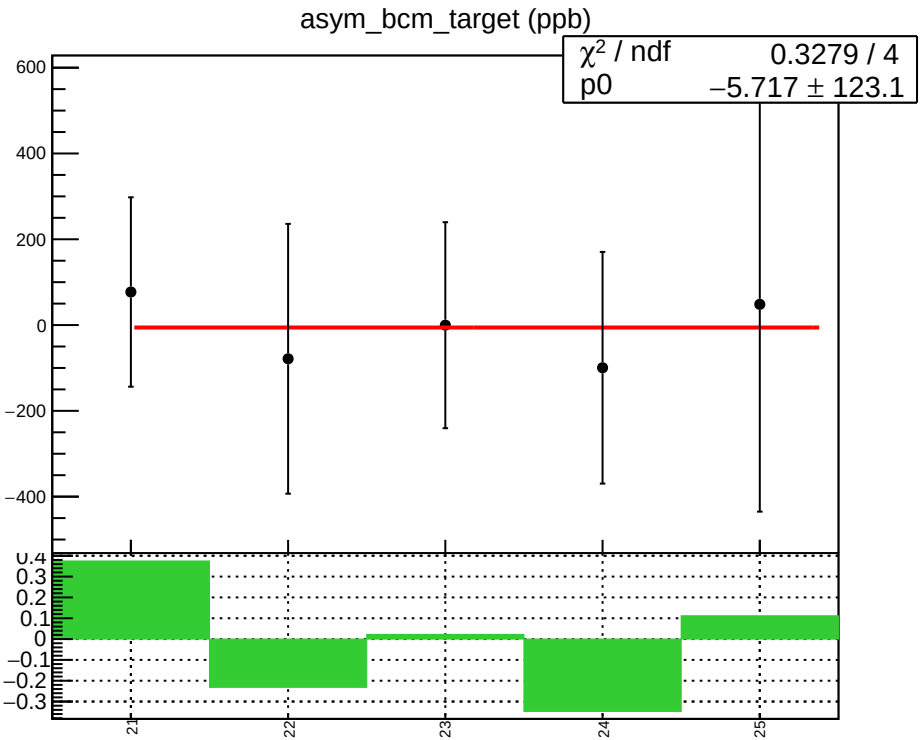
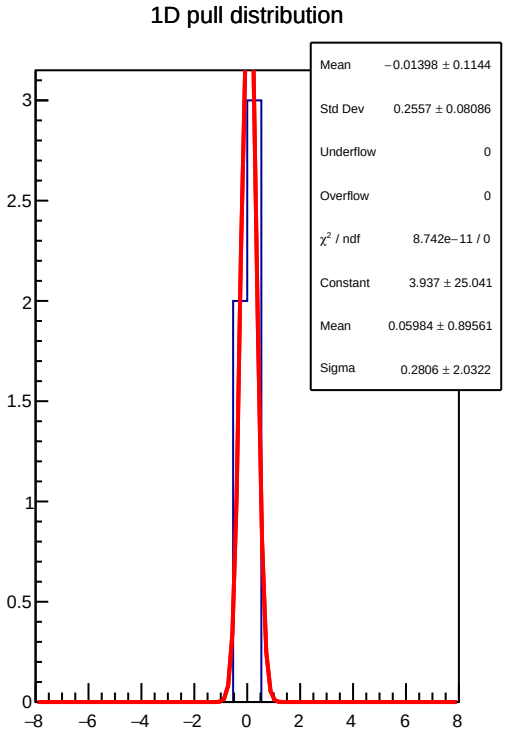
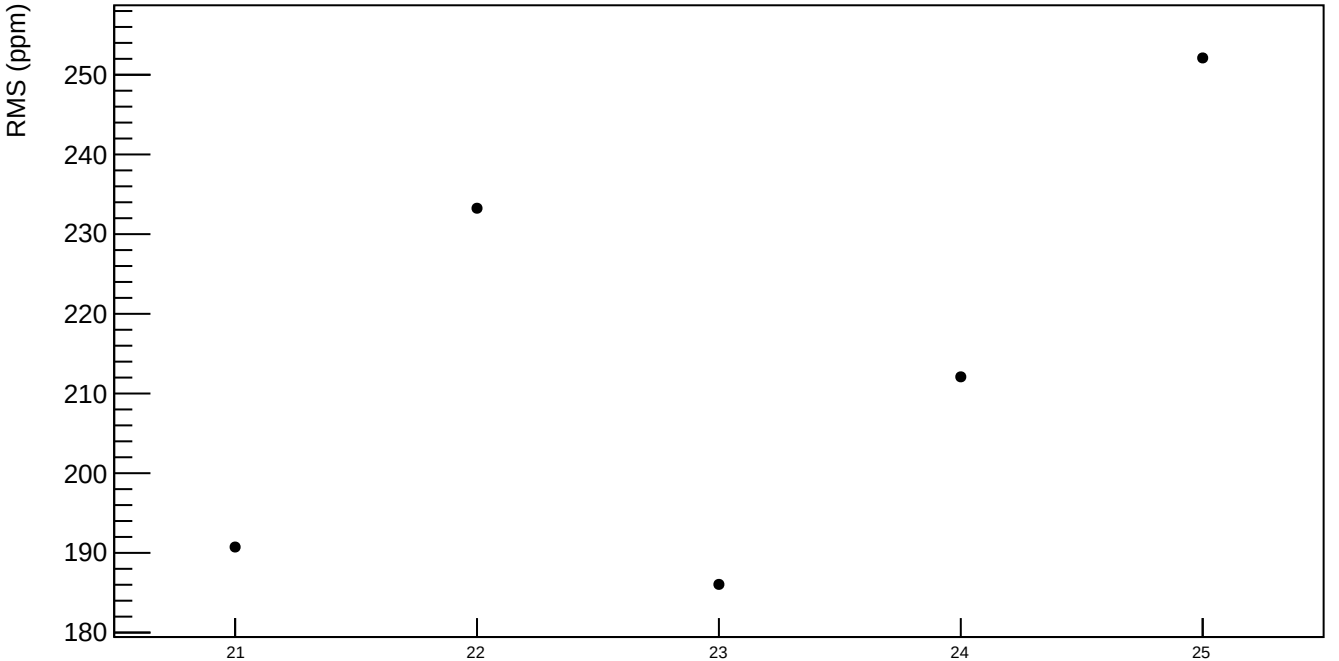
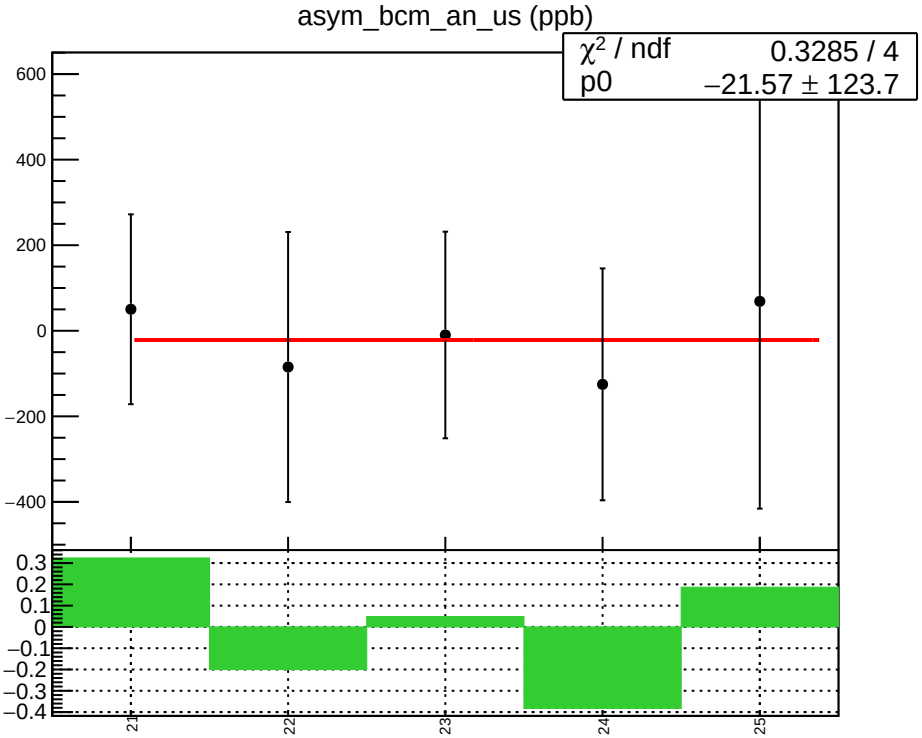
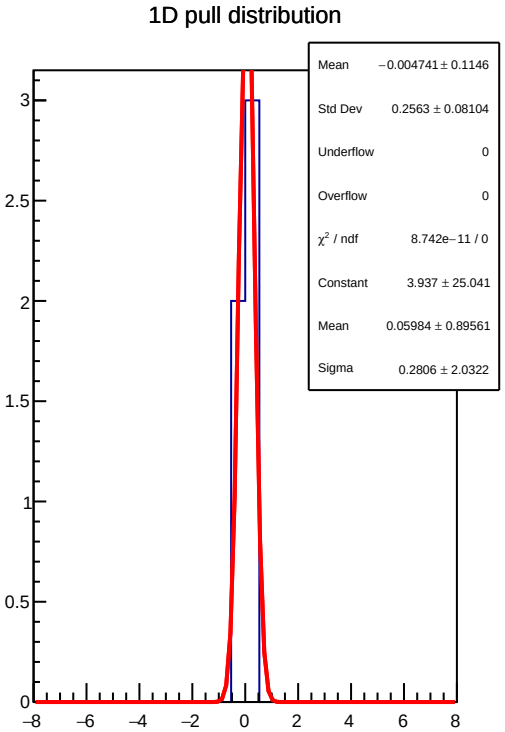

asym_bcm_target (ppb)
χ² / ndf 0.3279 / 4
p0 −5.717 ± 123.1
600
400
200
0
−200
−400
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
21
22
23
24
25

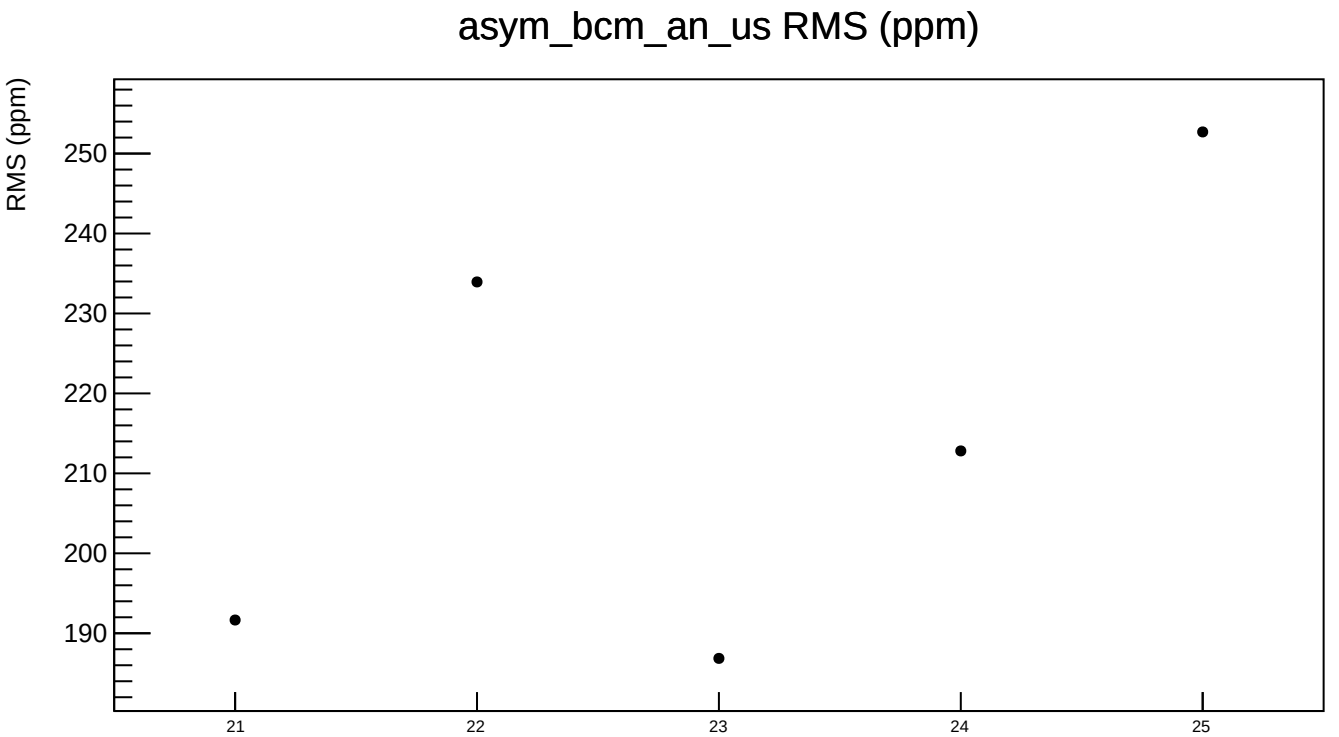

1D pull distribution
Mean −0.01398 ± 0.1144
Std Dev 0.2557 ± 0.08086
Underflow 0
Overflow 0
χ² / ndf 8.742e−11 / 0
Constant 3.937 ± 25.041
Mean 0.05984 ± 0.89561
Sigma 0.2806 ± 2.0322
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

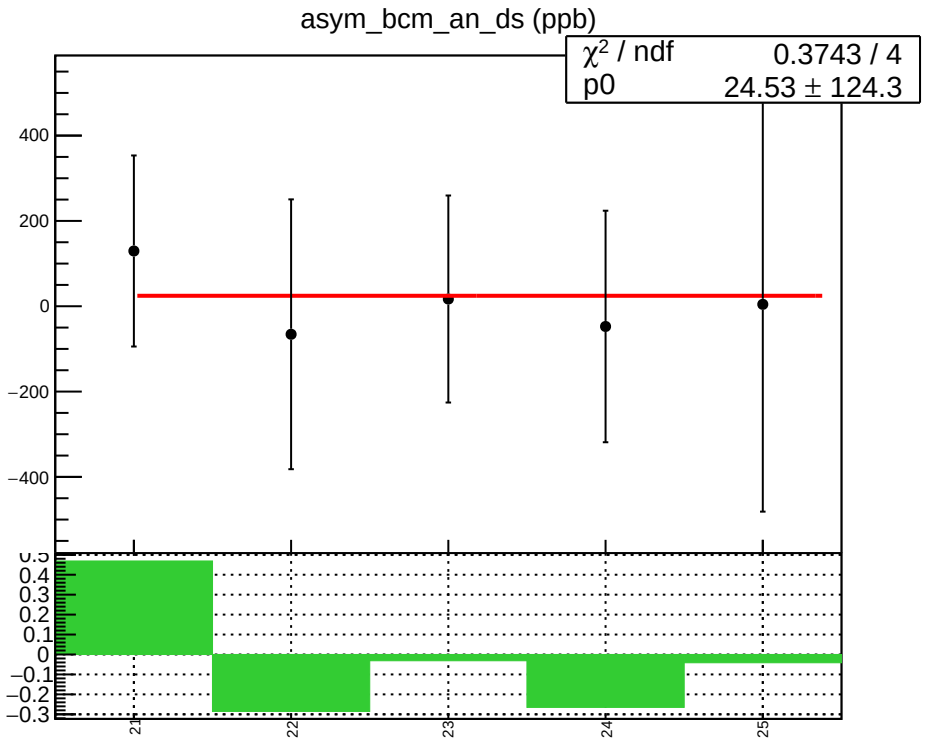
asym_bcm_target RMS (ppm)

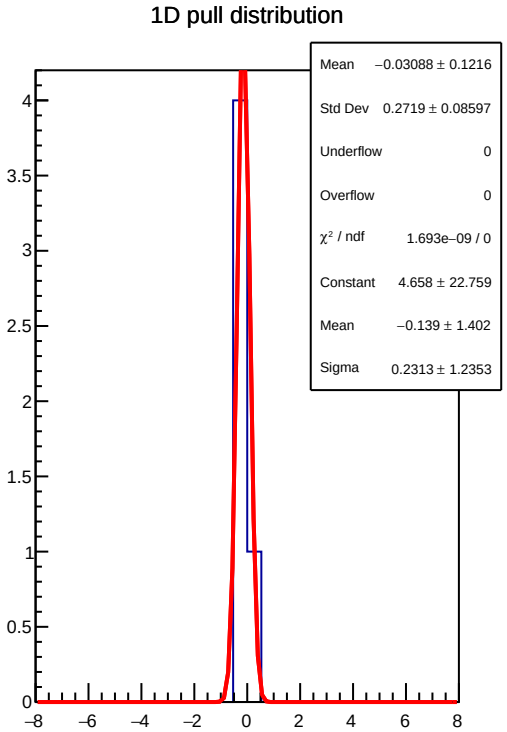


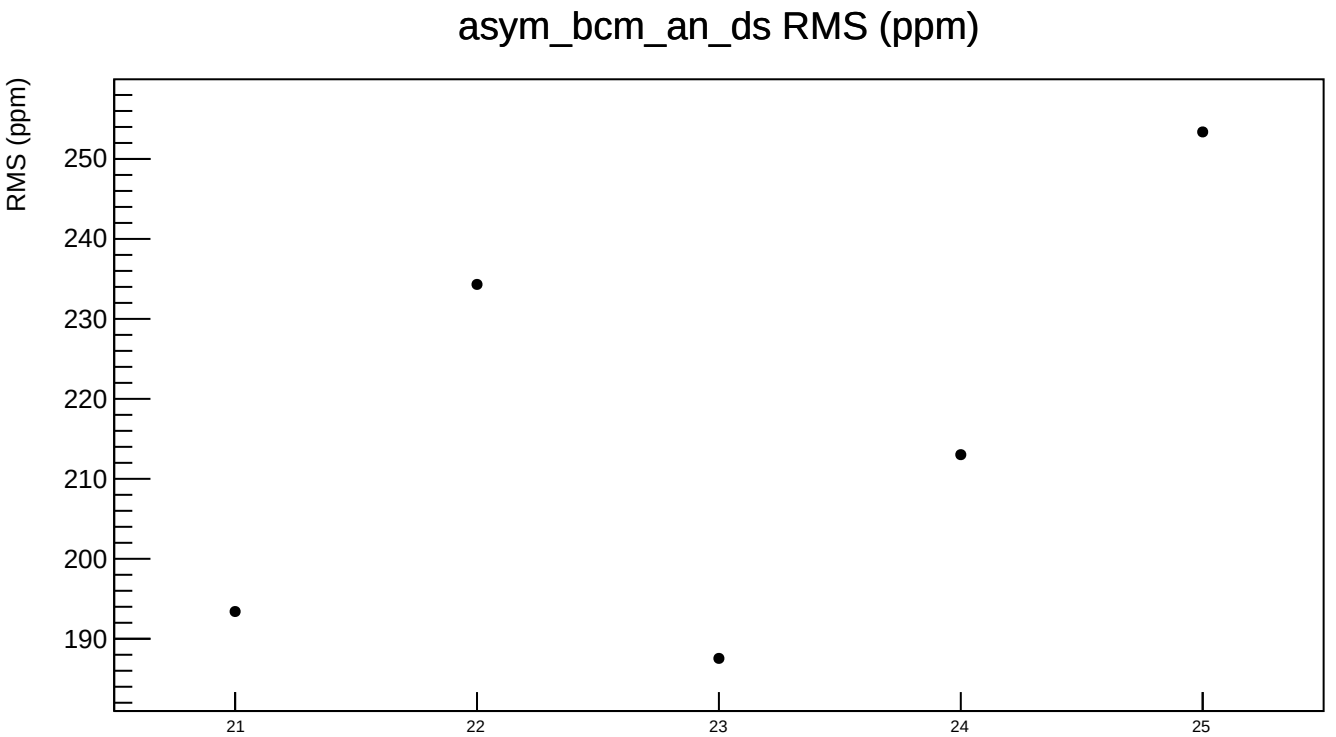

asym_bcm_an_us (ppb)
χ^2 / ndf 0.3285 / 4
p0 −21.57 ± 123.7
600
400
200
0
−200
−400
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
21
22
23
24
25

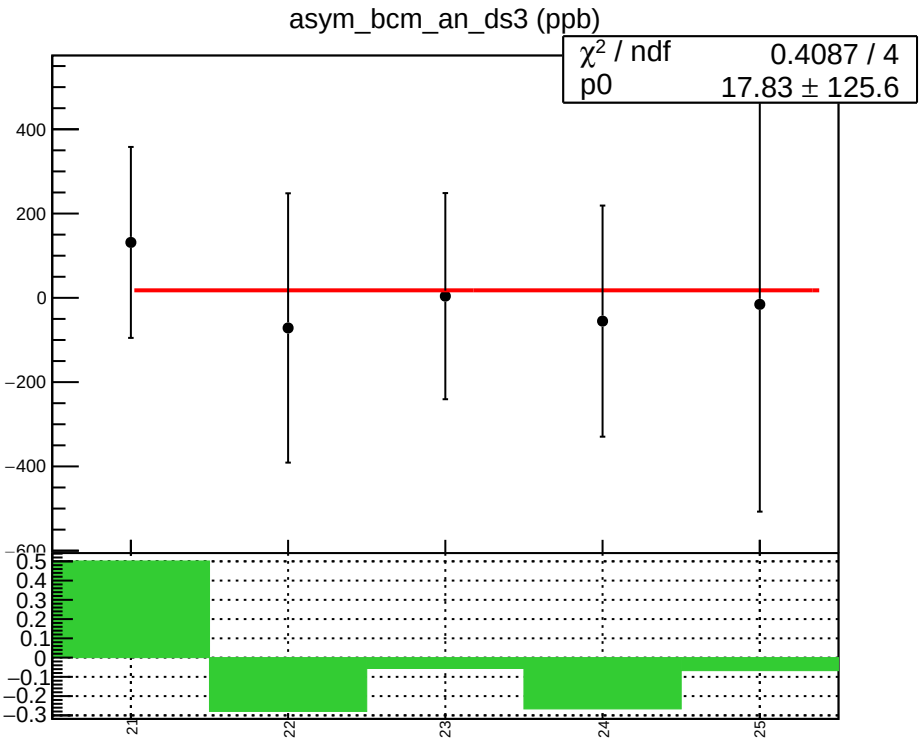

1D pull distribution
Mean −0.004741 ± 0.1146
Std Dev 0.2563 ± 0.08104
Underflow 0
Overflow 0
χ^2 / ndf 8.742e−11 / 0
Constant 3.937 ± 25.041
Mean 0.05984 ± 0.89561
Sigma 0.2806 ± 2.0322
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

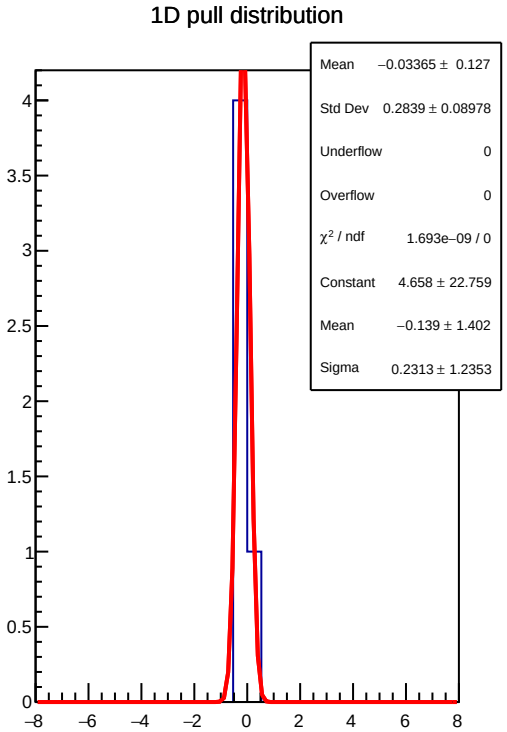

asym_bcm_an_us RMS (ppm)
RMS (ppm)
250
240
230
220
210
200
190
21
22
23
24
25

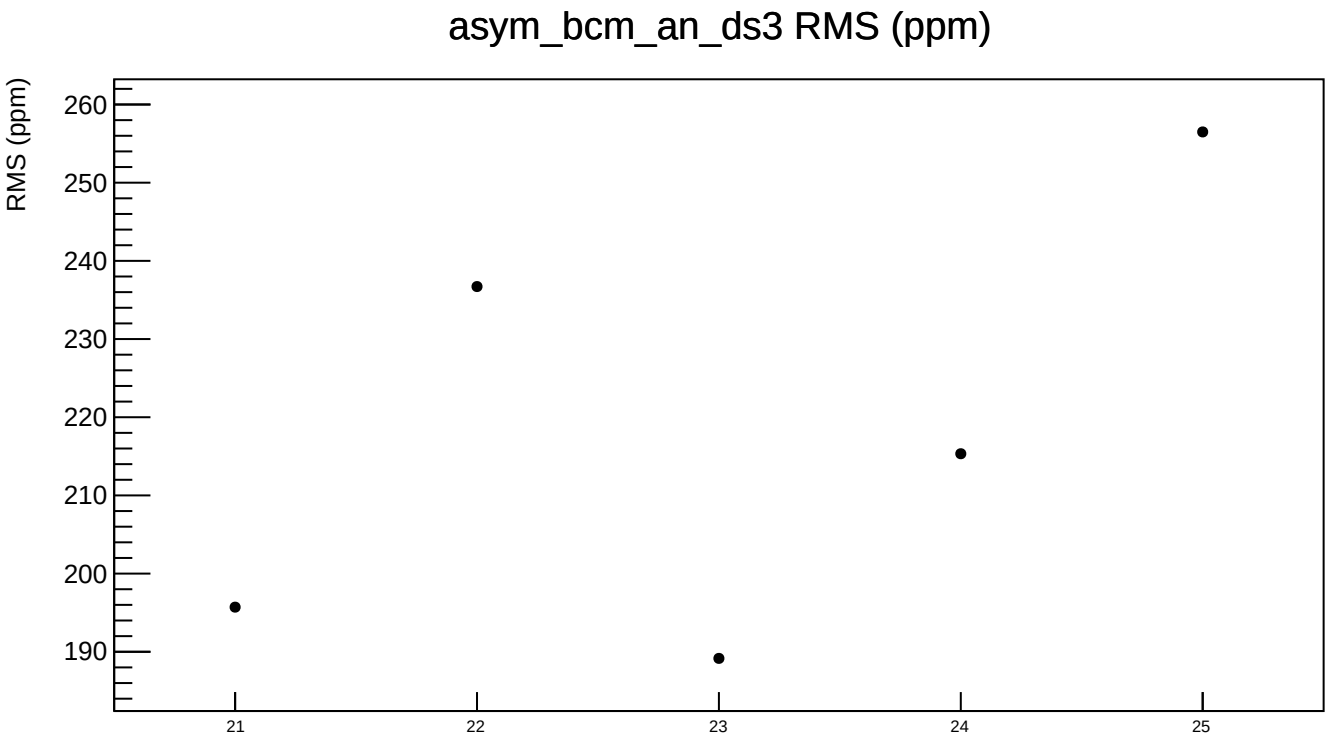

asym_bcm_an_ds (ppb)
χ² / ndf 0.3743 / 4
p0 24.53 ± 124.3
400
200
0
−200
−400
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
21
22
23
24
25

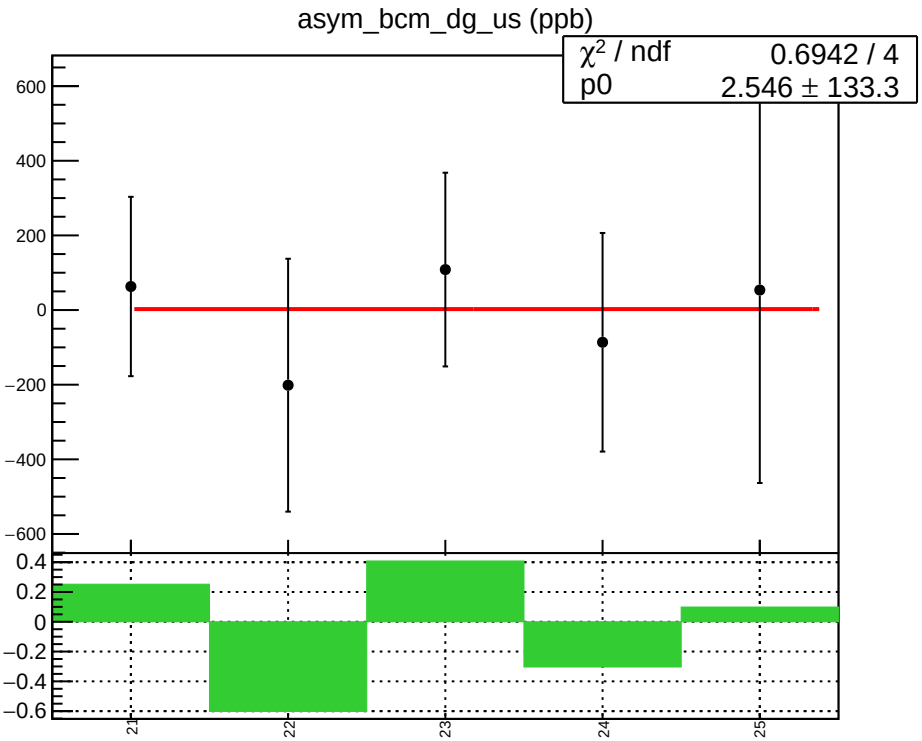

1D pull distribution
Mean −0.03088 ± 0.1216
Std Dev 0.2719 ± 0.08597
Underflow 0
Overflow 0
χ² / ndf 1.693e−09 / 0
Constant 4.658 ± 22.759
Mean −0.139 ± 1.402
Sigma 0.2313 ± 1.2353
4
3.5
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

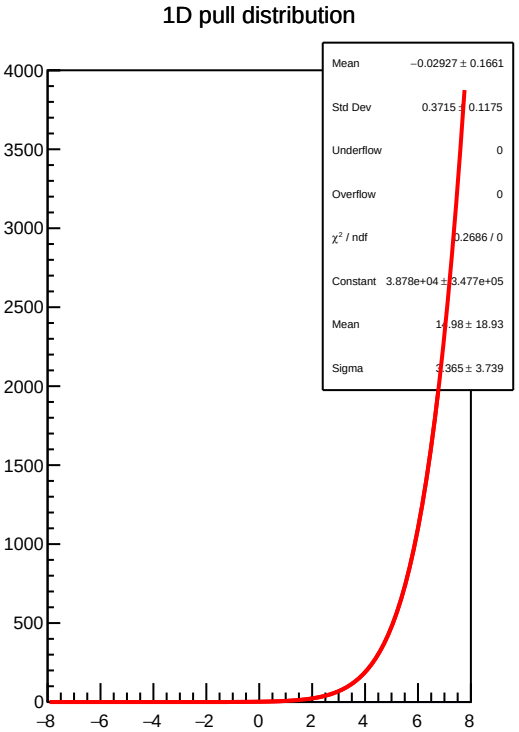

asym_bcm_an_ds RMS (ppm)
RMS (ppm)
250
240
230
220
210
200
190
21
22
23
24
25

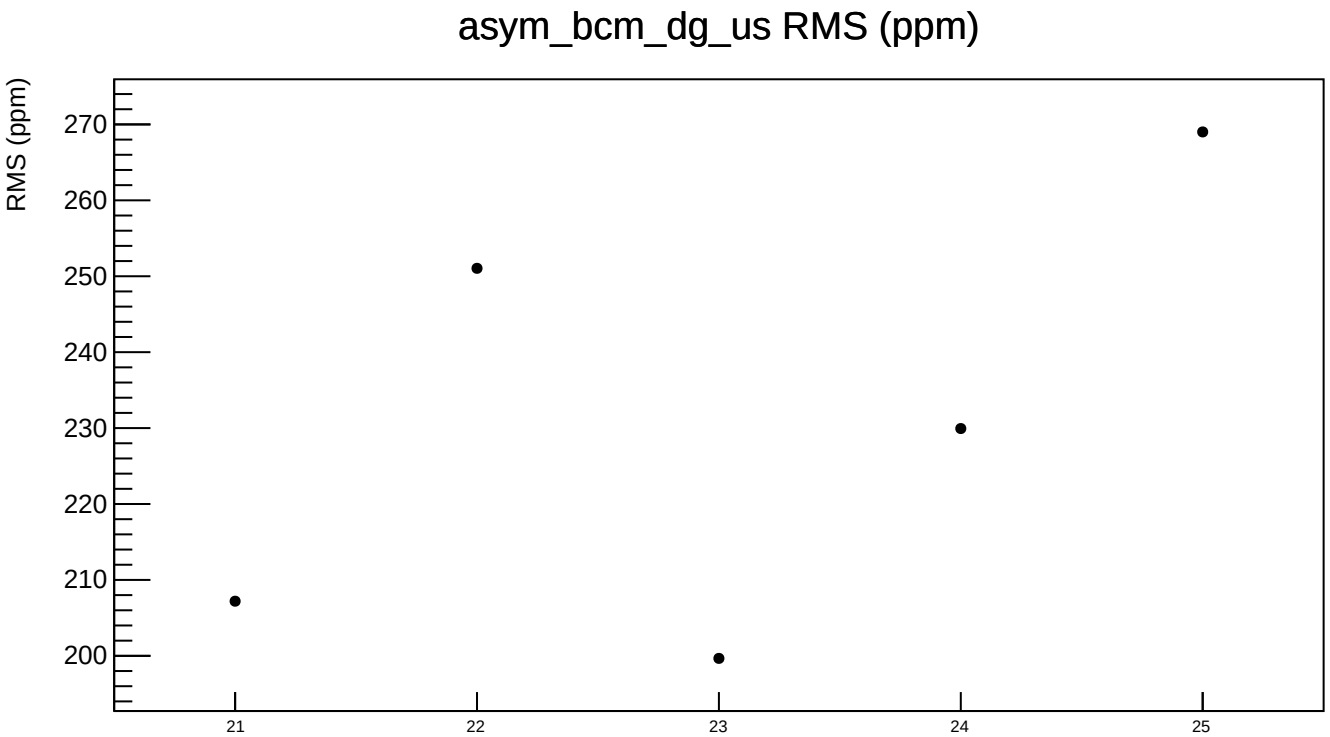

asym_bcm_an_ds3 (ppb)
χ² / ndf 0.4087 / 4
p0 17.83 ± 125.6
400
200
0
−200
−400
−600
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
21
22
23
24
25

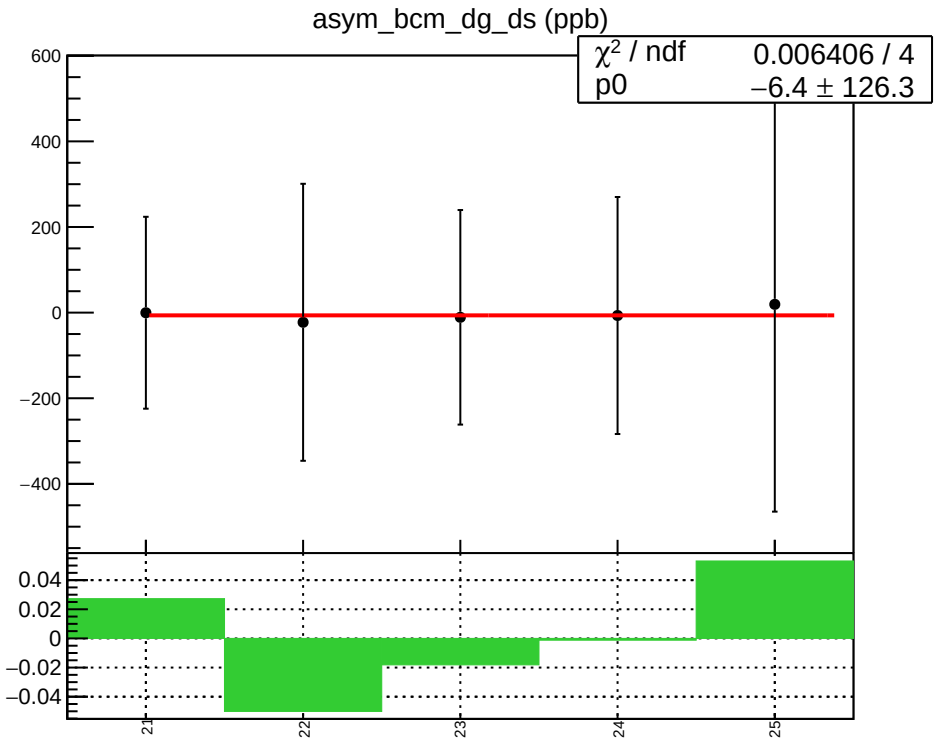

1D pull distribution
Mean −0.03365 ± 0.127
Std Dev 0.2839 ± 0.08978
Underflow 0
Overflow 0
χ² / ndf 1.693e−09 / 0
Constant 4.658 ± 22.759
Mean −0.139 ± 1.402
Sigma 0.2313 ± 1.2353
4
3.5
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

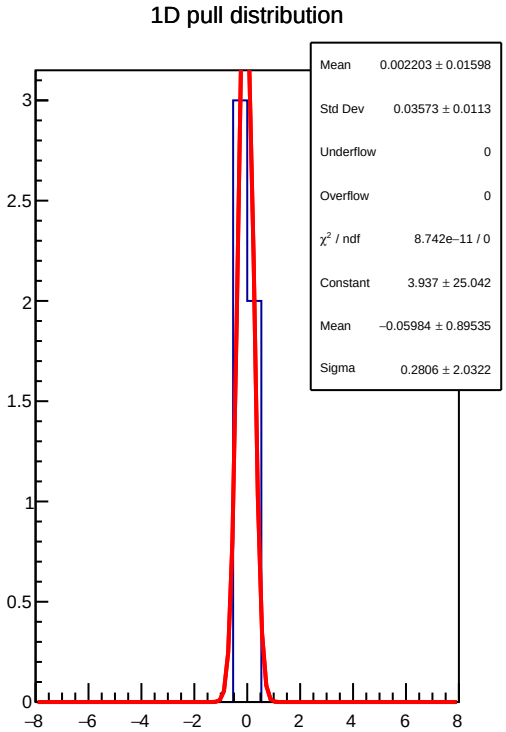

asym_bcm_an_ds3 RMS (ppm)
RMS (ppm)
260
250
240
230
220
210
200
190
21
22
23
24
25

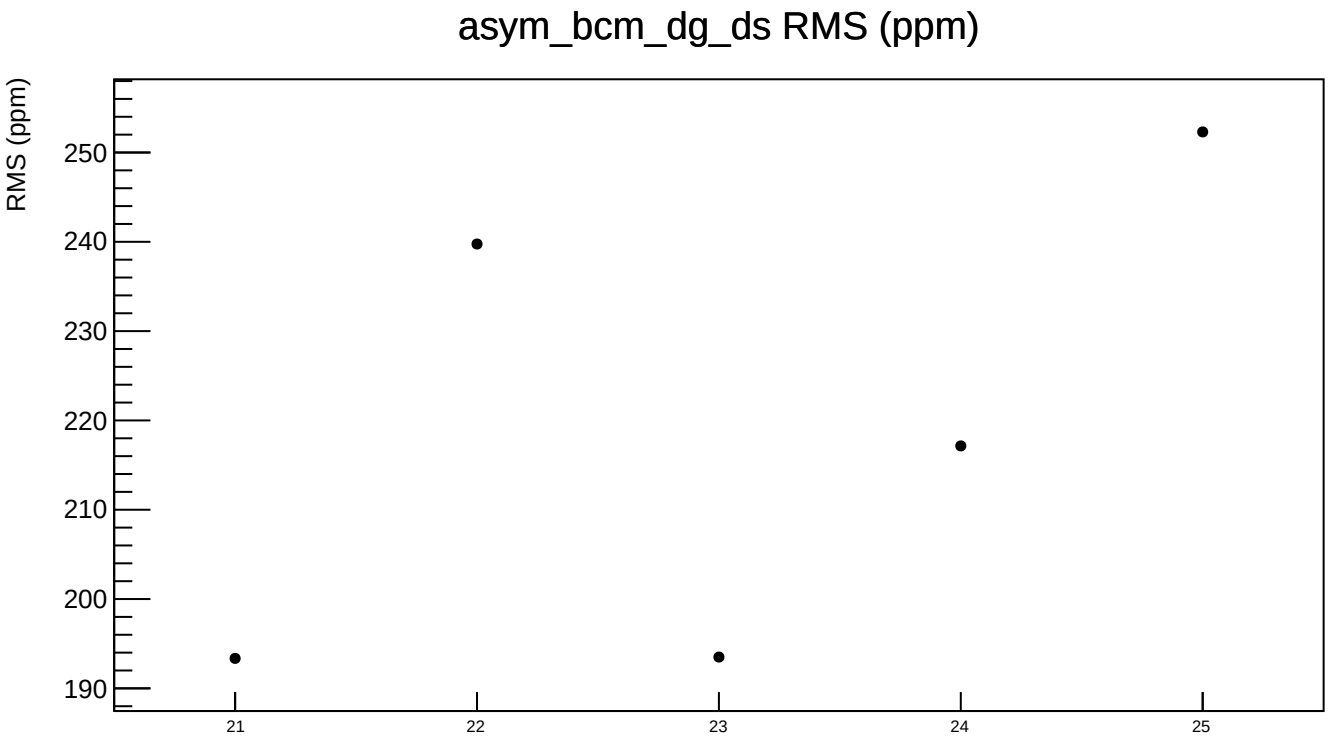

asym_bcm_dg_us (ppb)
χ² / ndf 0.6942 / 4
p0 2.546 ± 133.3
600
400
200
0
−200
−400
−600
0.4
0.2
0
−0.2
−0.4
−0.6
21
22
23
24
25

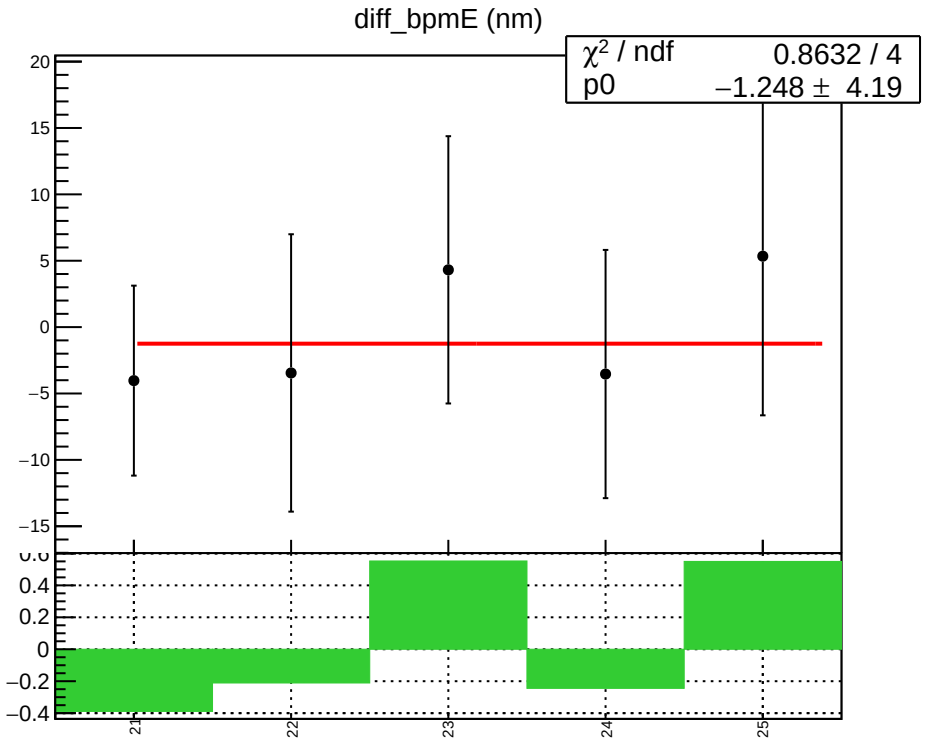

1D pull distribution
Mean −0.02927 ± 0.1661
Std Dev 0.3715 ± 0.1175
Underflow 0
Overflow 0
χ² / ndf 0.2686 / 0
Constant 3.878e+04 ± 3.477e+05
Mean 1[illegible].98 ± 18.93
Sigma 3.365 ± 3.739
4000
3500
3000
2500
2000
1500
1000
500
0
−8
−6
−4
−2
0
2
4
6
8

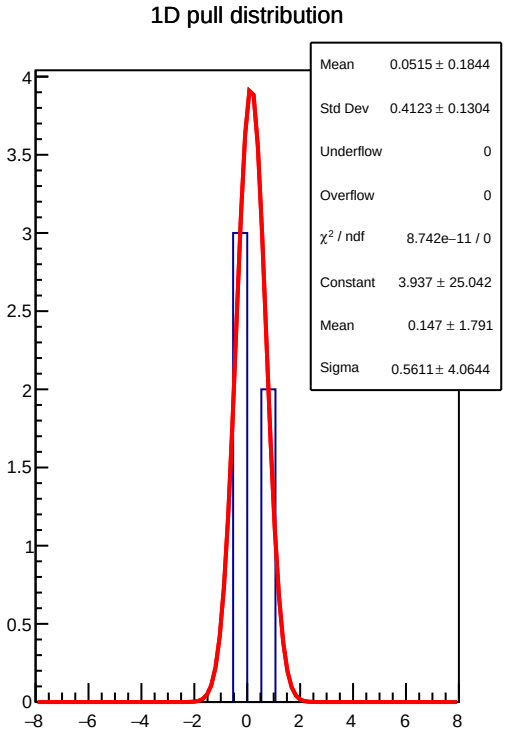

asym_bcm_dg_us RMS (ppm)
RMS (ppm)
270
260
250
240
230
220
210
200
21
22
23
24
25

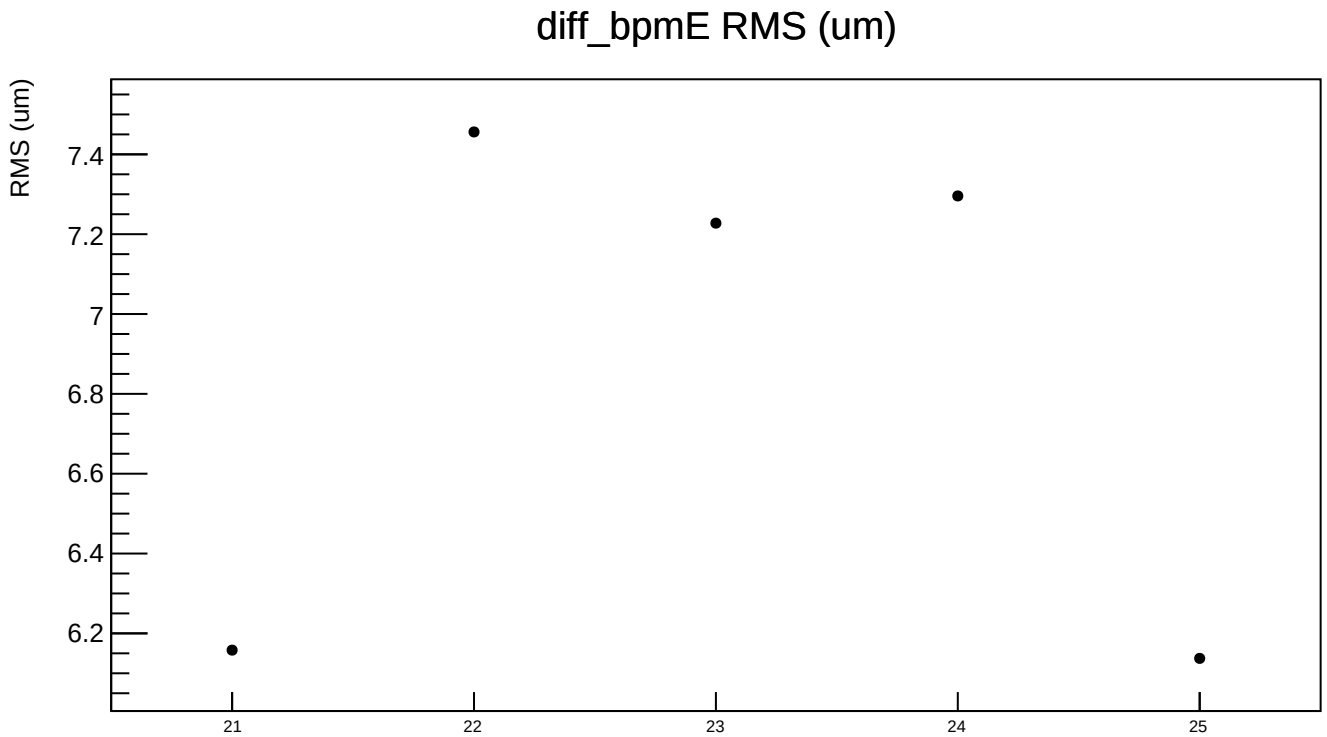

asym_bcm_dg_ds (ppb)
χ² / ndf 0.006406 / 4
p0 −6.4 ± 126.3
600
400
200
0
−200
−400
0.04
0.02
0
−0.02
−0.04
21
22
23
24
25

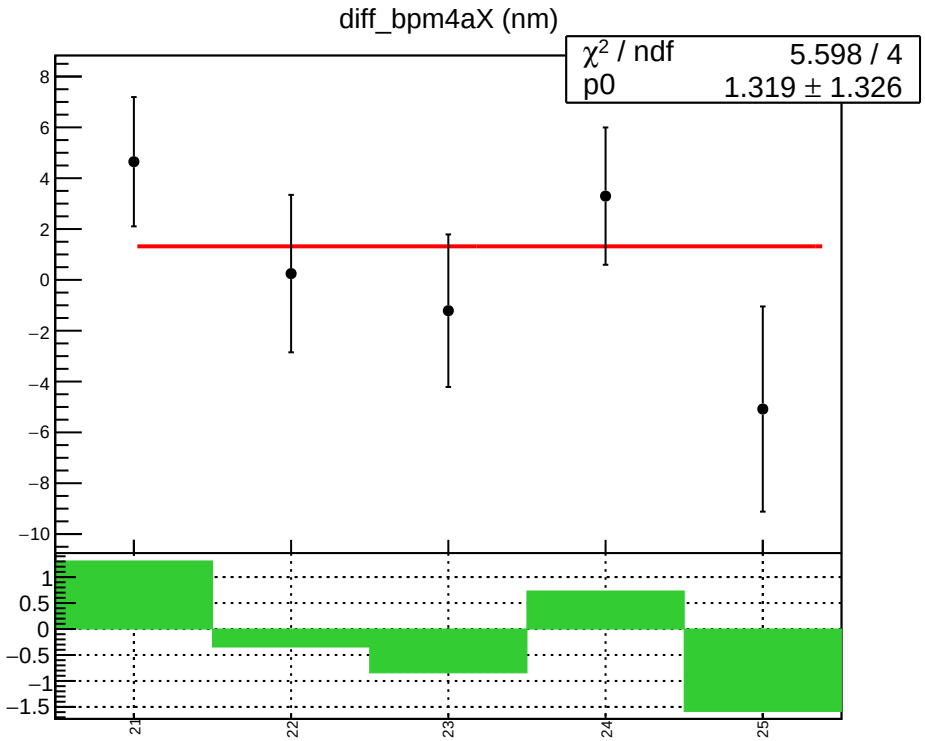

1D pull distribution
Mean 0.002203 ± 0.01598
Std Dev 0.03573 ± 0.0113
Underflow 0
Overflow 0
χ² / ndf 8.742e−11 / 0
Constant 3.937 ± 25.042
Mean −0.05984 ± 0.89535
Sigma 0.2806 ± 2.0322
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

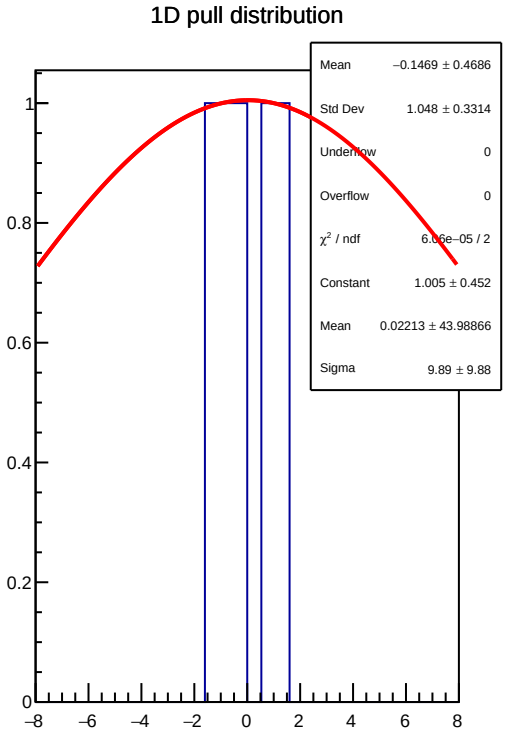

asym_bcm_dg_ds RMS (ppm)
RMS (ppm)
250
240
230
220
210
200
190
21
22
23
24
25

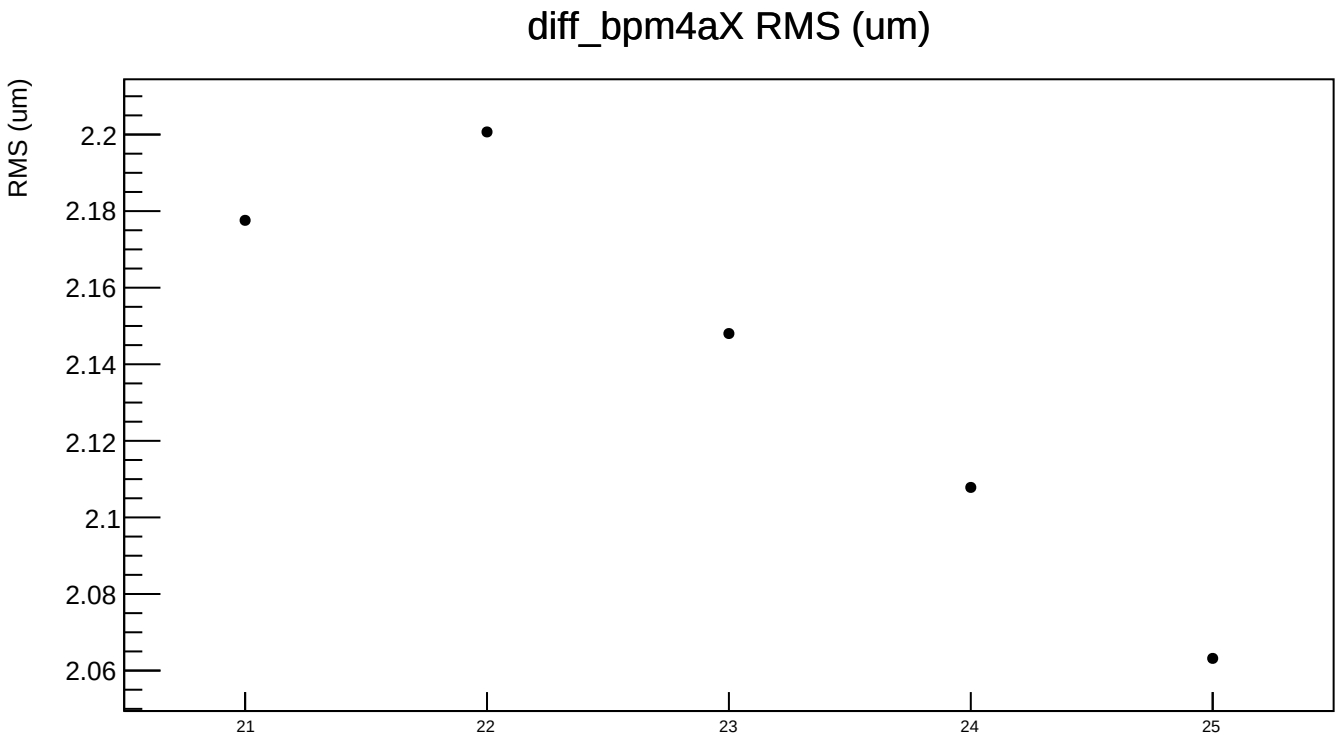

diff_bpmE (nm)
χ² / ndf 0.8632 / 4
p0 −1.248 ± 4.19
20
15
10
5
0
−5
−10
−15
0.6
0.4
0.2
0
−0.2
−0.4
21
22
23
24
25

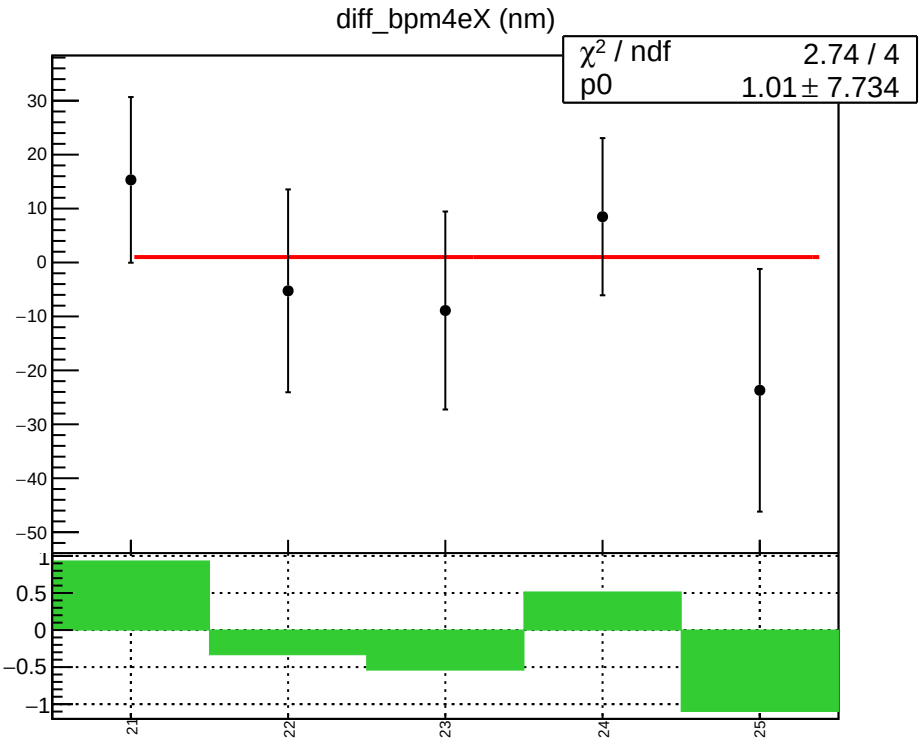

1D pull distribution
Mean 0.0515 ± 0.1844
Std Dev 0.4123 ± 0.1304
Underflow 0
Overflow 0
χ² / ndf 8.742e−11 / 0
Constant 3.937 ± 25.042
Mean 0.147 ± 1.791
Sigma 0.5611 ± 4.0644
4
3.5
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

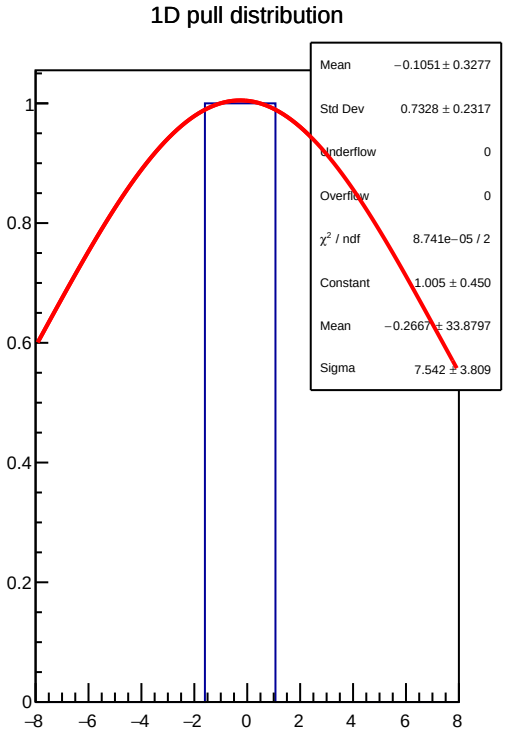

diff_bpmE RMS (um)
RMS (um)
7.4
7.2
7
6.8
6.6
6.4
6.2
21
22
23
24
25


diff_bpm4aX (nm)
χ² / ndf 5.598 / 4
p0 1.319 ± 1.326
8
6
4
2
0
−2
−4
−6
−8
−10
1
0.5
0
−0.5
−1
−1.5
21
22
23
24
25

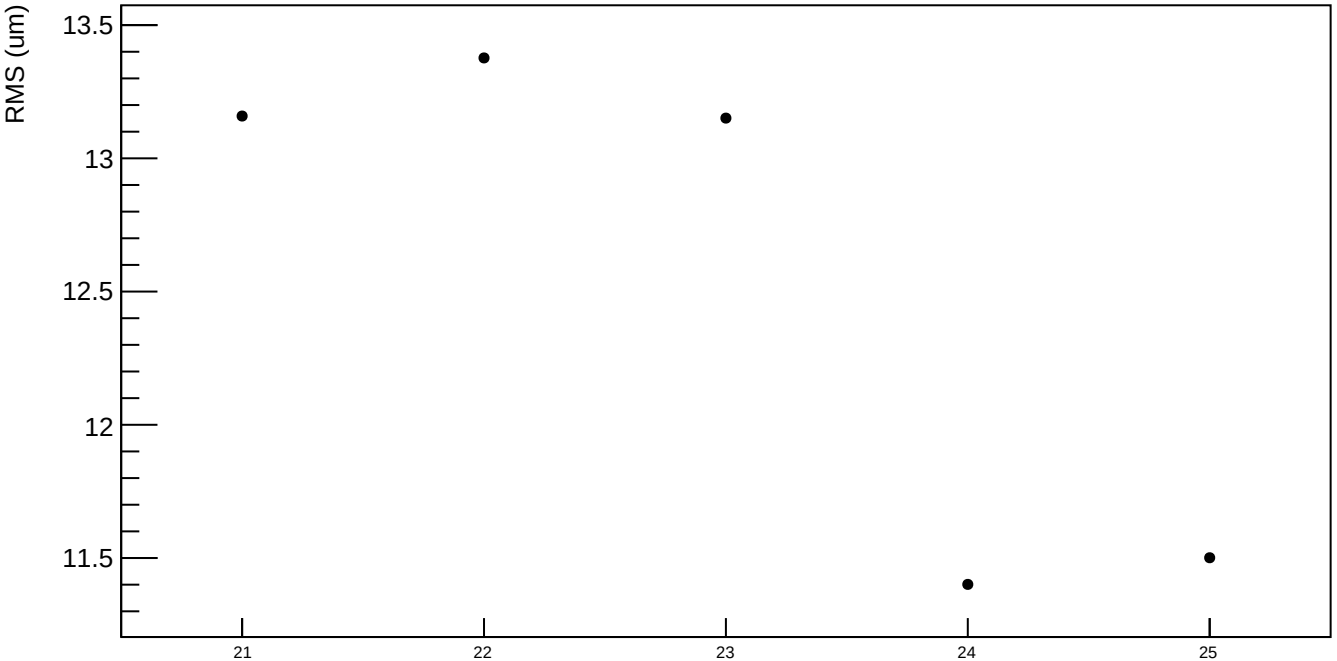

1D pull distribution
Mean −0.1469 ± 0.4686
Std Dev 1.048 ± 0.3314
Underflow 0
Overflow 0
χ² / ndf 6.06e−05 / 2
Constant 1.005 ± 0.452
Mean 0.02213 ± 43.98866
Sigma 9.89 ± 9.88
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

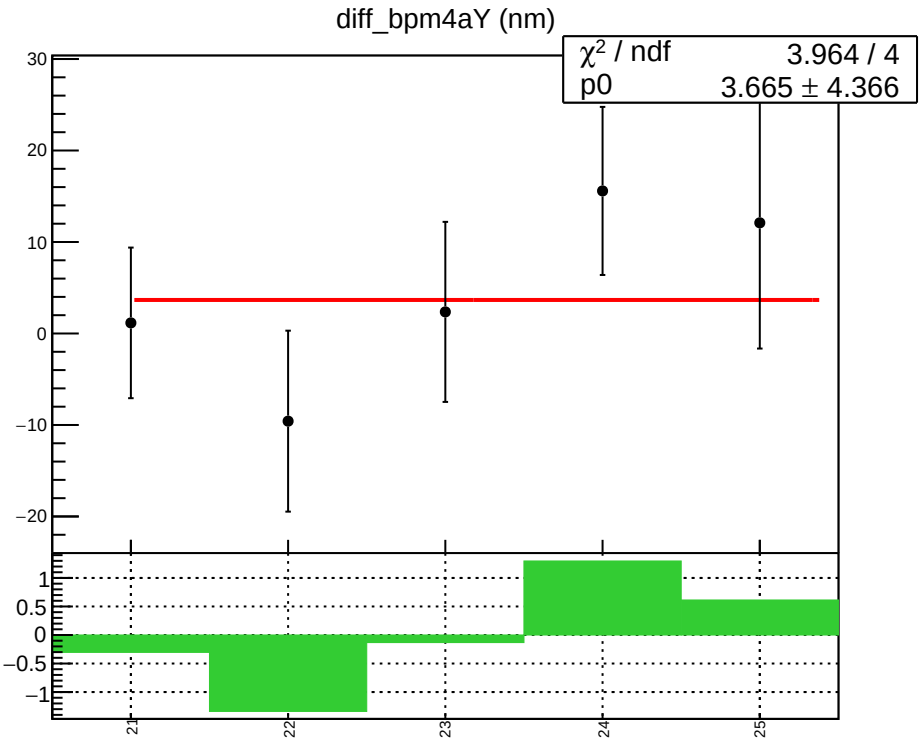

diff_bpm4aX RMS (um)
RMS (um)
2.2
2.18
2.16
2.14
2.12
2.1
2.08
2.06
21
22
23
24
25

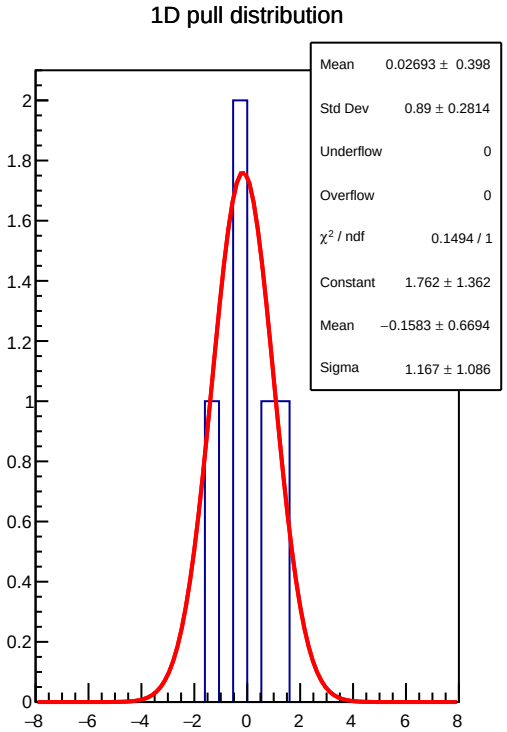

diff_bpm4eX (nm)
χ² / ndf 2.74 / 4
p0 1.01 ± 7.734
30
20
10
0
−10
−20
−30
−40
−50
1
0.5
0
−0.5
−1
21
22
23
24
25

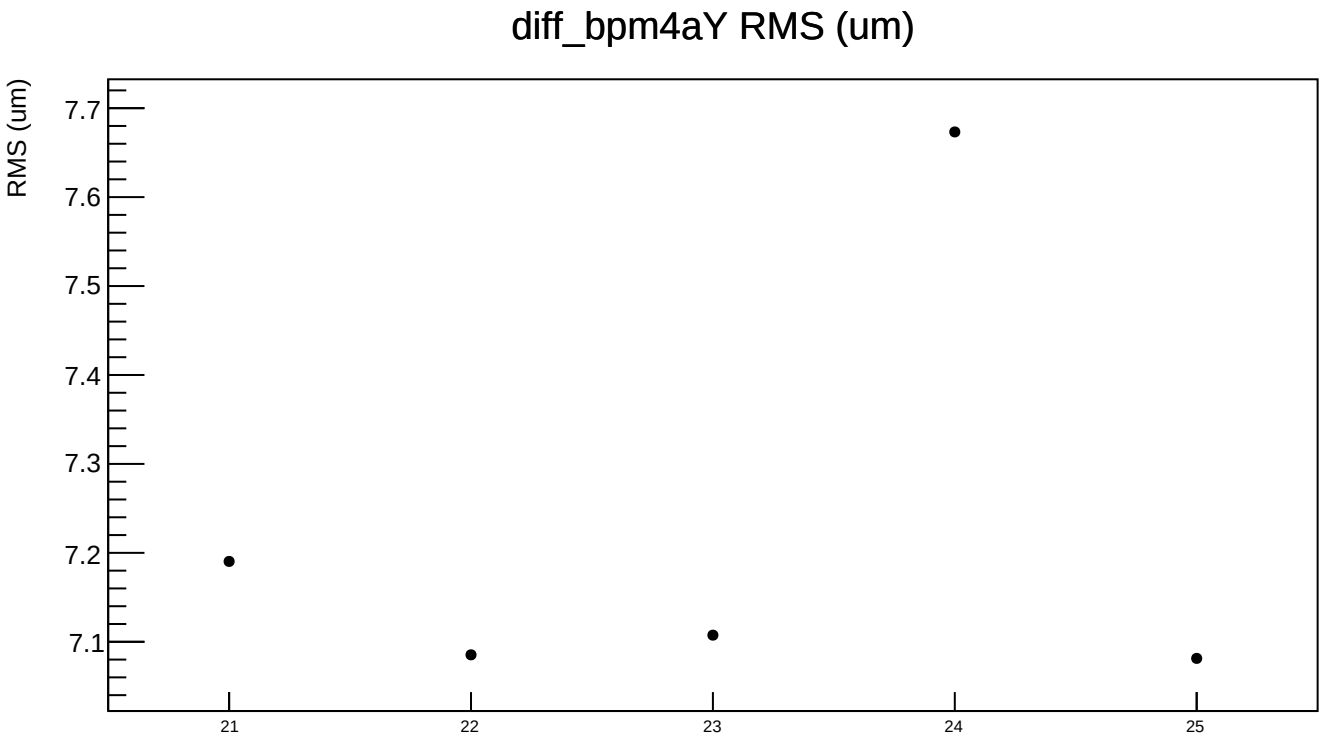

1D pull distribution
Mean −0.1051 ± 0.3277
Std Dev 0.7328 ± 0.2317
Underflow 0
Overflow 0
χ² / ndf 8.741e−05 / 2
Constant 1.005 ± 0.450
Mean −0.2667 ± 33.8797
Sigma 7.542 ± 3.809
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

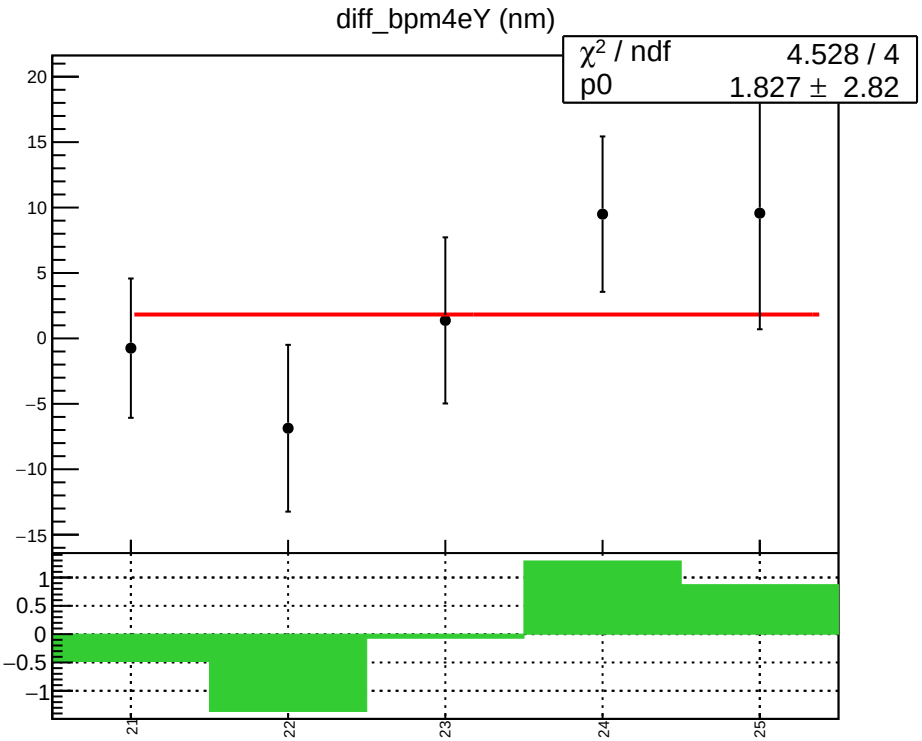
diff_bpm4eX RMS (um)

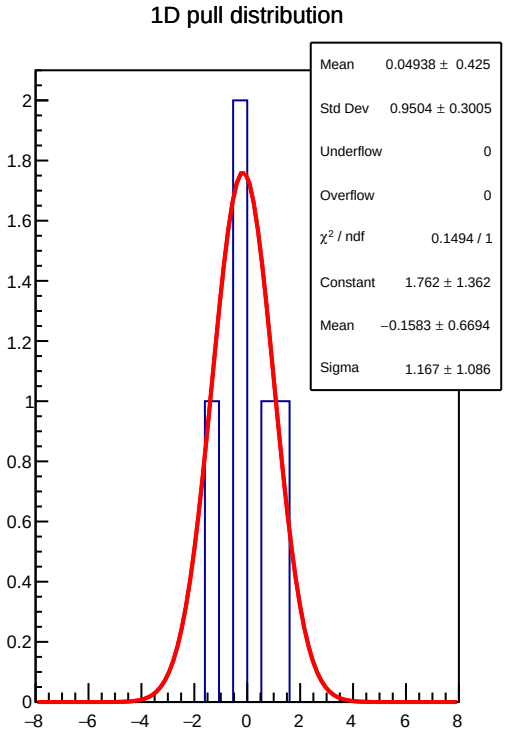


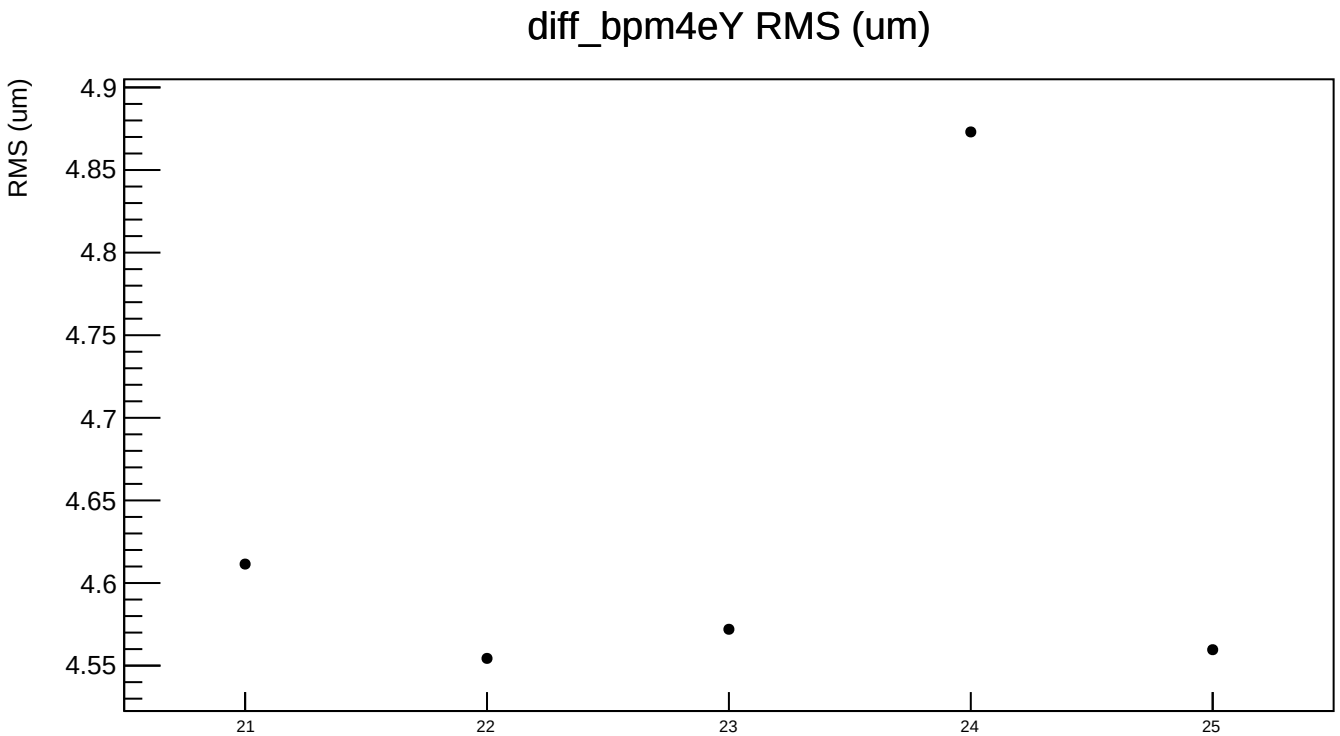

diff_bpm4aY (nm)
χ² / ndf 3.964 / 4
p0 3.665 ± 4.366
30
20
10
0
−10
−20
1
0.5
0
−0.5
−1
21
22
23
24
25

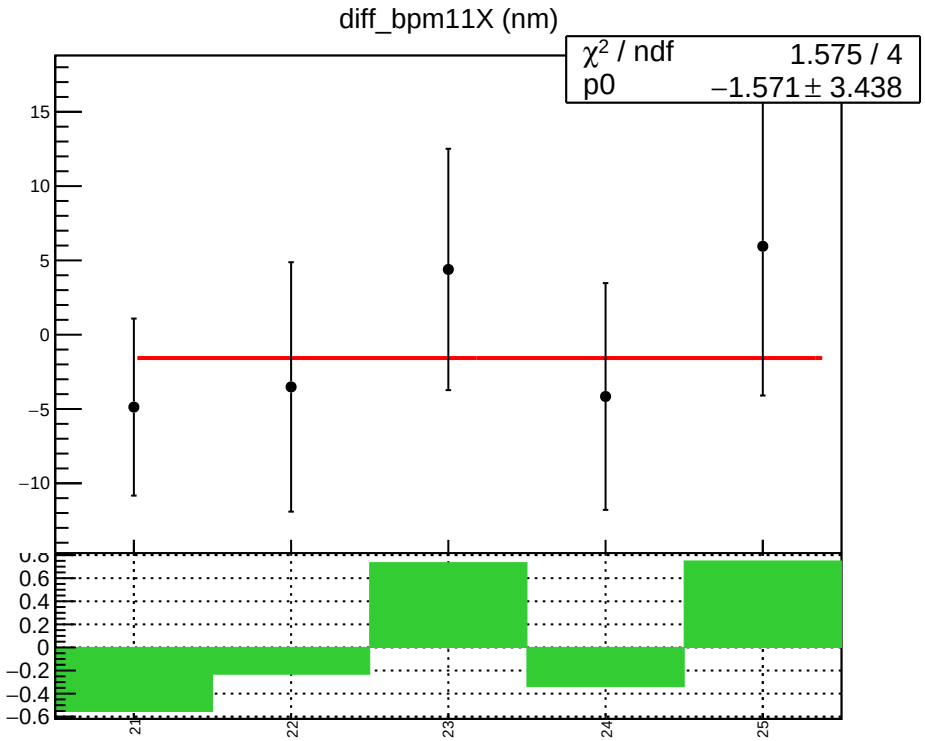

1D pull distribution
Mean 0.02693 ± 0.398
Std Dev 0.89 ± 0.2814
Underflow 0
Overflow 0
χ² / ndf 0.1494 / 1
Constant 1.762 ± 1.362
Mean −0.1583 ± 0.6694
Sigma 1.167 ± 1.086
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

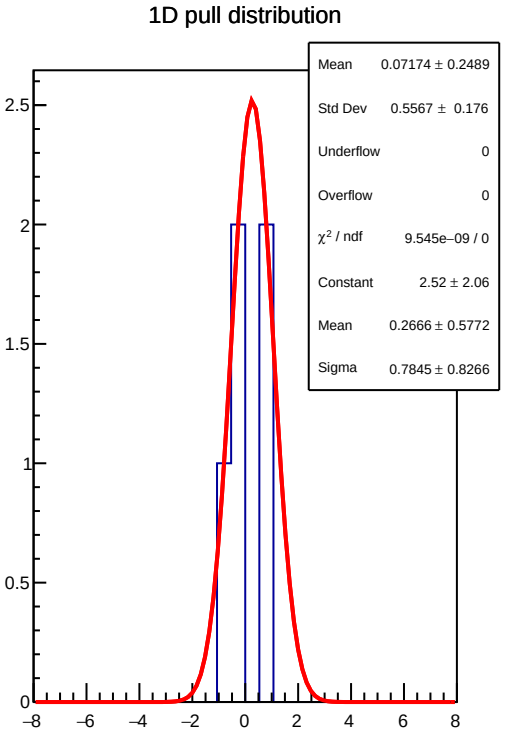

diff_bpm4aY RMS (um)
RMS (um)
7.7
7.6
7.5
7.4
7.3
7.2
7.1
21
22
23
24
25

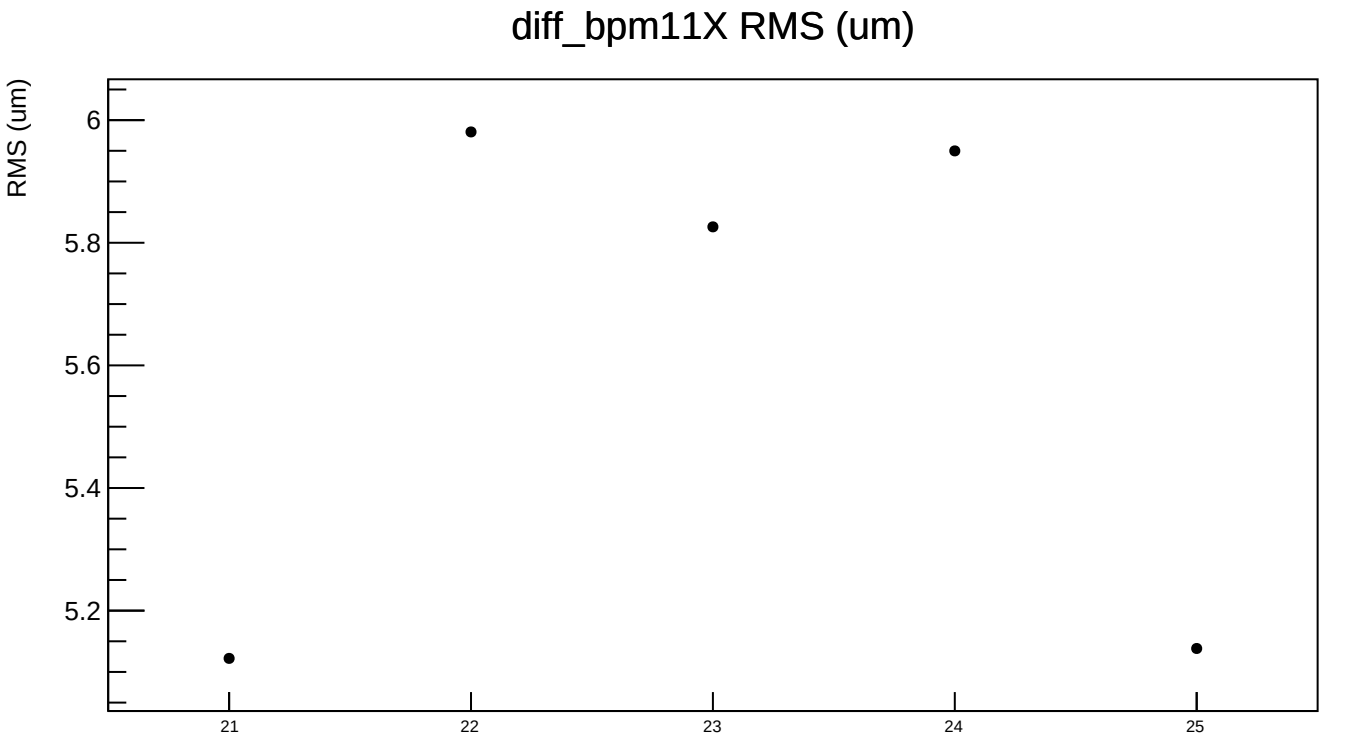

diff_bpm4eY (nm)
χ² / ndf 4.528 / 4
p0 1.827 ± 2.82
20
15
10
5
0
−5
−10
−15
1
0.5
0
−0.5
−1
21
22
23
24
25

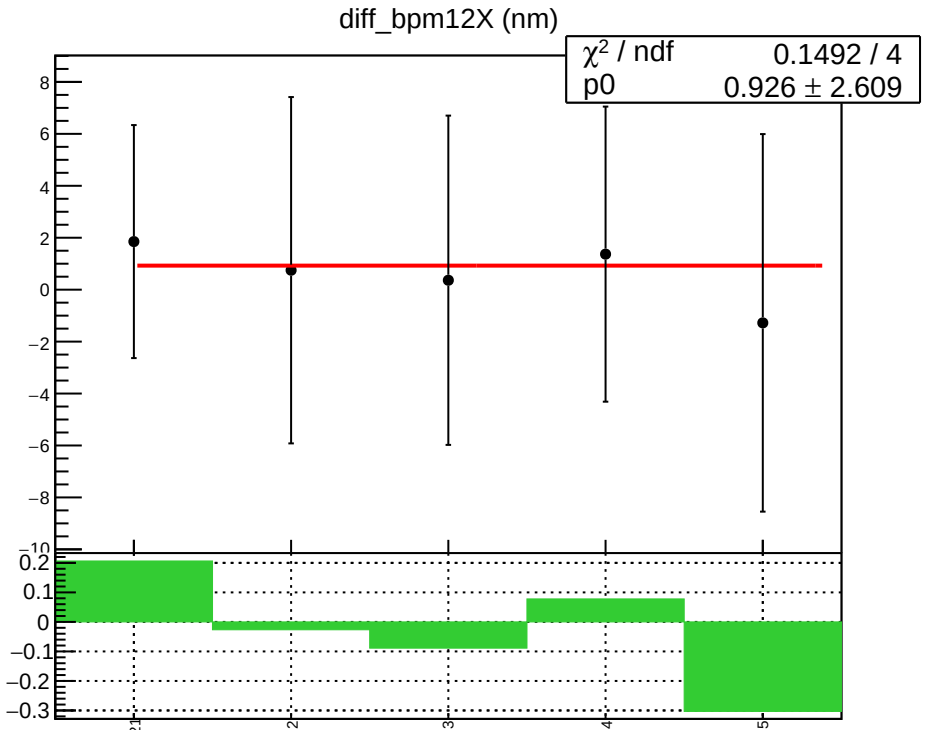

1D pull distribution
Mean 0.04938 ± 0.425
Std Dev 0.9504 ± 0.3005
Underflow 0
Overflow 0
χ² / ndf 0.1494 / 1
Constant 1.762 ± 1.362
Mean −0.1583 ± 0.6694
Sigma 1.167 ± 1.086
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

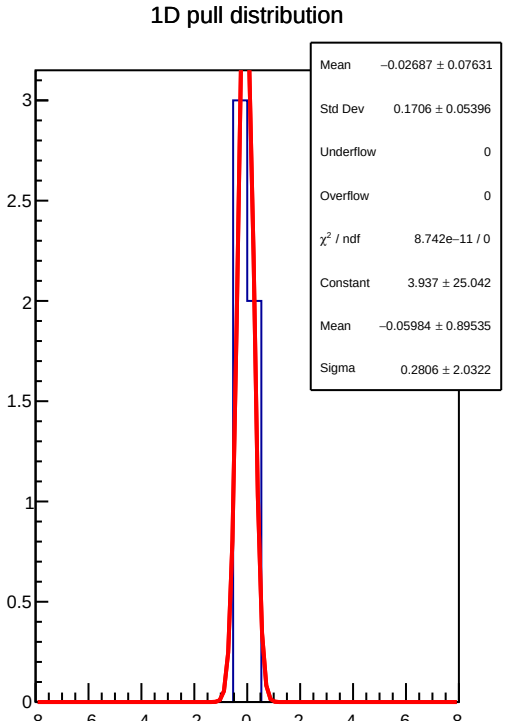

diff_bpm4eY RMS (um)
RMS (um)
4.9
4.85
4.8
4.75
4.7
4.65
4.6
4.55
21
22
23
24
25


diff_bpm11X (nm)
χ² / ndf 1.575 / 4
p0 −1.571 ± 3.438
15
10
5
0
−5
−10
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
21
22
23
24
25

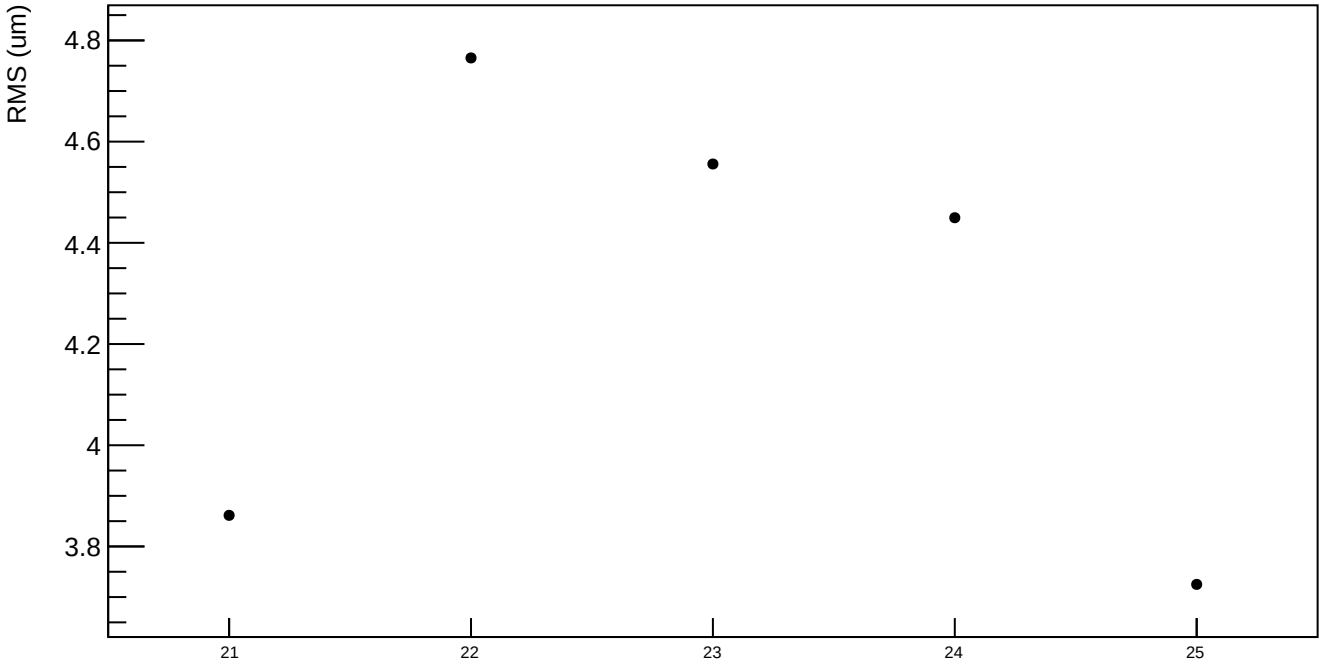

1D pull distribution
Mean 0.07174 ± 0.2489
Std Dev 0.5567 ± 0.176
Underflow 0
Overflow 0
χ² / ndf 9.545e−09 / 0
Constant 2.52 ± 2.06
Mean 0.2666 ± 0.5772
Sigma 0.7845 ± 0.8266
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

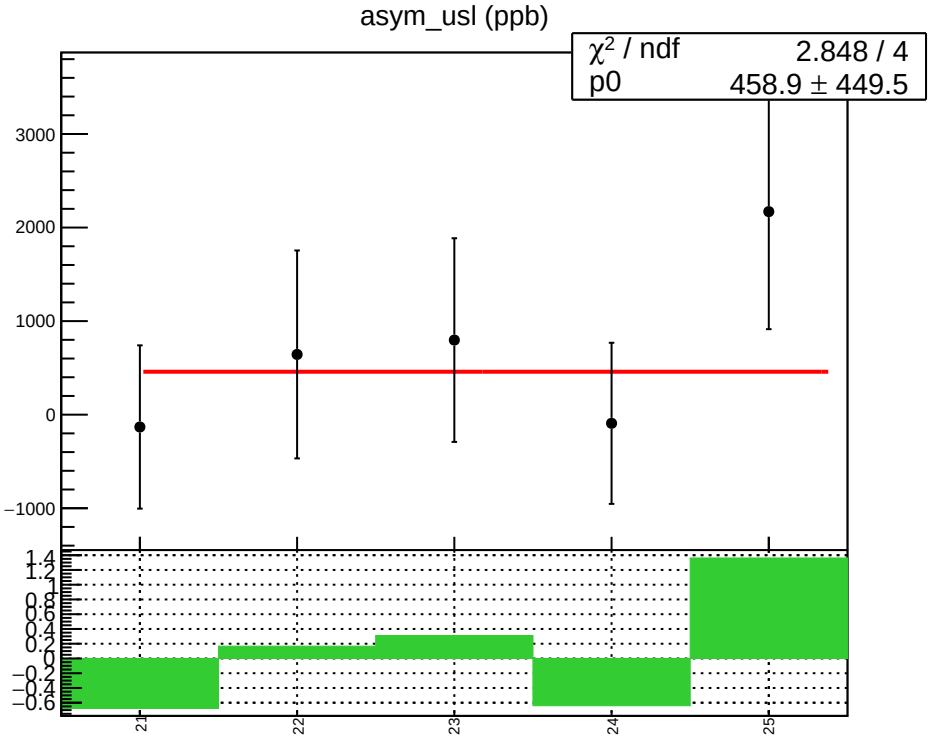

diff_bpm11X RMS (um)
RMS (um)
6
5.8
5.6
5.4
5.2
21
22
23
24
25

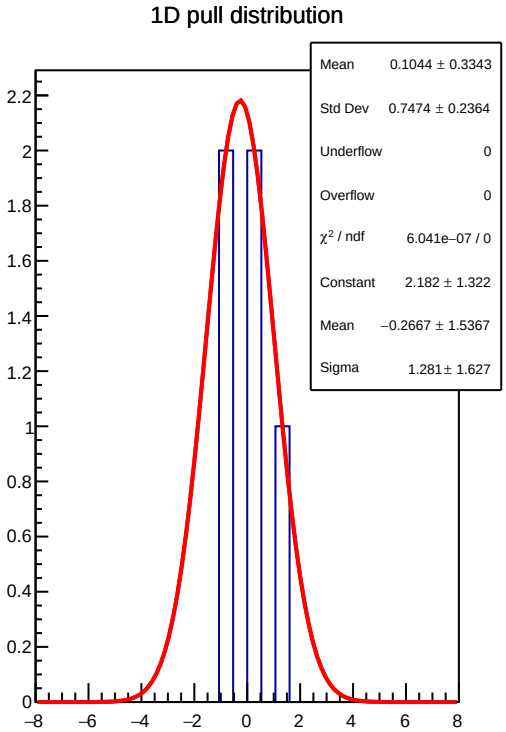

diff_bpm12X (nm)
χ² / ndf 0.1492 / 4
p0 0.926 ± 2.609
8
6
4
2
0
−2
−4
−6
−8
−10
0.2
0.1
0
−0.1
−0.2
−0.3
21
22
23
24
25

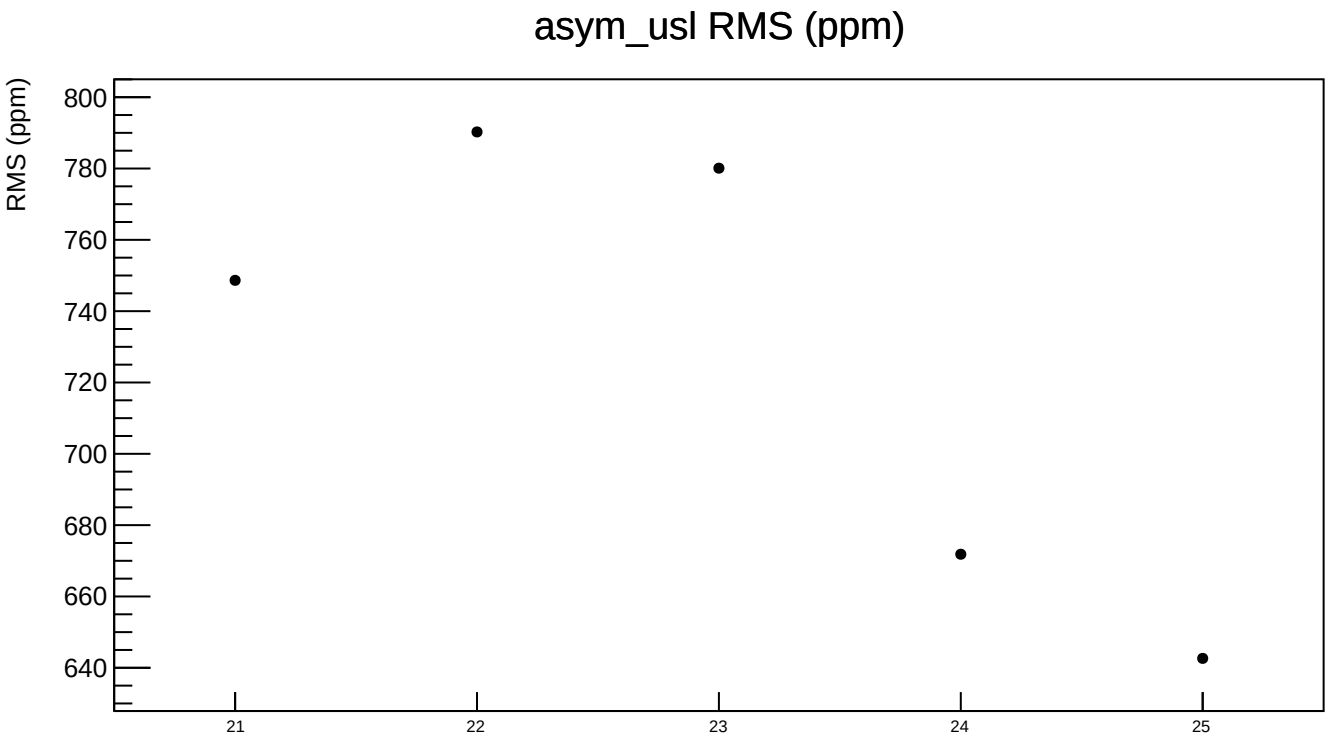

1D pull distribution
Mean −0.02687 ± 0.07631
Std Dev 0.1706 ± 0.05396
Underflow 0
Overflow 0
χ² / ndf 8.742e−11 / 0
Constant 3.937 ± 25.042
Mean −0.05984 ± 0.89535
Sigma 0.2806 ± 2.0322
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

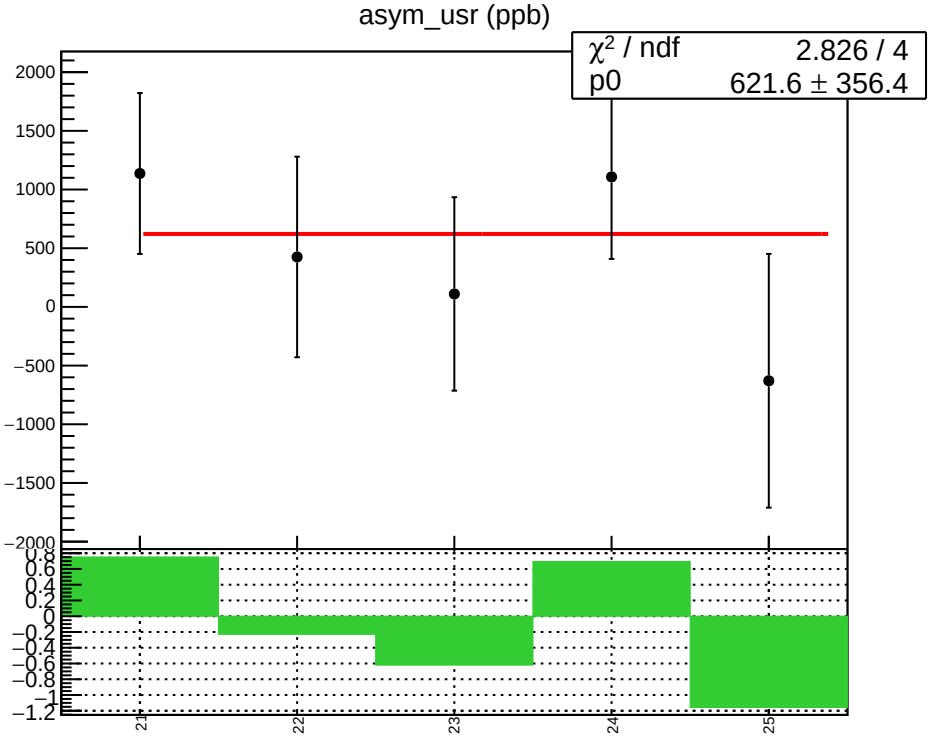
diff_bpm12X RMS (um)

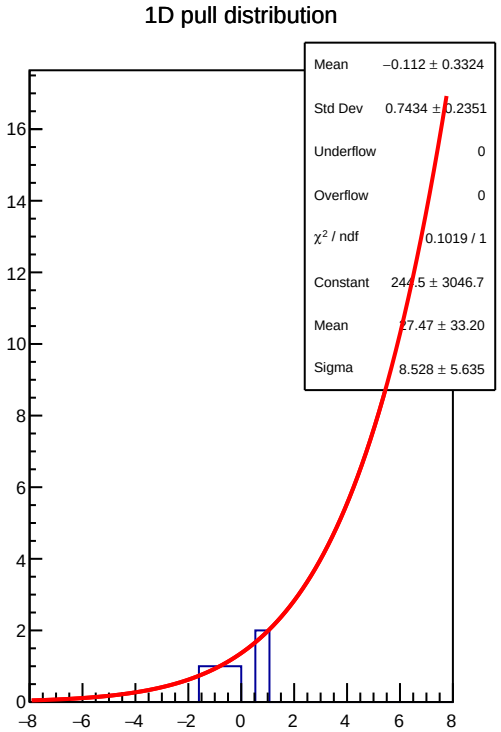


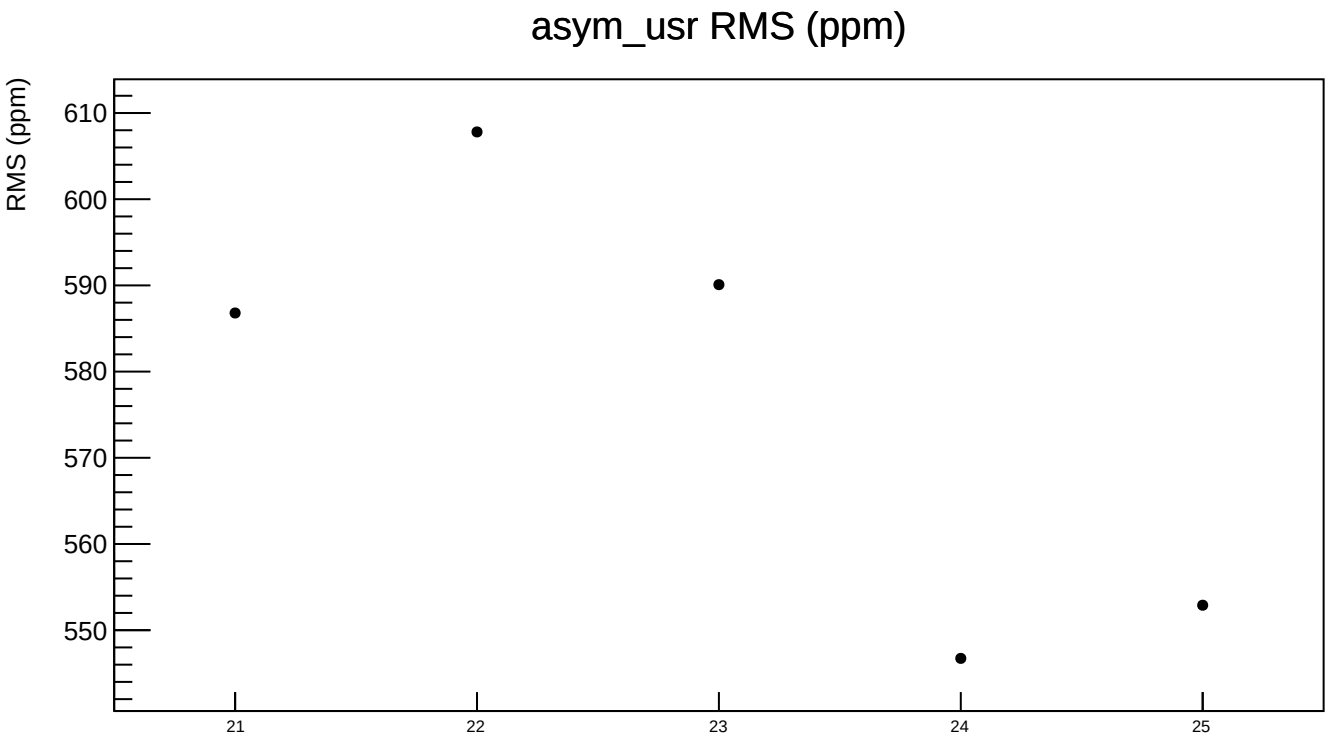

asym_usl (ppb)
χ² / ndf 2.848 / 4
p0 458.9 ± 449.5
3000
2000
1000
0
−1000
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
21
22
23
24
25

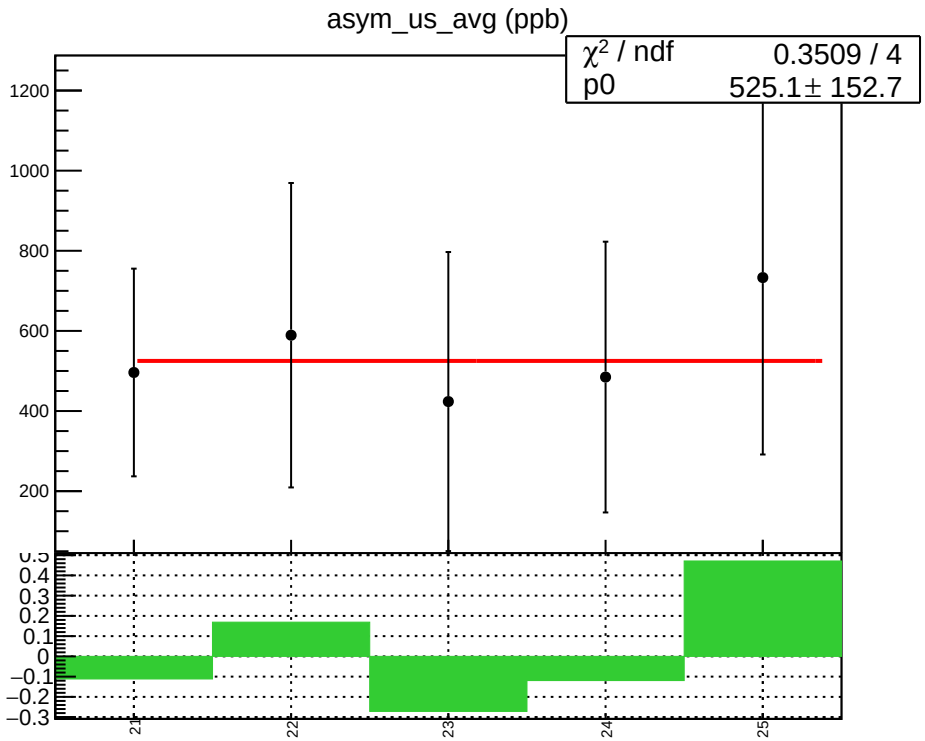

1D pull distribution
Mean 0.1044 ± 0.3343
Std Dev 0.7474 ± 0.2364
Underflow 0
Overflow 0
χ² / ndf 6.041e−07 / 0
Constant 2.182 ± 1.322
Mean −0.2667 ± 1.5367
Sigma 1.281± 1.627
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

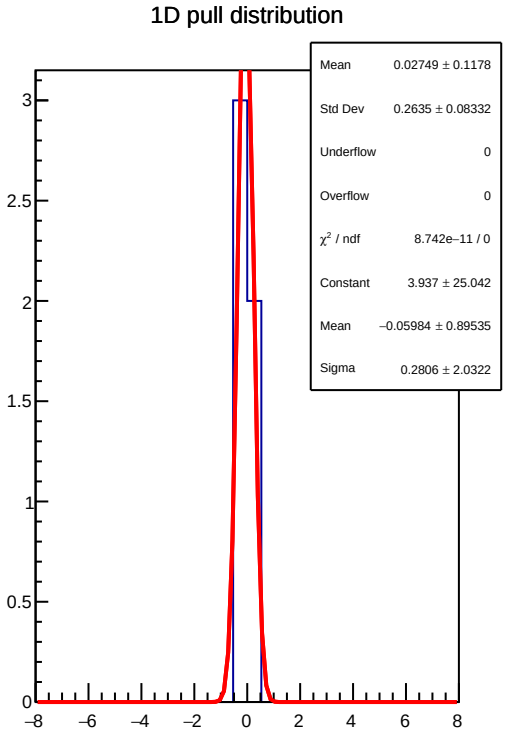

asym_usl RMS (ppm)
RMS (ppm)
800
780
760
740
720
700
680
660
640
21
22
23
24
25

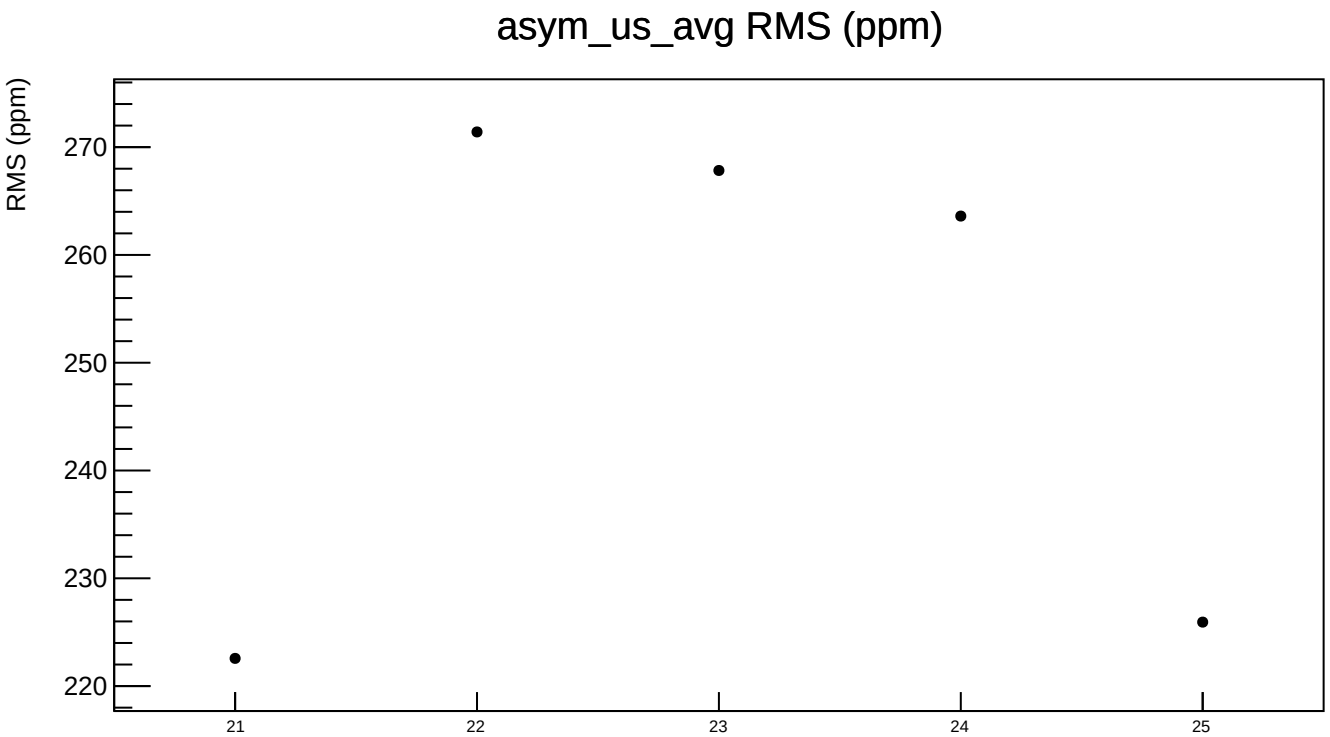

asym_usr (ppb)
χ² / ndf 2.826 / 4
p0 621.6 ± 356.4
2000
1500
1000
500
0
−500
−1000
−1500
−2000
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−1.2
21
22
23
24
25

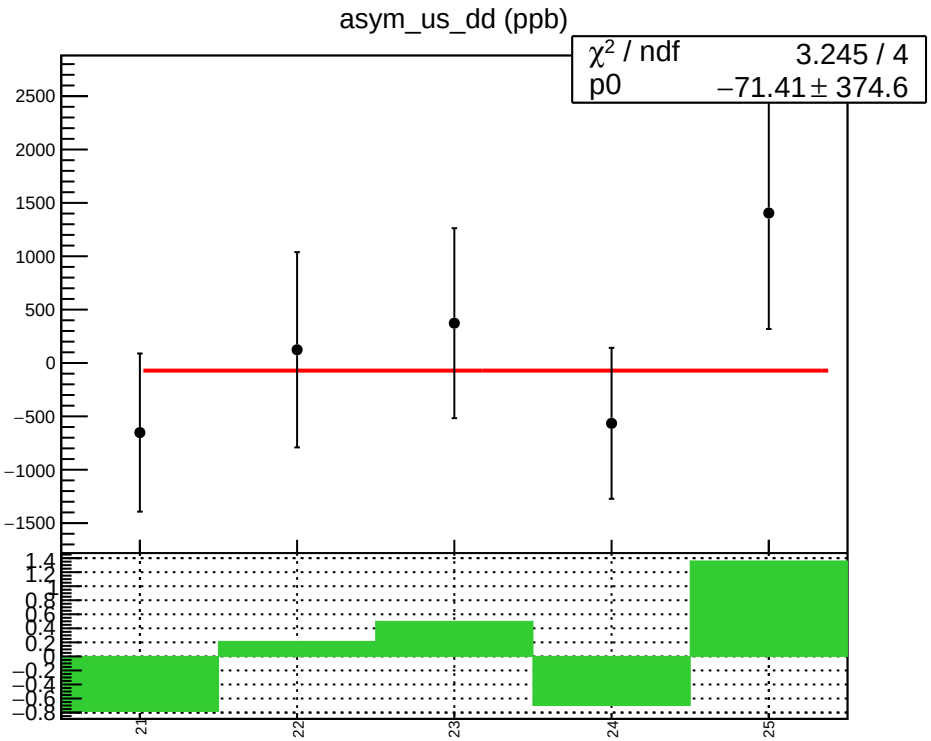

1D pull distribution
Mean −0.112 ± 0.3324
Std Dev 0.7434 ± 0.2351
Underflow 0
Overflow 0
χ² / ndf 0.1019 / 1
Constant 244.5 ± 3046.7
Mean 27.47 ± 33.20
Sigma 8.528 ± 5.635
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

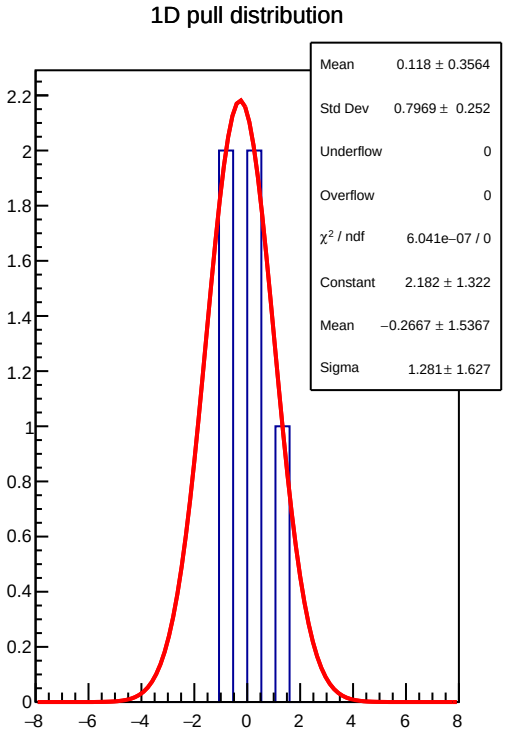

asym_usr RMS (ppm)
RMS (ppm)
610
600
590
580
570
560
550
21
22
23
24
25


asym_us_avg (ppb)
χ² / ndf 0.3509 / 4
p0 525.1 ± 152.7
1200
1000
800
600
400
200
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
21
22
23
24
25

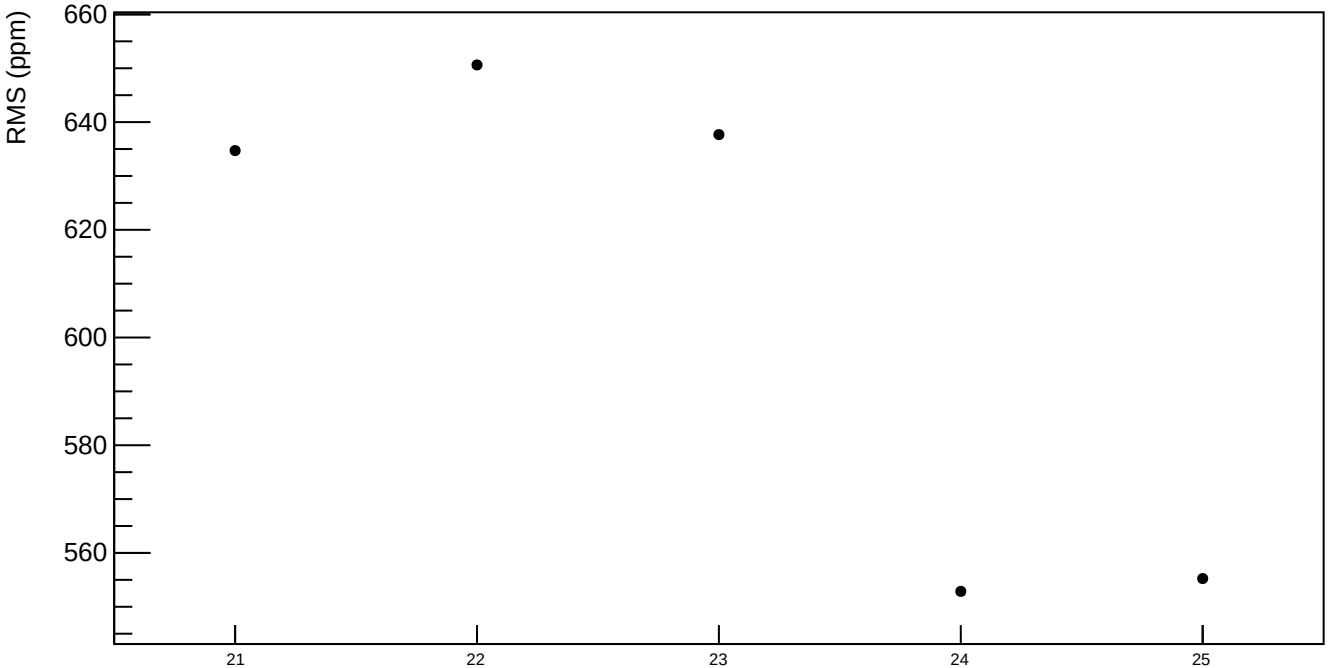

1D pull distribution
Mean 0.02749 ± 0.1178
Std Dev 0.2635 ± 0.08332
Underflow 0
Overflow 0
χ² / ndf 8.742e−11 / 0
Constant 3.937 ± 25.042
Mean −0.05984 ± 0.89535
Sigma 0.2806 ± 2.0322
3
2.5
2
1.5
1
0.5
0
−8
−6
−4
−2
0
2
4
6
8

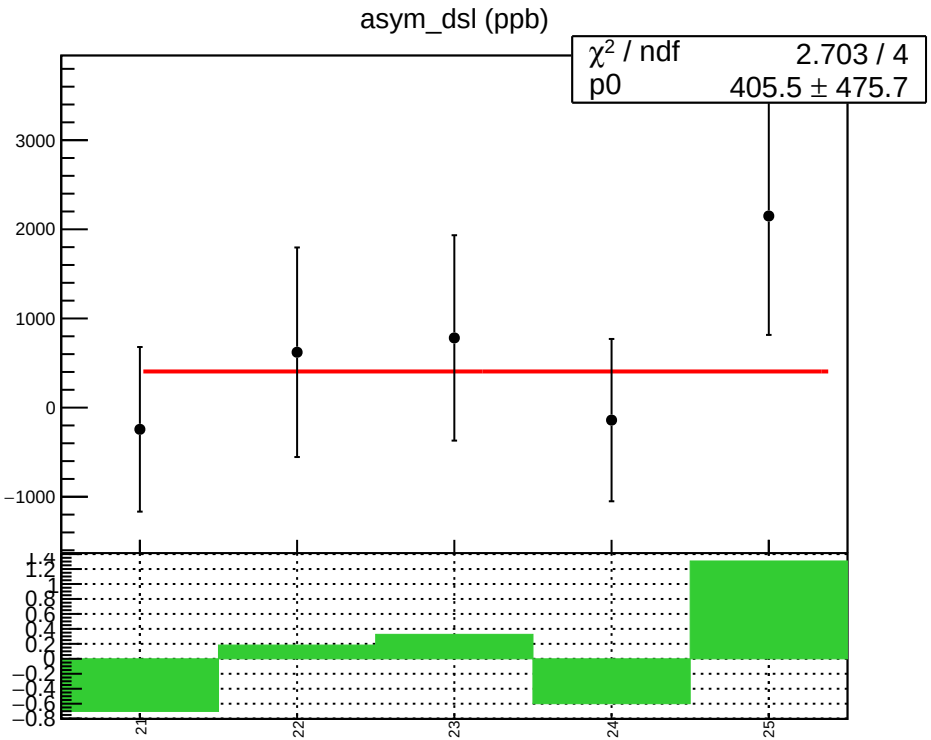

asym_us_avg RMS (ppm)
RMS (ppm)
270
260
250
240
230
220
21
22
23
24
25

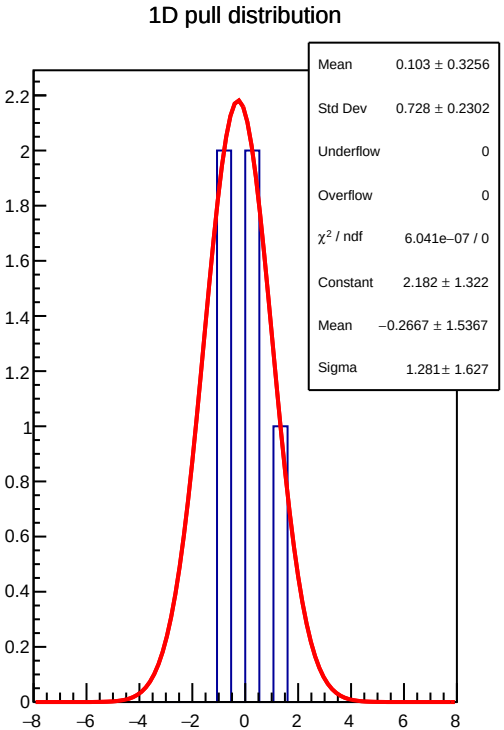

asym_us_dd (ppb)
χ² / ndf 3.245 / 4
p0 −71.41 ± 374.6
2500
2000
1500
1000
500
0
−500
−1000
−1500
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
21
22
23
24
25

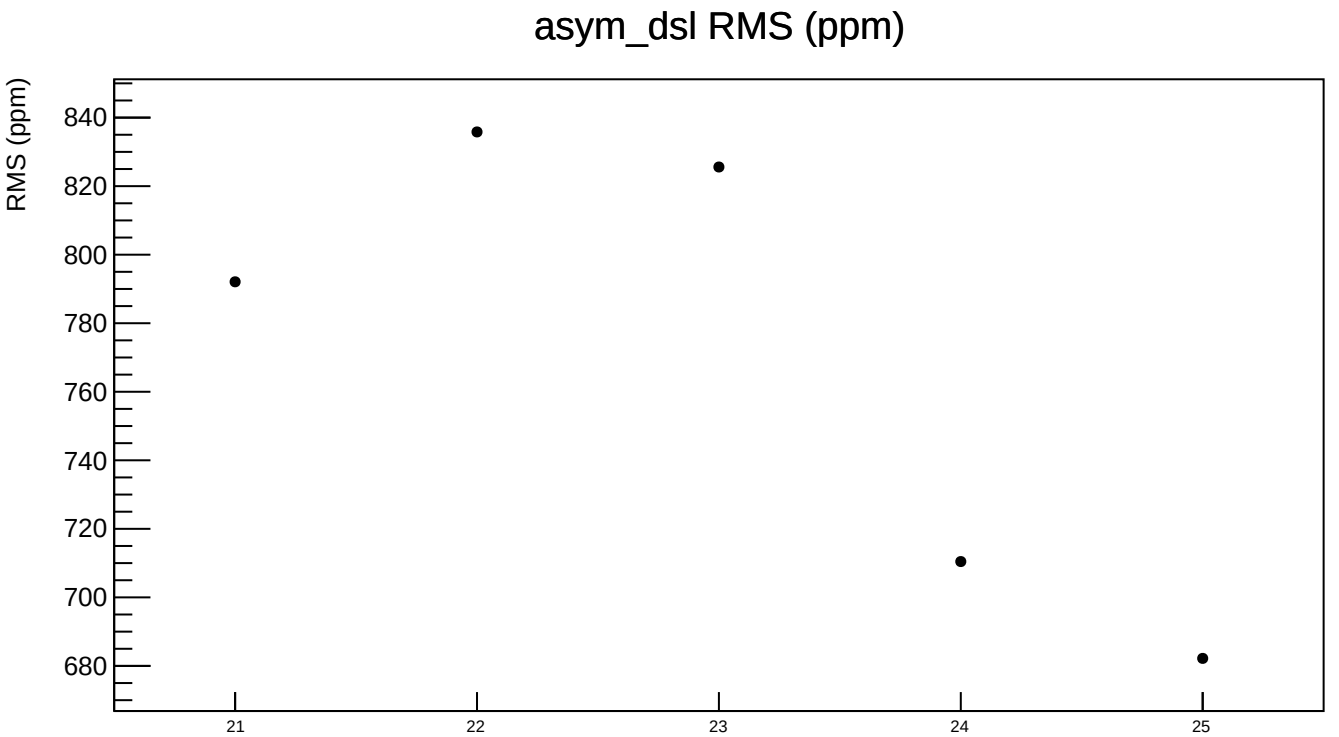

1D pull distribution
Mean 0.118 ± 0.3564
Std Dev 0.7969 ± 0.252
Underflow 0
Overflow 0
χ² / ndf 6.041e−07 / 0
Constant 2.182 ± 1.322
Mean −0.2667 ± 1.5367
Sigma 1.281 ± 1.627
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

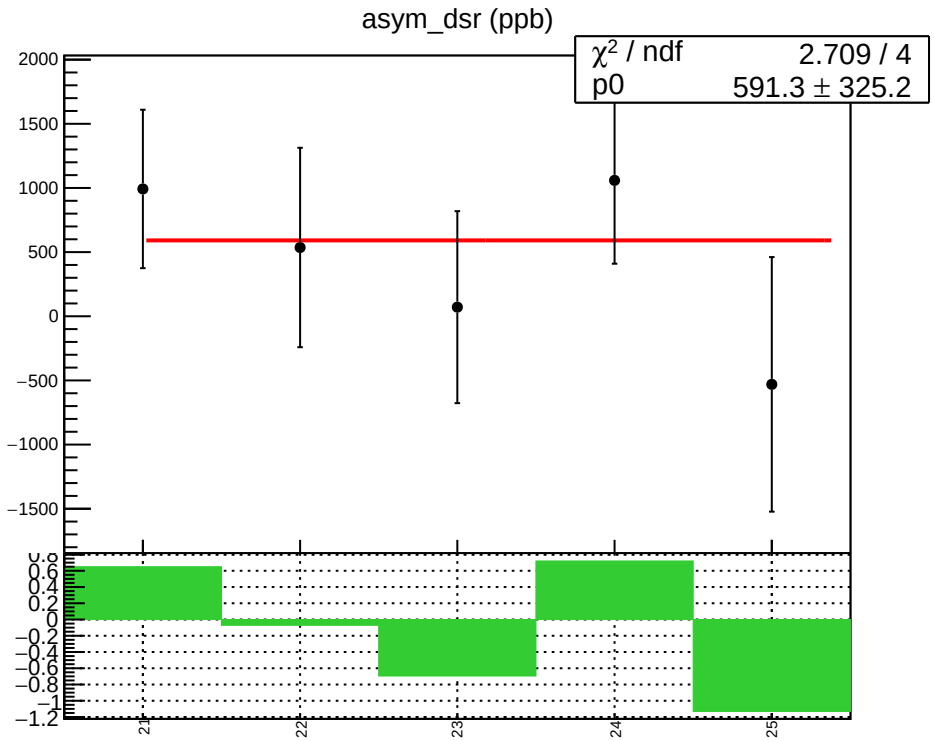
asym_us_dd RMS (ppm)

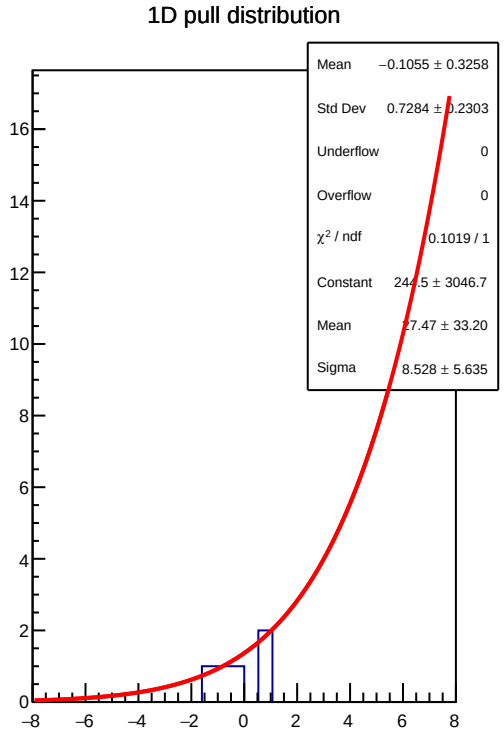


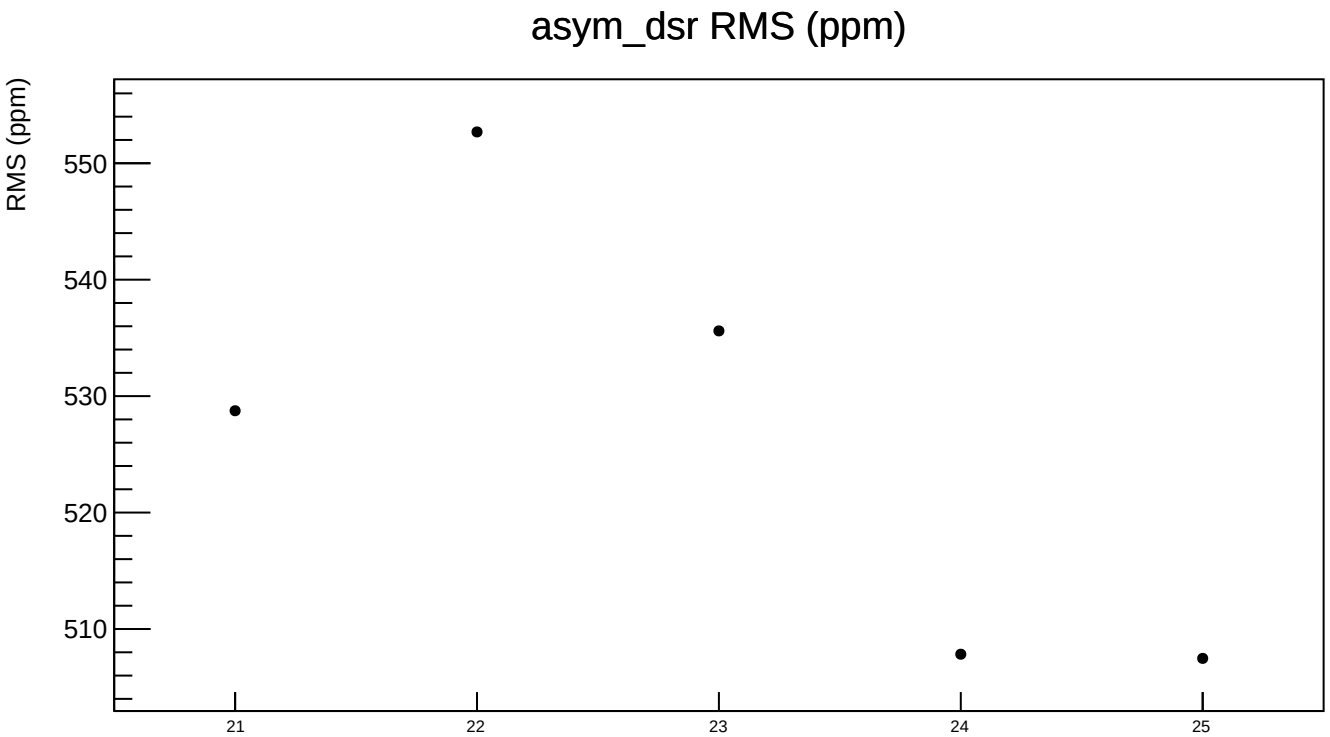

asym_dsl (ppb)
χ² / ndf 2.703 / 4
p0 405.5 ± 475.7
3000
2000
1000
0
−1000
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
21
22
23
24
25

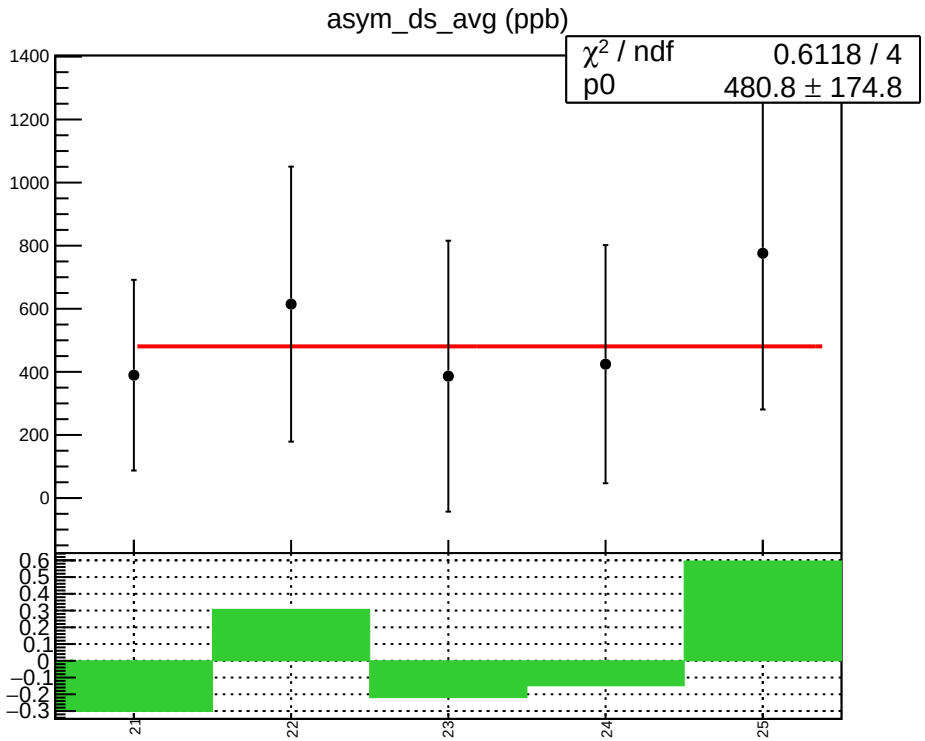

1D pull distribution
Mean 0.103 ± 0.3256
Std Dev 0.728 ± 0.2302
Underflow 0
Overflow 0
χ² / ndf 6.041e−07 / 0
Constant 2.182 ± 1.322
Mean −0.2667 ± 1.5367
Sigma 1.281± 1.627
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−8
−6
−4
−2
0
2
4
6
8

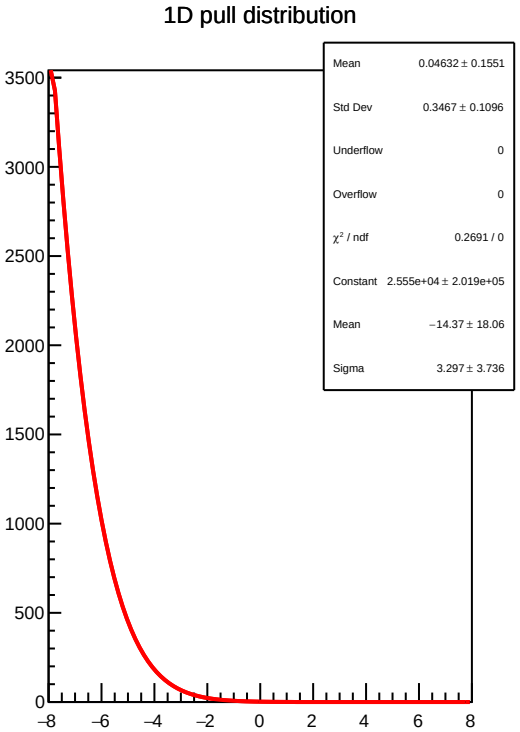

asym_dsl RMS (ppm)
RMS (ppm)
840
820
800
780
760
740
720
700
680
21
22
23
24
25

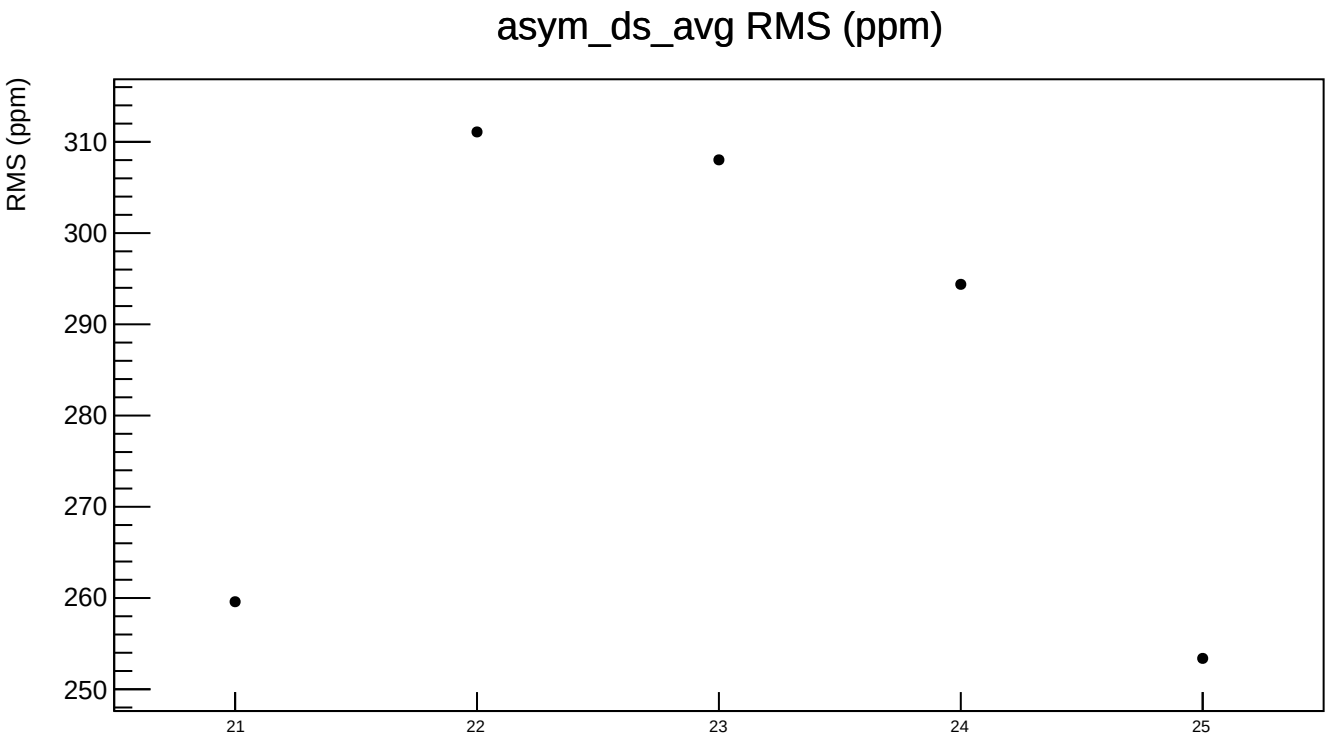

asym_dsr (ppb)
χ² / ndf 2.709 / 4
p0 591.3 ± 325.2
2000
1500
1000
500
0
−500
−1000
−1500
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
−1.2
21
22
23
24
25

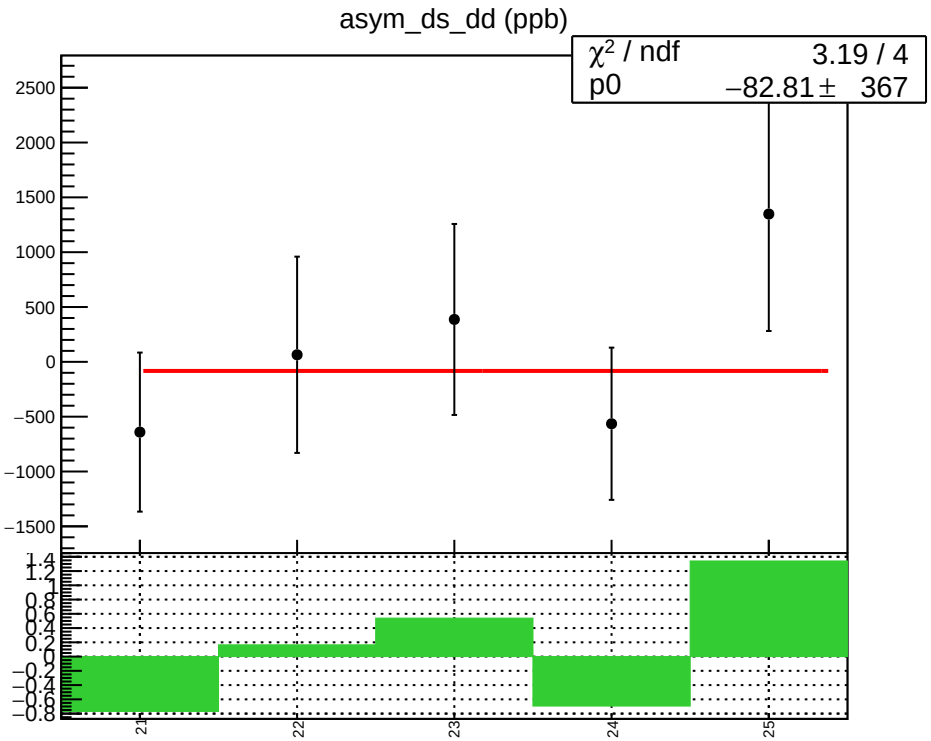

1D pull distribution
Mean −0.1055 ± 0.3258
Std Dev 0.7284 ± 0.2303
Underflow 0
Overflow 0
χ² / ndf 0.1019 / 1
Constant 244.5 ± 3046.7
Mean 27.47 ± 33.20
Sigma 8.528 ± 5.635
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

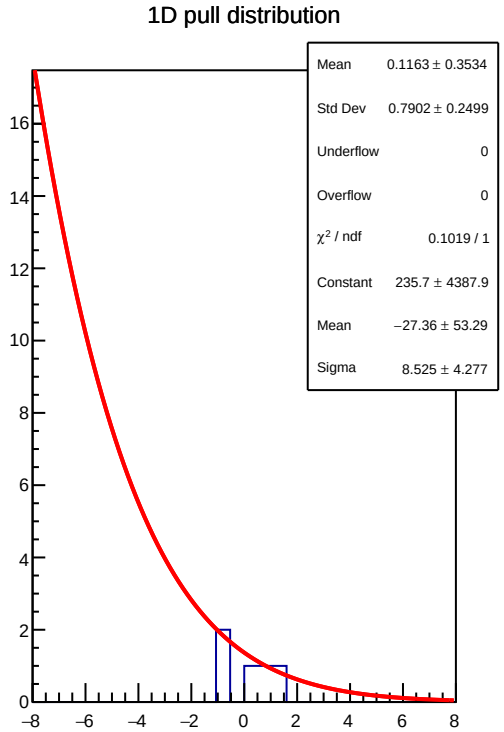

asym_dsr RMS (ppm)
RMS (ppm)
550
540
530
520
510
21
22
23
24
25

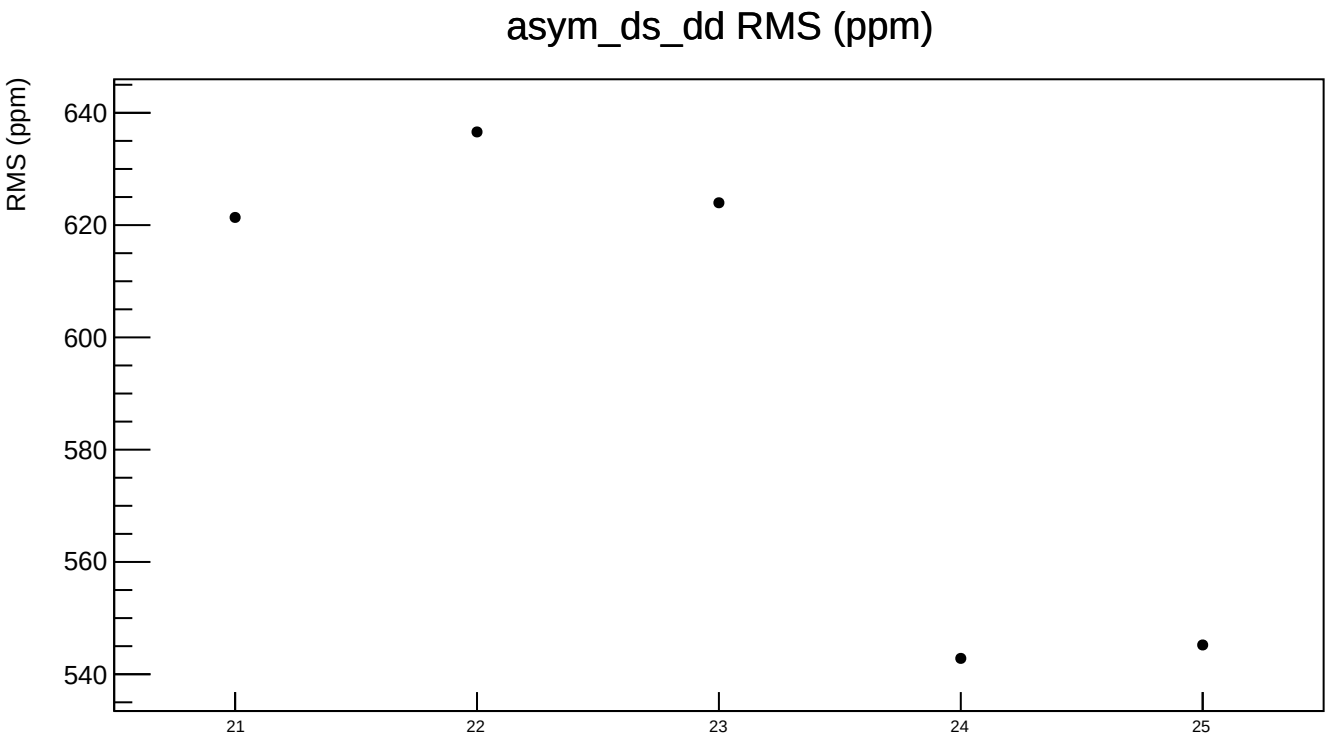

asym_ds_avg (ppb)
χ² / ndf 0.6118 / 4
p0 480.8 ± 174.8
1400
1200
1000
800
600
400
200
0
0.6
0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
21
22
23
24
25


1D pull distribution
Mean 0.04632 ± 0.1551
Std Dev 0.3467 ± 0.1096
Underflow 0
Overflow 0
χ² / ndf 0.2691 / 0
Constant 2.555e+04 ± 2.019e+05
Mean −14.37 ± 18.06
Sigma 3.297 ± 3.736
3500
3000
2500
2000
1500
1000
500
0
−8
−6
−4
−2
0
2
4
6
8


asym_ds_avg RMS (ppm)
RMS (ppm)
310
300
290
280
270
260
250
21
22
23
24
25


asym_ds_dd (ppb)
χ² / ndf 3.19 / 4
p0 −82.81 ± 367
2500
2000
1500
1000
500
0
−500
−1000
−1500
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
21
22
23
24
25


1D pull distribution
Mean 0.1163 ± 0.3534
Std Dev 0.7902 ± 0.2499
Underflow 0
Overflow 0
χ² / ndf 0.1019 / 1
Constant 235.7 ± 4387.9
Mean −27.36 ± 53.29
Sigma 8.525 ± 4.277
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8


asym_ds_dd RMS (ppm)
RMS (ppm)
640
620
600
580
560
540
21
22
23
24
25