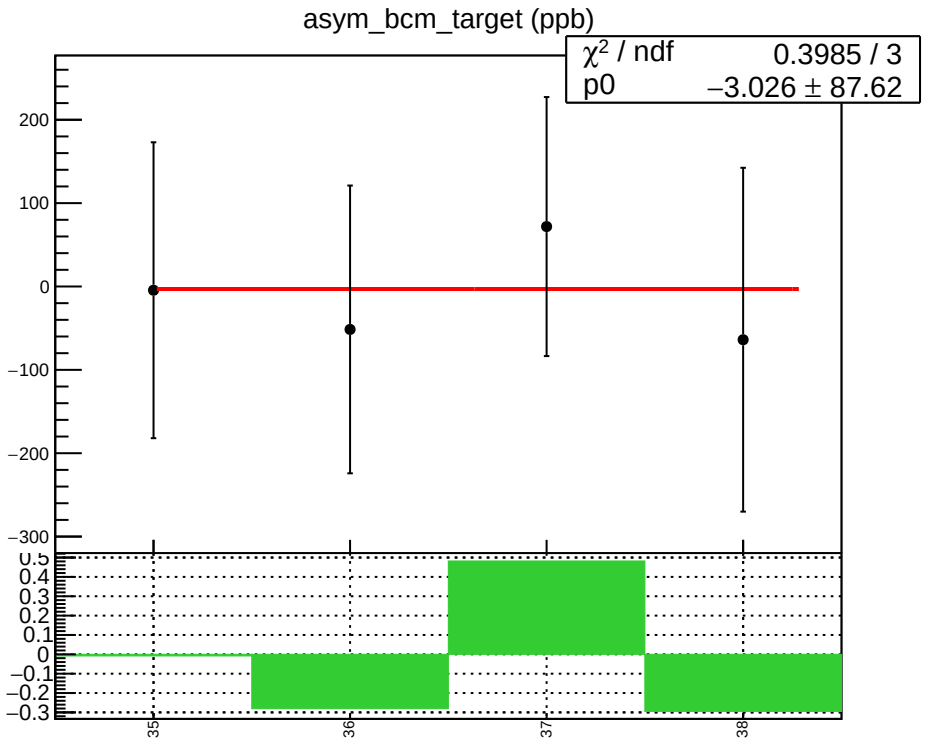
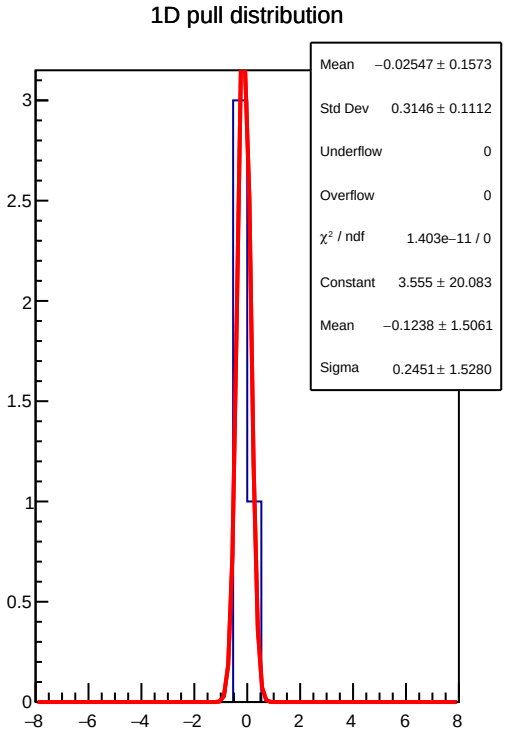
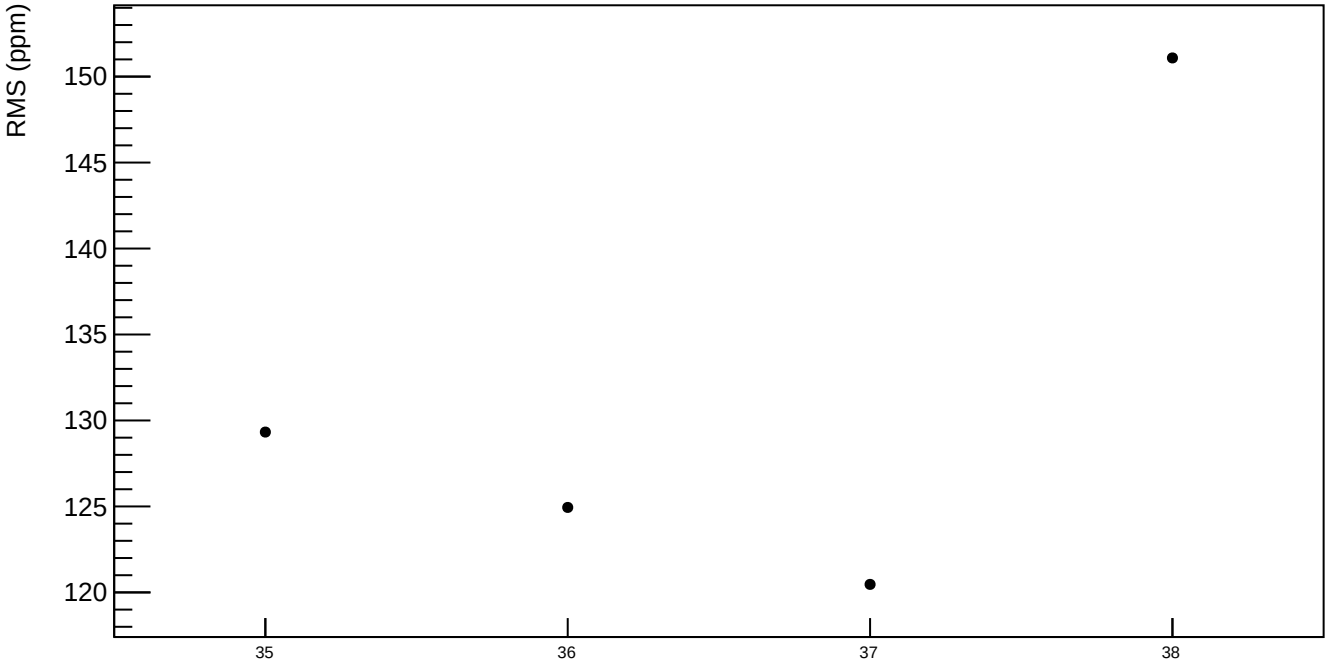
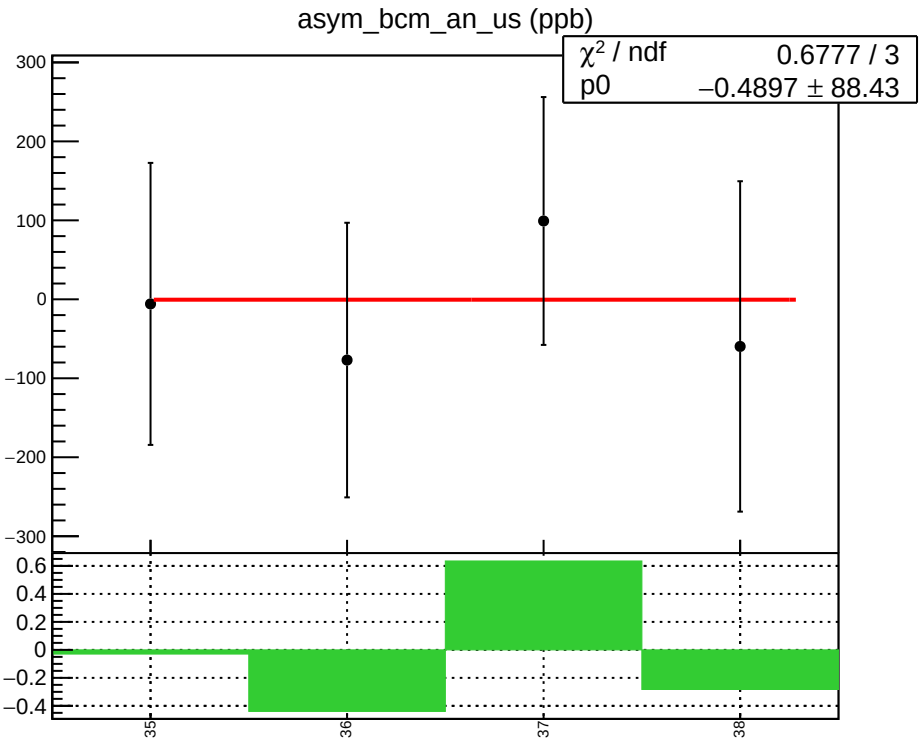
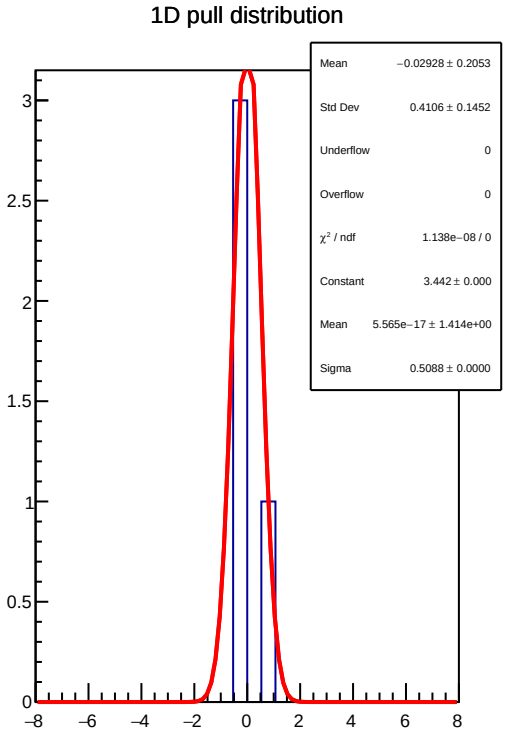

asym_bcm_target (ppb)
χ² / ndf 0.3985 / 3
p0 −3.026 ± 87.62
200
100
0
−100
−200
−300
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
35
36
37
38

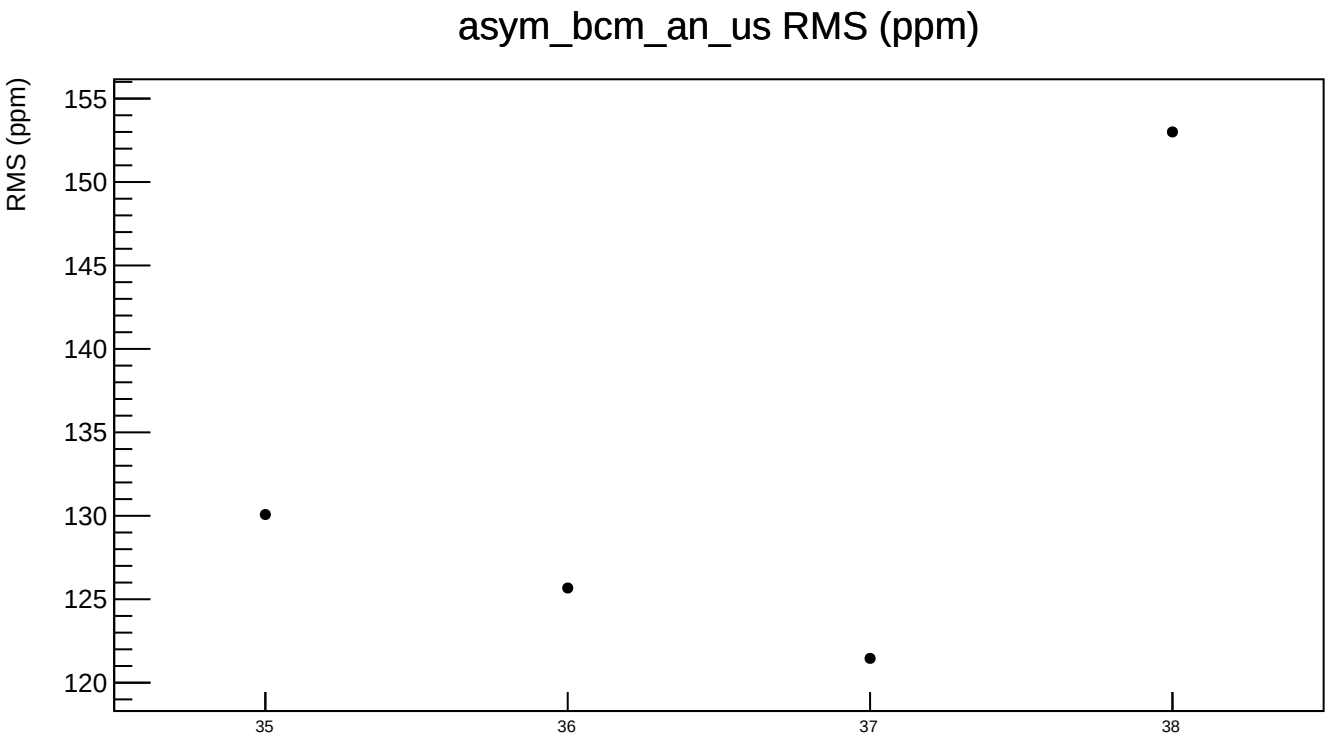

1D pull distribution
Mean −0.02547 ± 0.1573
Std Dev 0.3146 ± 0.1112
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean −0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

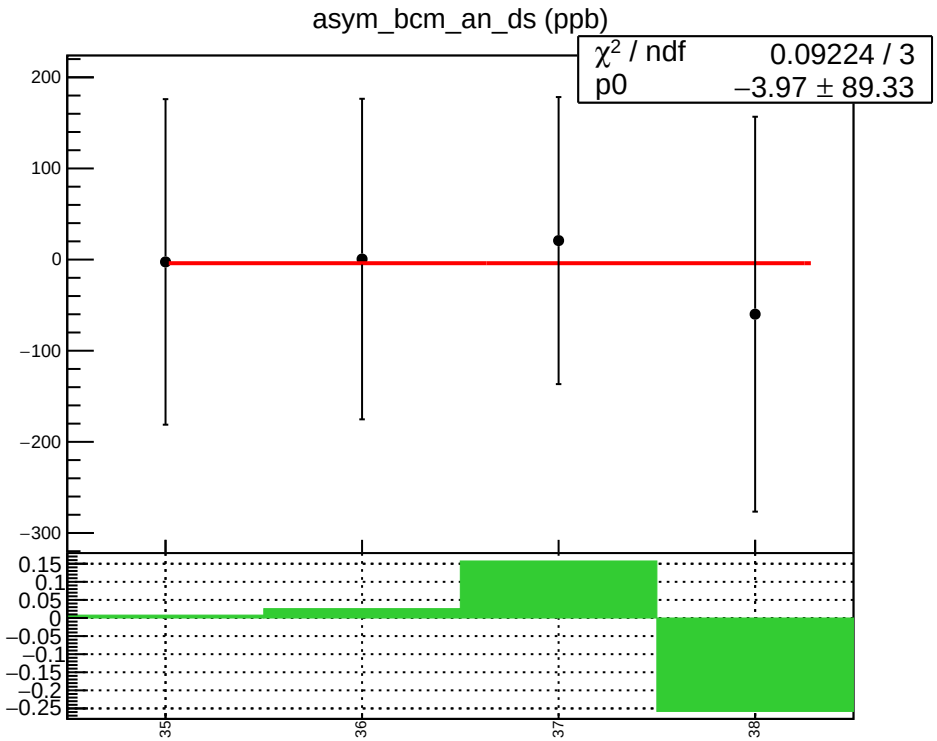
asym_bcm_target RMS (ppm)

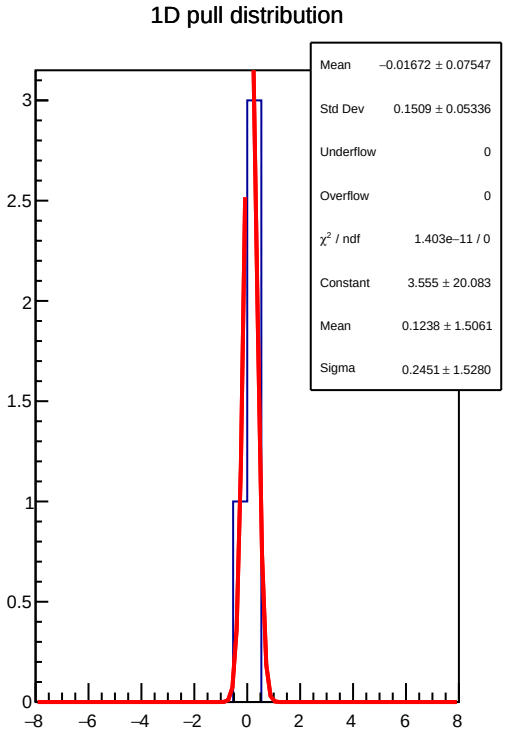


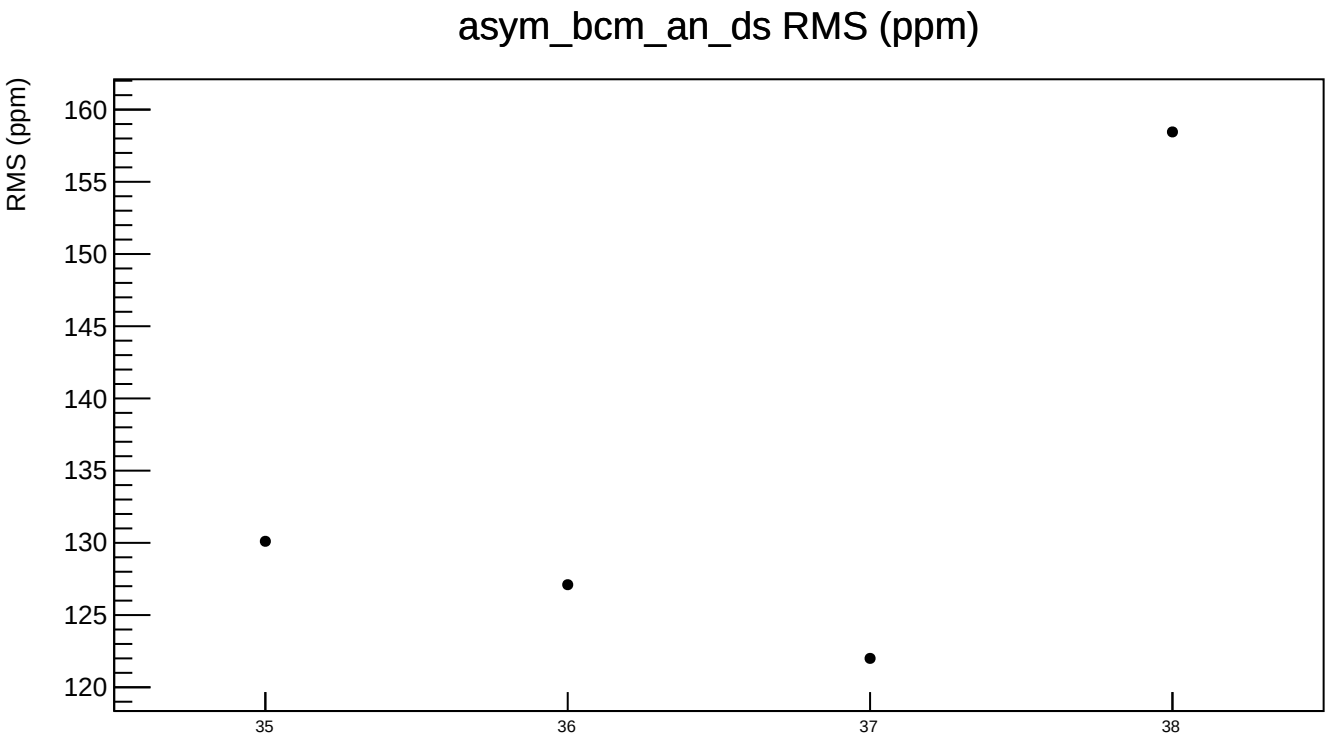

asym_bcm_an_us (ppb)
χ² / ndf 0.6777 / 3
p0 −0.4897 ± 88.43
300
200
100
0
−100
−200
−300
0.6
0.4
0.2
0
−0.2
−0.4
35
36
37
38

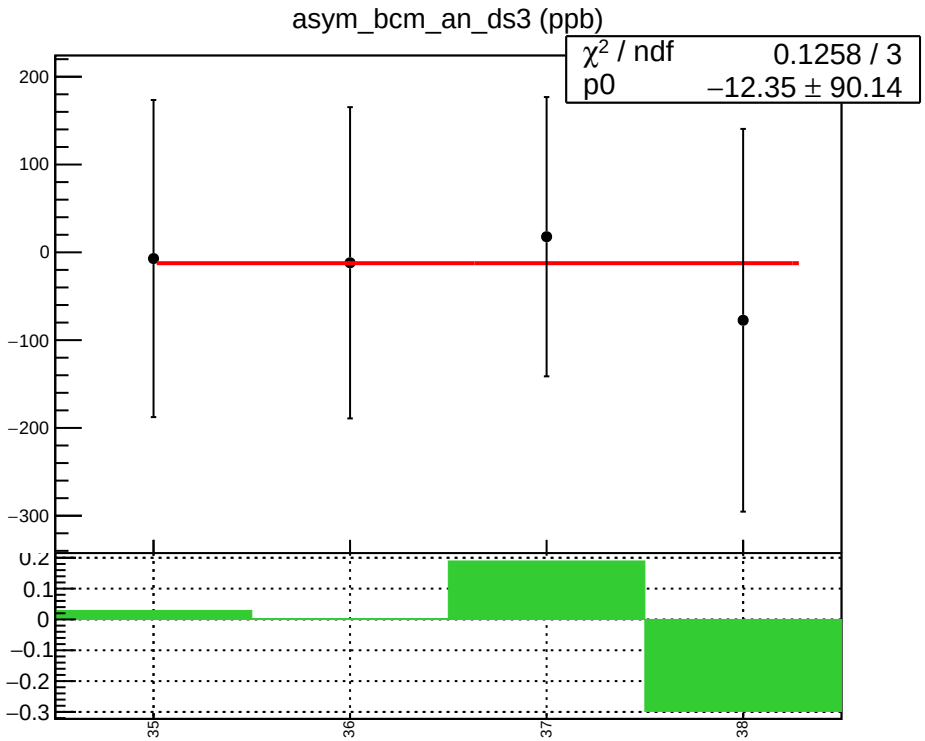

1D pull distribution
Mean −0.02928 ± 0.2053
Std Dev 0.4106 ± 0.1452
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.565e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0000
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

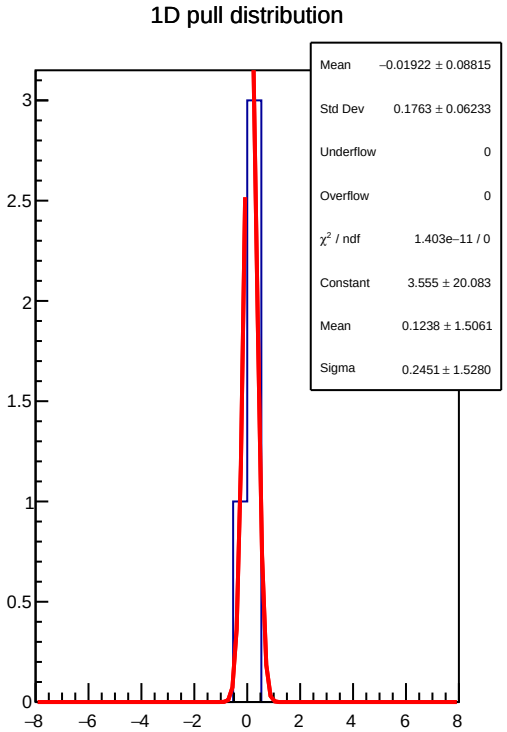

asym_bcm_an_us RMS (ppm)
RMS (ppm)
155
150
145
140
135
130
125
120
35
36
37
38

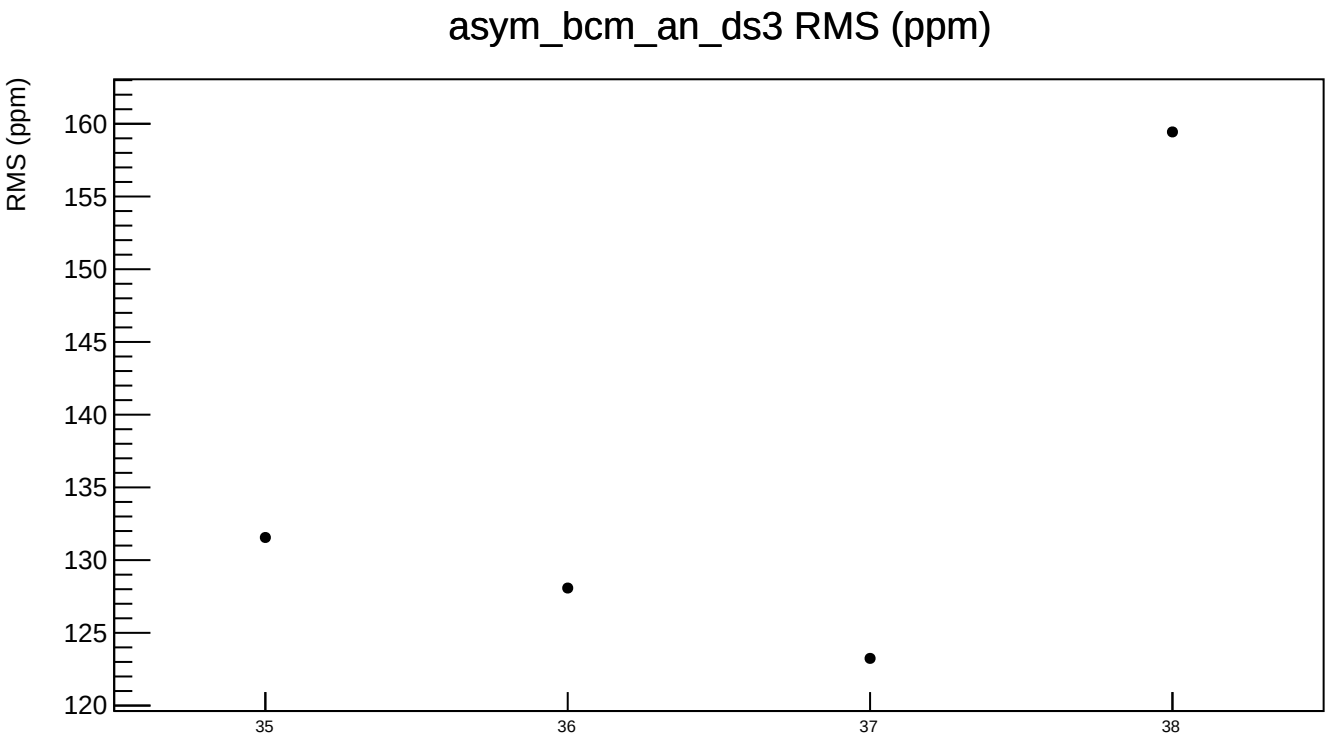

asym_bcm_an_ds (ppb)
χ² / ndf 0.09224 / 3
p0 −3.97 ± 89.33
200
100
0
−100
−200
−300
0.15
0.1
0.05
0
−0.05
−0.1
−0.15
−0.2
−0.25
35
36
37
38

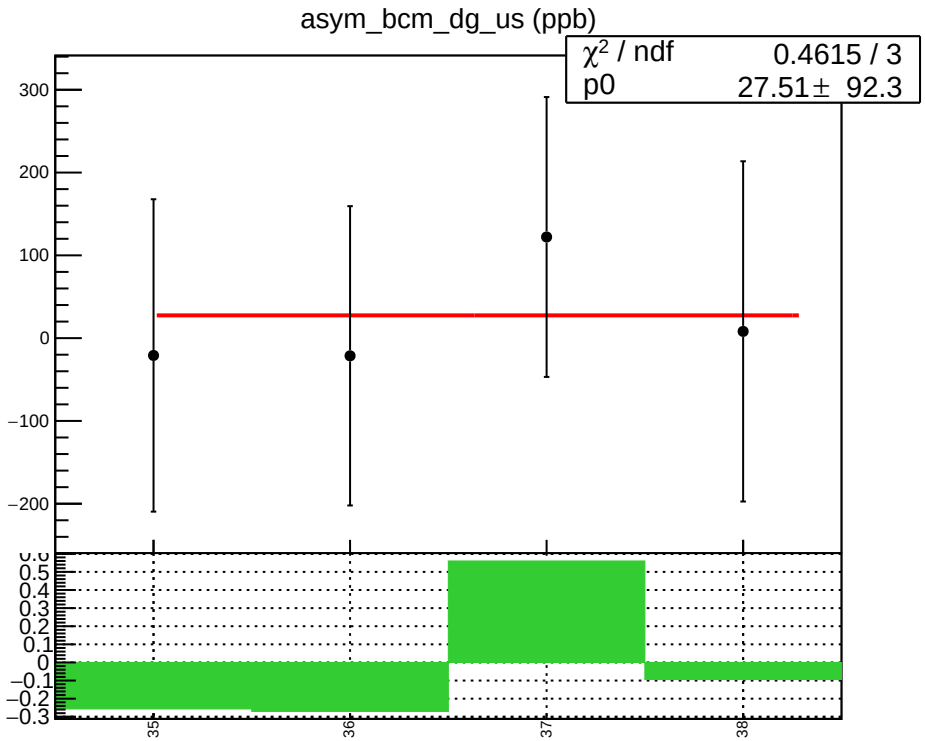

1D pull distribution
Mean −0.01672 ± 0.07547
Std Dev 0.1509 ± 0.05336
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

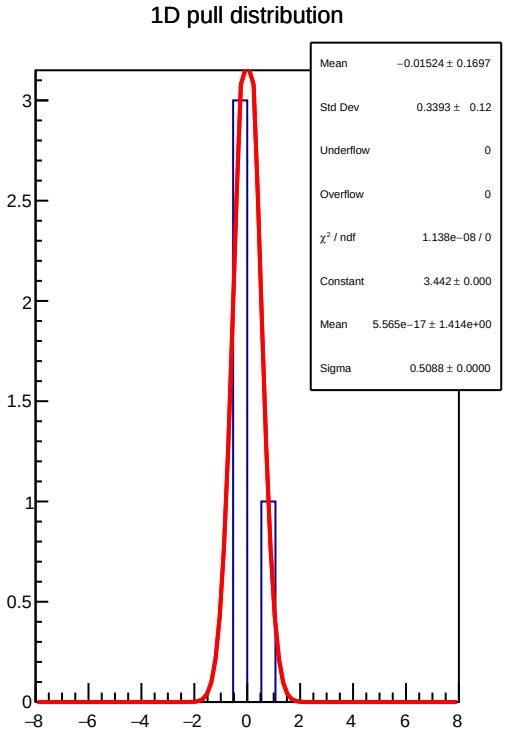

asym_bcm_an_ds RMS (ppm)
RMS (ppm)
160
155
150
145
140
135
130
125
120
35
36
37
38

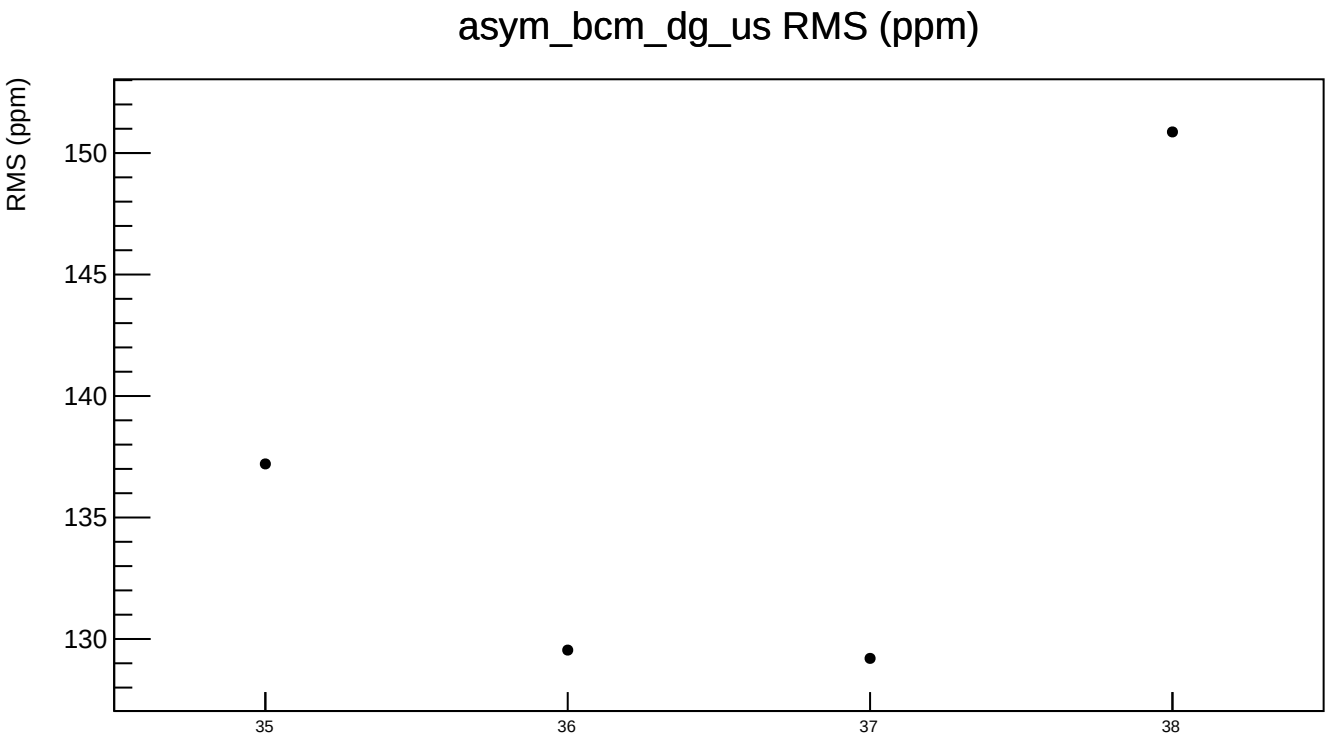

asym_bcm_an_ds3 (ppb)
χ² / ndf 0.1258 / 3
p0 −12.35 ± 90.14
200
100
0
−100
−200
−300
0.2
0.1
0
−0.1
−0.2
−0.3
35
36
37
38

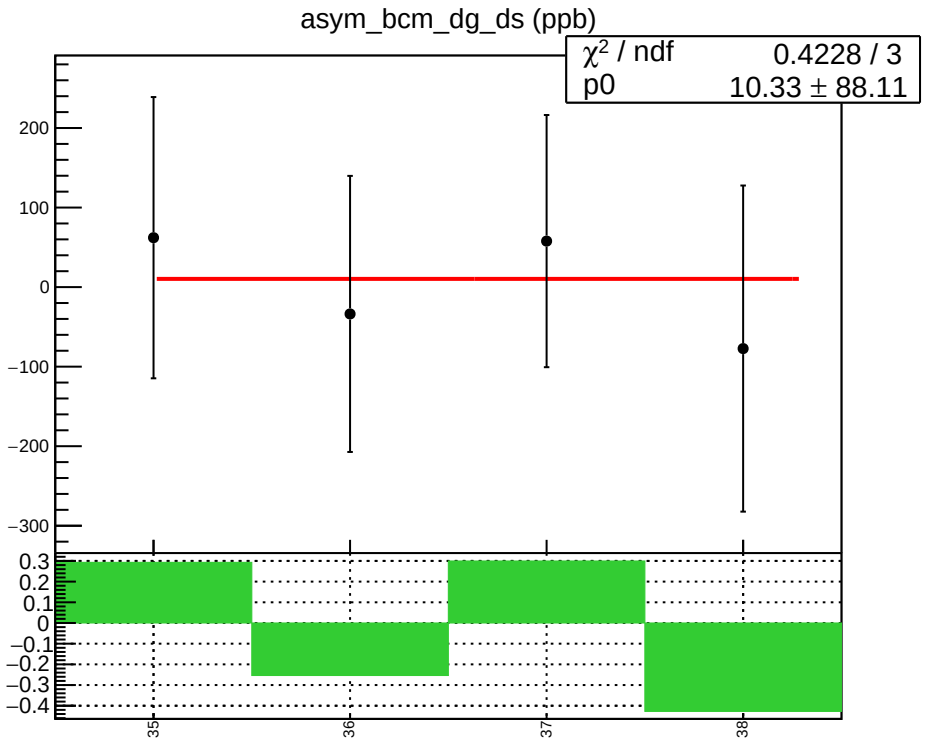

1D pull distribution
Mean −0.01922 ± 0.08815
Std Dev 0.1763 ± 0.06233
Underflow 0
Overflow 0
χ² / ndf 1.403e−11 / 0
Constant 3.555 ± 20.083
Mean 0.1238 ± 1.5061
Sigma 0.2451 ± 1.5280
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

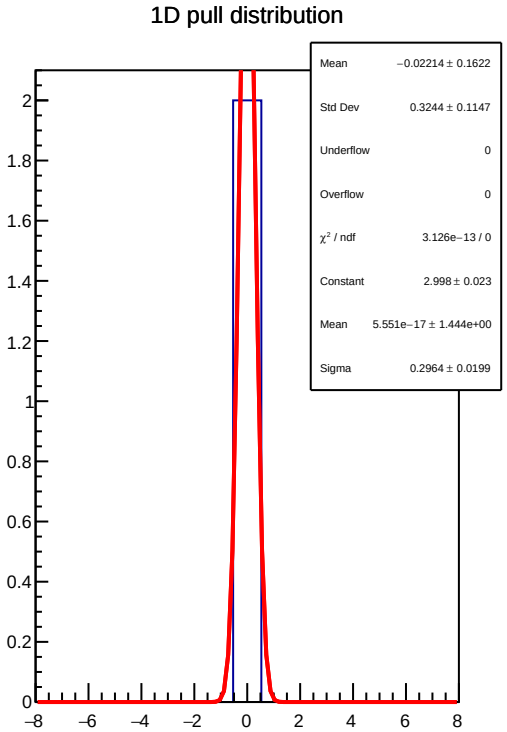

asym_bcm_an_ds3 RMS (ppm)
RMS (ppm)
160
155
150
145
140
135
130
125
120
35
36
37
38

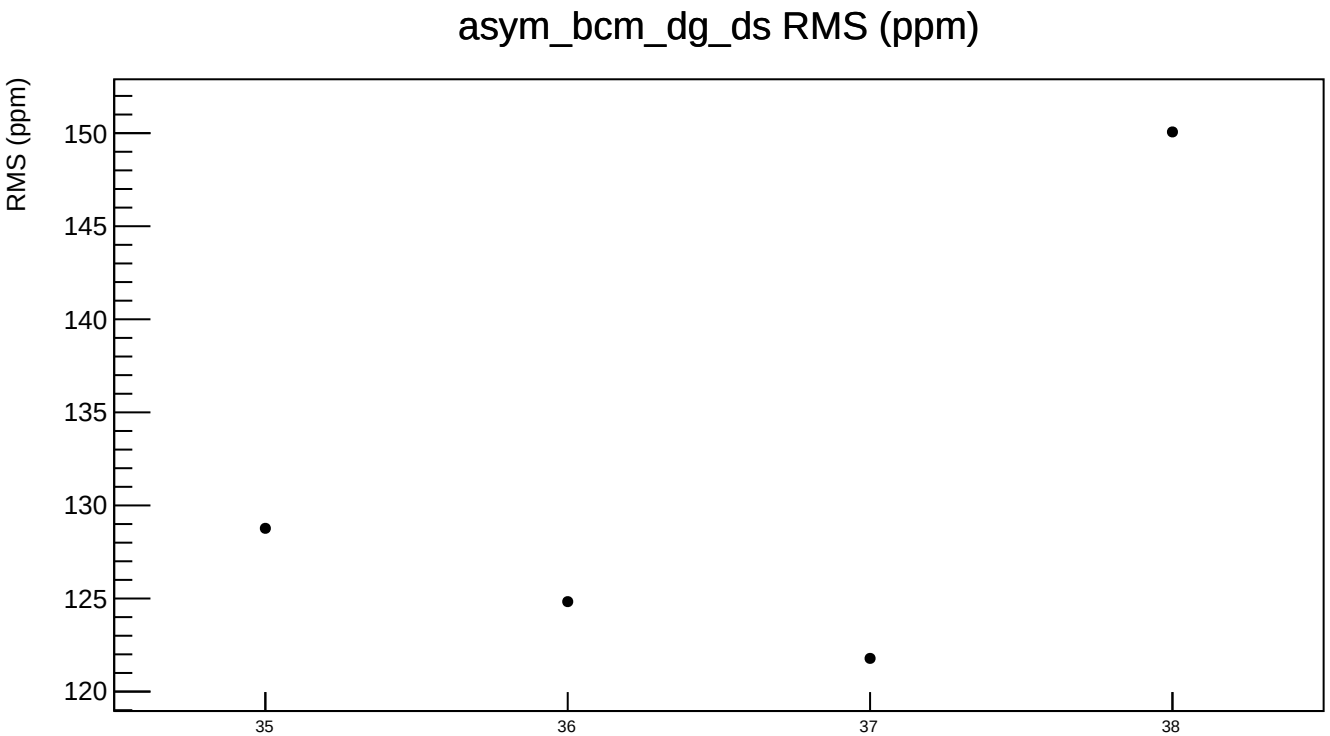

asym_bcm_dg_us (ppb)
χ² / ndf 0.4615 / 3
p0 27.51 ± 92.3
300
200
100
0
−100
−200
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
35
36
37
38

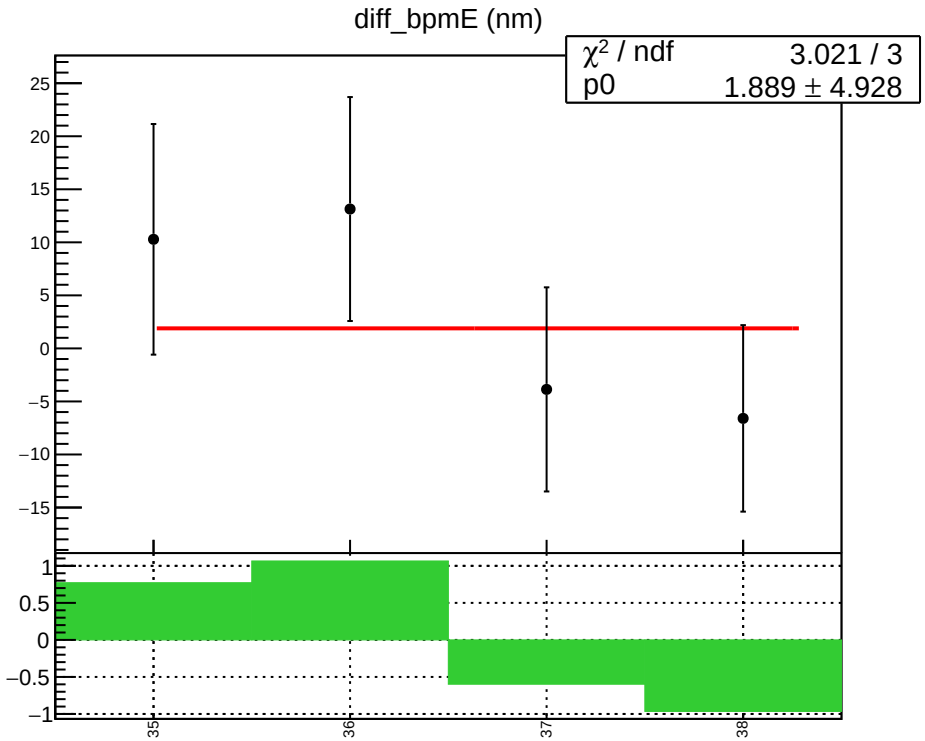

1D pull distribution
Mean −0.01524 ± 0.1697
Std Dev 0.3393 ± 0.12
Underflow 0
Overflow 0
χ² / ndf 1.138e−08 / 0
Constant 3.442 ± 0.000
Mean 5.565e−17 ± 1.414e+00
Sigma 0.5088 ± 0.0000
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

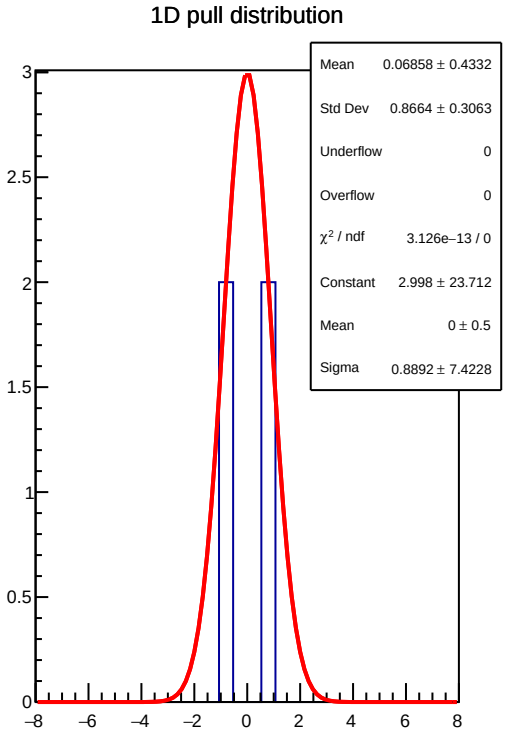

asym_bcm_dg_us RMS (ppm)
RMS (ppm)
150
145
140
135
130
35
36
37
38

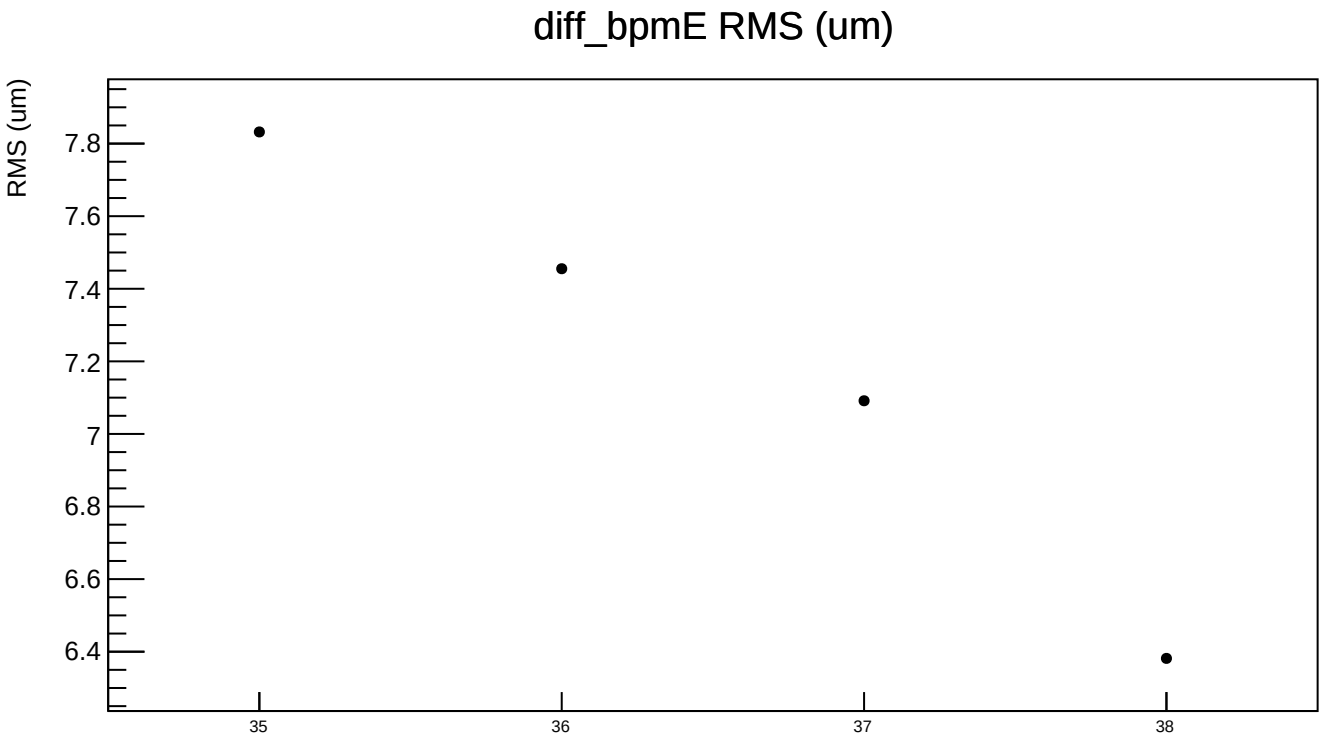

asym_bcm_dg_ds (ppb)
χ² / ndf 0.4228 / 3
p0 10.33 ± 88.11
200
100
0
−100
−200
−300
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
35
36
37
38

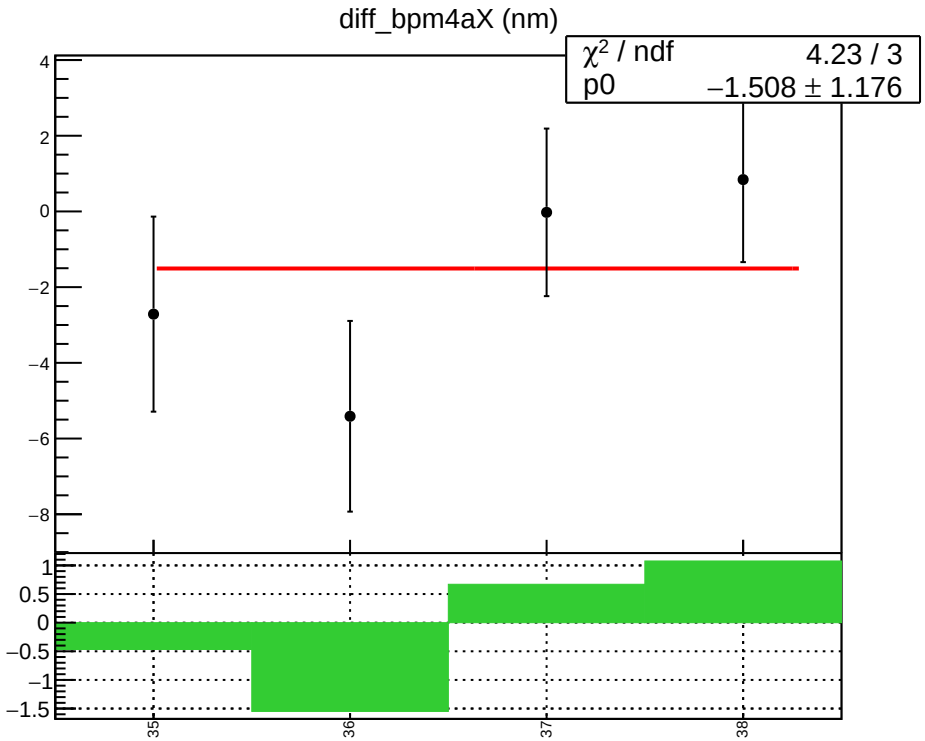

1D pull distribution
Mean −0.02214 ± 0.1622
Std Dev 0.3244 ± 0.1147
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 0.023
Mean 5.551e−17 ± 1.444e+00
Sigma 0.2964 ± 0.0199
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

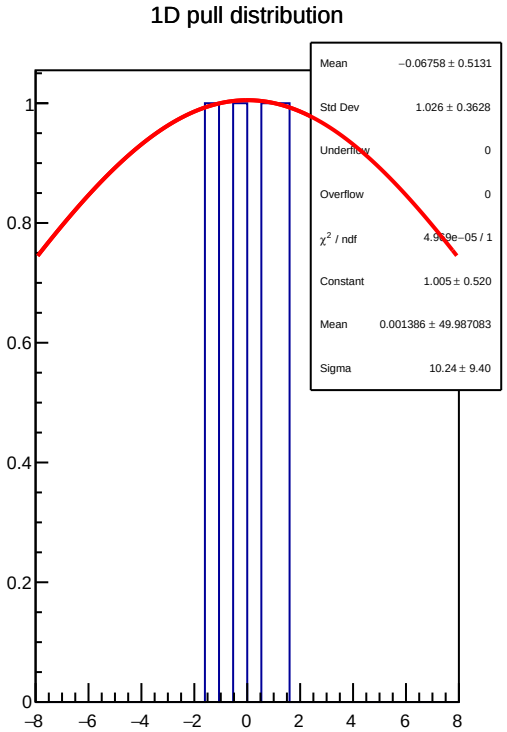

asym_bcm_dg_ds RMS (ppm)
RMS (ppm)
150
145
140
135
130
125
120
35
36
37
38

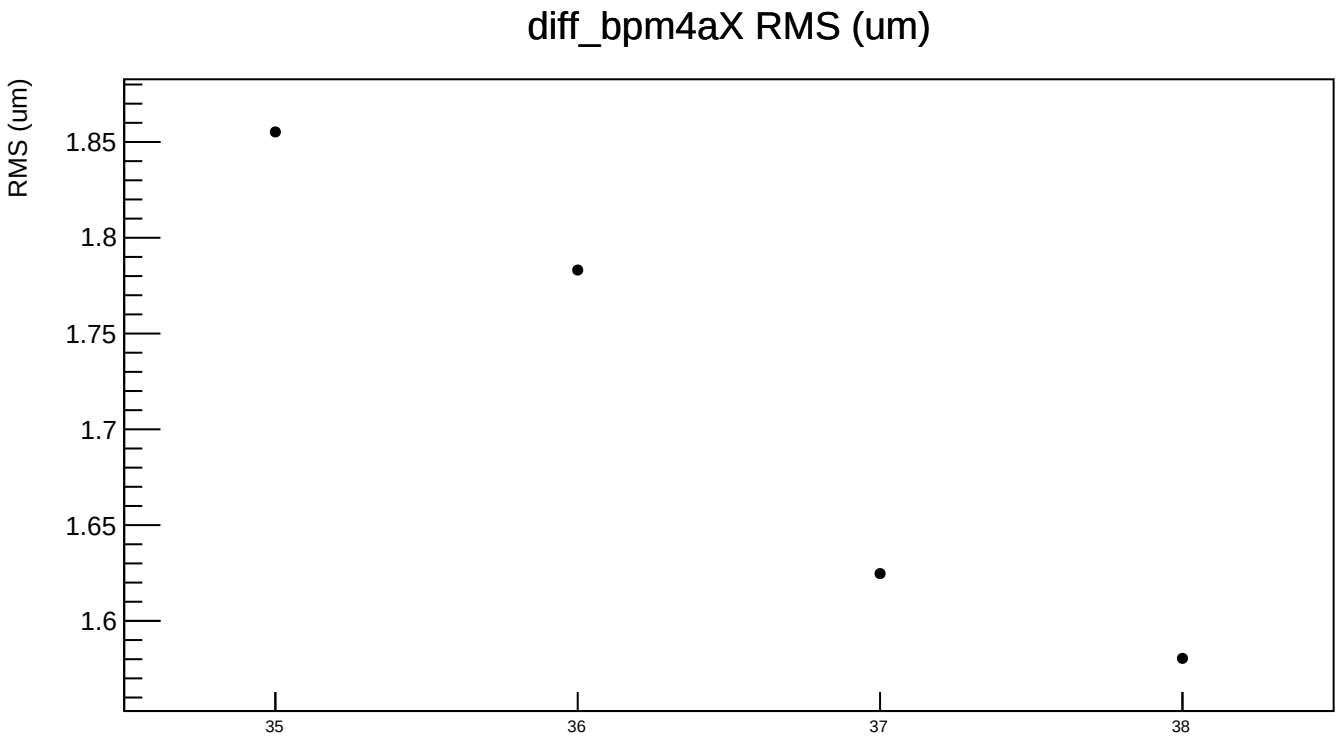

diff_bpmE (nm)
χ² / ndf 3.021 / 3
p0 1.889 ± 4.928
25
20
15
10
5
0
−5
−10
−15
1
0.5
0
−0.5
−1
35
36
37
38

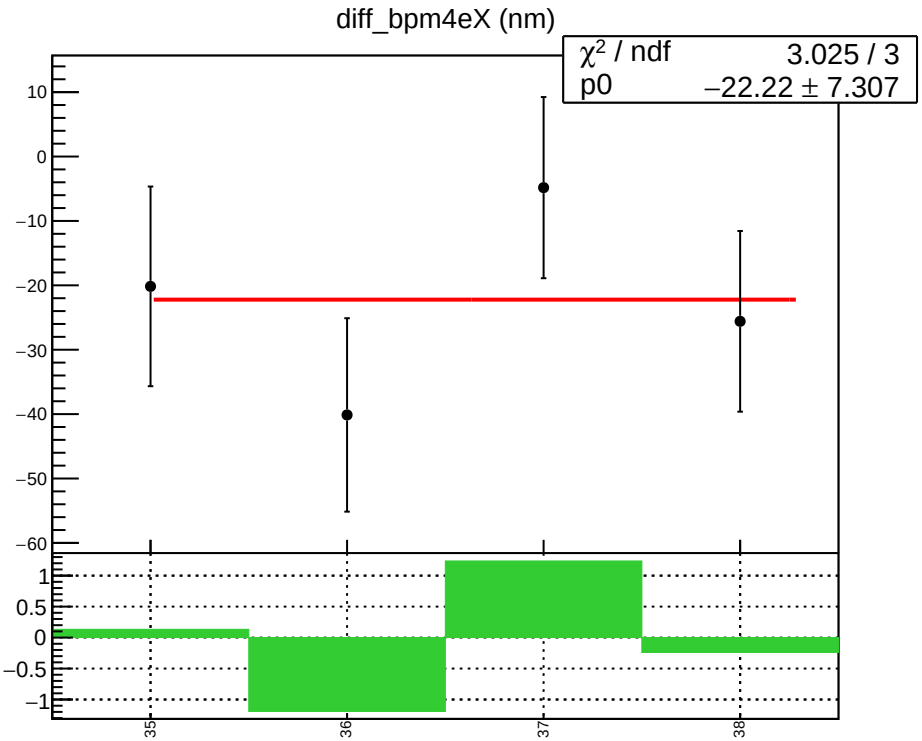

1D pull distribution
Mean 0.06858 ± 0.4332
Std Dev 0.8664 ± 0.3063
Underflow 0
Overflow 0
χ² / ndf 3.126e−13 / 0
Constant 2.998 ± 23.712
Mean 0 ± 0.5
Sigma 0.8892 ± 7.4228
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

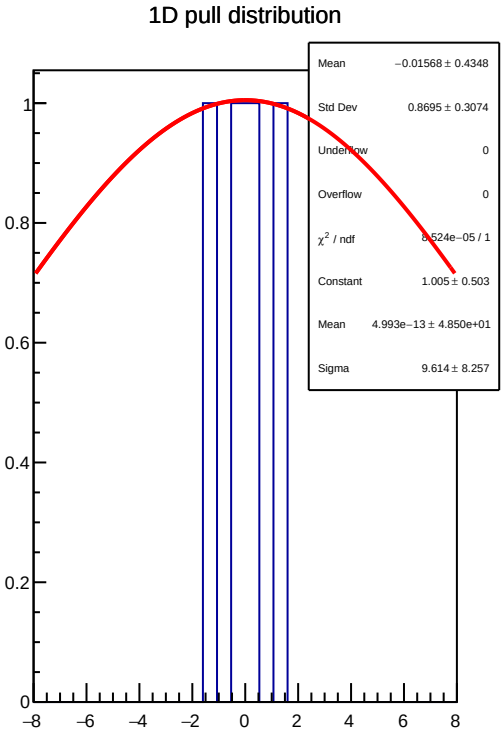

diff_bpmE RMS (um)
RMS (um)
7.8
7.6
7.4
7.2
7
6.8
6.6
6.4
35
36
37
38

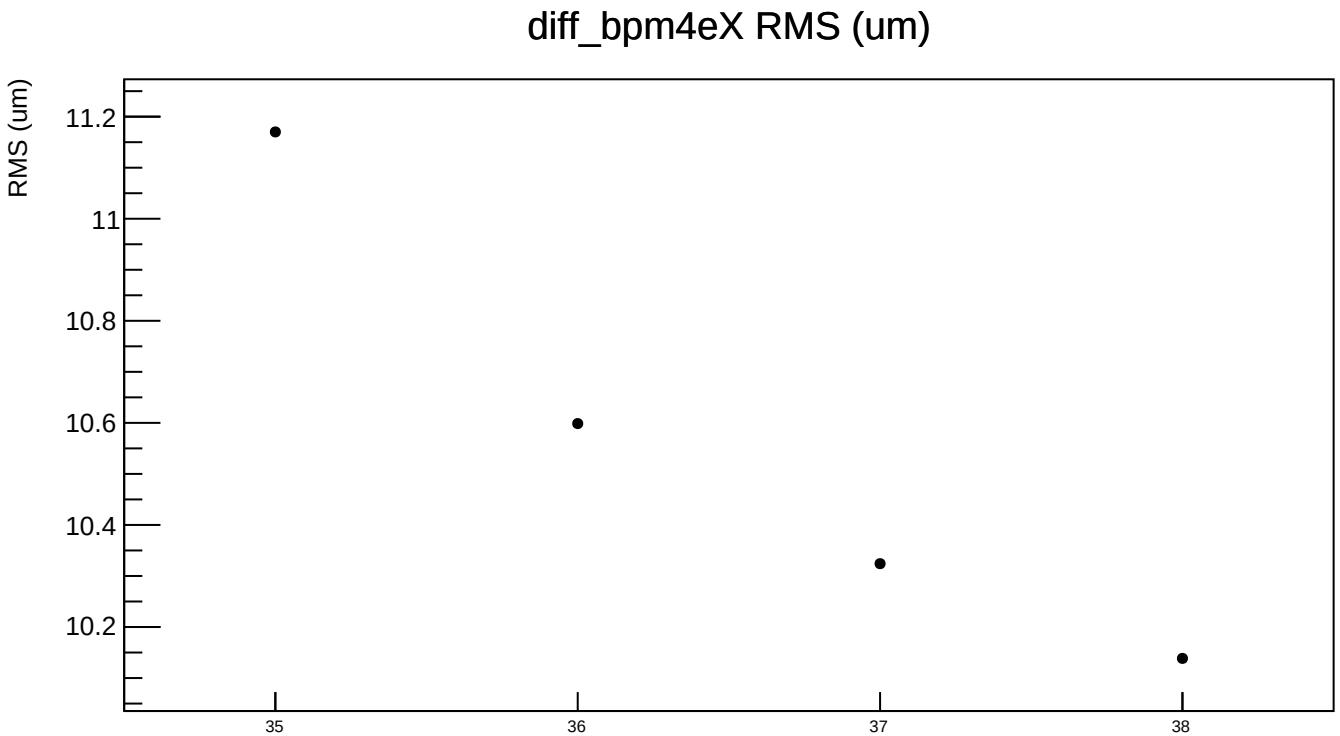

diff_bpm4aX (nm)
χ² / ndf 4.23 / 3
p0 −1.508 ± 1.176
4
2
0
−2
−4
−6
−8
1
0.5
0
−0.5
−1
−1.5
35
36
37
38

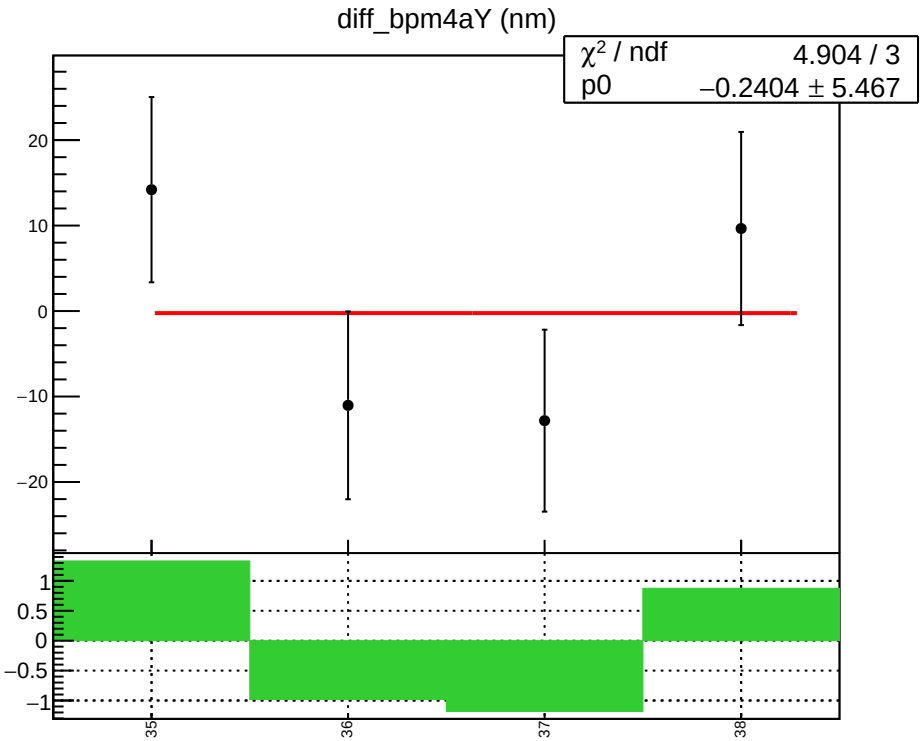

1D pull distribution
Mean −0.06758 ± 0.5131
Std Dev 1.026 ± 0.3628
Underflow 0
Overflow 0
χ² / ndf 4.979e−05 / 1
Constant 1.005 ± 0.520
Mean 0.001386 ± 49.987083
Sigma 10.24 ± 9.40
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

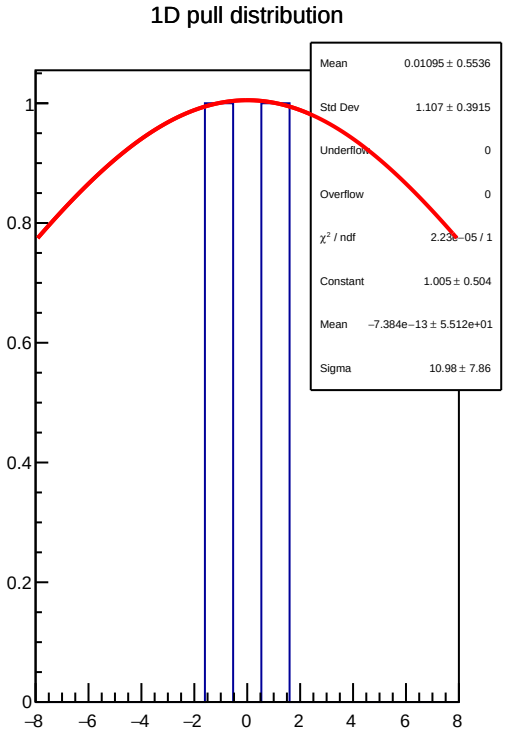

diff_bpm4aX RMS (um)
RMS (um)
1.85
1.8
1.75
1.7
1.65
1.6
35
36
37
38

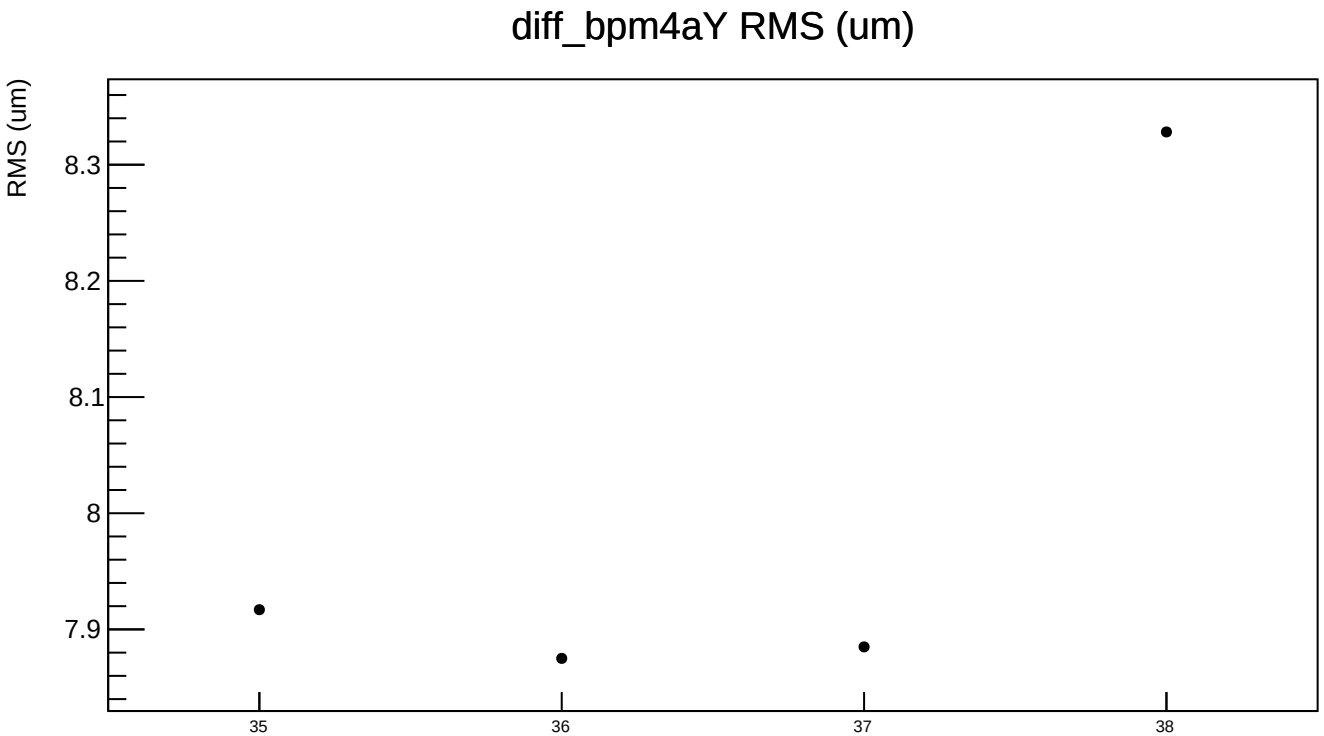

diff_bpm4eX (nm)
χ² / ndf 3.025 / 3
p0 −22.22 ± 7.307
10
0
−10
−20
−30
−40
−50
−60
1
0.5
0
−0.5
−1
35
36
37
38

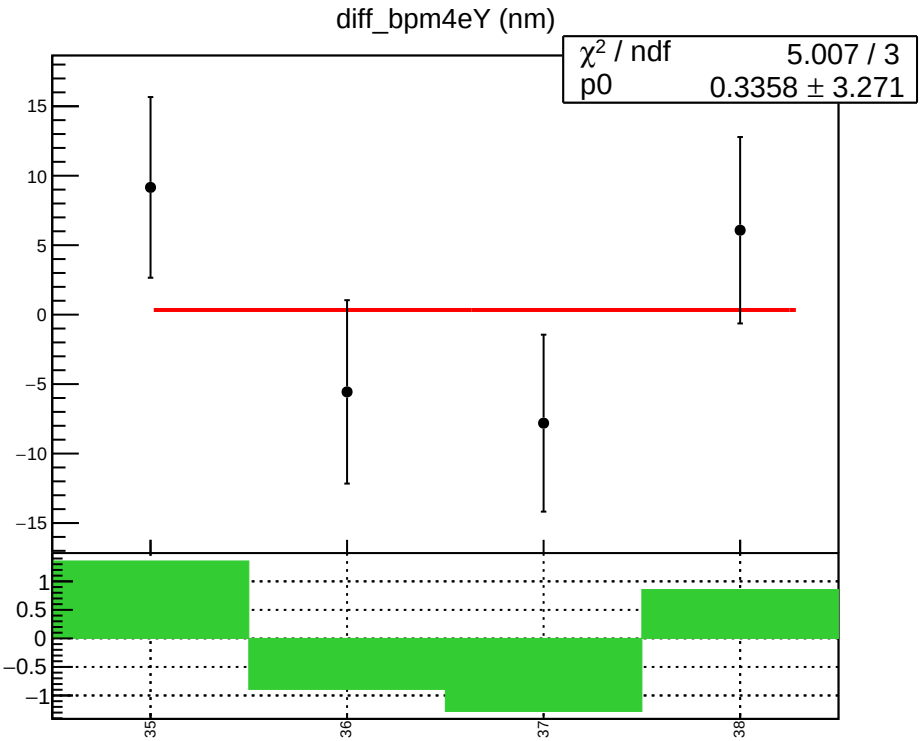

1D pull distribution
Mean −0.01568 ± 0.4348
Std Dev 0.8695 ± 0.3074
Underflow 0
Overflow 0
χ² / ndf 6.524e−05 / 1
Constant 1.005 ± 0.503
Mean 4.993e−13 ± 4.850e+01
Sigma 9.614 ± 8.257
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

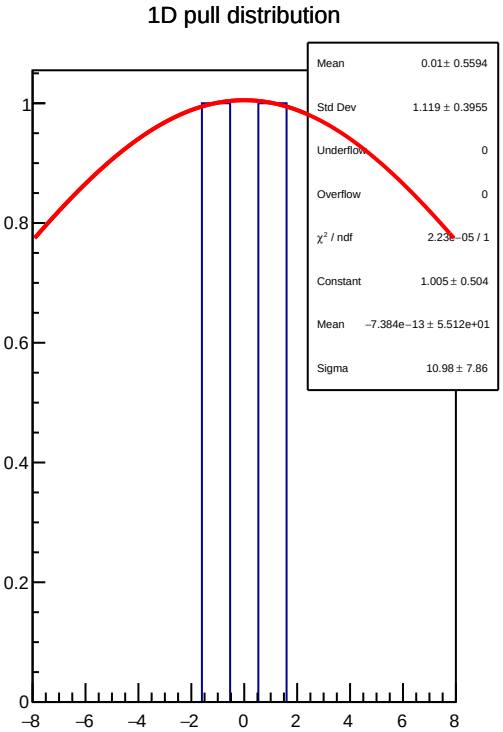

diff_bpm4eX RMS (um)
RMS (um)
11.2
11
10.8
10.6
10.4
10.2
35
36
37
38

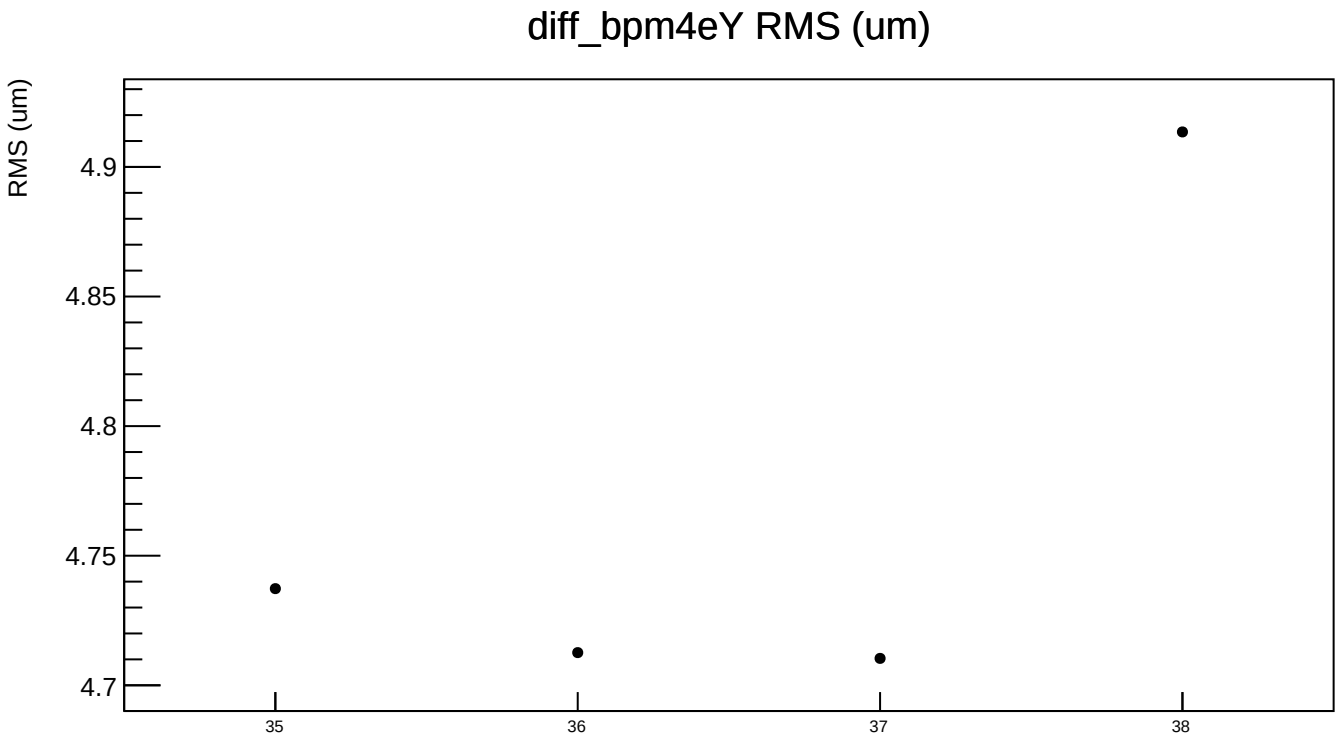

diff_bpm4aY (nm)
χ² / ndf 4.904 / 3
p0 −0.2404 ± 5.467
20
10
0
−10
−20
1
0.5
0
−0.5
−1
35
36
37
38

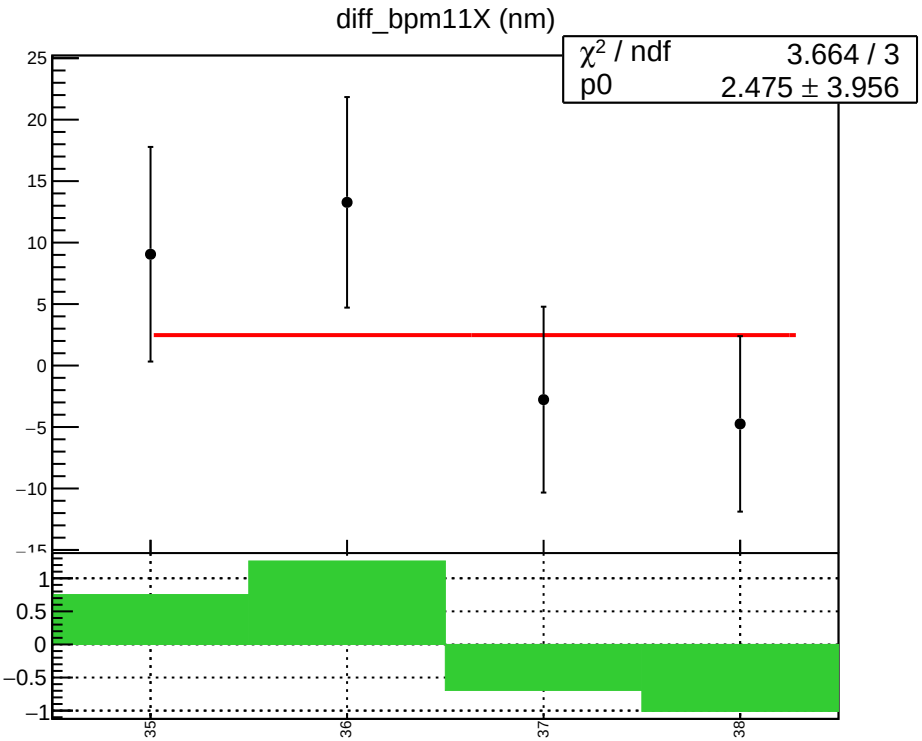

1D pull distribution
Mean 0.01095 ± 0.5536
Std Dev 1.107 ± 0.3915
Underflow 0
Overflow 0
χ² / ndf 2.23e−05 / 1
Constant 1.005 ± 0.504
Mean −7.384e−13 ± 5.512e+01
Sigma 10.98 ± 7.86
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

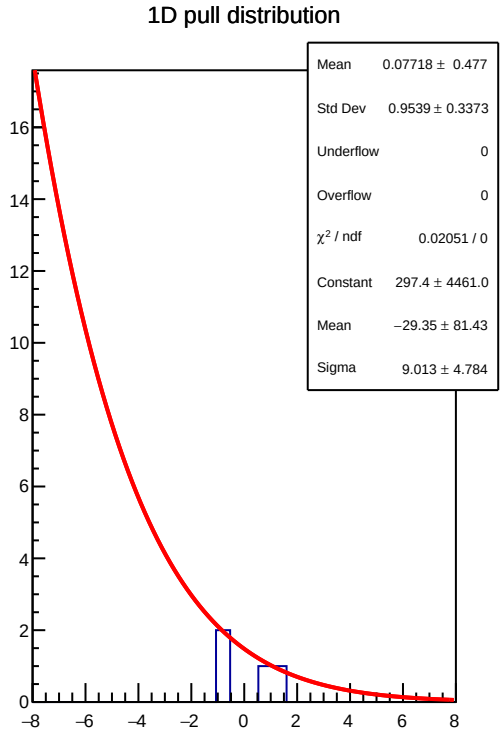

diff_bpm4aY RMS (um)
RMS (um)
8.3
8.2
8.1
8
7.9
35
36
37
38


diff_bpm4eY (nm)
χ² / ndf 5.007 / 3
p0 0.3358 ± 3.271
15
10
5
0
−5
−10
−15
1
0.5
0
−0.5
−1
35
36
37
38

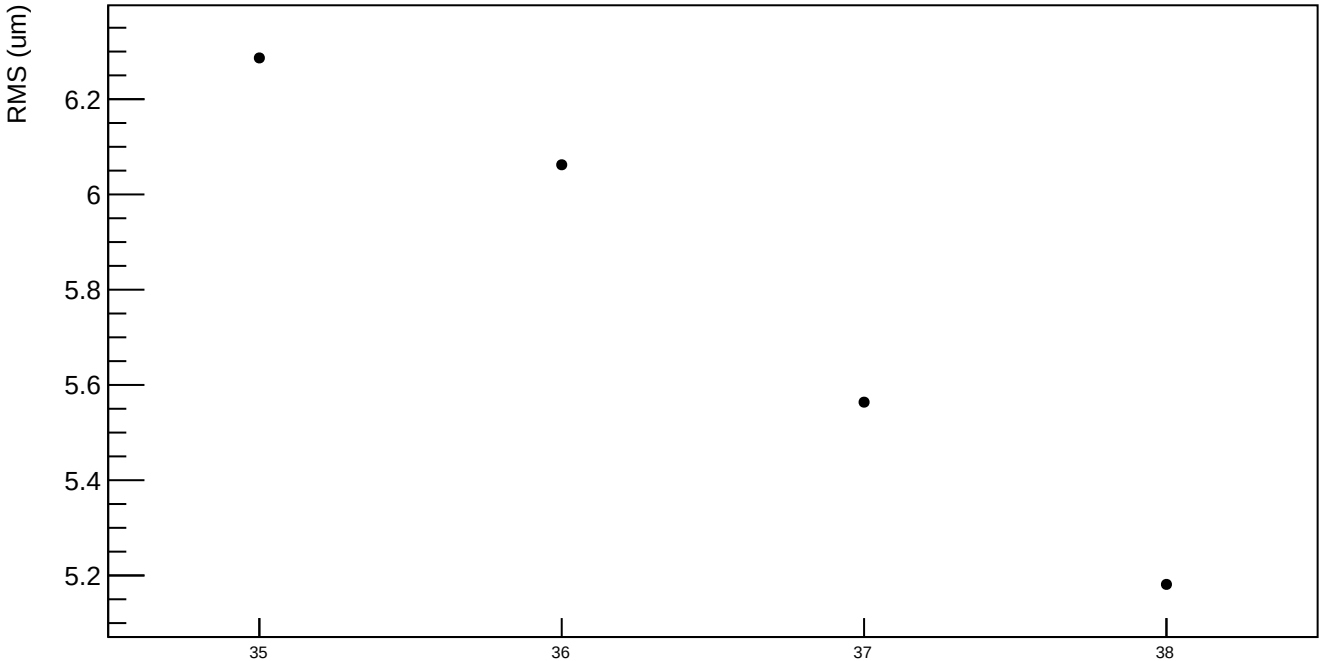

1D pull distribution
Mean 0.01 ± 0.5594
Std Dev 1.119 ± 0.3955
Underflow 0
Overflow 0
χ² / ndf 2.23e−05 / 1
Constant 1.005 ± 0.504
Mean −7.384e−13 ± 5.512e+01
Sigma 10.98 ± 7.86
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

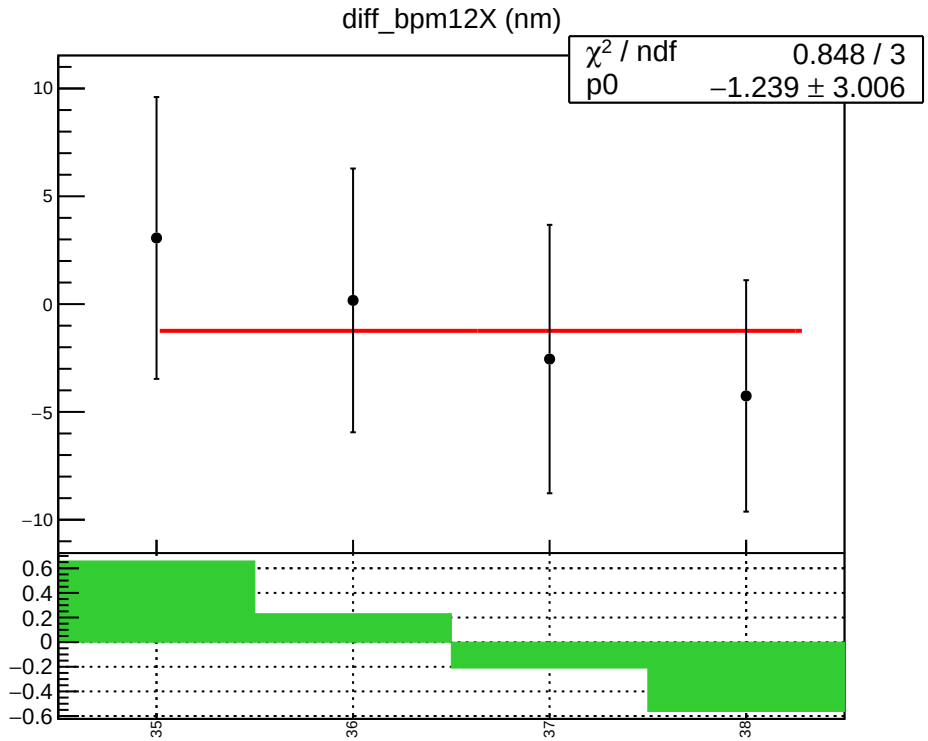

diff_bpm4eY RMS (um)
RMS (um)
4.9
4.85
4.8
4.75
4.7
35
36
37
38

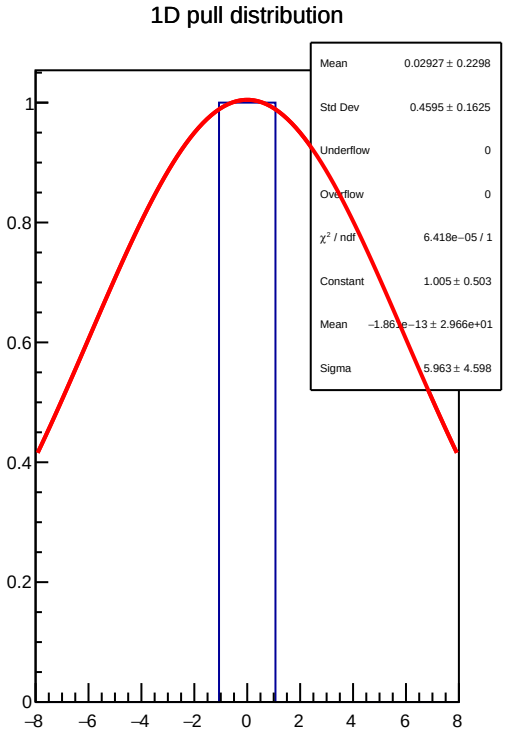

diff_bpm11X (nm)
χ² / ndf 3.664 / 3
p0 2.475 ± 3.956
25
20
15
10
5
0
−5
−10
−15
1
0.5
0
−0.5
−1
35
36
37
38

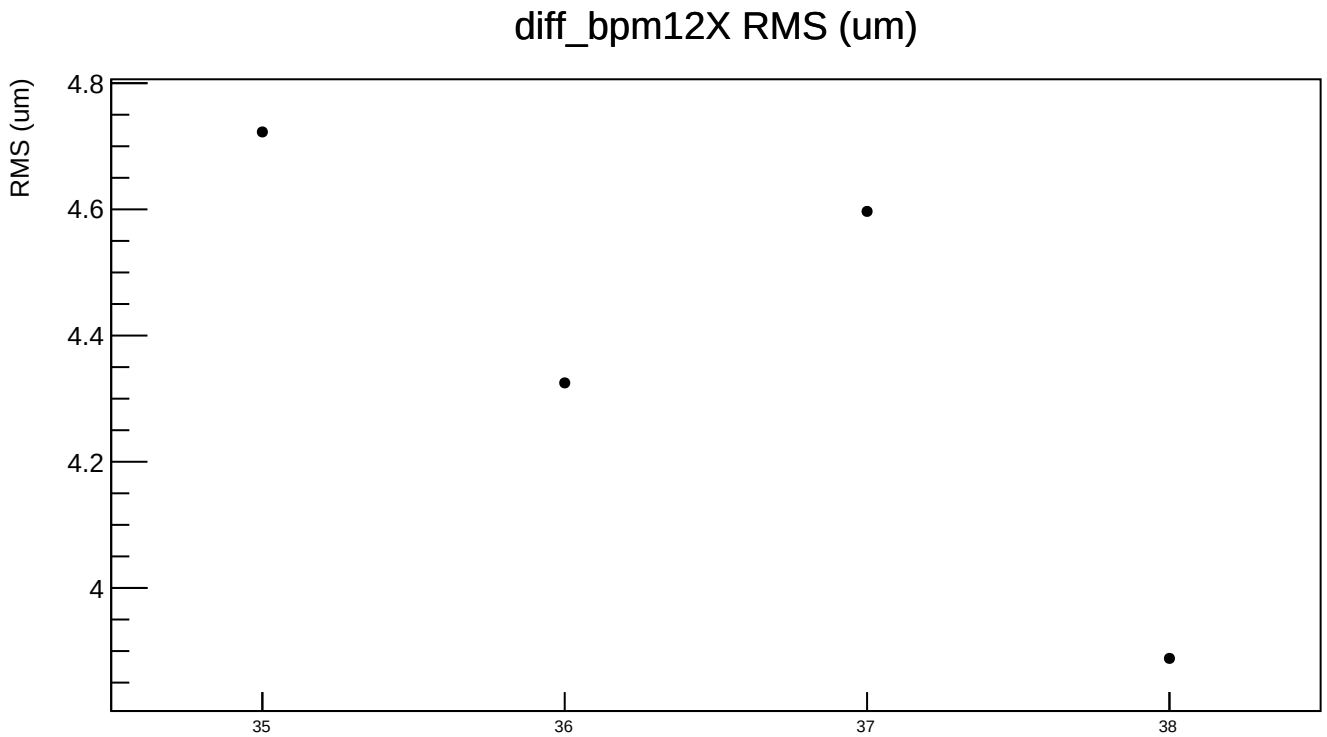

1D pull distribution
Mean 0.07718 ± 0.477
Std Dev 0.9539 ± 0.3373
Underflow 0
Overflow 0
χ² / ndf 0.02051 / 0
Constant 297.4 ± 4461.0
Mean −29.35 ± 81.43
Sigma 9.013 ± 4.784
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

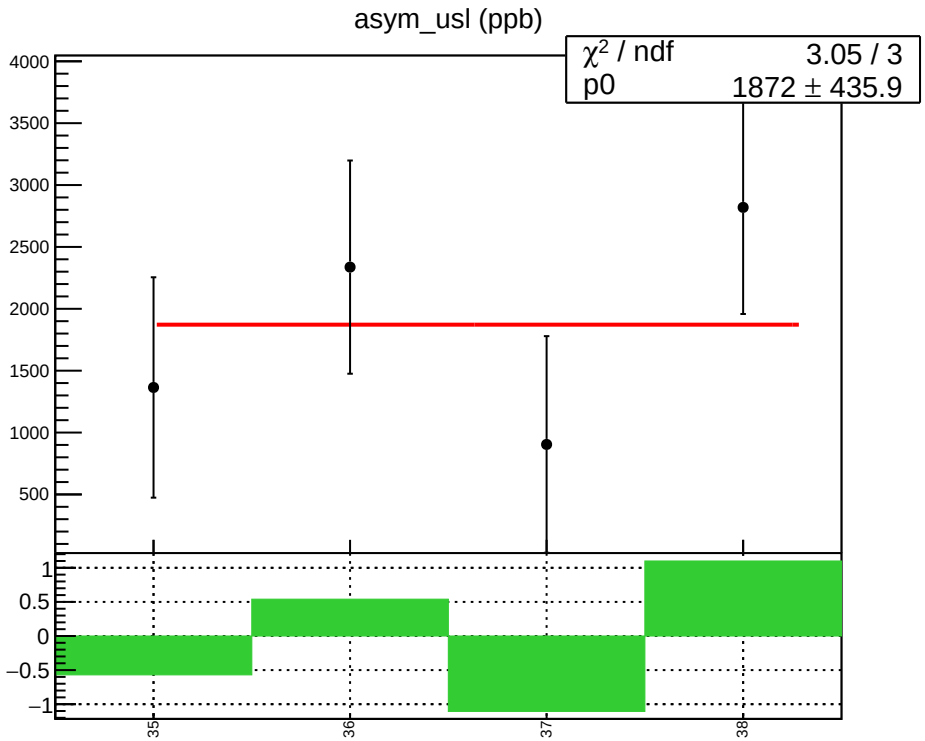
diff_bpm11X RMS (um)

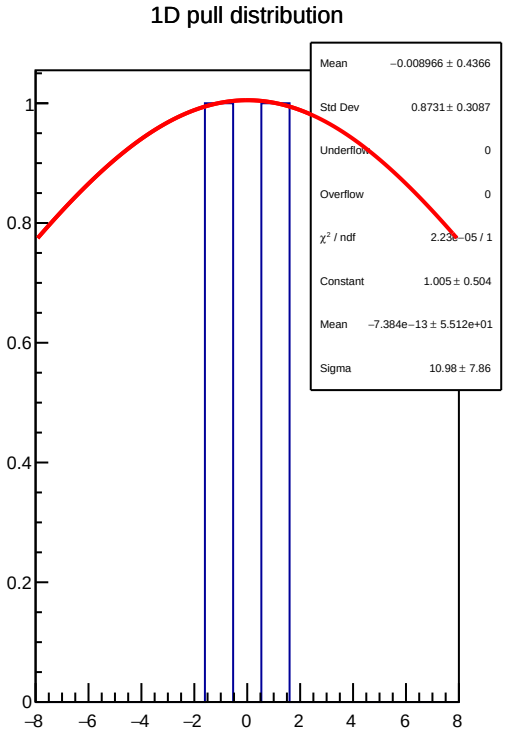


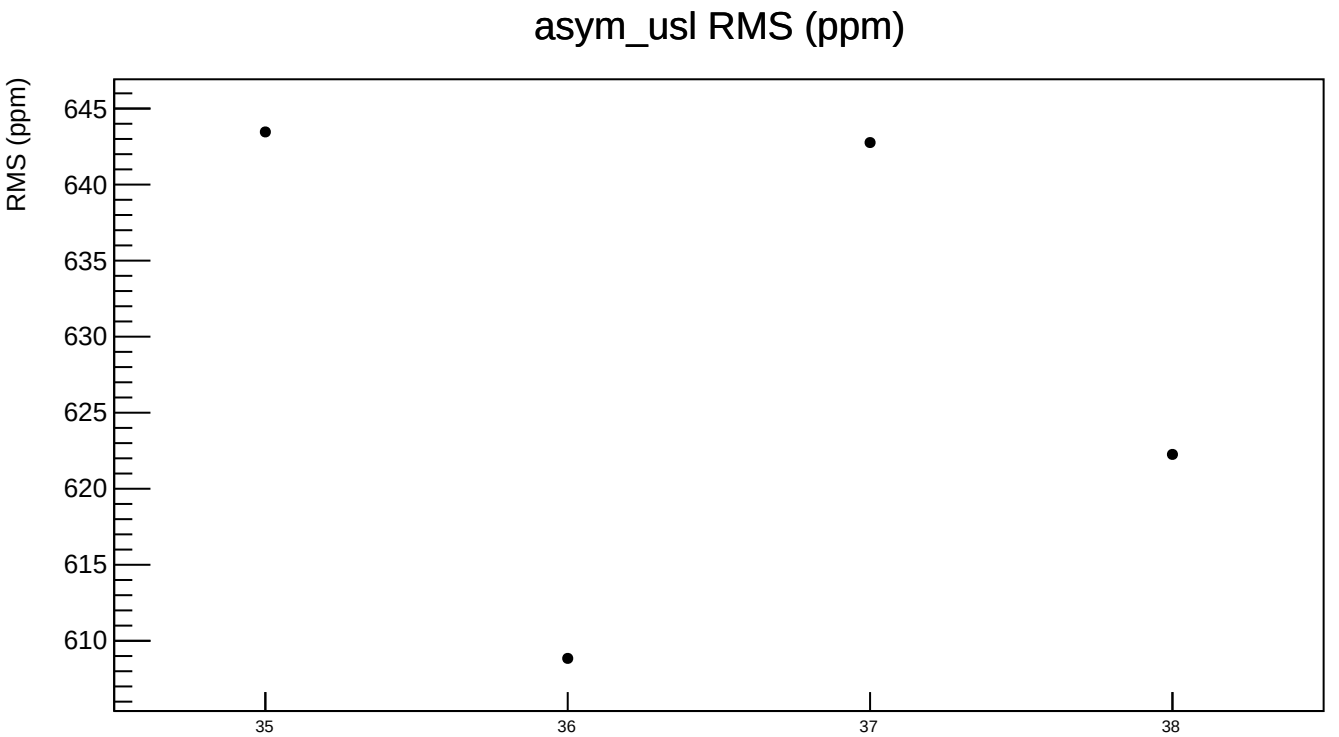

diff_bpm12X (nm)
χ² / ndf 0.848 / 3
p0 −1.239 ± 3.006
10
5
0
−5
−10
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
35
36
37
38

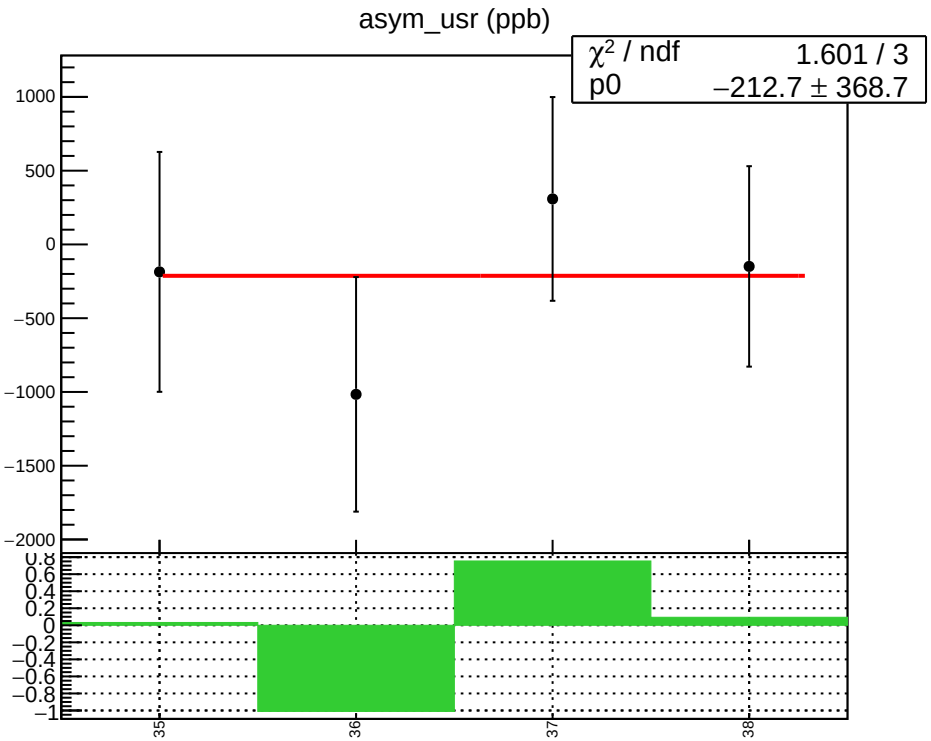

1D pull distribution
Mean 0.02927 ± 0.2298
Std Dev 0.4595 ± 0.1625
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

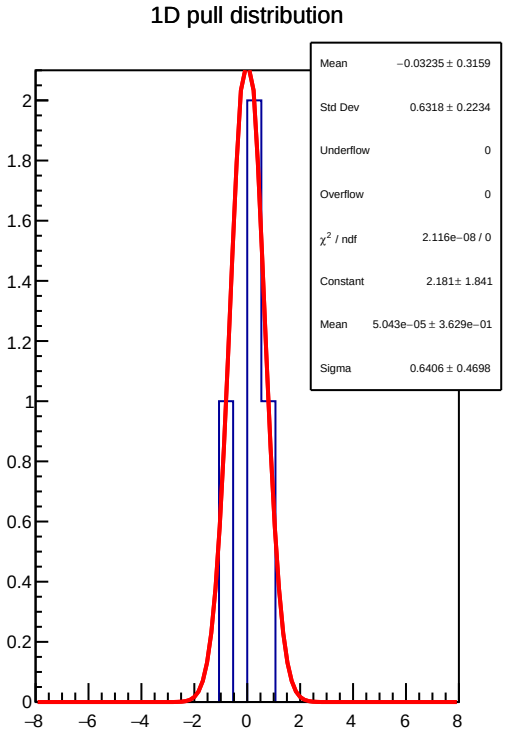

diff_bpm12X RMS (um)
RMS (um)
4.8
4.6
4.4
4.2
4
35
36
37
38

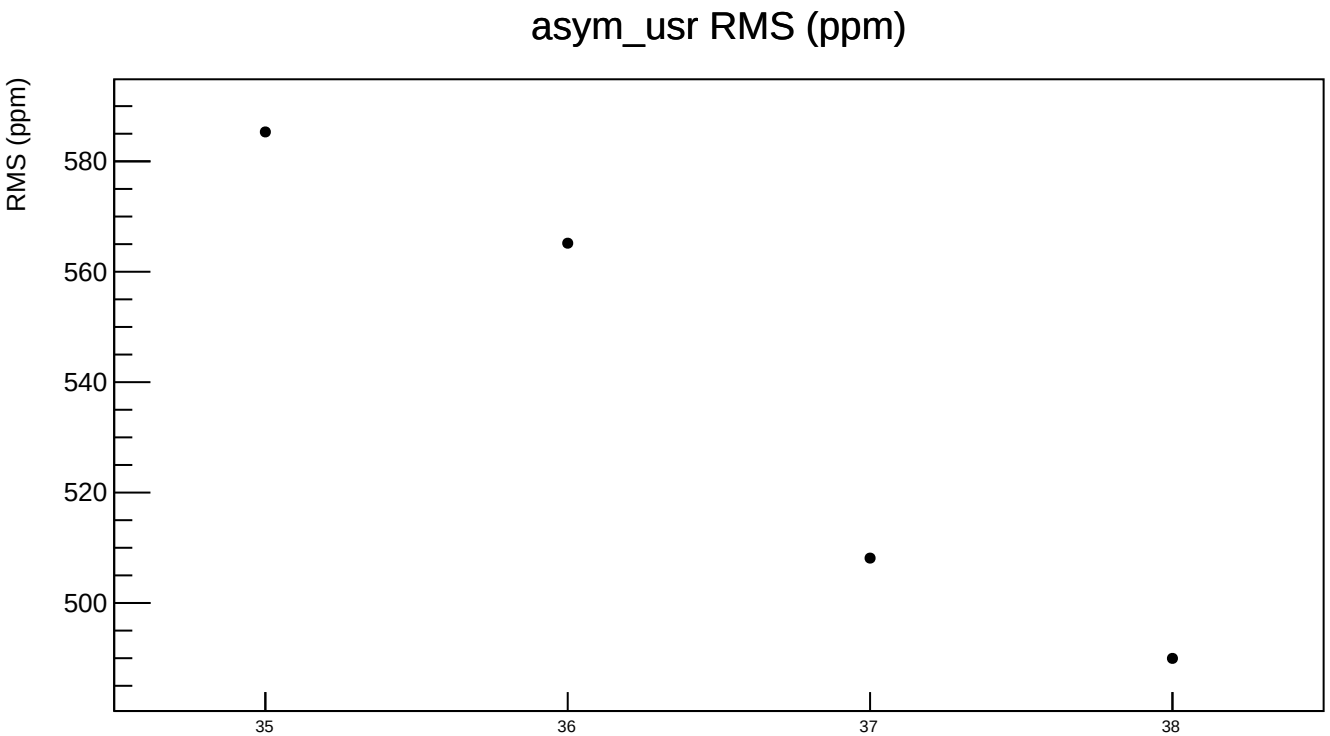

asym_usl (ppb)
χ² / ndf 3.05 / 3
p0 1872 ± 435.9
4000
3500
3000
2500
2000
1500
1000
500
1
0.5
0
−0.5
−1
35
36
37
38

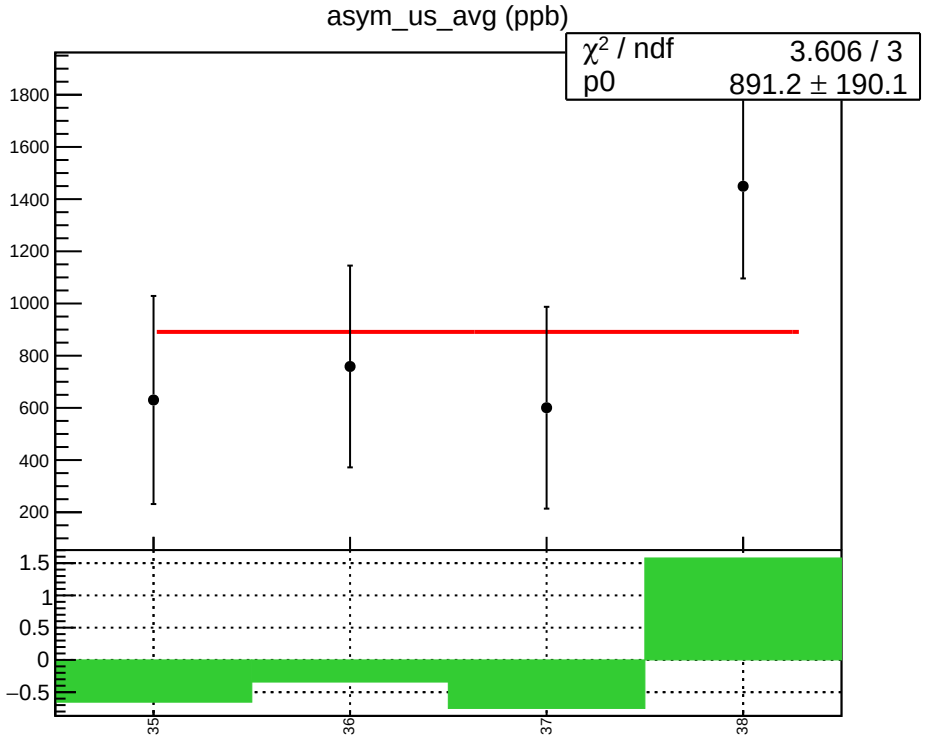

1D pull distribution
Mean −0.008966 ± 0.4366
Std Dev 0.8731 ± 0.3087
Underflow 0
Overflow 0
χ² / ndf 2.23e−05 / 1
Constant 1.005 ± 0.504
Mean −7.384e−13 ± 5.512e+01
Sigma 10.98 ± 7.86
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

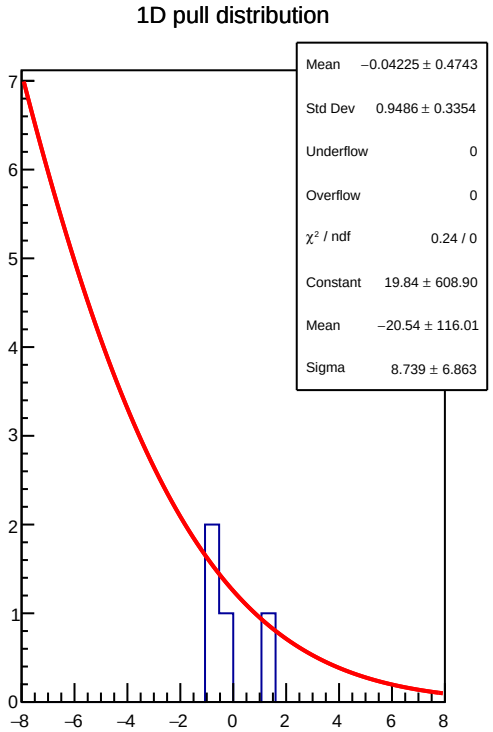

asym_usl RMS (ppm)
RMS (ppm)
645
640
635
630
625
620
615
610
35
36
37
38

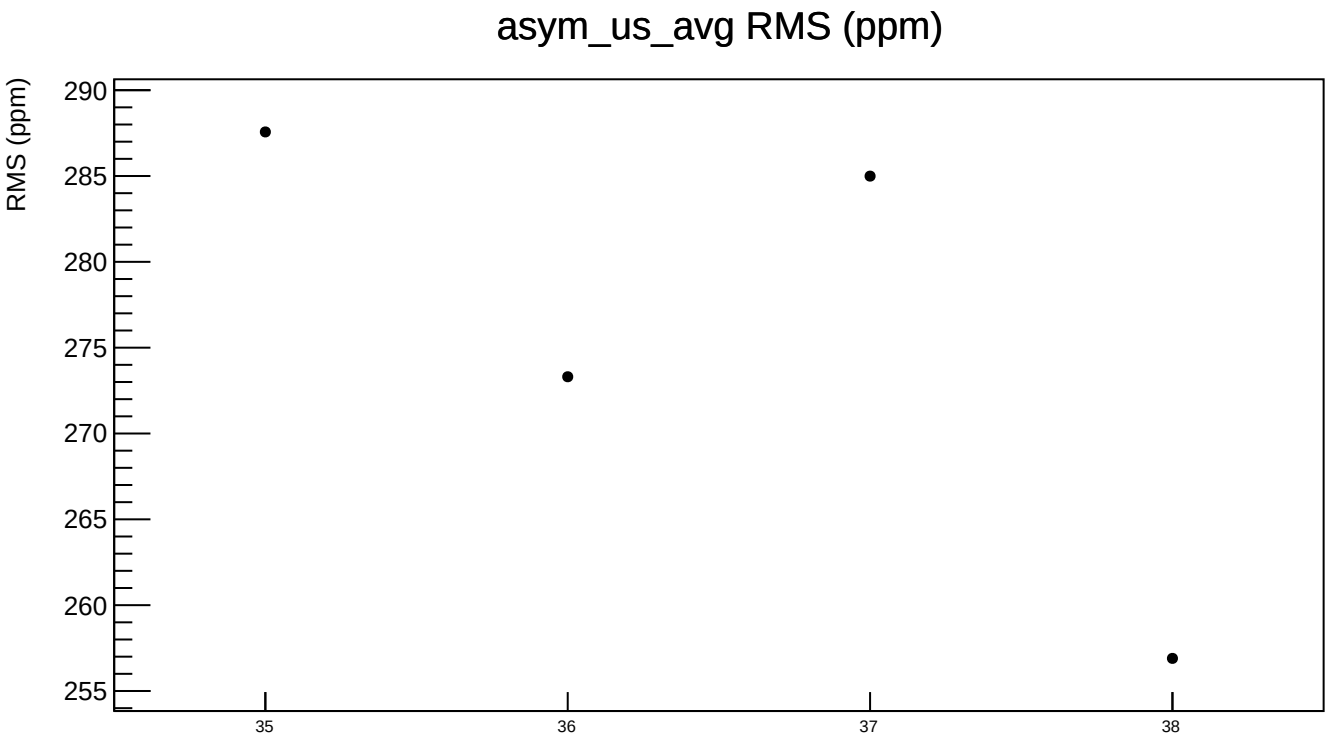

asym_usr (ppb)
χ² / ndf 1.601 / 3
p0 −212.7 ± 368.7
1000
500
0
−500
−1000
−1500
−2000
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
35
36
37
38

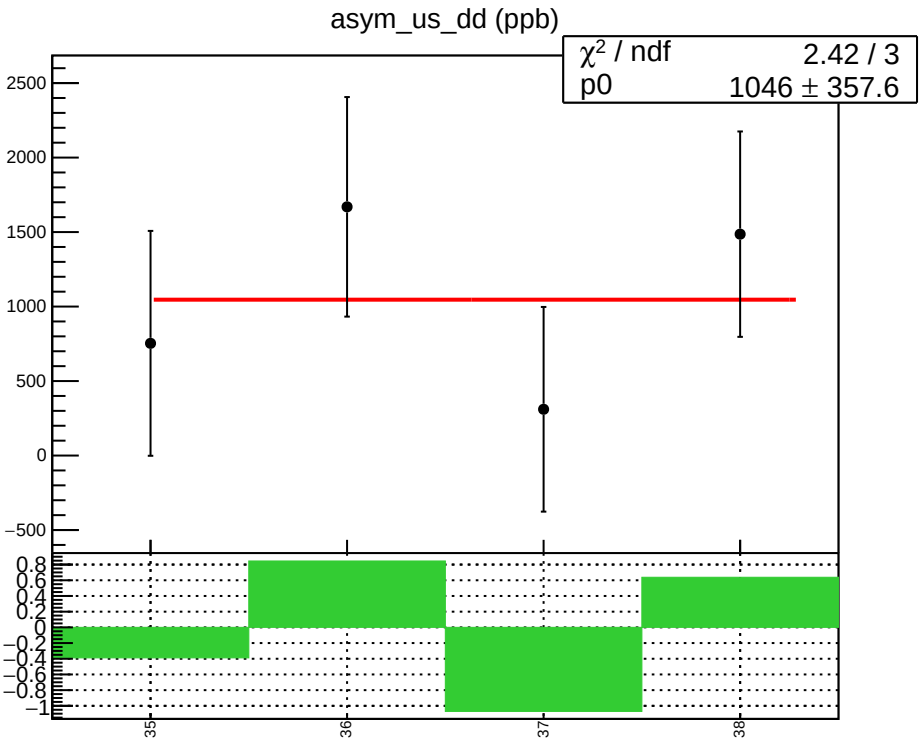

1D pull distribution
Mean −0.03235 ± 0.3159
Std Dev 0.6318 ± 0.2234
Underflow 0
Overflow 0
χ² / ndf 2.116e−08 / 0
Constant 2.181 ± 1.841
Mean 5.043e−05 ± 3.629e−01
Sigma 0.6406 ± 0.4698
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

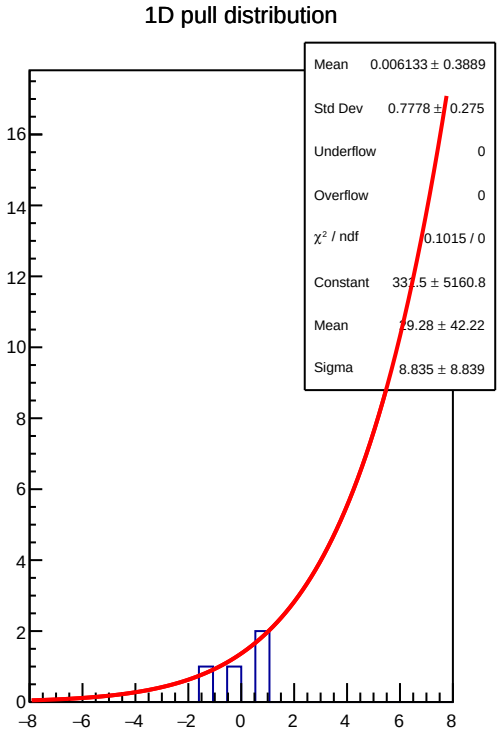

asym_usr RMS (ppm)
RMS (ppm)
580
560
540
520
500
35
36
37
38

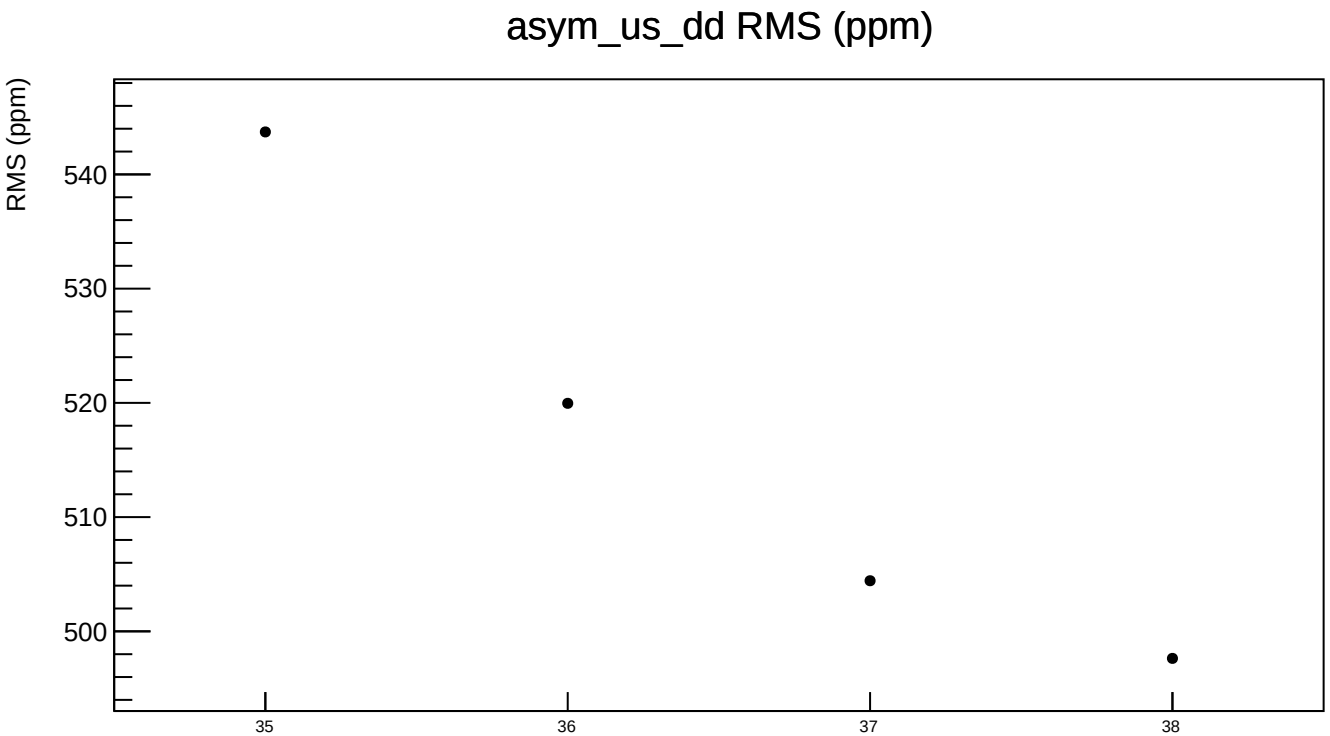

asym_us_avg (ppb)
χ² / ndf 3.606 / 3
p0 891.2 ± 190.1
1800
1600
1400
1200
1000
800
600
400
200
1.5
1
0.5
0
−0.5
35
36
37
38

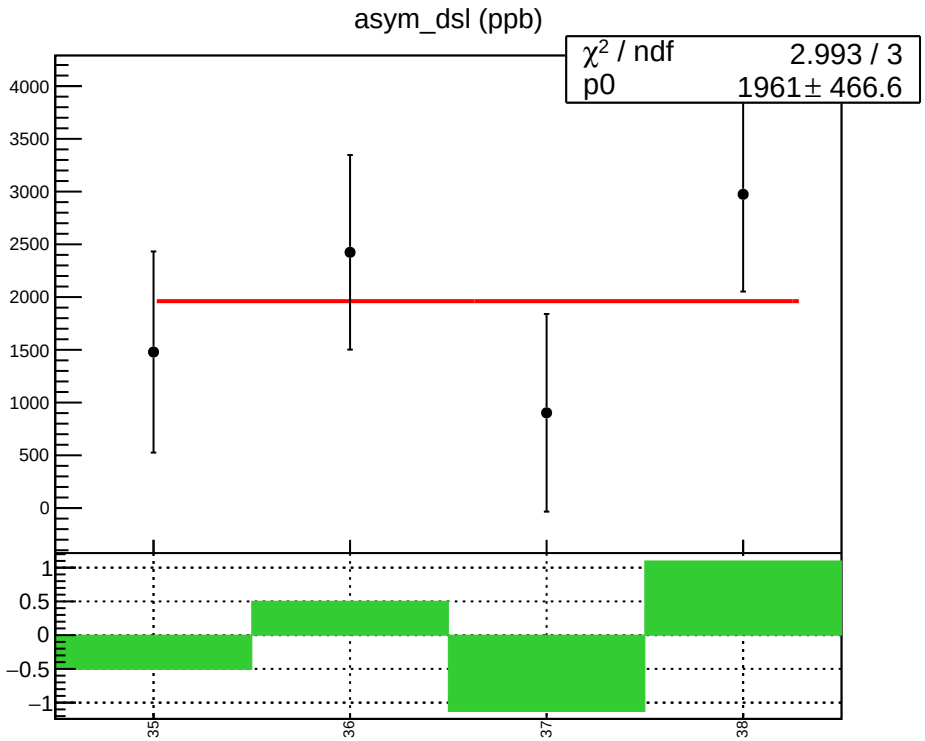

1D pull distribution
Mean −0.04225 ± 0.4743
Std Dev 0.9486 ± 0.3354
Underflow 0
Overflow 0
χ² / ndf 0.24 / 0
Constant 19.84 ± 608.90
Mean −20.54 ± 116.01
Sigma 8.739 ± 6.863
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

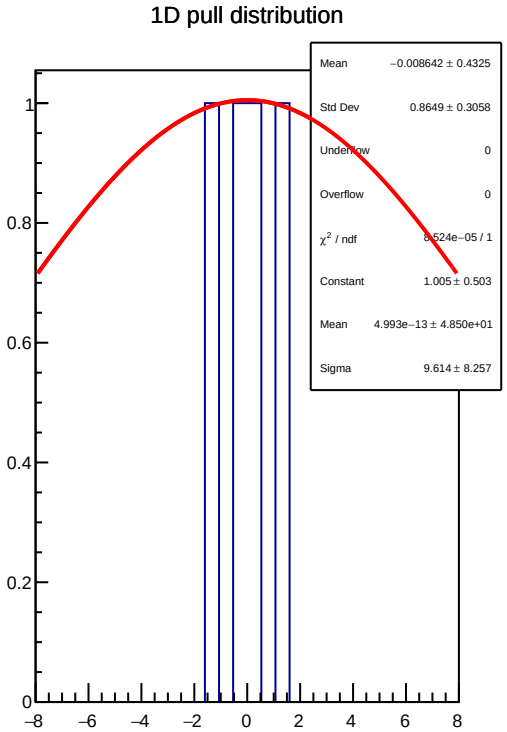

asym_us_avg RMS (ppm)
RMS (ppm)
290
285
280
275
270
265
260
255
35
36
37
38

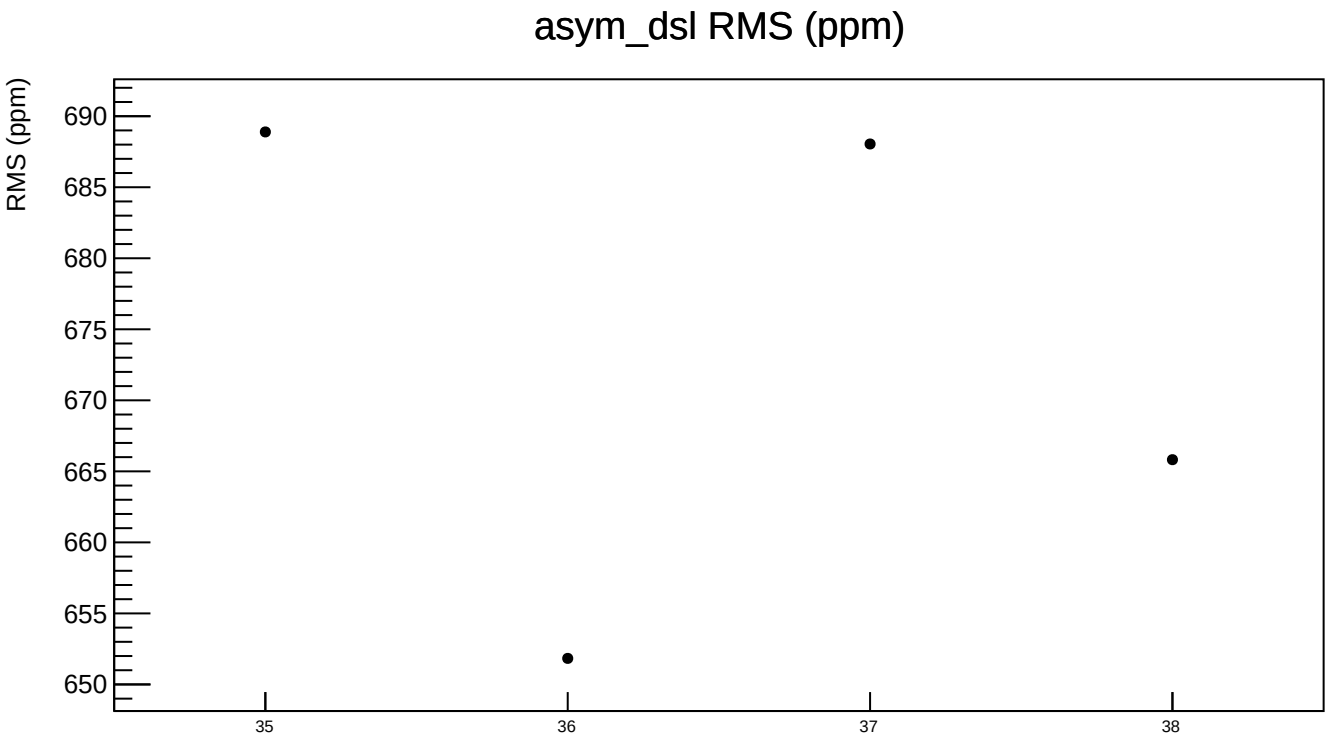

asym_us_dd (ppb)
χ² / ndf 2.42 / 3
p0 1046 ± 357.6
2500
2000
1500
1000
500
0
−500
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
35
36
37
38

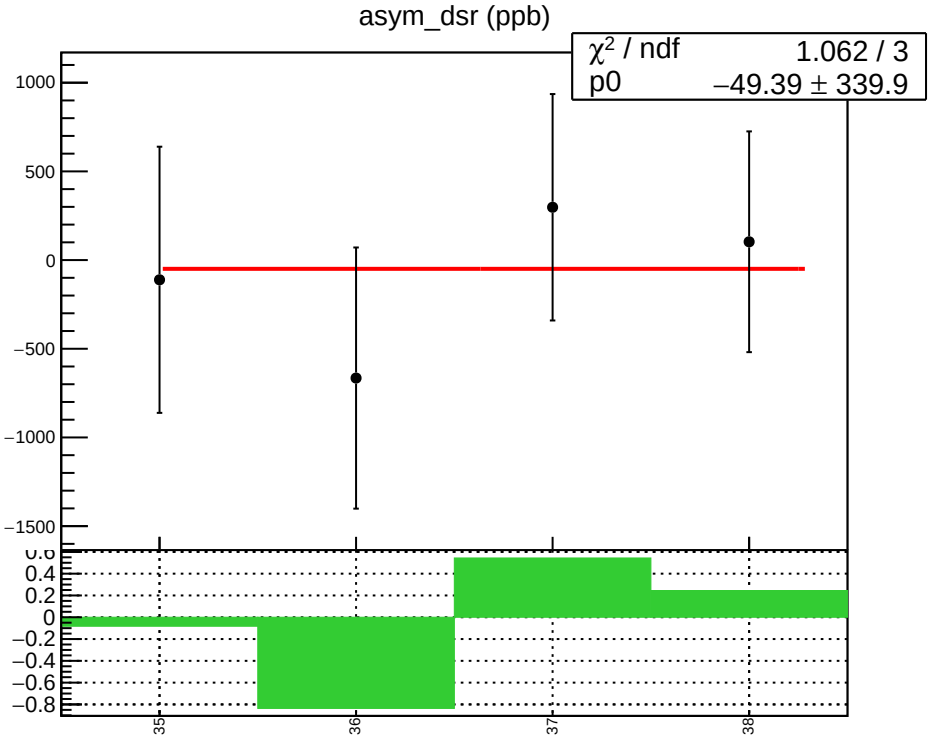

1D pull distribution
Mean 0.006133 ± 0.3889
Std Dev 0.7778 ± 0.275
Underflow 0
Overflow 0
χ² / ndf 0.1015 / 0
Constant 331.5 ± 5160.8
Mean 29.28 ± 42.22
Sigma 8.835 ± 8.839
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

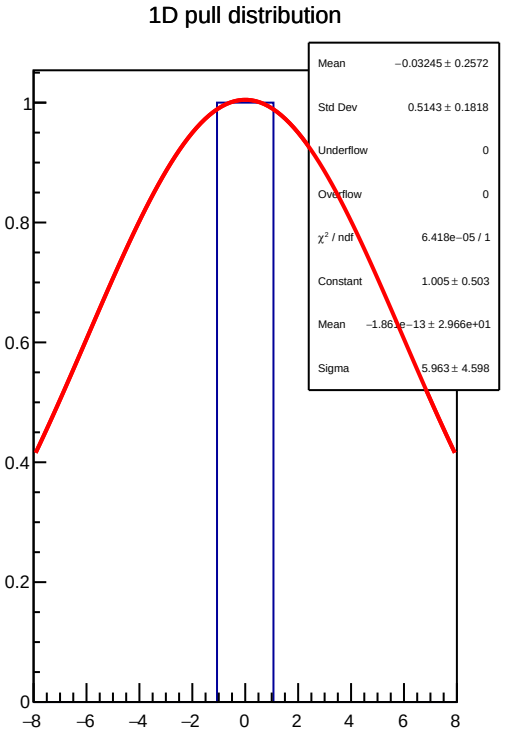

asym_us_dd RMS (ppm)
RMS (ppm)
540
530
520
510
500
35
36
37
38

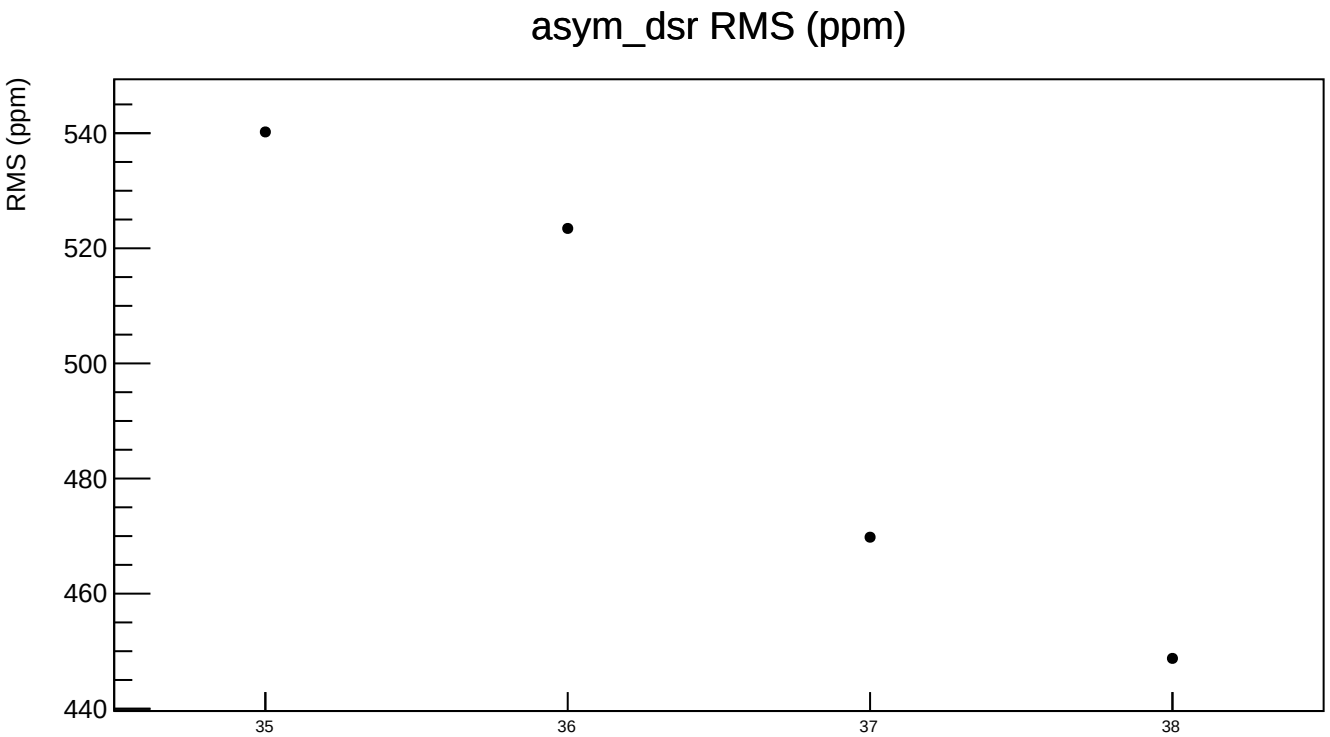

asym_dsl (ppb)
χ^2 / ndf 2.993 / 3
p0 1961 ± 466.6
4000
3500
3000
2500
2000
1500
1000
500
0
1
0.5
0
−0.5
−1
35
36
37
38

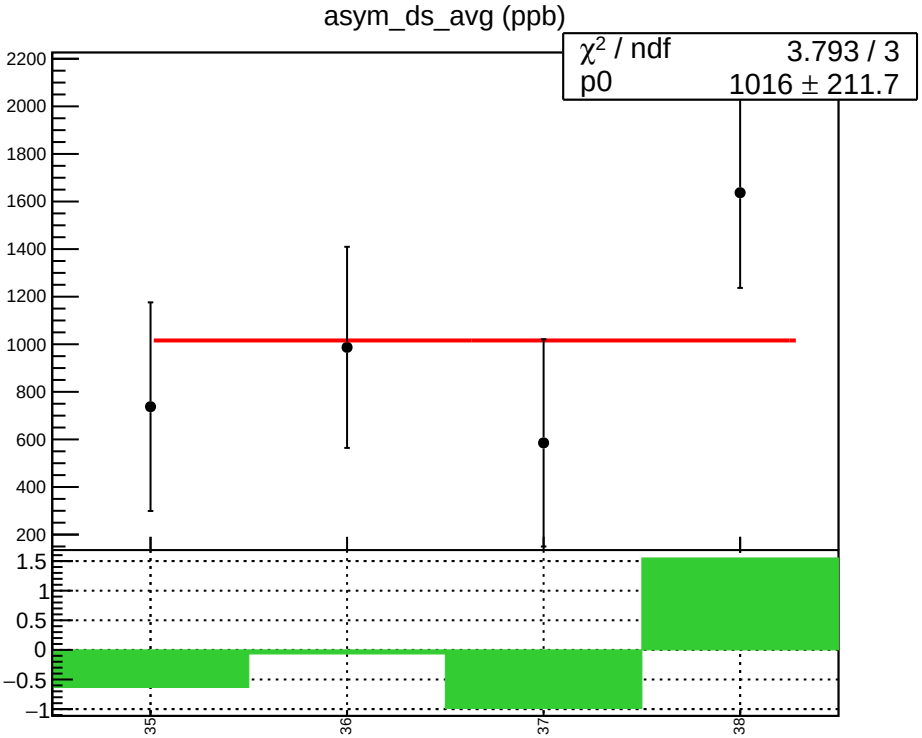

1D pull distribution
Mean −0.008642 ± 0.4325
Std Dev 0.8649 ± 0.3058
Underflow 0
Overflow 0
χ^2 / ndf 6.524e−05 / 1
Constant 1.005 ± 0.503
Mean 4.993e−13 ± 4.850e+01
Sigma 9.614 ± 8.257
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

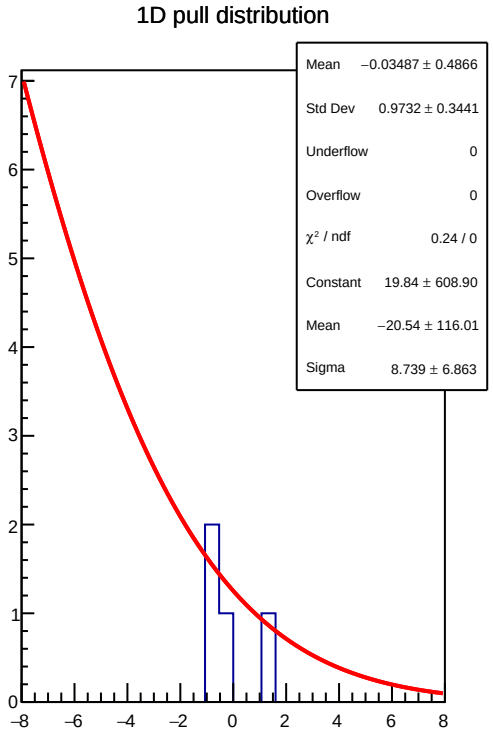

asym_dsl RMS (ppm)
RMS (ppm)
690
685
680
675
670
665
660
655
650
35
36
37
38

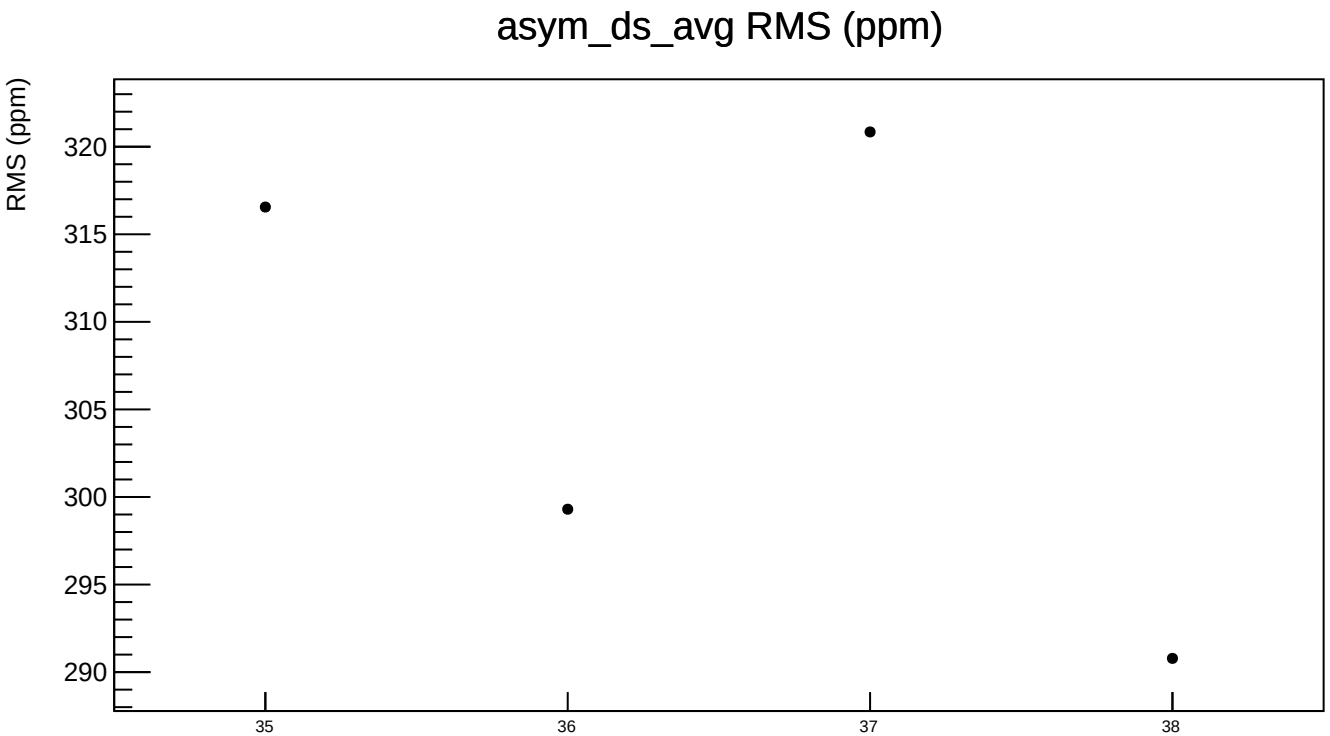

asym_dsr (ppb)
χ² / ndf 1.062 / 3
p0 −49.39 ± 339.9
1000
500
0
−500
−1000
−1500
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
35
36
37
38

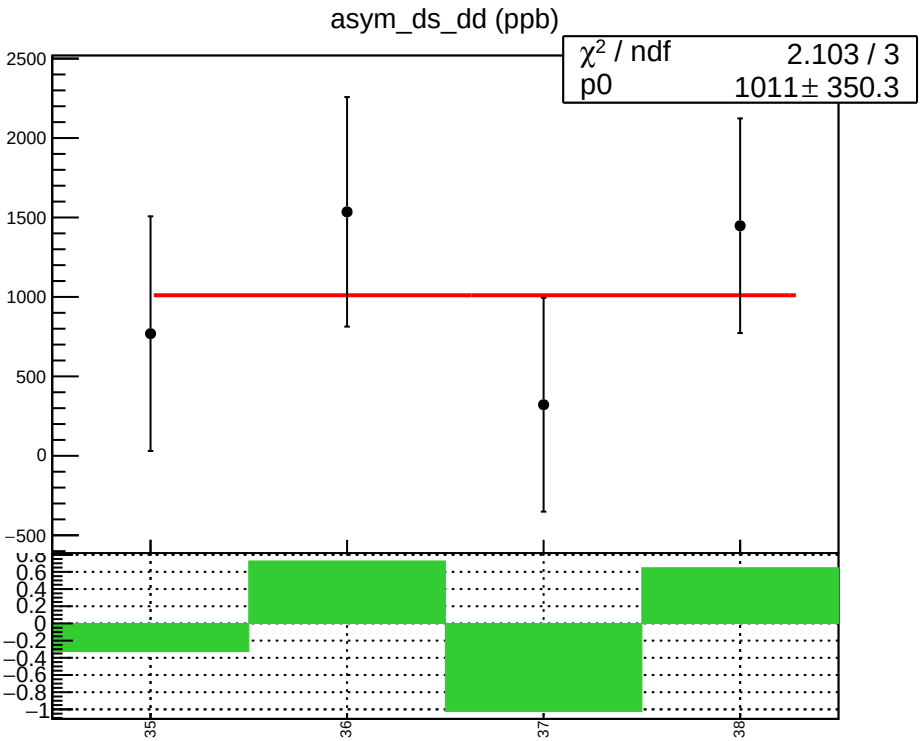

1D pull distribution
Mean −0.03245 ± 0.2572
Std Dev 0.5143 ± 0.1818
Underflow 0
Overflow 0
χ² / ndf 6.418e−05 / 1
Constant 1.005 ± 0.503
Mean −1.861e−13 ± 2.966e+01
Sigma 5.963 ± 4.598
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

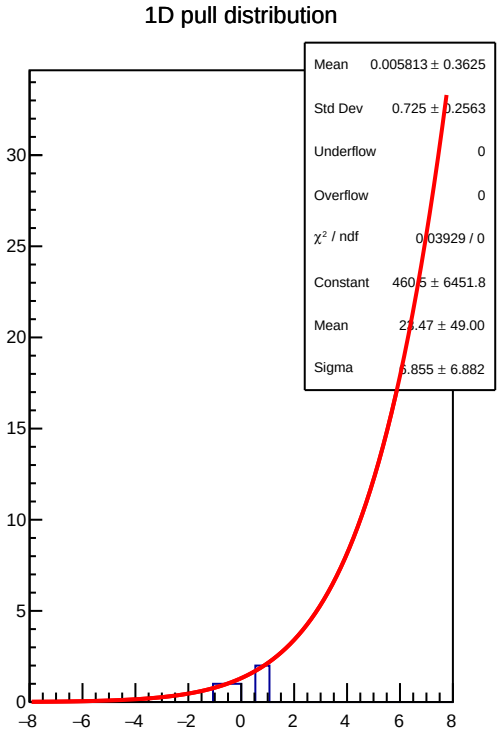

asym_dsr RMS (ppm)
RMS (ppm)
540
520
500
480
460
440
35
36
37
38

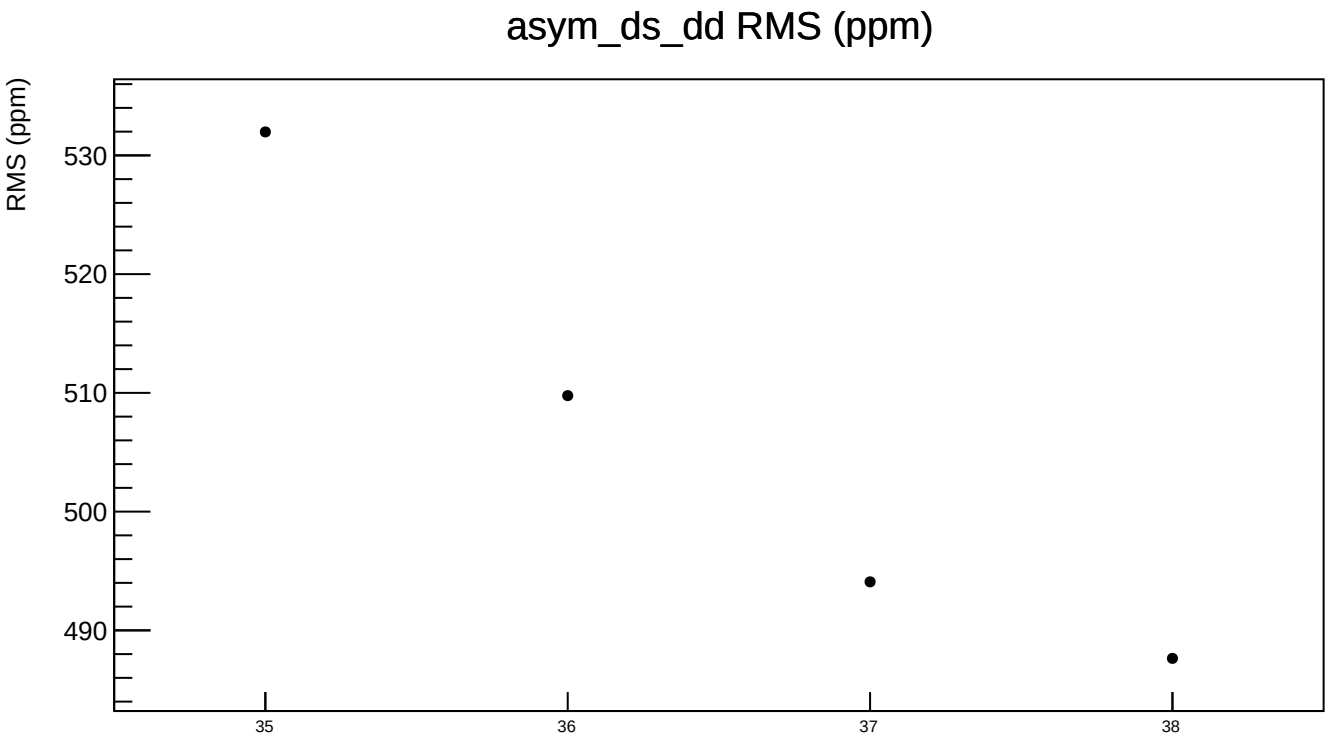

asym_ds_avg (ppb)
χ² / ndf 3.793 / 3
p0 1016 ± 211.7
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
1.5
1
0.5
0
−0.5
−1
35
36
37
38

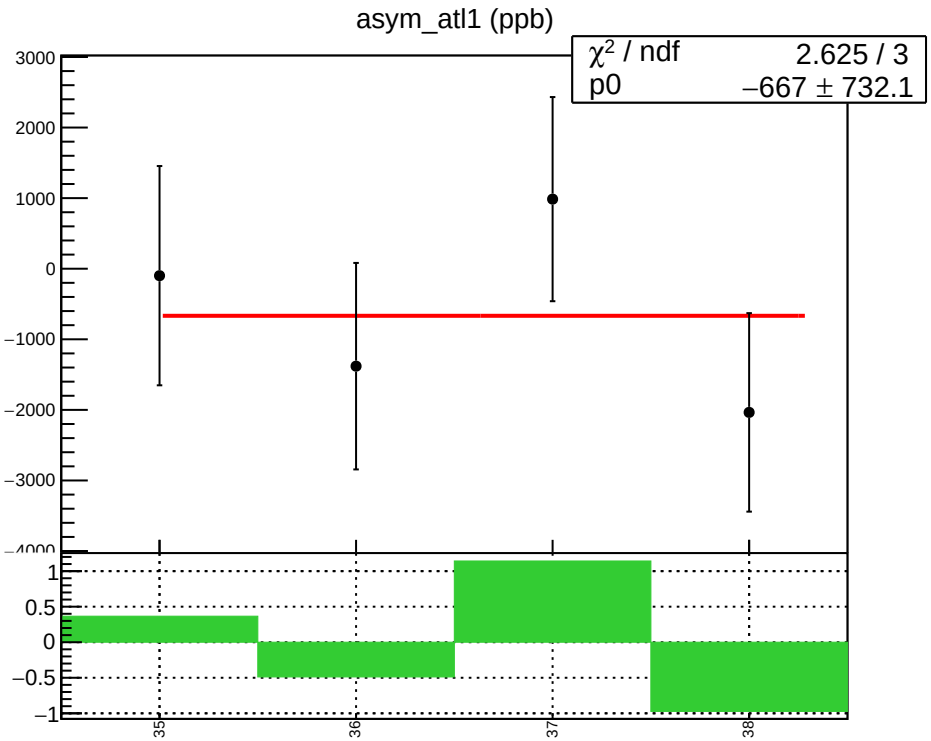

1D pull distribution
Mean −0.03487 ± 0.4866
Std Dev 0.9732 ± 0.3441
Underflow 0
Overflow 0
χ² / ndf 0.24 / 0
Constant 19.84 ± 608.90
Mean −20.54 ± 116.01
Sigma 8.739 ± 6.863
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

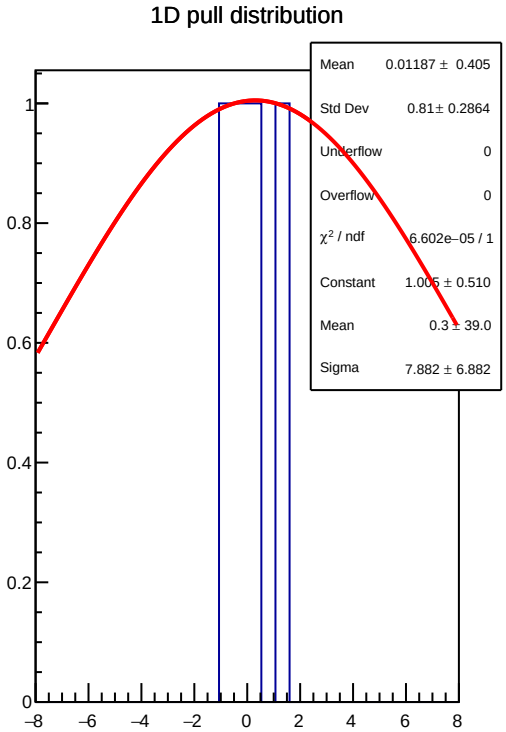

asym_ds_avg RMS (ppm)
RMS (ppm)
320
315
310
305
300
295
290
35
36
37
38

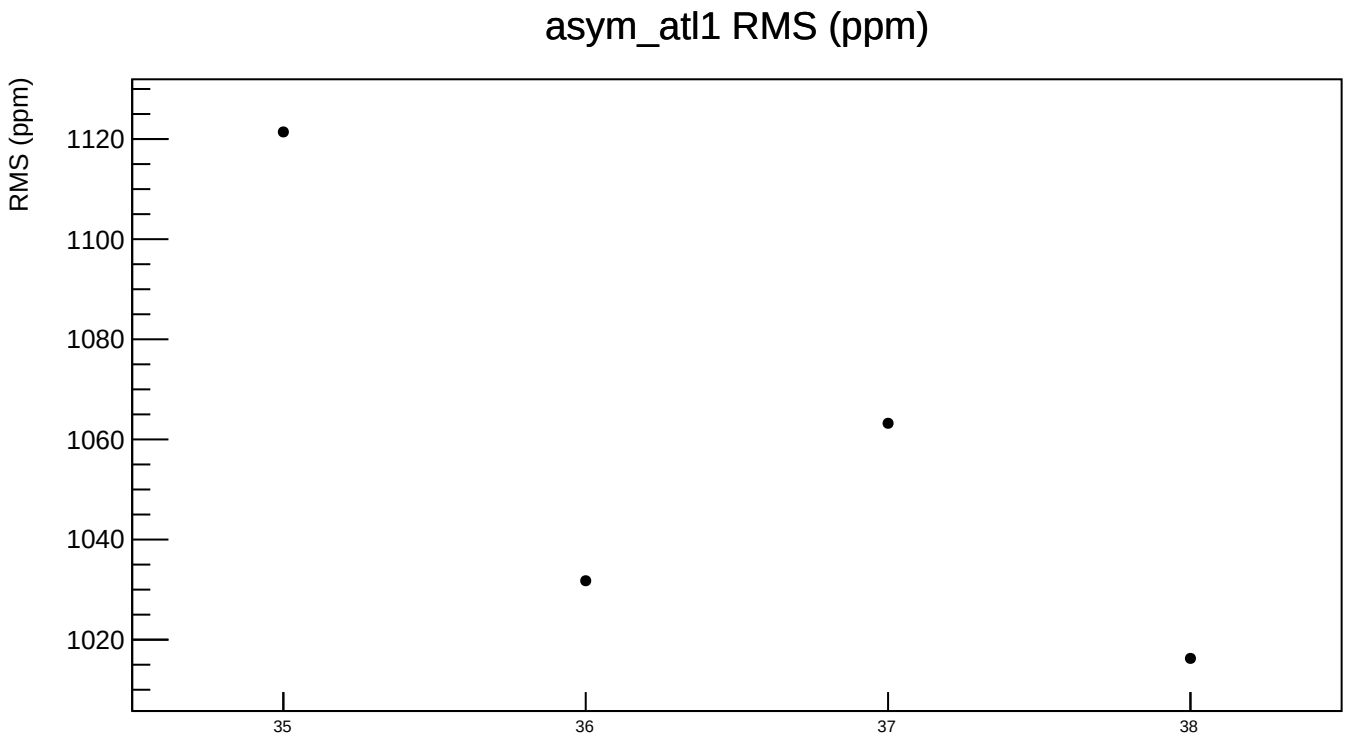

asym_ds_dd (ppb)
χ² / ndf 2.103 / 3
p0 1011 ± 350.3
2500
2000
1500
1000
500
0
−500
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
35
36
37
38

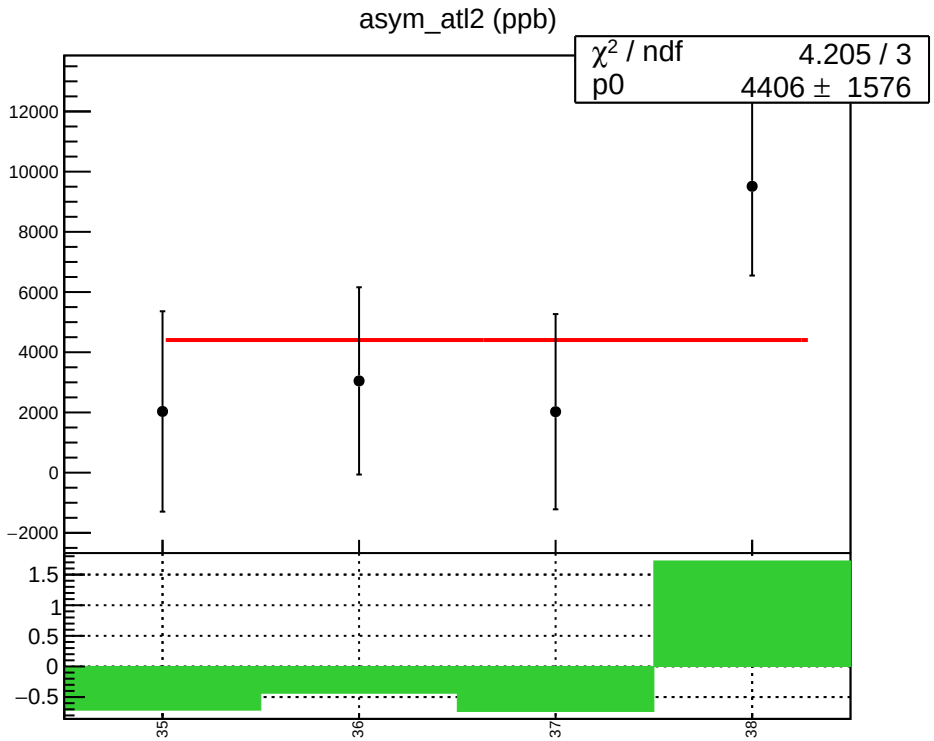

1D pull distribution
Mean 0.005813 ± 0.3625
Std Dev 0.725 ± 0.2563
Underflow 0
Overflow 0
χ² / ndf 0.03929 / 0
Constant 460.5 ± 6451.8
Mean 23.47 ± 49.00
Sigma 5.855 ± 6.882
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

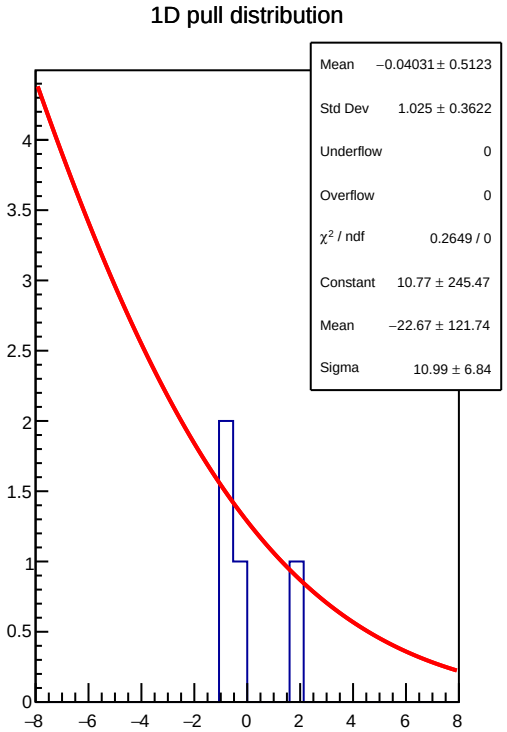

asym_ds_dd RMS (ppm)
RMS (ppm)
530
520
510
500
490
35
36
37
38

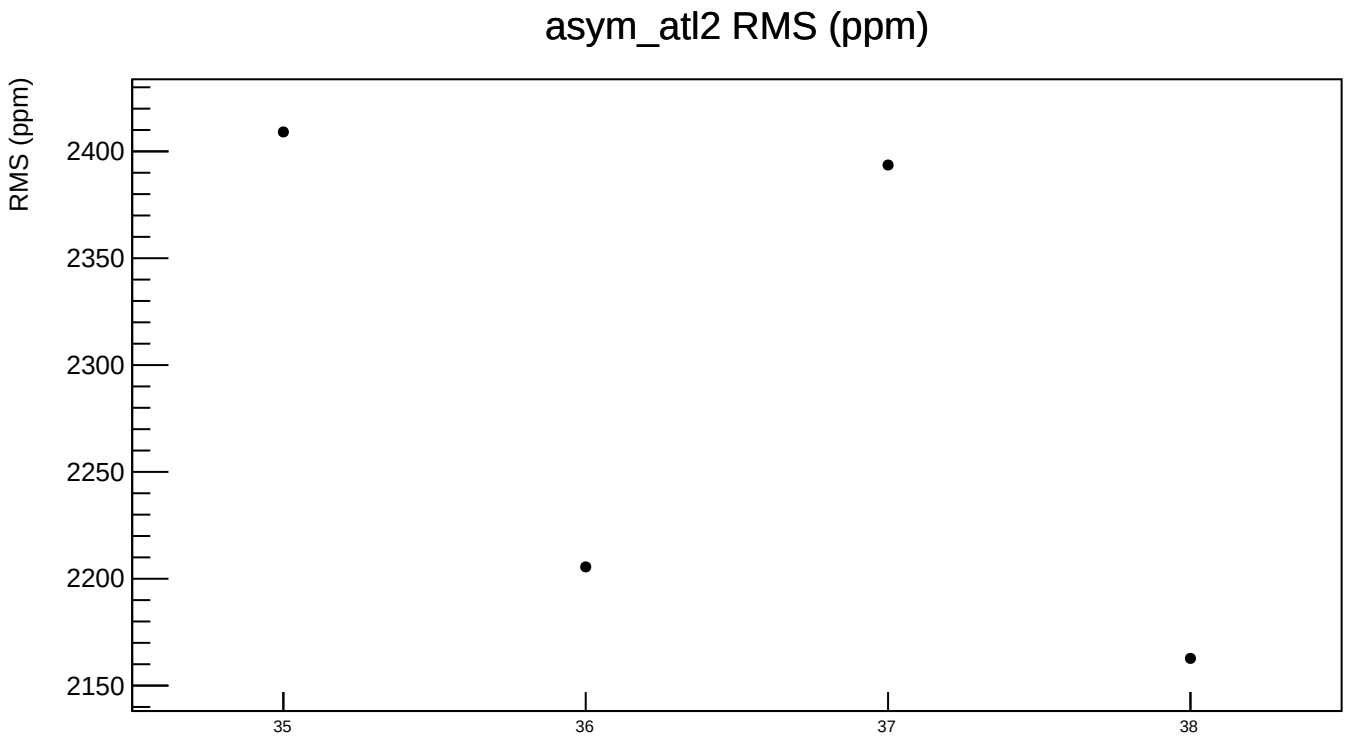

asym_atl1 (ppb)
χ² / ndf 2.625 / 3
p0 −667 ± 732.1
3000
2000
1000
0
−1000
−2000
−3000
−4000
1
0.5
0
−0.5
−1
35
36
37
38

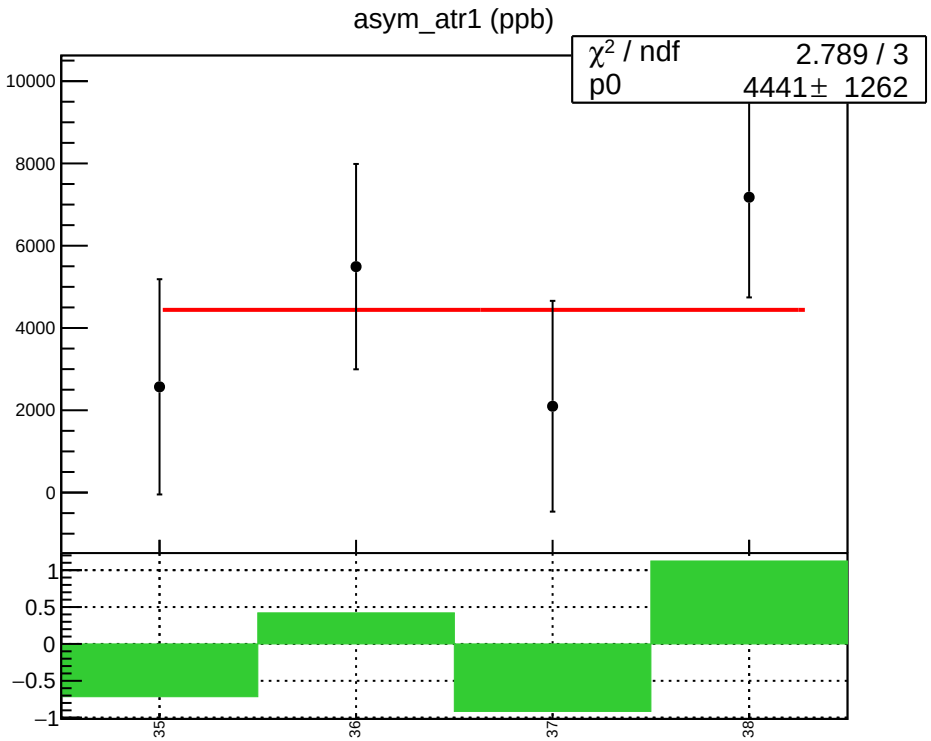

1D pull distribution
Mean 0.01187 ± 0.405
Std Dev 0.81± 0.2864
Underflow 0
Overflow 0
χ² / ndf 6.602e−05 / 1
Constant 1.005 ± 0.510
Mean 0.3 ± 39.0
Sigma 7.882 ± 6.882
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

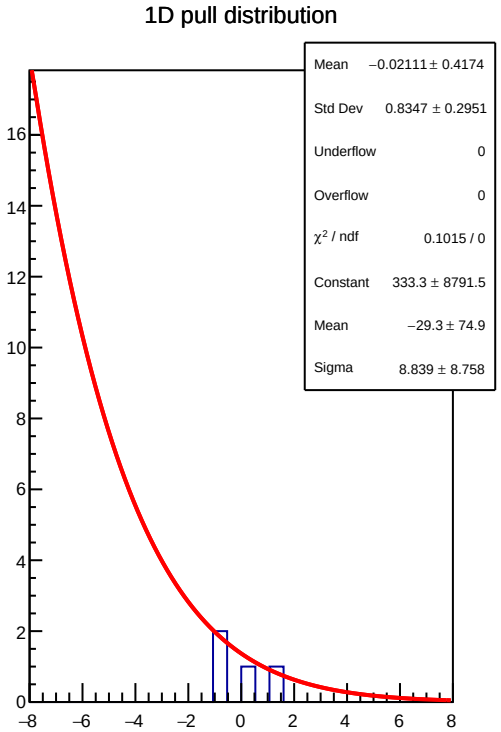

asym_atl1 RMS (ppm)
RMS (ppm)
1120
1100
1080
1060
1040
1020
35
36
37
38

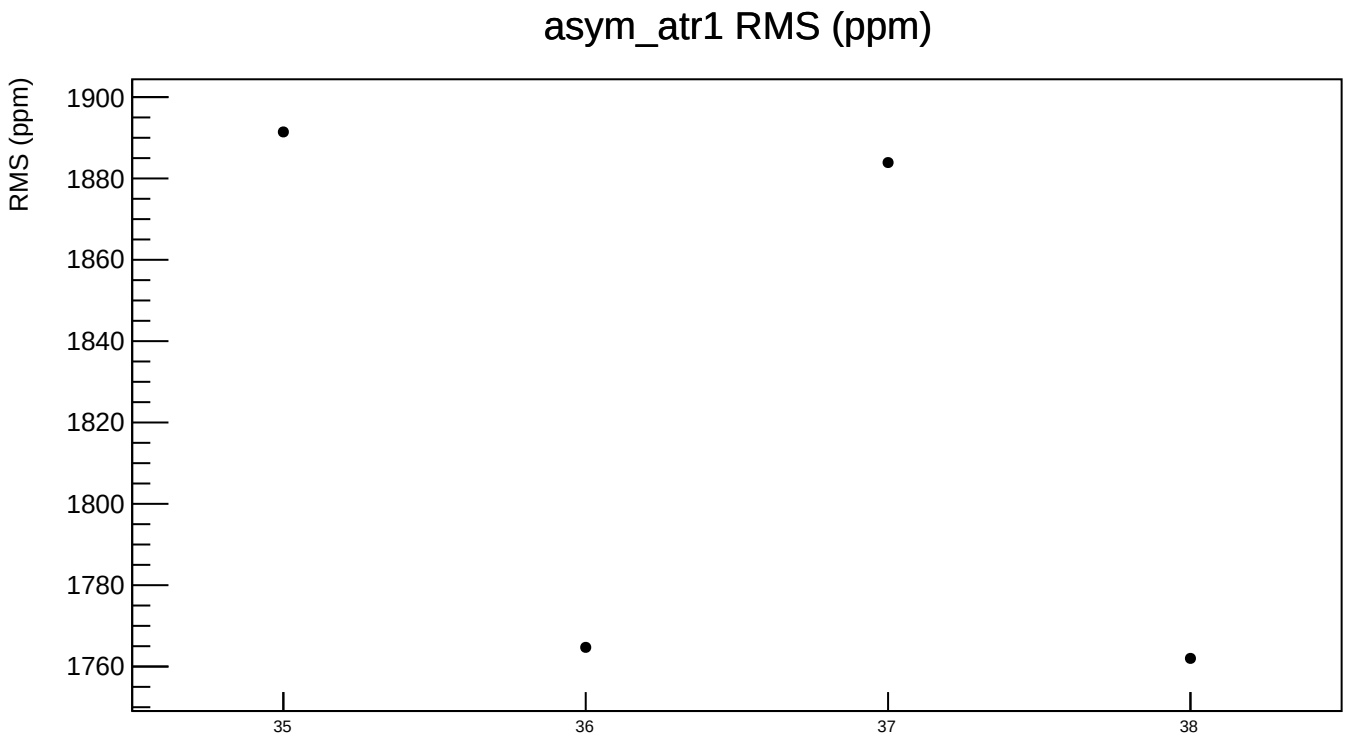

asym_atl2 (ppb)
χ² / ndf 4.205 / 3
p0 4406 ± 1576
12000
10000
8000
6000
4000
2000
0
−2000
1.5
1
0.5
0
−0.5
35
36
37
38

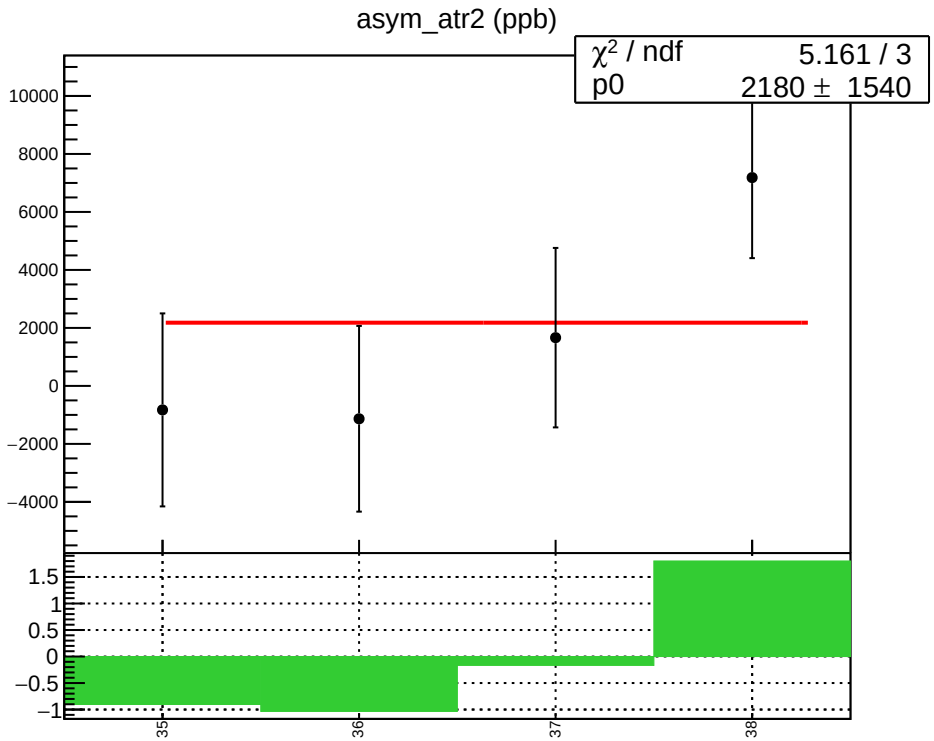

1D pull distribution
Mean −0.04031 ± 0.5123
Std Dev 1.025 ± 0.3622
Underflow 0
Overflow 0
χ² / ndf 0.2649 / 0
Constant 10.77 ± 245.47
Mean −22.67 ± 121.74
Sigma 10.99 ± 6.84
4
3.5
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

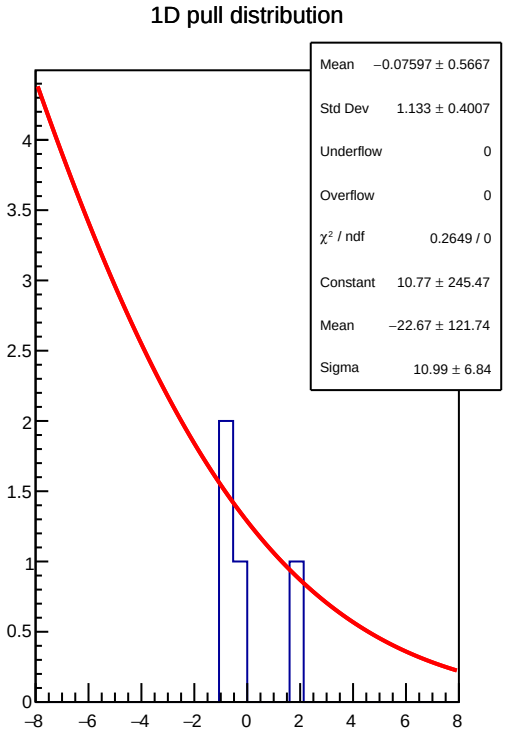

asym_atl2 RMS (ppm)
RMS (ppm)
2400
2350
2300
2250
2200
2150
35
36
37
38

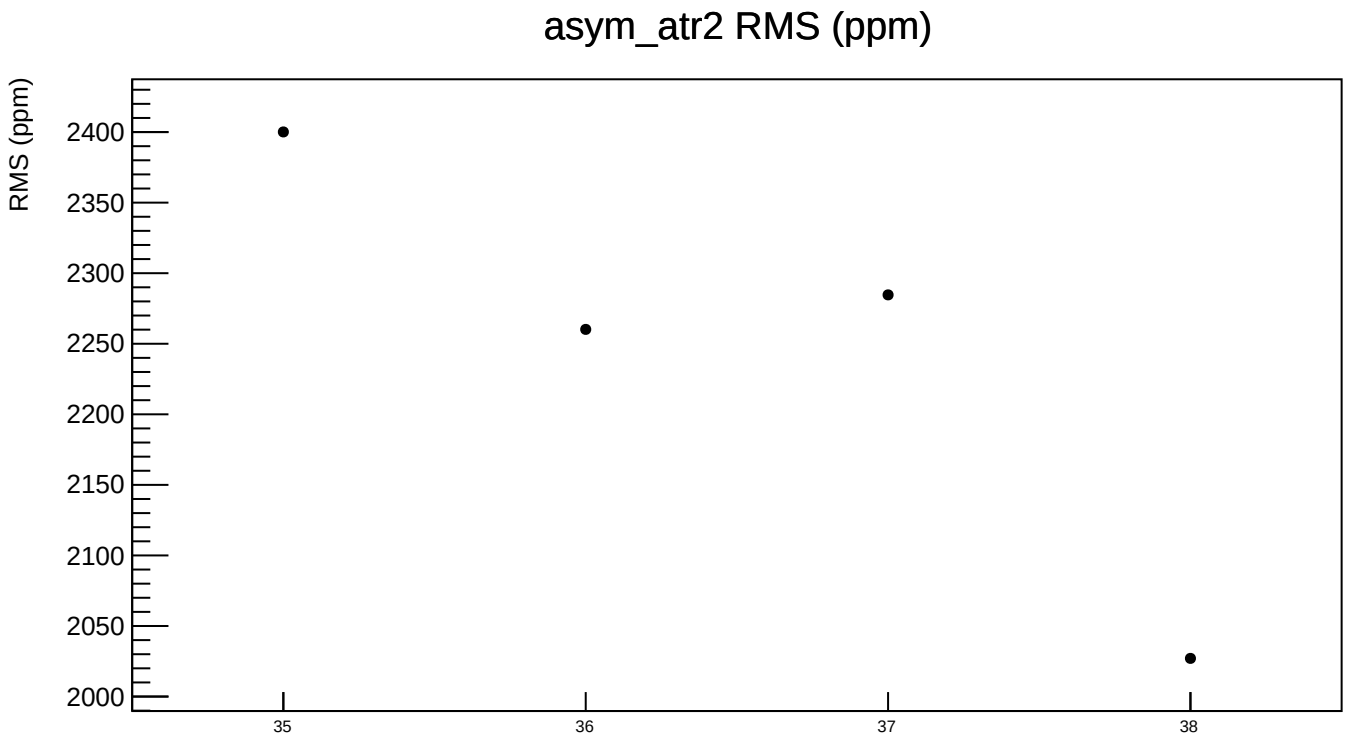

asym_atr1 (ppb)
χ² / ndf 2.789 / 3
p0 4441 ± 1262
10000
8000
6000
4000
2000
0
1
0.5
0
−0.5
−1
35
36
37
38


1D pull distribution
Mean −0.02111 ± 0.4174
Std Dev 0.8347 ± 0.2951
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_atr1 RMS (ppm)
RMS (ppm)
1900
1880
1860
1840
1820
1800
1780
1760
35
36
37
38


asym_atr2 (ppb)
χ² / ndf 5.161 / 3
p0 2180 ± 1540
10000
8000
6000
4000
2000
0
−2000
−4000
1.5
1
0.5
0
−0.5
−1
35
36
37
38


1D pull distribution
Mean −0.07597 ± 0.5667
Std Dev 1.133 ± 0.4007
Underflow 0
Overflow 0
χ² / ndf 0.2649 / 0
Constant 10.77 ± 245.47
Mean −22.67 ± 121.74
Sigma 10.99 ± 6.84
4
3.5
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8


asym_atr2 RMS (ppm)
RMS (ppm)
2400
2350
2300
2250
2200
2150
2100
2050
2000
35
36
37
38