1Y RMS (ppm)
RMS (ppm)
9
8
7
6
5
4
68
69
70
71

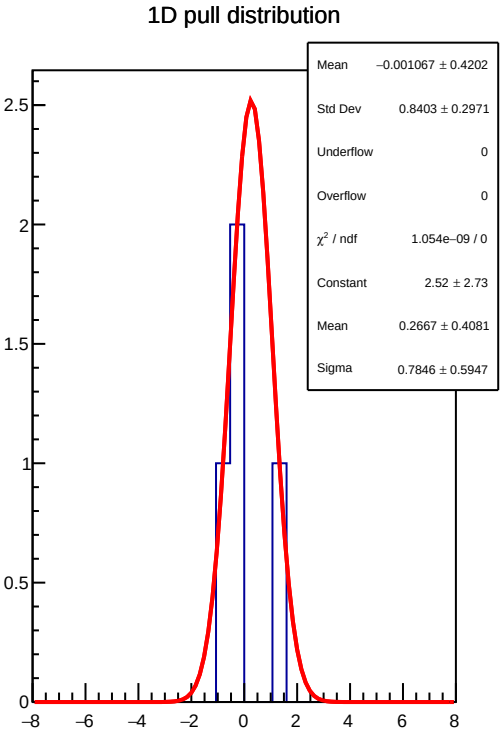

corr_us_dd_bpm16X (ppb)
χ² / ndf 0.5418 / 3
p0 −3.36 ± 72.25
200
100
0
−100
−200
0.4
0.2
0
−0.2
−0.4
68
69
70
71

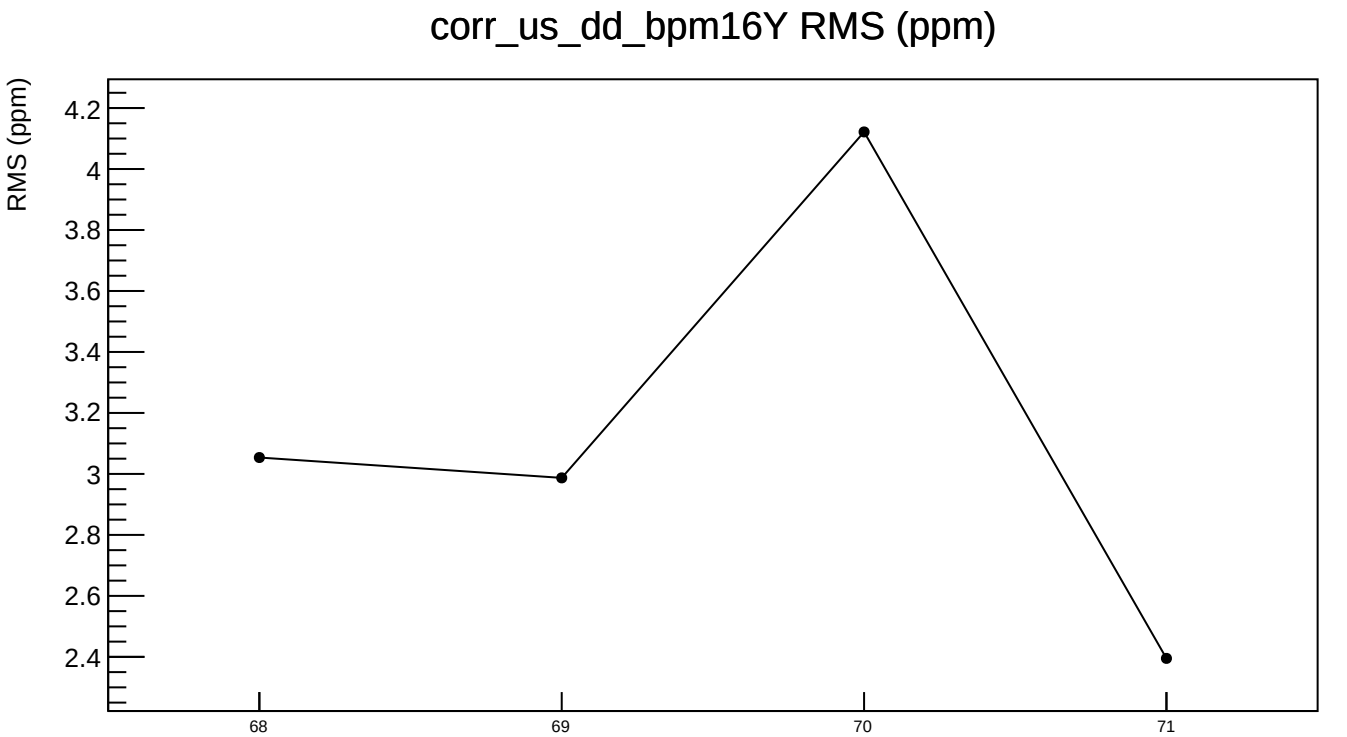

1D pull distribution
Mean 0.006174 ± 0.184
Std Dev 0.368 ± 0.1301
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 331± 5540.2
Mean 14.51± 22.52
Sigma 4.42 ± 3.70
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

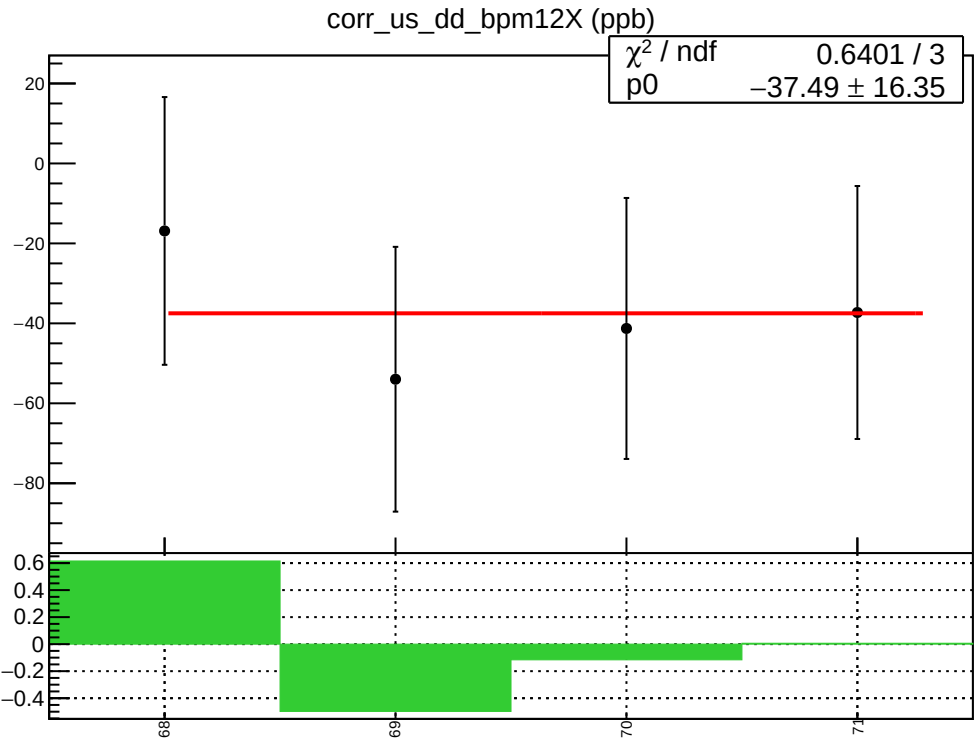
corr_us_dd_bpm16X RMS (ppm)

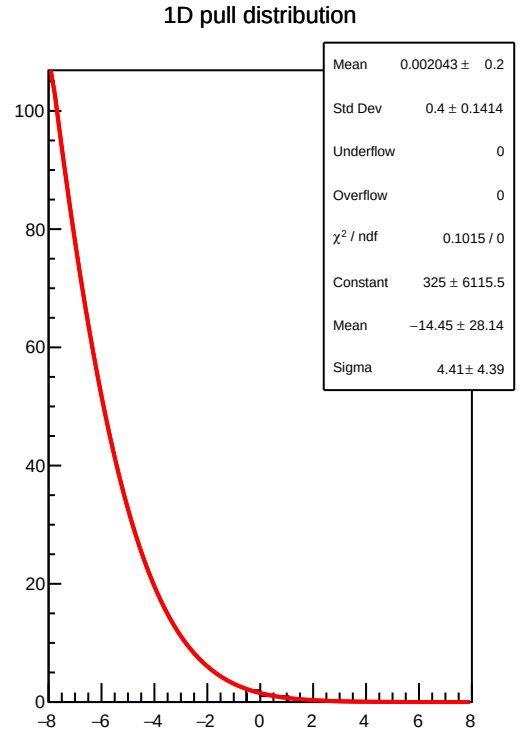


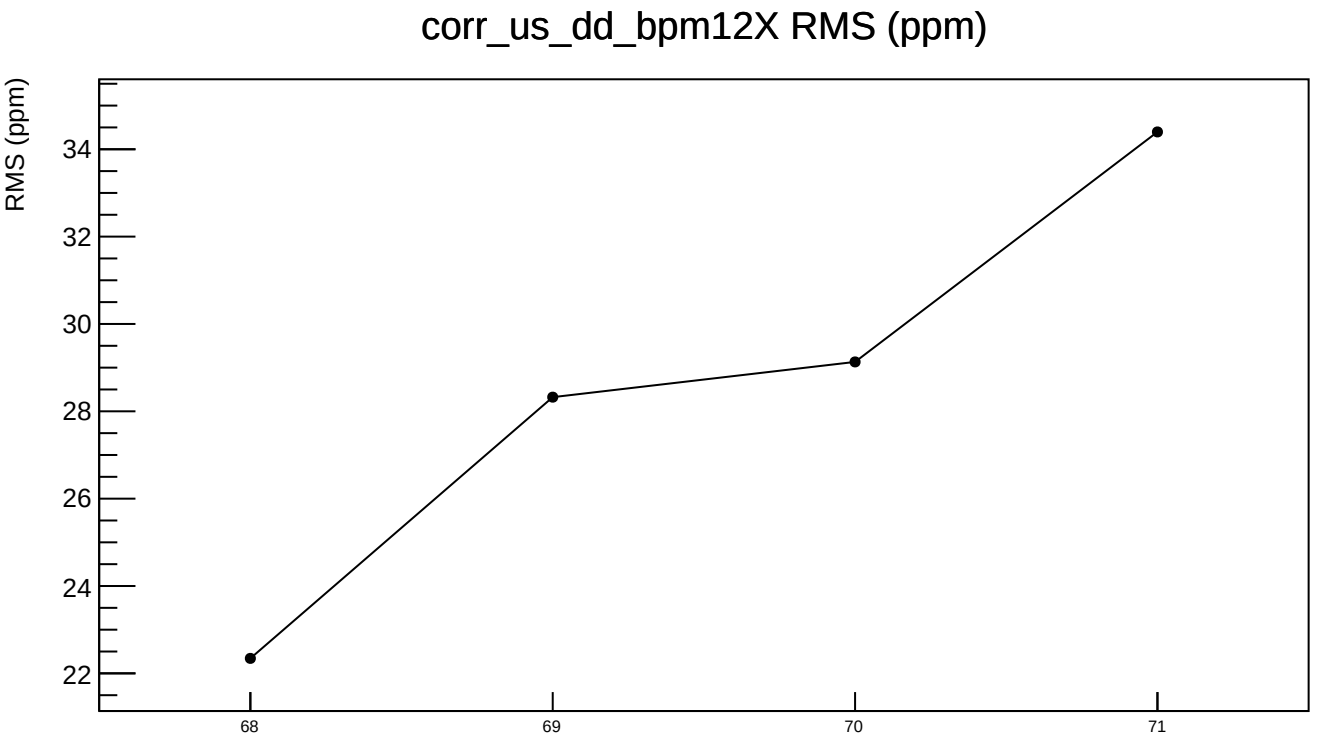

corr_us_dd_bpm16Y (ppb)
χ² / ndf 2.825 / 3
p0 0.07843 ± 3.325
15
10
5
0
−5
−10
1.5
1
0.5
0
−0.5
68
69
70
71

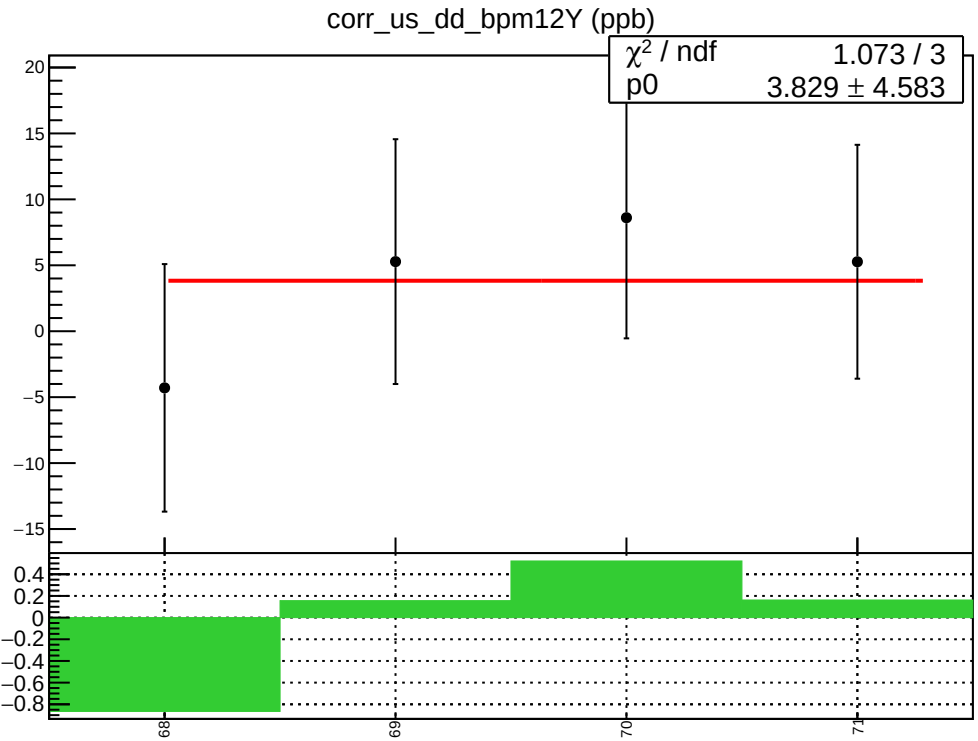

1D pull distribution
Mean −0.001067 ± 0.4202
Std Dev 0.8403 ± 0.2971
Underflow 0
Overflow 0
χ² / ndf 1.054e−09 / 0
Constant 2.52 ± 2.73
Mean 0.2667 ± 0.4081
Sigma 0.7846 ± 0.5947
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

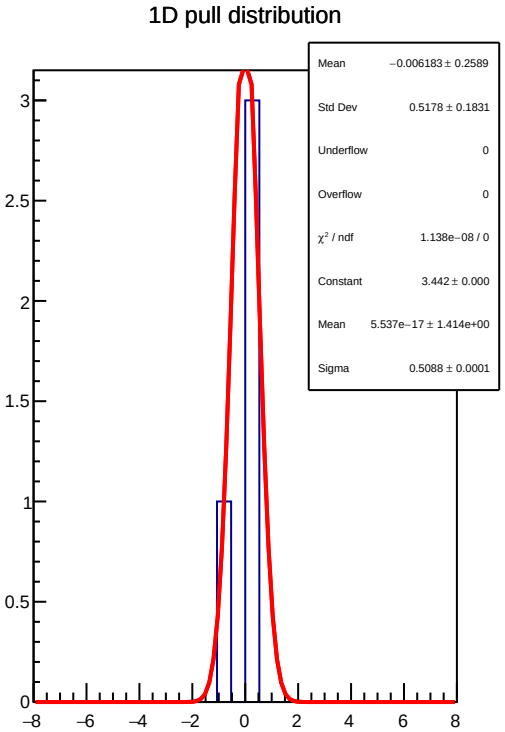

corr_us_dd_bpm16Y RMS (ppm)
RMS (ppm)
4.2
4
3.8
3.6
3.4
3.2
3
2.8
2.6
2.4
68
69
70
71

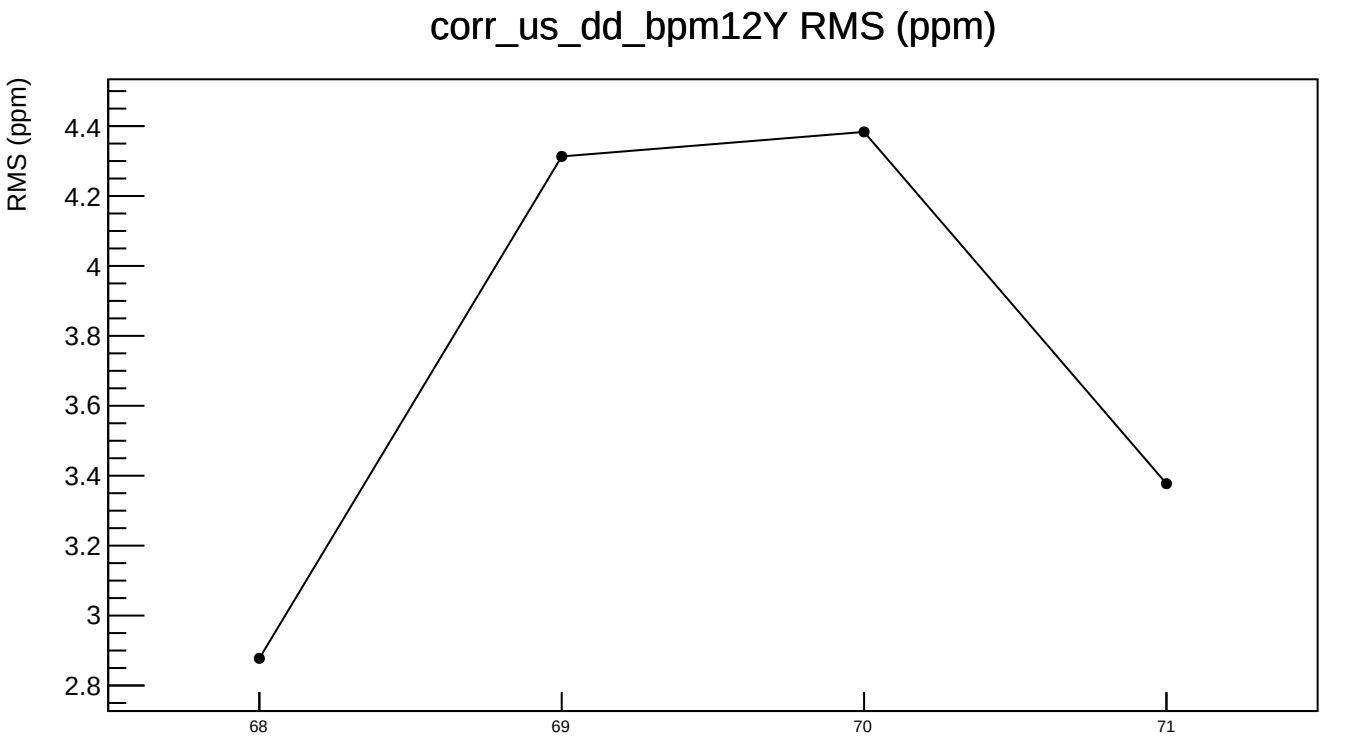

corr_us_dd_bpm12X (ppb)
χ² / ndf 0.6401 / 3
p0 −37.49 ± 16.35
20
0
−20
−40
−60
−80
0.6
0.4
0.2
0
−0.2
−0.4
68
69
70
71

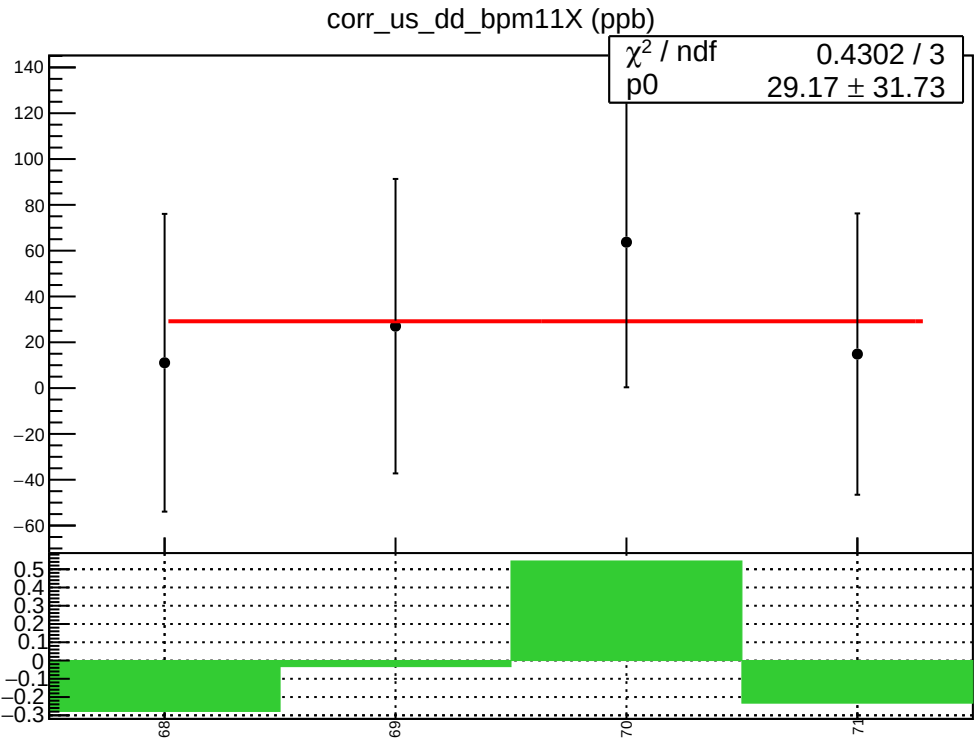

1D pull distribution
Mean 0.002043 ± 0.2
Std Dev 0.4 ± 0.1414
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 325 ± 6115.5
Mean −14.45 ± 28.14
Sigma 4.41± 4.39
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

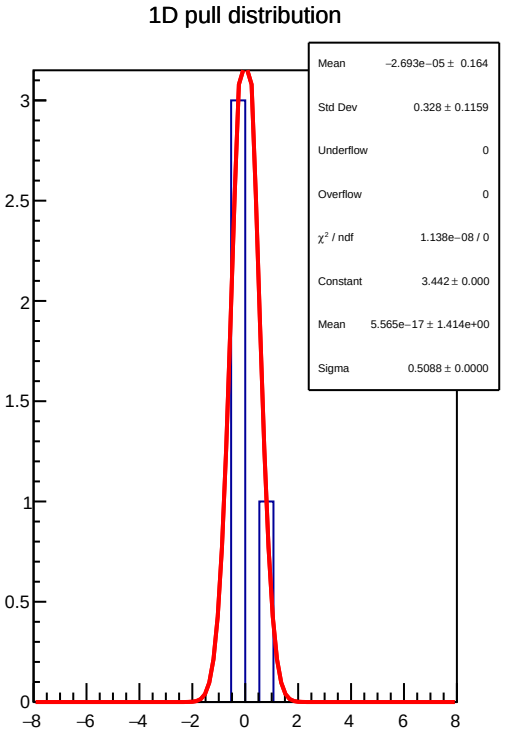

corr_us_dd_bpm12X RMS (ppm)
RMS (ppm)
34
32
30
28
26
24
22
68
69
70
71

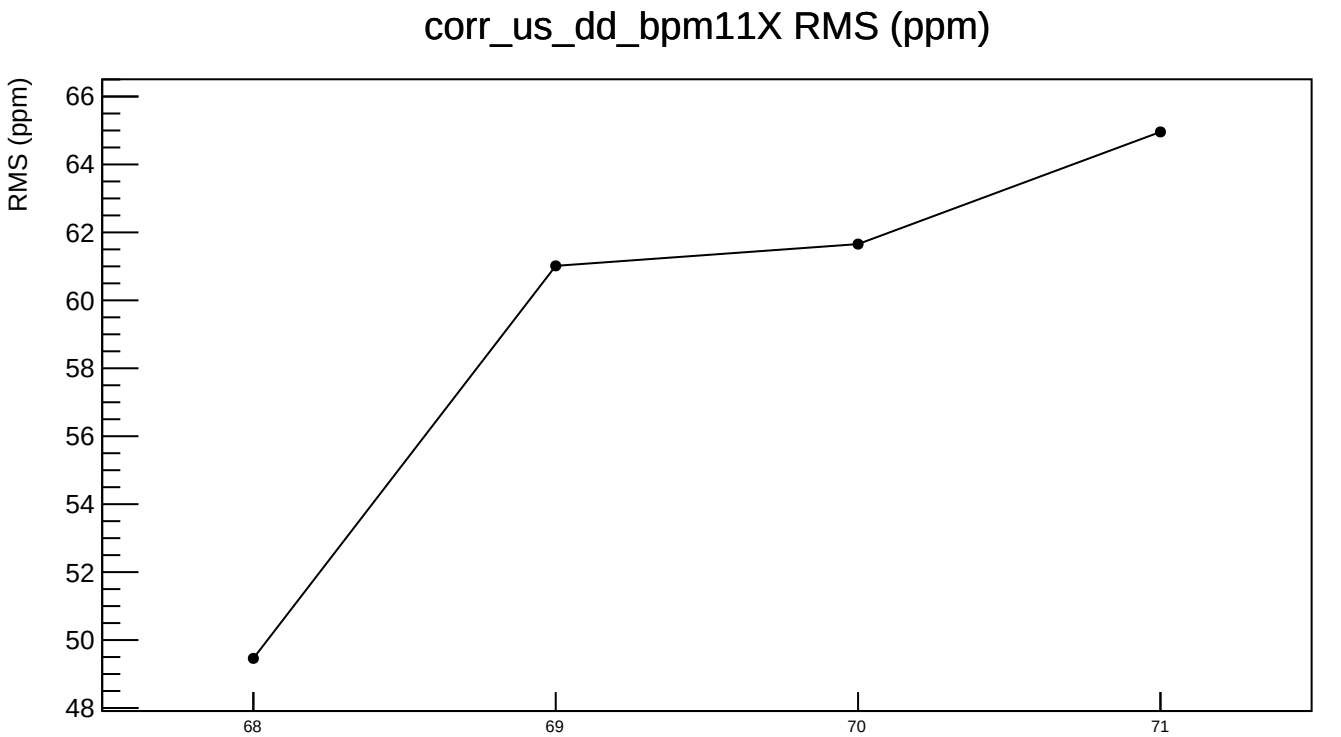

corr_us_dd_bpm12Y (ppb)
χ² / ndf 1.073 / 3
p0 3.829 ± 4.583
20
15
10
5
0
−5
−10
−15
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
68
69
70
71

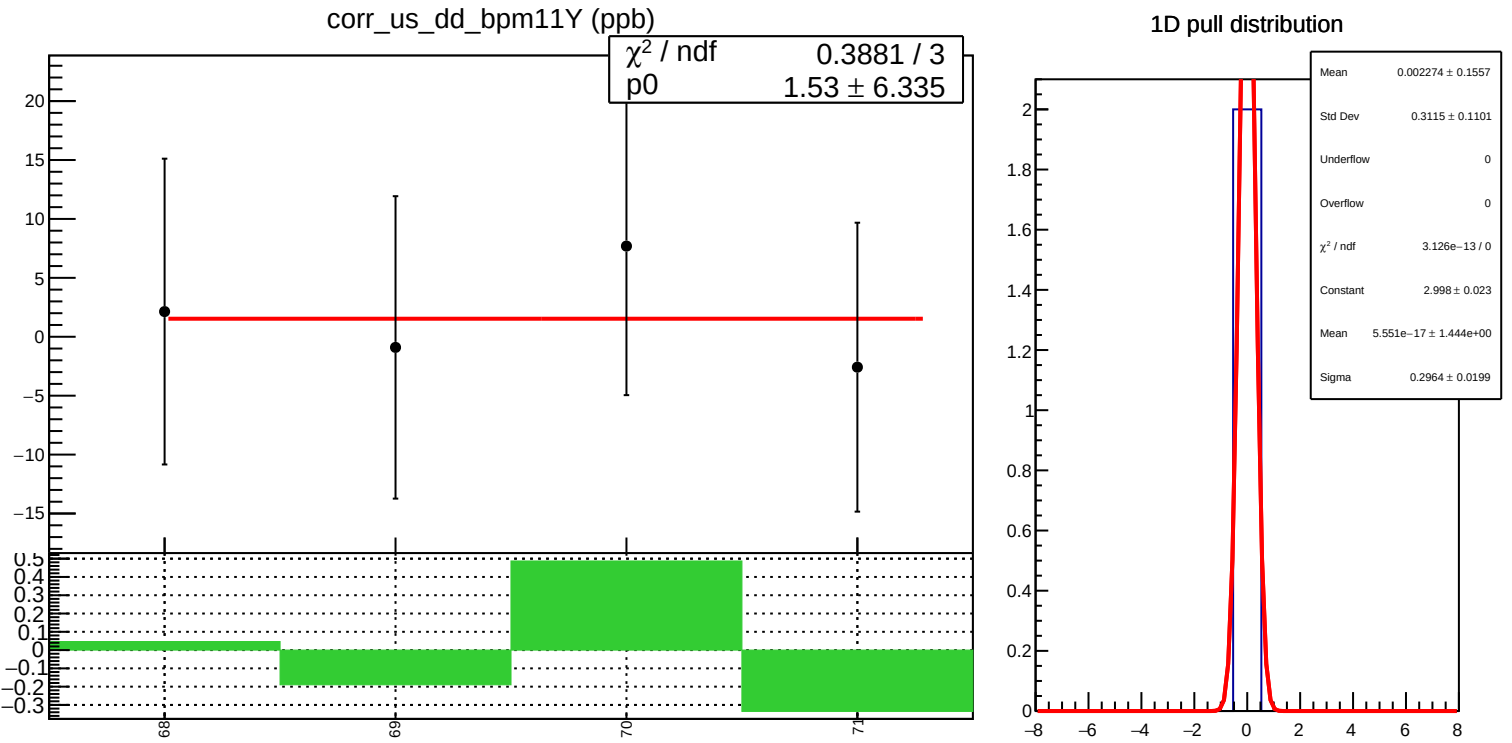

1D pull distribution
Mean −0.006183 ± 0.2589
Std Dev 0.5178 ± 0.1831
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.537e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0001
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

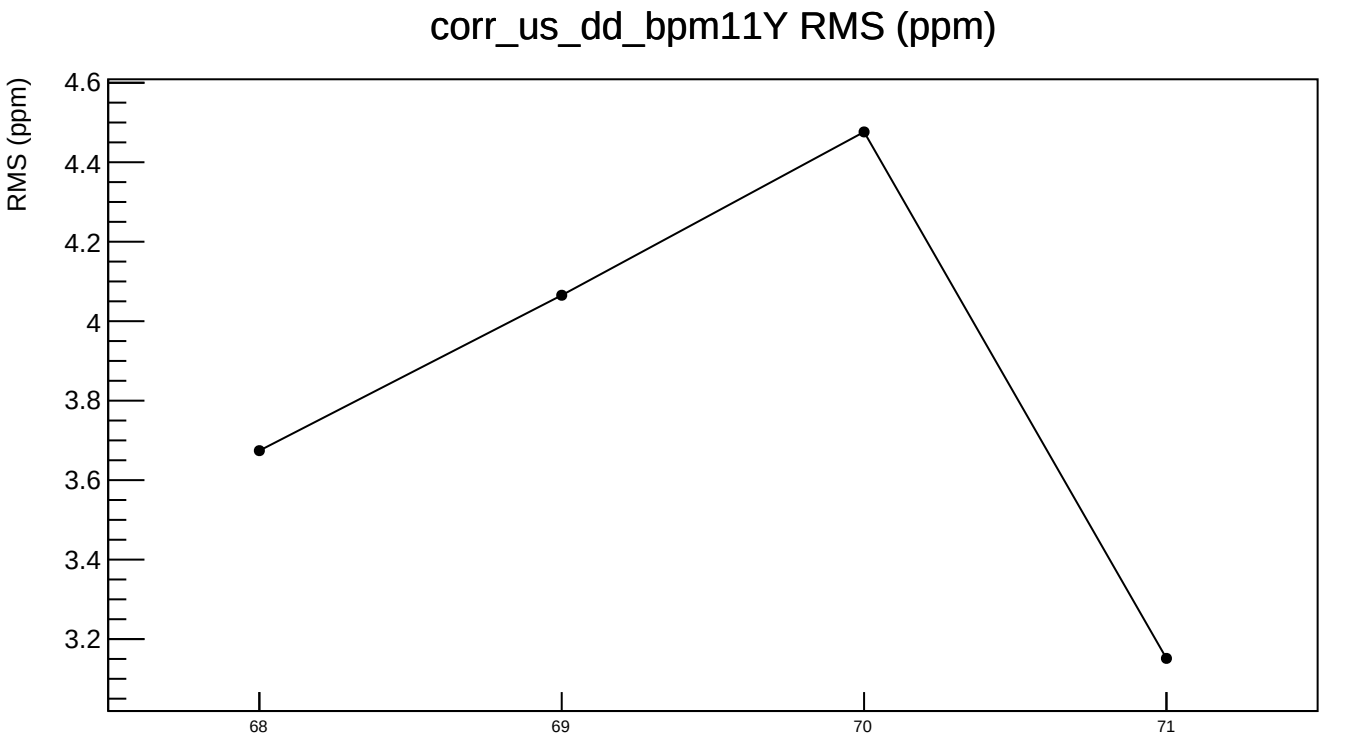

corr_us_dd_bpm12Y RMS (ppm)
RMS (ppm)
4.4
4.2
4
3.8
3.6
3.4
3.2
3
2.8
68
69
70
71

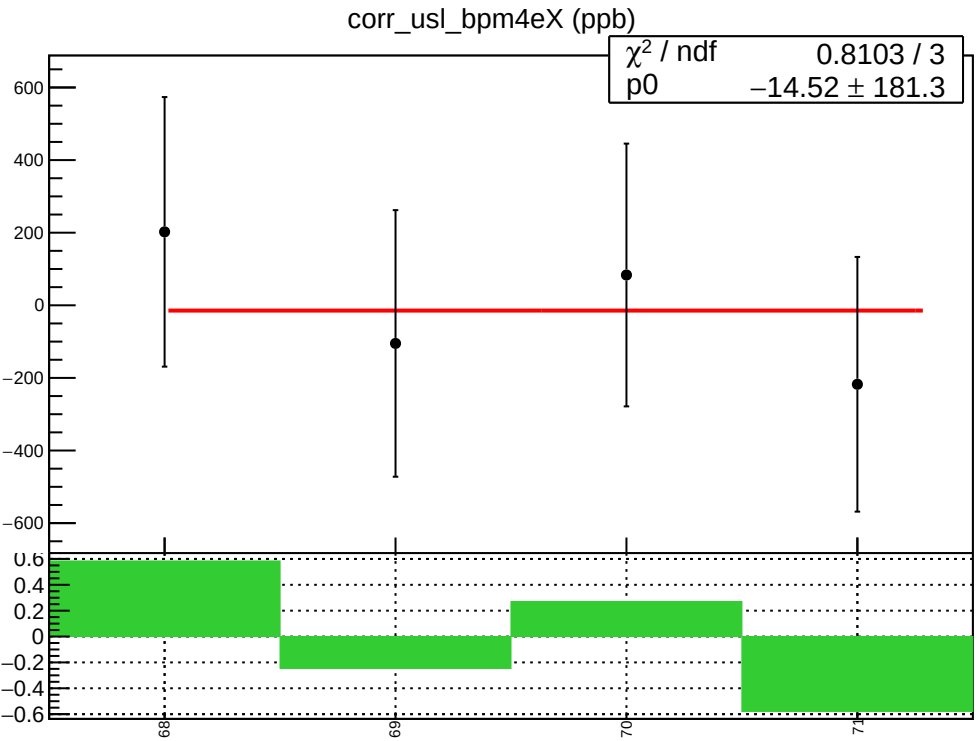

corr_us_dd_bpm11X (ppb)
χ² / ndf 0.4302 / 3
p0 29.17 ± 31.73
140
120
100
80
60
40
20
0
−20
−40
−60
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
68
69
70
71

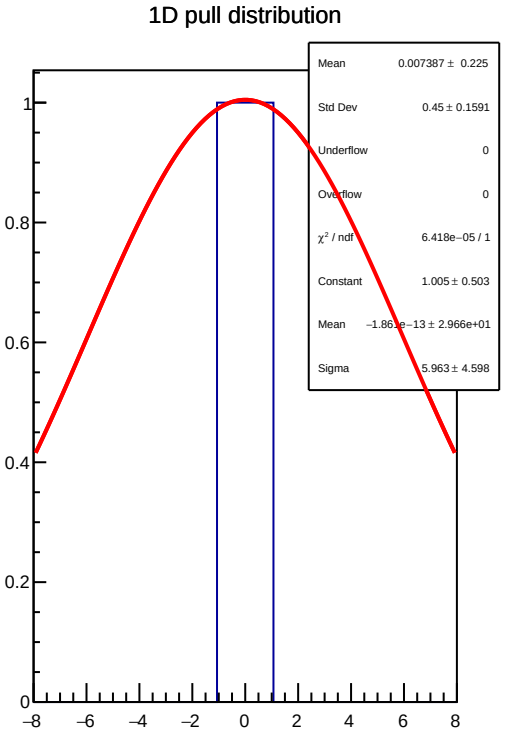

1D pull distribution
Mean −2.693e−05 ± 0.164
Std Dev 0.328 ± 0.1159
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.565e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0000
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

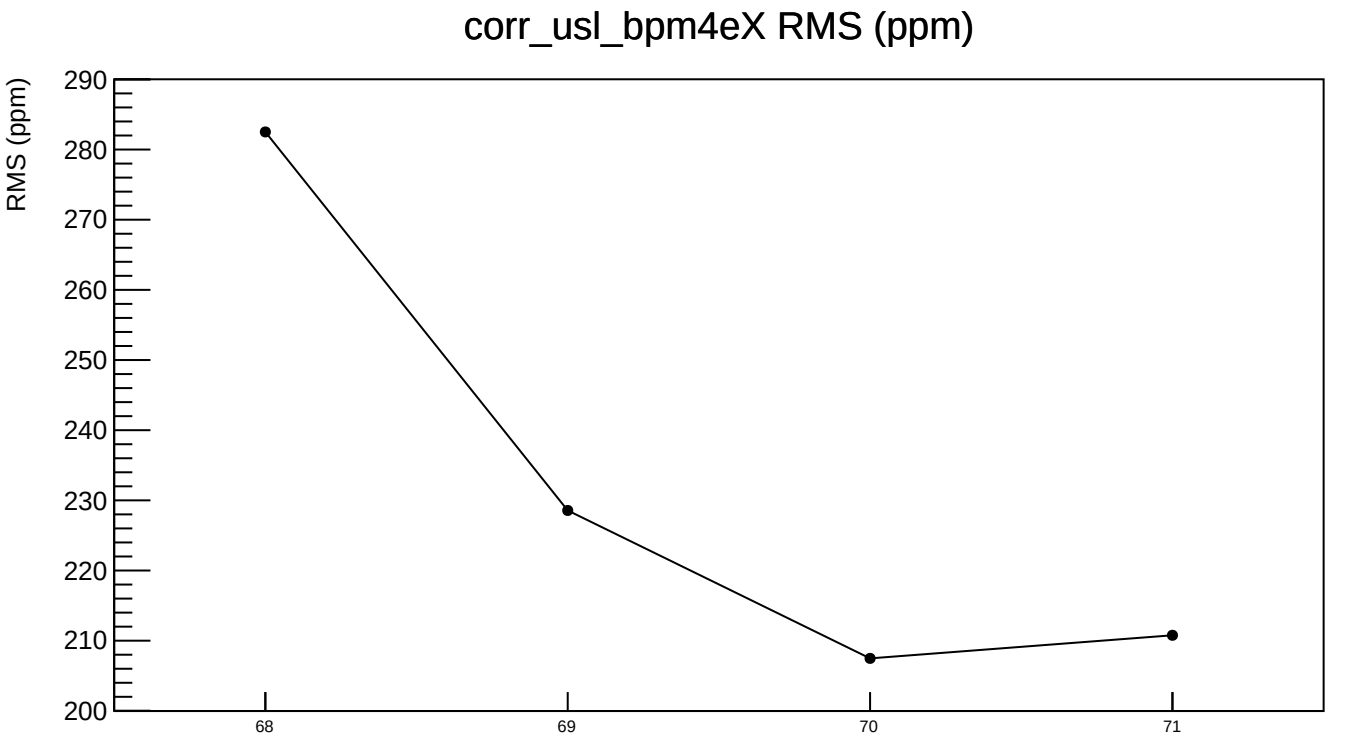

corr_us_dd_bpm11X RMS (ppm)
RMS (ppm)
66
64
62
60
58
56
54
52
50
48
68
69
70
71

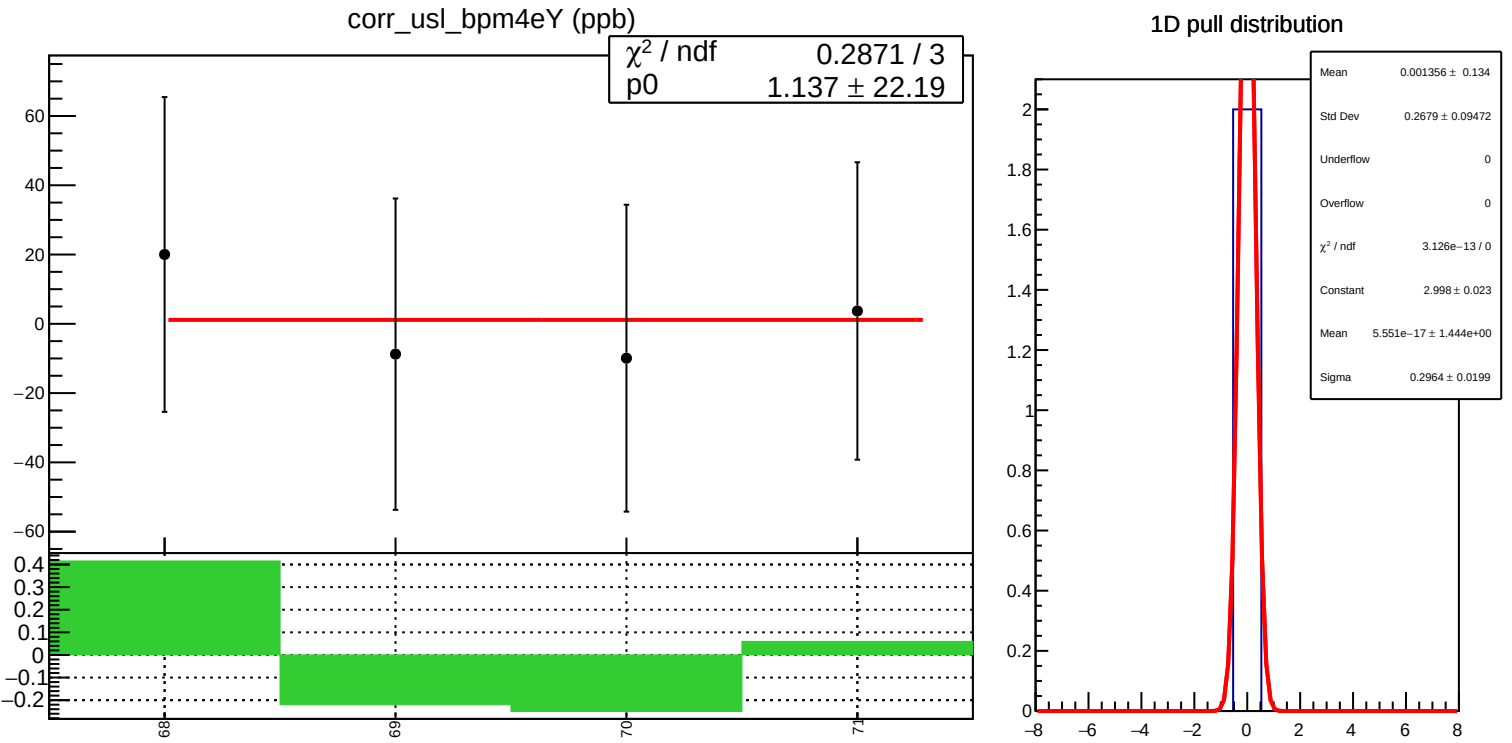

corr_us_dd_bpm11Y (ppb)
χ² / ndf 0.3881 / 3
p0 1.53 ± 6.335
1D pull distribution
Mean 0.002274 ± 0.1557
Std Dev 0.3115 ± 0.1101
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199

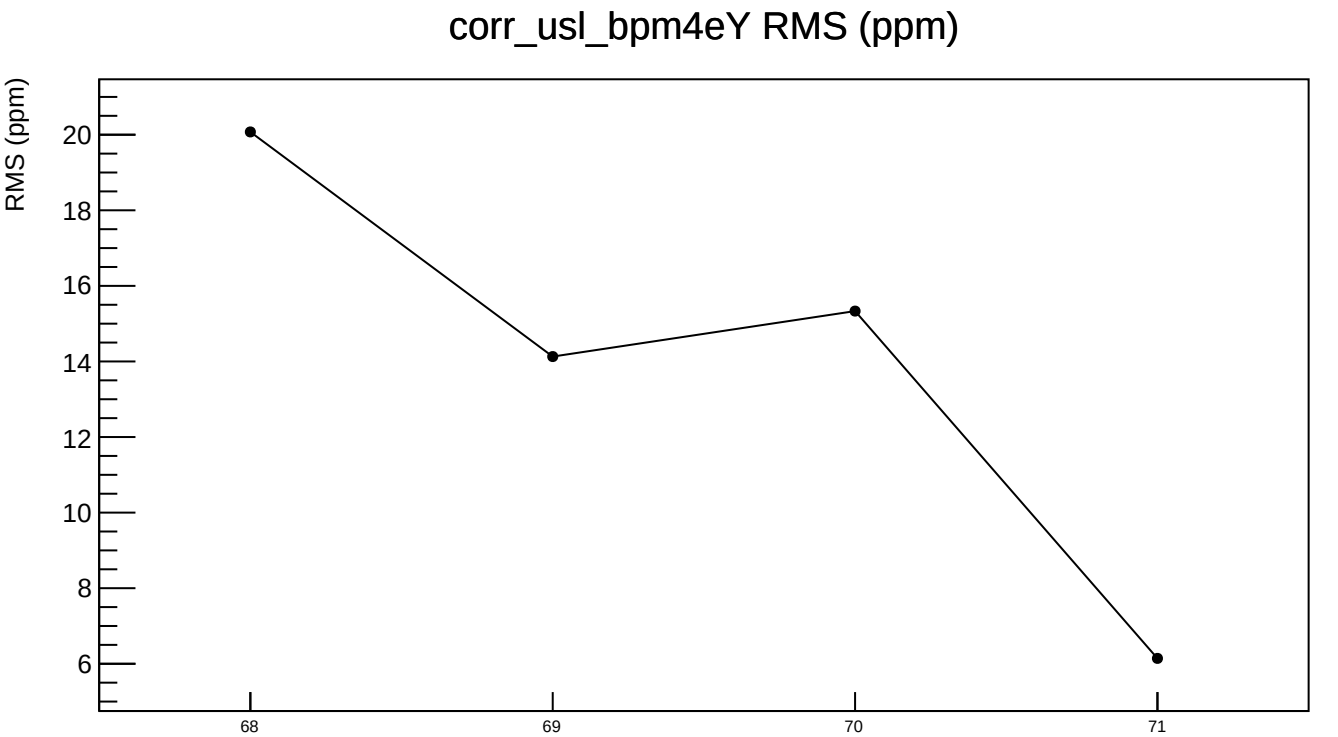

corr_us_dd_bpm11Y RMS (ppm)
RMS (ppm)
4.6
4.4
4.2
4
3.8
3.6
3.4
3.2
68
69
70
71

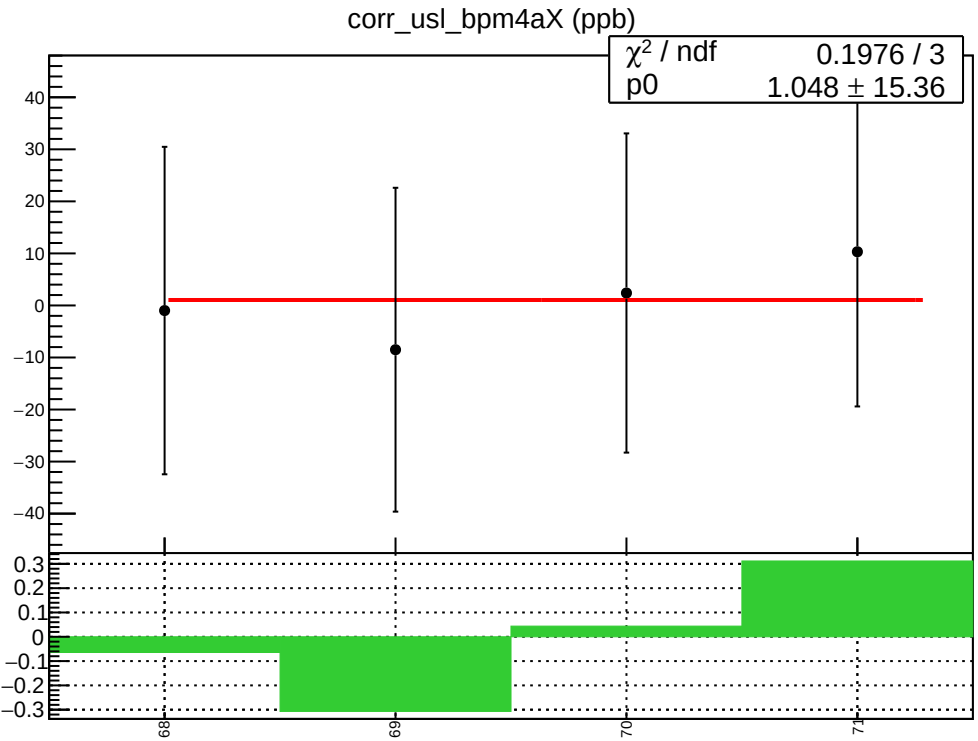

corr_usl_bpm4eX (ppb)
χ² / ndf 0.8103 / 3
p0 −14.52 ± 181.3
600
400
200
0
−200
−400
−600
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71

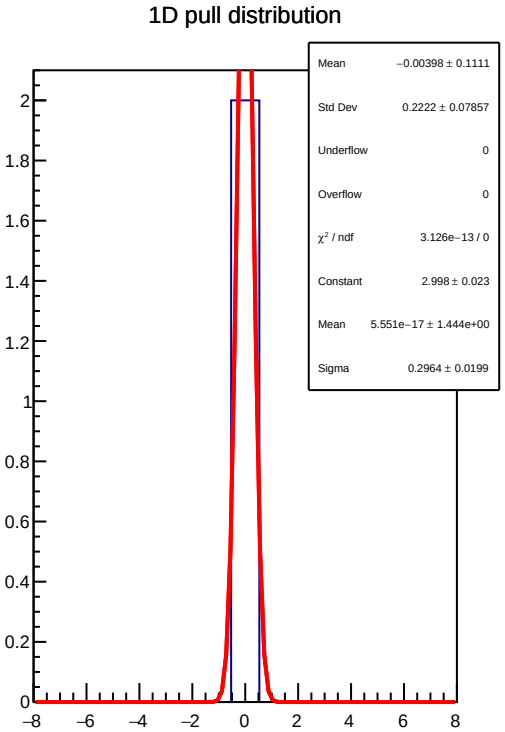

1D pull distribution
Mean 0.007387 ± 0.225
Std Dev 0.45 ± 0.1591
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8


corr_usl_bpm4eX RMS (ppm)
RMS (ppm)
290
280
270
260
250
240
230
220
210
200
68
69
70
71

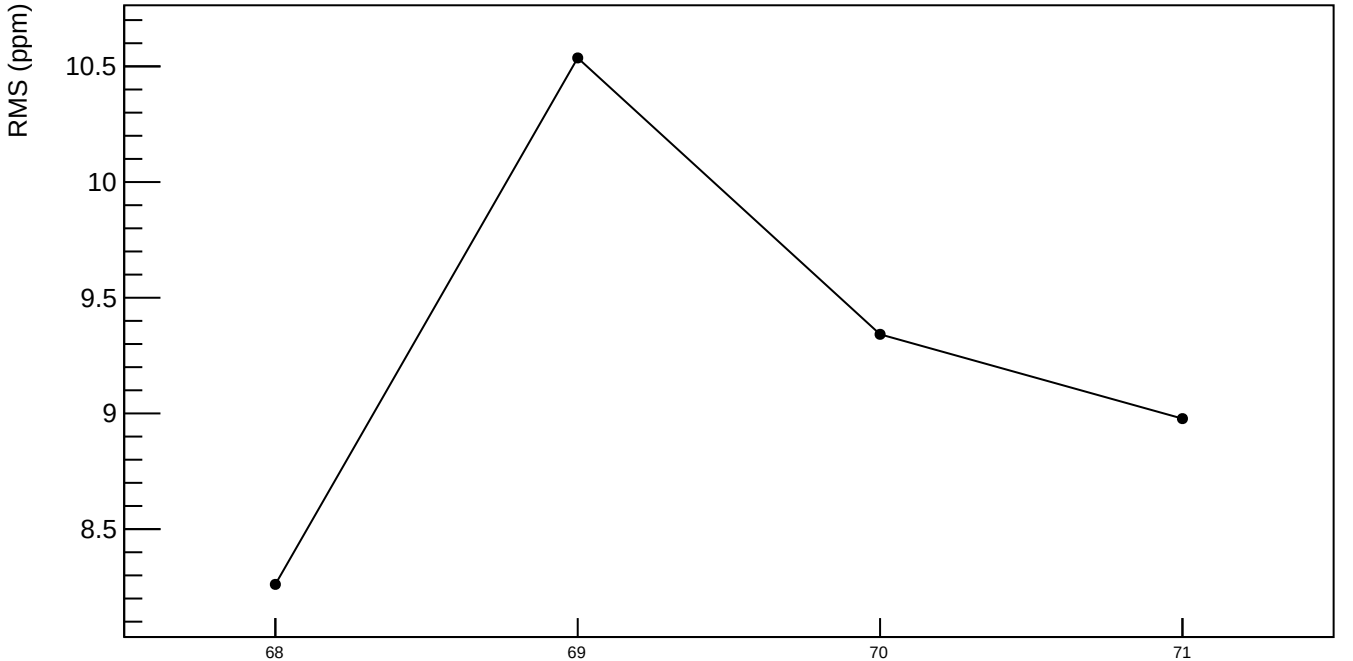

corr_usl_bpm4eY (ppb)
χ² / ndf 0.2871 / 3
p0 1.137 ± 22.19
60
40
20
0
−20
−40
−60
0.4
0.3
0.2
0.1
0
−0.1
−0.2
68
69
70
71
1D pull distribution
Mean 0.001356 ± 0.134
Std Dev 0.2679 ± 0.09472
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 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

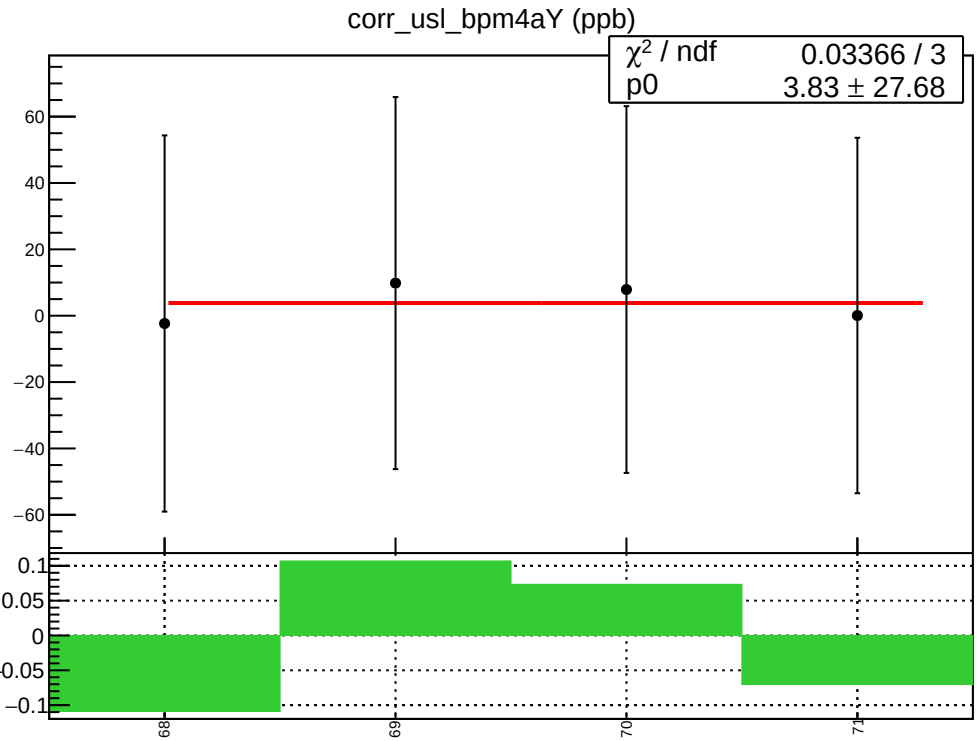

corr_usl_bpm4eY RMS (ppm)
RMS (ppm)
20
18
16
14
12
10
8
6
68
69
70
71

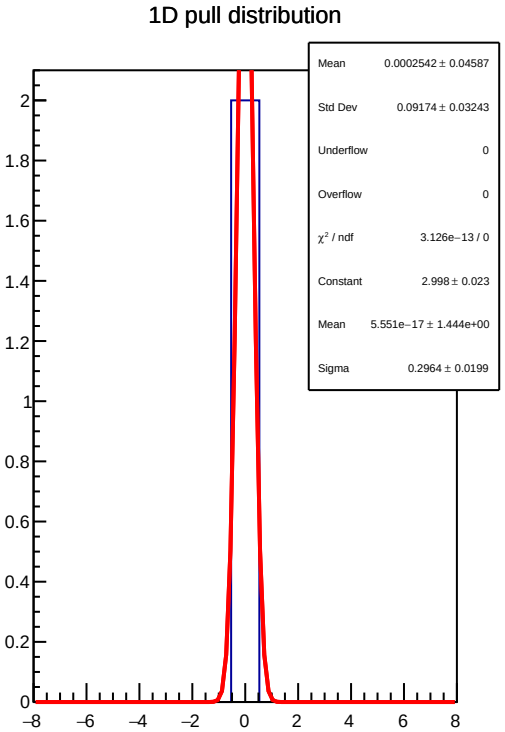

corr_usl_bpm4aX (ppb)
χ² / ndf 0.1976 / 3
p0 1.048 ± 15.36
40
30
20
10
0
−10
−20
−30
−40
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
68
69
70
71


1D pull distribution
Mean −0.00398 ± 0.1111
Std Dev 0.2222 ± 0.07857
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

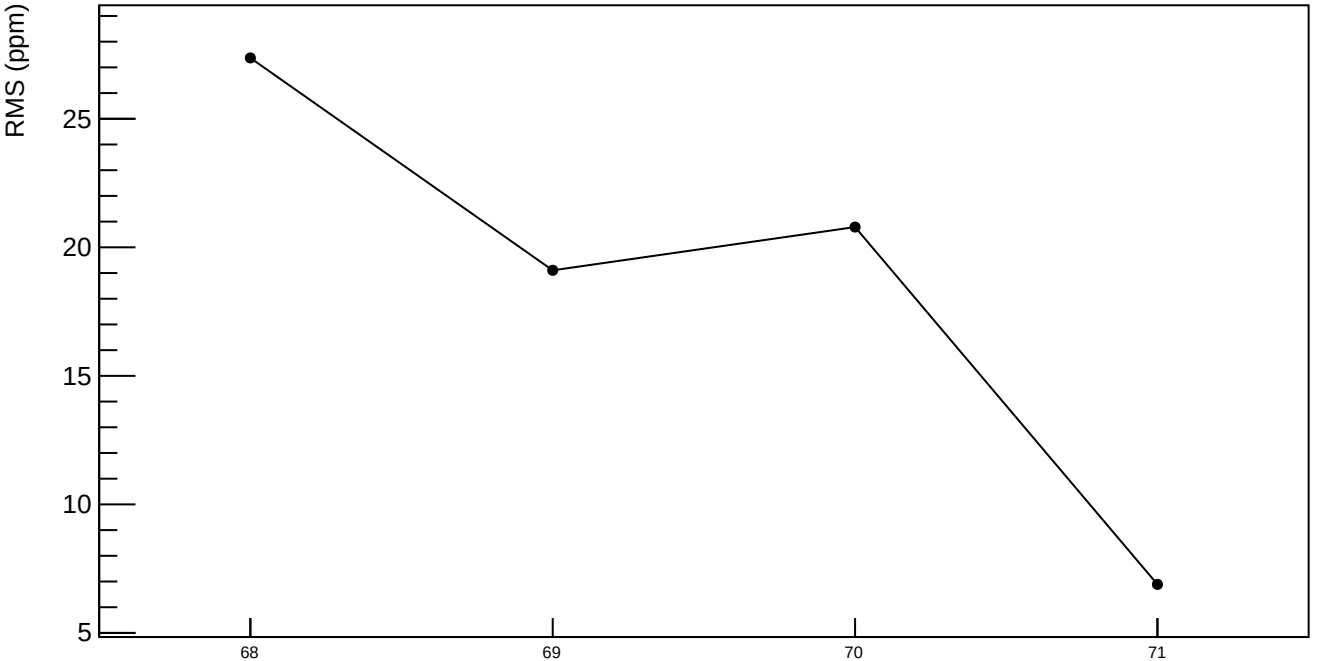
corr_usl_bpm4aX RMS (ppm)

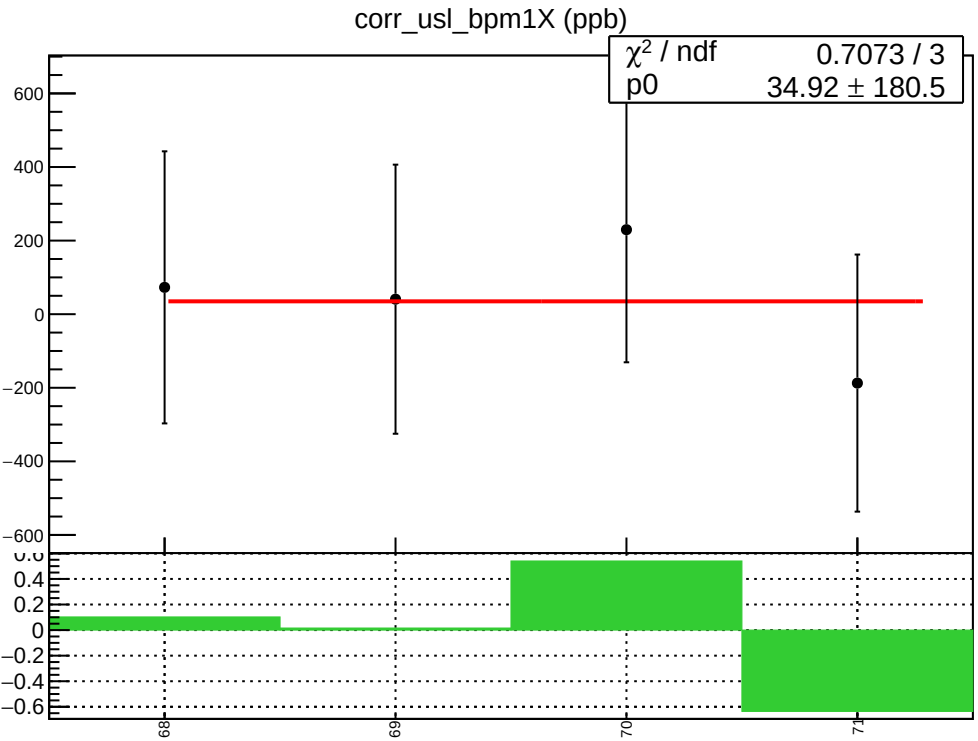


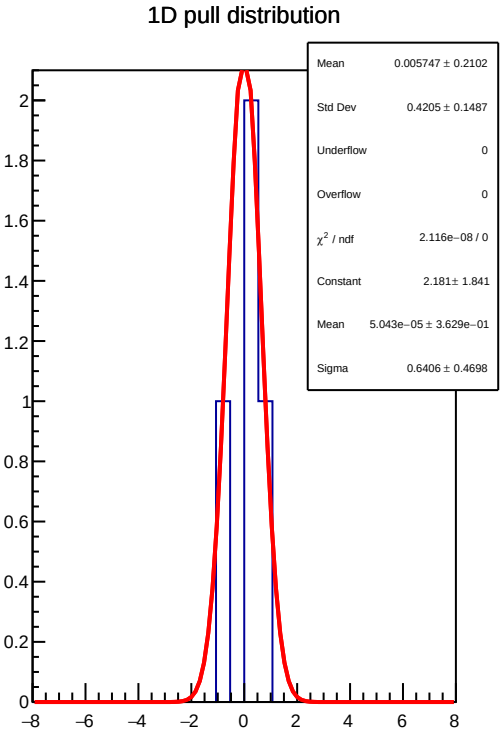

corr_usl_bpm4aY (ppb)
χ^2 / ndf 0.03366 / 3
p0 3.83 ± 27.68
60
40
20
0
−20
−40
−60
0.1
0.05
0
−0.05
−0.1
68
69
70
71


1D pull distribution
Mean 0.0002542 ± 0.04587
Std Dev 0.09174 ± 0.03243
Underflow 0
Overflow 0
χ^2 / 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

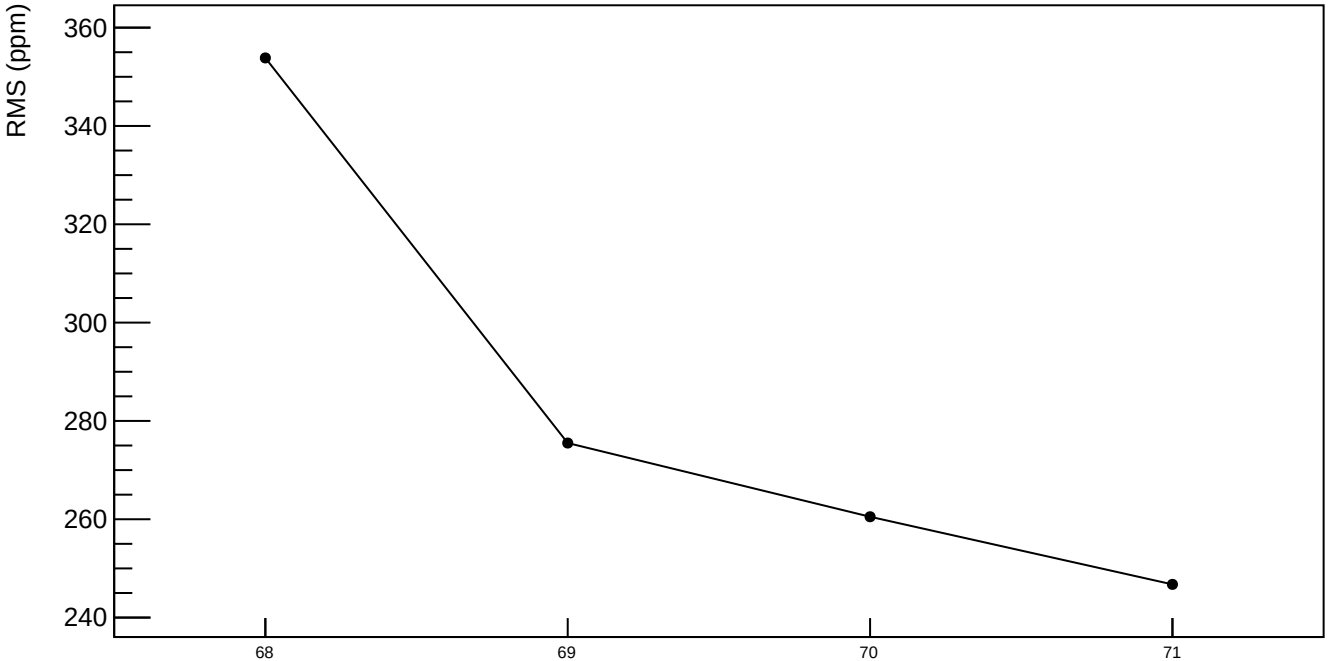
corr_usl_bpm4aY RMS (ppm)

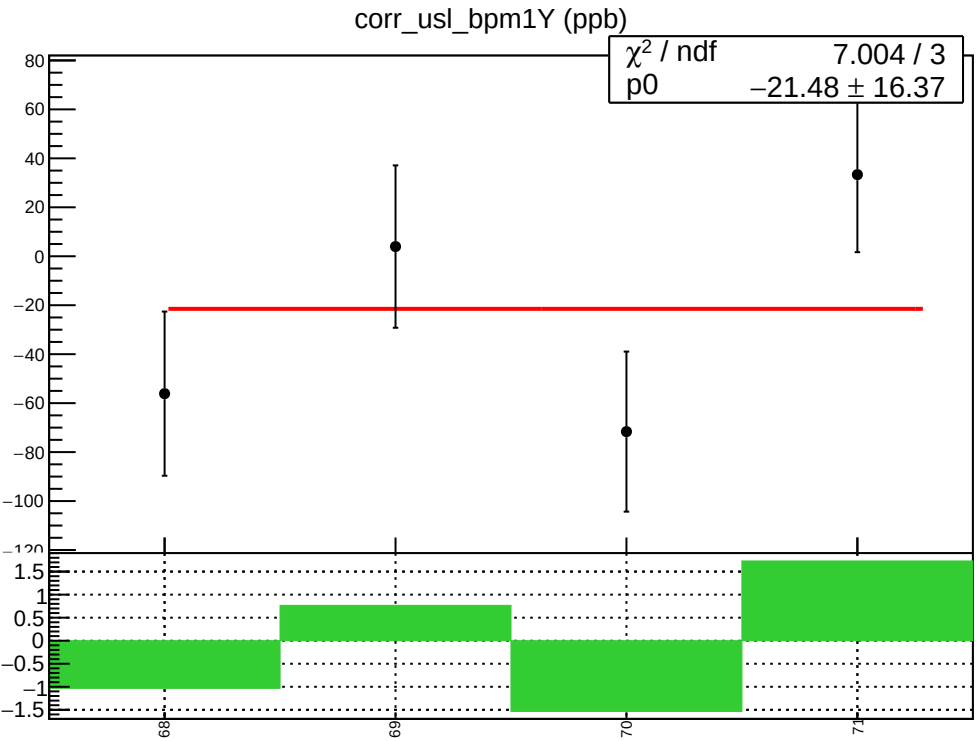


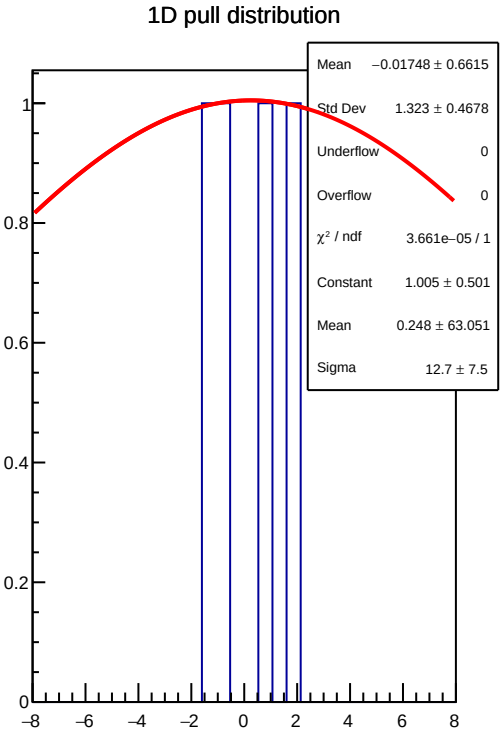

corr_usl_bpm1X (ppb)
χ² / ndf 0.7073 / 3
p0 34.92 ± 180.5
600
400
200
0
−200
−400
−600
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71


1D pull distribution
Mean 0.005747 ± 0.2102
Std Dev 0.4205 ± 0.1487
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

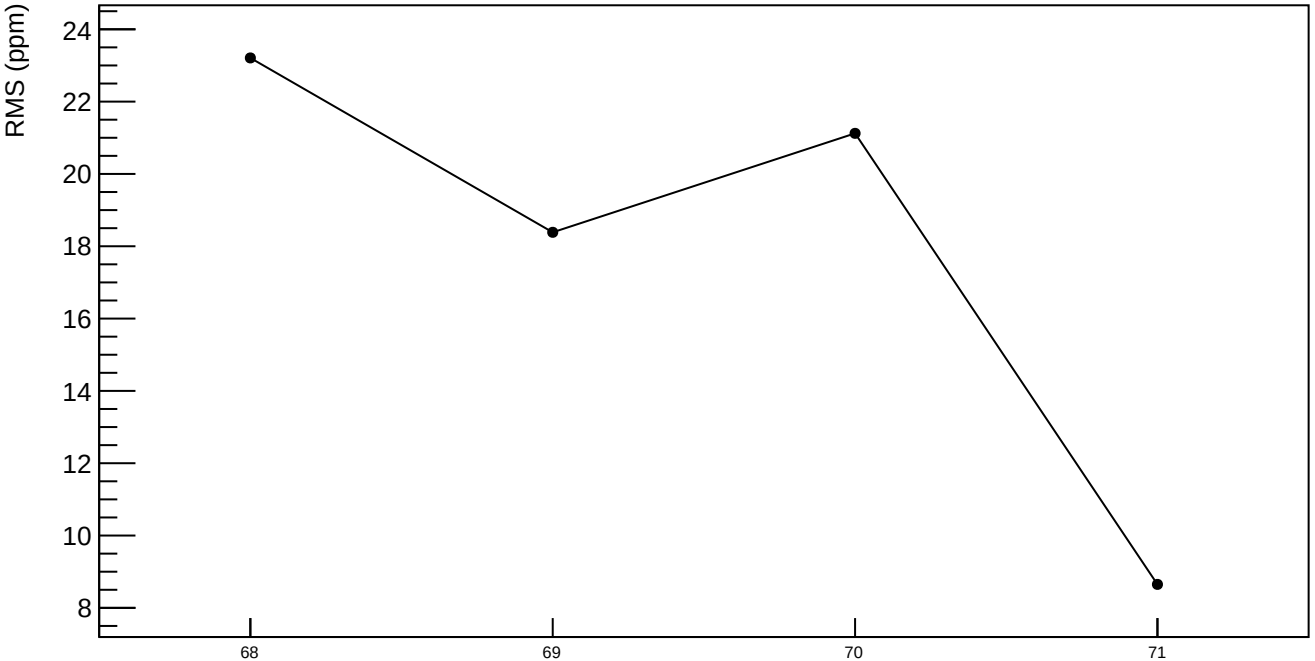
corr_usl_bpm1X RMS (ppm)

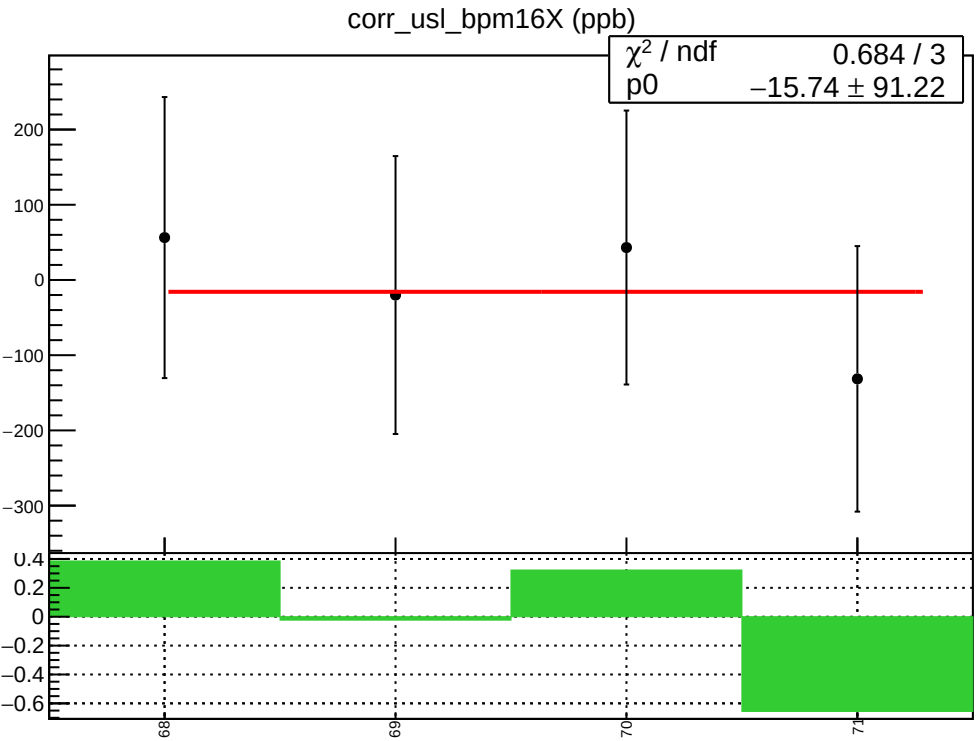


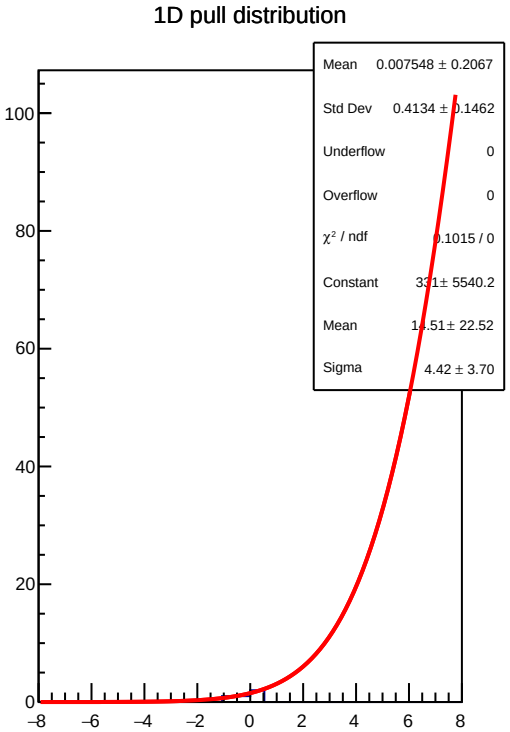

corr_usl_bpm1Y (ppb)
χ² / ndf 7.004 / 3
p0 −21.48 ± 16.37
80
60
40
20
0
−20
−40
−60
−80
−100
−120
1.5
1
0.5
0
−0.5
−1
−1.5
68
69
70
71


1D pull distribution
Mean −0.01748 ± 0.6615
Std Dev 1.323 ± 0.4678
Underflow 0
Overflow 0
χ² / ndf 3.661e−05 / 1
Constant 1.005 ± 0.501
Mean 0.248 ± 63.051
Sigma 12.7 ± 7.5
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

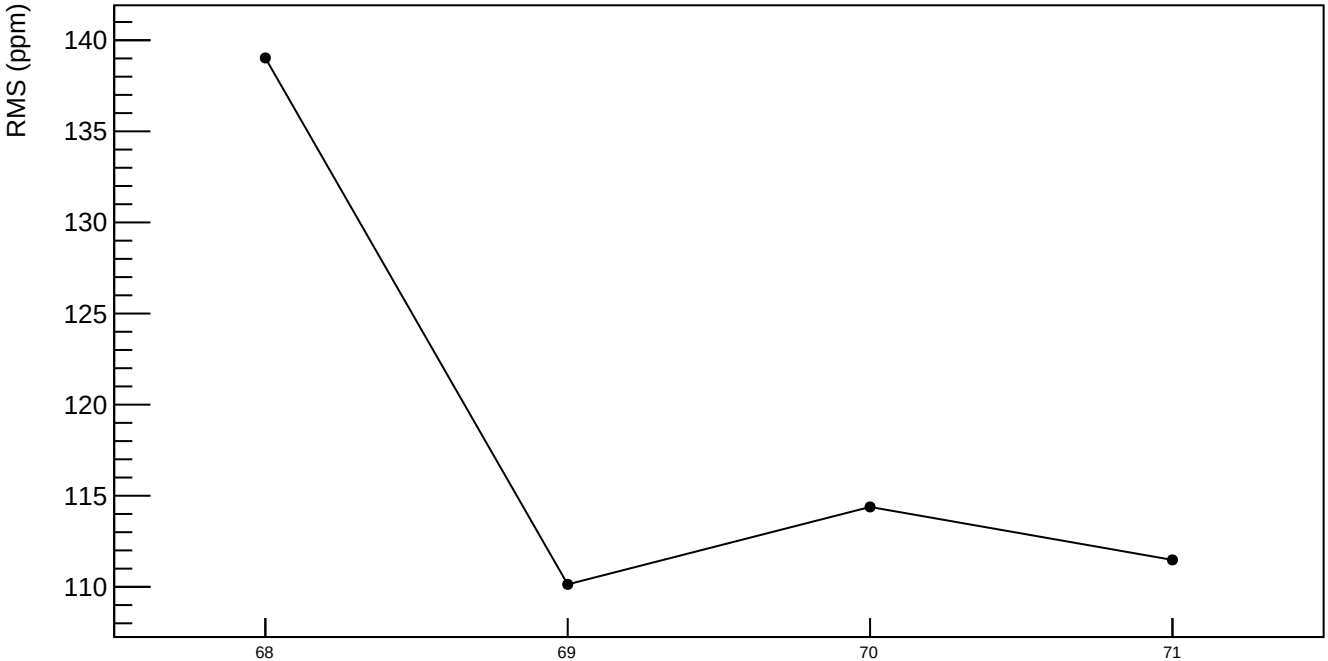
corr_usl_bpm1Y RMS (ppm)

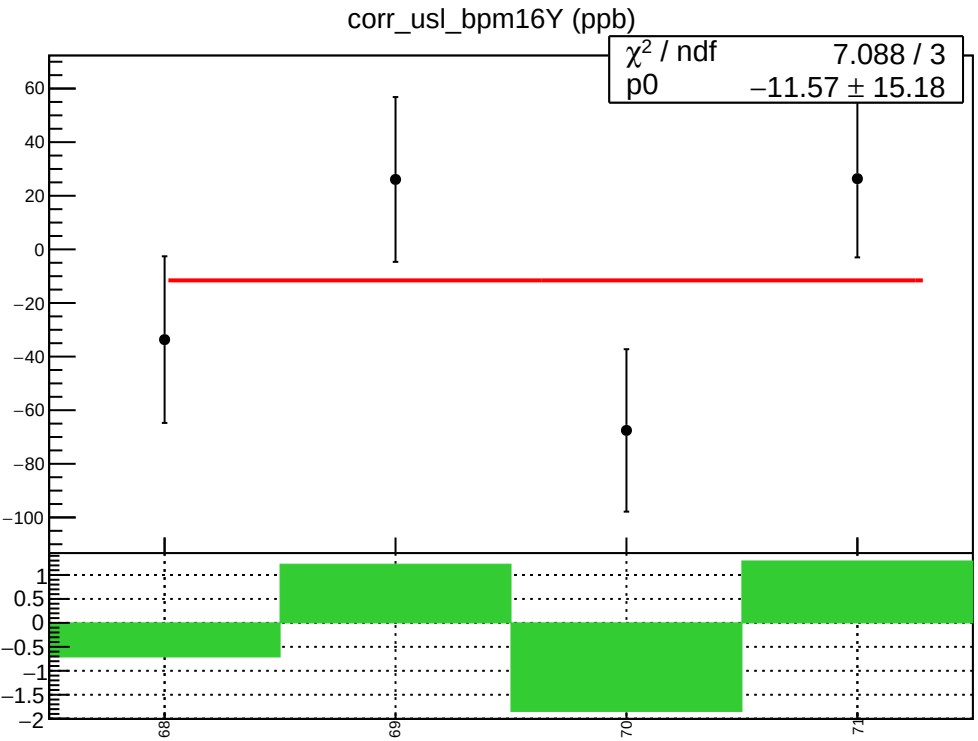


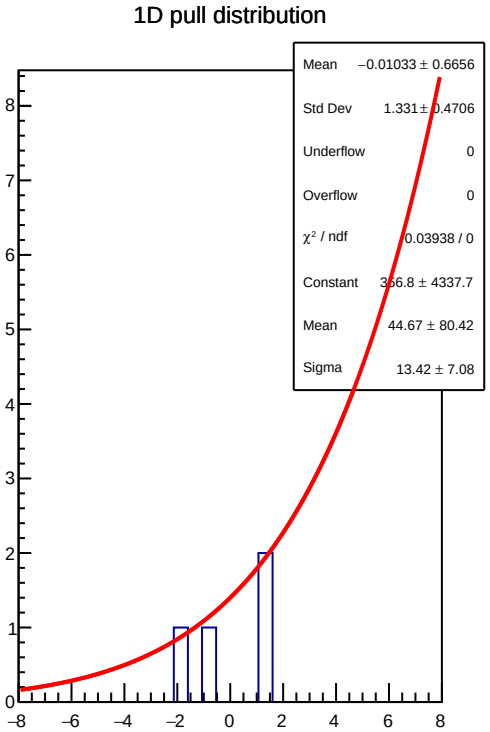

corr_usl_bpm16X (ppb)
χ² / ndf 0.684 / 3
p0 −15.74 ± 91.22
200
100
0
−100
−200
−300
0.4
0.2
0
−0.2
−0.4
−0.6
68
69
70
71


1D pull distribution
Mean 0.007548 ± 0.2067
Std Dev 0.4134 ± 0.1462
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

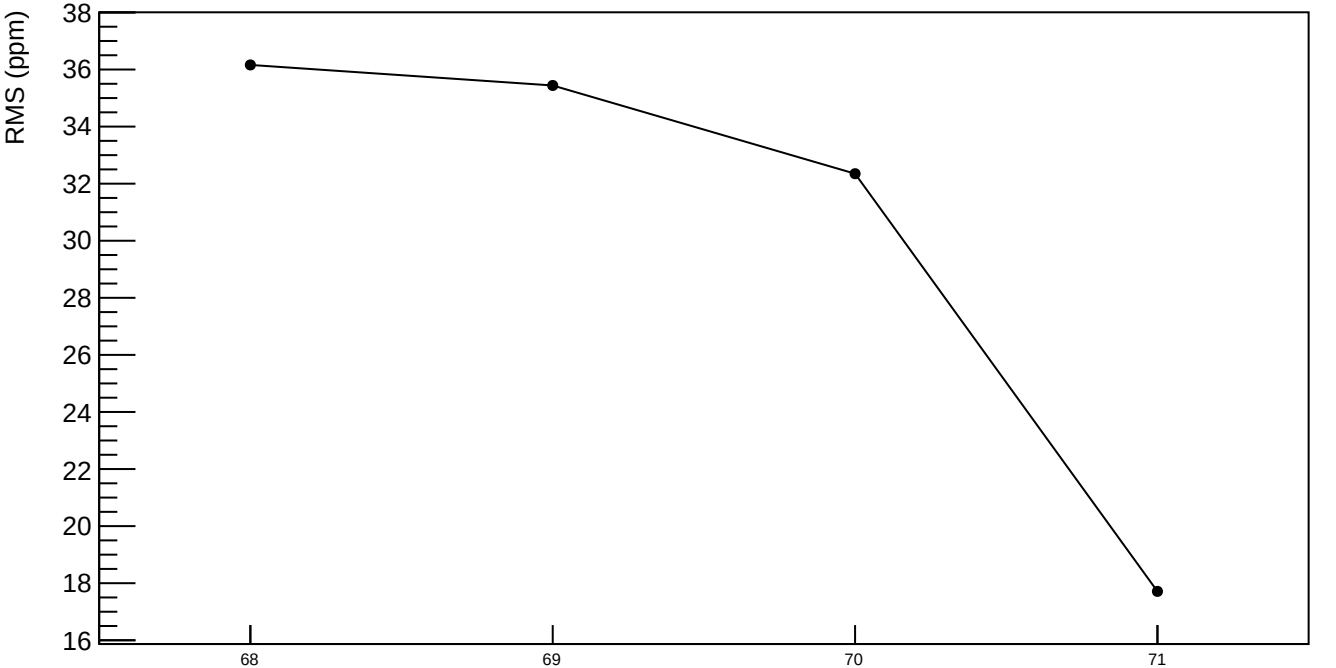
corr_usl_bpm16X RMS (ppm)

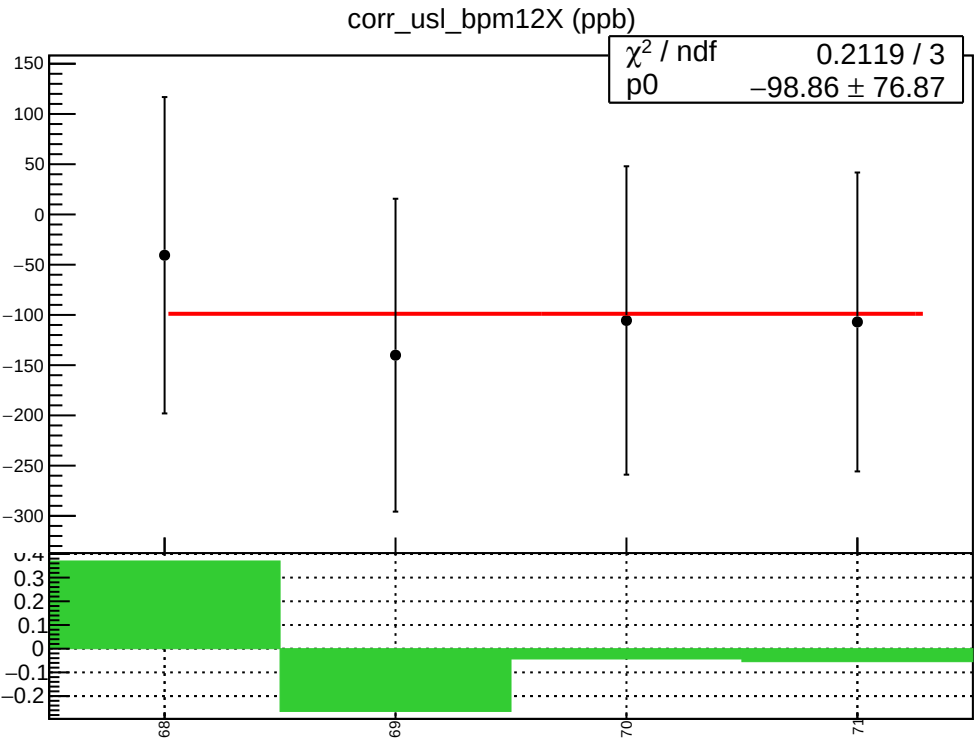


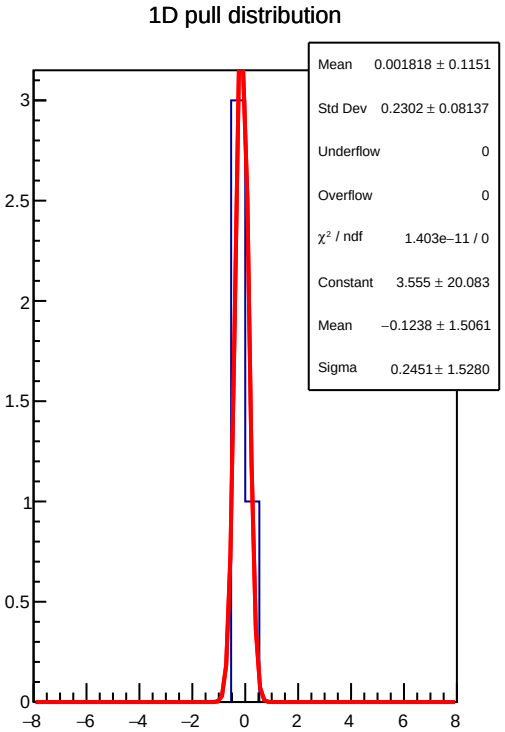

corr_usl_bpm16Y (ppb)
χ² / ndf 7.088 / 3
p0 −11.57 ± 15.18
60
40
20
0
−20
−40
−60
−80
−100
1
0.5
0
−0.5
−1
−1.5
−2
68
69
70
71

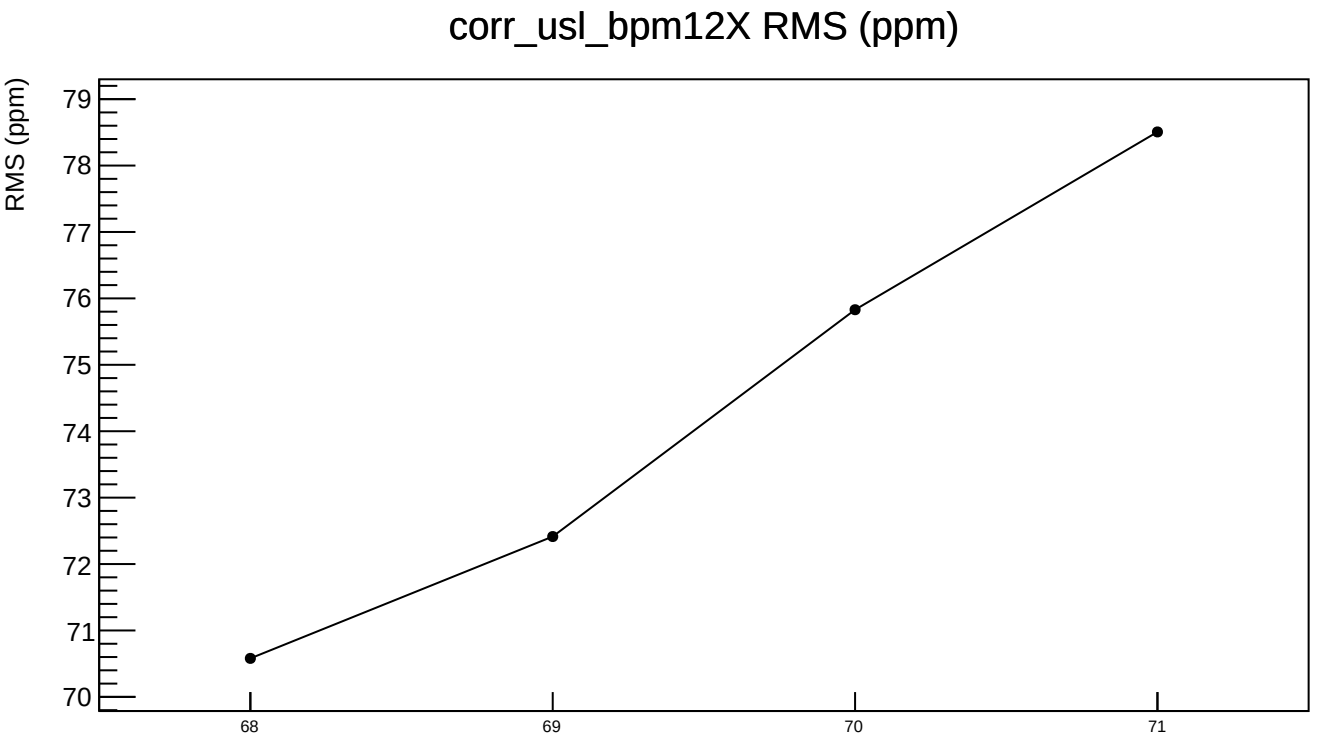

1D pull distribution
Mean −0.01033 ± 0.6656
Std Dev 1.331 ± 0.4706
Underflow 0
Overflow 0
χ² / ndf 0.03938 / 0
Constant 356.8 ± 4337.7
Mean 44.67 ± 80.42
Sigma 13.42 ± 7.08
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

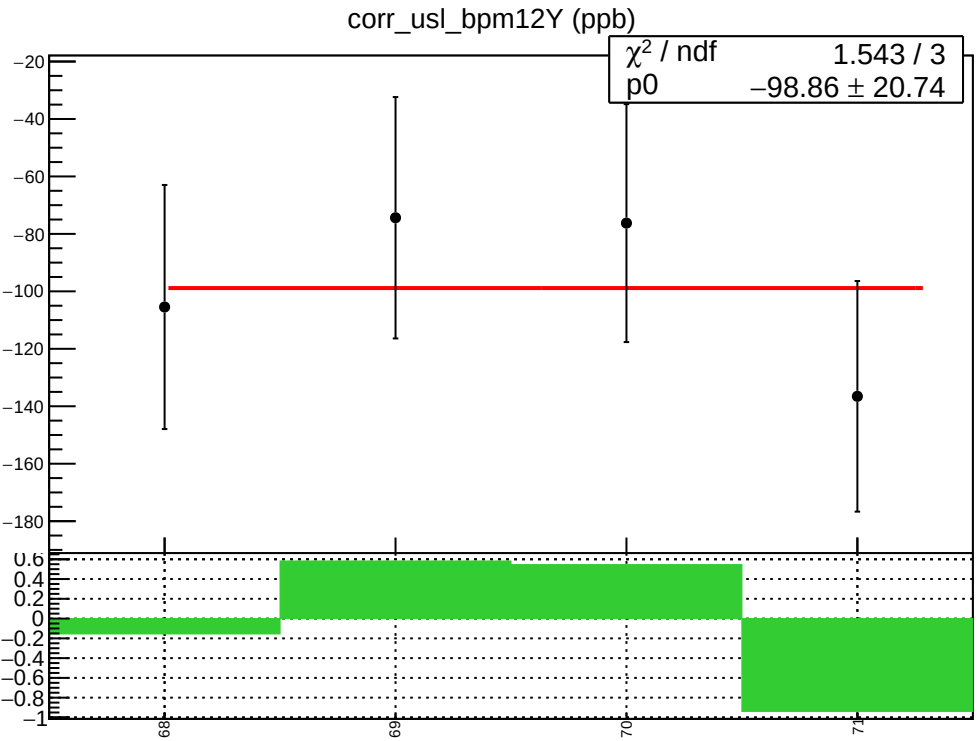
corr_usl_bpm16Y RMS (ppm)

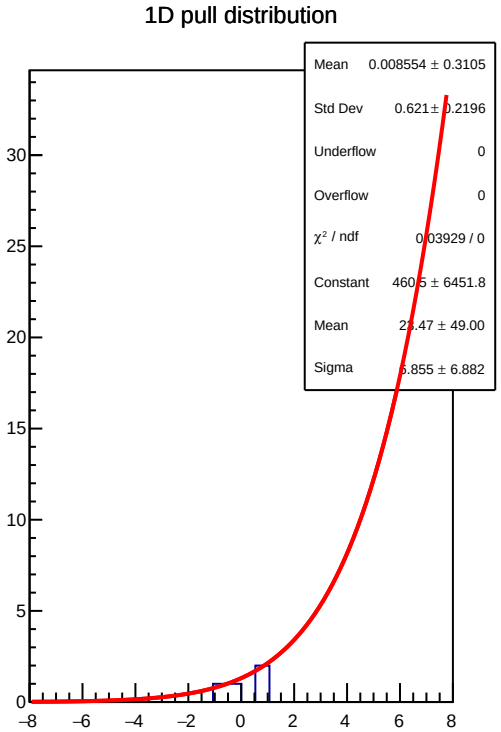



corr_usl_bpm12X (ppb)
χ² / ndf 0.2119 / 3
p0 −98.86 ± 76.87
150
100
50
0
−50
−100
−150
−200
−250
−300
0.4
0.3
0.2
0.1
0
−0.1
−0.2
68
69
70
71

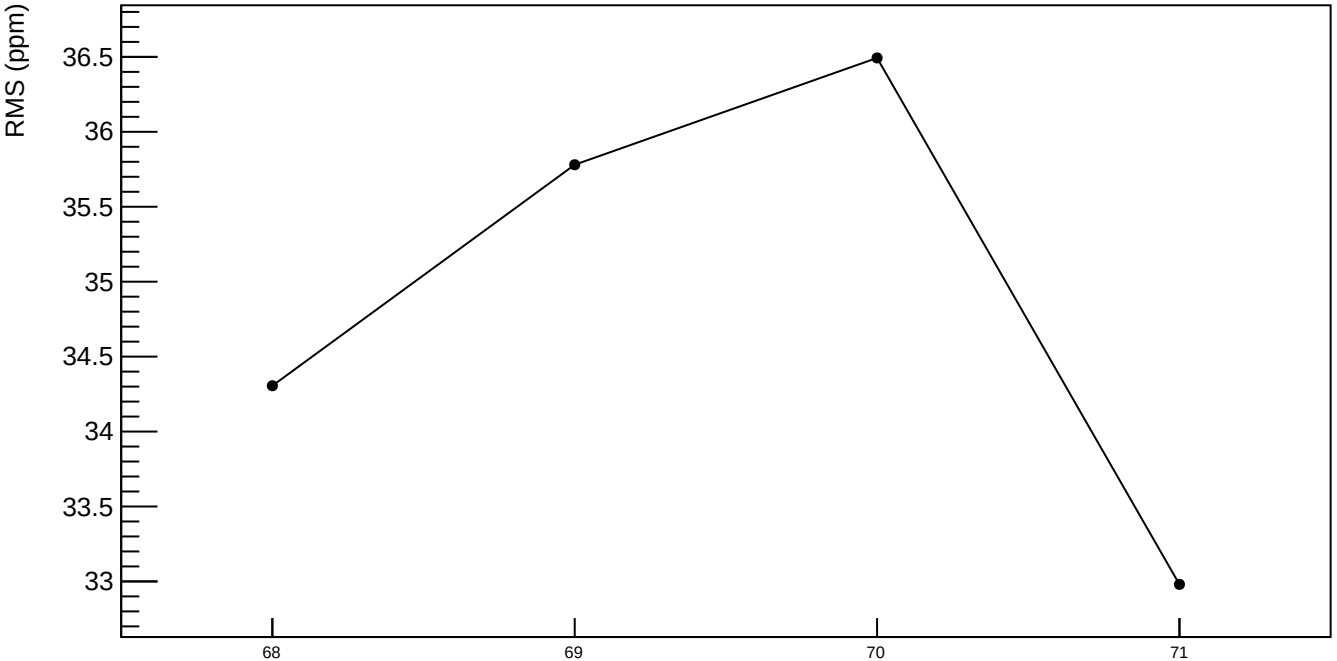

1D pull distribution
Mean 0.001818 ± 0.1151
Std Dev 0.2302 ± 0.08137
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean −0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

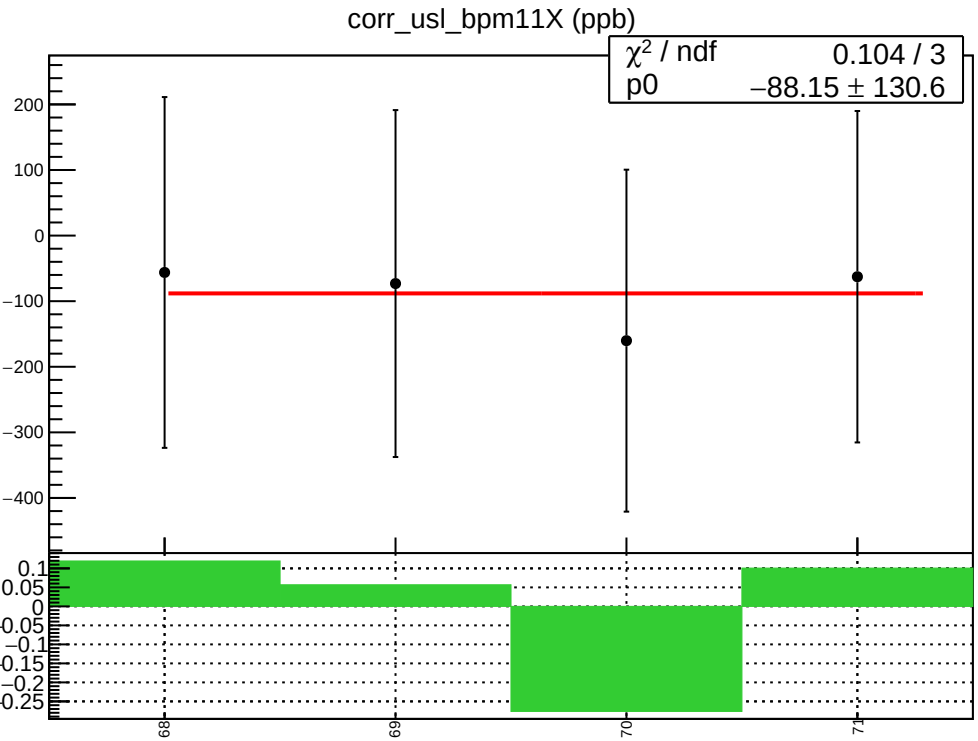

corr_usl_bpm12X RMS (ppm)
RMS (ppm)
79
78
77
76
75
74
73
72
71
70
68
69
70
71

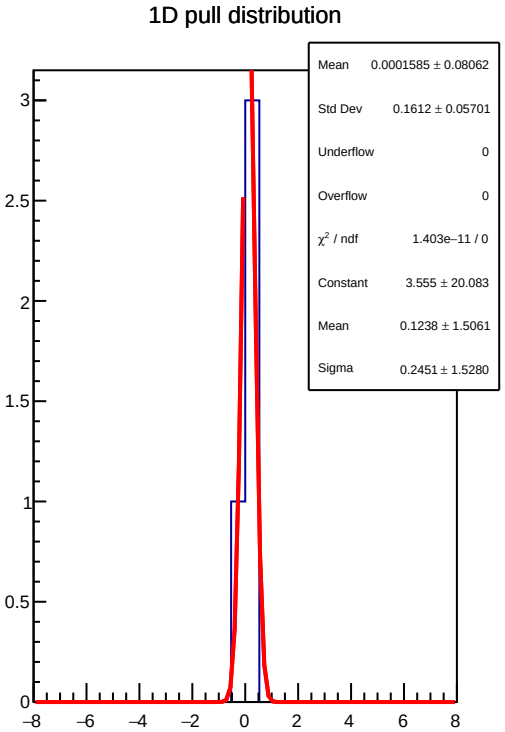

corr_usl_bpm12Y (ppb)
χ² / ndf 1.543 / 3
p0 −98.86 ± 20.74
−20
−40
−60
−80
−100
−120
−140
−160
−180
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
68
69
70
71


1D pull distribution
Mean 0.008554 ± 0.3105
Std Dev 0.621± 0.2196
Underflow 0
Overflow 0
χ² / ndf 0.03929 / 0
Constant 460.5 ± 6451.8
Mean 2.47 ± 49.00
Sigma 5.855 ± 6.882
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

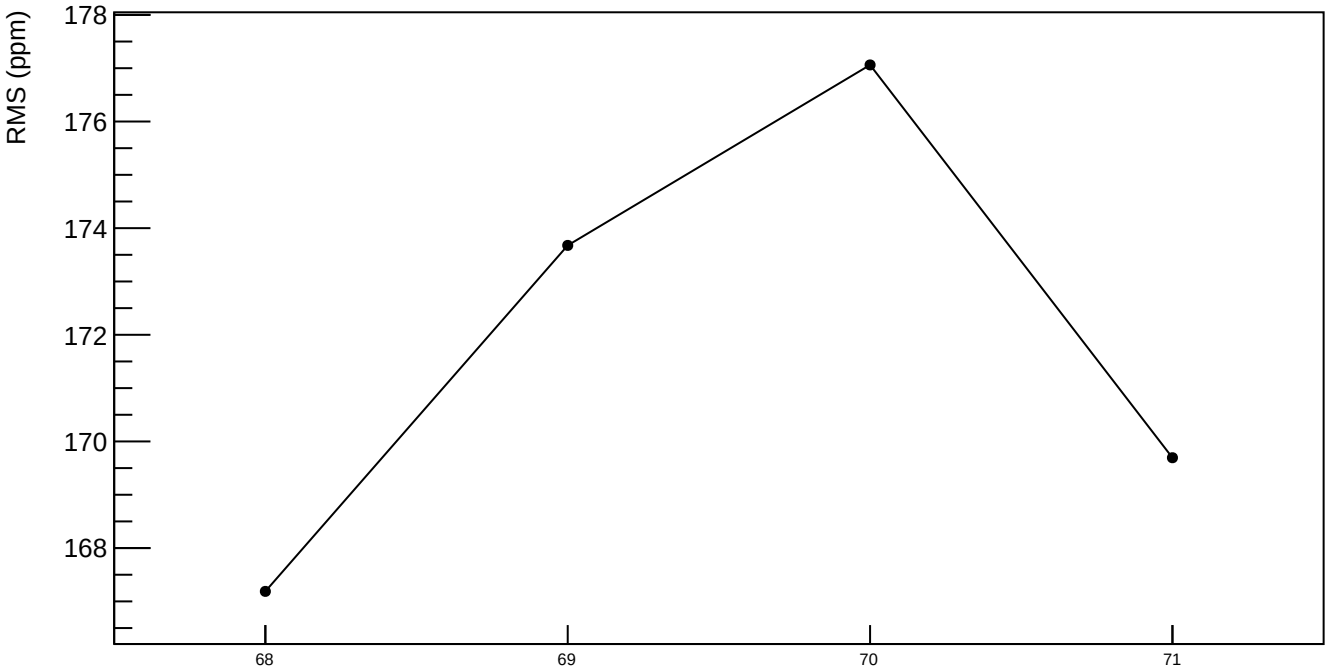
corr_usl_bpm12Y RMS (ppm)

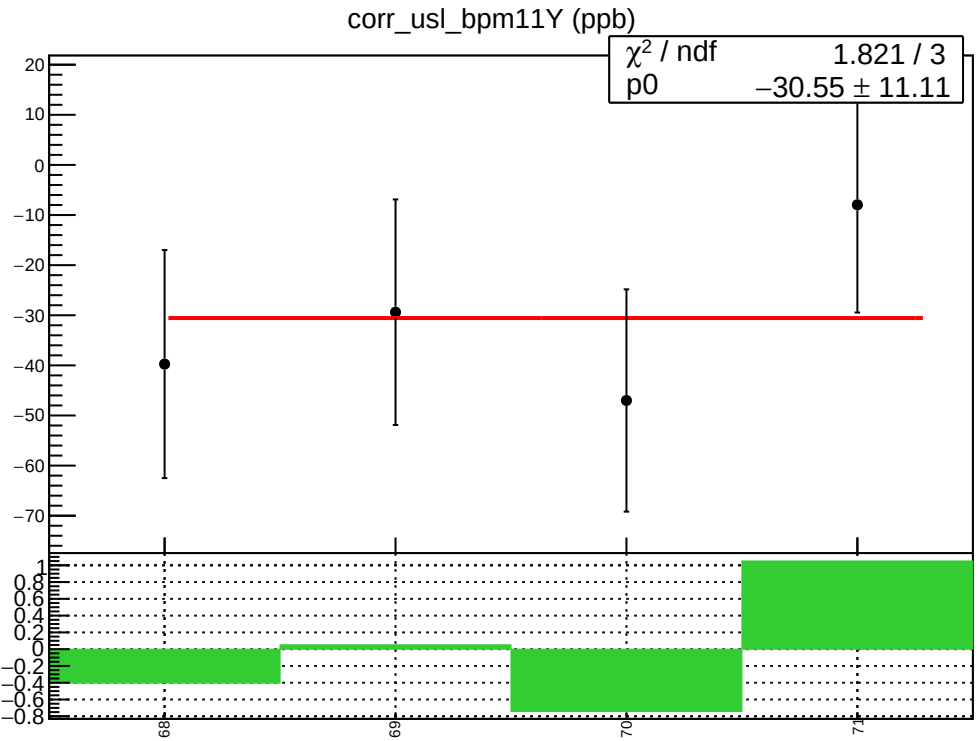


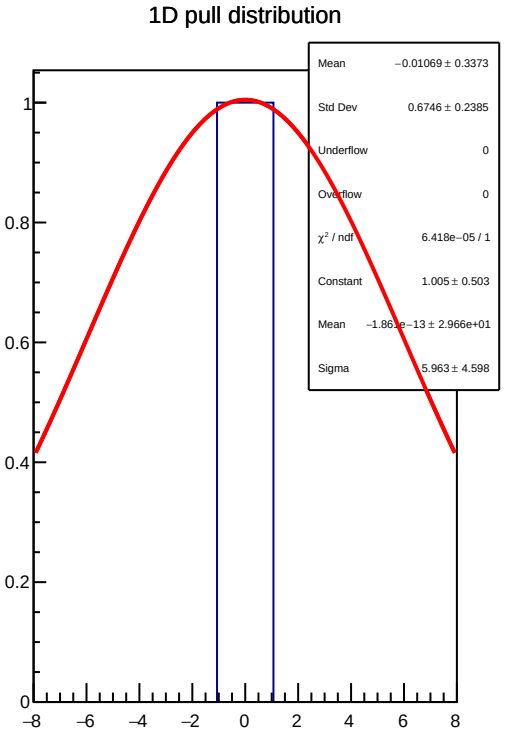

corr_usl_bpm11X (ppb)
χ² / ndf 0.104 / 3
p0 −88.15 ± 130.6
200
100
0
−100
−200
−300
−400
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
−0.25
68
69
70
71

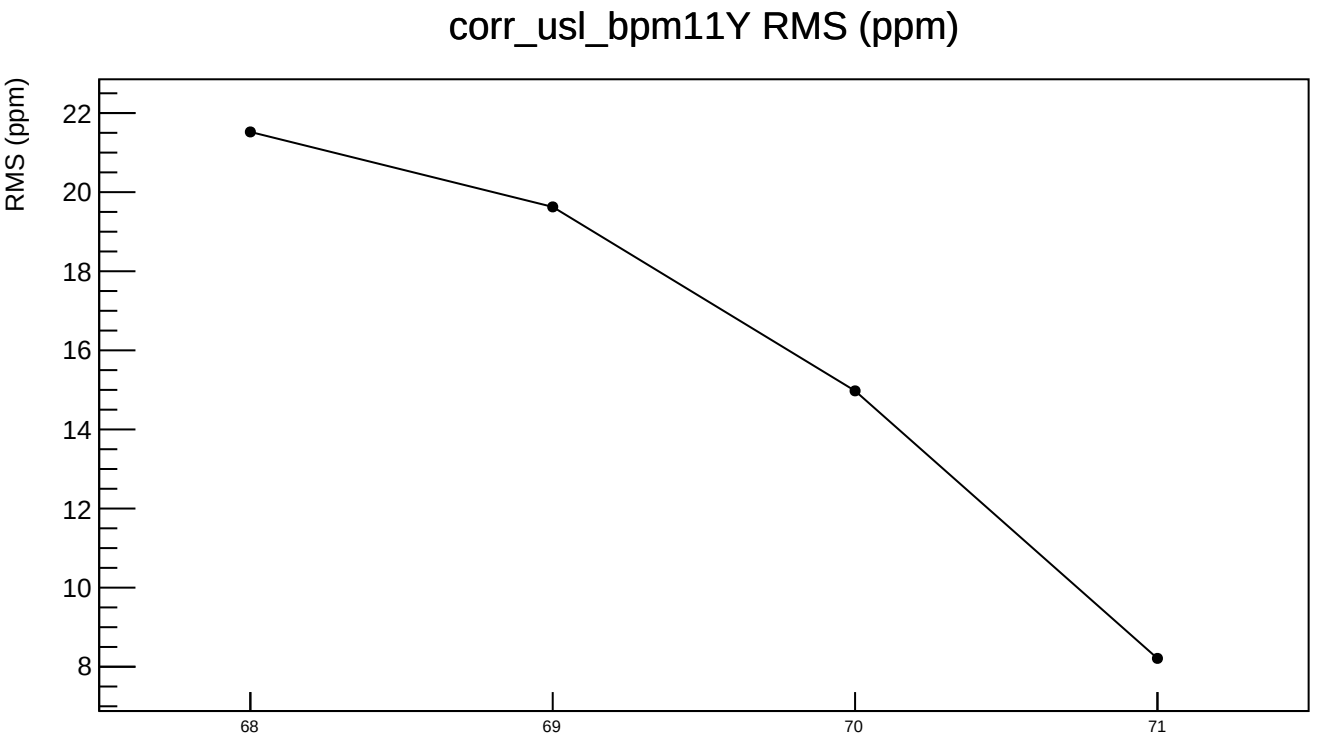

1D pull distribution
Mean 0.0001585 ± 0.08062
Std Dev 0.1612 ± 0.05701
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

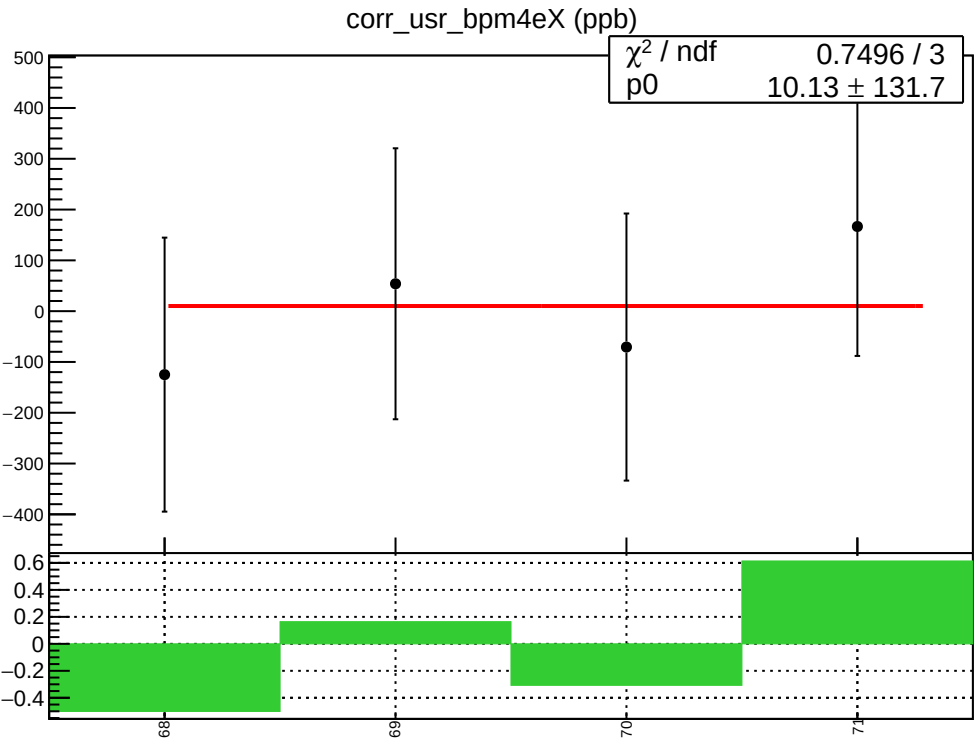
corr_usl_bpm11X RMS (ppm)

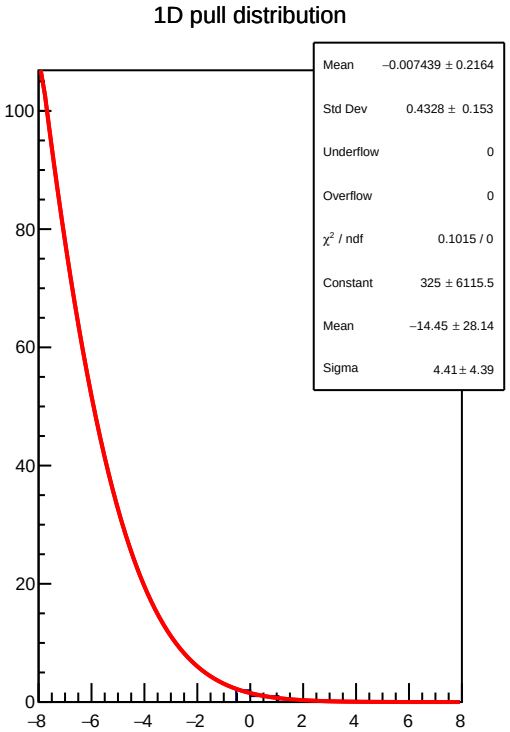


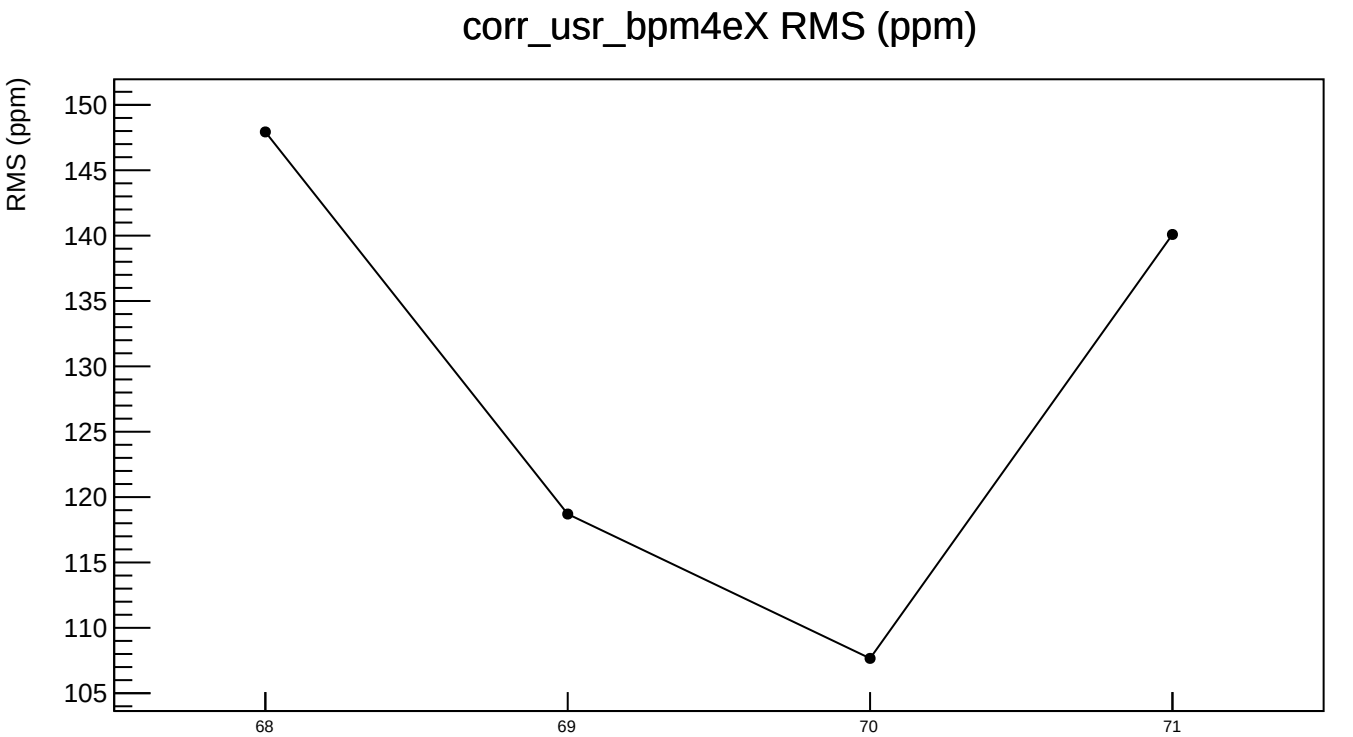

corr_usl_bpm11Y (ppb)
χ² / ndf 1.821 / 3
p0 −30.55 ± 11.11
20
10
0
−10
−20
−30
−40
−50
−60
−70
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
68
69
70
71

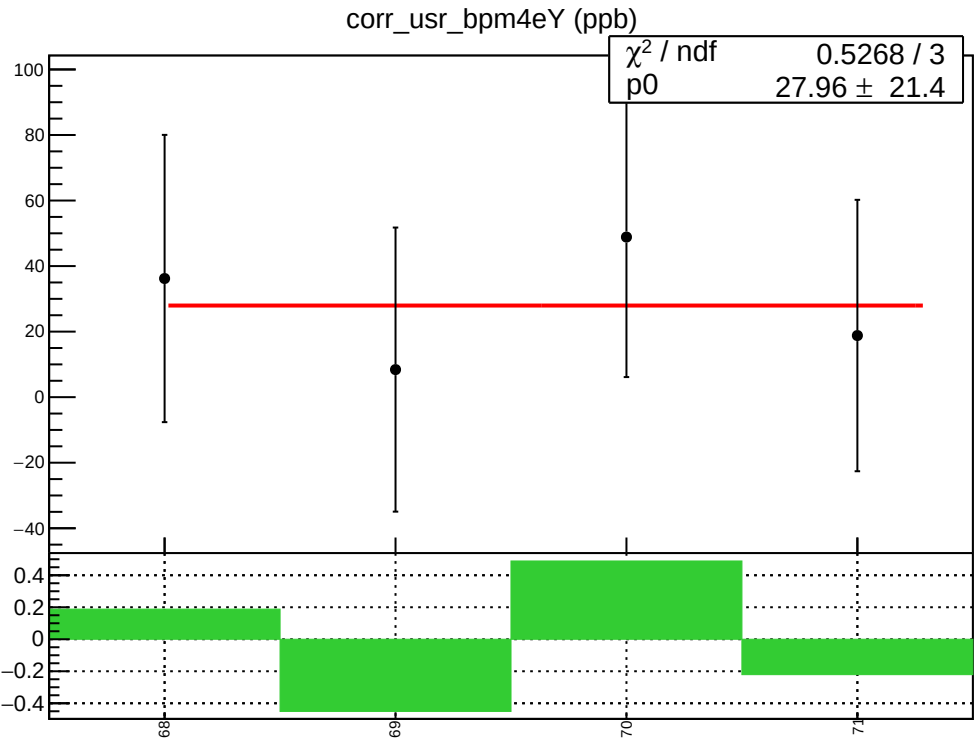

1D pull distribution
Mean −0.01069 ± 0.3373
Std Dev 0.6746 ± 0.2385
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

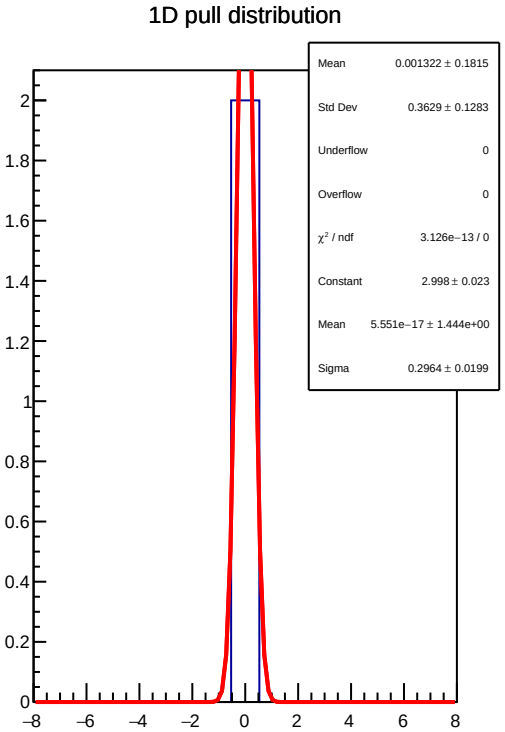

corr_usl_bpm11Y RMS (ppm)
RMS (ppm)
22
20
18
16
14
12
10
8
68
69
70
71

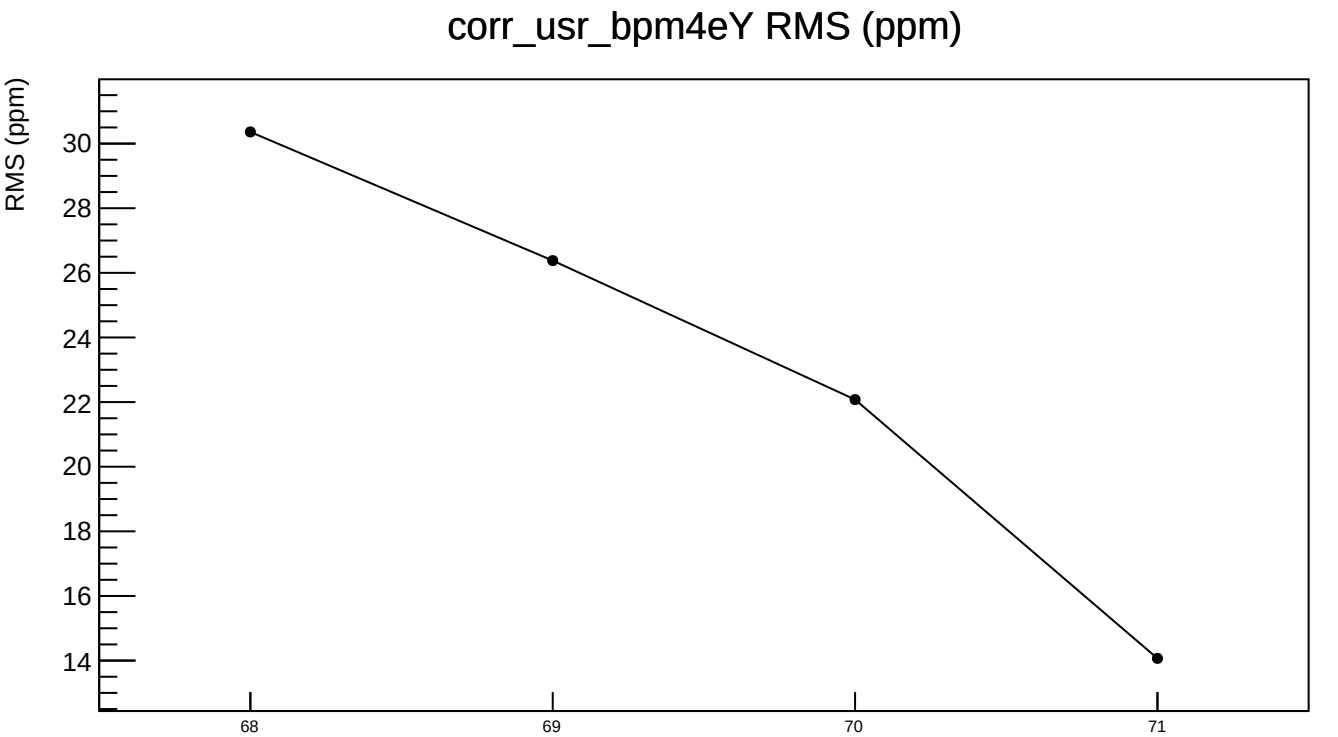

corr_usr_bpm4eX (ppb)
χ² / ndf 0.7496 / 3
p0 10.13 ± 131.7
500
400
300
200
100
0
−100
−200
−300
−400
0.6
0.4
0.2
0
−0.2
−0.4
68
69
70
71

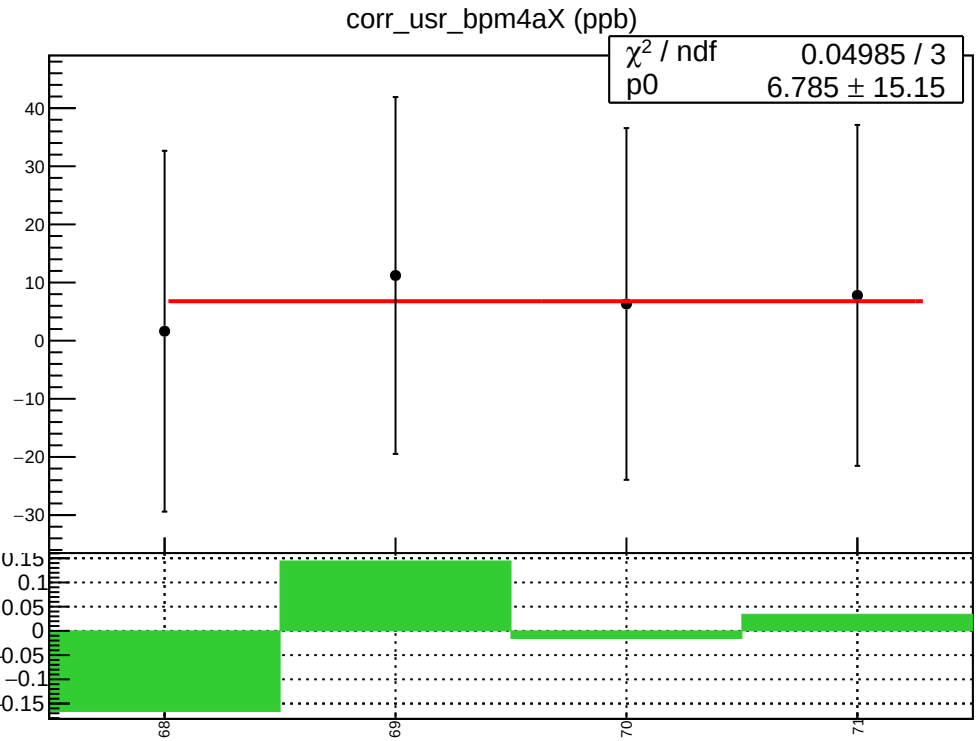

1D pull distribution
Mean −0.007439 ± 0.2164
Std Dev 0.4328 ± 0.153
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 325 ± 6115.5
Mean −14.45 ± 28.14
Sigma 4.41 ± 4.39
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

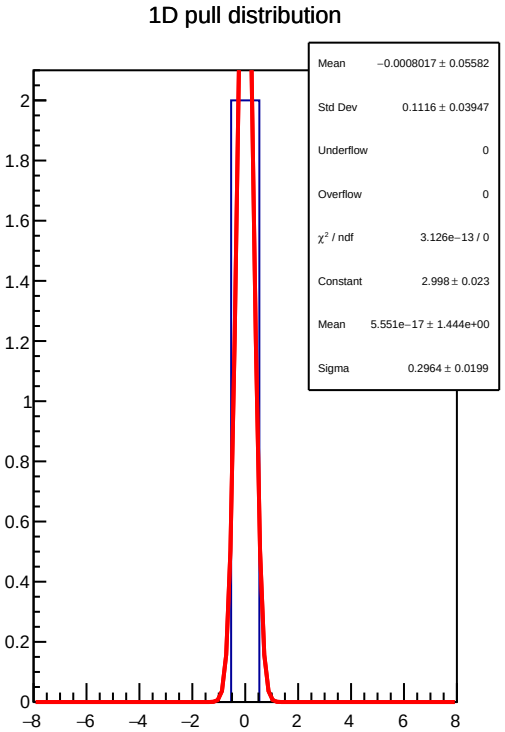

corr_usr_bpm4eX RMS (ppm)
RMS (ppm)
150
145
140
135
130
125
120
115
110
105
68
69
70
71

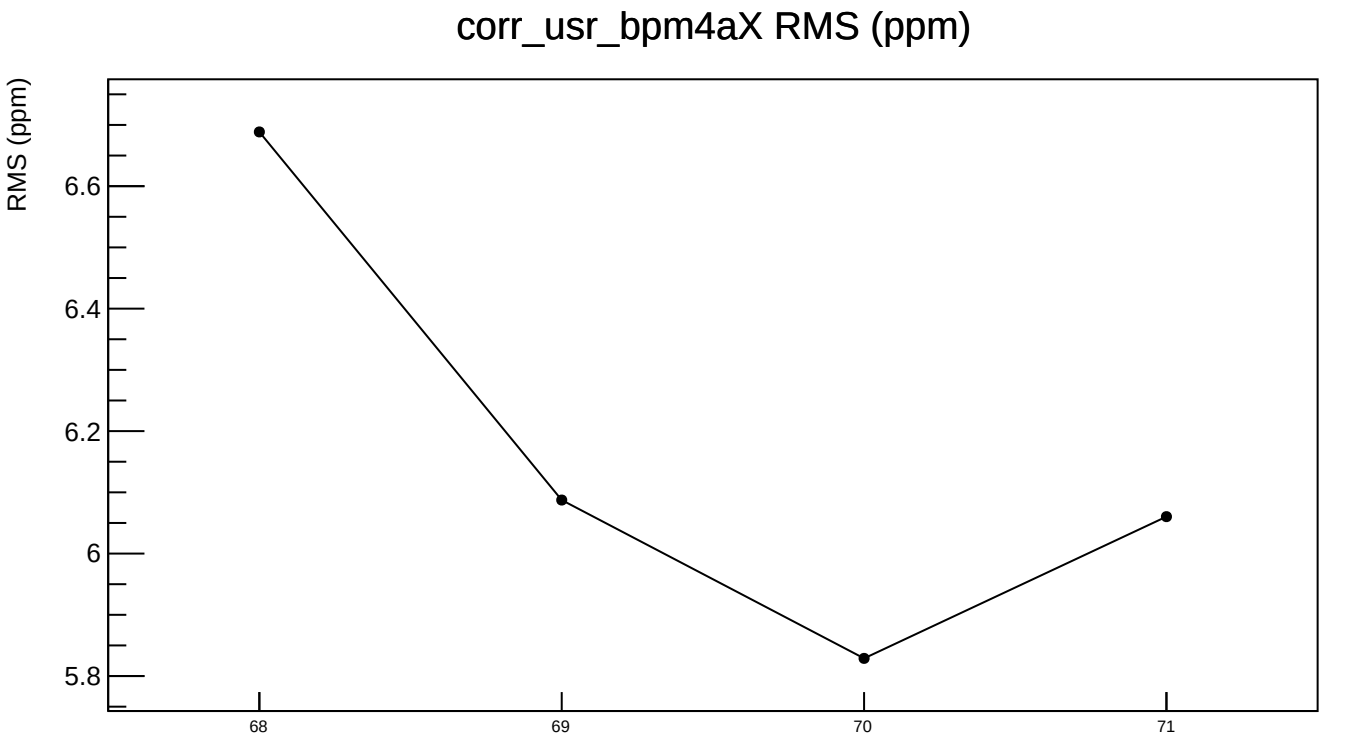

corr_usr_bpm4eY (ppb)
χ² / ndf 0.5268 / 3
p0 27.96 ± 21.4
100
80
60
40
20
0
−20
−40
0.4
0.2
0
−0.2
−0.4
68
69
70
71

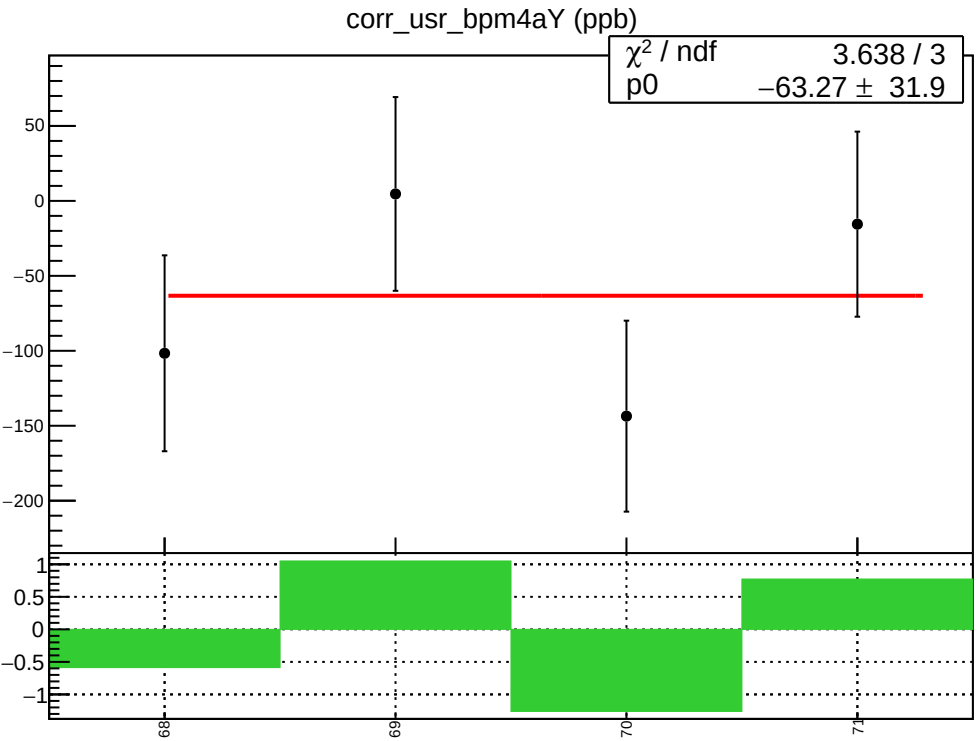

1D pull distribution
Mean 0.001322 ± 0.1815
Std Dev 0.3629 ± 0.1283
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

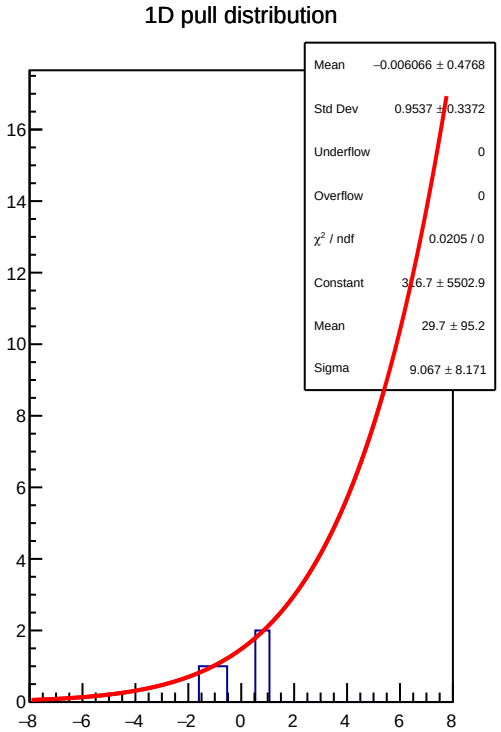

corr_usr_bpm4eY RMS (ppm)
RMS (ppm)
30
28
26
24
22
20
18
16
14
68
69
70
71

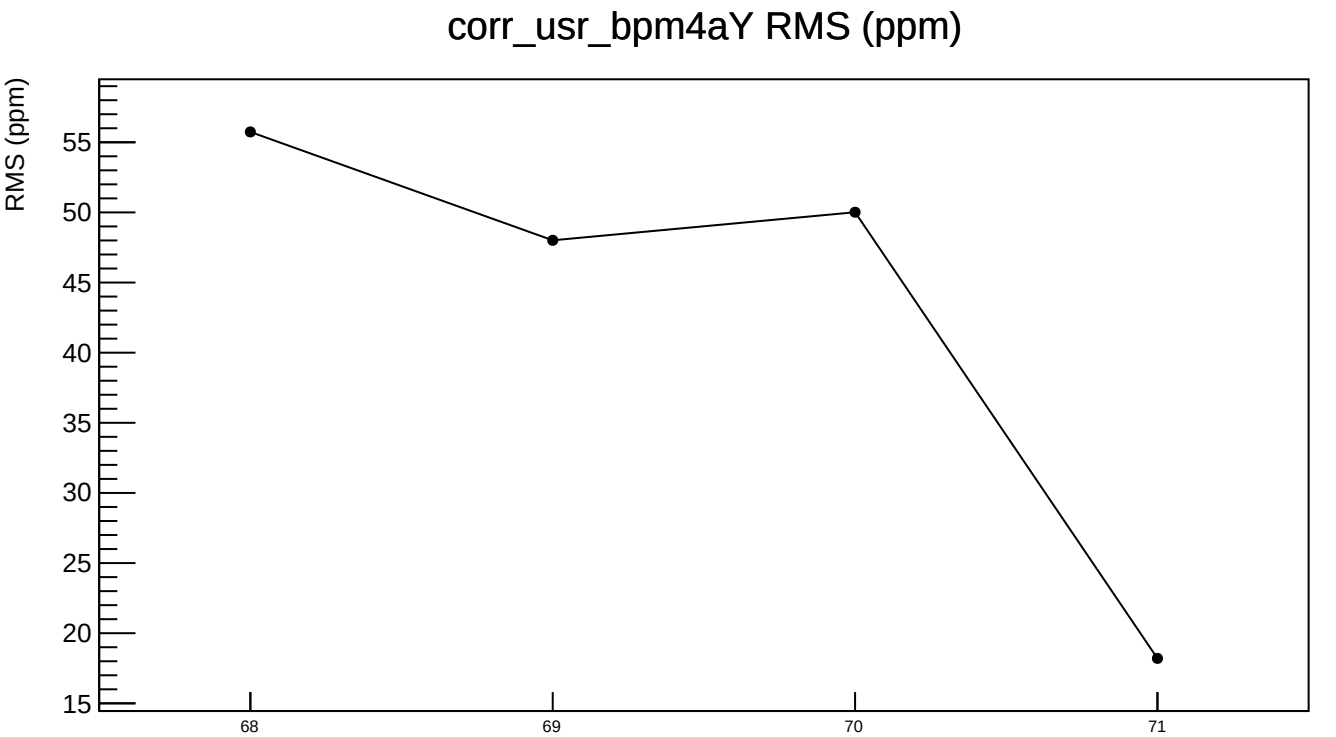

corr_usr_bpm4aX (ppb)
χ² / ndf 0.04985 / 3
p0 6.785 ± 15.15
40
30
20
10
0
−10
−20
−30
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
68
69
70
71

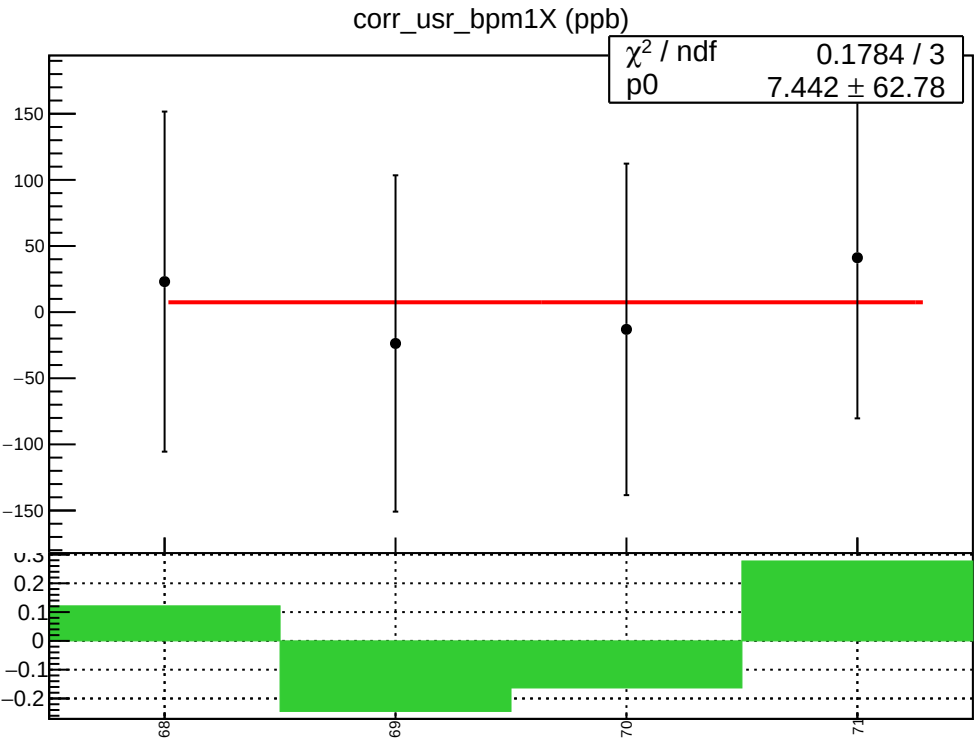

1D pull distribution
Mean −0.0008017 ± 0.05582
Std Dev 0.1116 ± 0.03947
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

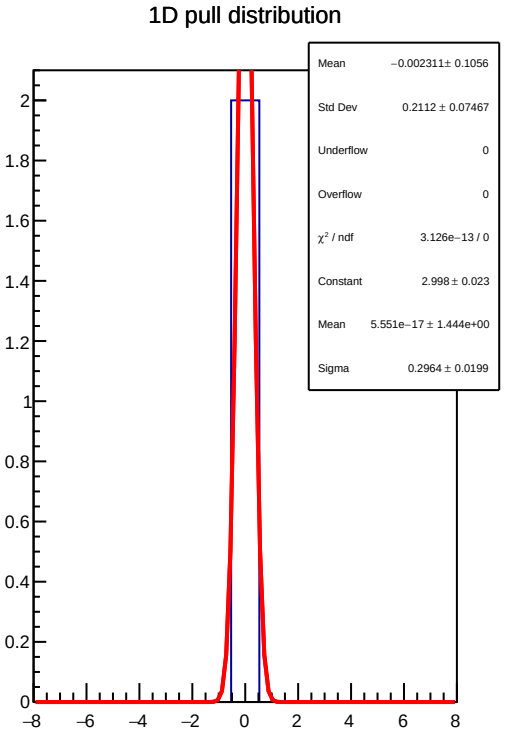

corr_usr_bpm4aX RMS (ppm)
RMS (ppm)
6.6
6.4
6.2
6
5.8
68
69
70
71

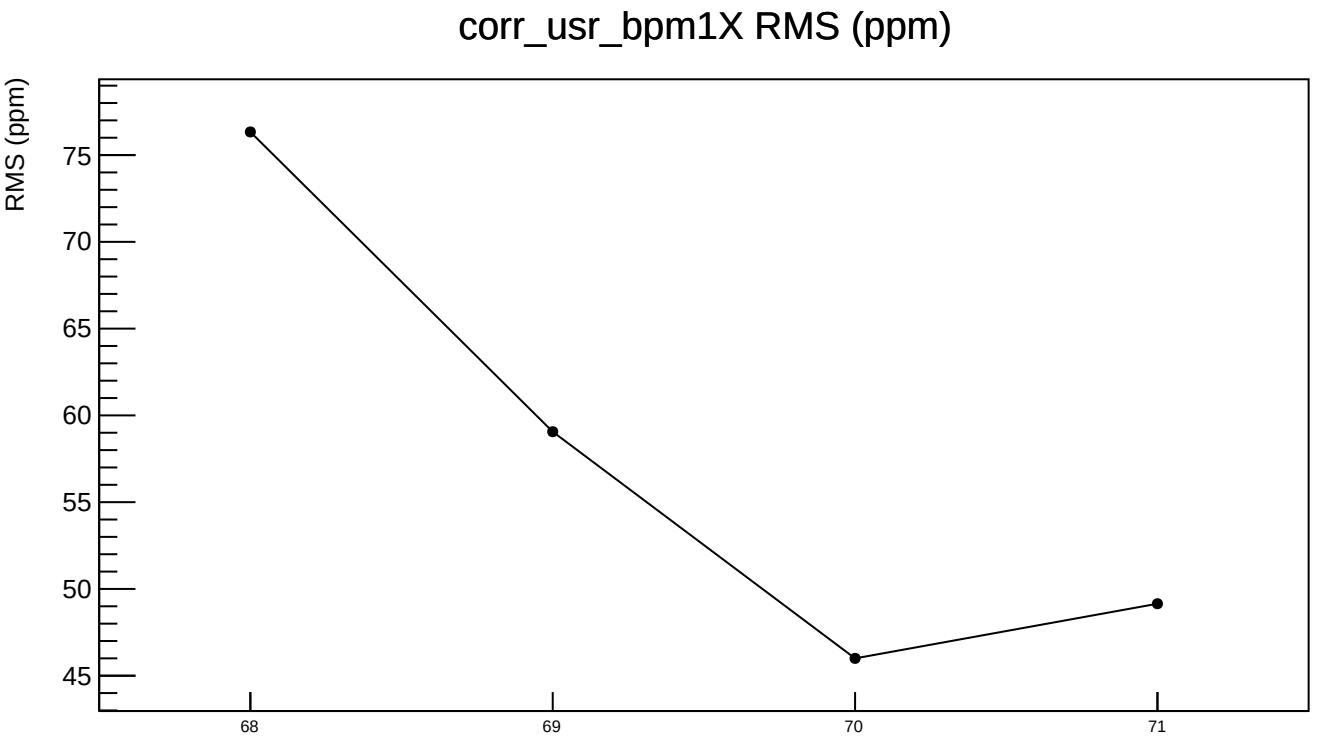

corr_usr_bpm4aY (ppb)
χ² / ndf 3.638 / 3
p0 −63.27 ± 31.9
50
0
−50
−100
−150
−200
1
0.5
0
−0.5
−1
68
69
70
71

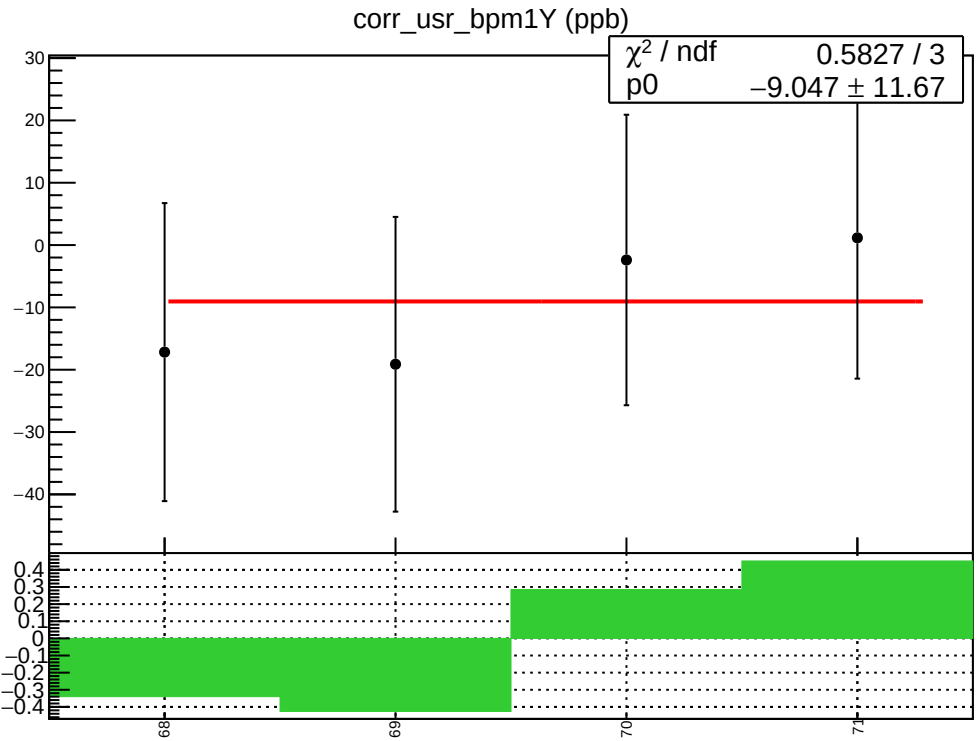

1D pull distribution
Mean −0.006066 ± 0.4768
Std Dev 0.9537 ± 0.3372
Underflow 0
Overflow 0
χ² / ndf 0.0205 / 0
Constant 316.7 ± 5502.9
Mean 29.7 ± 95.2
Sigma 9.067 ± 8.171
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

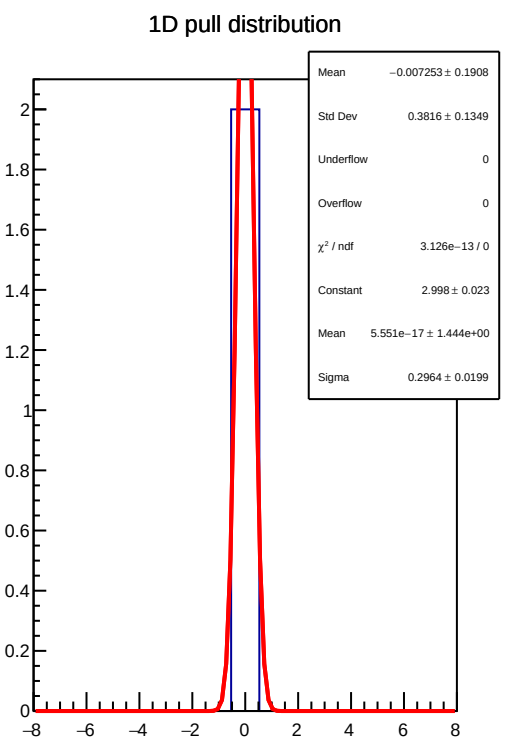

corr_usr_bpm4aY RMS (ppm)
RMS (ppm)
55
50
45
40
35
30
25
20
15
68
69
70
71

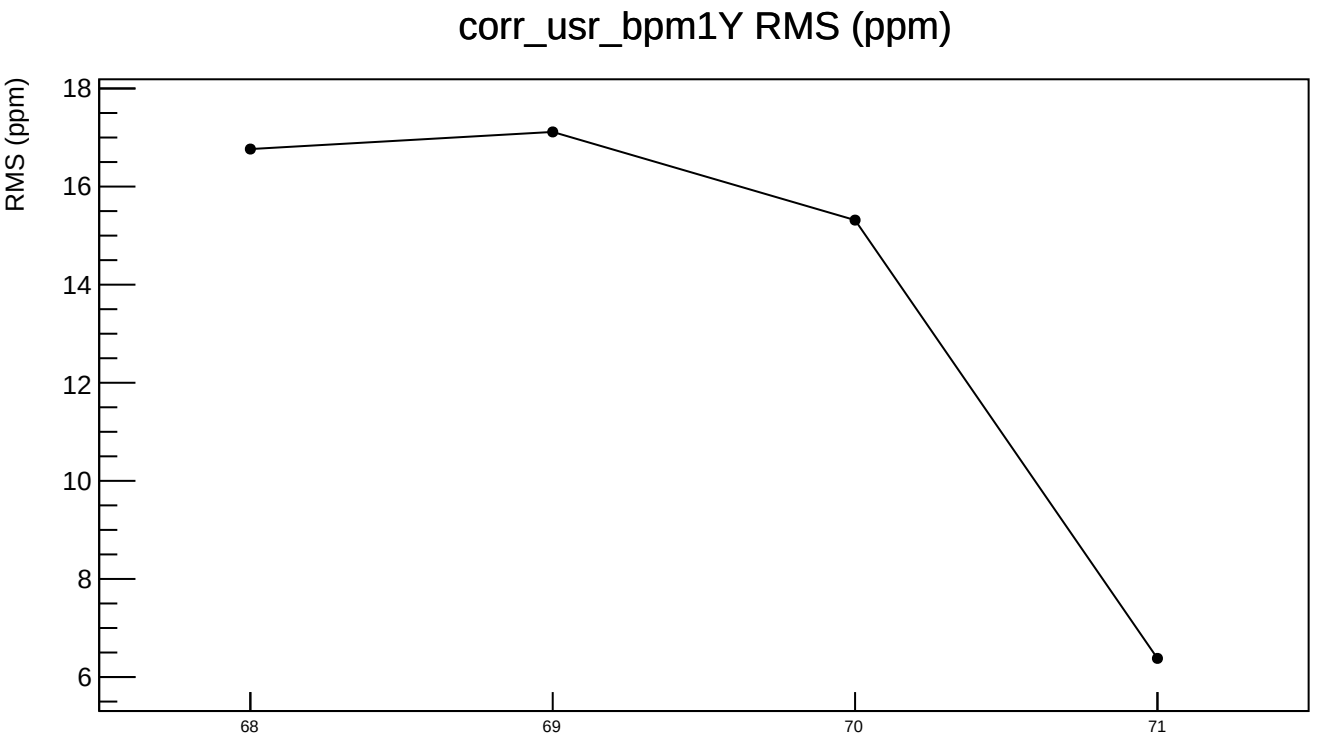

corr_usr_bpm1X (ppb)
χ² / ndf 0.1784 / 3
p0 7.442 ± 62.78
150
100
50
0
−50
−100
−150
0.3
0.2
0.1
0
−0.1
−0.2
68
69
70
71

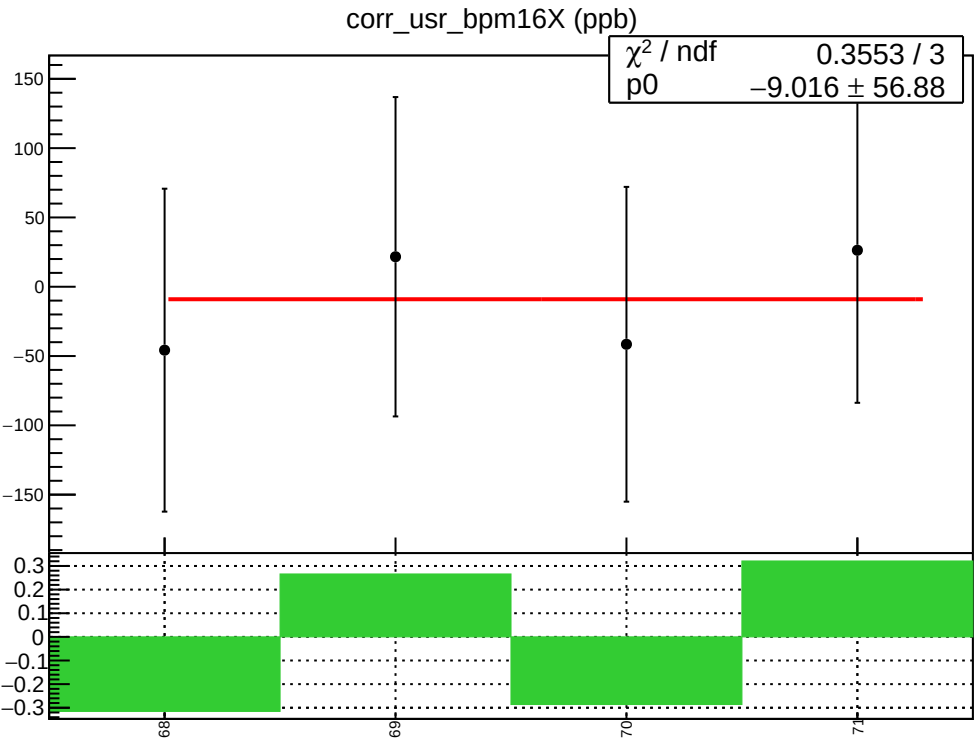

1D pull distribution
Mean −0.002311 ± 0.1056
Std Dev 0.2112 ± 0.07467
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

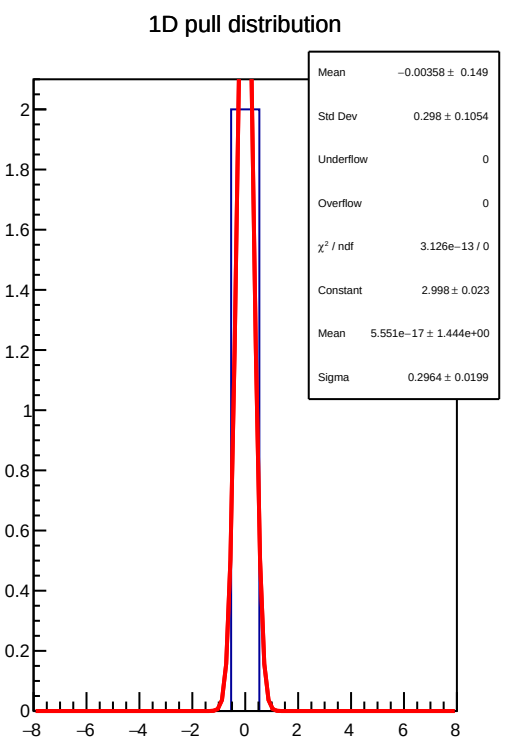

corr_usr_bpm1X RMS (ppm)
RMS (ppm)
75
70
65
60
55
50
45
68
69
70
71


corr_usr_bpm1Y (ppb)
χ² / ndf 0.5827 / 3
p0 −9.047 ± 11.67
30
20
10
0
−10
−20
−30
−40
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
68
69
70
71

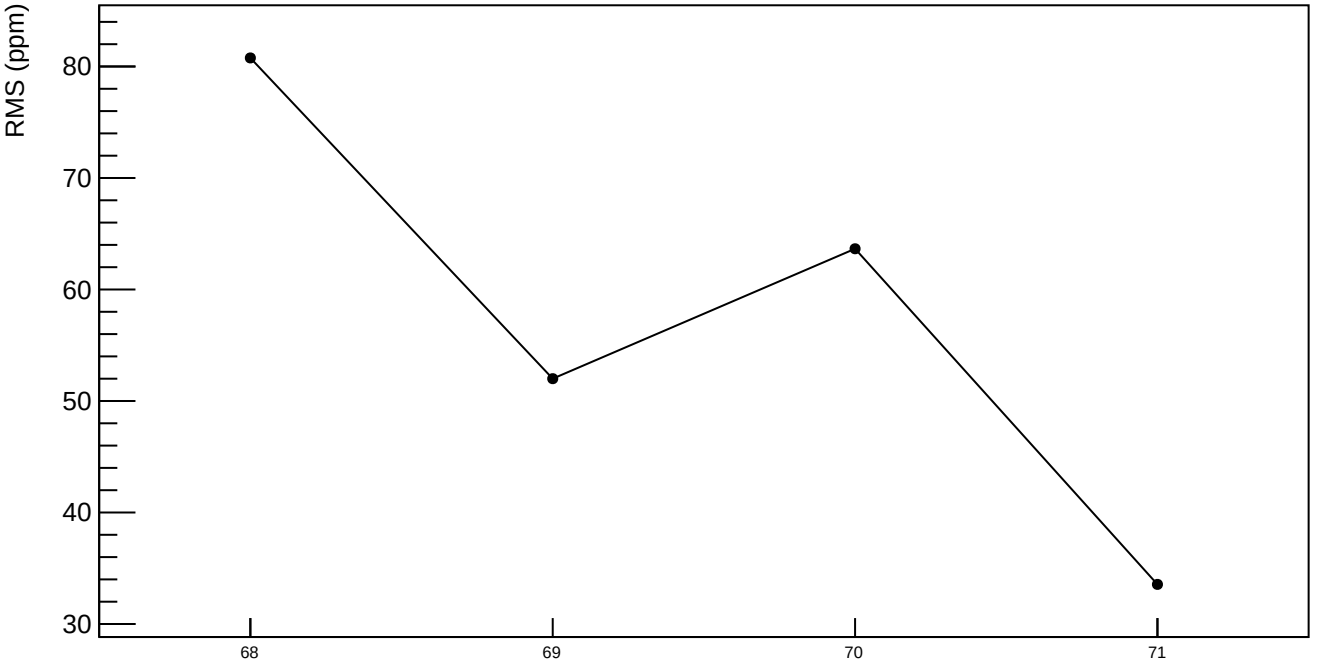

1D pull distribution
Mean −0.007253 ± 0.1908
Std Dev 0.3816 ± 0.1349
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

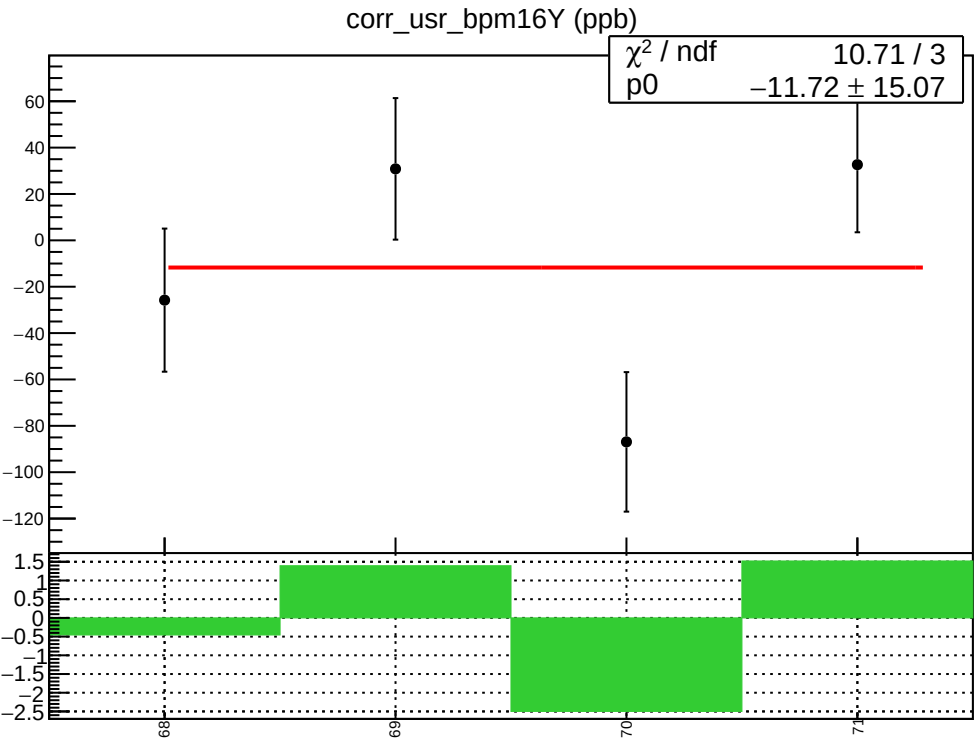

corr_usr_bpm1Y RMS (ppm)
RMS (ppm)
18
16
14
12
10
8
6
68
69
70
71

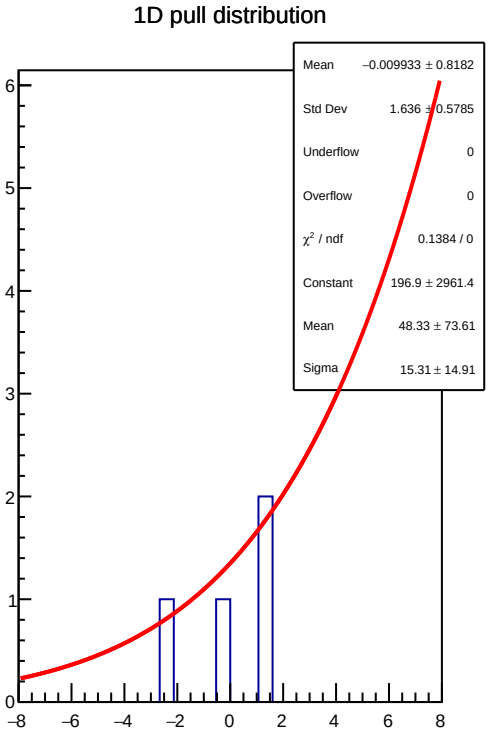

corr_usr_bpm16X (ppb)
χ² / ndf 0.3553 / 3
p0 −9.016 ± 56.88
150
100
50
0
−50
−100
−150
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
68
69
70
71


1D pull distribution
Mean −0.00358 ± 0.149
Std Dev 0.298 ± 0.1054
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

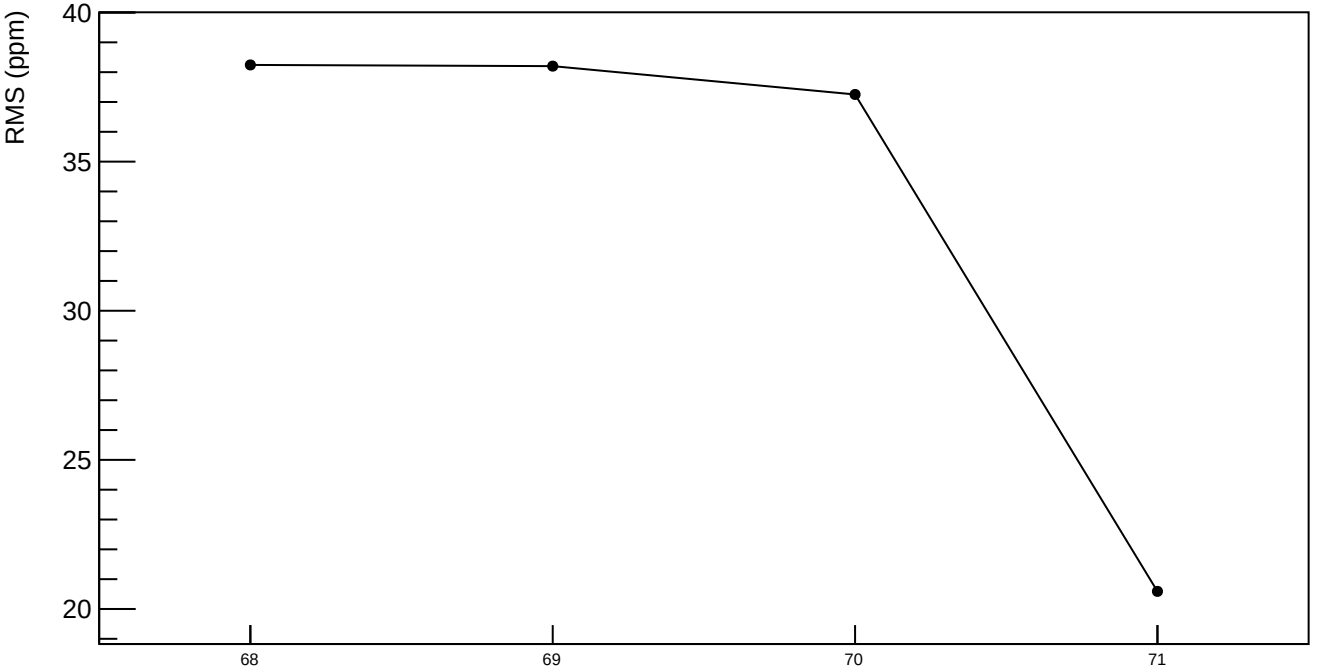
corr_usr_bpm16X RMS (ppm)

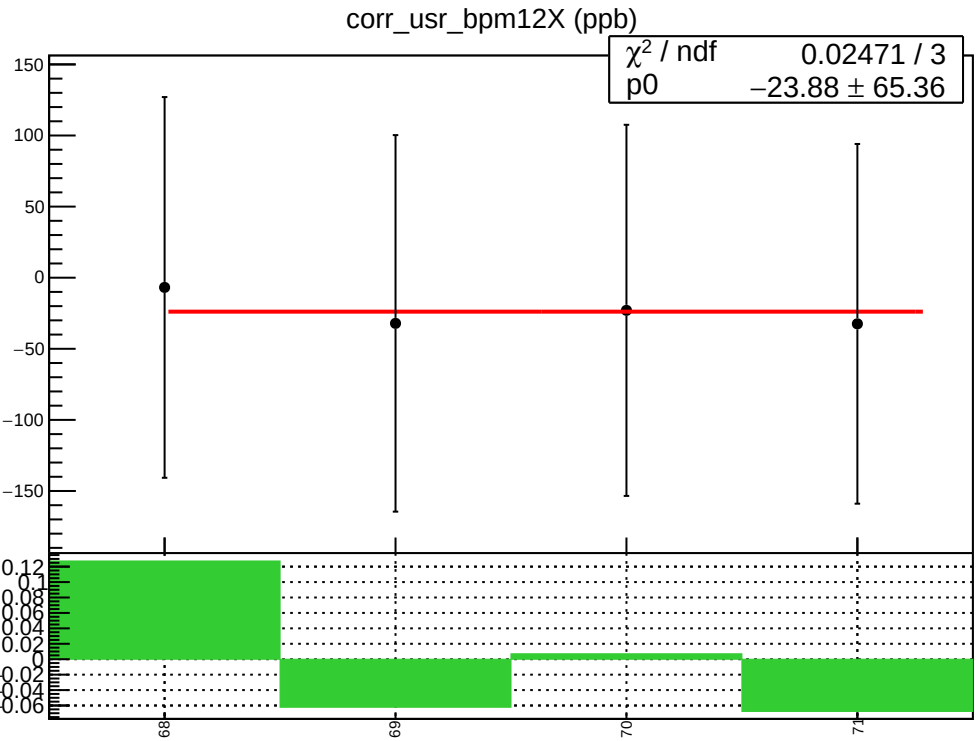


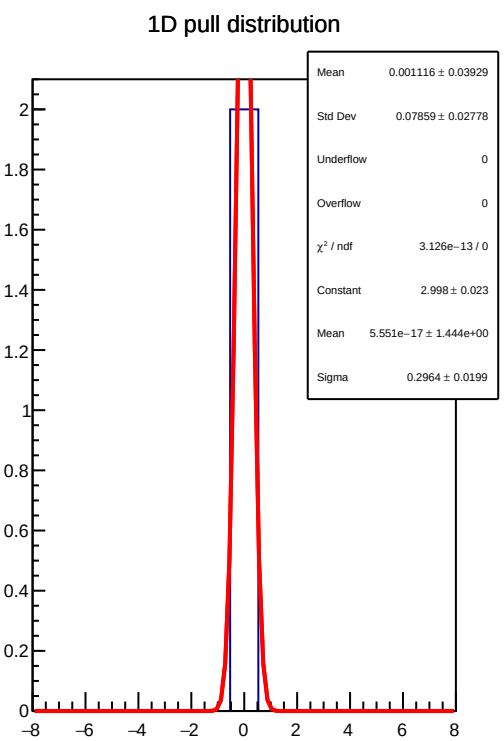

corr_usr_bpm16Y (ppb)
χ² / ndf 10.71 / 3
p0 −11.72 ± 15.07
60
40
20
0
−20
−40
−60
−80
−100
−120
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
68
69
70
71


1D pull distribution
Mean −0.009933 ± 0.8182
Std Dev 1.636 ± 0.5785
Underflow 0
Overflow 0
χ² / ndf 0.1384 / 0
Constant 196.9 ± 2961.4
Mean 48.33 ± 73.61
Sigma 15.31 ± 14.91
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

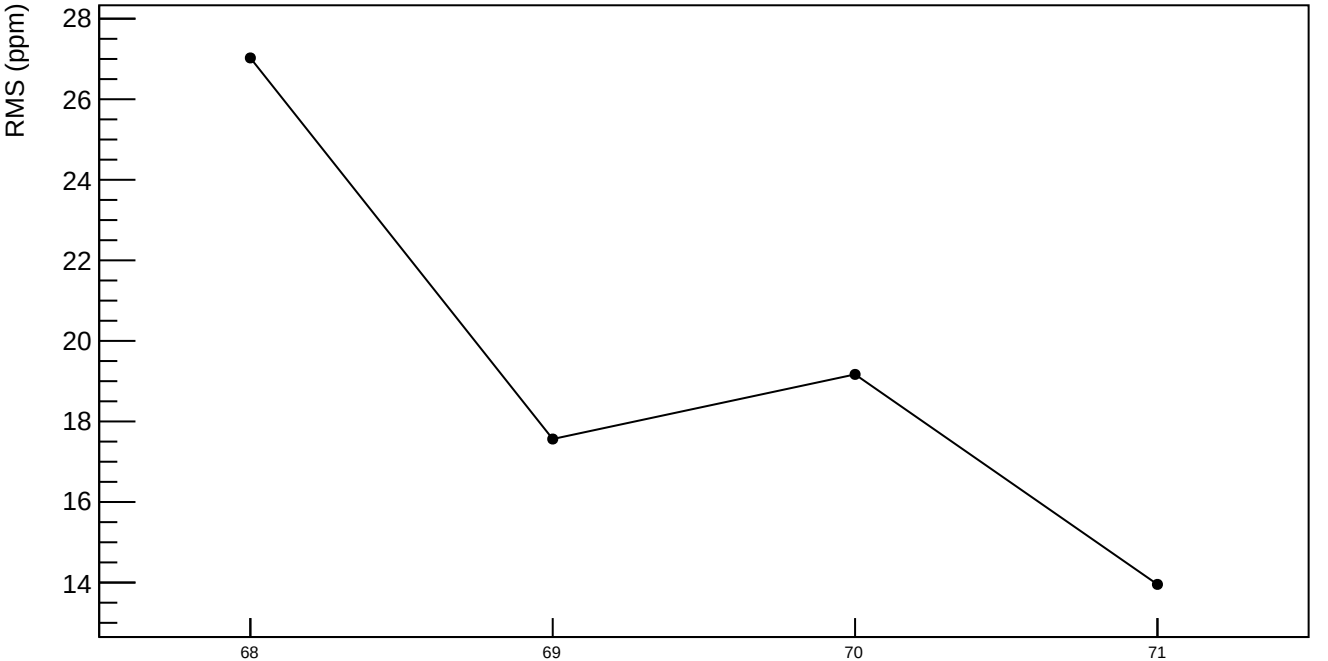
corr_usr_bpm16Y RMS (ppm)

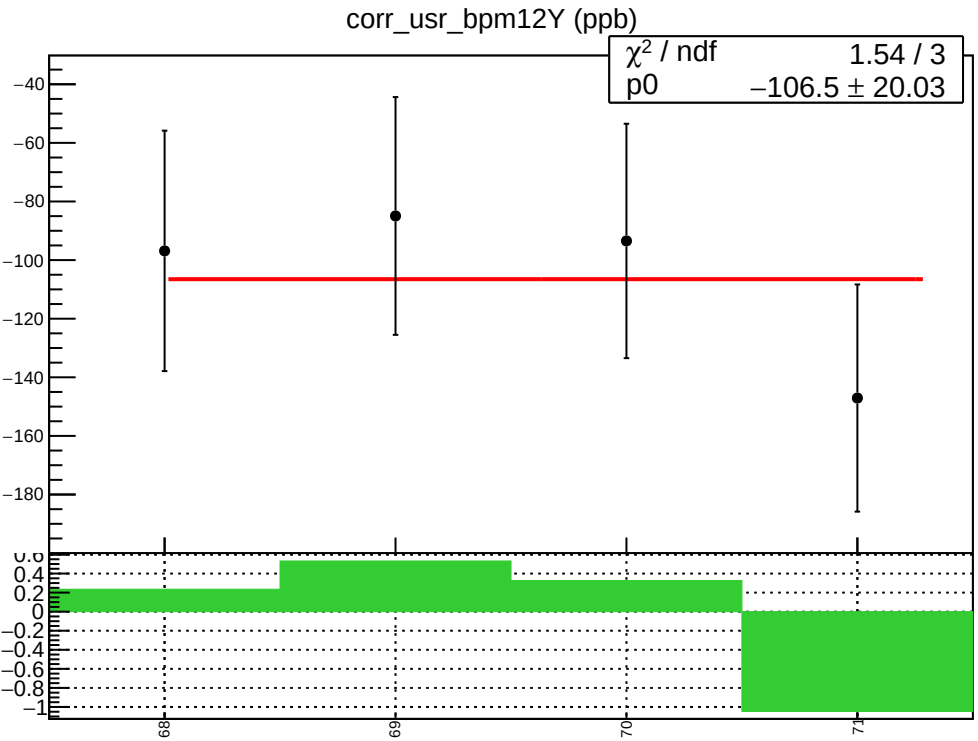


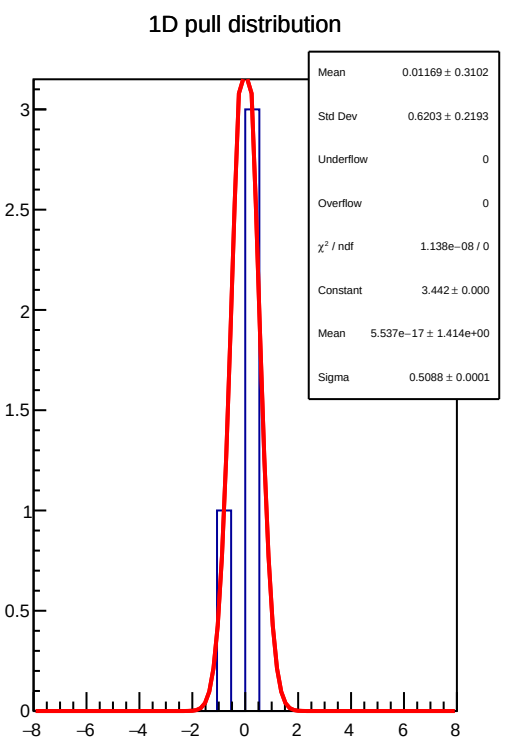

corr_usr_bpm12X (ppb)
χ² / ndf 0.02471 / 3
p0 −23.88 ± 65.36
150
100
50
0
−50
−100
−150
0.12
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
68
69
70
71

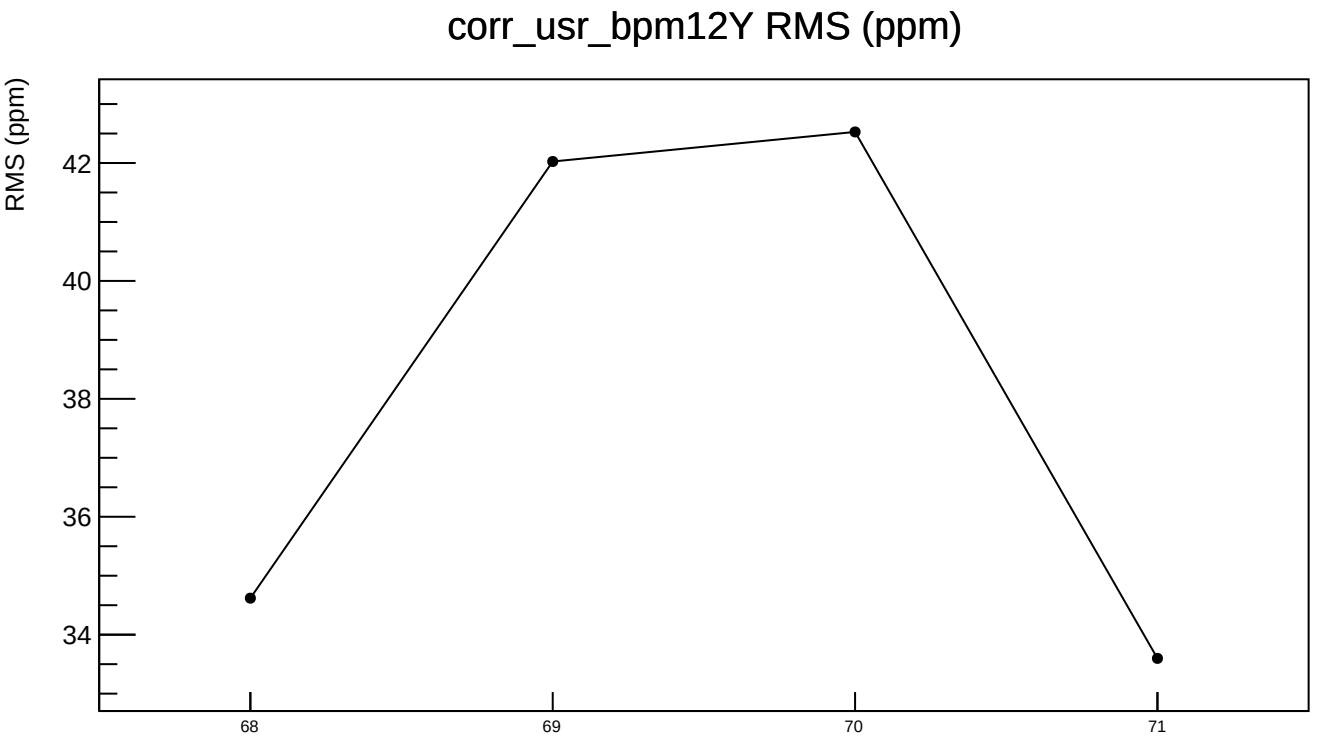

1D pull distribution
Mean 0.001116 ± 0.03929
Std Dev 0.07859 ± 0.02778
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

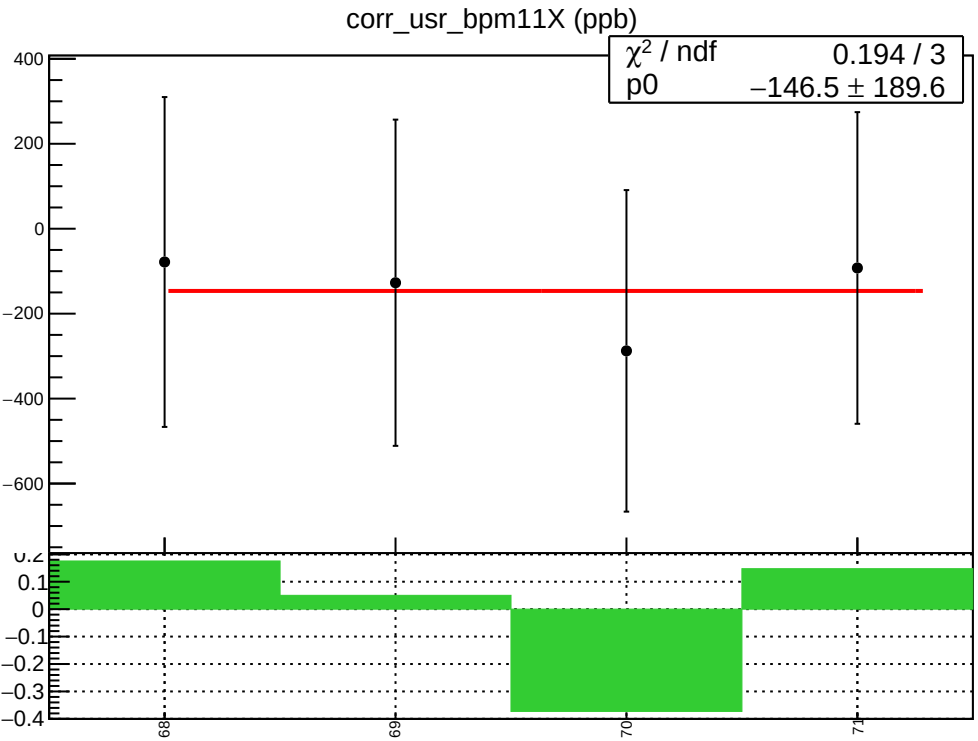
corr_usr_bpm12X RMS (ppm)

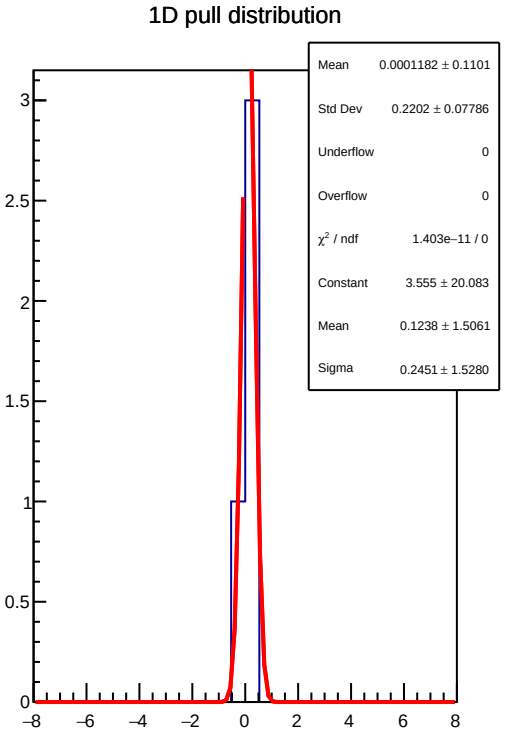



corr_usr_bpm12Y (ppb)
χ² / ndf 1.54 / 3
p0 −106.5 ± 20.03
−40
−60
−80
−100
−120
−140
−160
−180
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
68
69
70
71

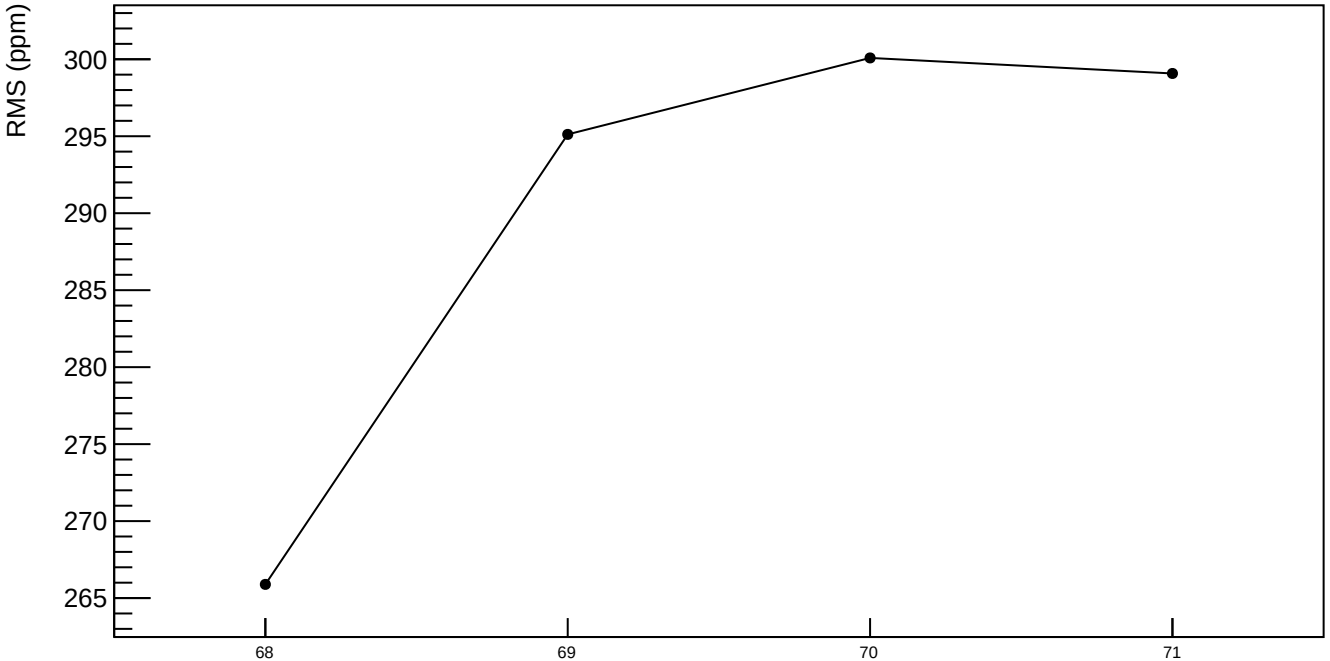

1D pull distribution
Mean 0.01169 ± 0.3102
Std Dev 0.6203 ± 0.2193
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.537e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0001
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

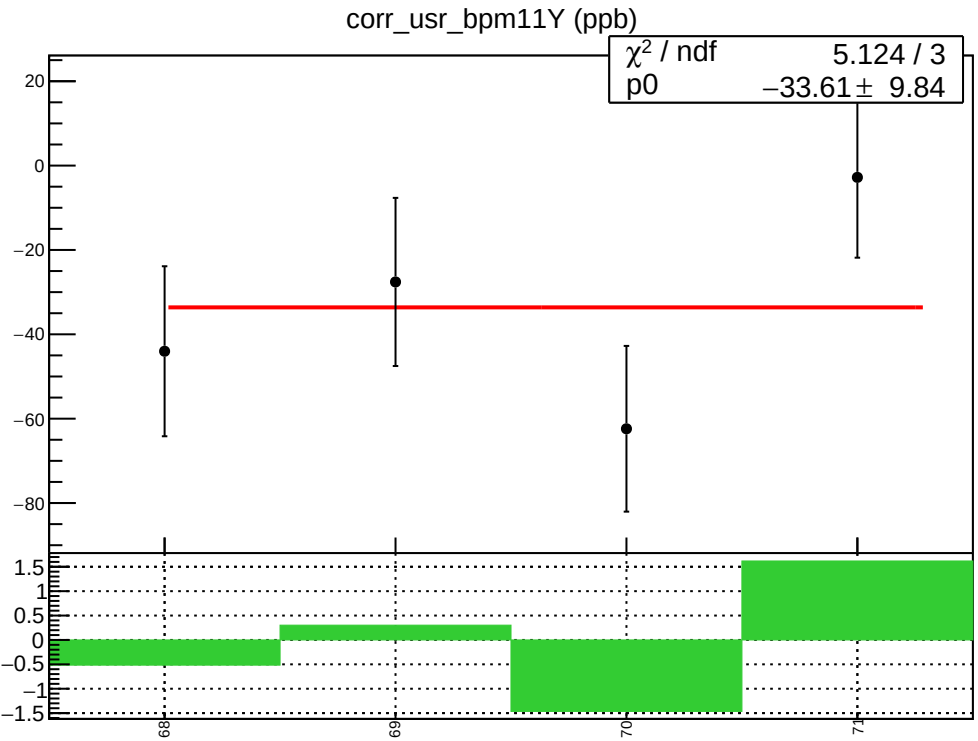

corr_usr_bpm12Y RMS (ppm)
RMS (ppm)
42
40
38
36
34
68
69
70
71

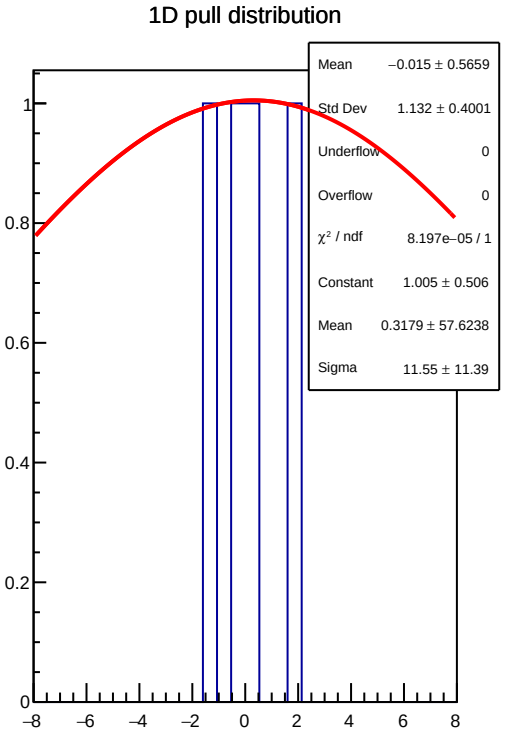

corr_usr_bpm11X (ppb)
χ² / ndf 0.194 / 3
p0 −146.5 ± 189.6
400
200
0
−200
−400
−600
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
68
69
70
71

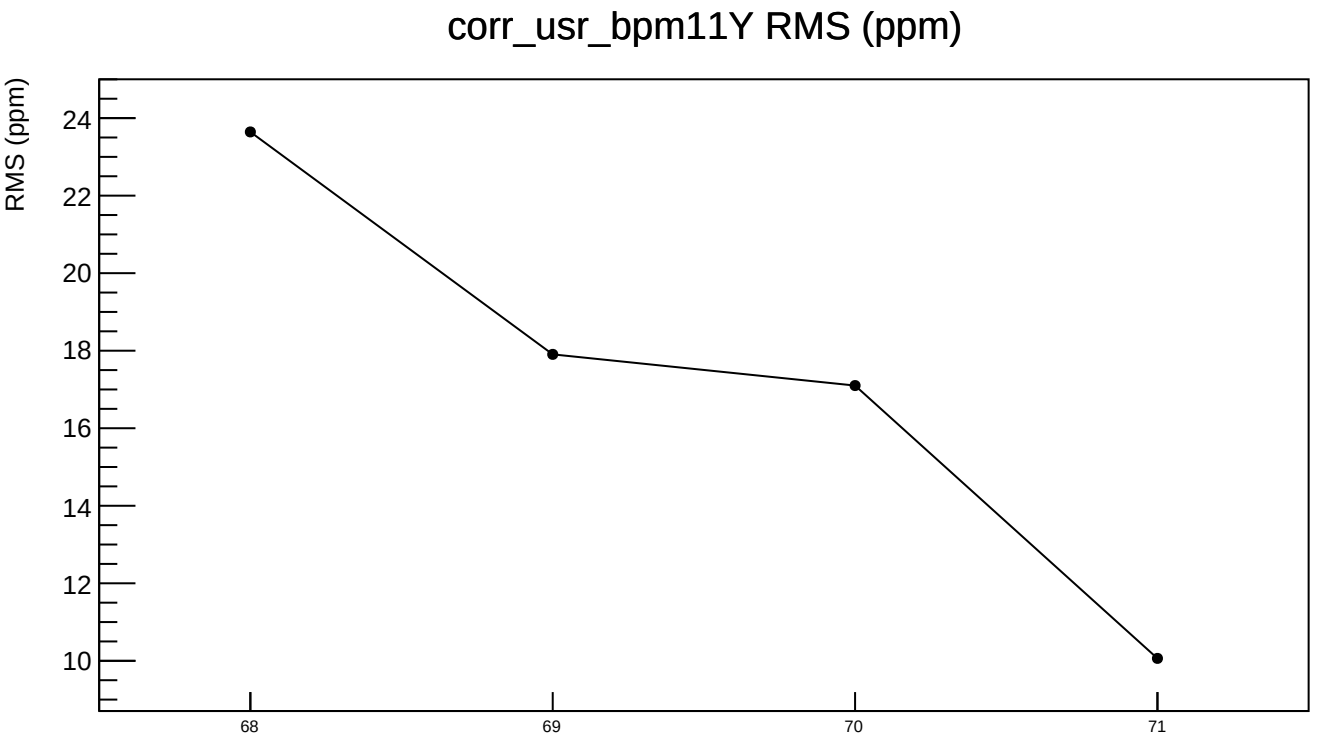

1D pull distribution
Mean 0.0001182 ± 0.1101
Std Dev 0.2202 ± 0.07786
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

corr_usr_bpm11X RMS (ppm)




corr_usr_bpm11Y (ppb)
χ² / ndf 5.124 / 3
p0 −33.61 ± 9.84
20
0
−20
−40
−60
−80
1.5
1
0.5
0
−0.5
−1
−1.5
68
69
70
71


1D pull distribution
Mean −0.015 ± 0.5659
Std Dev 1.132 ± 0.4001
Underflow 0
Overflow 0
χ² / ndf 8.197e−05 / 1
Constant 1.005 ± 0.506
Mean 0.3179 ± 57.6238
Sigma 11.55 ± 11.39
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8


corr_usr_bpm11Y RMS (ppm)
RMS (ppm)
24
22
20
18
16
14
12
10
68
69
70
71