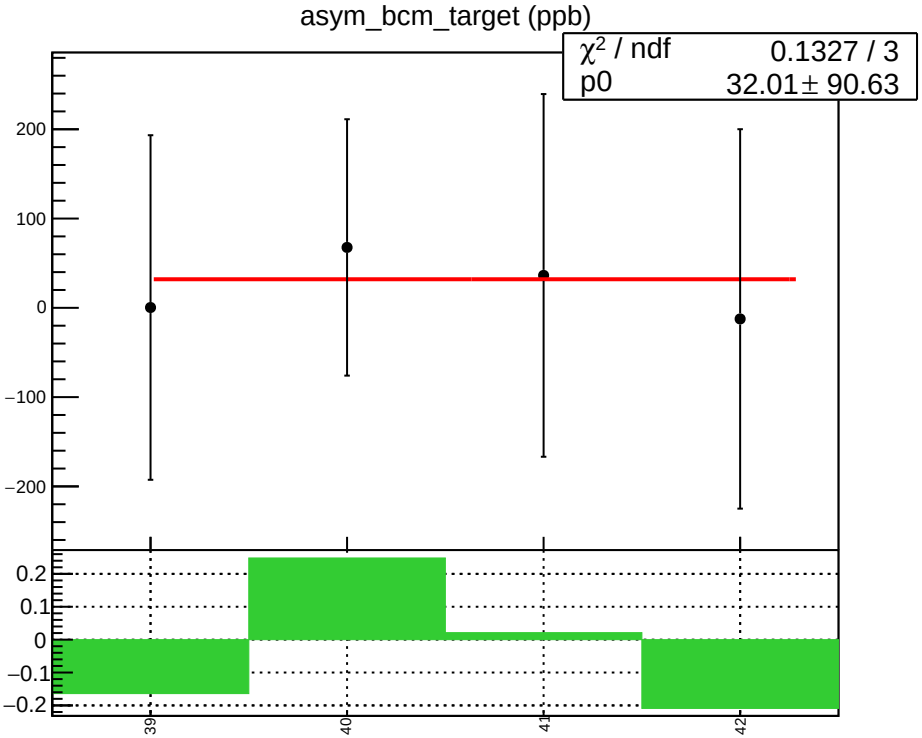
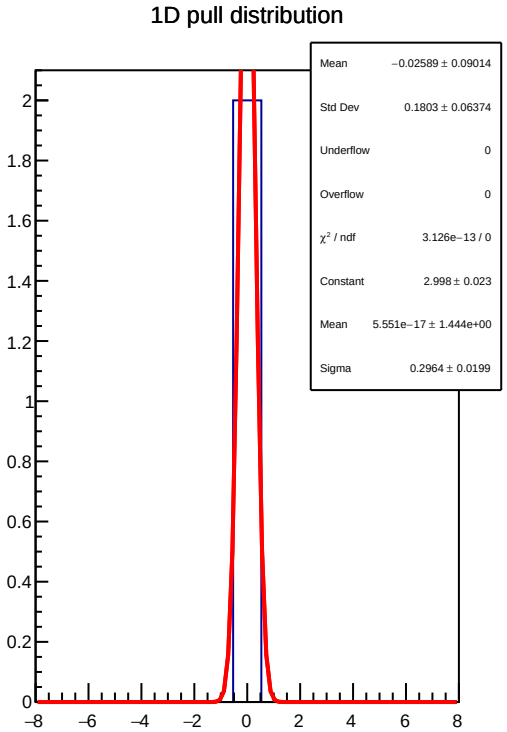
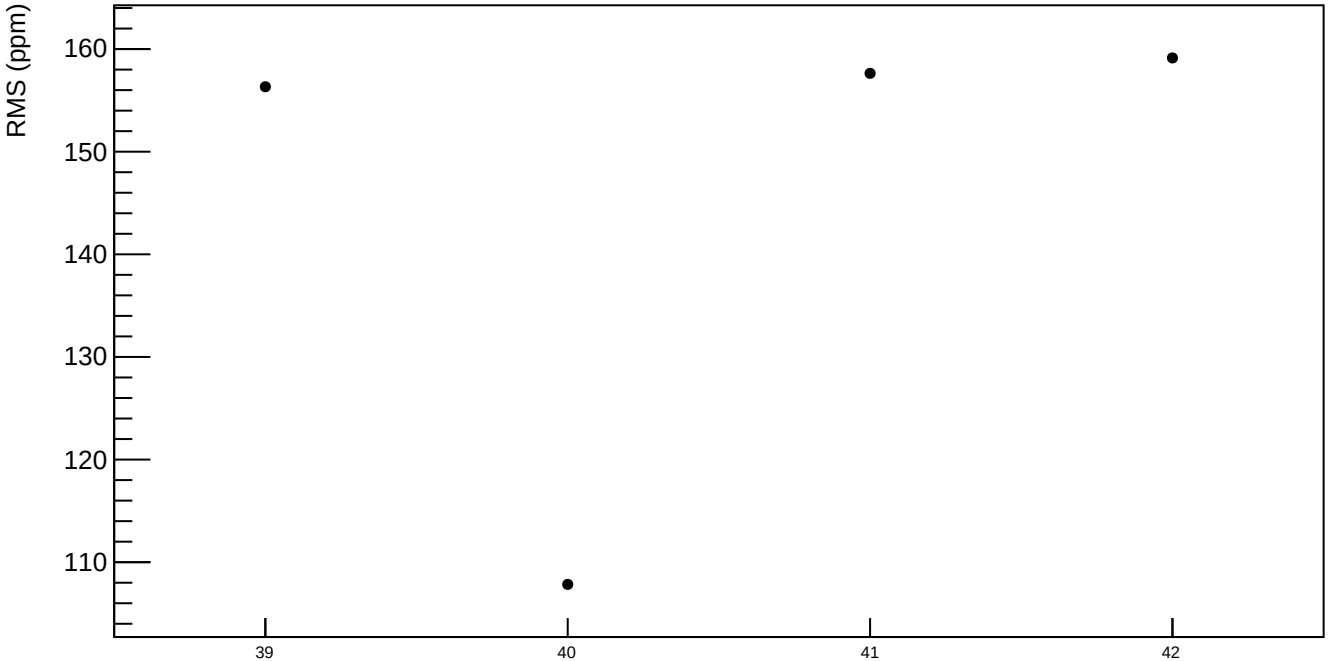
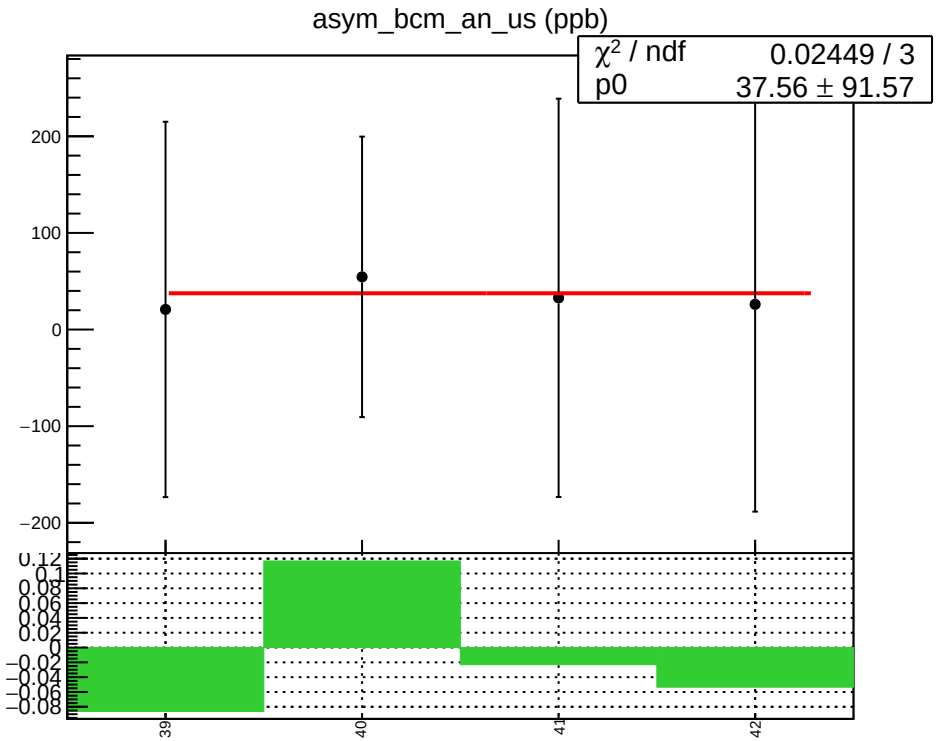
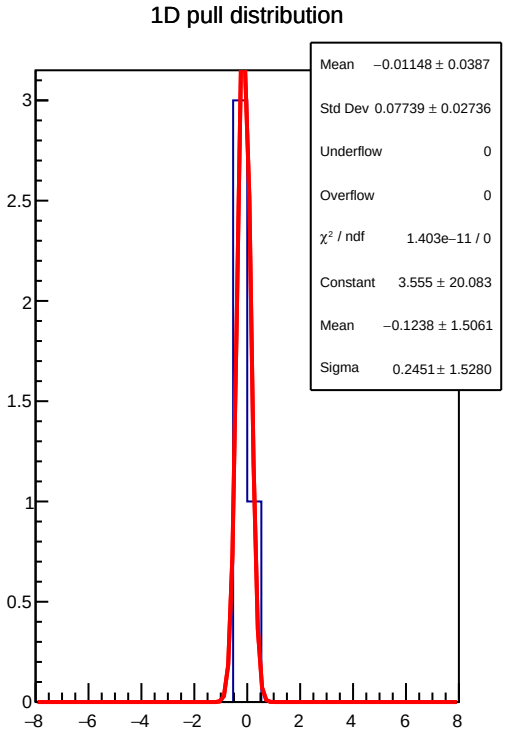

asym_bcm_target (ppb)
χ² / ndf 0.1327 / 3
p0 32.01 ± 90.63
200
100
0
−100
−200
0.2
0.1
0
−0.1
−0.2
39
40
41
42

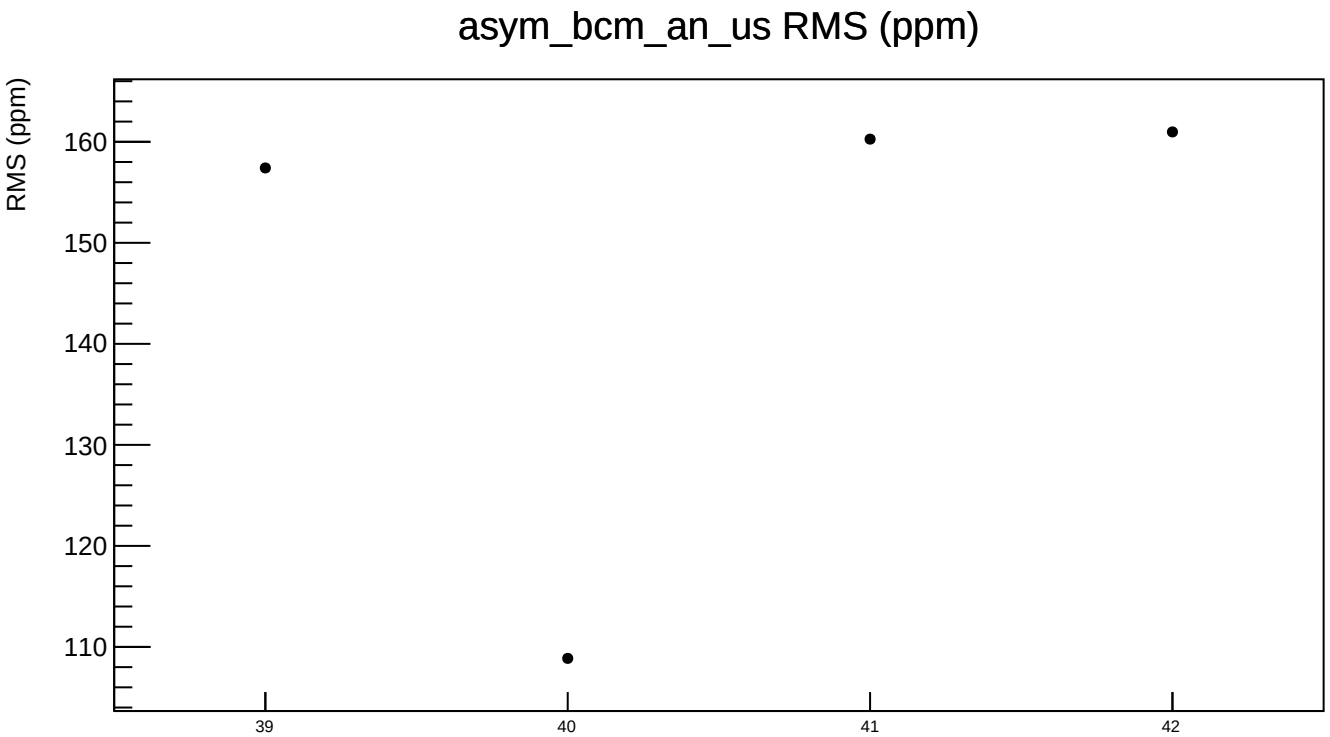

1D pull distribution
Mean −0.02589 ± 0.09014
Std Dev 0.1803 ± 0.06374
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

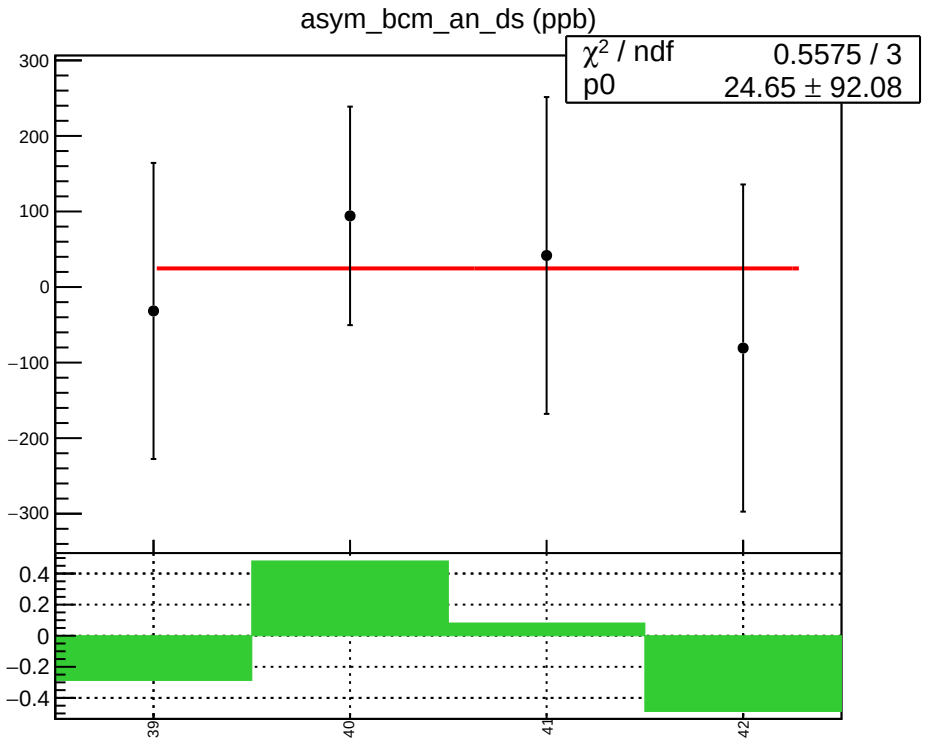
asym_bcm_target RMS (ppm)

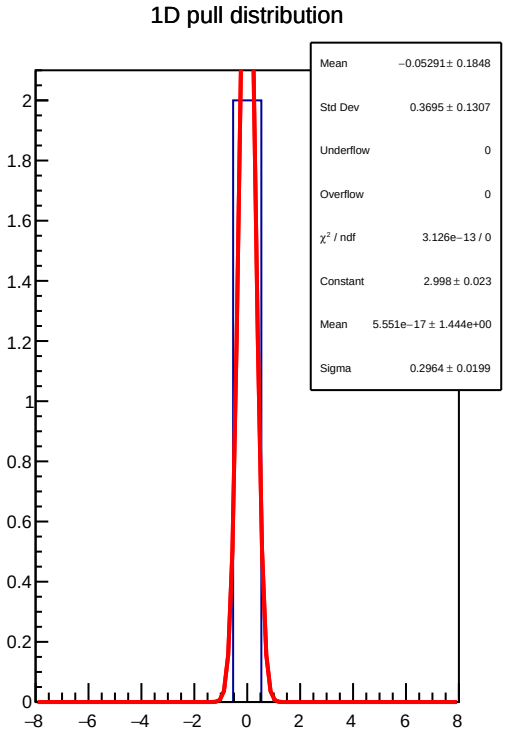


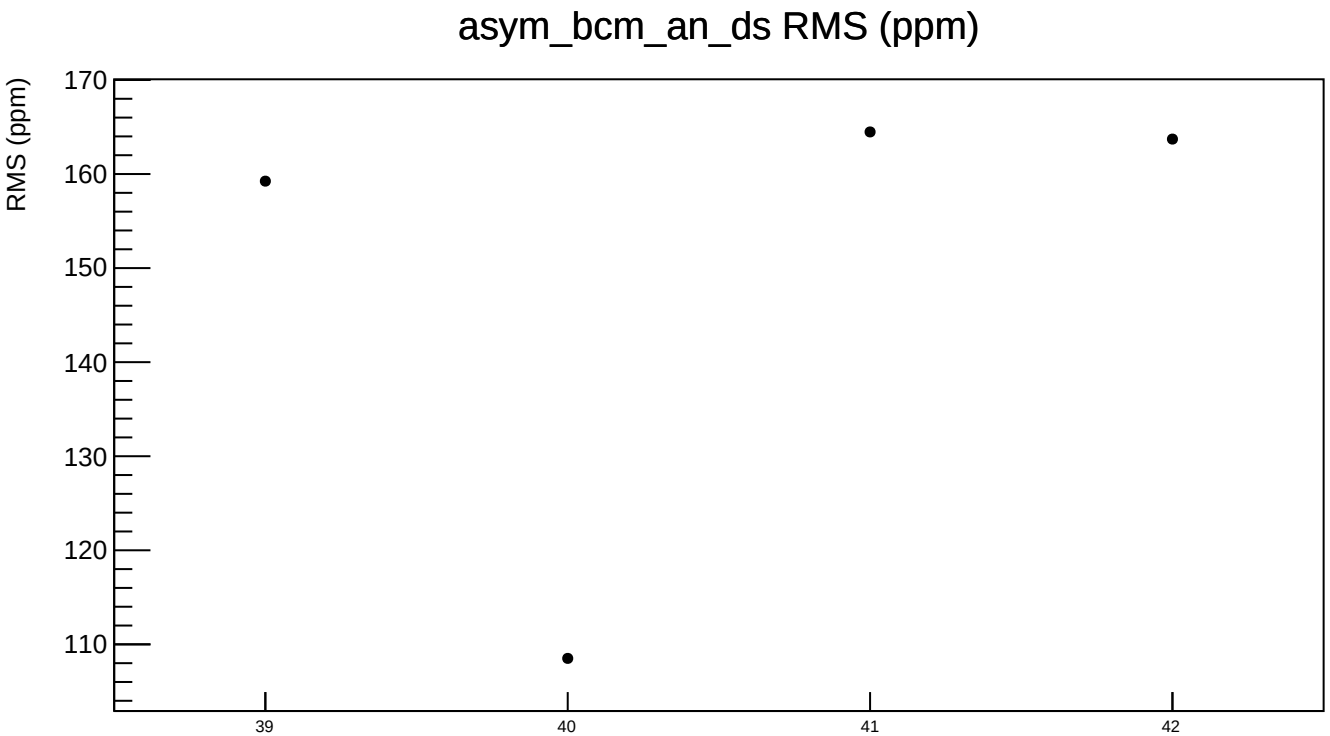

asym_bcm_an_us (ppb)
χ² / ndf 0.02449 / 3
p0 37.56 ± 91.57
200
100
0
−100
−200
0.12
0.1
0.08
0.06
0.04
0.02
0
−0.02
−0.04
−0.06
−0.08
39
40
41
42

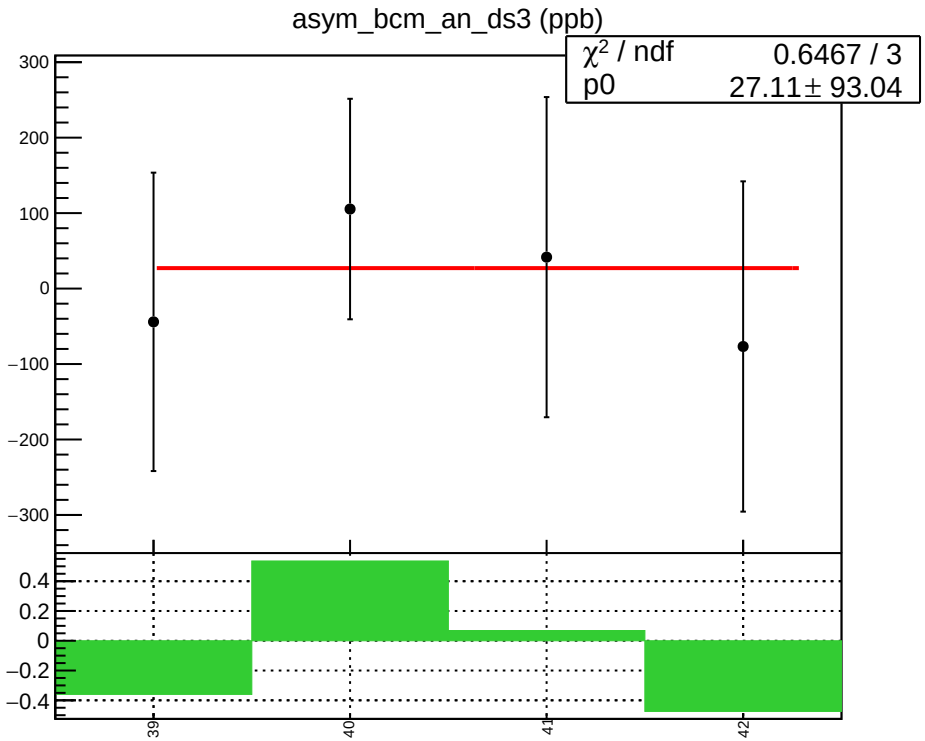

1D pull distribution
Mean −0.01148 ± 0.0387
Std Dev 0.07739 ± 0.02736
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean −0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

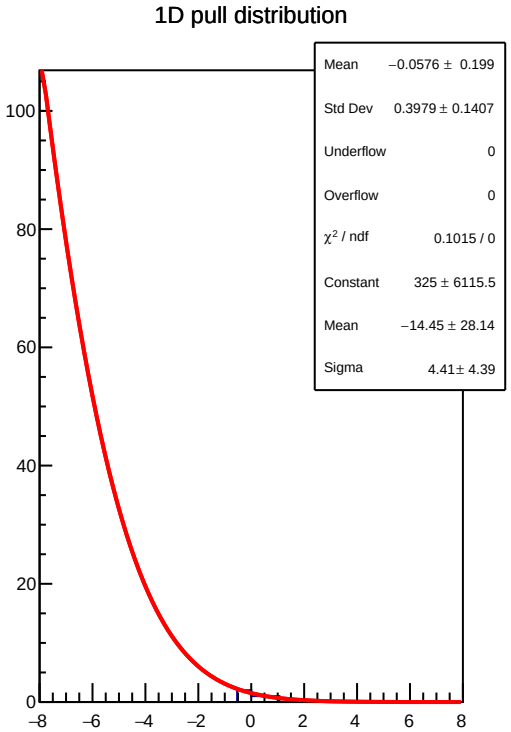

asym_bcm_an_us RMS (ppm)
RMS (ppm)
160
150
140
130
120
110
39
40
41
42

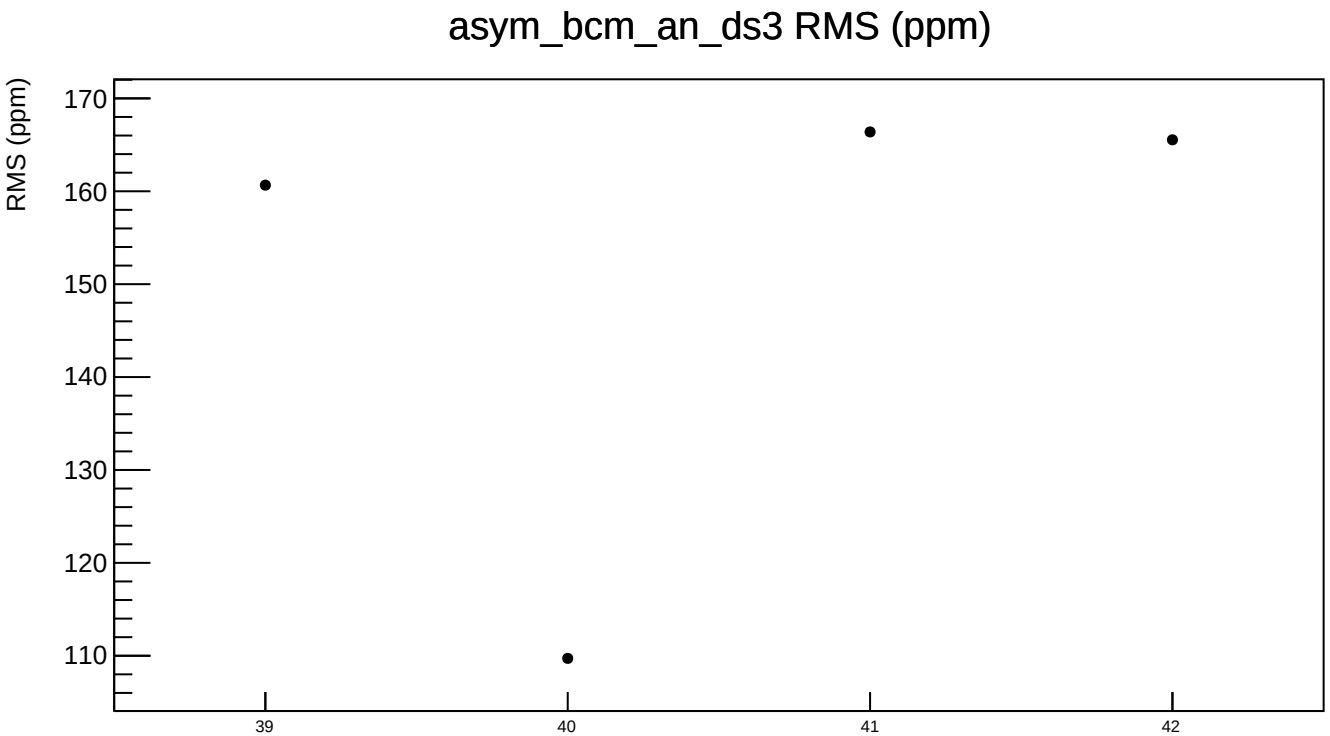

asym_bcm_an_ds (ppb)
χ² / ndf 0.5575 / 3
p0 24.65 ± 92.08
300
200
100
0
−100
−200
−300
0.4
0.2
0
−0.2
−0.4
39
40
41
42

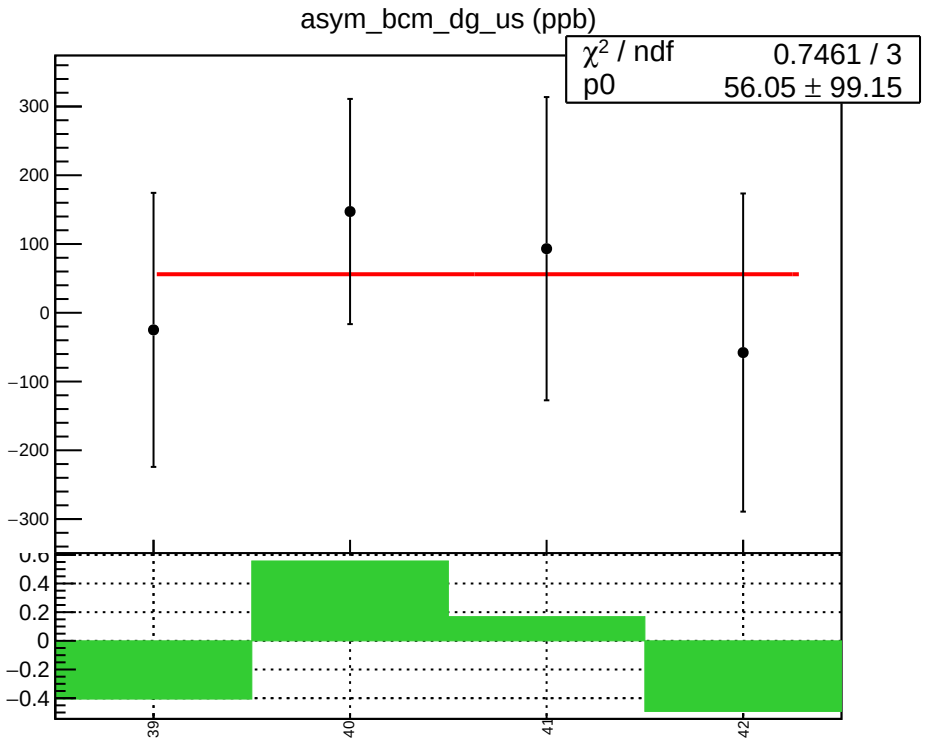

1D pull distribution
Mean −0.05291 ± 0.1848
Std Dev 0.3695 ± 0.1307
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

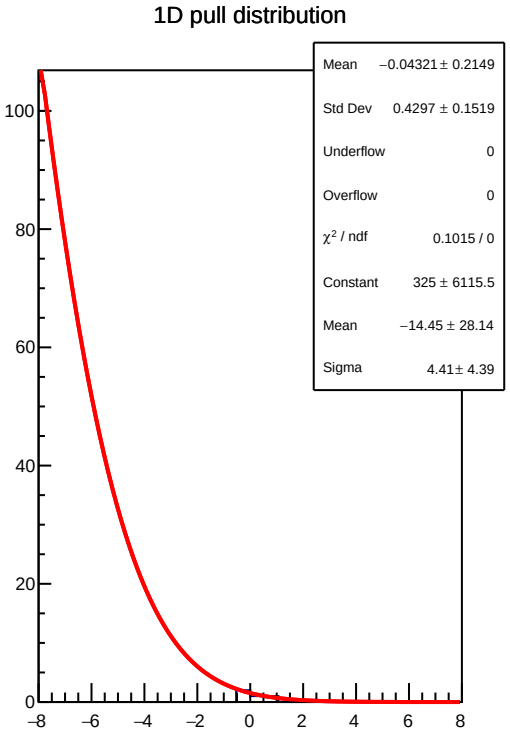

asym_bcm_an_ds RMS (ppm)
RMS (ppm)
170
160
150
140
130
120
110
39
40
41
42

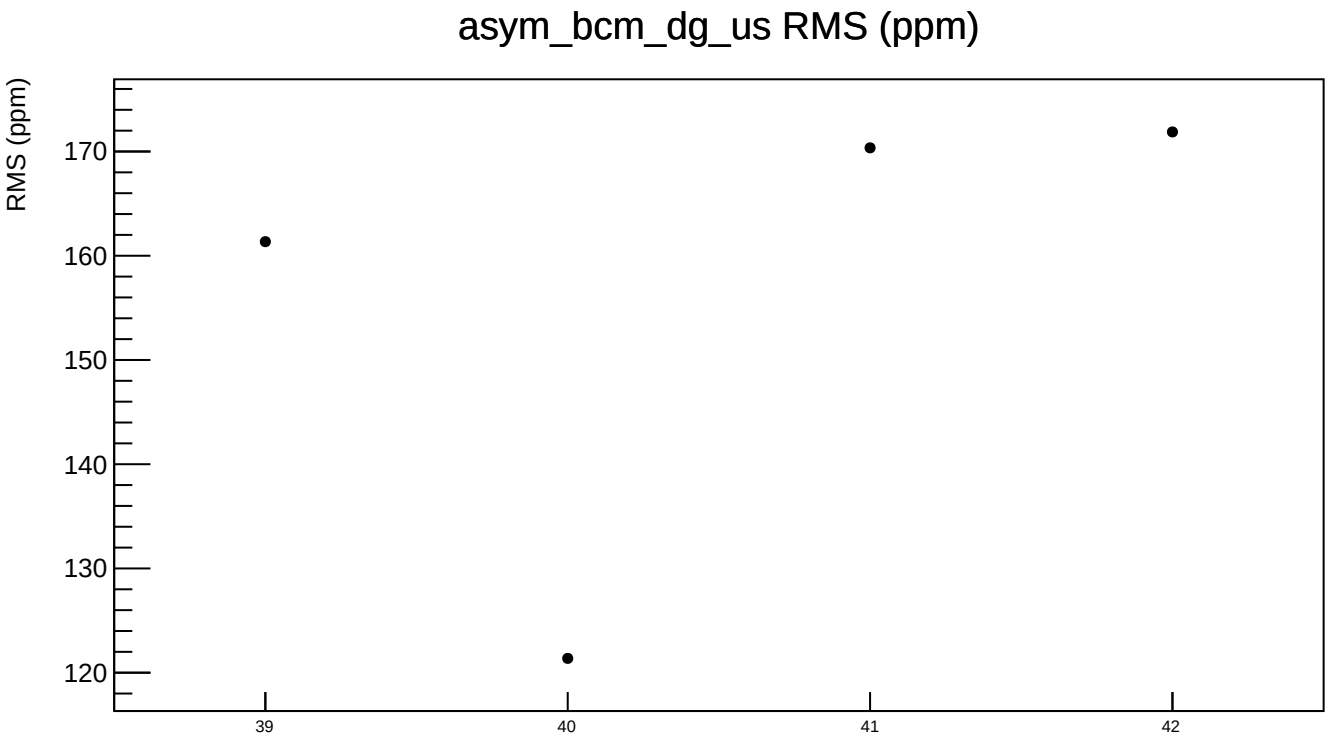

asym_bcm_an_ds3 (ppb)
χ² / ndf 0.6467 / 3
p0 27.11 ± 93.04
300
200
100
0
−100
−200
−300
0.4
0.2
0
−0.2
−0.4
39
40
41
42

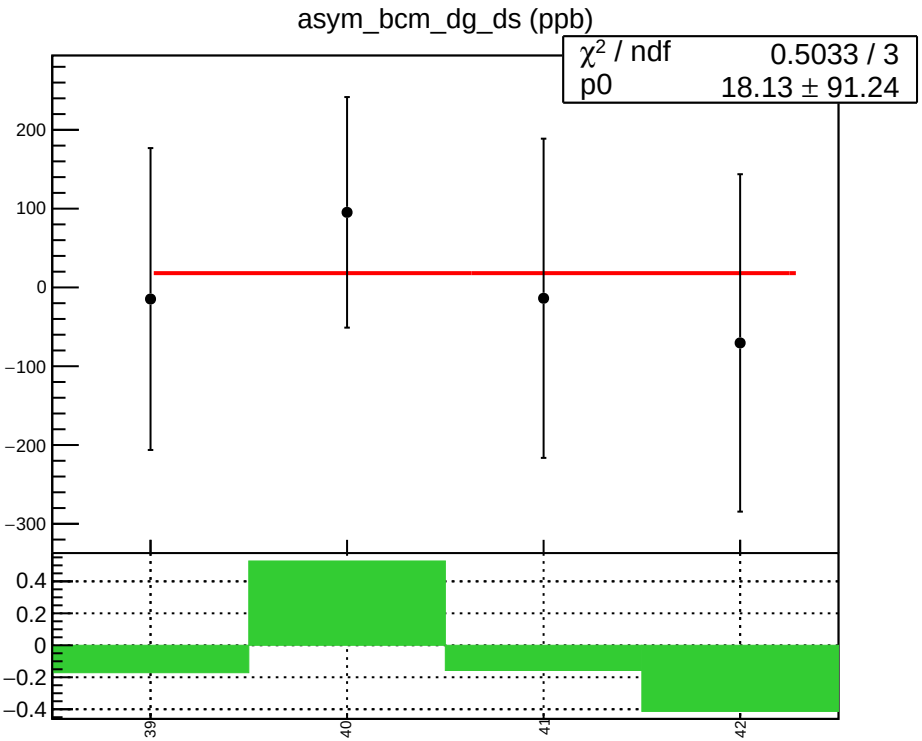

1D pull distribution
Mean −0.0576 ± 0.199
Std Dev 0.3979 ± 0.1407
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 325 ± 6115.5
Mean −14.45 ± 28.14
Sigma 4.41 ± 4.39
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

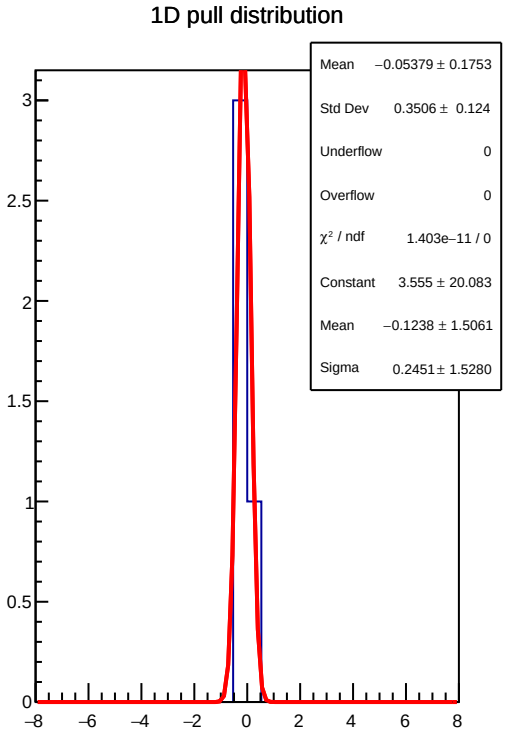

asym_bcm_an_ds3 RMS (ppm)
RMS (ppm)
170
160
150
140
130
120
110
39
40
41
42

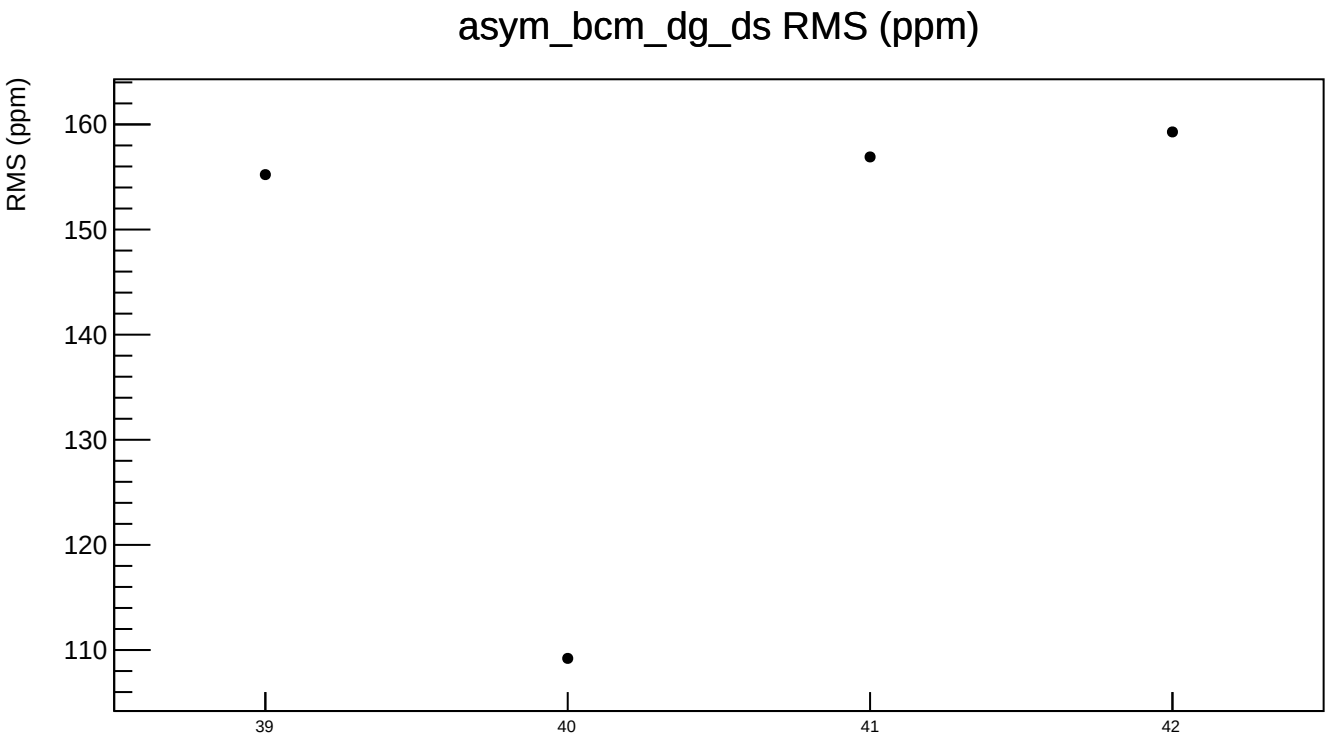

asym_bcm_dg_us (ppb)
χ² / ndf 0.7461 / 3
p0 56.05 ± 99.15
300
200
100
0
−100
−200
−300
0.6
0.4
0.2
0
−0.2
−0.4
39
40
41
42

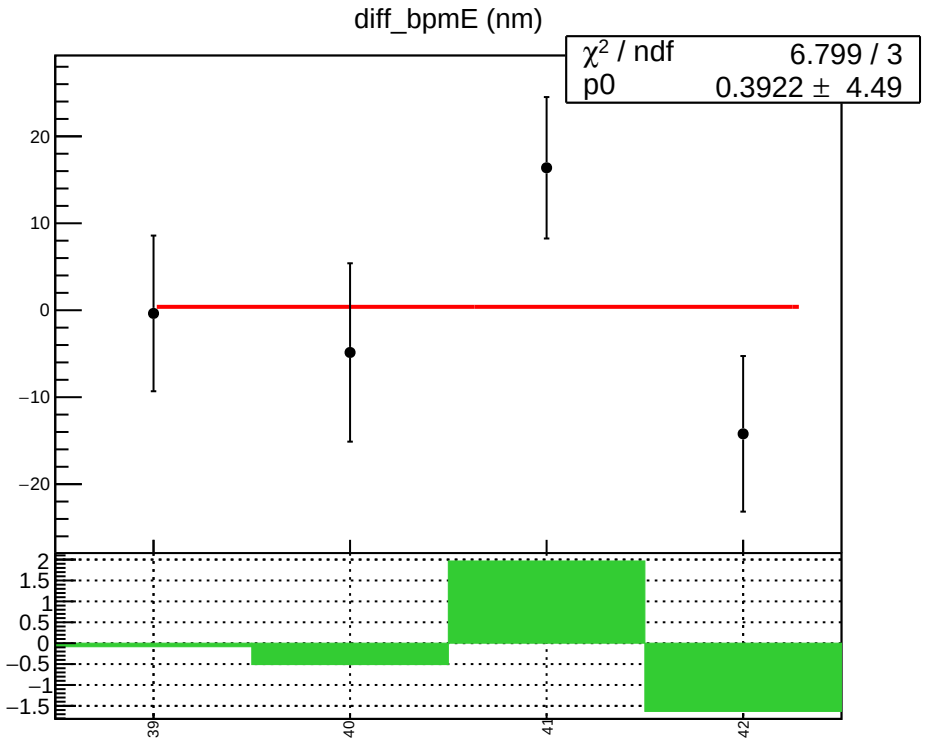

1D pull distribution
Mean −0.04321 ± 0.2149
Std Dev 0.4297 ± 0.1519
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 325 ± 6115.5
Mean −14.45 ± 28.14
Sigma 4.41 ± 4.39
100
80
60
40
20
0
−8
−6
−4
−2
0
2
4
6
8

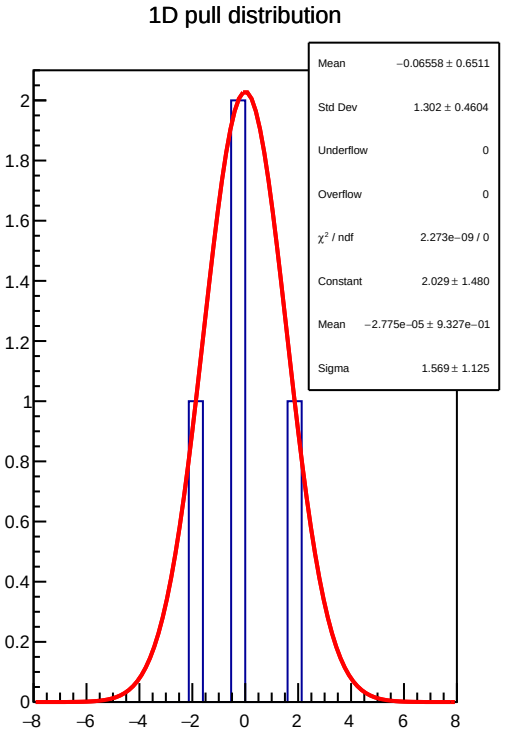

asym_bcm_dg_us RMS (ppm)
RMS (ppm)
170
160
150
140
130
120
39
40
41
42

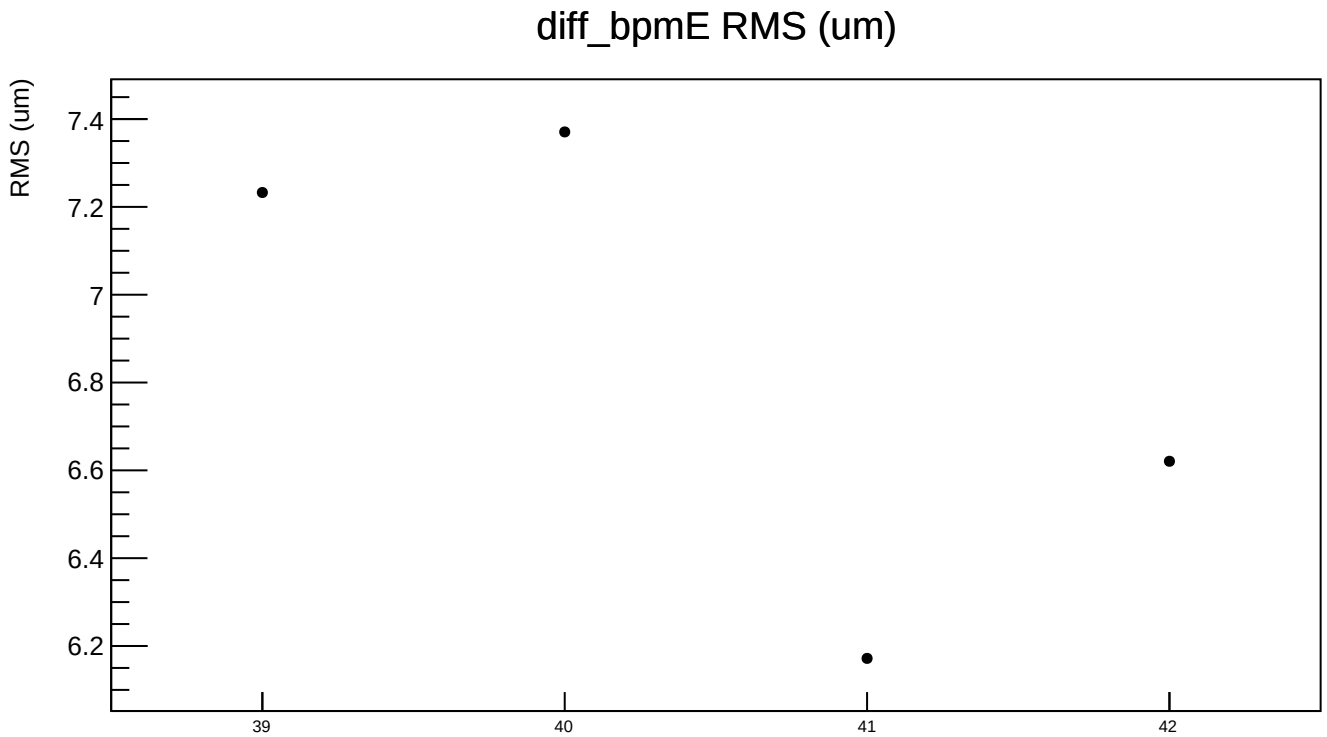

asym_bcm_dg_ds (ppb)
χ² / ndf 0.5033 / 3
p0 18.13 ± 91.24
200
100
0
−100
−200
−300
0.4
0.2
0
−0.2
−0.4
39
40
41
42

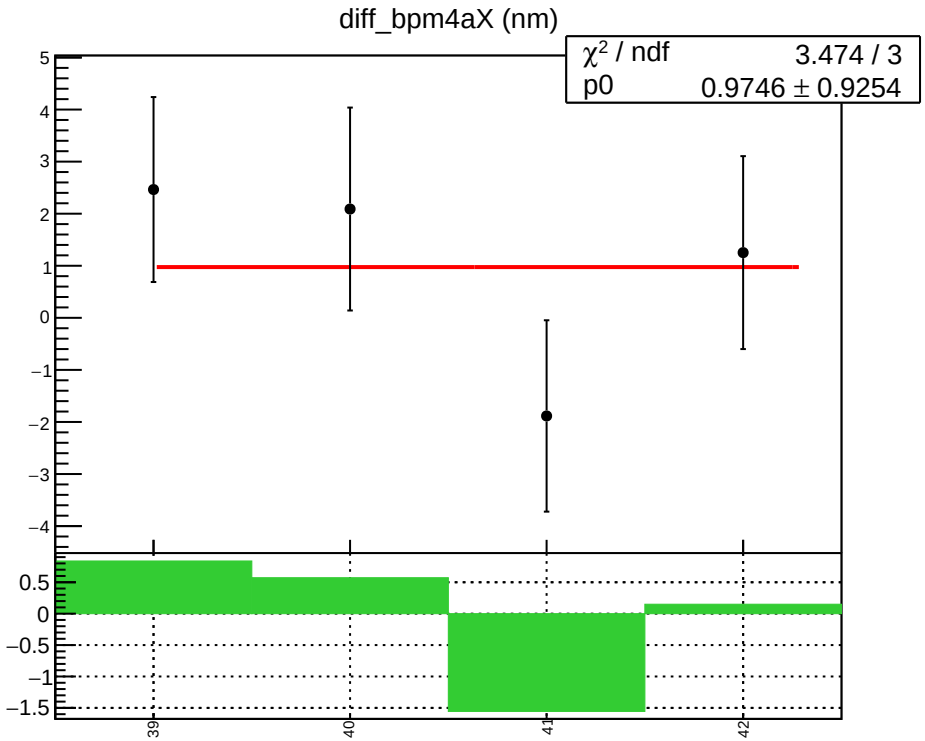

1D pull distribution
Mean −0.05379 ± 0.1753
Std Dev 0.3506 ± 0.124
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean −0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

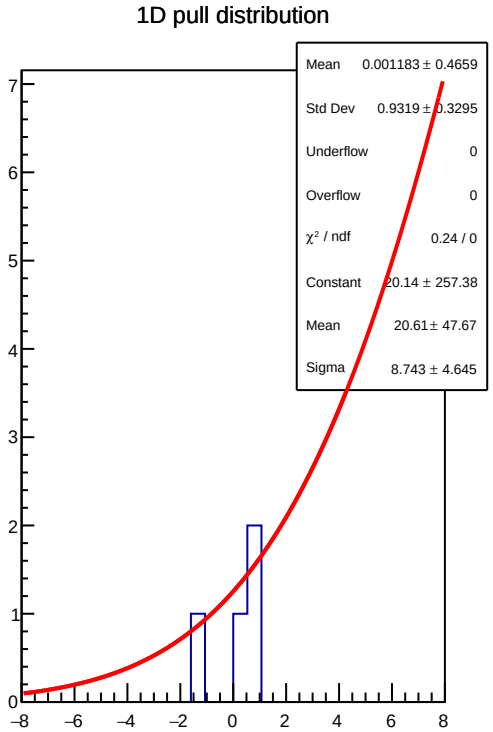

asym_bcm_dg_ds RMS (ppm)
RMS (ppm)
160
150
140
130
120
110
39
40
41
42

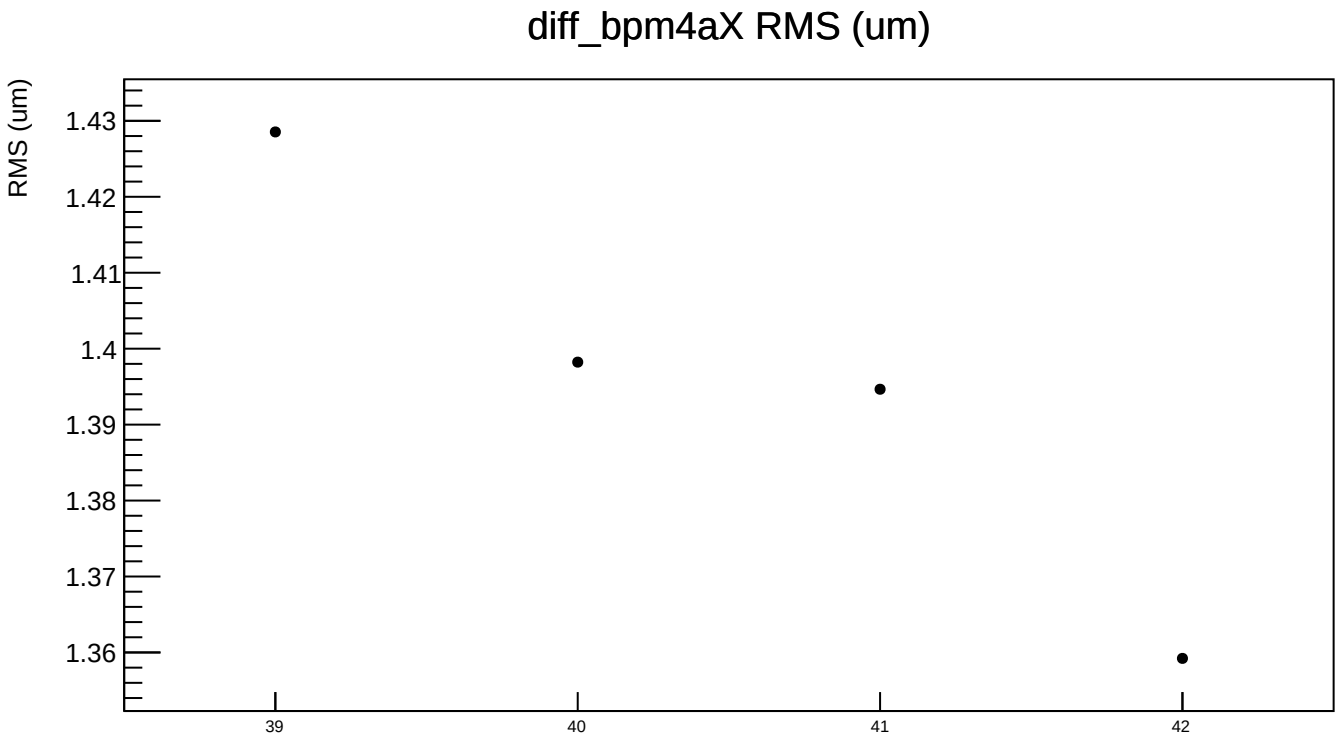

diff_bpmE (nm)
χ² / ndf 6.799 / 3
p0 0.3922 ± 4.49
20
10
0
−10
−20
2
1.5
1
0.5
0
−0.5
−1
−1.5
39
40
41
42

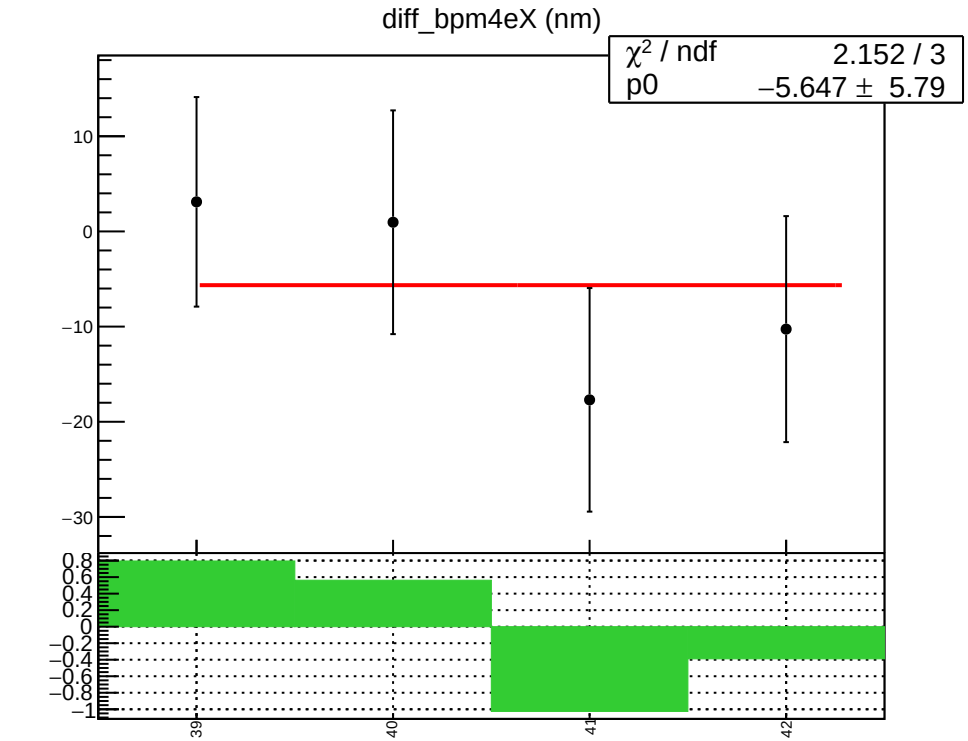

1D pull distribution
Mean −0.06558 ± 0.6511
Std Dev 1.302 ± 0.4604
Underflow 0
Overflow 0
χ² / ndf 2.273e−09 / 0
Constant 2.029 ± 1.480
Mean −2.775e−05 ± 9.327e−01
Sigma 1.569 ± 1.125
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

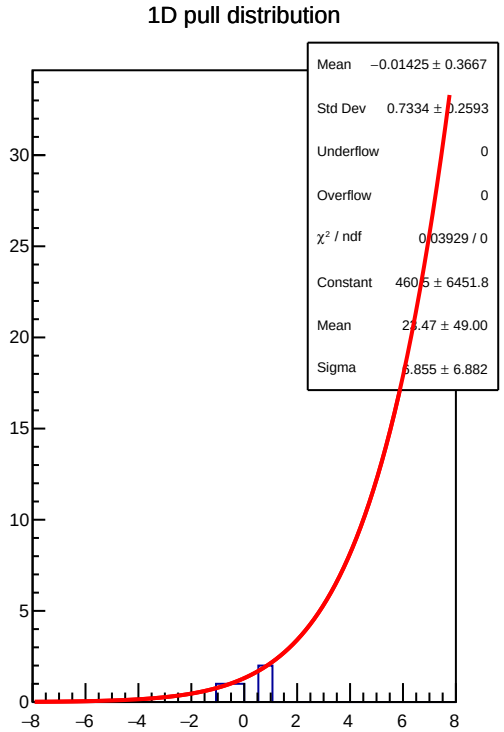

diff_bpmE RMS (um)
RMS (um)
7.4
7.2
7
6.8
6.6
6.4
6.2
39
40
41
42


diff_bpm4aX (nm)
χ² / ndf 3.474 / 3
p0 0.9746 ± 0.9254
5
4
3
2
1
0
−1
−2
−3
−4
0.5
0
−0.5
−1
−1.5
39
40
41
42

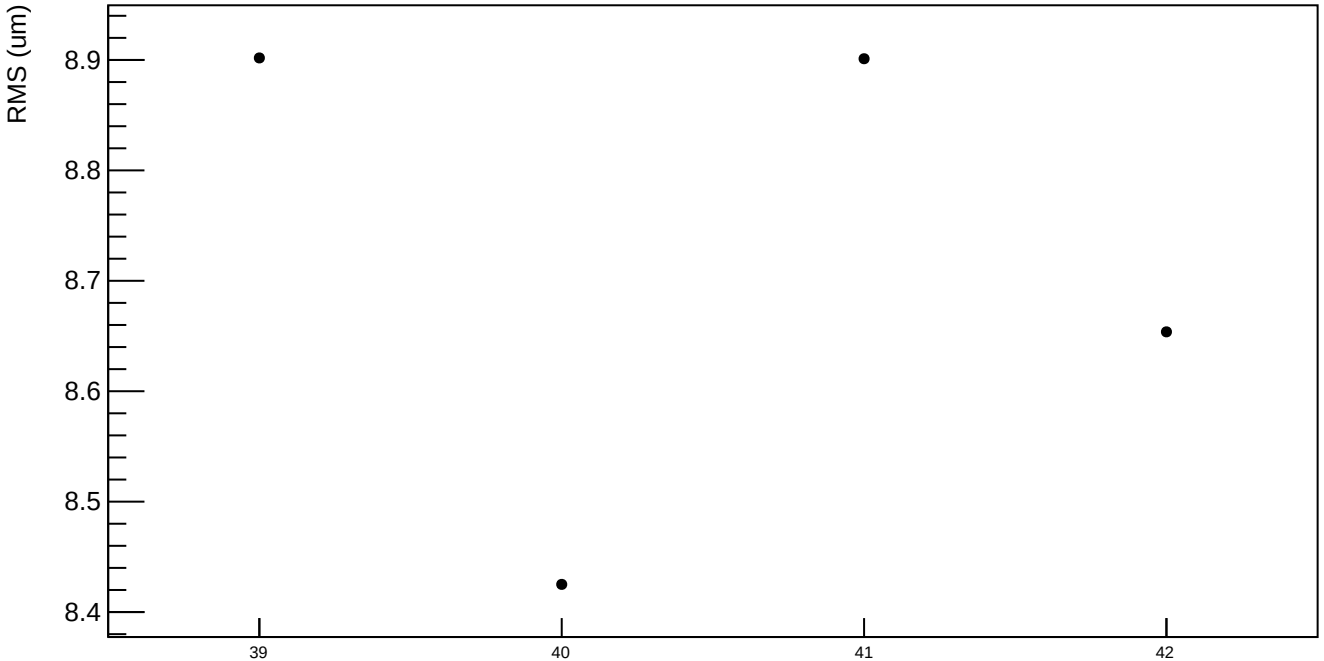

1D pull distribution
Mean 0.001183 ± 0.4659
Std Dev 0.9319 ± 0.3295
Underflow 0
Overflow 0
χ² / ndf 0.24 / 0
Constant 20.14 ± 257.38
Mean 20.61 ± 47.67
Sigma 8.743 ± 4.645
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

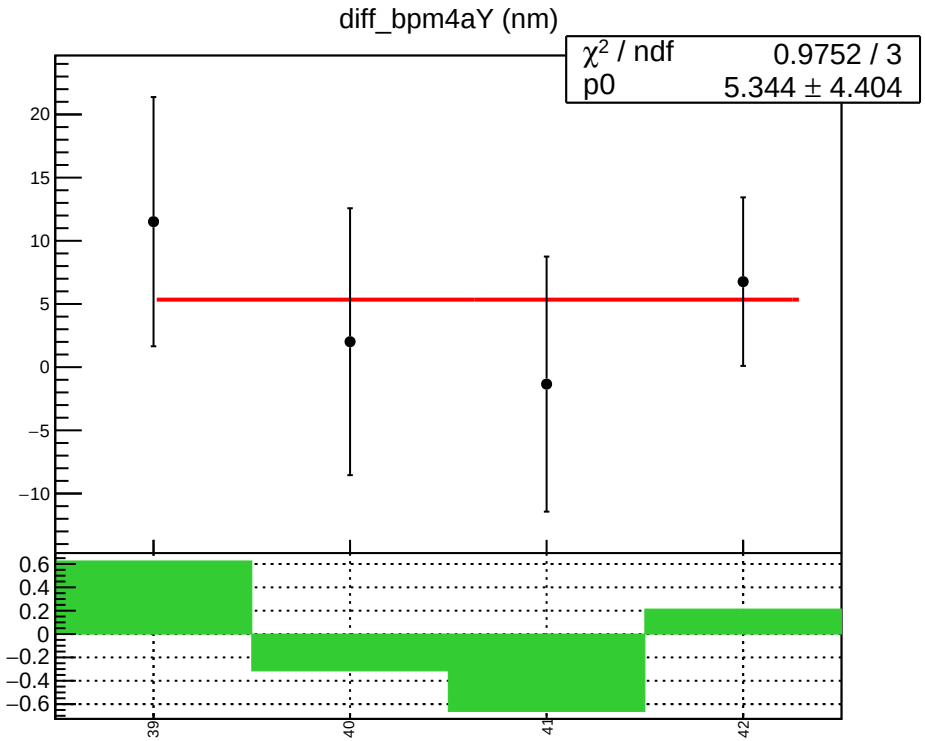

diff_bpm4aX RMS (um)
RMS (um)
1.43
1.42
1.41
1.4
1.39
1.38
1.37
1.36
39
40
41
42

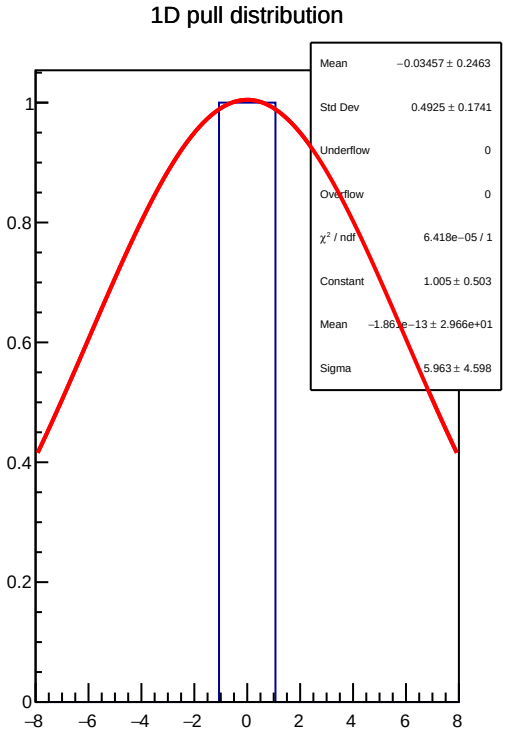

diff_bpm4eX (nm)
χ² / ndf 2.152 / 3
p0 −5.647 ± 5.79
10
0
−10
−20
−30
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
39
40
41
42

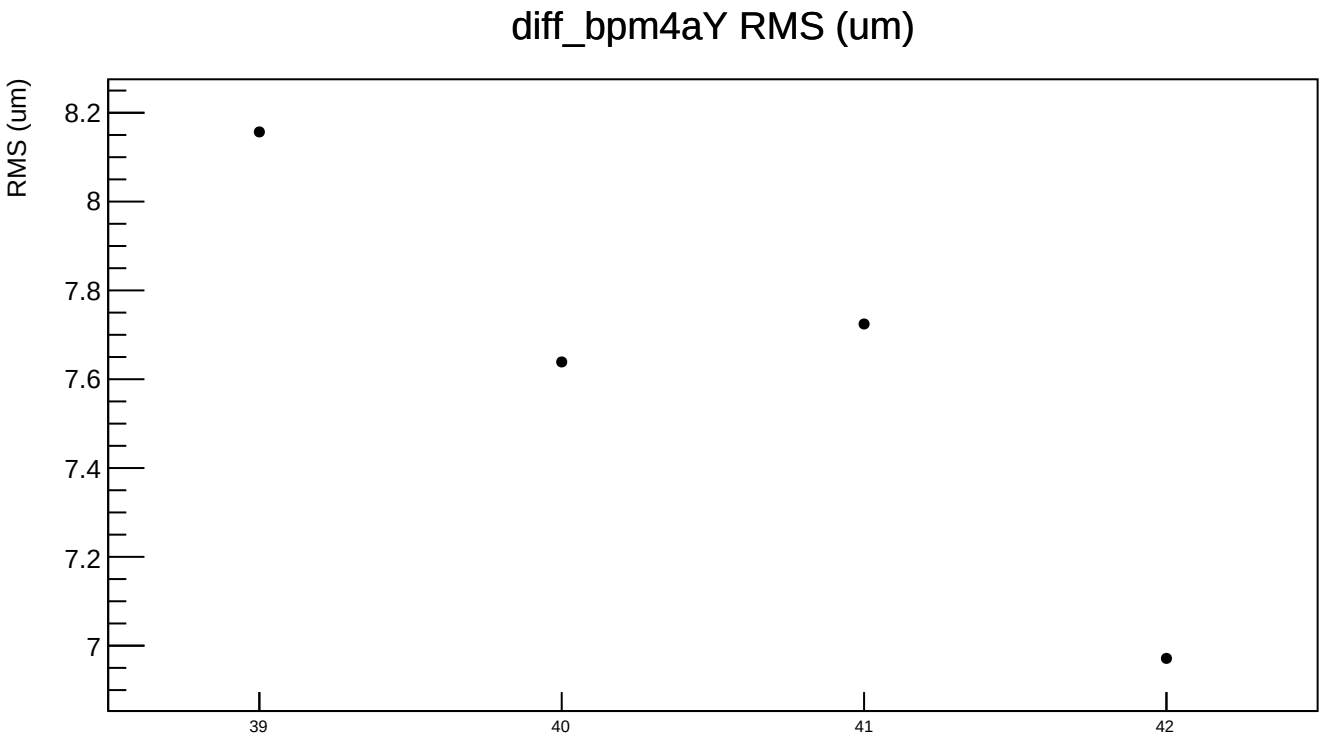

1D pull distribution
Mean −0.01425 ± 0.3667
Std Dev 0.7334 ± 0.2593
Underflow 0
Overflow 0
χ² / ndf 0.03929 / 0
Constant 460.5 ± 6451.8
Mean 23.47 ± 49.00
Sigma 5.855 ± 6.882
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

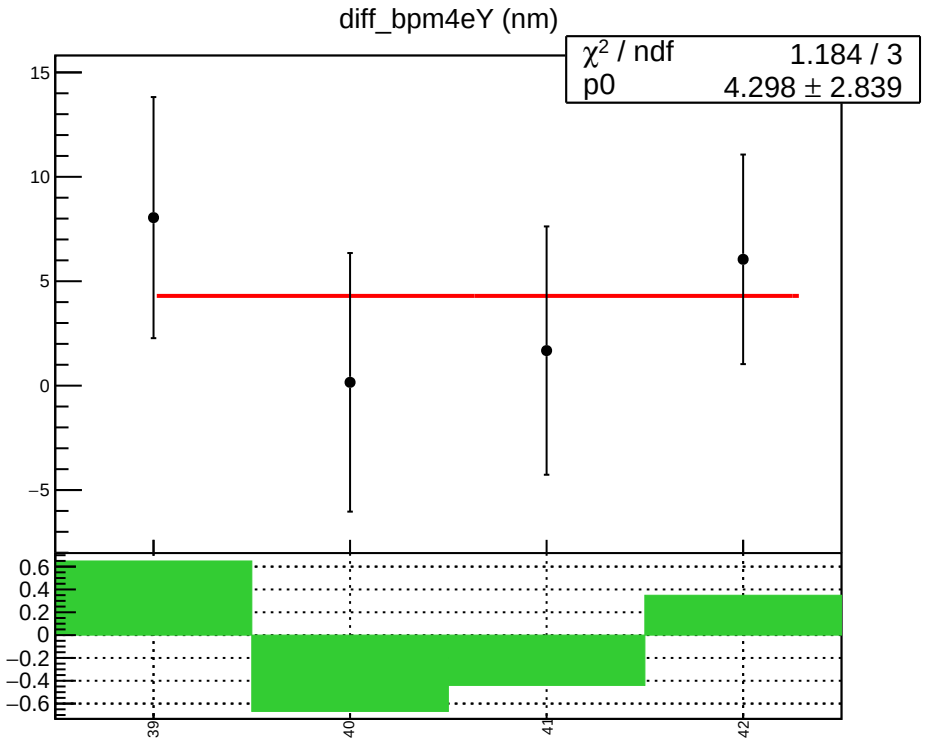
diff_bpm4eX RMS (um)

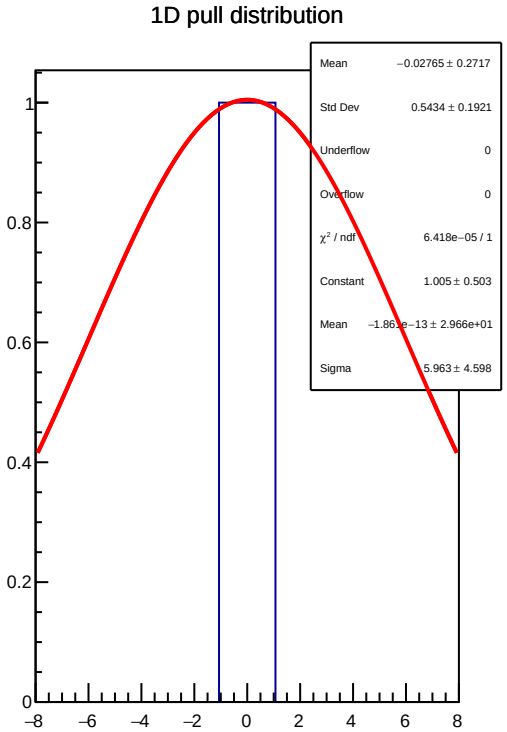


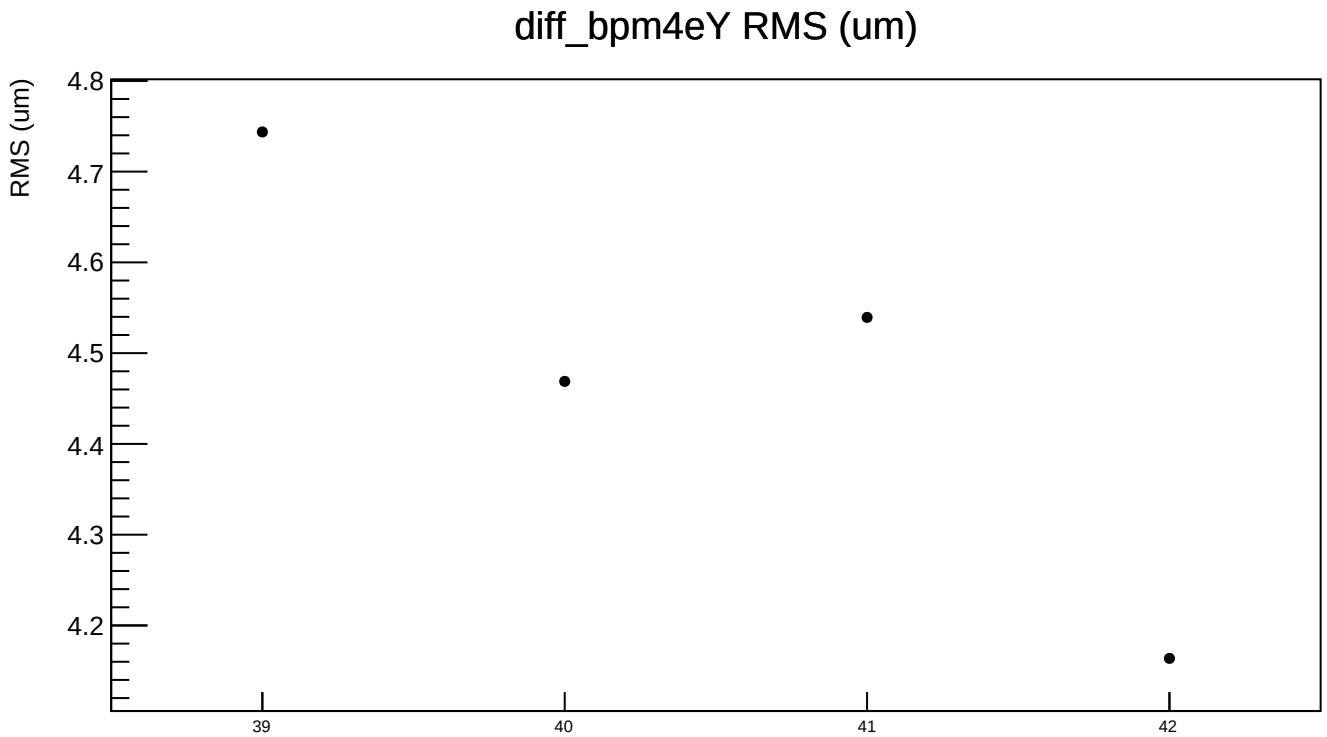

diff_bpm4aY (nm)
χ² / ndf 0.9752 / 3
p0 5.344 ± 4.404
20
15
10
5
0
−5
−10
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
39
40
41
42

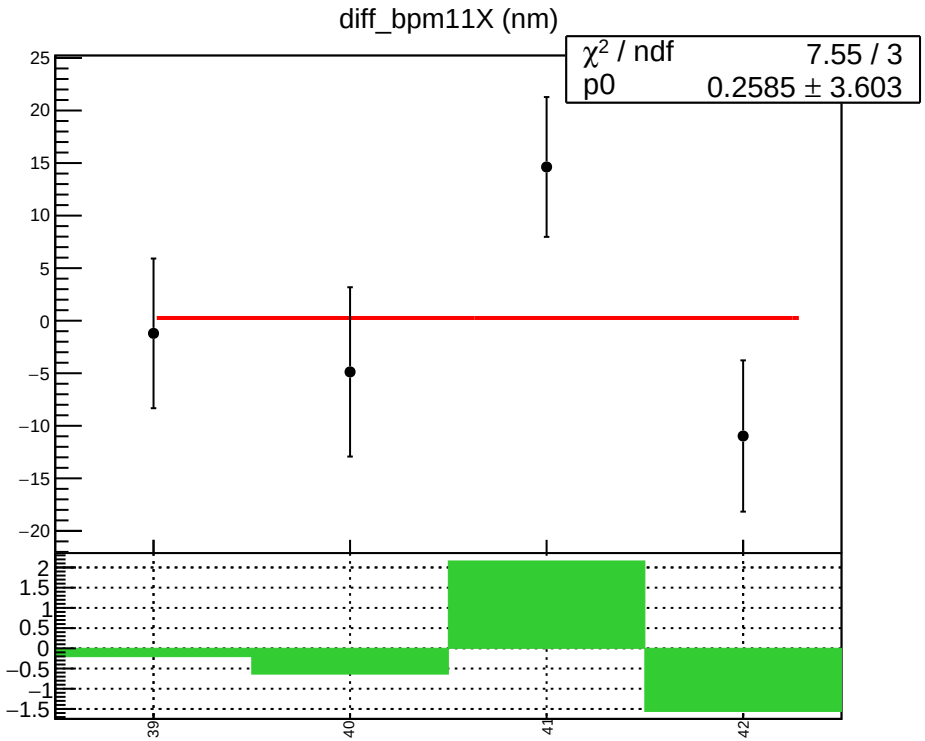

1D pull distribution
Mean −0.03457 ± 0.2463
Std Dev 0.4925 ± 0.1741
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

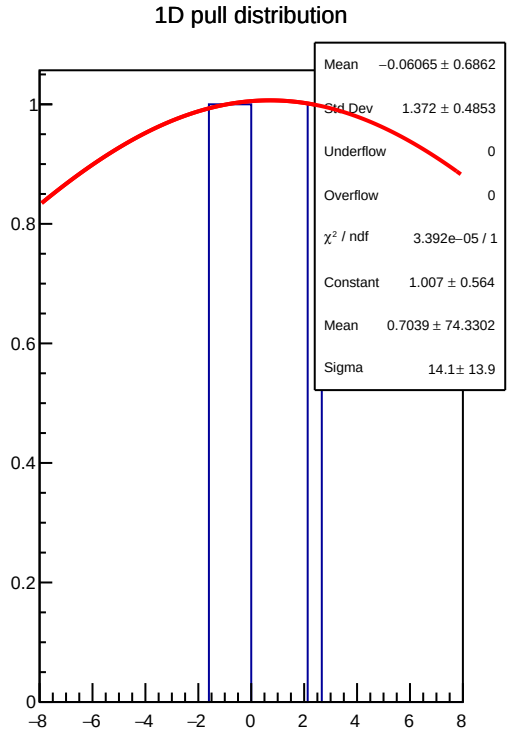

diff_bpm4aY RMS (um)
RMS (um)
8.2
8
7.8
7.6
7.4
7.2
7
39
40
41
42


diff_bpm4eY (nm)
χ² / ndf 1.184 / 3
p0 4.298 ± 2.839
15
10
5
0
−5
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
39
40
41
42

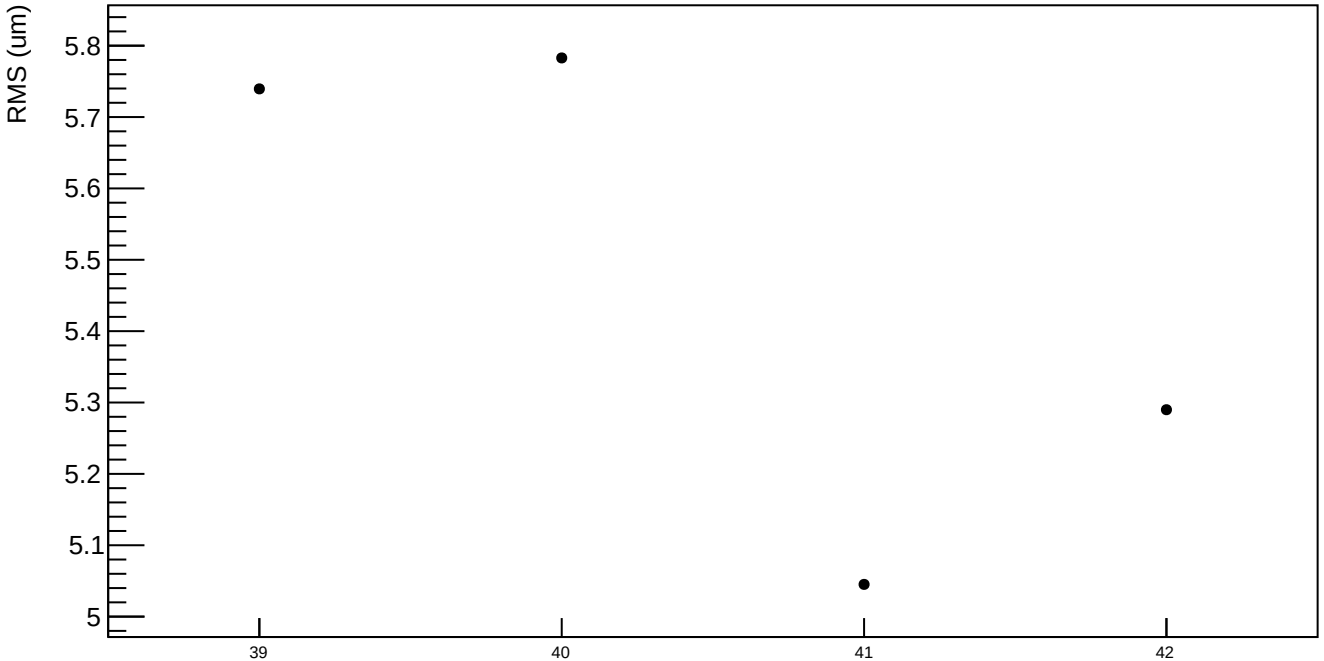

1D pull distribution
Mean −0.02765 ± 0.2717
Std Dev 0.5434 ± 0.1921
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

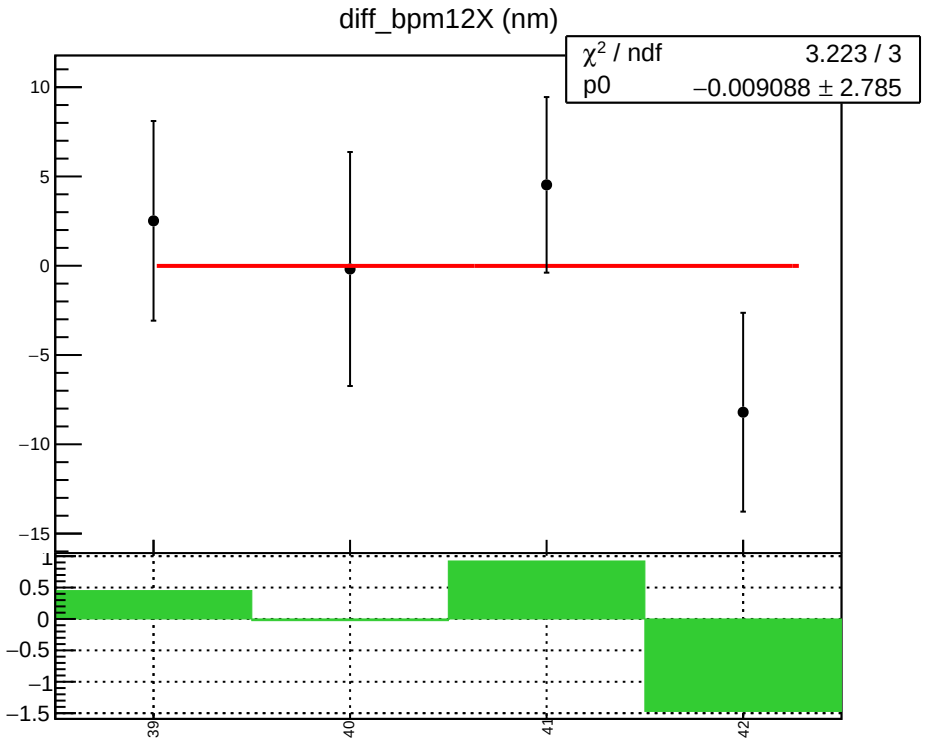

diff_bpm4eY RMS (um)
RMS (um)
4.8
4.7
4.6
4.5
4.4
4.3
4.2
39
40
41
42

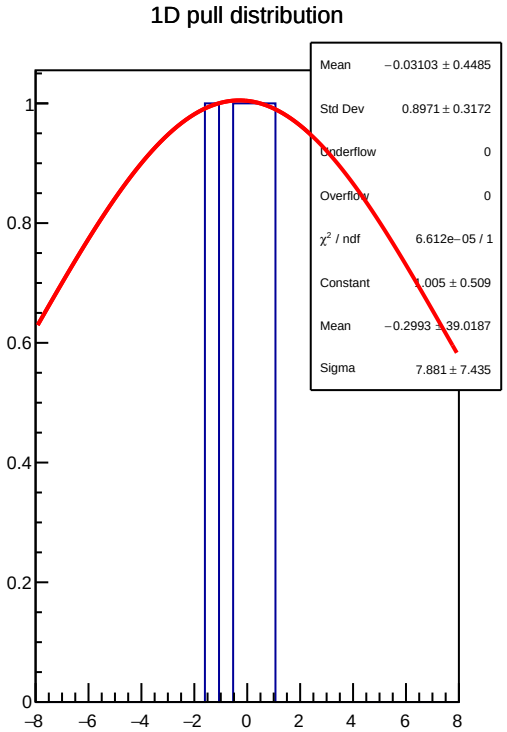

diff_bpm11X (nm)
χ² / ndf 7.55 / 3
p0 0.2585 ± 3.603
25
20
15
10
5
0
−5
−10
−15
−20
2
1.5
1
0.5
0
−0.5
−1
−1.5
39
40
41
42


1D pull distribution
Mean −0.06065 ± 0.6862
Std Dev 1.372 ± 0.4853
Underflow 0
Overflow 0
χ² / ndf 3.392e−05 / 1
Constant 1.007 ± 0.564
Mean 0.7039 ± 74.3302
Sigma 14.1± 13.9
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

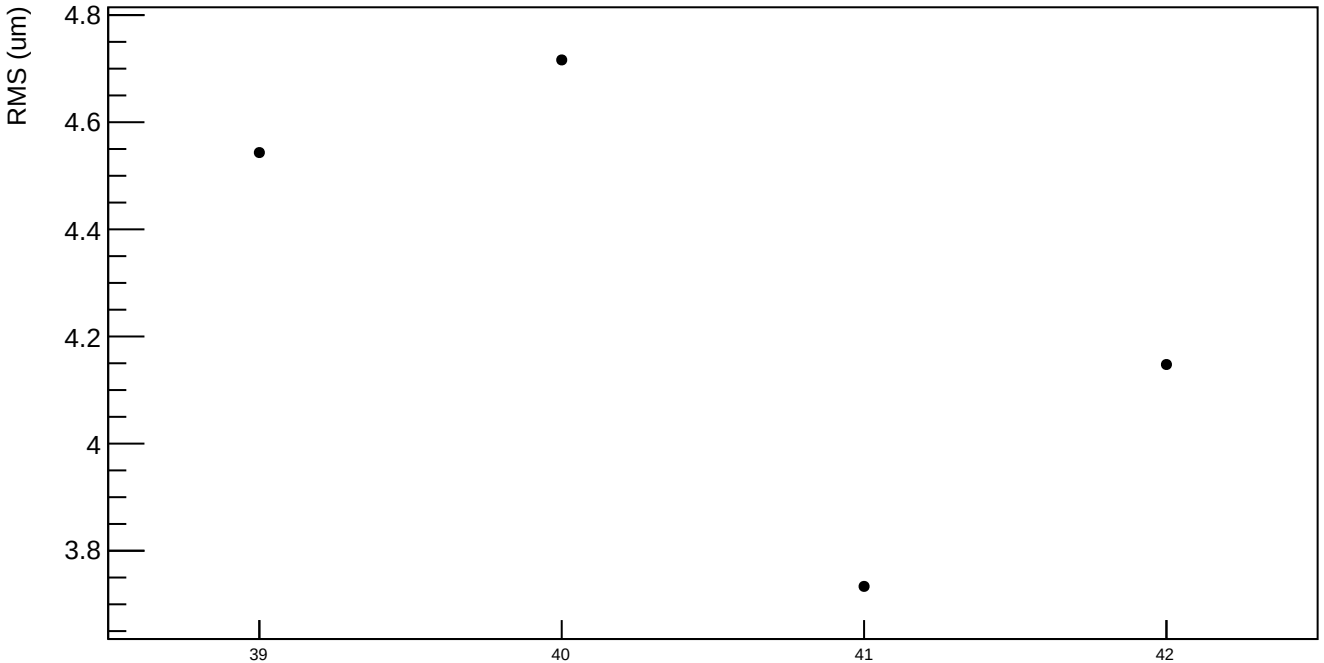
diff_bpm11X RMS (um)

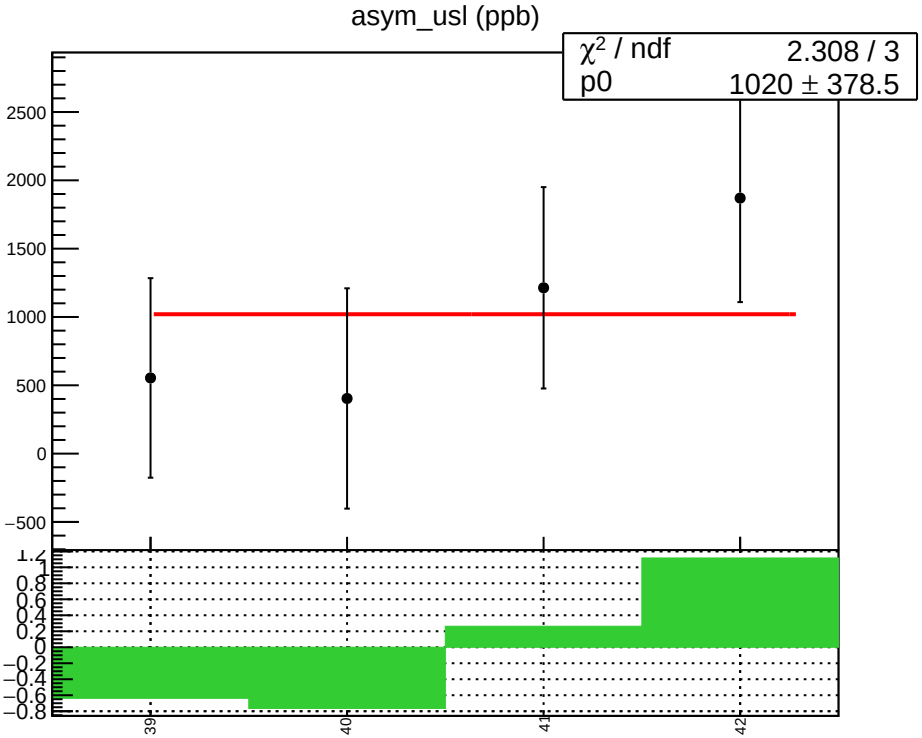


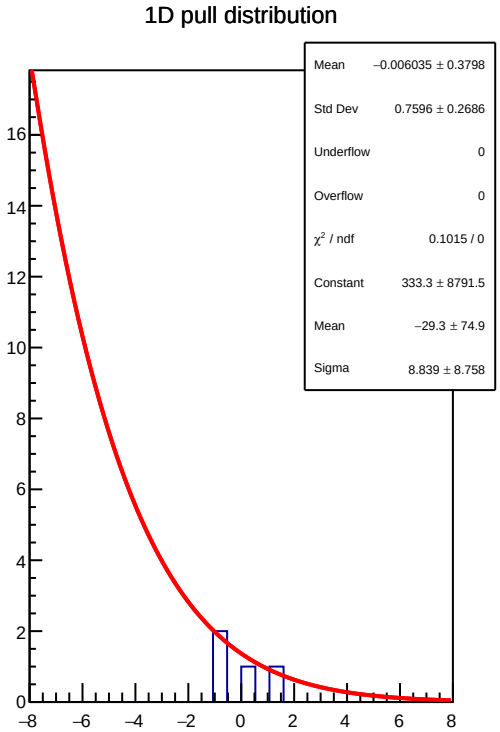

diff_bpm12X (nm)
χ^2 / ndf 3.223 / 3
p0 −0.009088 ± 2.785
10
5
0
−5
−10
−15
1
0.5
0
−0.5
−1
−1.5
39
40
41
42


1D pull distribution
Mean −0.03103 ± 0.4485
Std Dev 0.8971 ± 0.3172
Underflow 0
Overflow 0
χ^2 / ndf 6.612e−05 / 1
Constant 1.005 ± 0.509
Mean −0.2993 ± 39.0187
Sigma 7.881 ± 7.435
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

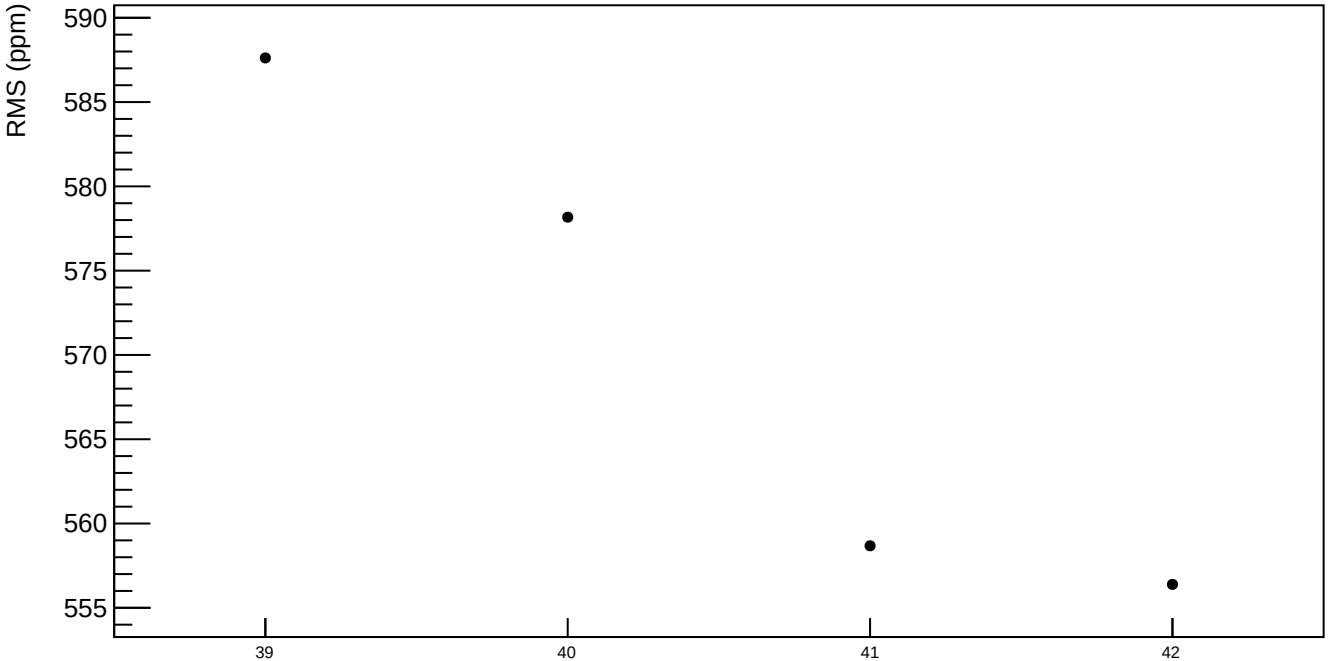
diff_bpm12X RMS (um)

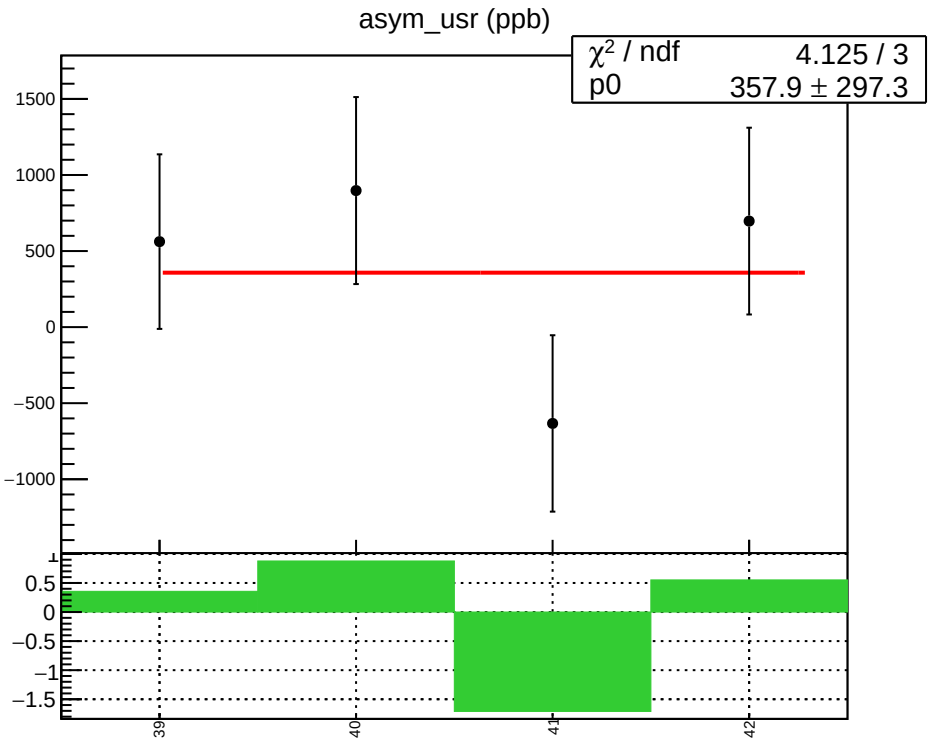


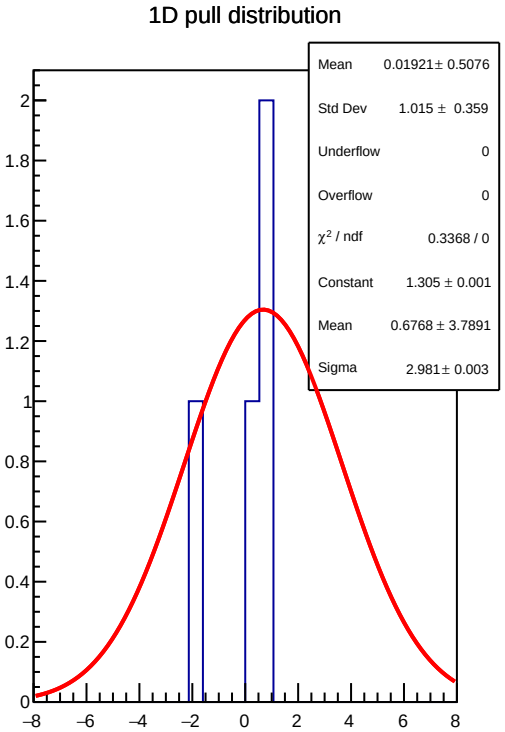

asym_usl (ppb)
χ² / ndf 2.308 / 3
p0 1020 ± 378.5
2500
2000
1500
1000
500
0
−500
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
39
40
41
42


1D pull distribution
Mean −0.006035 ± 0.3798
Std Dev 0.7596 ± 0.2686
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

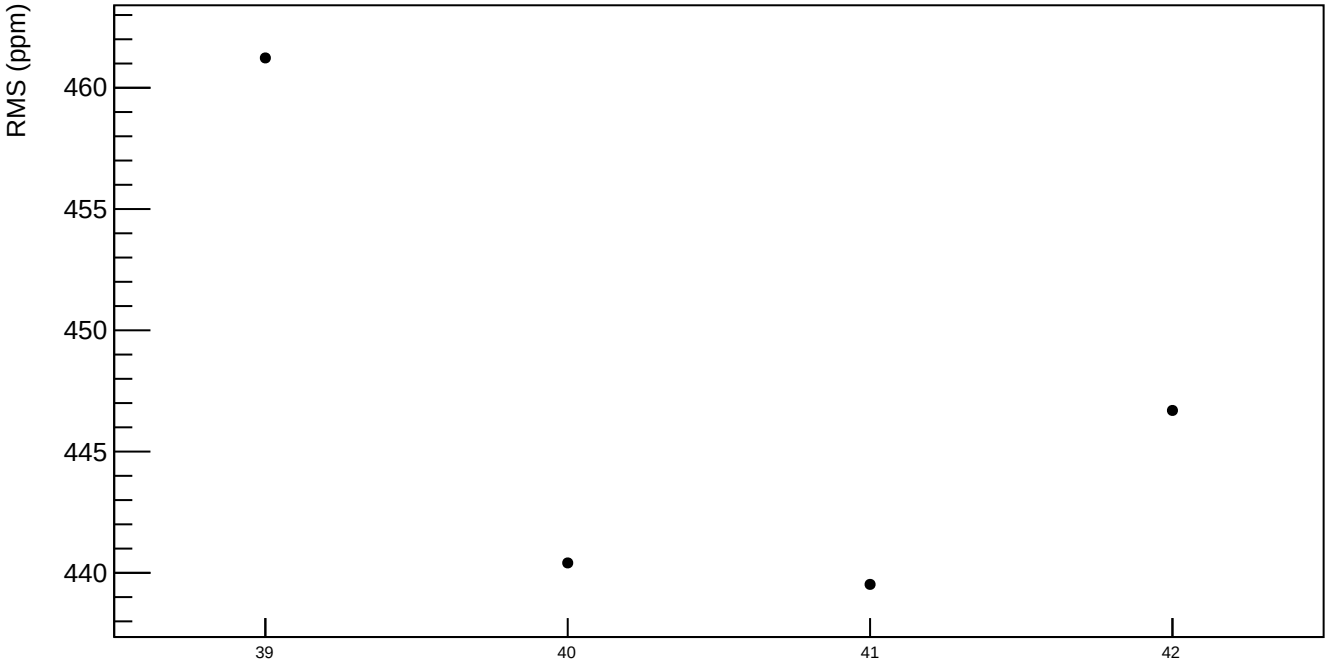
asym_usl RMS (ppm)

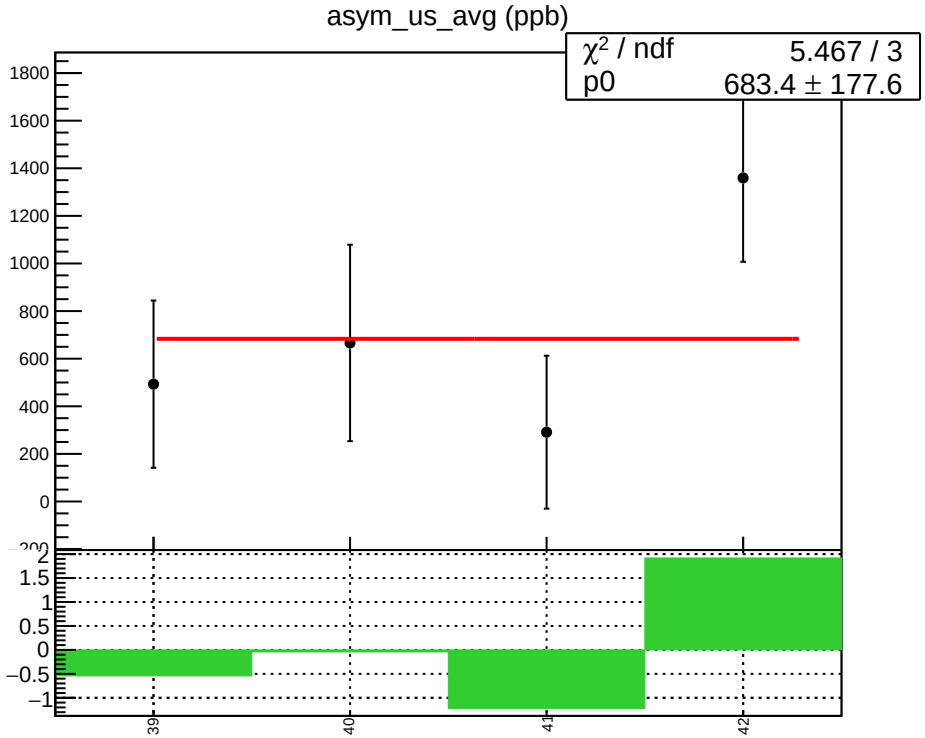


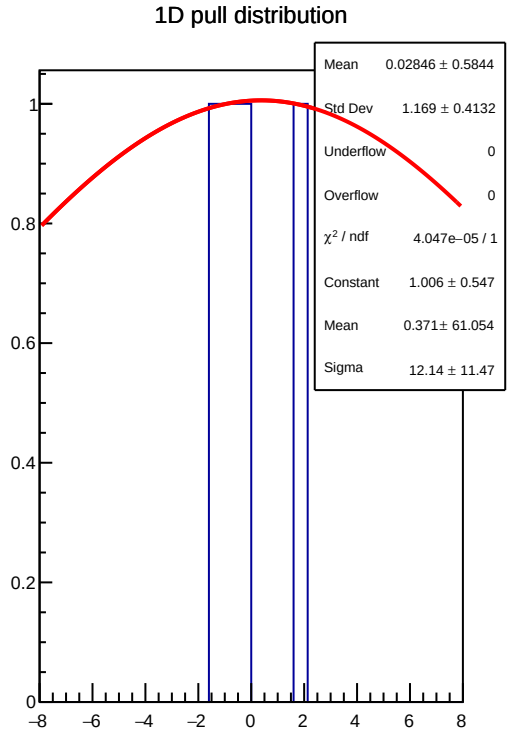

asym_usr (ppb)
χ² / ndf 4.125 / 3
p0 357.9 ± 297.3
1500
1000
500
0
−500
−1000
0.5
0
−0.5
−1
−1.5
39
40
41
42

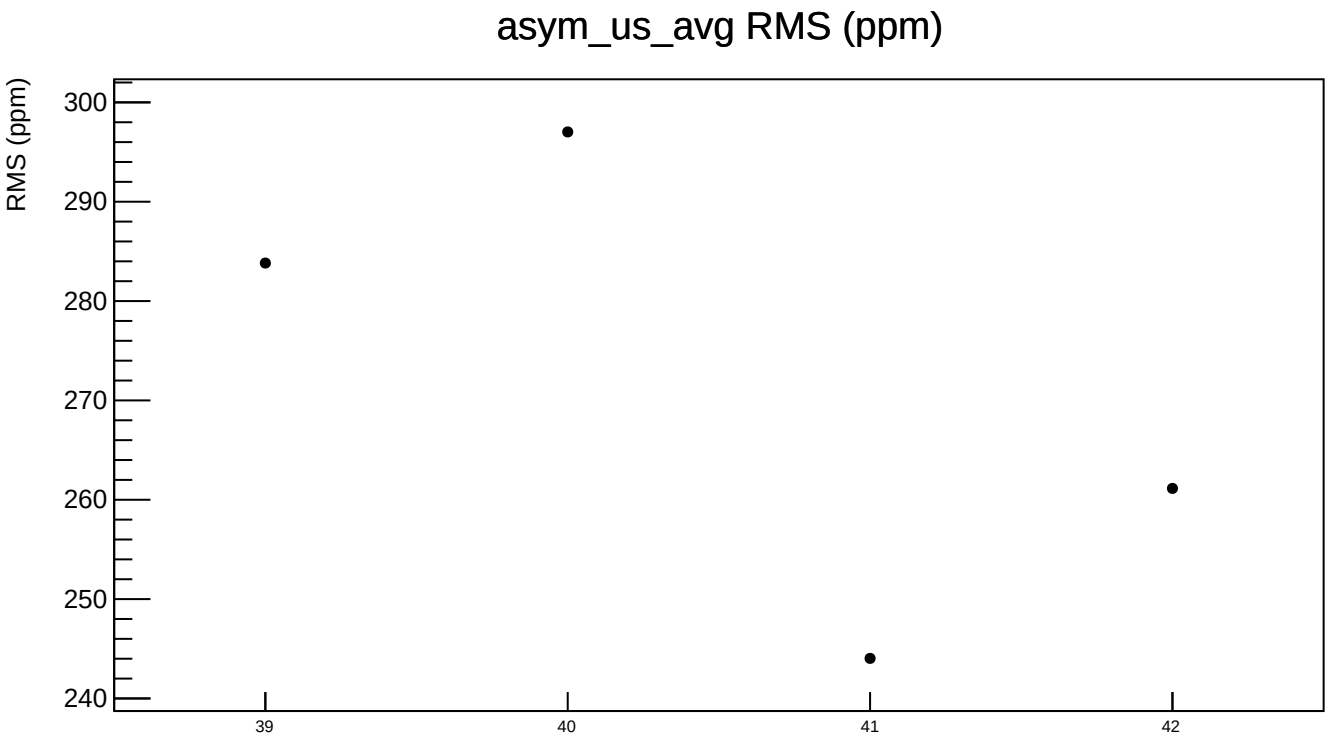

1D pull distribution
Mean 0.01921± 0.5076
Std Dev 1.015 ± 0.359
Underflow 0
Overflow 0
χ² / ndf 0.3368 / 0
Constant 1.305 ± 0.001
Mean 0.6768 ± 3.7891
Sigma 2.981± 0.003
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

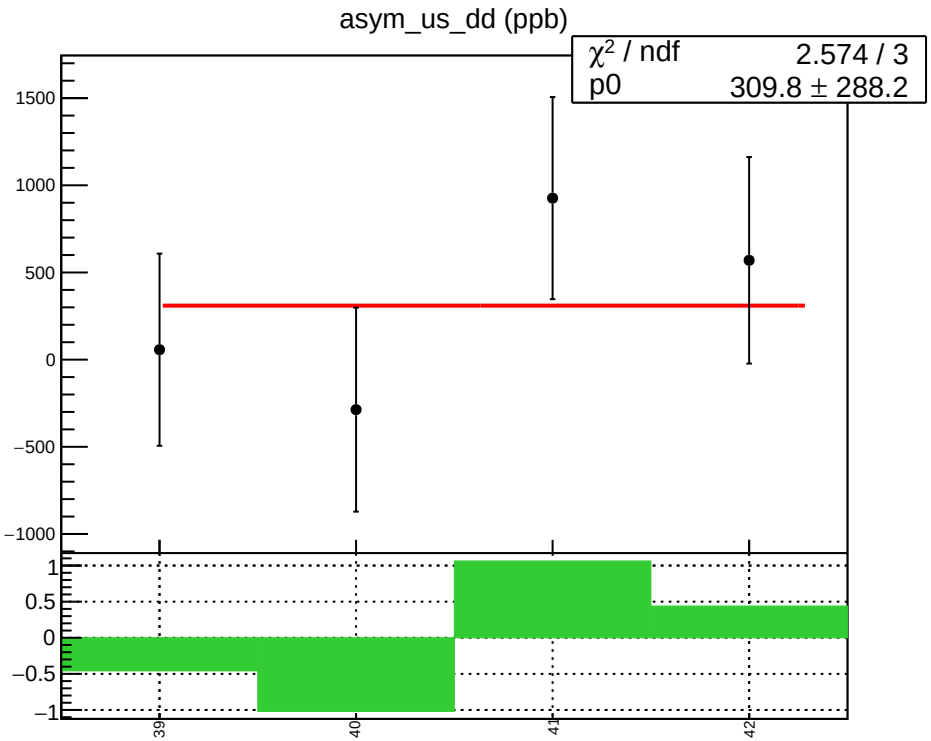
asym_usr RMS (ppm)

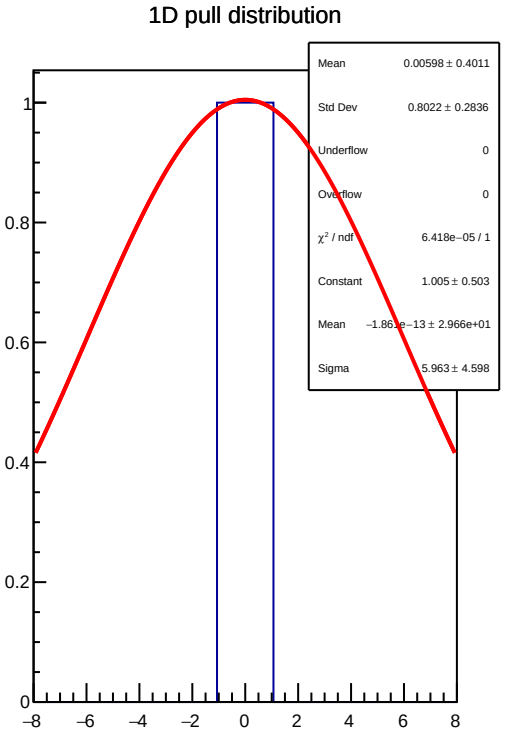


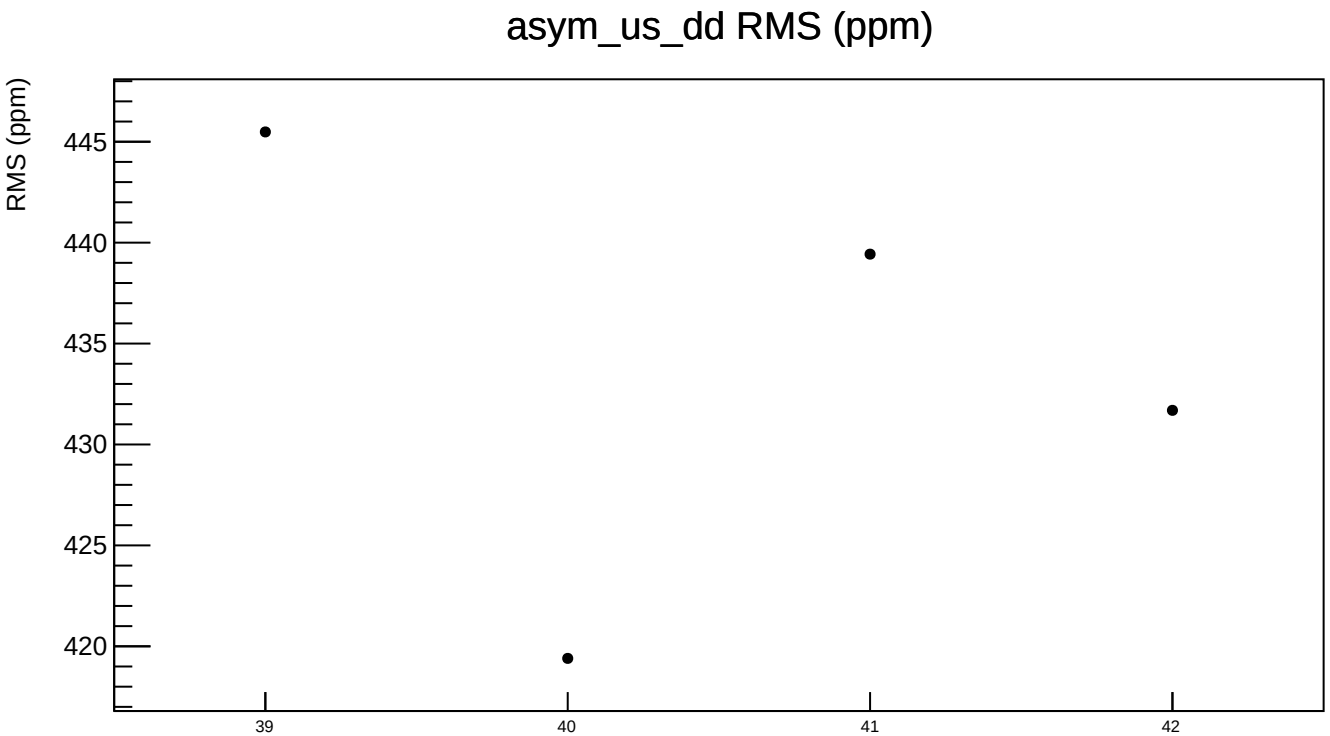

asym_us_avg (ppb)
χ² / ndf 5.467 / 3
p0 683.4 ± 177.6
1800
1600
1400
1200
1000
800
600
400
200
0
2
1.5
1
0.5
0
−0.5
−1
39
40
41
42

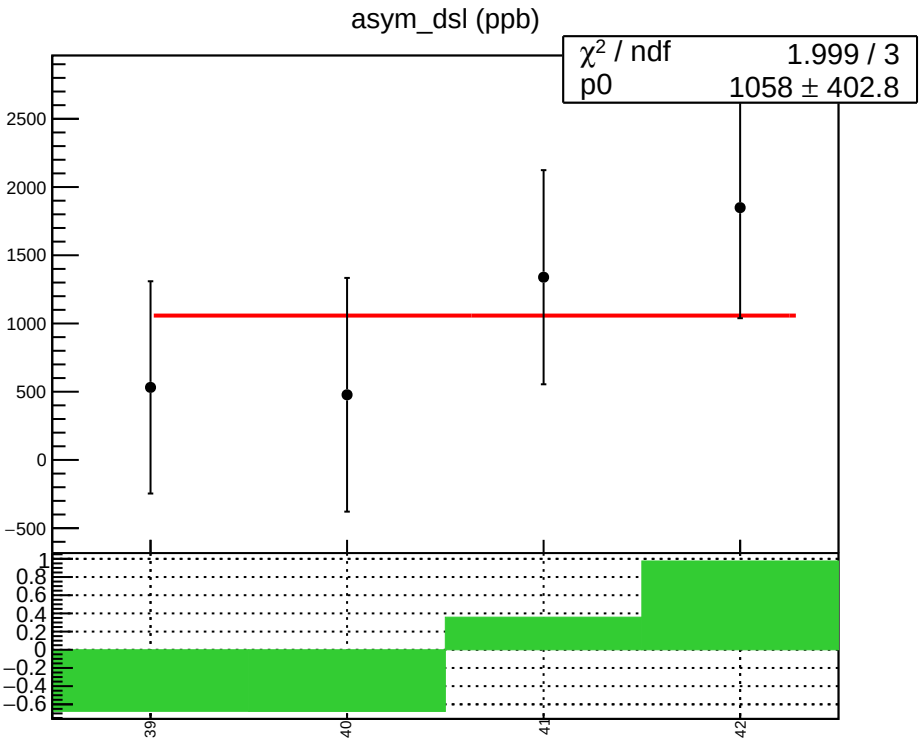

1D pull distribution
Mean 0.02846 ± 0.5844
Std Dev 1.169 ± 0.4132
Underflow 0
Overflow 0
χ² / ndf 4.047e−05 / 1
Constant 1.006 ± 0.547
Mean 0.371± 61.054
Sigma 12.14 ± 11.47
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

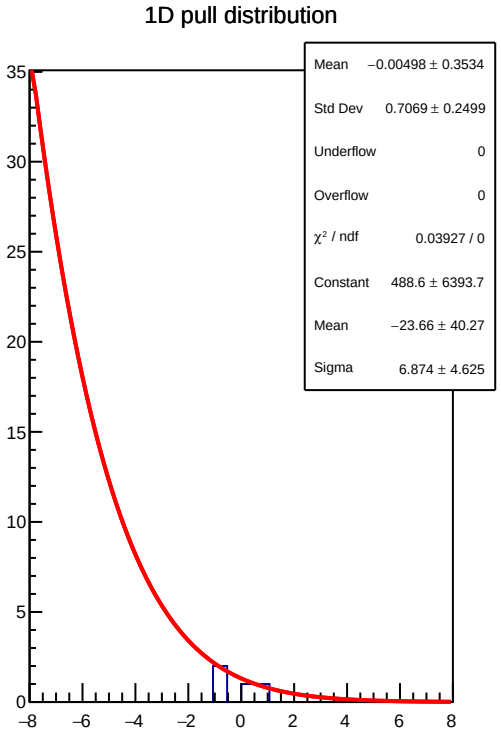

asym_us_avg RMS (ppm)
RMS (ppm)
300
290
280
270
260
250
240
39
40
41
42


asym_us_dd (ppb)
χ² / ndf 2.574 / 3
p0 309.8 ± 288.2
1500
1000
500
0
−500
−1000
1
0.5
0
−0.5
−1
39
40
41
42

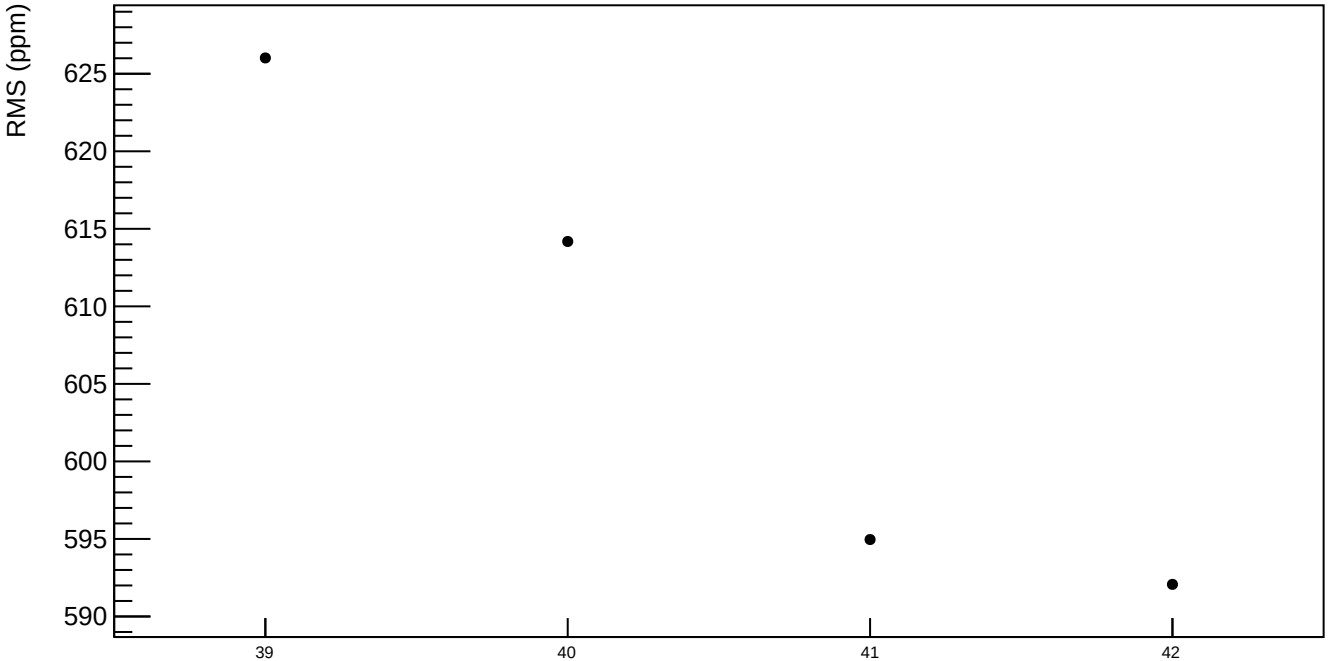

1D pull distribution
Mean 0.00598 ± 0.4011
Std Dev 0.8022 ± 0.2836
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

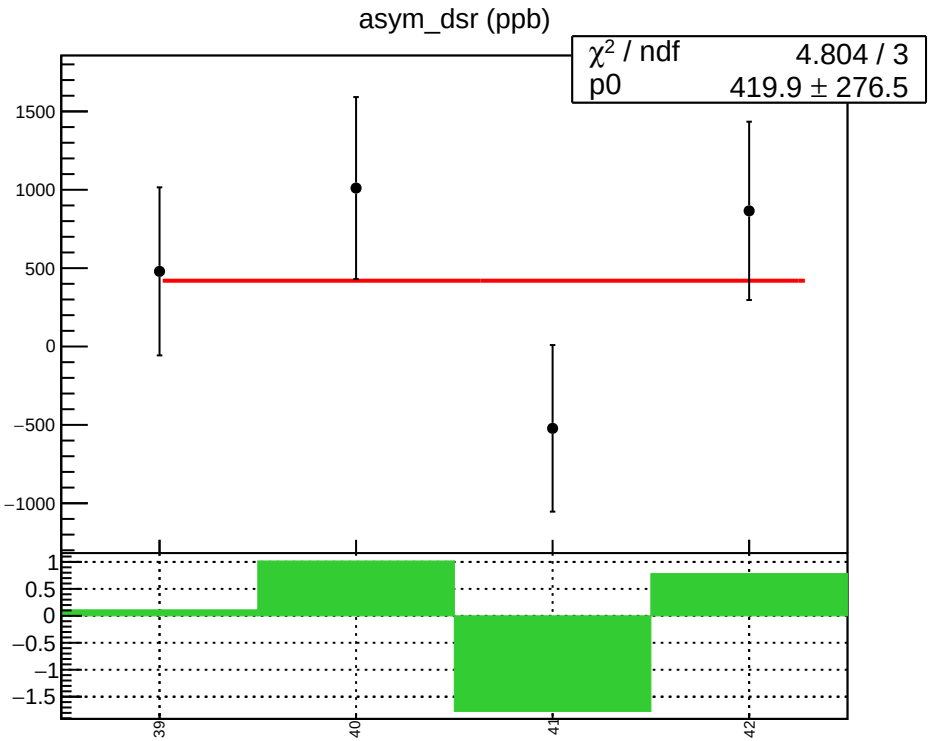

asym_us_dd RMS (ppm)
RMS (ppm)
445
440
435
430
425
420
39
40
41
42

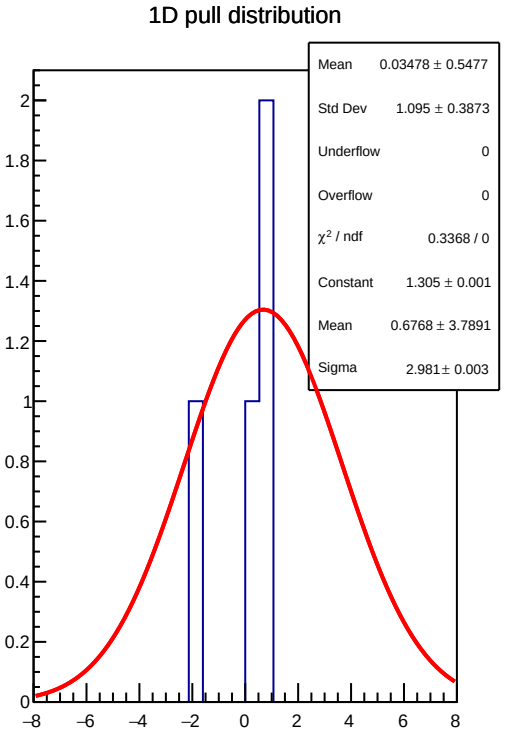

asym_dsl (ppb)
χ² / ndf 1.999 / 3
p0 1058 ± 402.8
2500
2000
1500
1000
500
0
−500
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
39
40
41
42


1D pull distribution
Mean −0.00498 ± 0.3534
Std Dev 0.7069 ± 0.2499
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

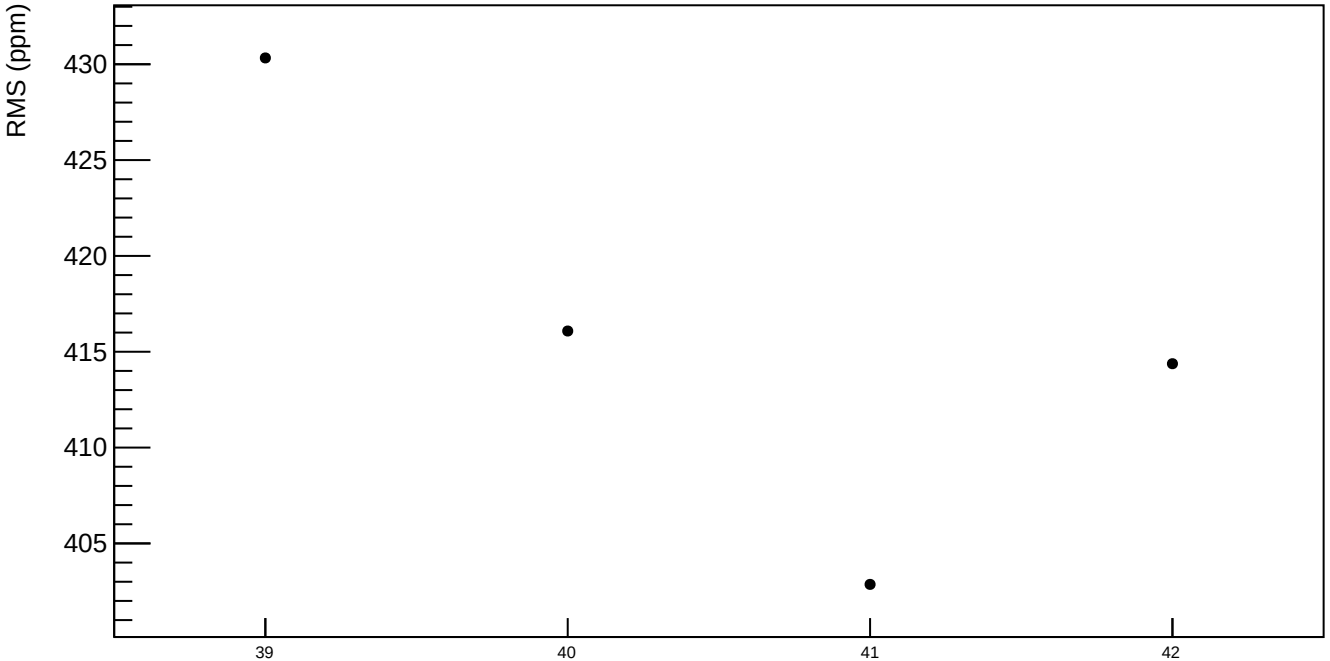
asym_dsl RMS (ppm)

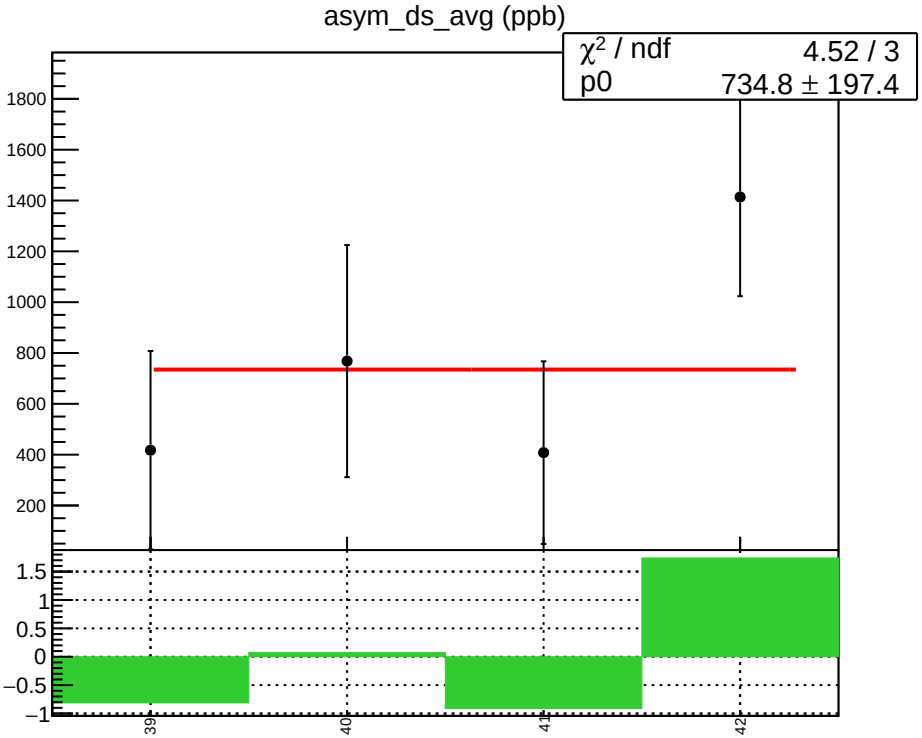


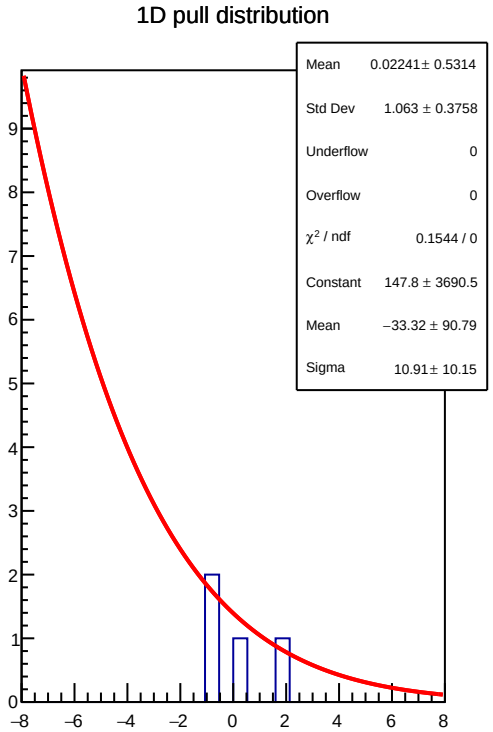

asym_dsr (ppb)
χ² / ndf 4.804 / 3
p0 419.9 ± 276.5
1500
1000
500
0
−500
−1000
1
0.5
0
−0.5
−1
−1.5
39
40
41
42

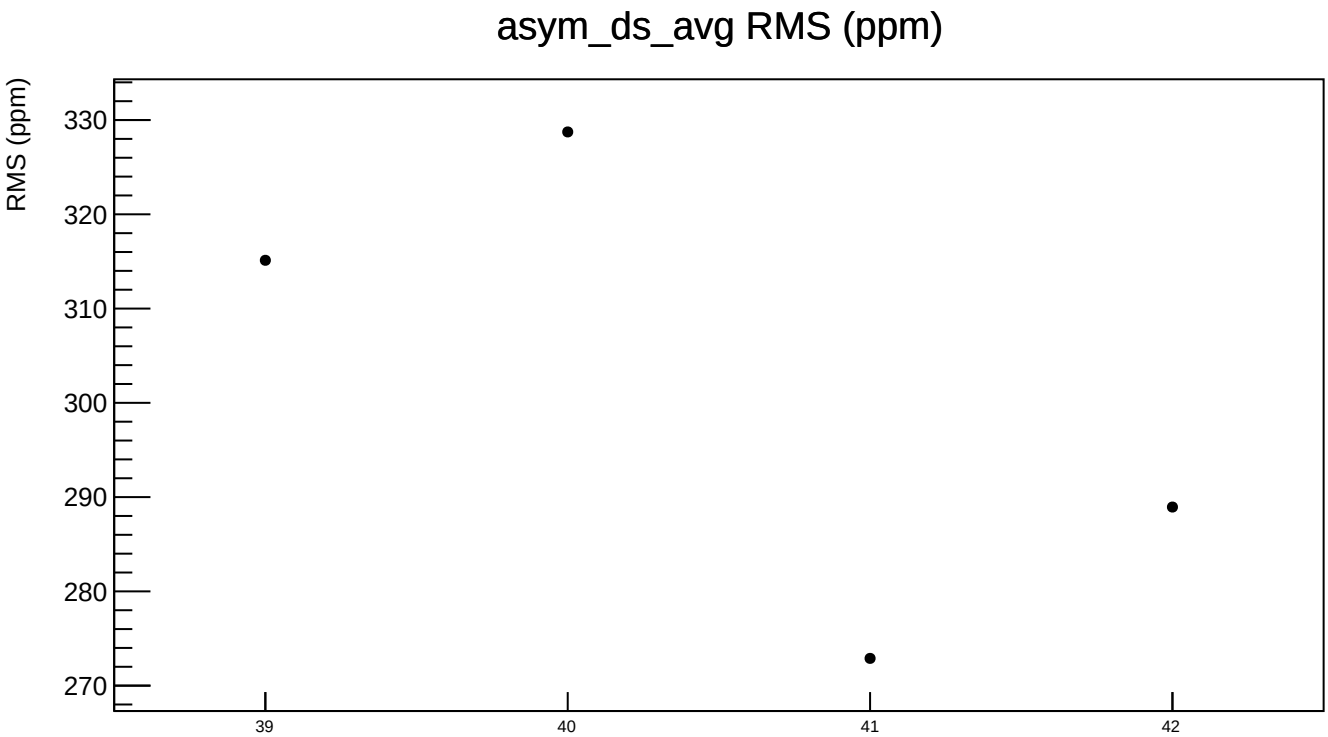

1D pull distribution
Mean 0.03478 ± 0.5477
Std Dev 1.095 ± 0.3873
Underflow 0
Overflow 0
χ² / ndf 0.3368 / 0
Constant 1.305 ± 0.001
Mean 0.6768 ± 3.7891
Sigma 2.981 ± 0.003
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

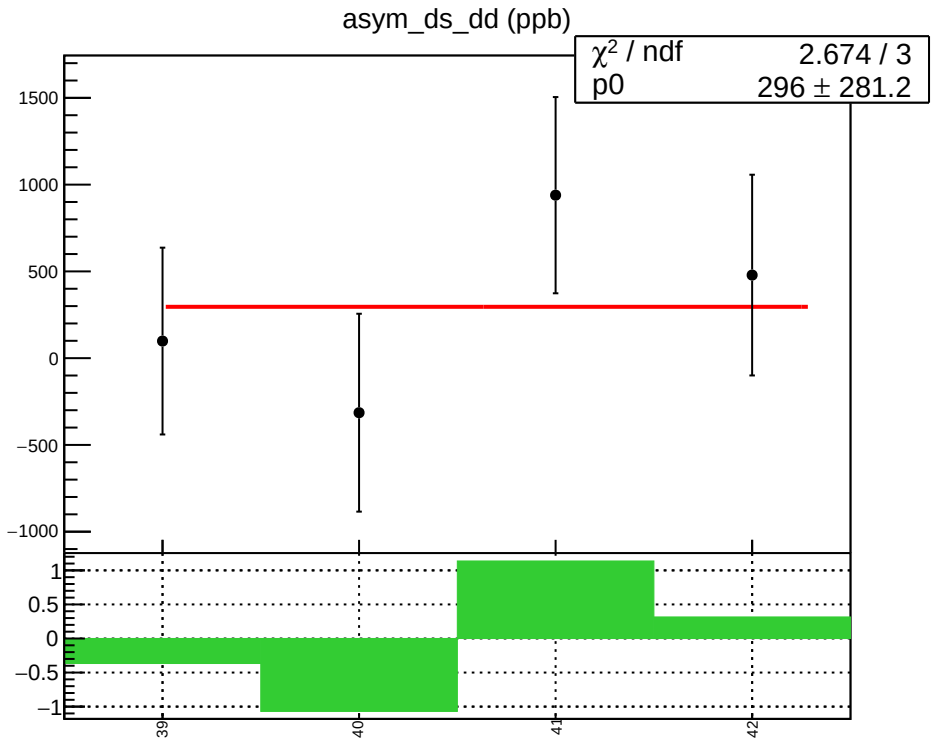
asym_dsr RMS (ppm)

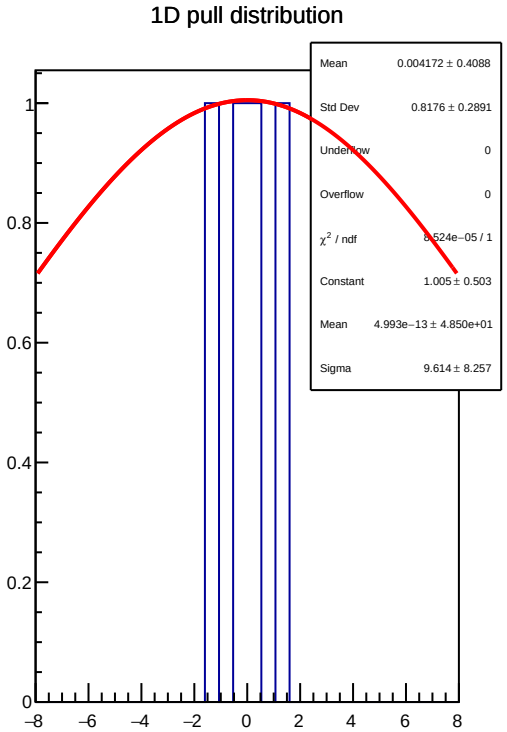



asym_ds_avg (ppb)
χ² / ndf 4.52 / 3
p0 734.8 ± 197.4
1800
1600
1400
1200
1000
800
600
400
200
1.5
1
0.5
0
−0.5
−1
39
40
41
42

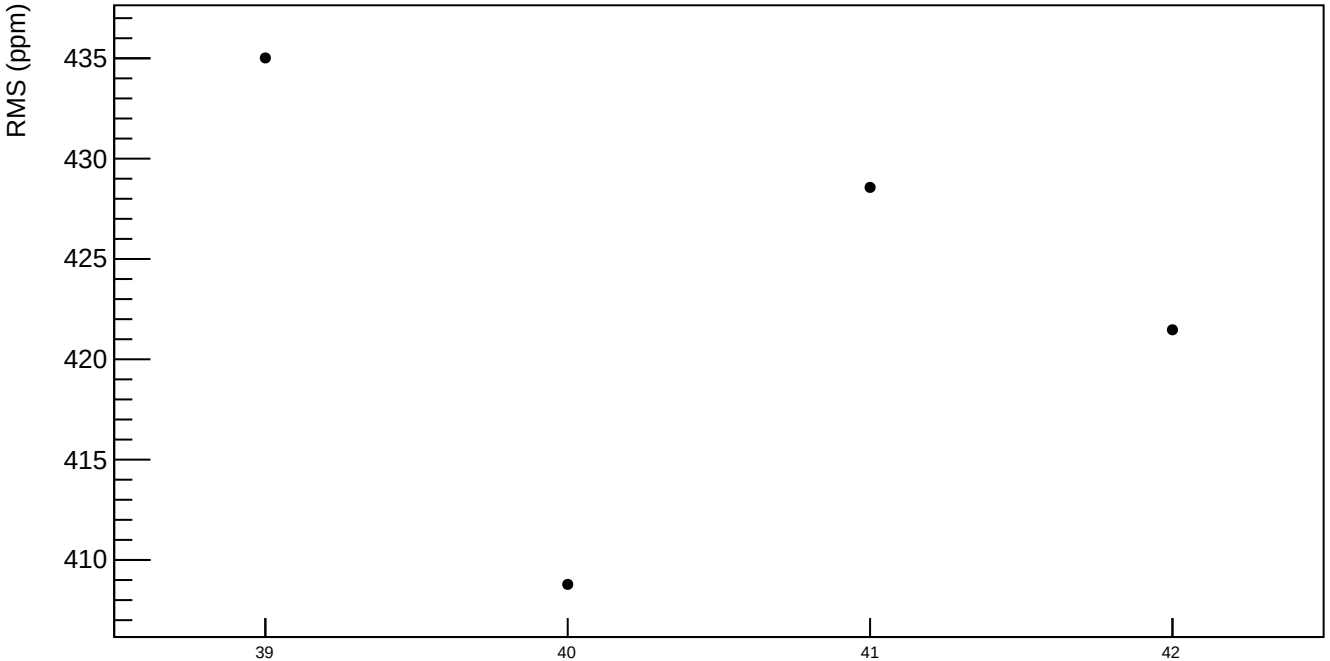

1D pull distribution
Mean 0.02241 ± 0.5314
Std Dev 1.063 ± 0.3758
Underflow 0
Overflow 0
χ² / ndf 0.1544 / 0
Constant 147.8 ± 3690.5
Mean −33.32 ± 90.79
Sigma 10.91 ± 10.15
9
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

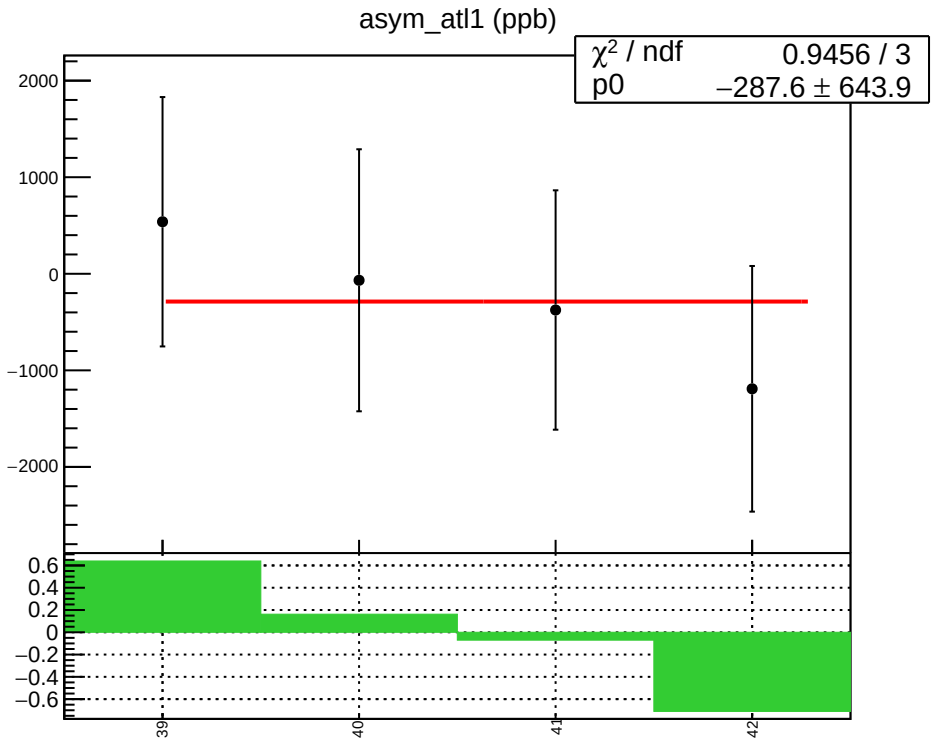

asym_ds_avg RMS (ppm)
RMS (ppm)
330
320
310
300
290
280
270
39
40
41
42

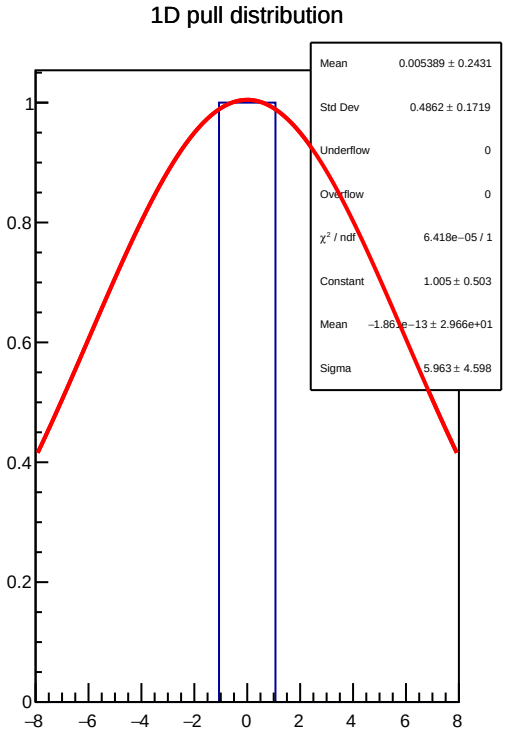

asym_ds_dd (ppb)
χ² / ndf 2.674 / 3
p0 296 ± 281.2
1500
1000
500
0
−500
−1000
1
0.5
0
−0.5
−1
39
40
41
42

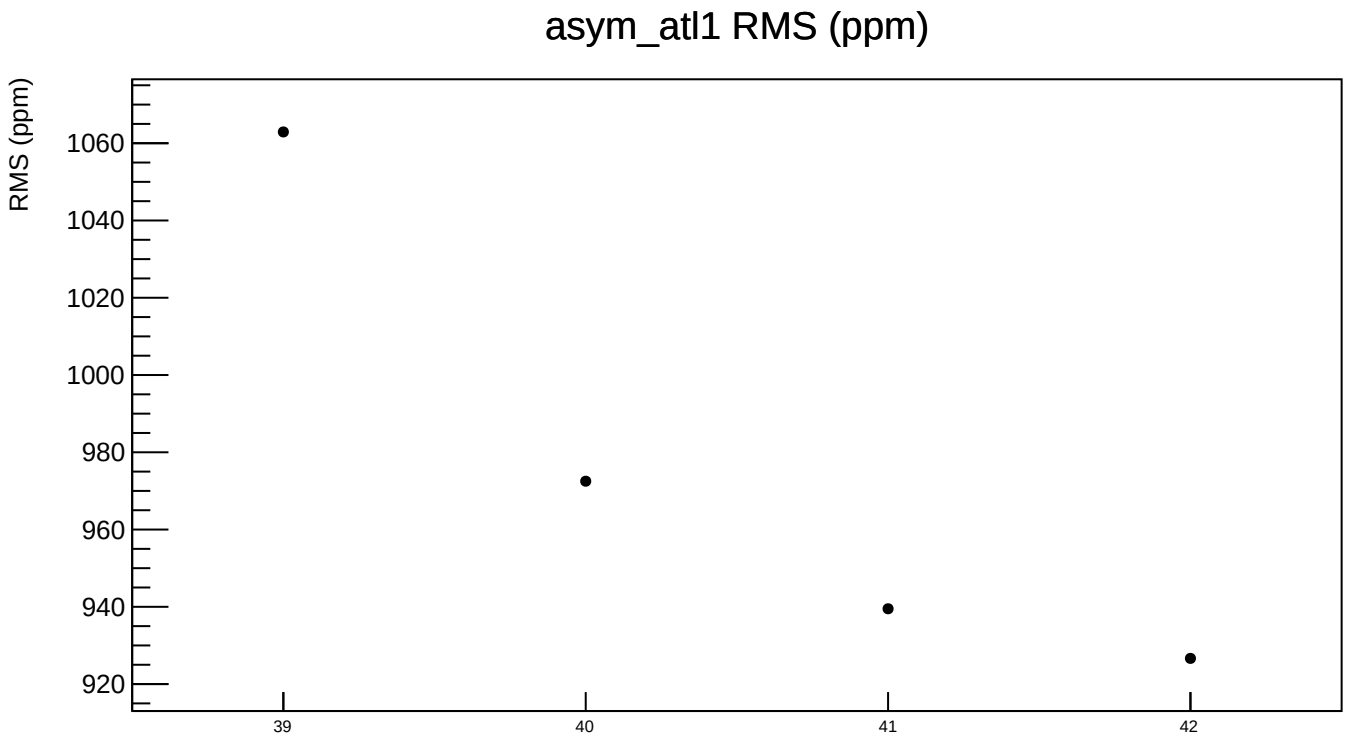

1D pull distribution
Mean 0.004172 ± 0.4088
Std Dev 0.8176 ± 0.2891
Underflow 0
Overflow 0
χ² / ndf 8.524e−05 / 1
Constant 1.005 ± 0.503
Mean 4.993e−13 ± 4.850e+01
Sigma 9.614 ± 8.257
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

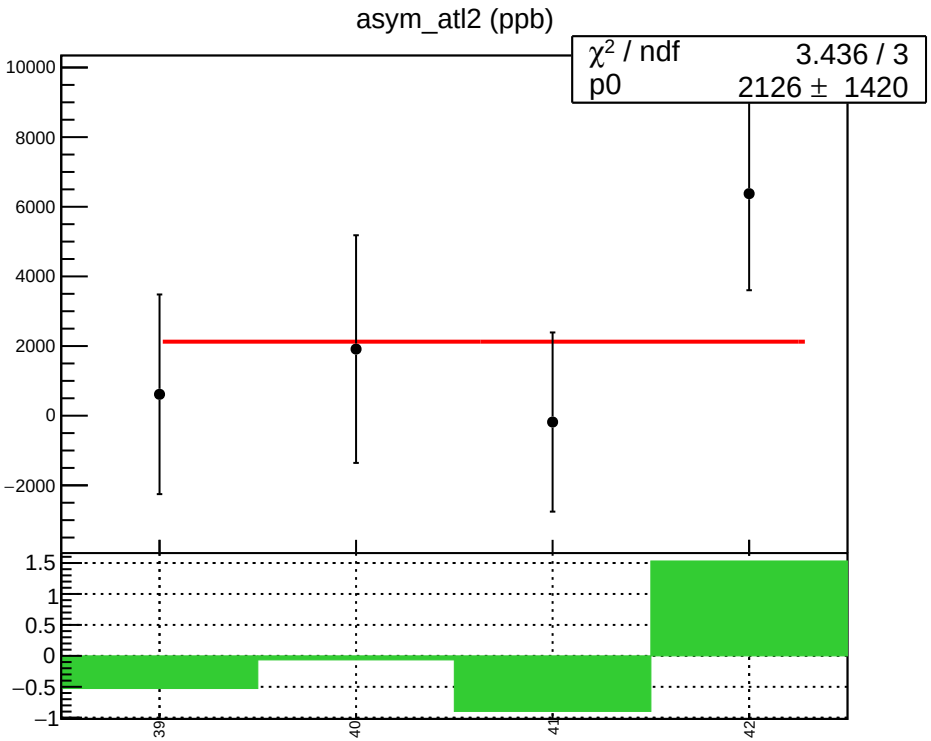
asym_ds_dd RMS (ppm)

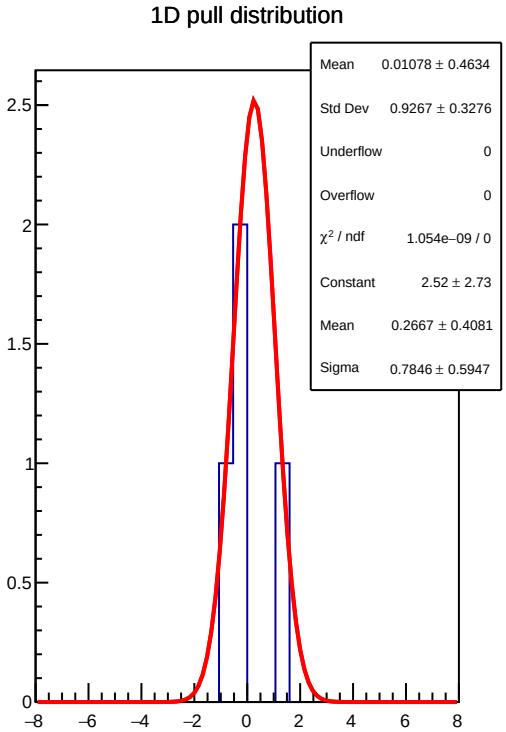


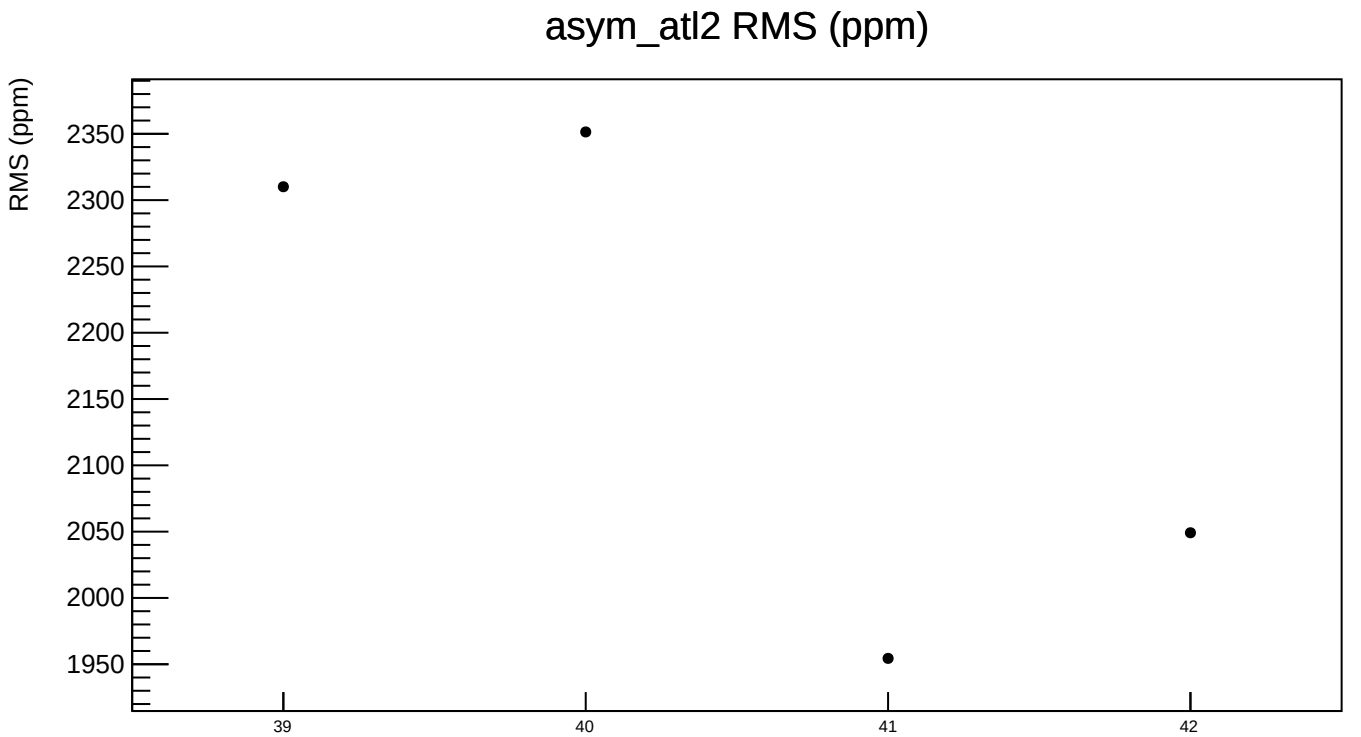

asym_atl1 (ppb)
χ² / ndf 0.9456 / 3
p0 −287.6 ± 643.9
2000
1000
0
−1000
−2000
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
39
40
41
42

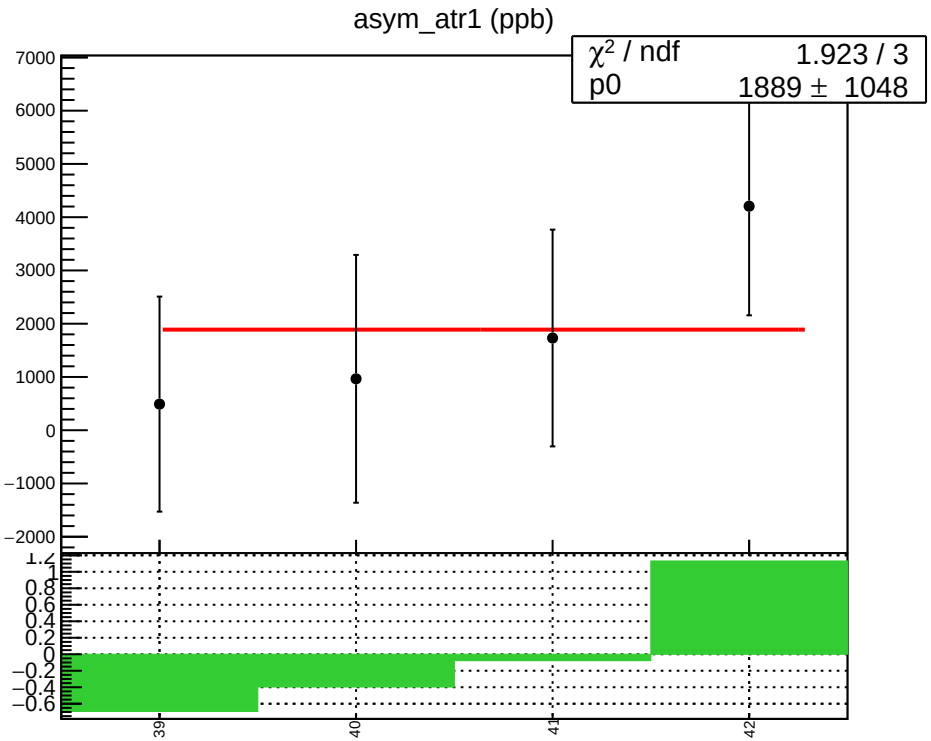

1D pull distribution
Mean 0.005389 ± 0.2431
Std Dev 0.4862 ± 0.1719
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

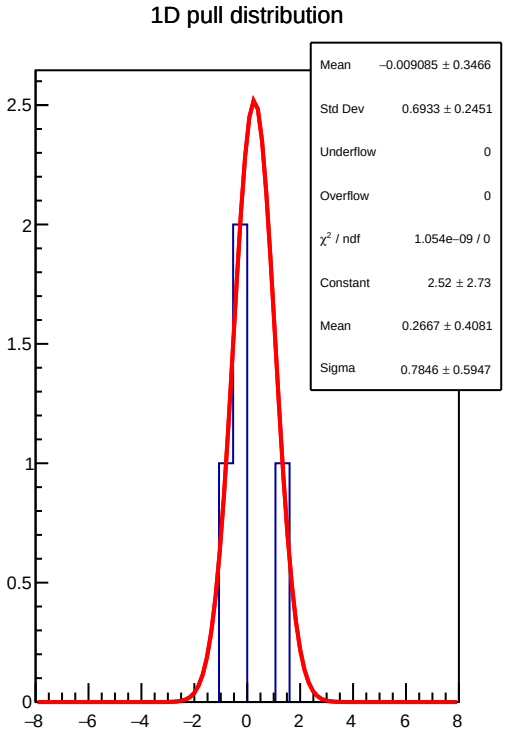

asym_atl1 RMS (ppm)
RMS (ppm)
1060
1040
1020
1000
980
960
940
920
39
40
41
42

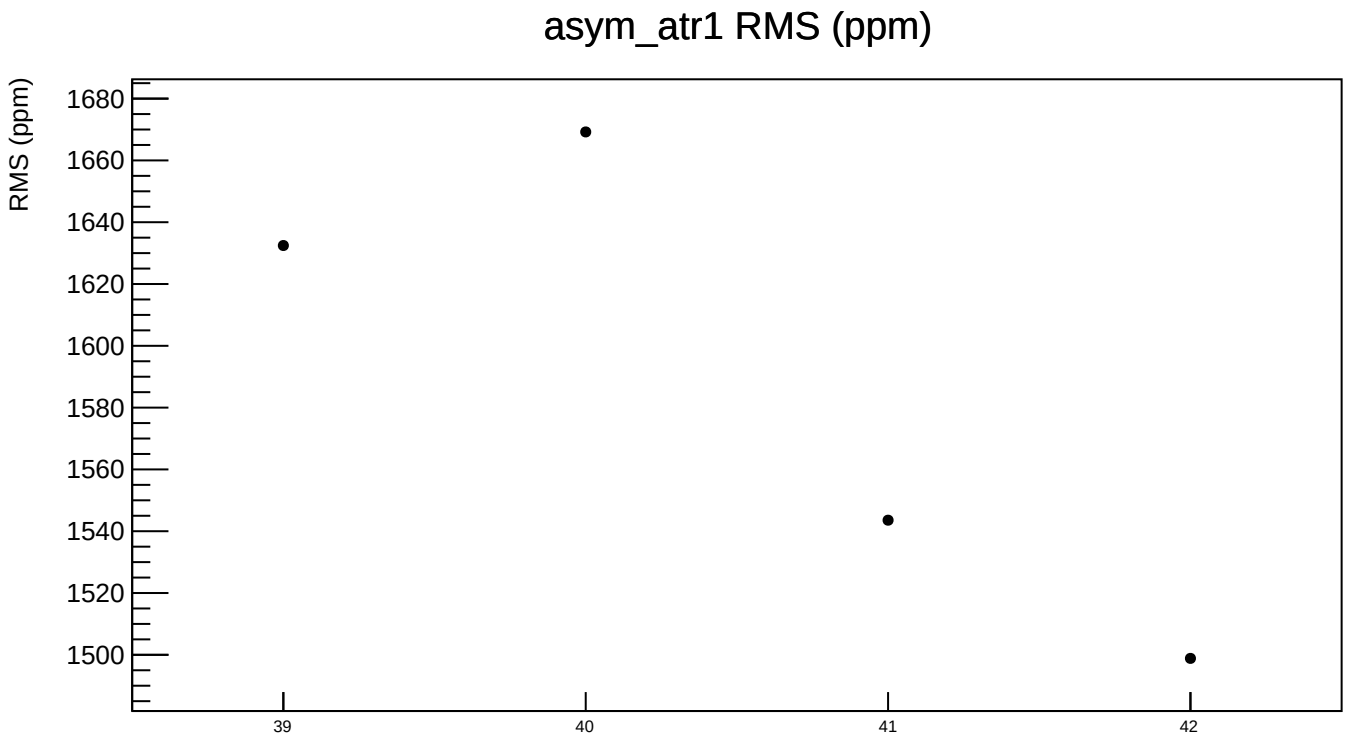

asym_atl2 (ppb)
χ² / ndf 3.436 / 3
p0 2126 ± 1420
10000
8000
6000
4000
2000
0
−2000
1.5
1
0.5
0
−0.5
−1
39
40
41
42

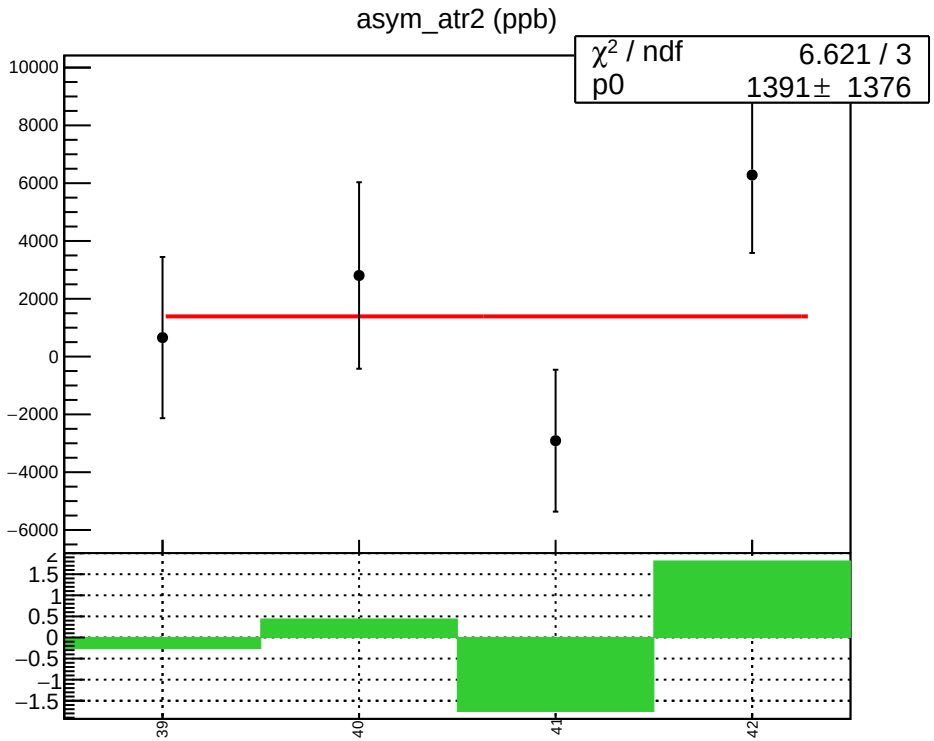

1D pull distribution
Mean 0.01078 ± 0.4634
Std Dev 0.9267 ± 0.3276
Underflow 0
Overflow 0
χ² / ndf 1.054e−09 / 0
Constant 2.52 ± 2.73
Mean 0.2667 ± 0.4081
Sigma 0.7846 ± 0.5947
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

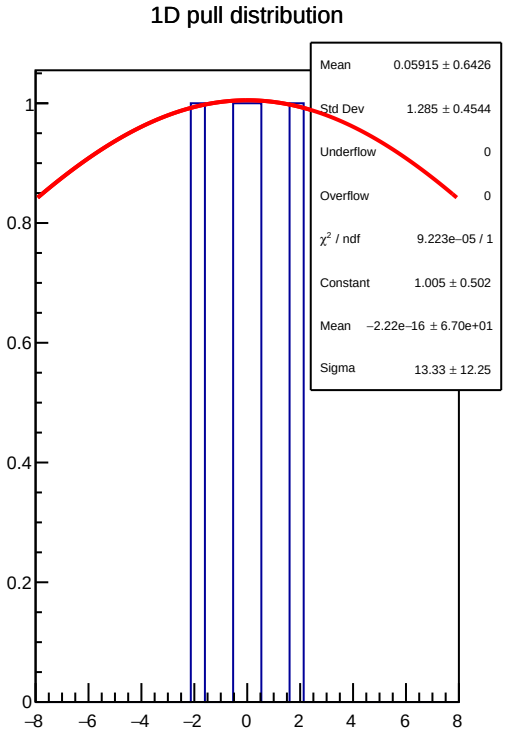

asym_atl2 RMS (ppm)
RMS (ppm)
2350
2300
2250
2200
2150
2100
2050
2000
1950
39
40
41
42

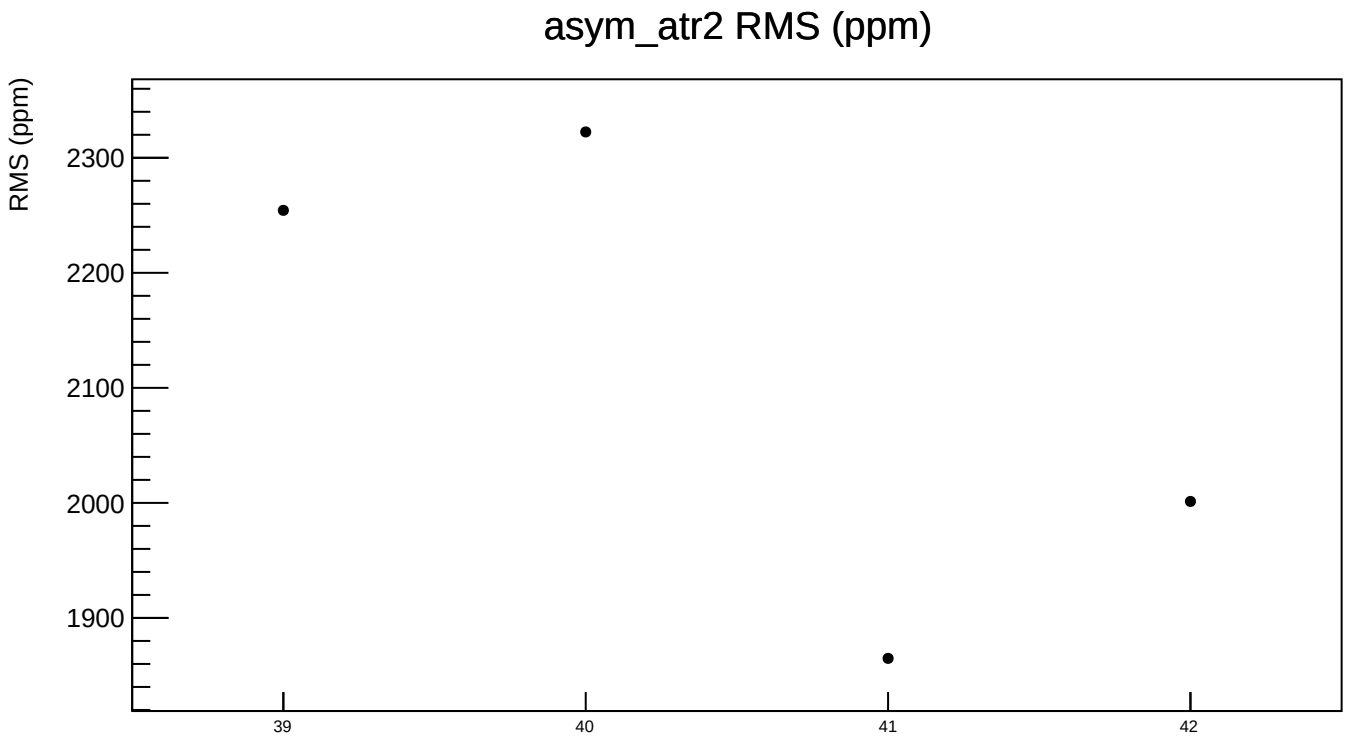

asym_atr1 (ppb)
χ² / ndf 1.923 / 3
p0 1889 ± 1048
7000
6000
5000
4000
3000
2000
1000
0
−1000
−2000
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
39
40
41
42


1D pull distribution
Mean −0.009085 ± 0.3466
Std Dev 0.6933 ± 0.2451
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


asym_atr1 RMS (ppm)
RMS (ppm)
1680
1660
1640
1620
1600
1580
1560
1540
1520
1500
39
40
41
42


asym_atr2 (ppb)
χ² / ndf 6.621 / 3
p0 1391 ± 1376
10000
8000
6000
4000
2000
0
−2000
−4000
−6000
1.5
1
0.5
0
−0.5
−1
−1.5
39
40
41
42


1D pull distribution
Mean 0.05915 ± 0.6426
Std Dev 1.285 ± 0.4544
Underflow 0
Overflow 0
χ² / ndf 9.223e−05 / 1
Constant 1.005 ± 0.502
Mean −2.22e−16 ± 6.70e+01
Sigma 13.33 ± 12.25
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8


asym_atr2 RMS (ppm)
RMS (ppm)
2300
2200
2100
2000
1900
39
40
41
42