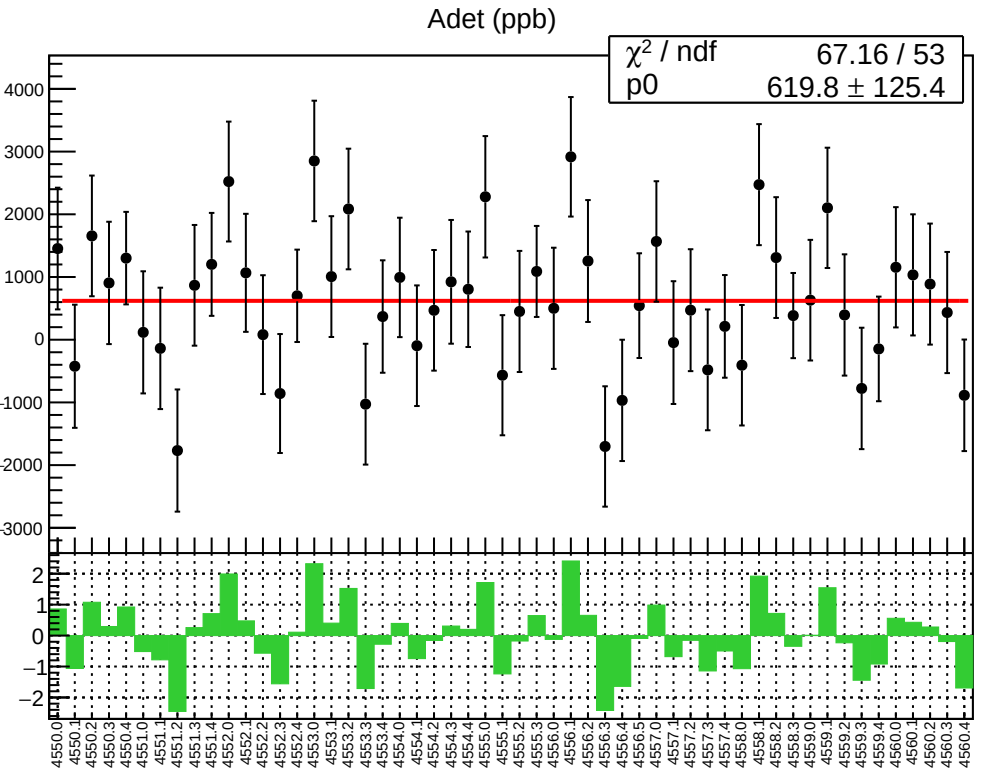
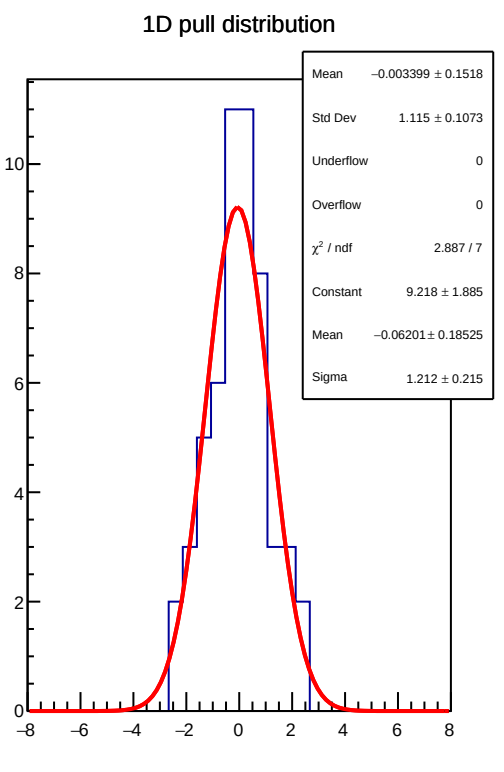
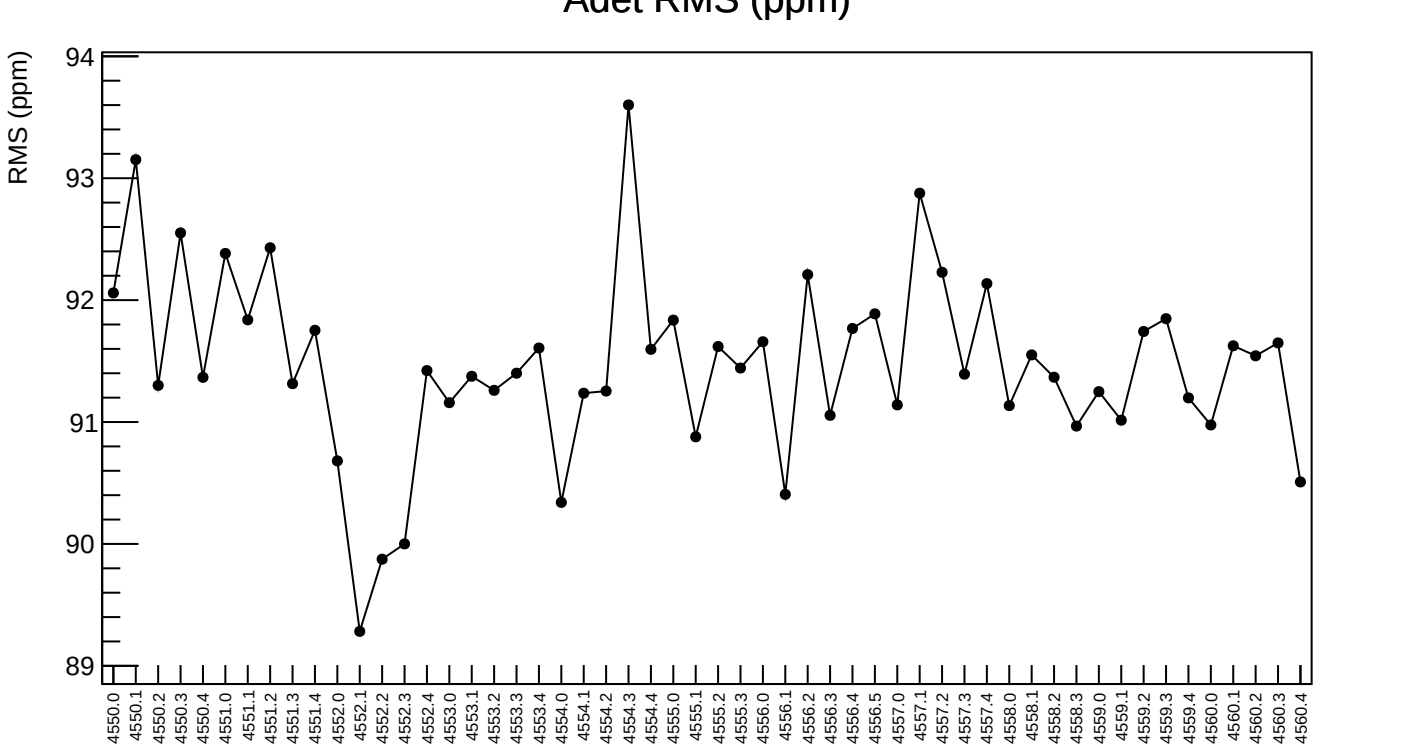
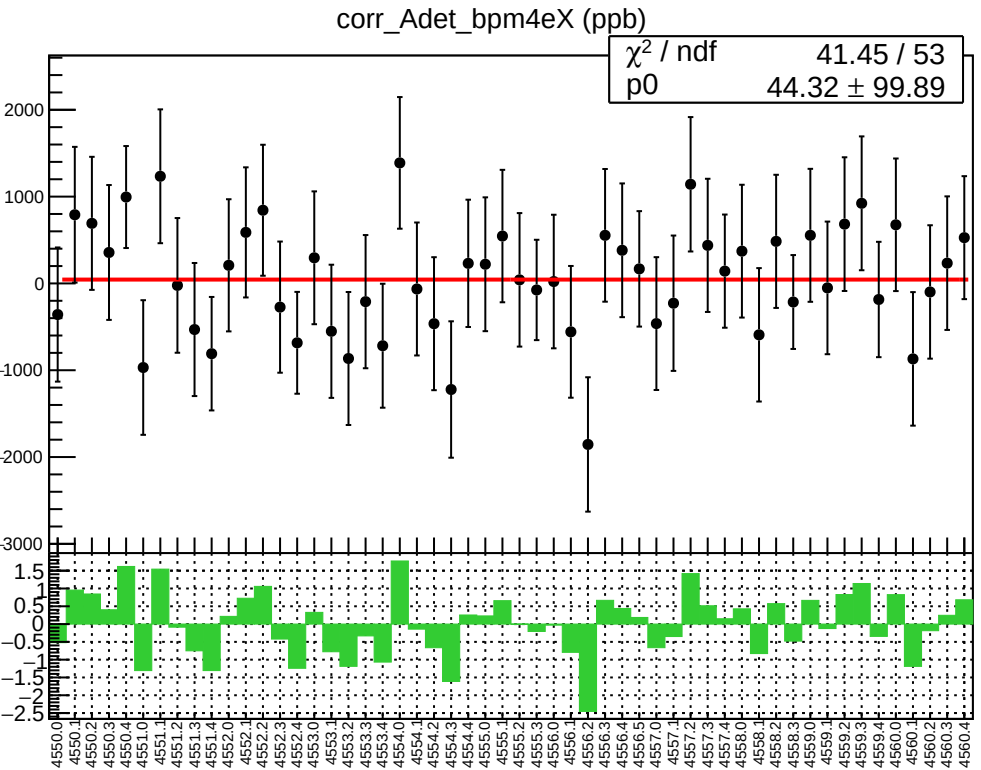
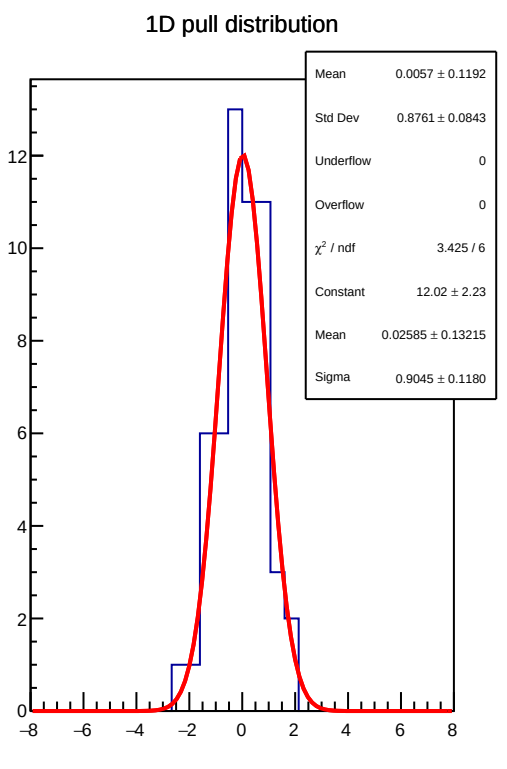
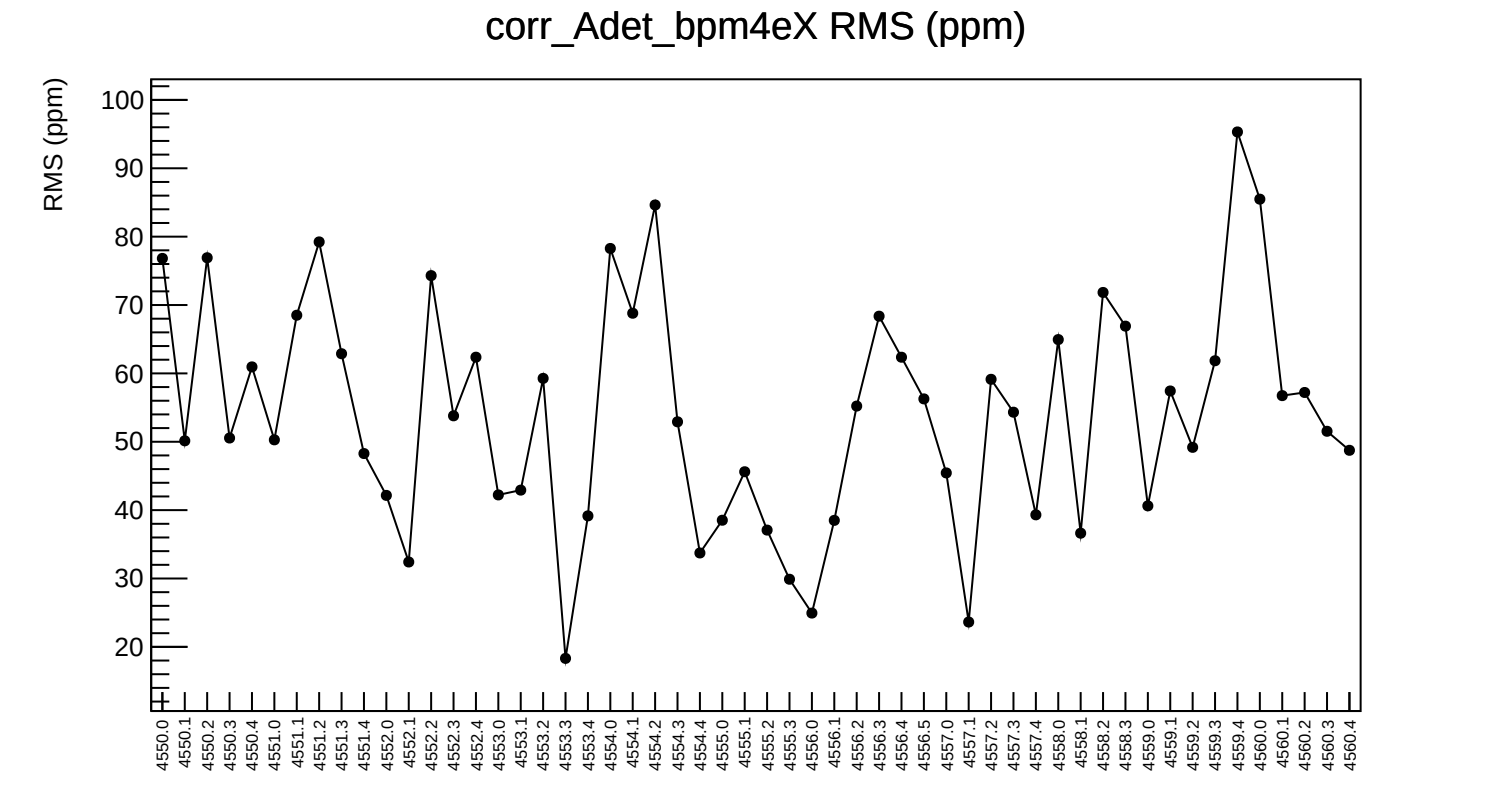

Adet (ppb)
χ² / ndf 67.16 / 53
p0 619.8 ± 125.4
4000
3000
2000
1000
0
-1000
-2000
-3000
2
1
0
−1
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

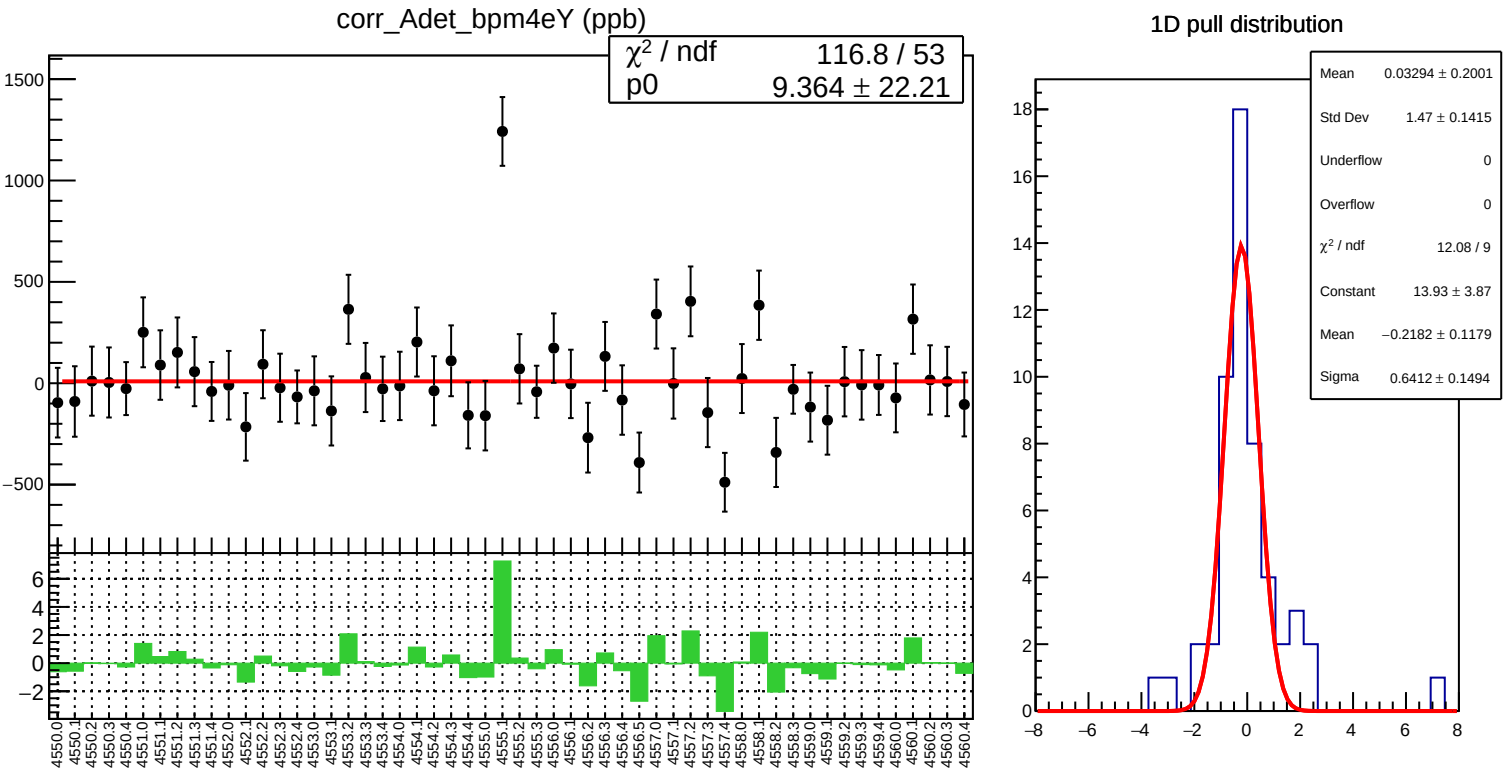

1D pull distribution
Mean −0.003399 ± 0.1518
Std Dev 1.115 ± 0.1073
Underflow 0
Overflow 0
χ² / ndf 2.887 / 7
Constant 9.218 ± 1.885
Mean −0.06201 ± 0.18525
Sigma 1.212 ± 0.215
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

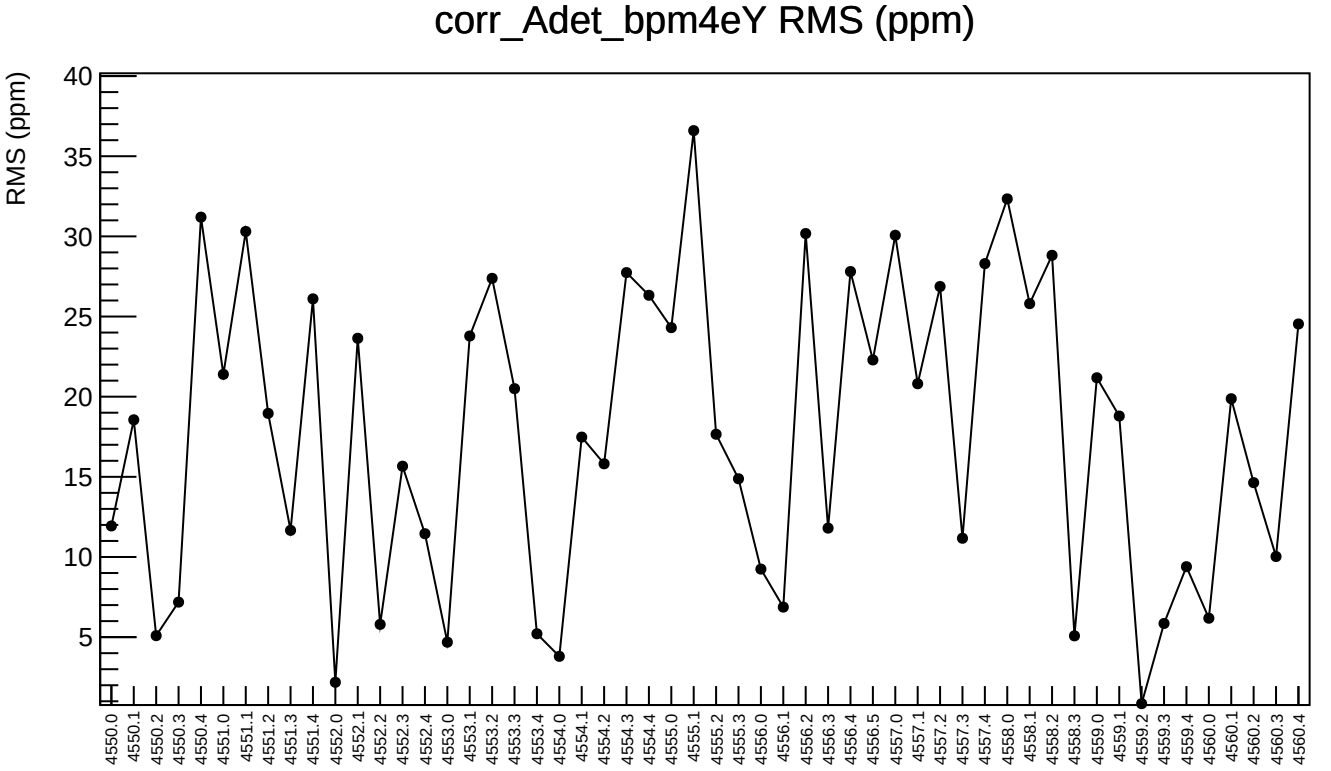

Adet RMS (ppm)
RMS (ppm)
94
93
92
91
90
89
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

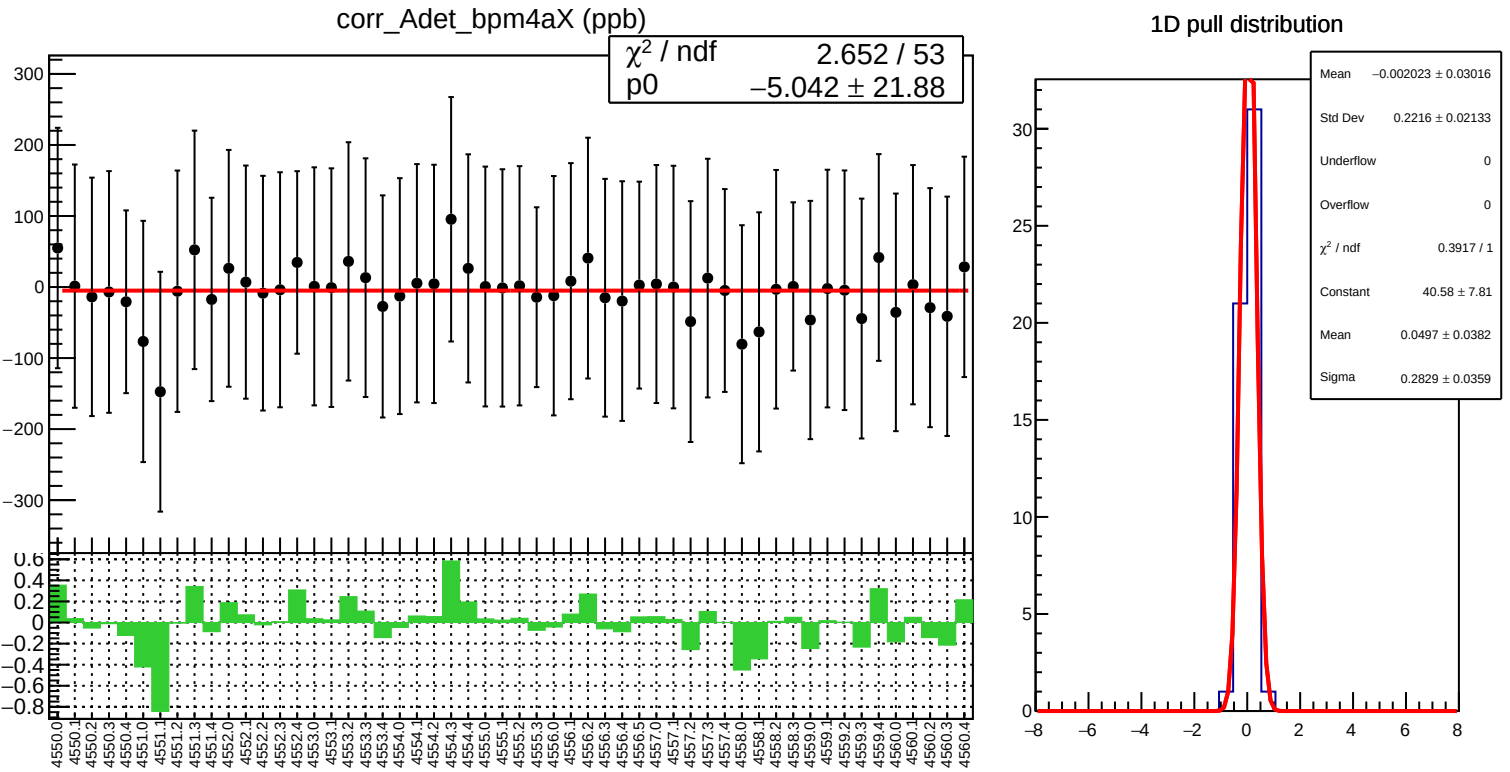

corr_Adet_bpm4eX (ppb)
χ² / ndf 41.45 / 53
p0 44.32 ± 99.89
2000
1000
0
-1000
-2000
-3000
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

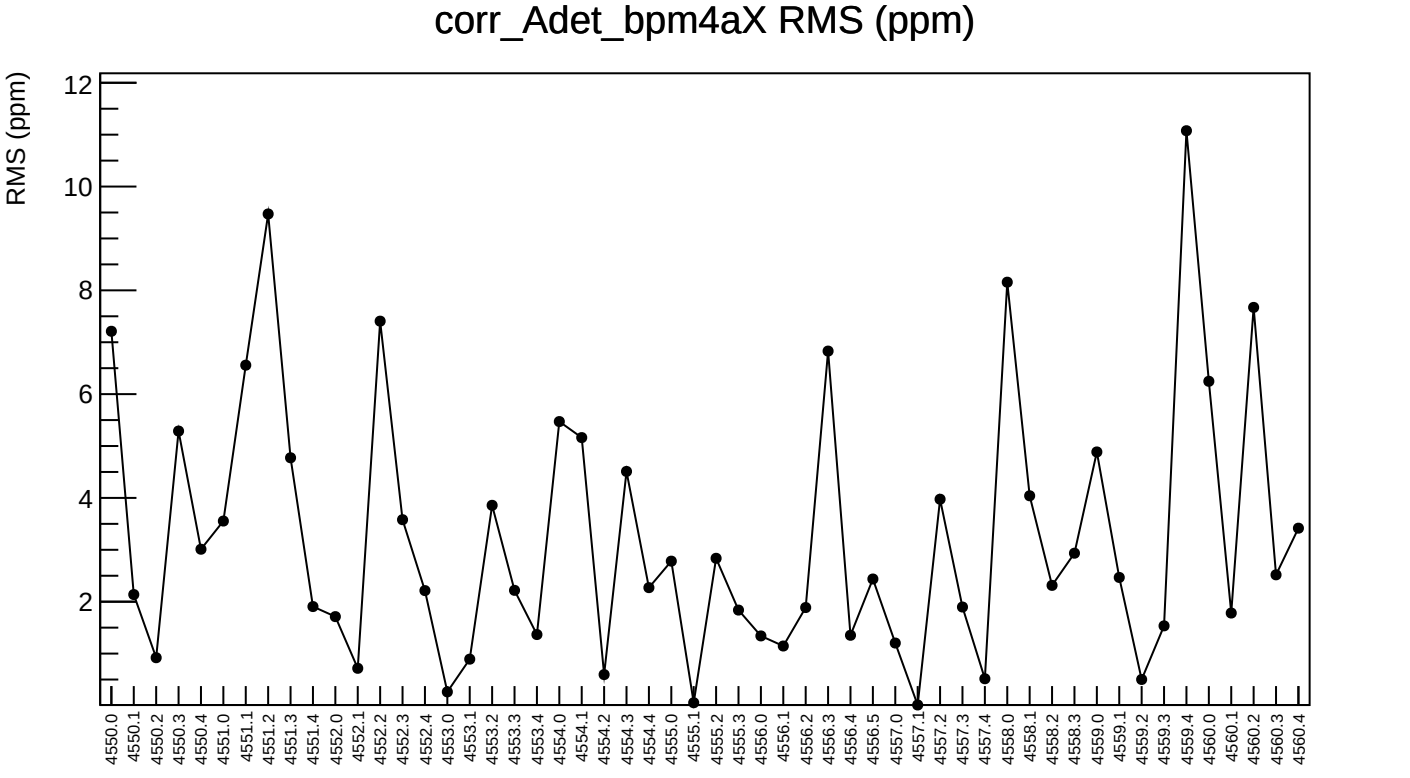

1D pull distribution
Mean 0.0057 ± 0.1192
Std Dev 0.8761 ± 0.0843
Underflow 0
Overflow 0
χ² / ndf 3.425 / 6
Constant 12.02 ± 2.23
Mean 0.02585 ± 0.13215
Sigma 0.9045 ± 0.1180
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

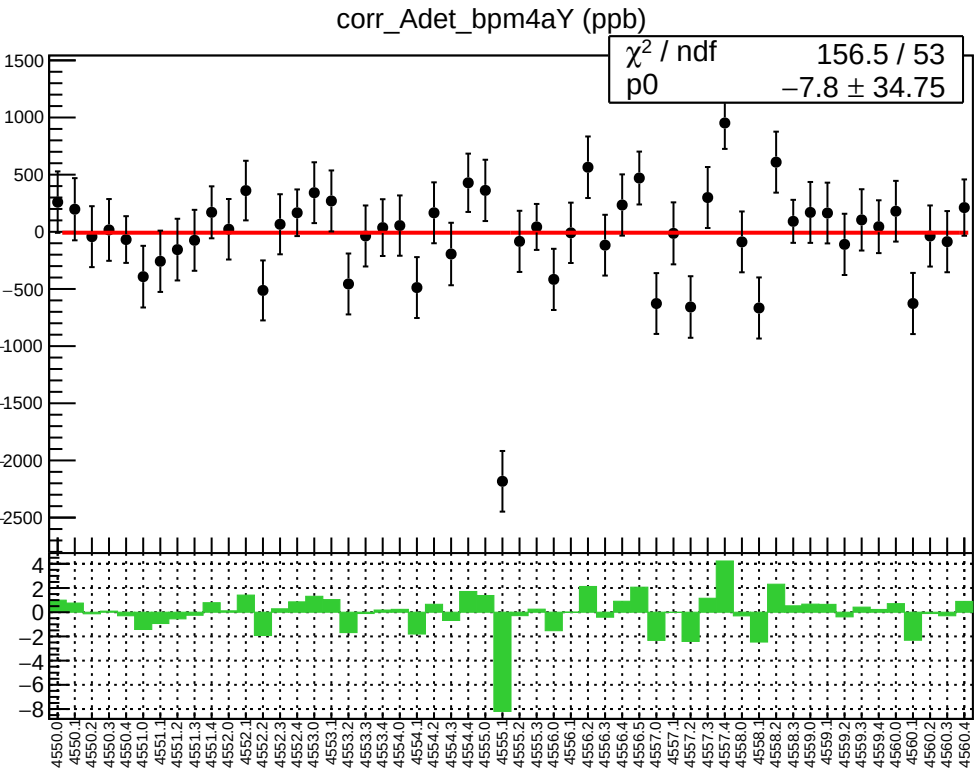

corr_Adet_bpm4eX RMS (ppm)
RMS (ppm)
100
90
80
70
60
50
40
30
20
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

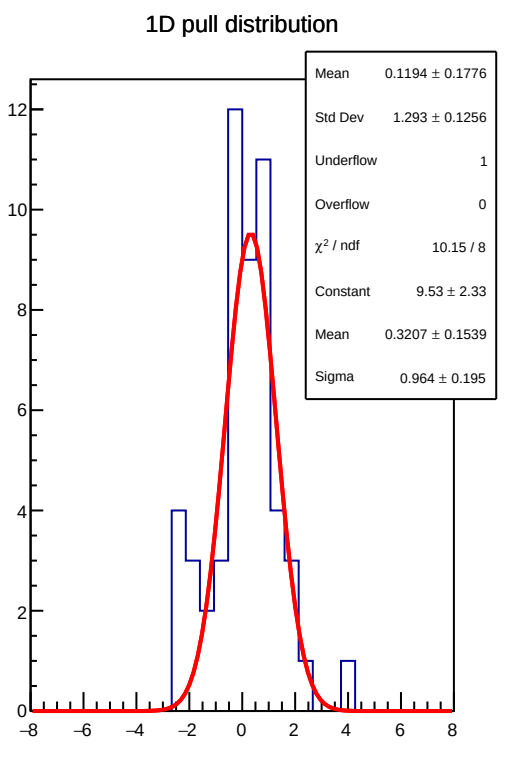

corr_Adet_bpm4eY (ppb)
χ² / ndf 116.8 / 53
p0 9.364 ± 22.21
1500
1000
500
0
−500
6
4
2
0
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4
1D pull distribution
Mean 0.03294 ± 0.2001
Std Dev 1.47 ± 0.1415
Underflow 0
Overflow 0
χ² / ndf 12.08 / 9
Constant 13.93 ± 3.87
Mean −0.2182 ± 0.1179
Sigma 0.6412 ± 0.1494
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

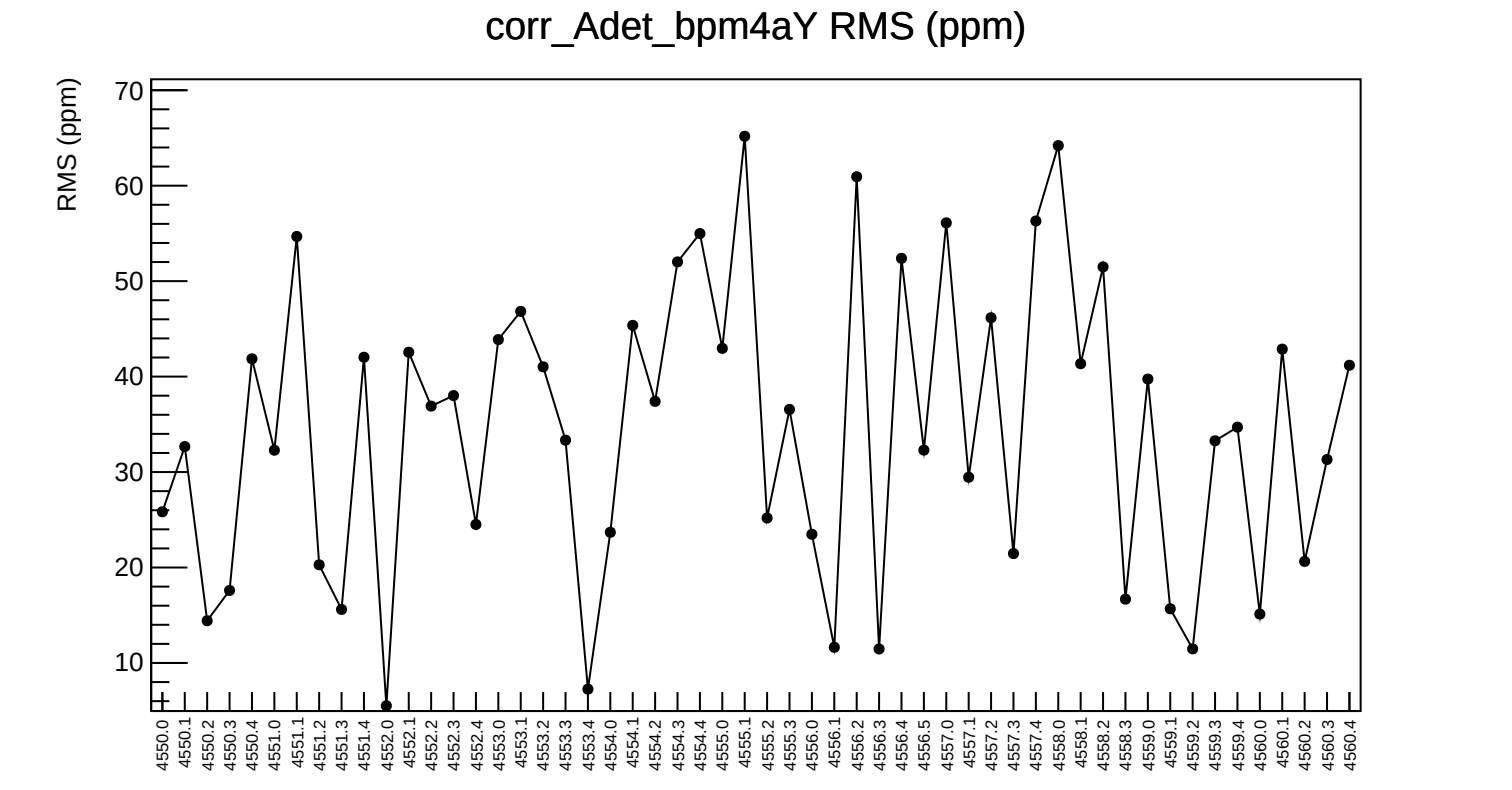

corr_Adet_bpm4eY RMS (ppm)
RMS (ppm)
40
35
30
25
20
15
10
5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

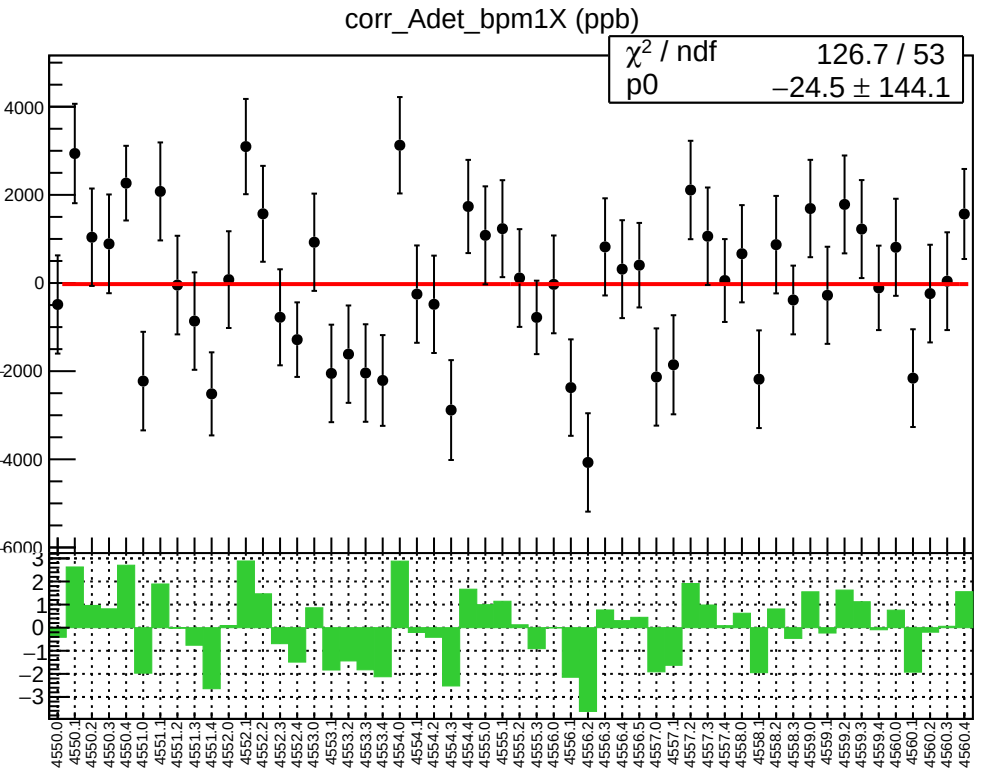

corr_Adet_bpm4aX (ppb)
χ² / ndf 2.652 / 53
p0 −5.042 ± 21.88
1D pull distribution
Mean −0.002023 ± 0.03016
Std Dev 0.2216 ± 0.02133
Underflow 0
Overflow 0
χ² / ndf 0.3917 / 1
Constant 40.58 ± 7.81
Mean 0.0497 ± 0.0382
Sigma 0.2829 ± 0.0359

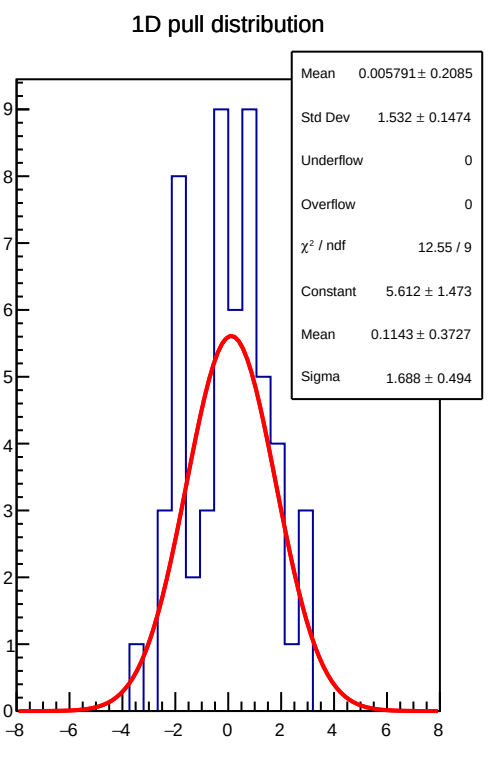

corr_Adet_bpm4aX RMS (ppm)
RMS (ppm)
12
10
8
6
4
2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

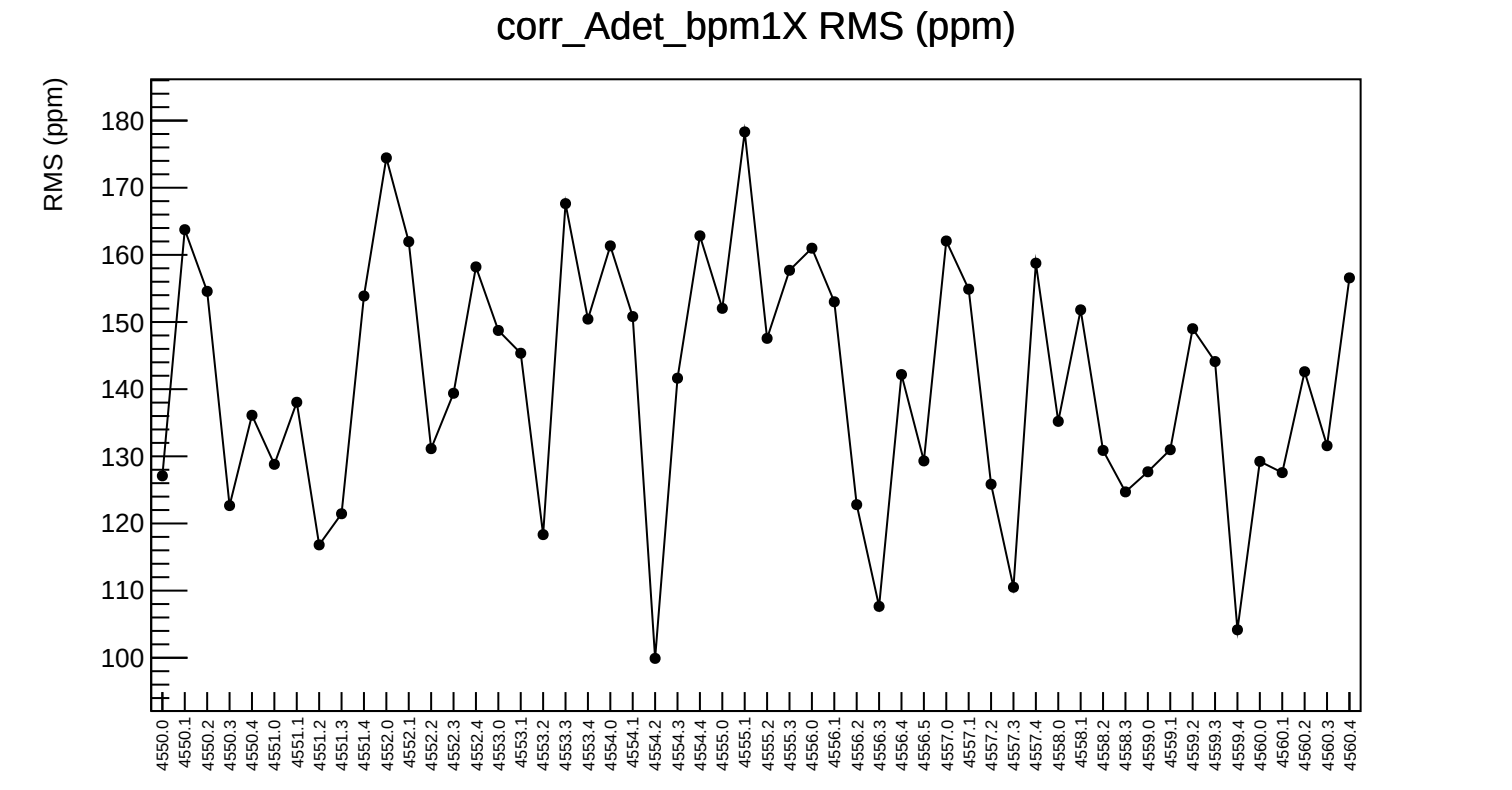

corr_Adet_bpm4aY (ppb)
χ² / ndf 156.5 / 53
p0 −7.8 ± 34.75

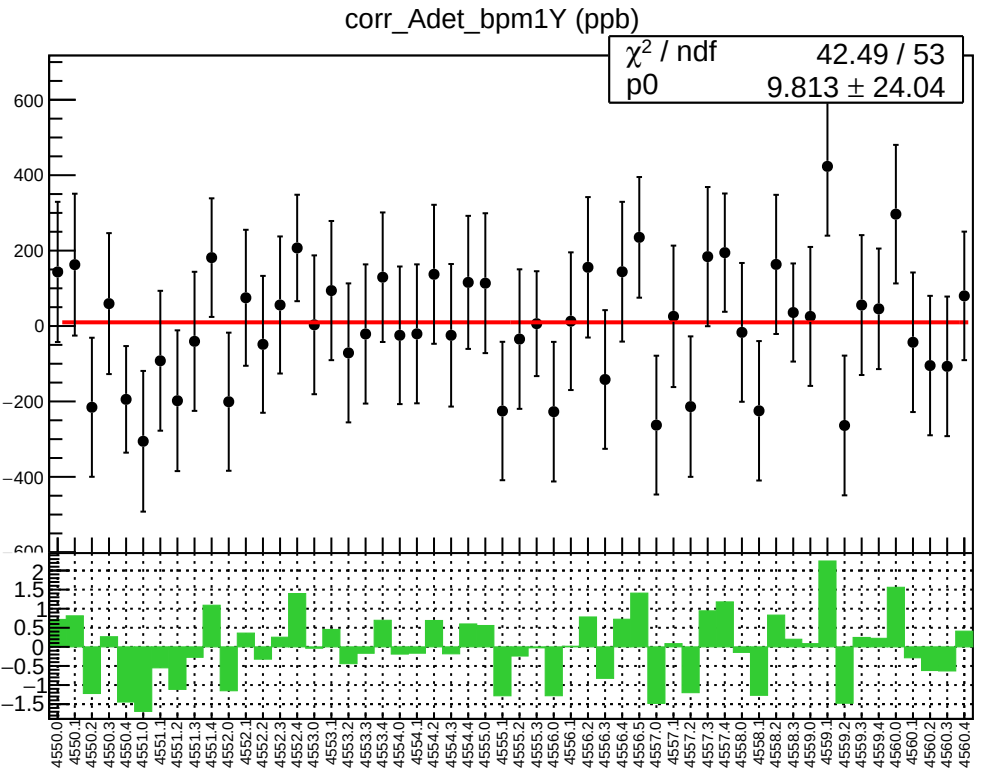

1D pull distribution
Mean 0.1194 ± 0.1776
Std Dev 1.293 ± 0.1256
Underflow 1
Overflow 0
χ² / ndf 10.15 / 8
Constant 9.53 ± 2.33
Mean 0.3207 ± 0.1539
Sigma 0.964 ± 0.195

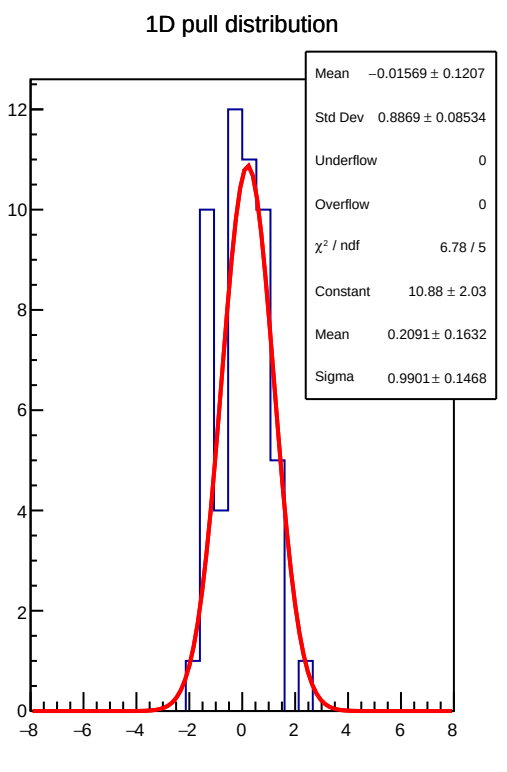

corr_Adet_bpm4aY RMS (ppm)
RMS (ppm)
70
60
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

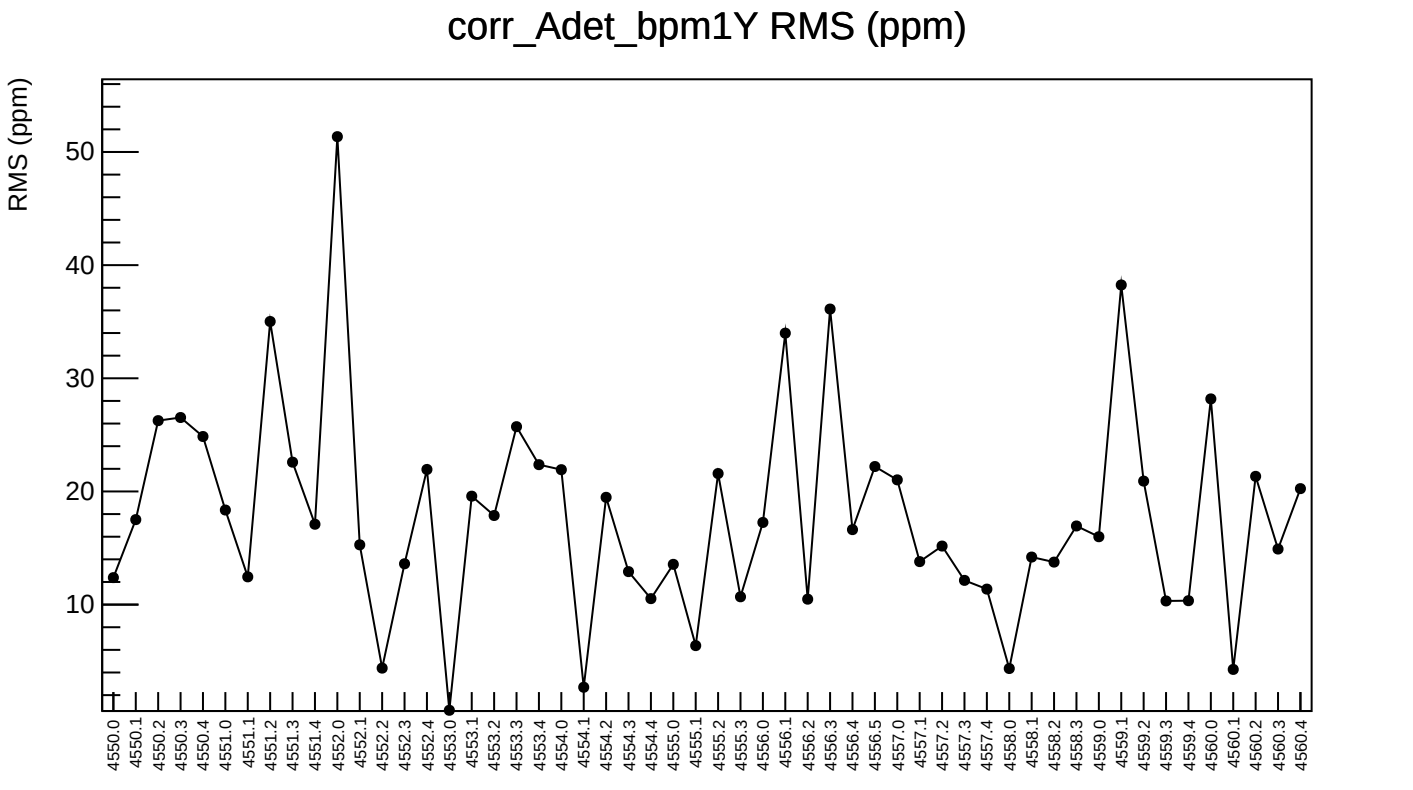

corr_Adet_bpm1X (ppb)
χ² / ndf 126.7 / 53
p0 −24.5 ± 144.1
4000
2000
0
-2000
-4000
-6000
3
2
1
0
−1
−2
−3
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

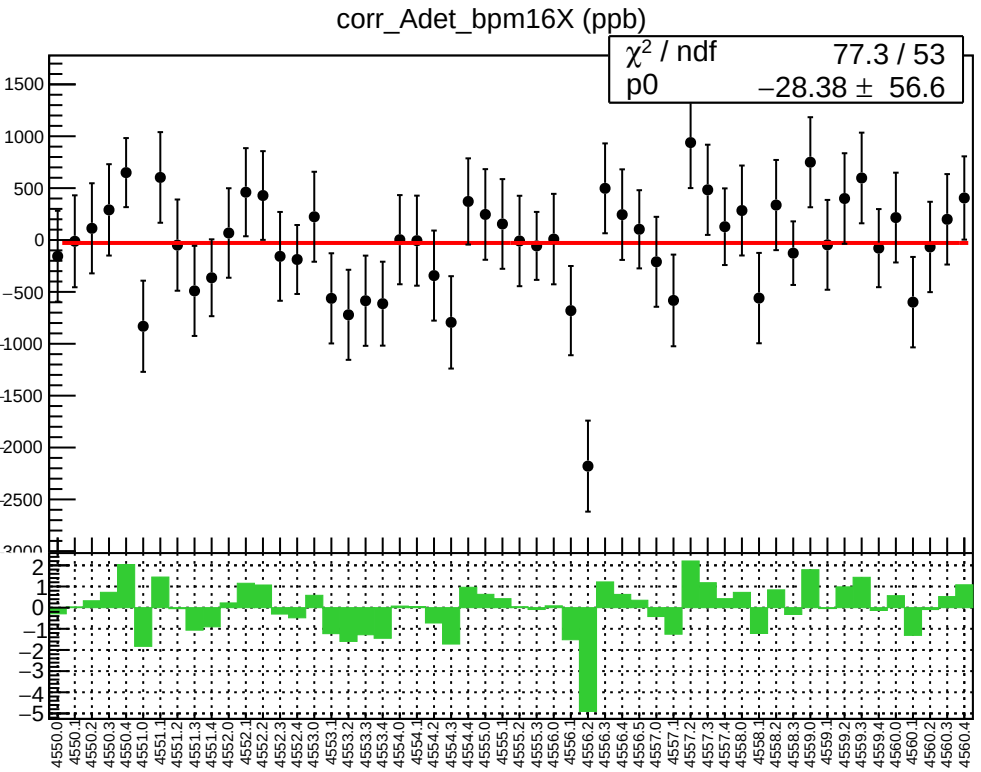

1D pull distribution
Mean 0.005791 ± 0.2085
Std Dev 1.532 ± 0.1474
Underflow 0
Overflow 0
χ² / ndf 12.55 / 9
Constant 5.612 ± 1.473
Mean 0.1143 ± 0.3727
Sigma 1.688 ± 0.494
9
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

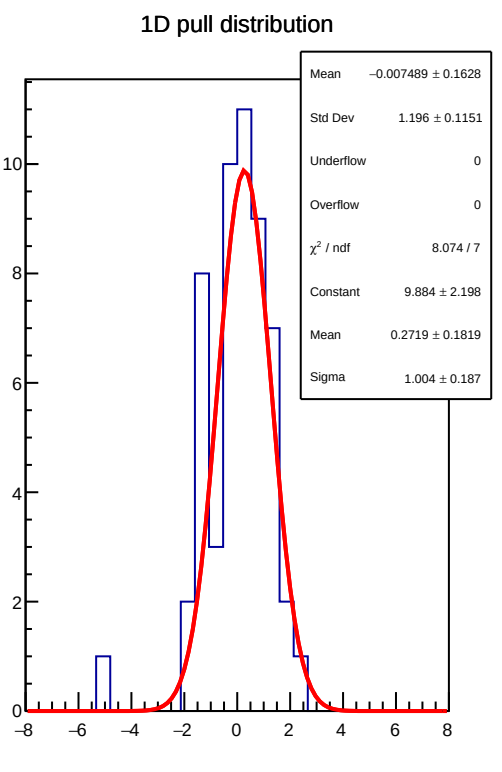

corr_Adet_bpm1X RMS (ppm)
RMS (ppm)
180
170
160
150
140
130
120
110
100
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

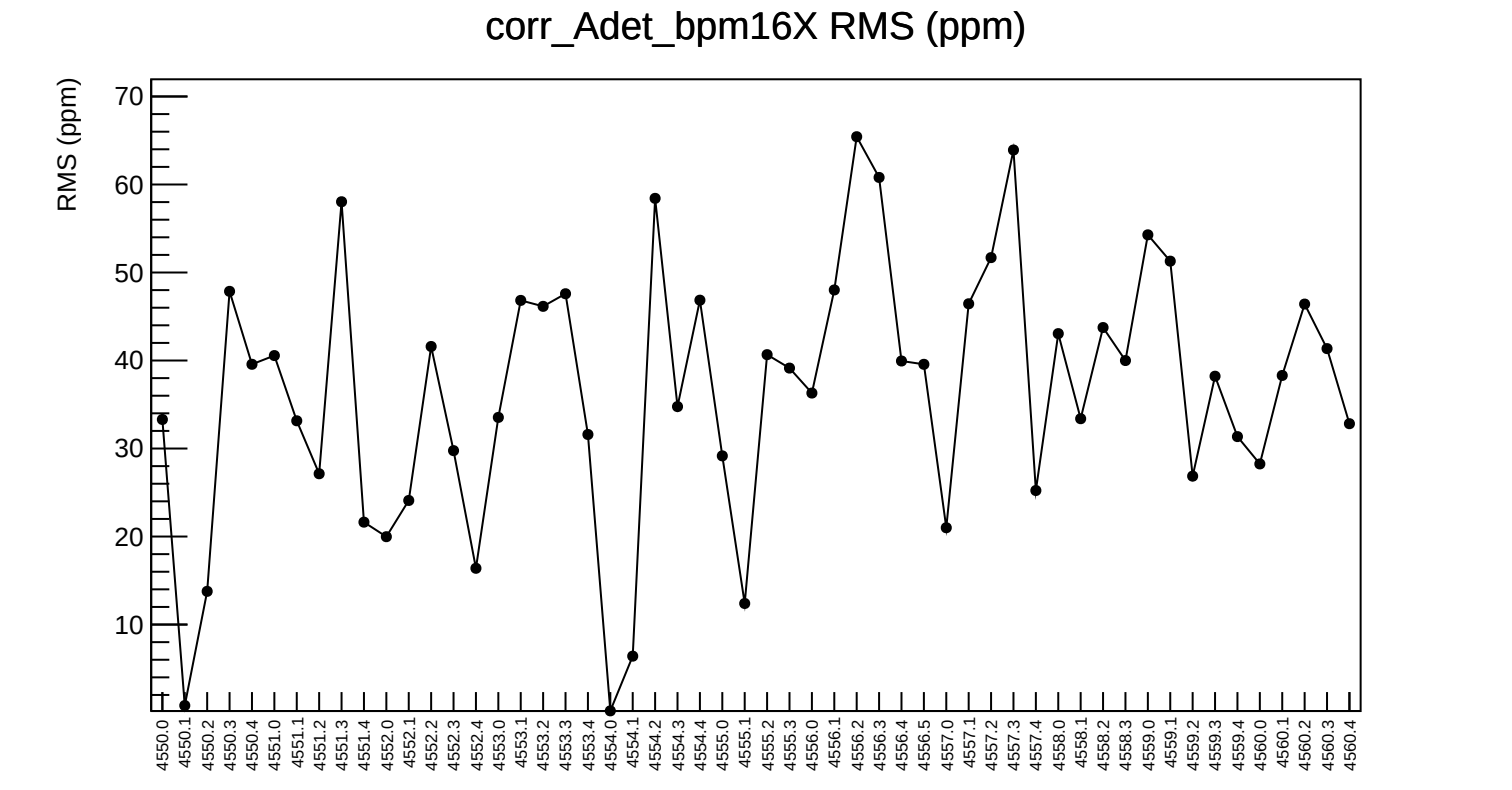

corr_Adet_bpm1Y (ppb)
χ² / ndf 42.49 / 53
p0 9.813 ± 24.04

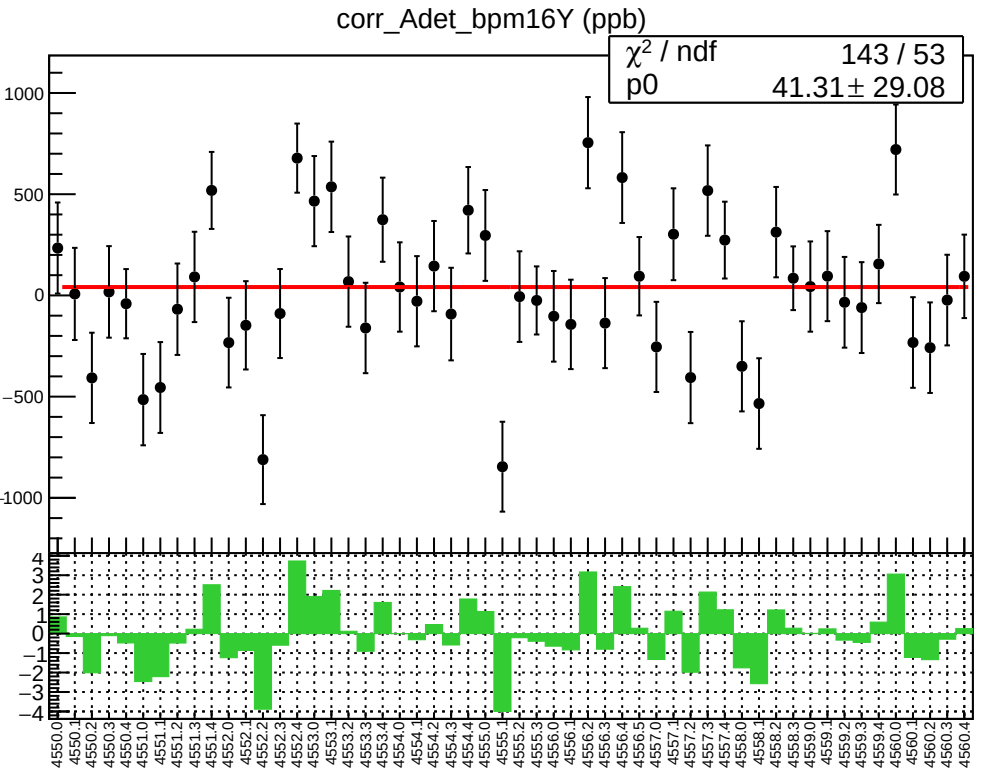

1D pull distribution
Mean −0.01569 ± 0.1207
Std Dev 0.8869 ± 0.08534
Underflow 0
Overflow 0
χ² / ndf 6.78 / 5
Constant 10.88 ± 2.03
Mean 0.2091 ± 0.1632
Sigma 0.9901 ± 0.1468

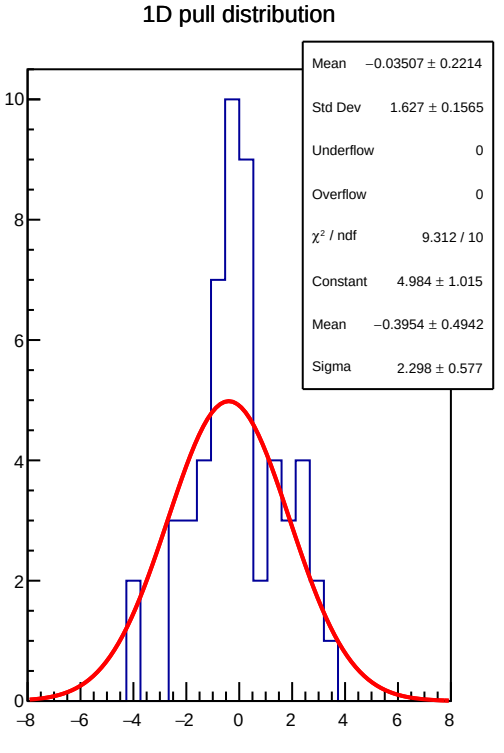

corr_Adet_bpm1Y RMS (ppm)
RMS (ppm)
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

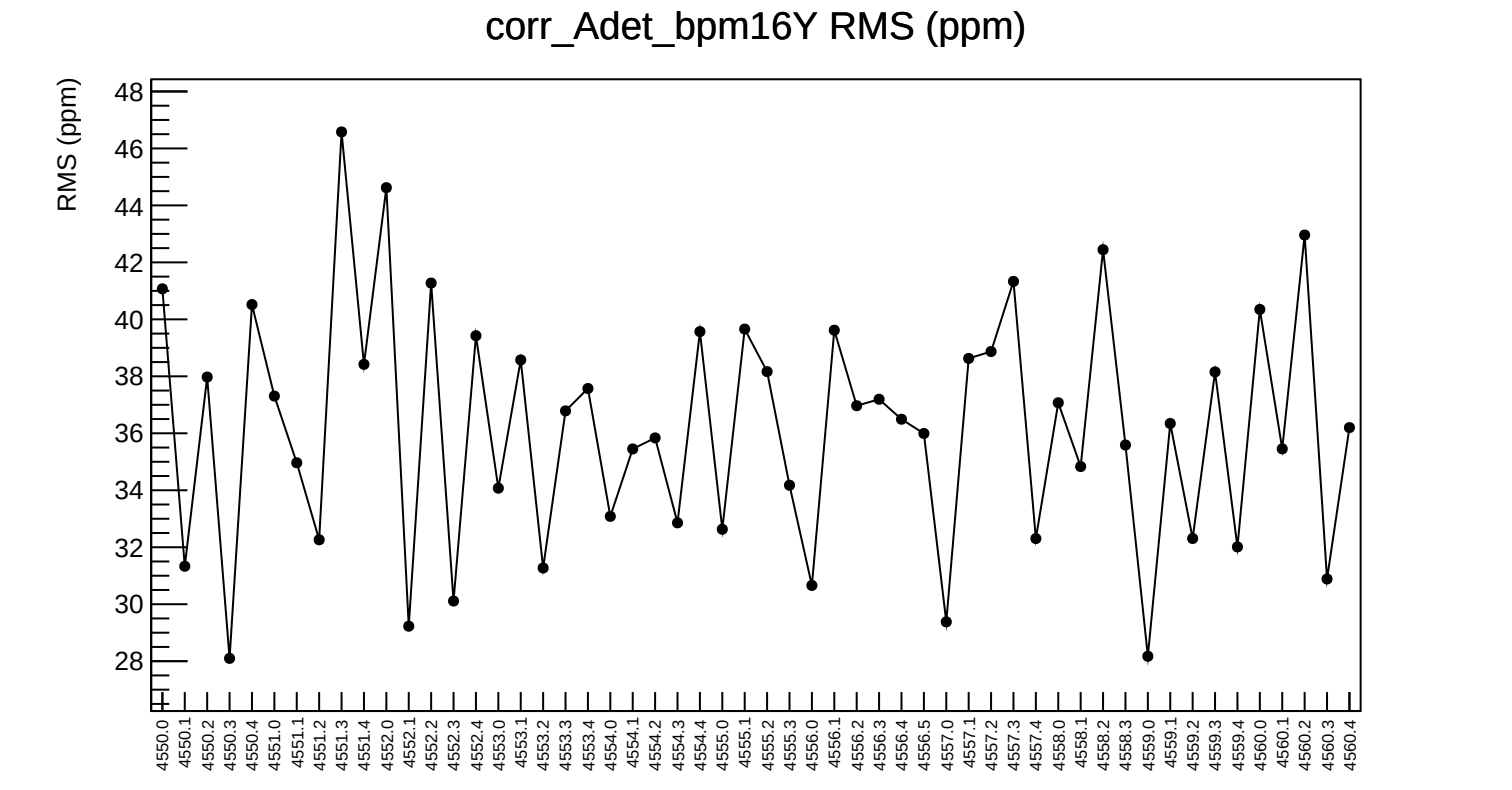

corr_Adet_bpm16X (ppb)
χ² / ndf 77.3 / 53
p0 −28.38 ± 56.6

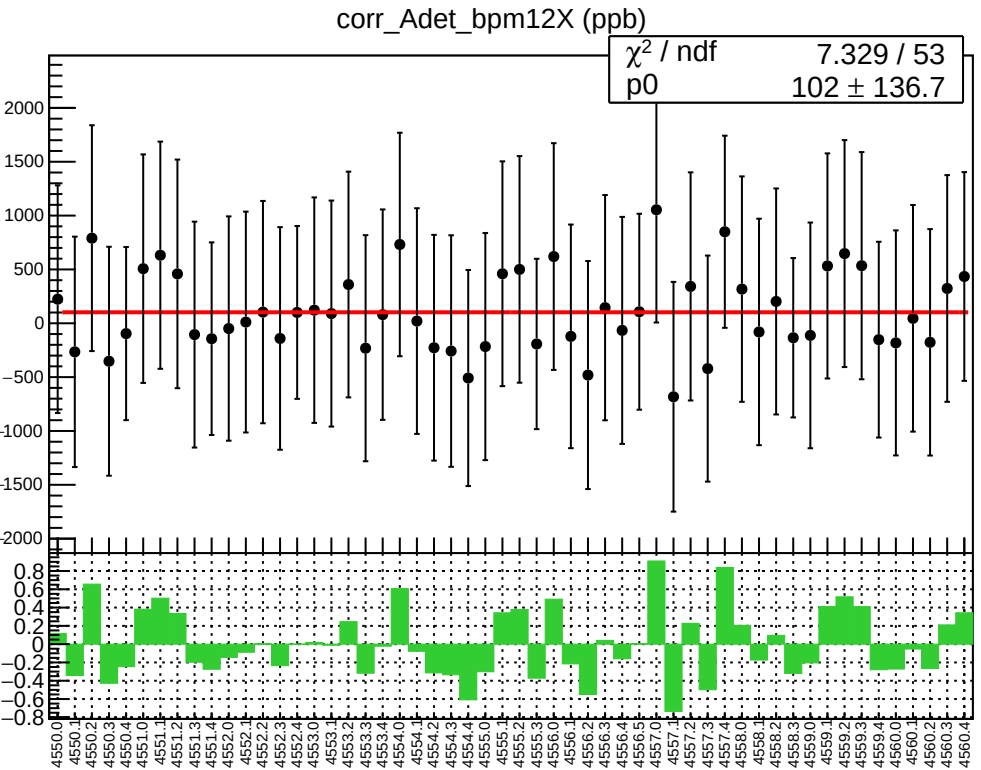

1D pull distribution
Mean −0.007489 ± 0.1628
Std Dev 1.196 ± 0.1151
Underflow 0
Overflow 0
χ² / ndf 8.074 / 7
Constant 9.884 ± 2.198
Mean 0.2719 ± 0.1819
Sigma 1.004 ± 0.187

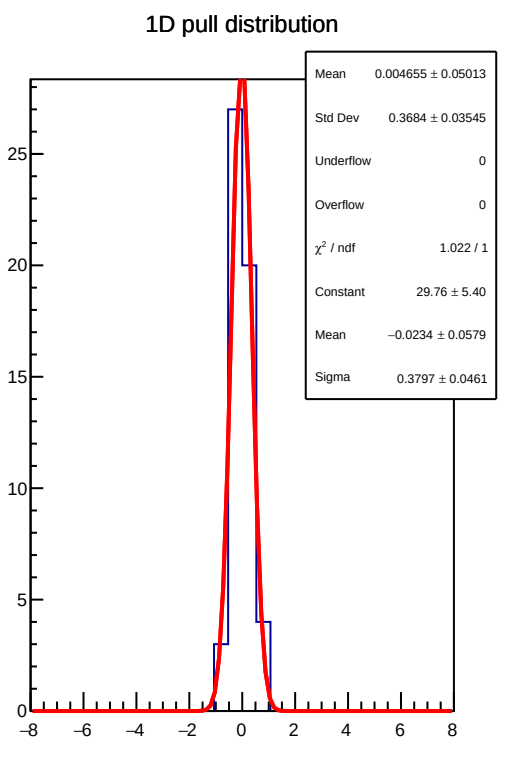

corr_Adet_bpm16X RMS (ppm)
RMS (ppm)
70
60
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

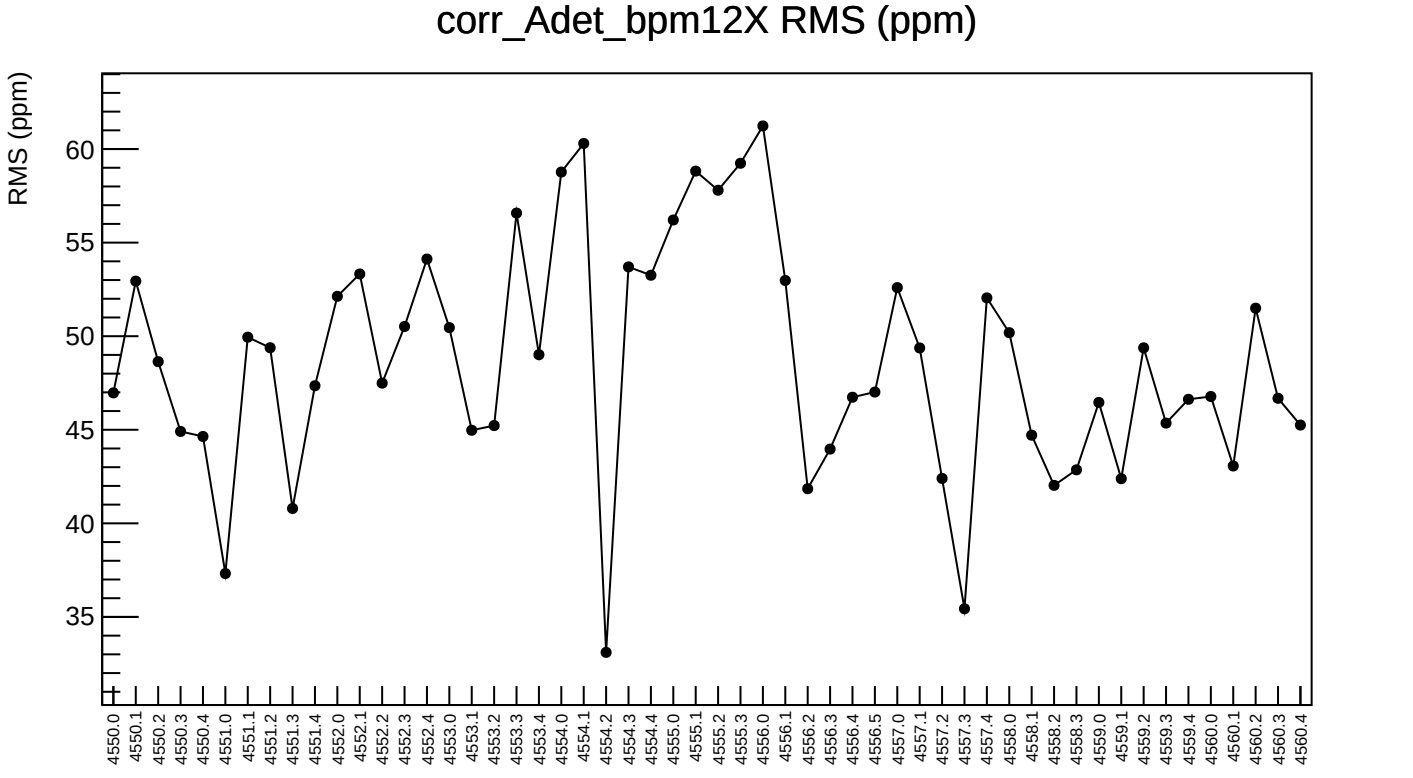

corr_Adet_bpm16Y (ppb)
χ² / ndf 143 / 53
p0 41.31 ± 29.08
1000
500
0
−500
−1000
4
3
2
1
0
−1
−2
−3
−4
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

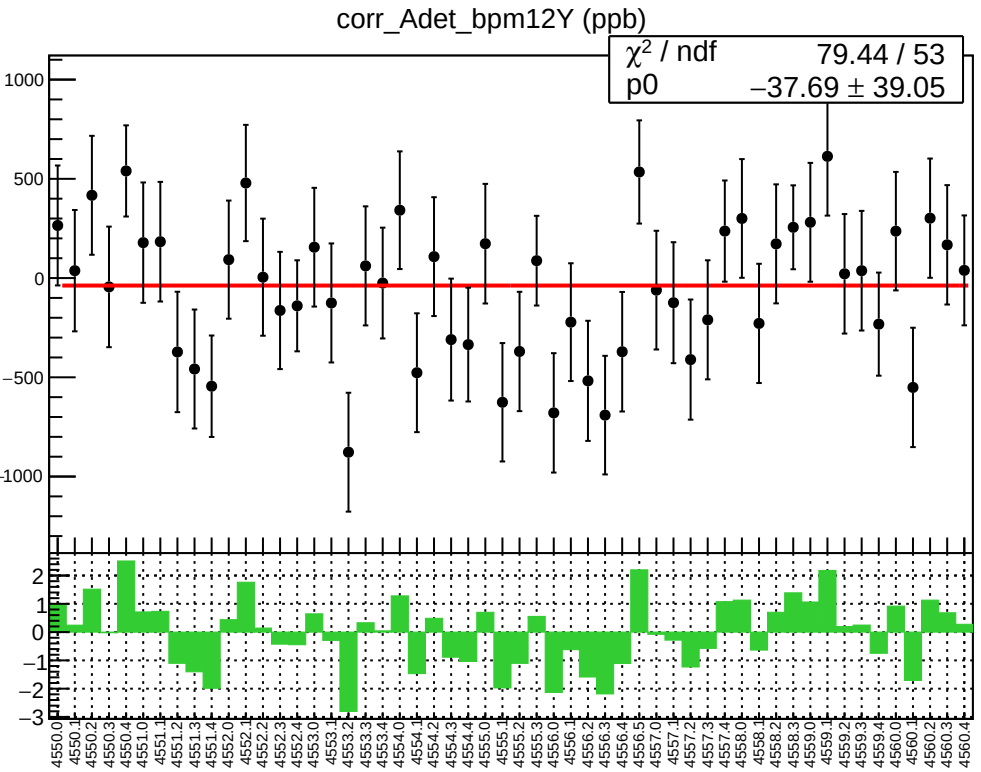

1D pull distribution
Mean −0.03507 ± 0.2214
Std Dev 1.627 ± 0.1565
Underflow 0
Overflow 0
χ² / ndf 9.312 / 10
Constant 4.984 ± 1.015
Mean −0.3954 ± 0.4942
Sigma 2.298 ± 0.577
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

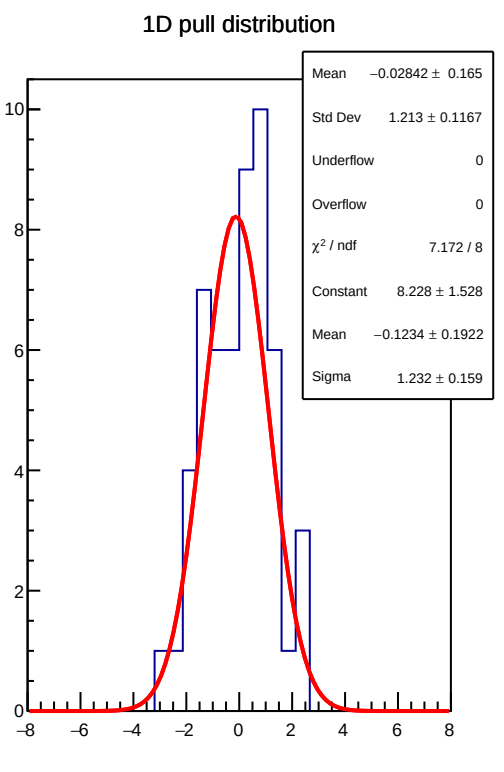

corr_Adet_bpm16Y RMS (ppm)
RMS (ppm)
48
46
44
42
40
38
36
34
32
30
28
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

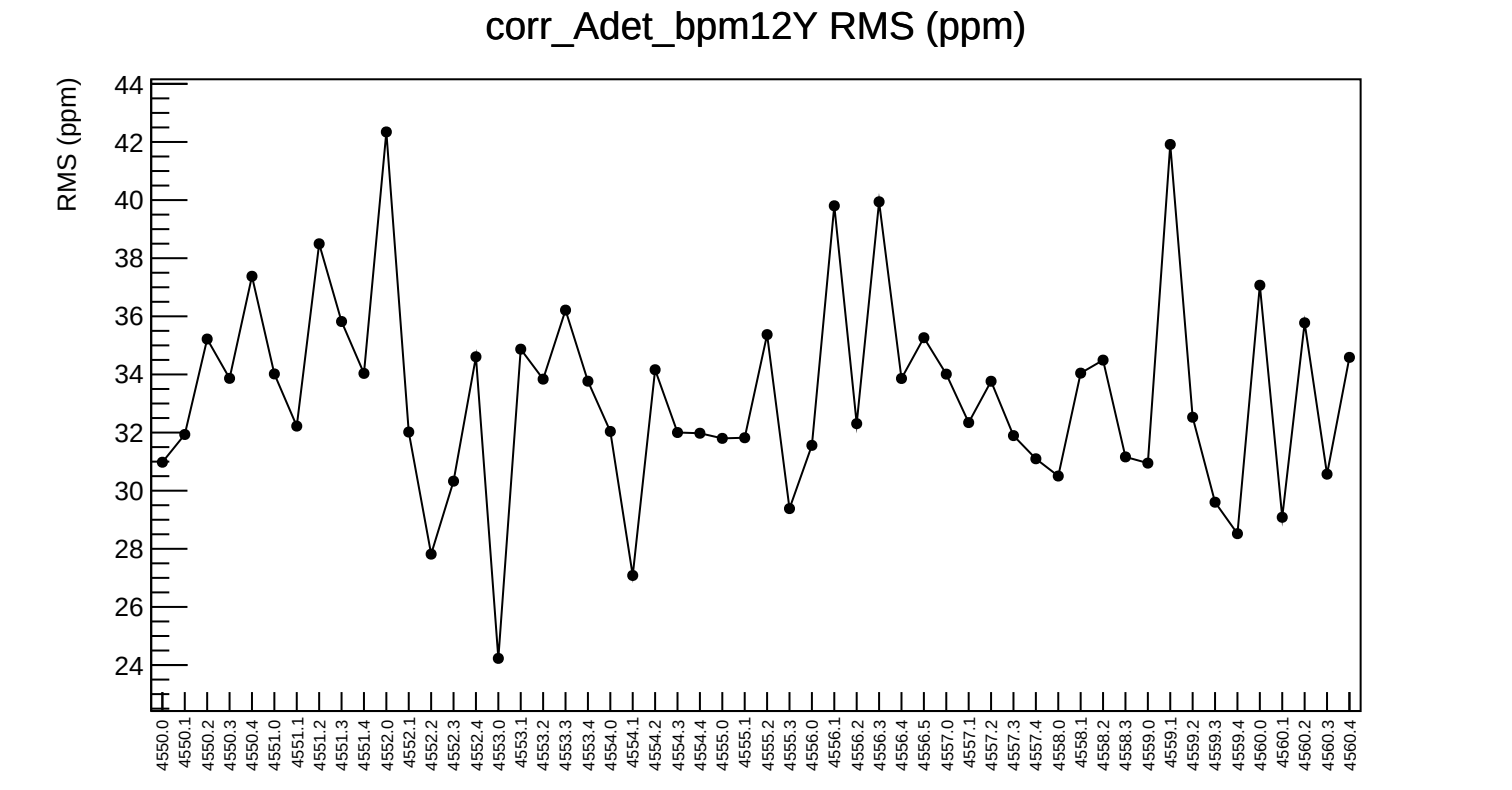

corr_Adet_bpm12X (ppb)
χ² / ndf 7.329 / 53
p0 102 ± 136.7

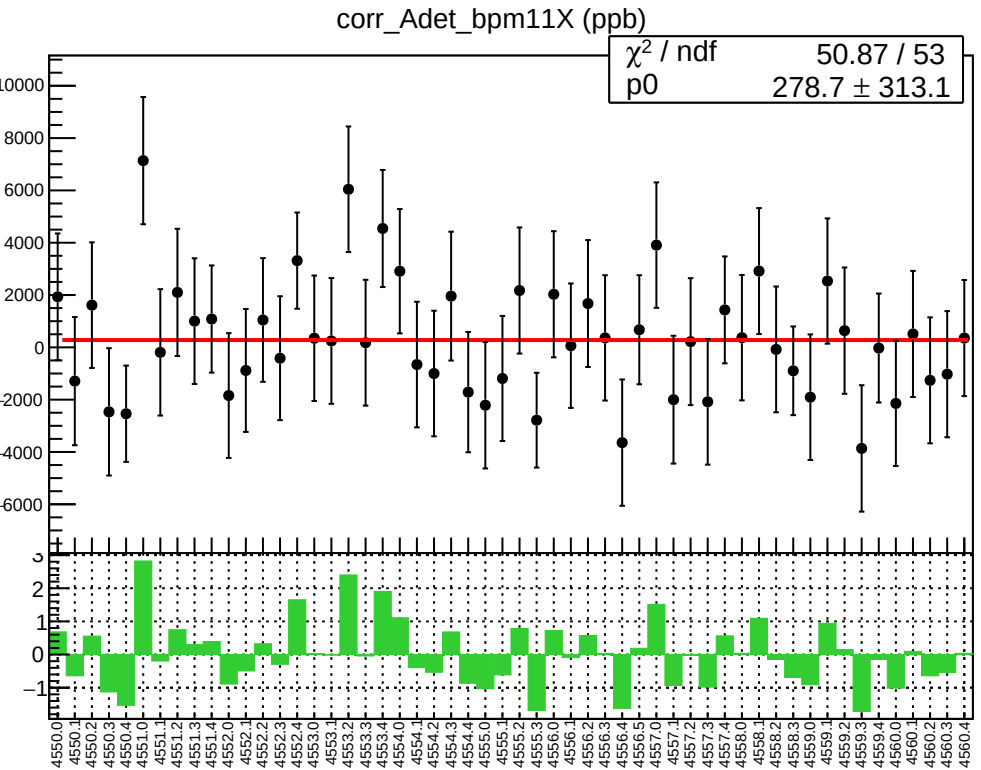

1D pull distribution
Mean 0.004655 ± 0.05013
Std Dev 0.3684 ± 0.03545
Underflow 0
Overflow 0
χ² / ndf 1.022 / 1
Constant 29.76 ± 5.40
Mean −0.0234 ± 0.0579
Sigma 0.3797 ± 0.0461

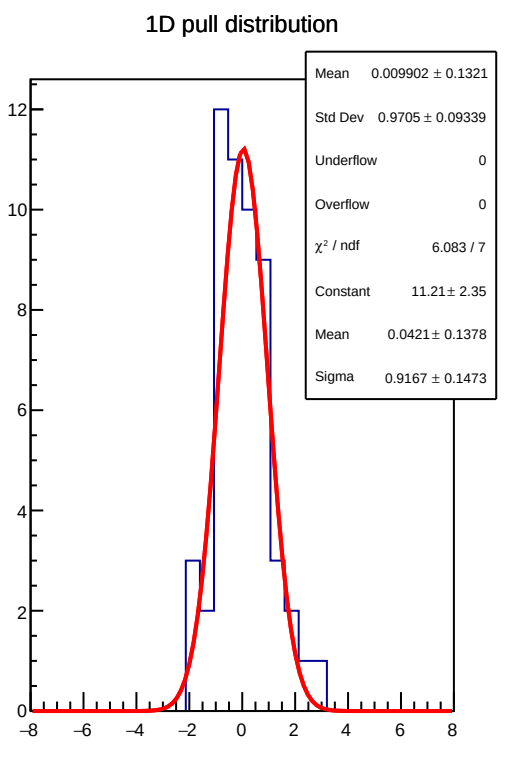

corr_Adet_bpm12X RMS (ppm)
RMS (ppm)
60
55
50
45
40
35
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

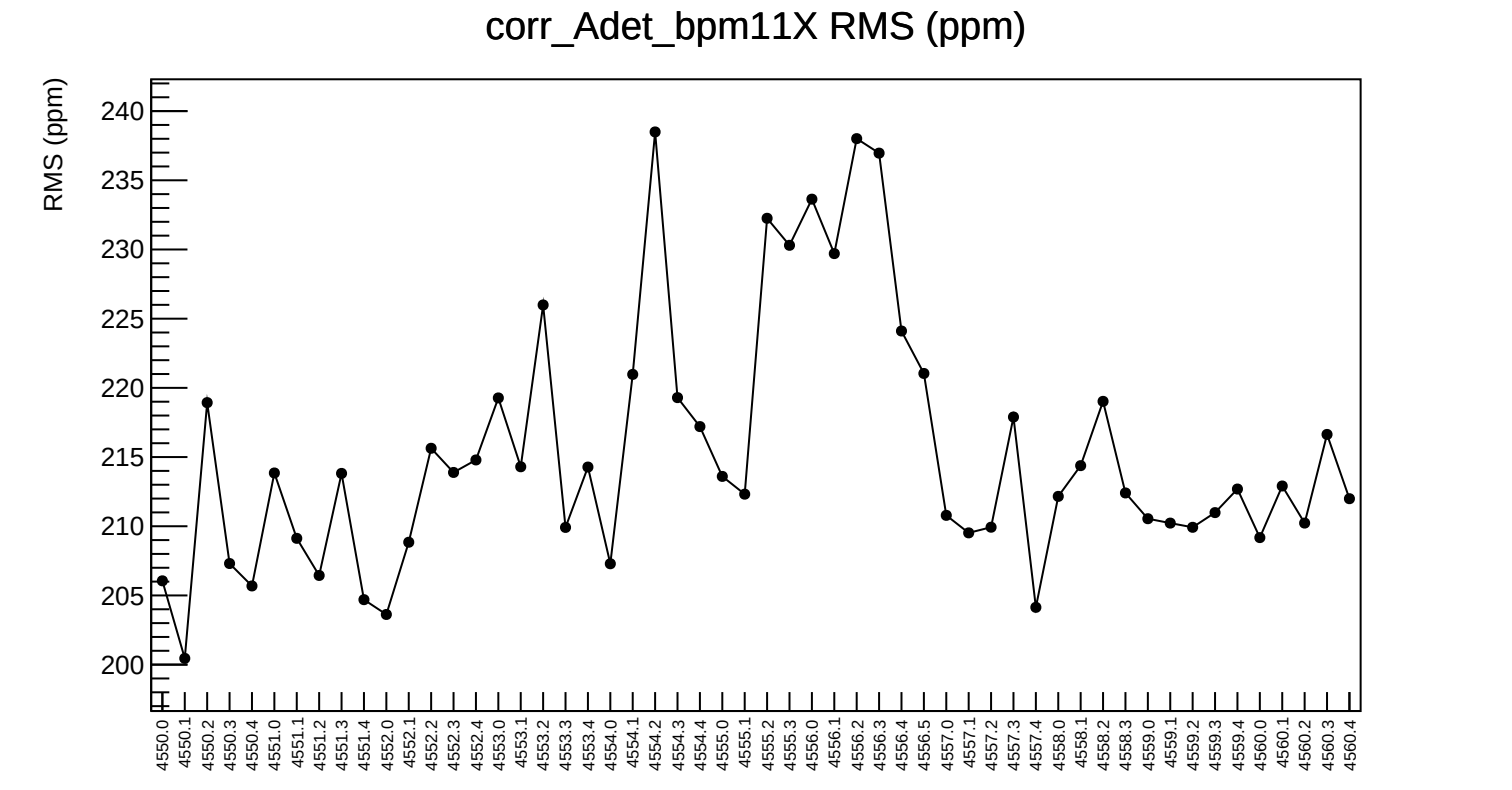

corr_Adet_bpm12Y (ppb)
χ² / ndf 79.44 / 53
p0 −37.69 ± 39.05
1000
500
0
−500
−1000
2
1
0
−1
−2
−3
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

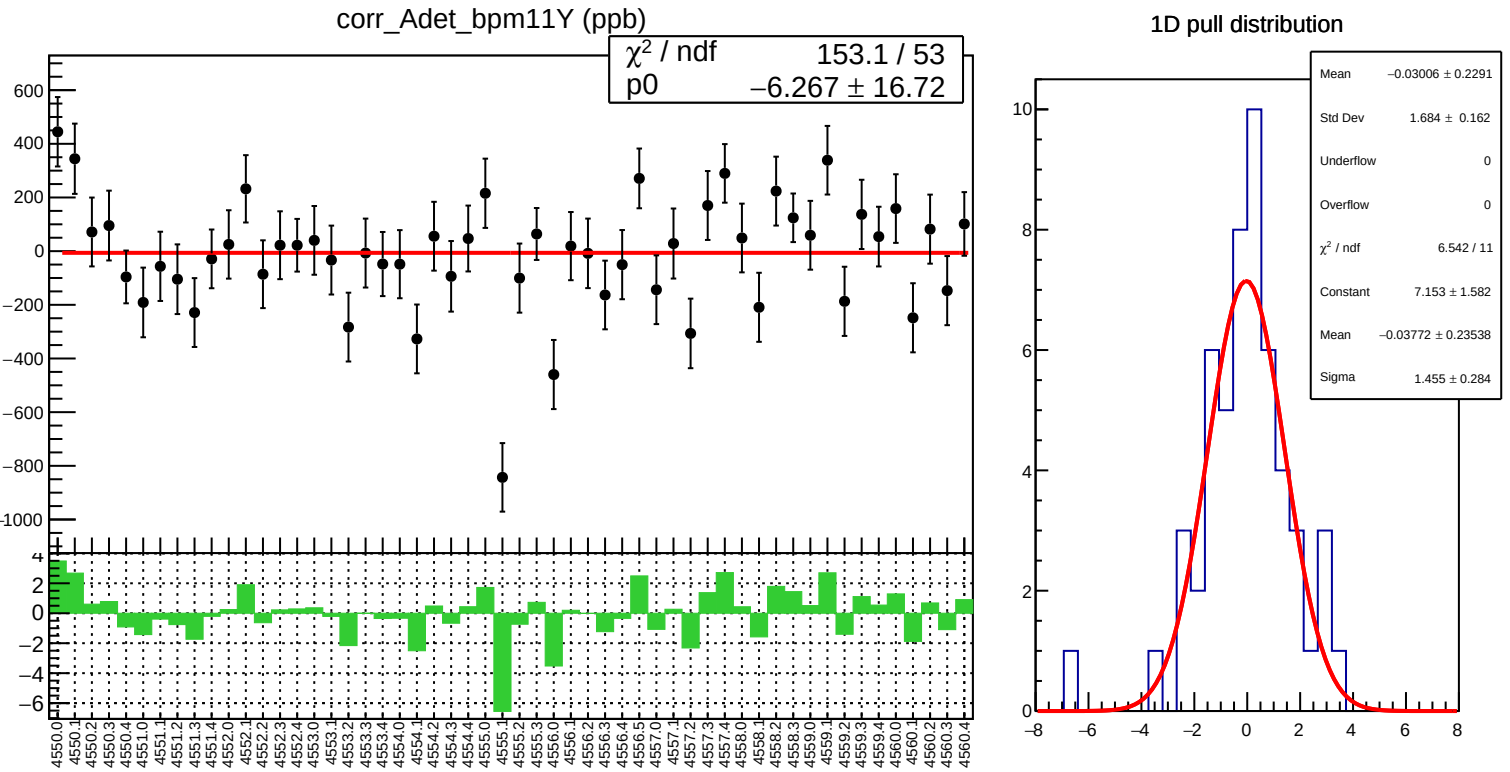

1D pull distribution
Mean −0.02842 ± 0.165
Std Dev 1.213 ± 0.1167
Underflow 0
Overflow 0
χ² / ndf 7.172 / 8
Constant 8.228 ± 1.528
Mean −0.1234 ± 0.1922
Sigma 1.232 ± 0.159
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

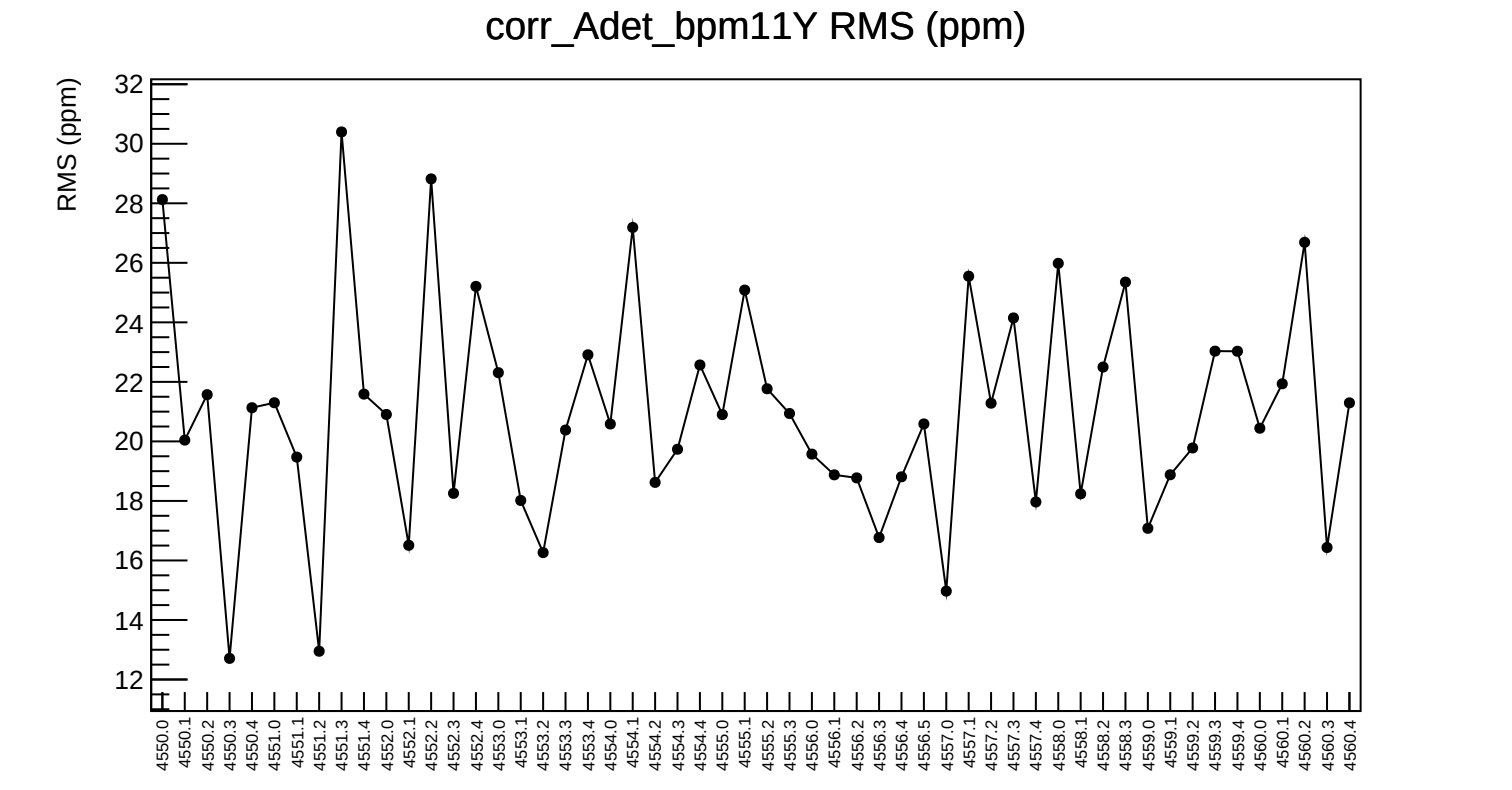

corr_Adet_bpm12Y RMS (ppm)
RMS (ppm)
44
42
40
38
36
34
32
30
28
26
24
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

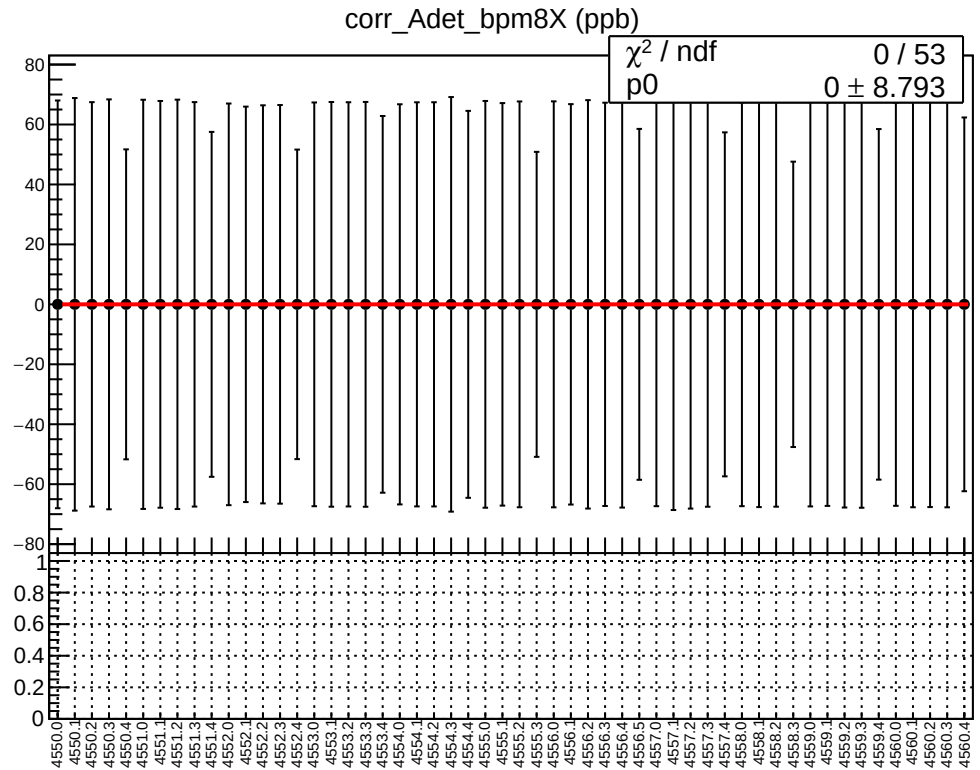

corr_Adet_bpm11X (ppb)
χ² / ndf 50.87 / 53
p0 278.7 ± 313.1

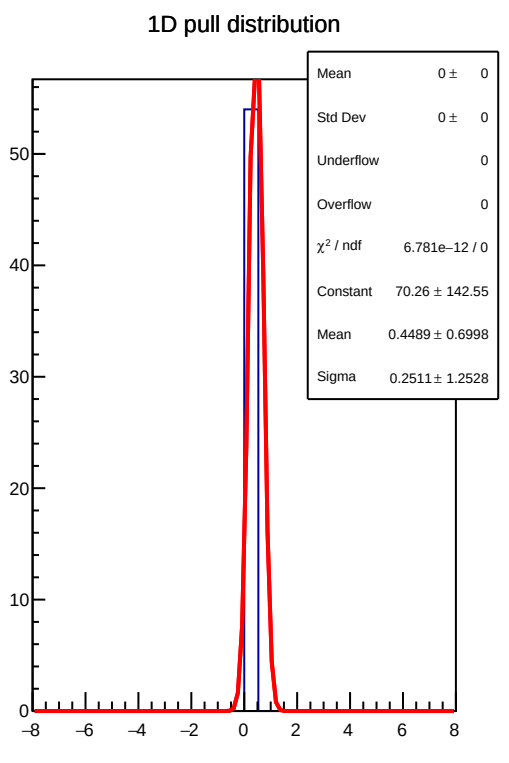

1D pull distribution
Mean 0.009902 ± 0.1321
Std Dev 0.9705 ± 0.09339
Underflow 0
Overflow 0
χ² / ndf 6.083 / 7
Constant 11.21 ± 2.35
Mean 0.0421 ± 0.1378
Sigma 0.9167 ± 0.1473

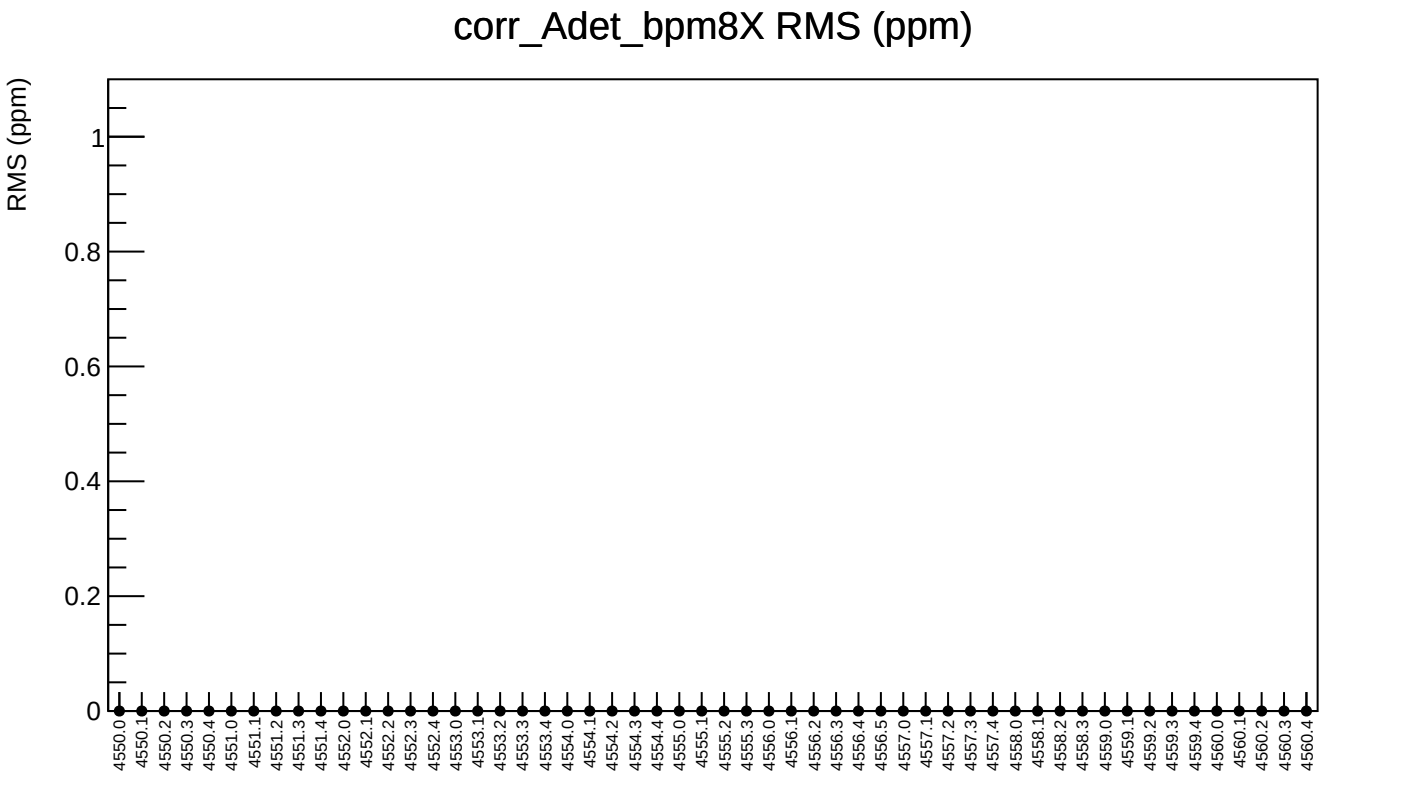

corr_Adet_bpm11X RMS (ppm)
RMS (ppm)
240
235
230
225
220
215
210
205
200
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

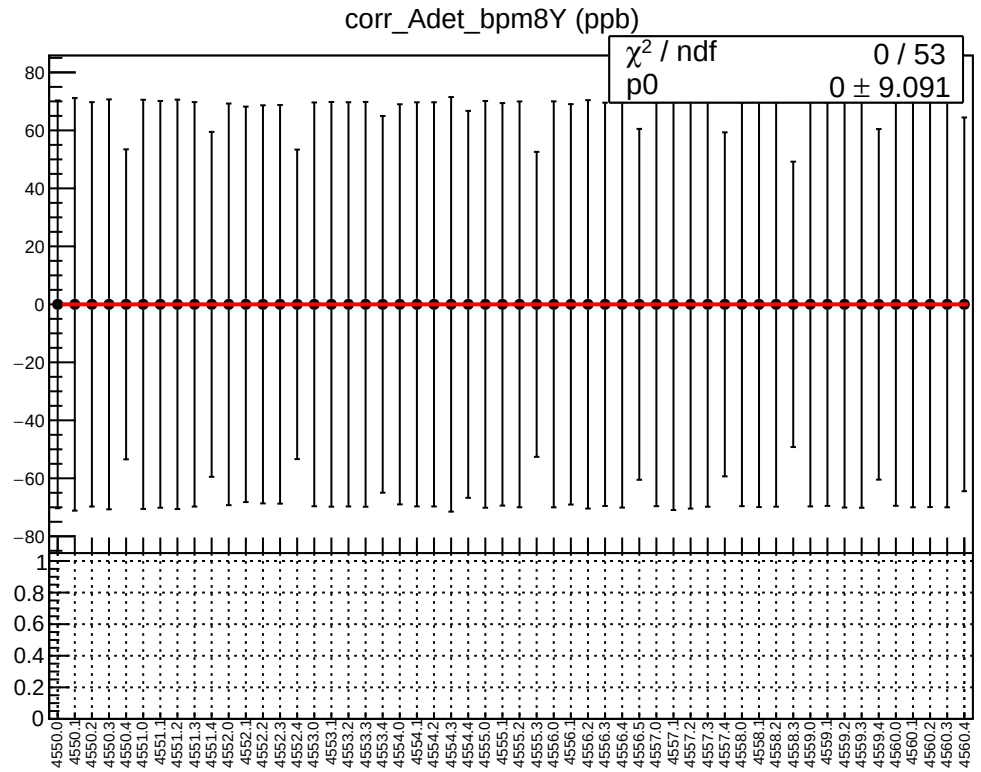

corr_Adet_bpm11Y (ppb)
χ² / ndf 153.1 / 53
p0 −6.267 ± 16.72
1D pull distribution
Mean −0.03006 ± 0.2291
Std Dev 1.684 ± 0.162
Underflow 0
Overflow 0
χ² / ndf 6.542 / 11
Constant 7.153 ± 1.582
Mean −0.03772 ± 0.23538
Sigma 1.455 ± 0.284

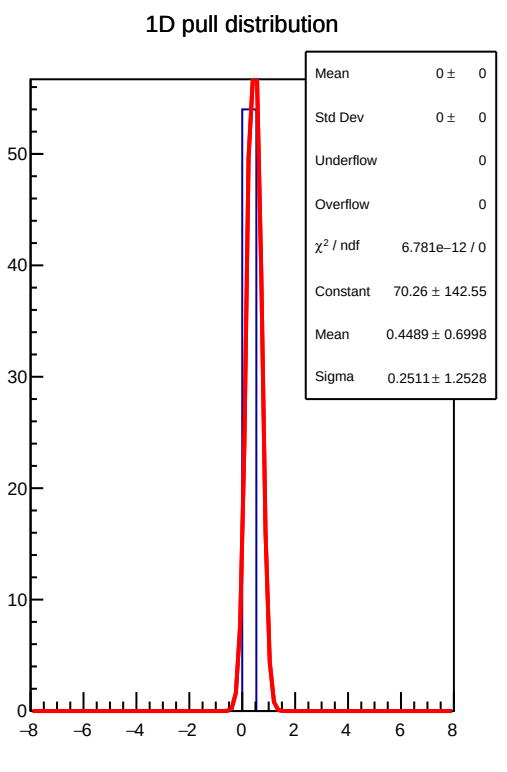

corr_Adet_bpm11Y RMS (ppm)
RMS (ppm)
32
30
28
26
24
22
20
18
16
14
12
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

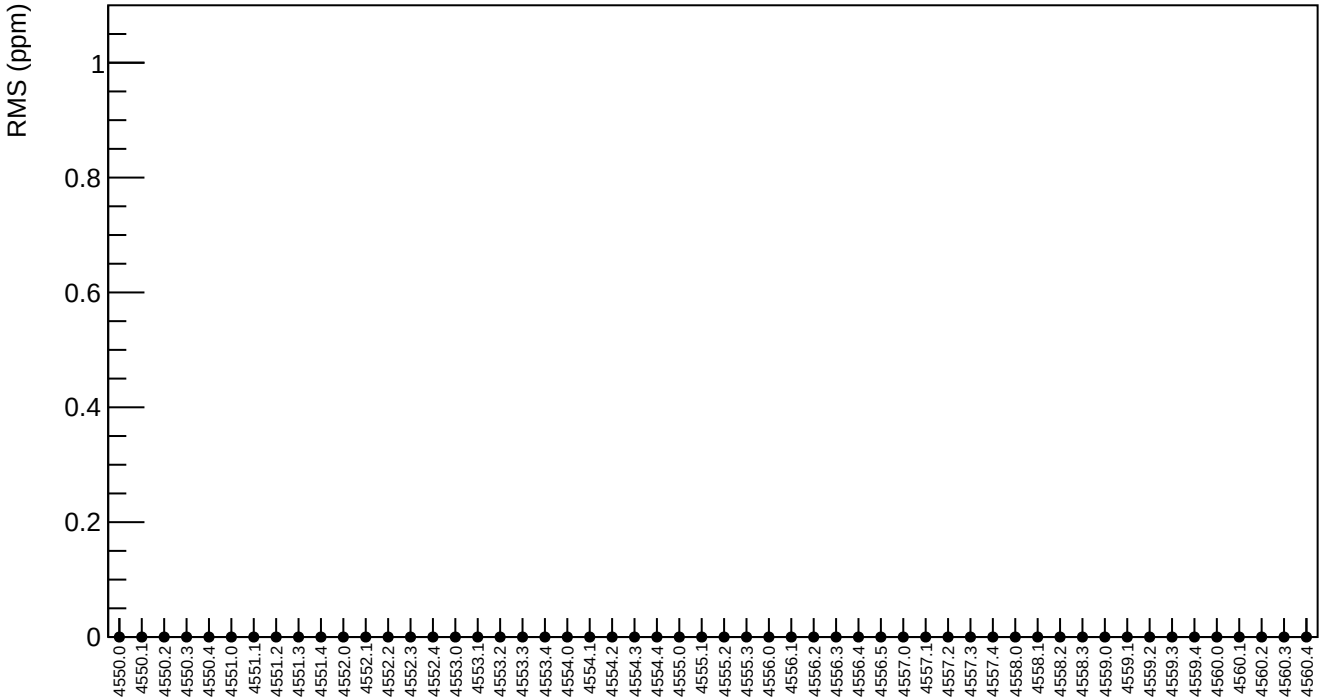

corr_Adet_bpm8X (ppb)
χ² / ndf 0 / 53
p0 0 ± 8.793

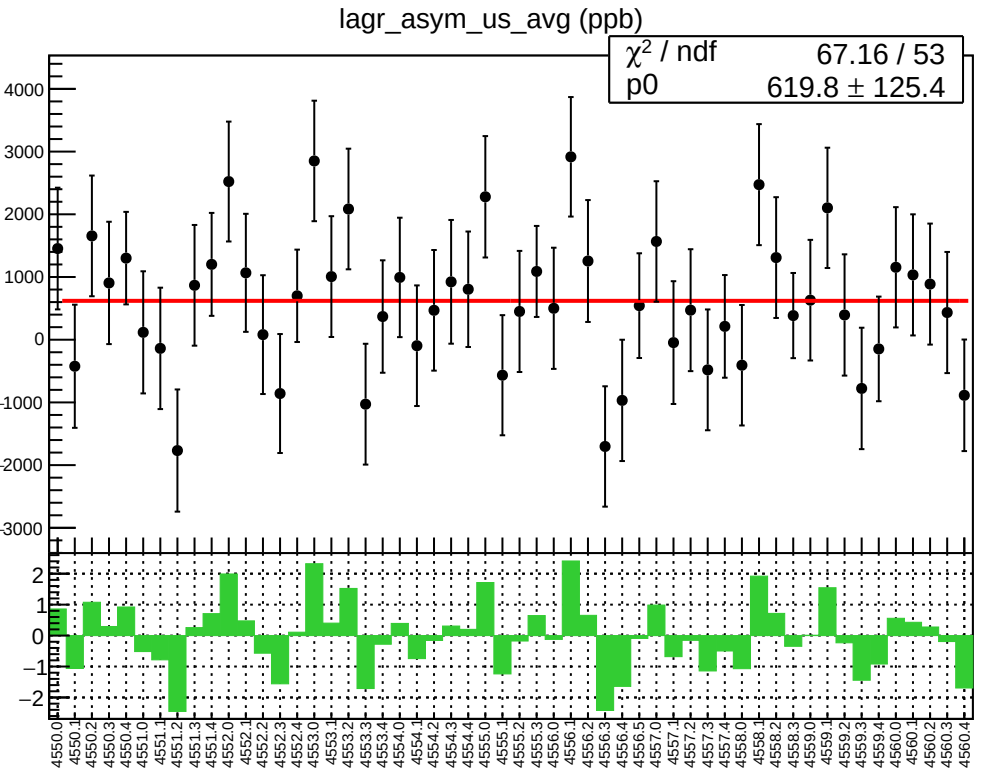

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

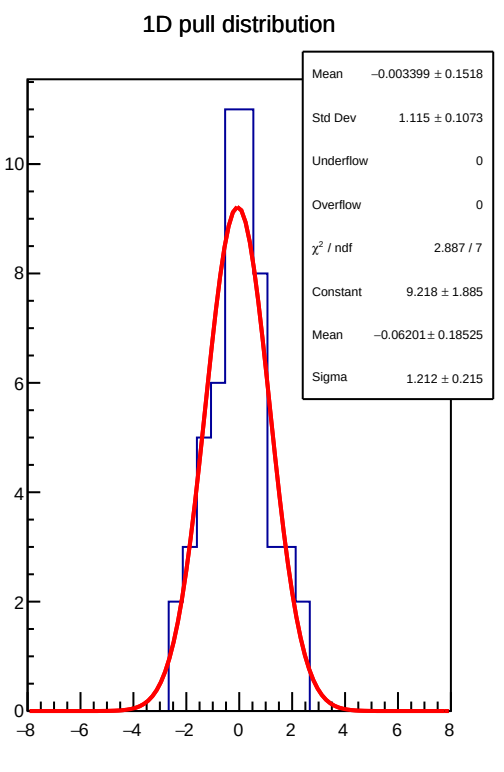

corr_Adet_bpm8X RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

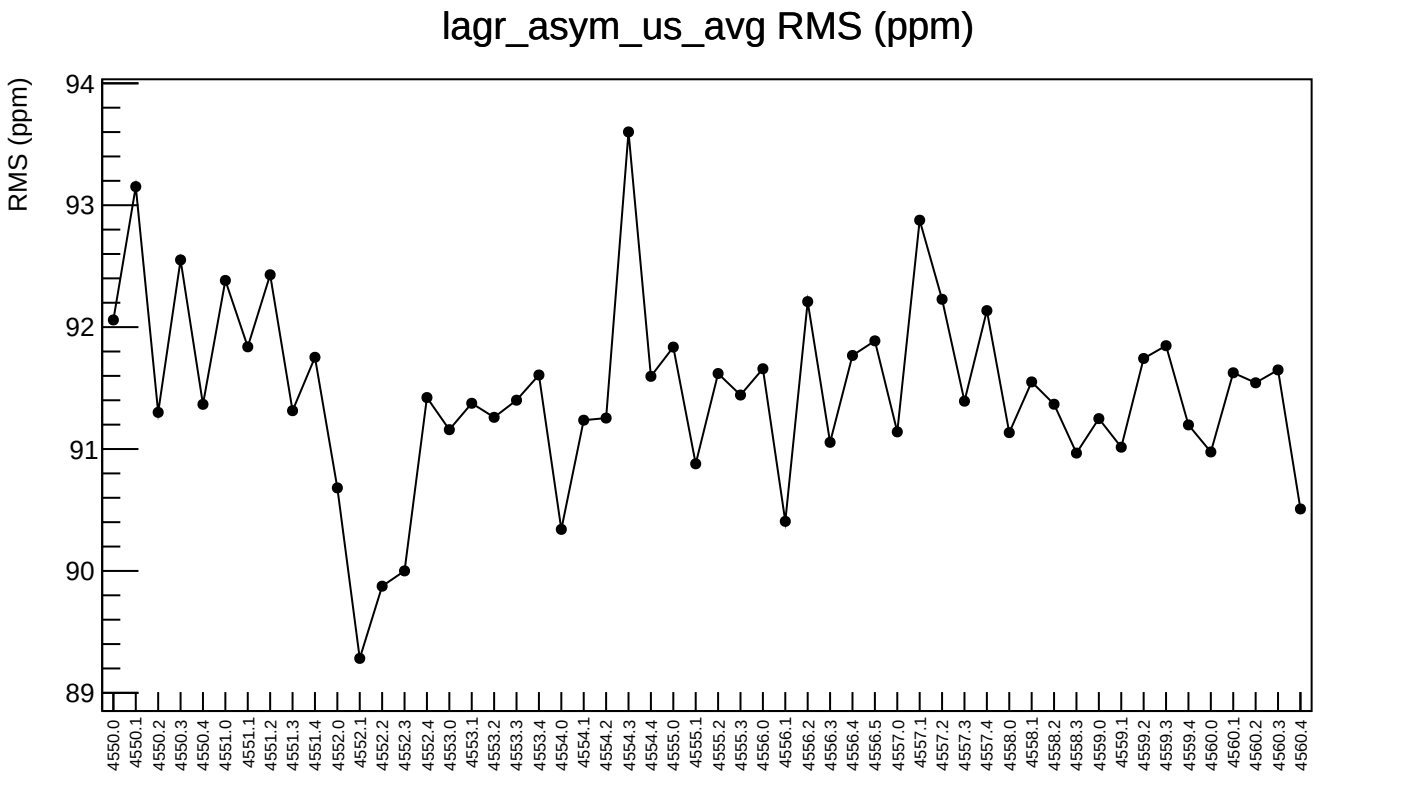

corr_Adet_bpm8Y (ppb)
χ² / ndf 0 / 53
p0 0 ± 9.091

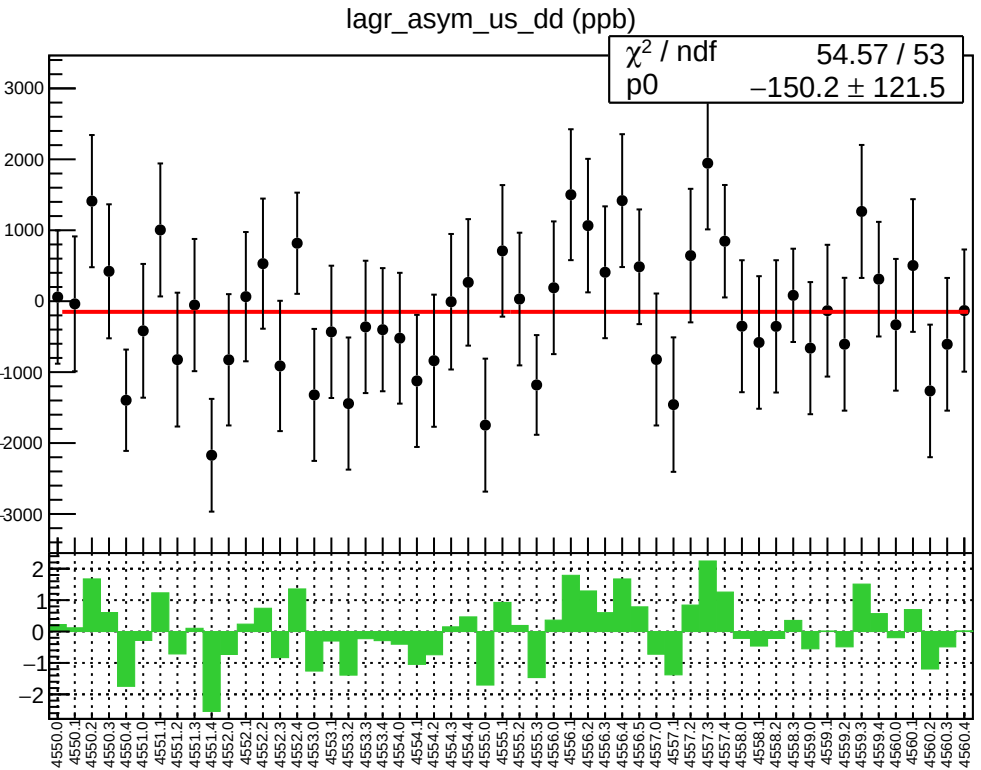

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

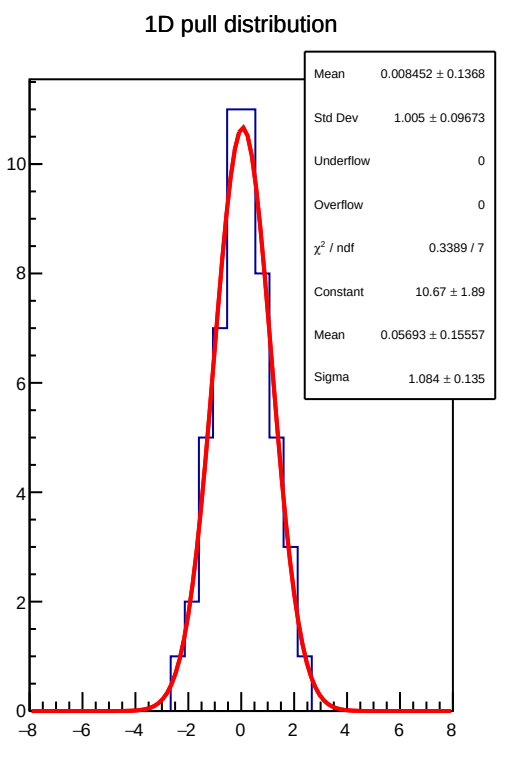

corr_Adet_bpm8Y RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

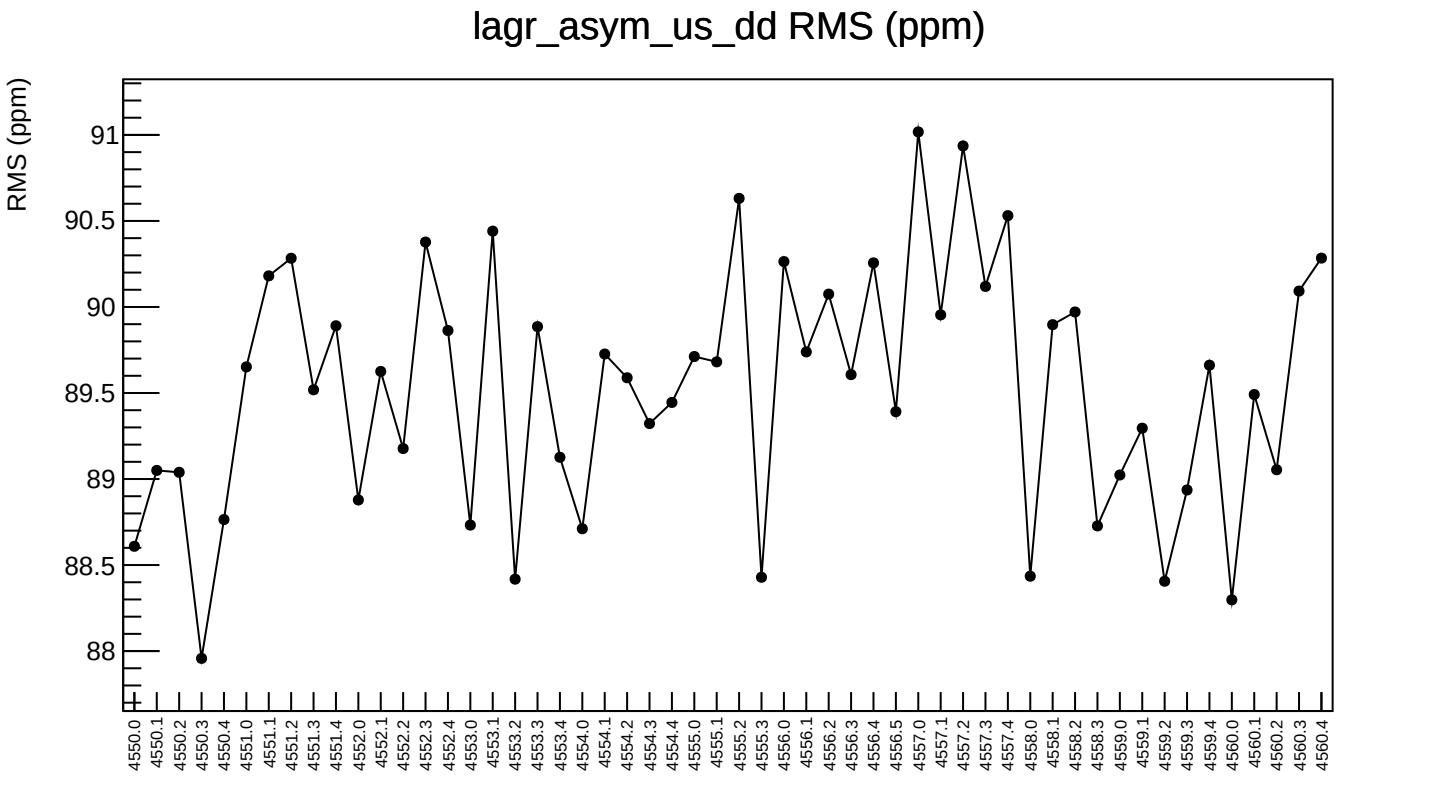

lagr_asym_us_avg (ppb)
χ² / ndf 67.16 / 53
p0 619.8 ± 125.4
4000
3000
2000
1000
0
-1000
-2000
-3000
pull
2
1
0
−1
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

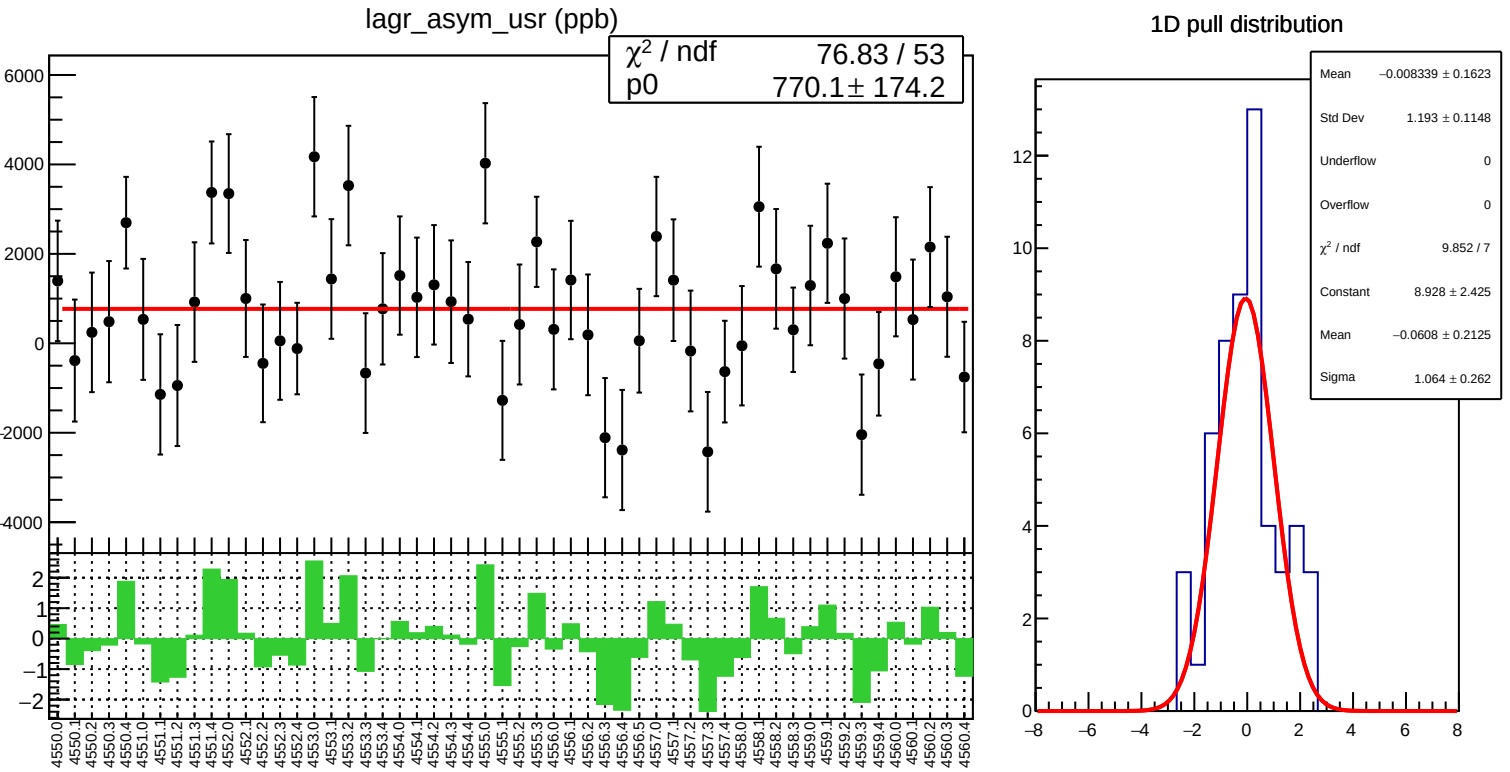

1D pull distribution
Mean −0.003399 ± 0.1518
Std Dev 1.115 ± 0.1073
Underflow 0
Overflow 0
χ² / ndf 2.887 / 7
Constant 9.218 ± 1.885
Mean −0.06201 ± 0.18525
Sigma 1.212 ± 0.215
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

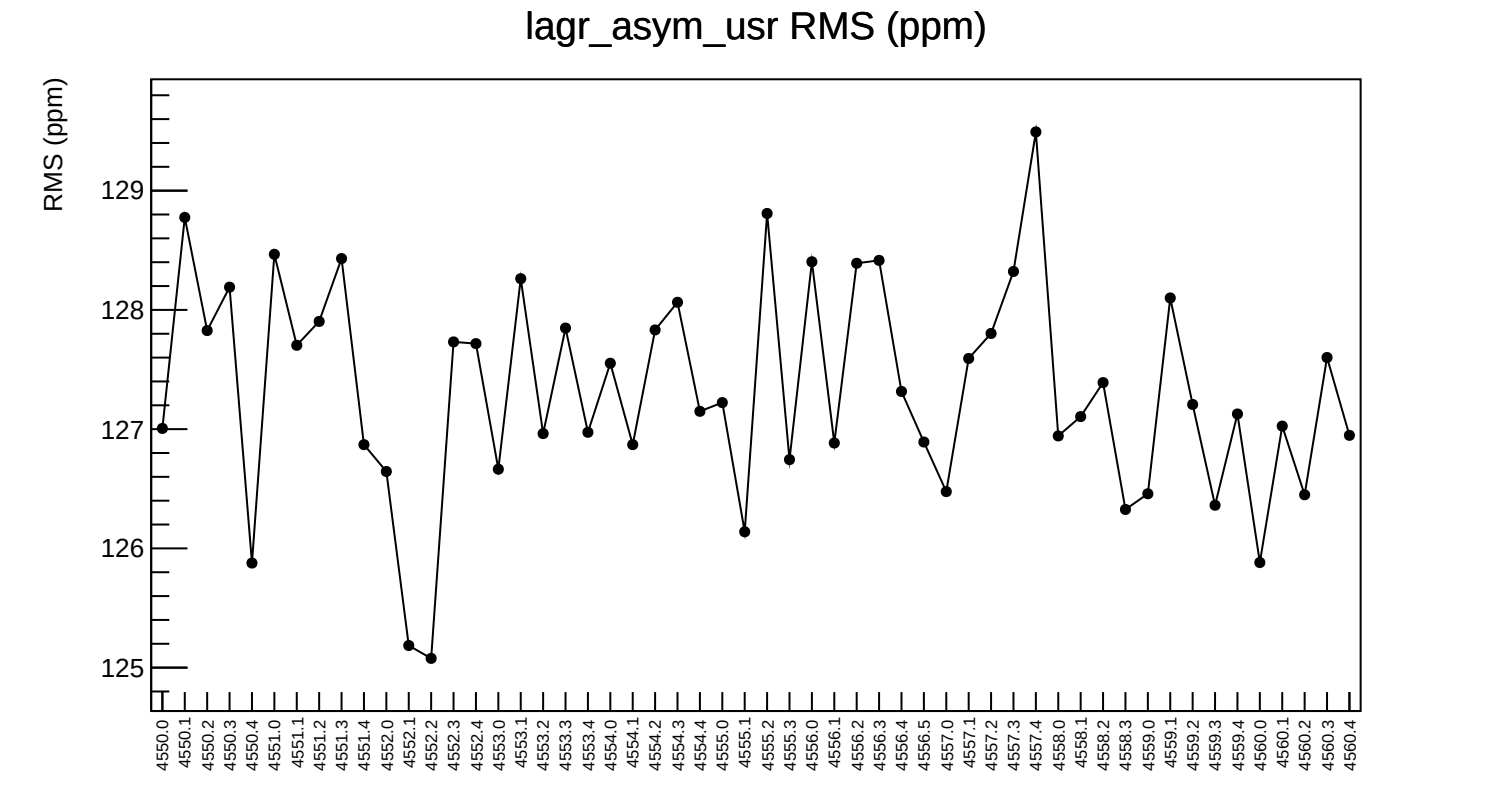

lagr_asym_us_avg RMS (ppm)
RMS (ppm)
94
93
92
91
90
89
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

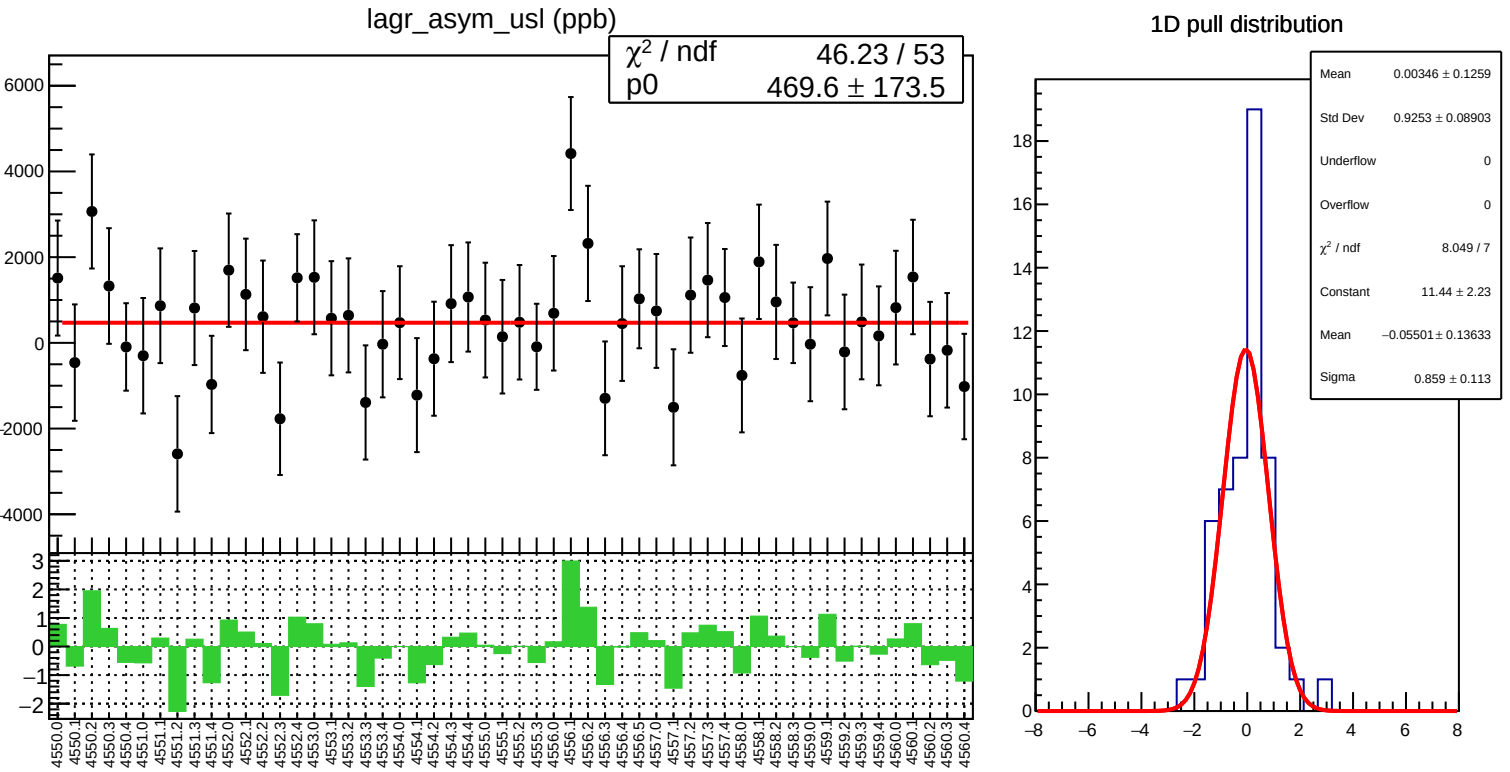

lagr_asym_us_dd (ppb)
χ² / ndf 54.57 / 53
p0 −150.2 ± 121.5
3000
2000
1000
0
-1000
-2000
-3000
2
1
0
−1
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

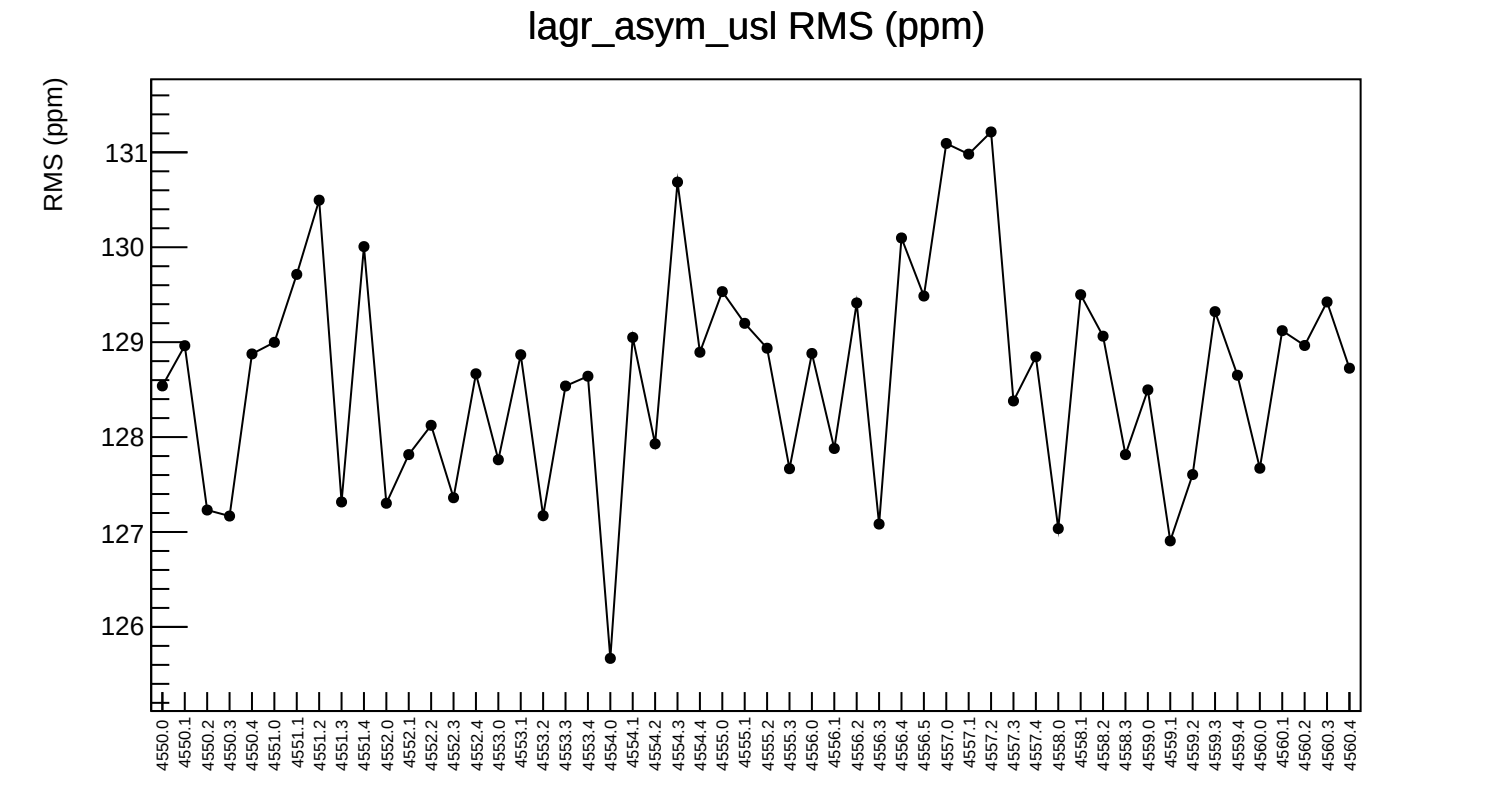

1D pull distribution
Mean 0.008452 ± 0.1368
Std Dev 1.005 ± 0.09673
Underflow 0
Overflow 0
χ² / ndf 0.3389 / 7
Constant 10.67 ± 1.89
Mean 0.05693 ± 0.15557
Sigma 1.084 ± 0.135
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

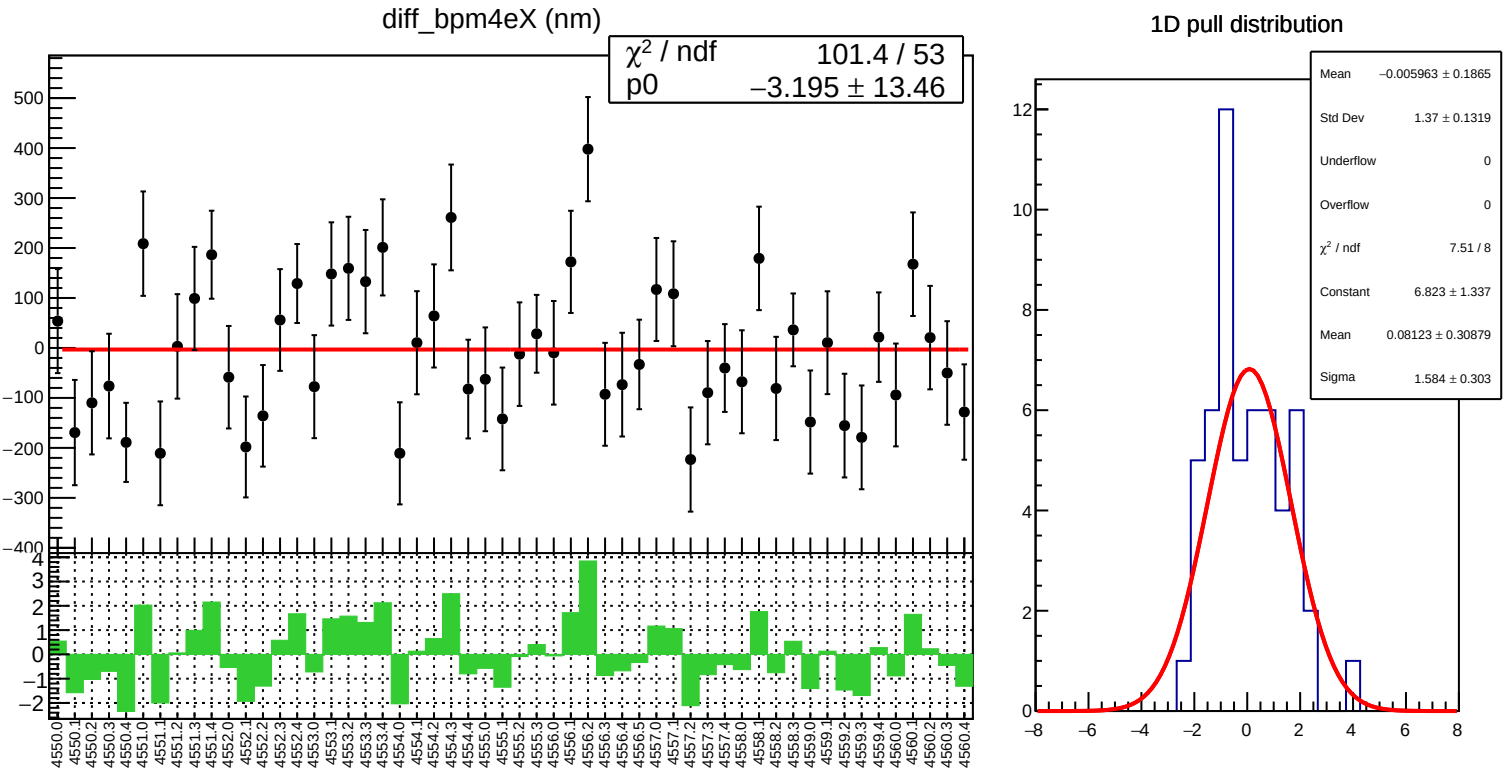

lagr_asym_us_dd RMS (ppm)
RMS (ppm)
91
90.5
90
89.5
89
88.5
88
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

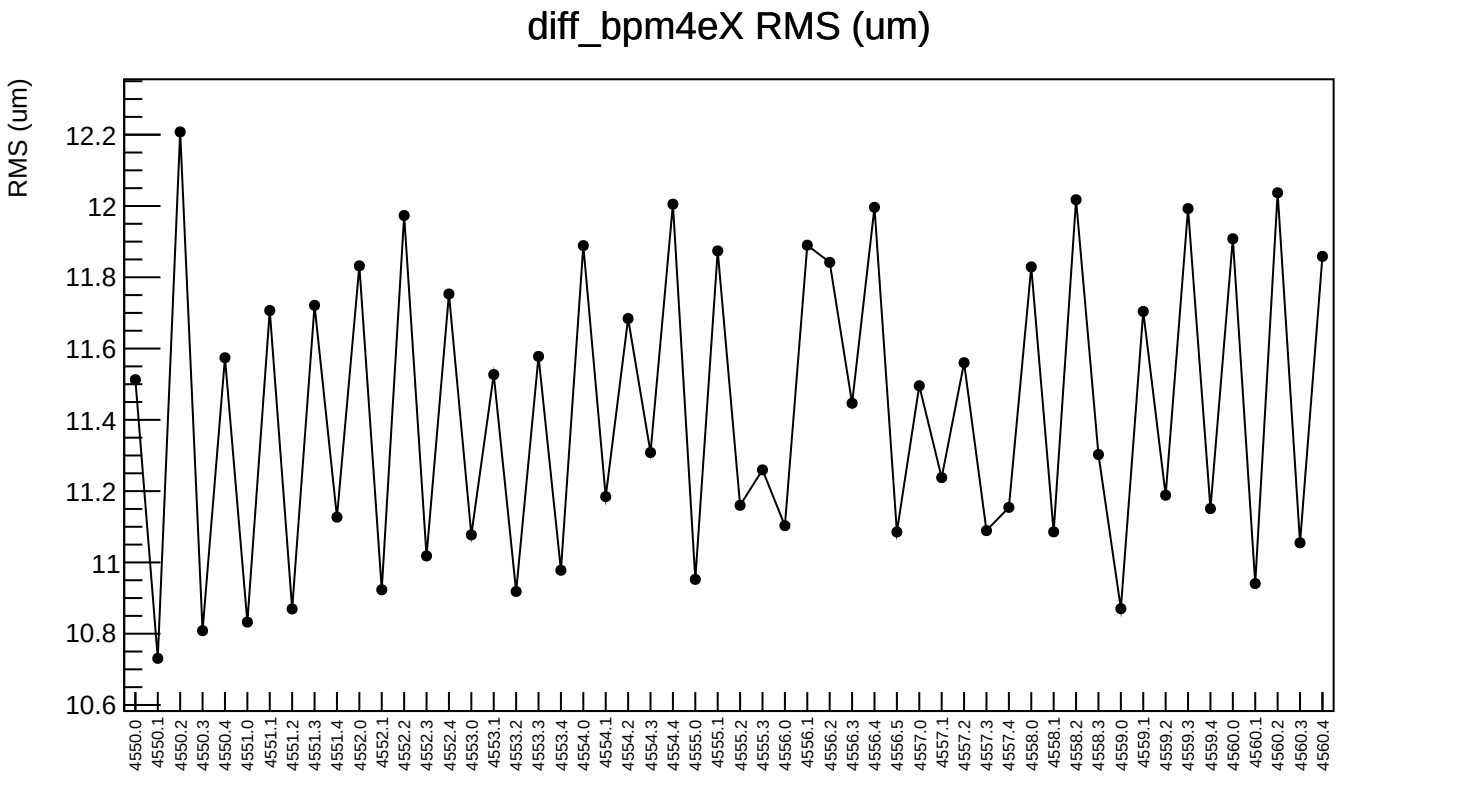

lagr_asym_usr (ppb)
χ² / ndf 76.83 / 53
p0 770.1± 174.2
1D pull distribution
Mean −0.008339 ± 0.1623
Std Dev 1.193 ± 0.1148
Underflow 0
Overflow 0
χ² / ndf 9.852 / 7
Constant 8.928 ± 2.425
Mean −0.0608 ± 0.2125
Sigma 1.064 ± 0.262

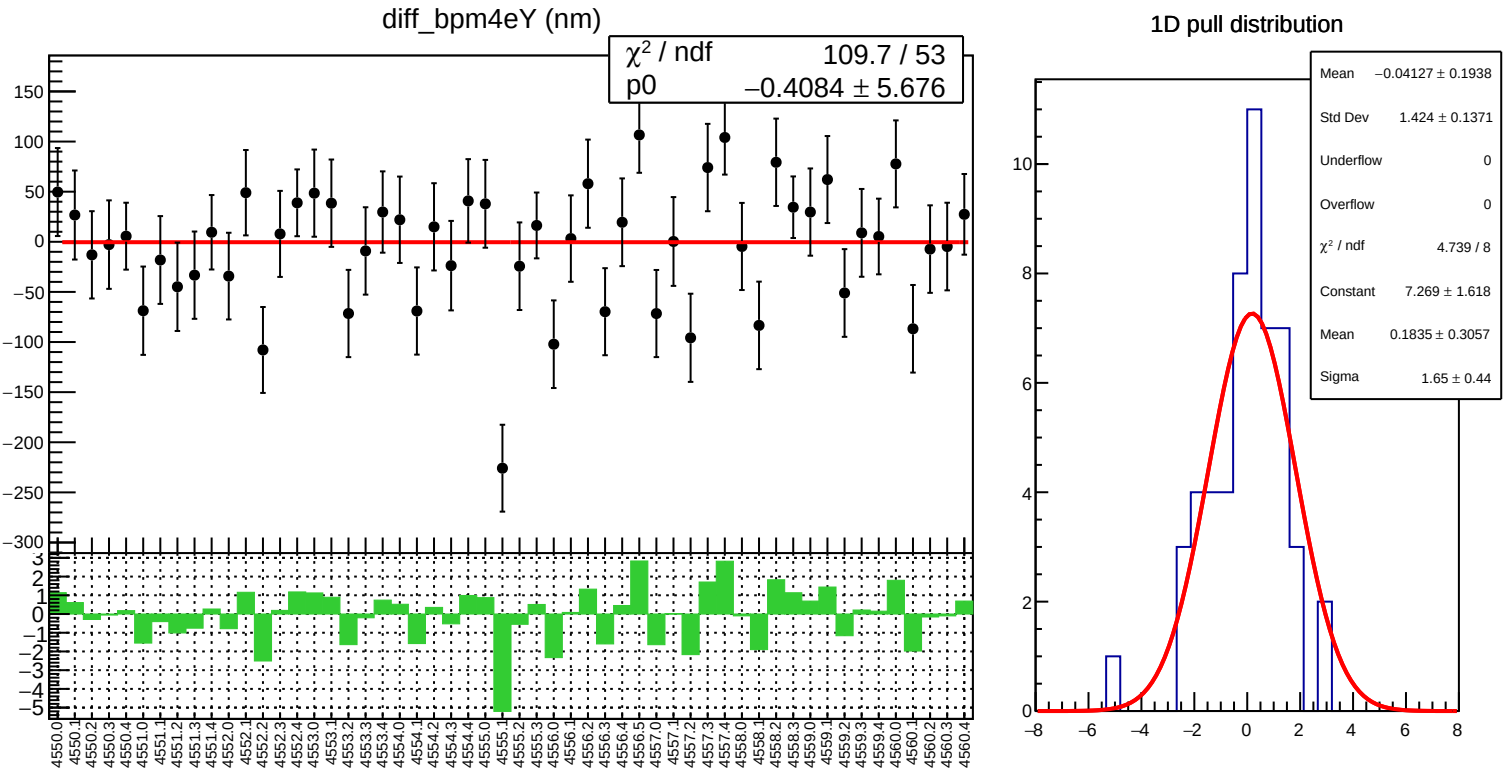

lagr_asym_usr RMS (ppm)
RMS (ppm)
129
128
127
126
125
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

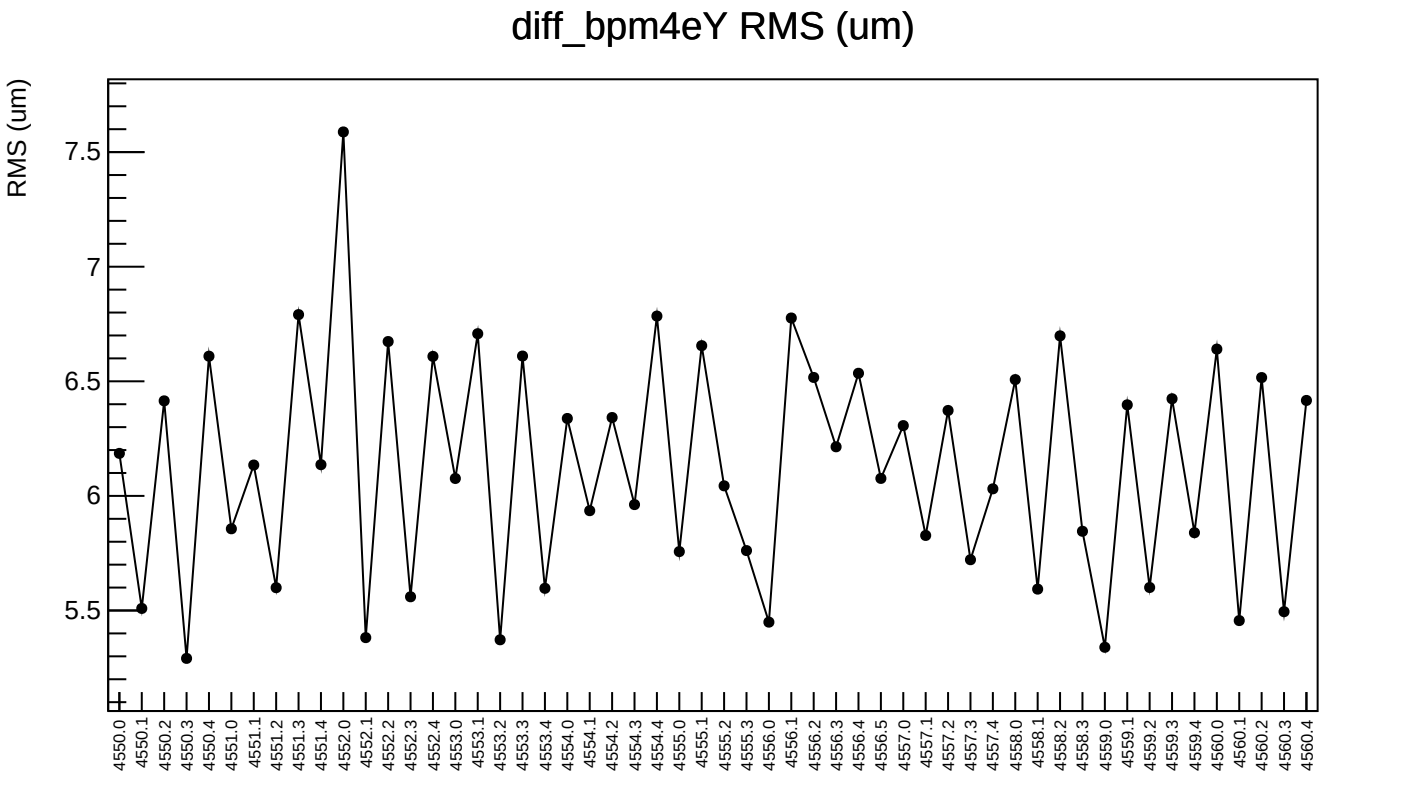

lagr_asym_usl (ppb)
χ² / ndf 46.23 / 53
p0 469.6 ± 173.5
6000
4000
2000
0
-2000
-4000
pull
3
2
1
0
−1
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4
1D pull distribution
Mean 0.00346 ± 0.1259
Std Dev 0.9253 ± 0.08903
Underflow 0
Overflow 0
χ² / ndf 8.049 / 7
Constant 11.44 ± 2.23
Mean −0.05501 ± 0.13633
Sigma 0.859 ± 0.113
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

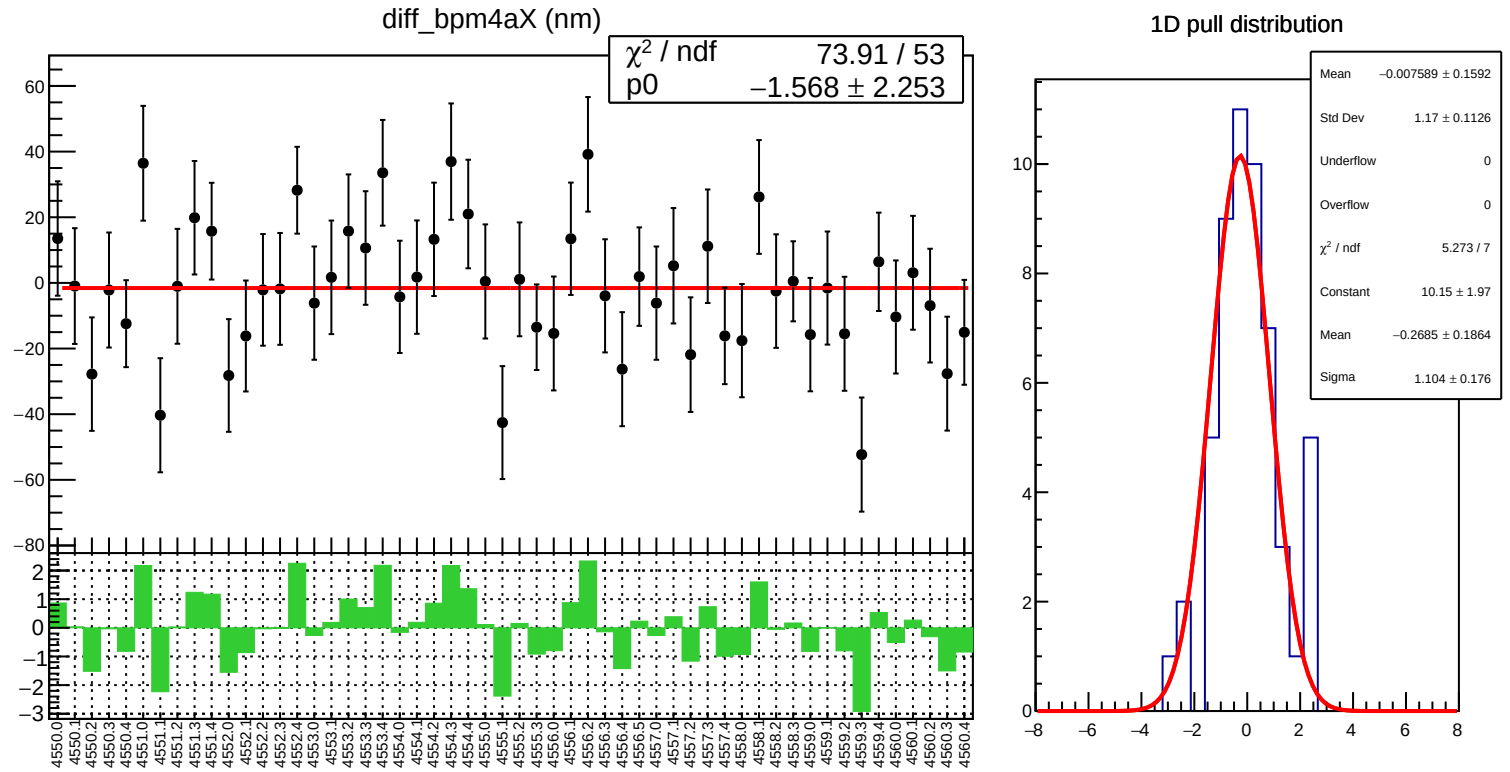

lagr_asym_usl RMS (ppm)
RMS (ppm)
131
130
129
128
127
126
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

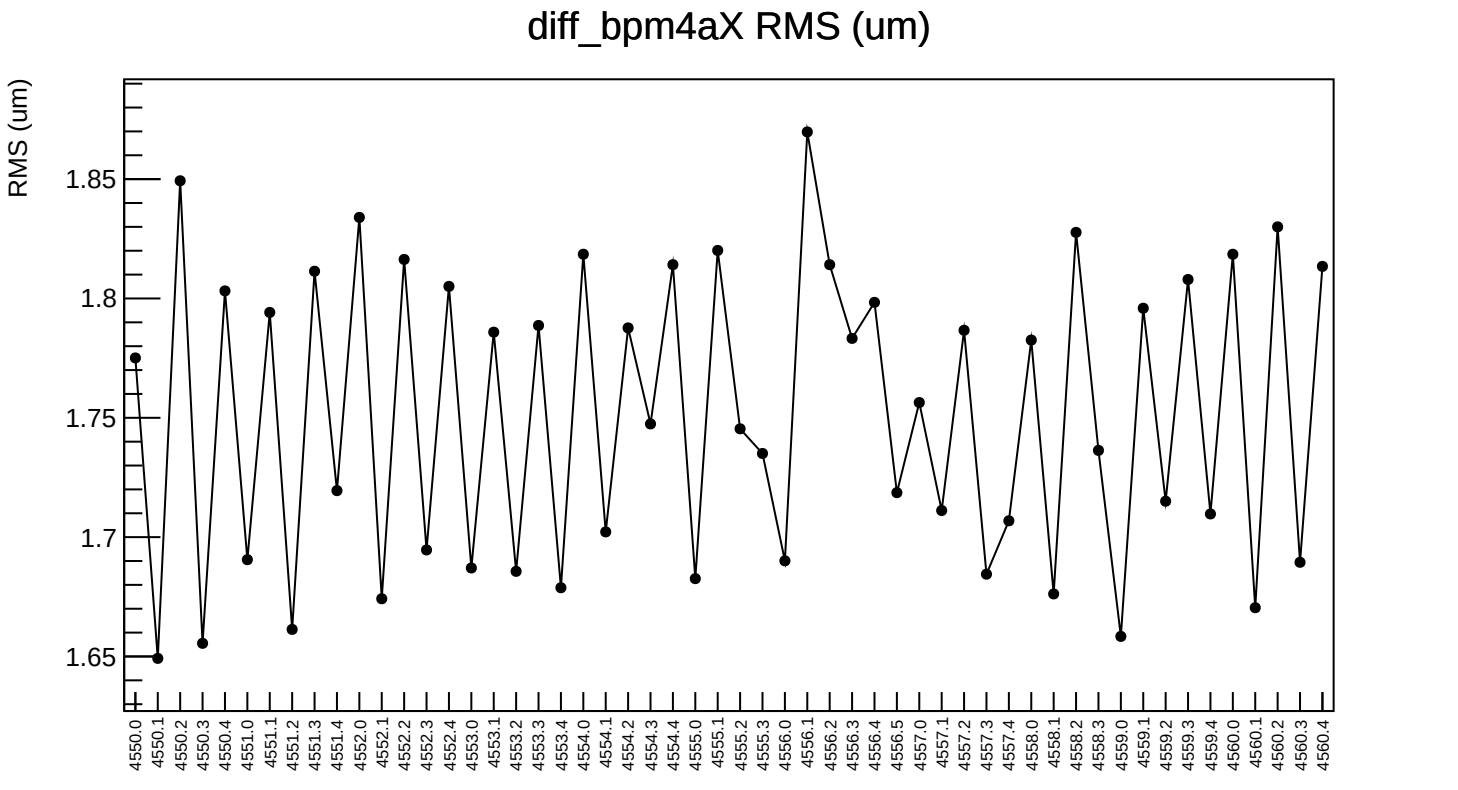

diff_bpm4eX (nm)
χ² / ndf 101.4 / 53
p0 −3.195 ± 13.46
1D pull distribution
Mean −0.005963 ± 0.1865
Std Dev 1.37 ± 0.1319
Underflow 0
Overflow 0
χ² / ndf 7.51 / 8
Constant 6.823 ± 1.337
Mean 0.08123 ± 0.30879
Sigma 1.584 ± 0.303

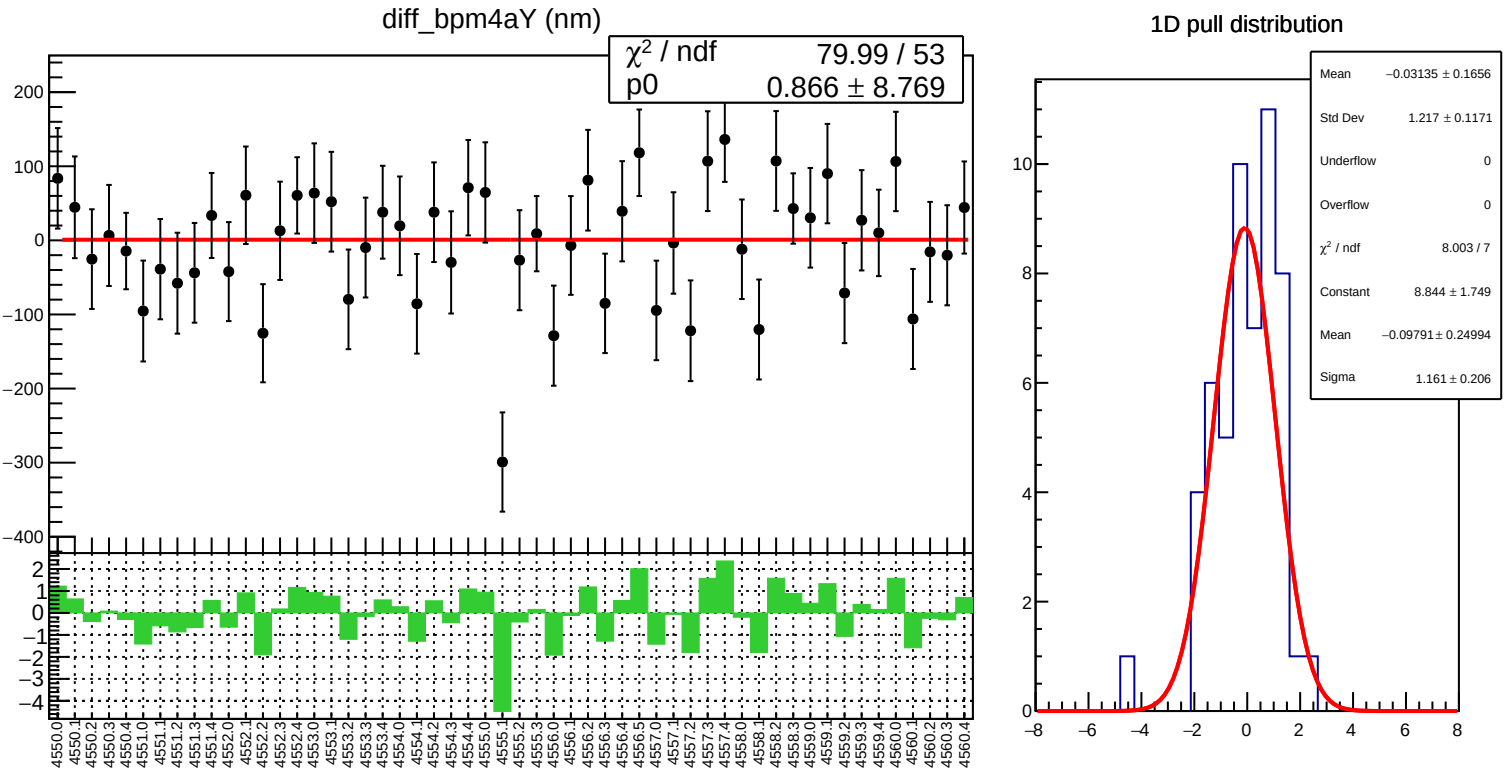

diff_bpm4eX RMS (um)
RMS (um)
12.2
12
11.8
11.6
11.4
11.2
11
10.8
10.6
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

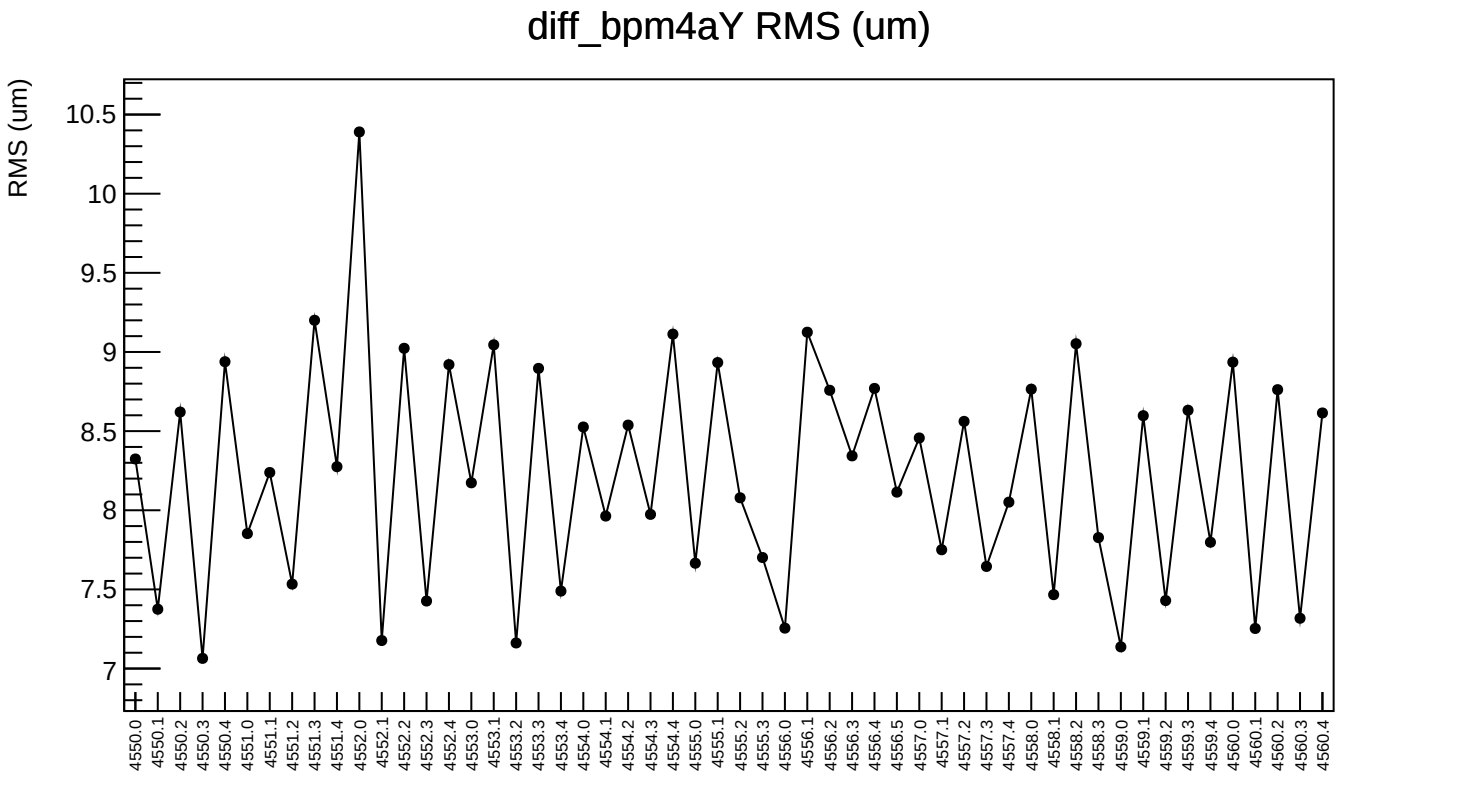

diff_bpm4eY (nm)
χ² / ndf 109.7 / 53
p0 −0.4084 ± 5.676
1D pull distribution
Mean −0.04127 ± 0.1938
Std Dev 1.424 ± 0.1371
Underflow 0
Overflow 0
χ² / ndf 4.739 / 8
Constant 7.269 ± 1.618
Mean 0.1835 ± 0.3057
Sigma 1.65 ± 0.44

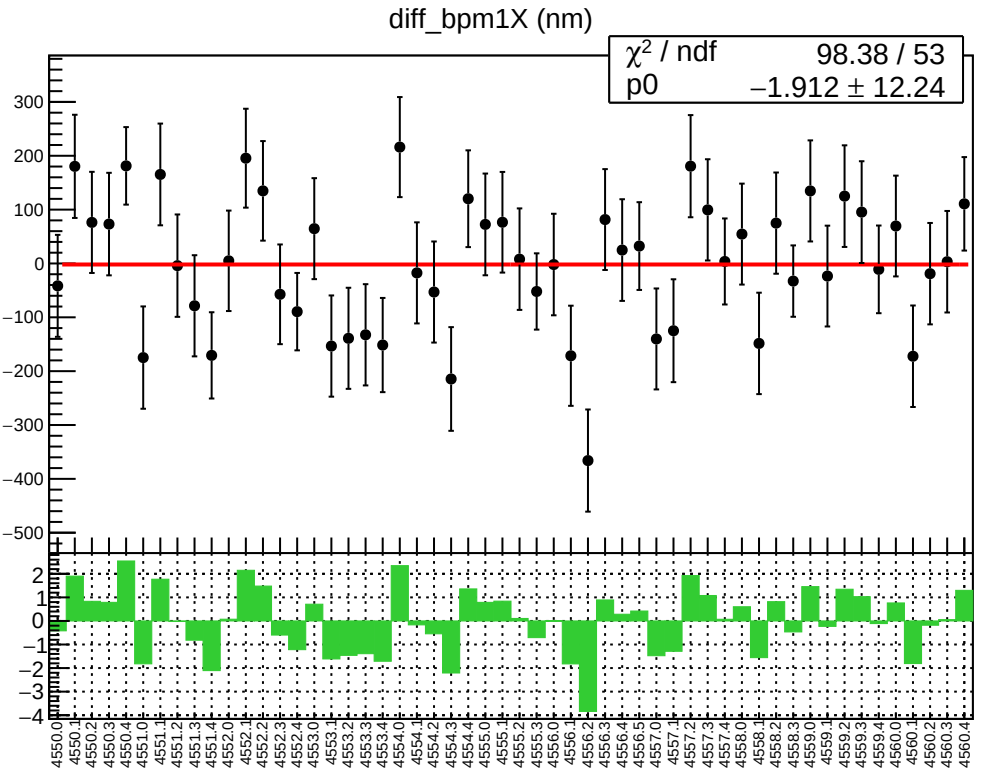

diff_bpm4eY RMS (um)
RMS (um)
7.5
7
6.5
6
5.5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

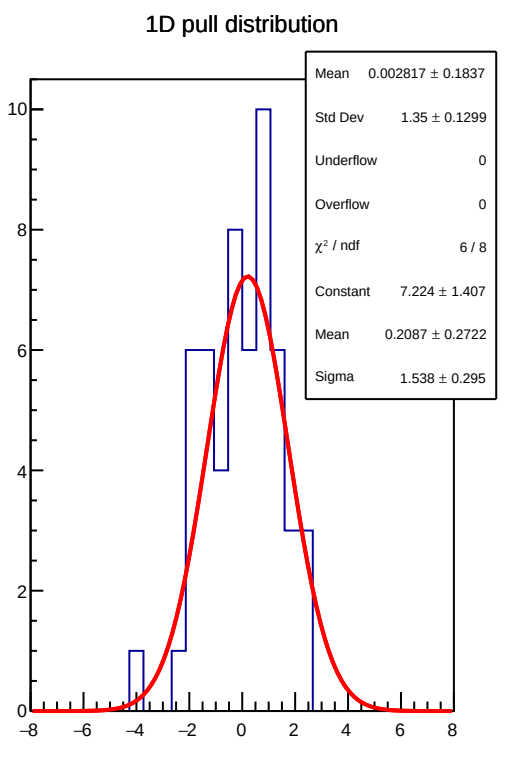

diff_bpm4aX (nm)
χ² / ndf 73.91 / 53
p0 −1.568 ± 2.253
1D pull distribution
Mean −0.007589 ± 0.1592
Std Dev 1.17 ± 0.1126
Underflow 0
Overflow 0
χ² / ndf 5.273 / 7
Constant 10.15 ± 1.97
Mean −0.2685 ± 0.1864
Sigma 1.104 ± 0.176

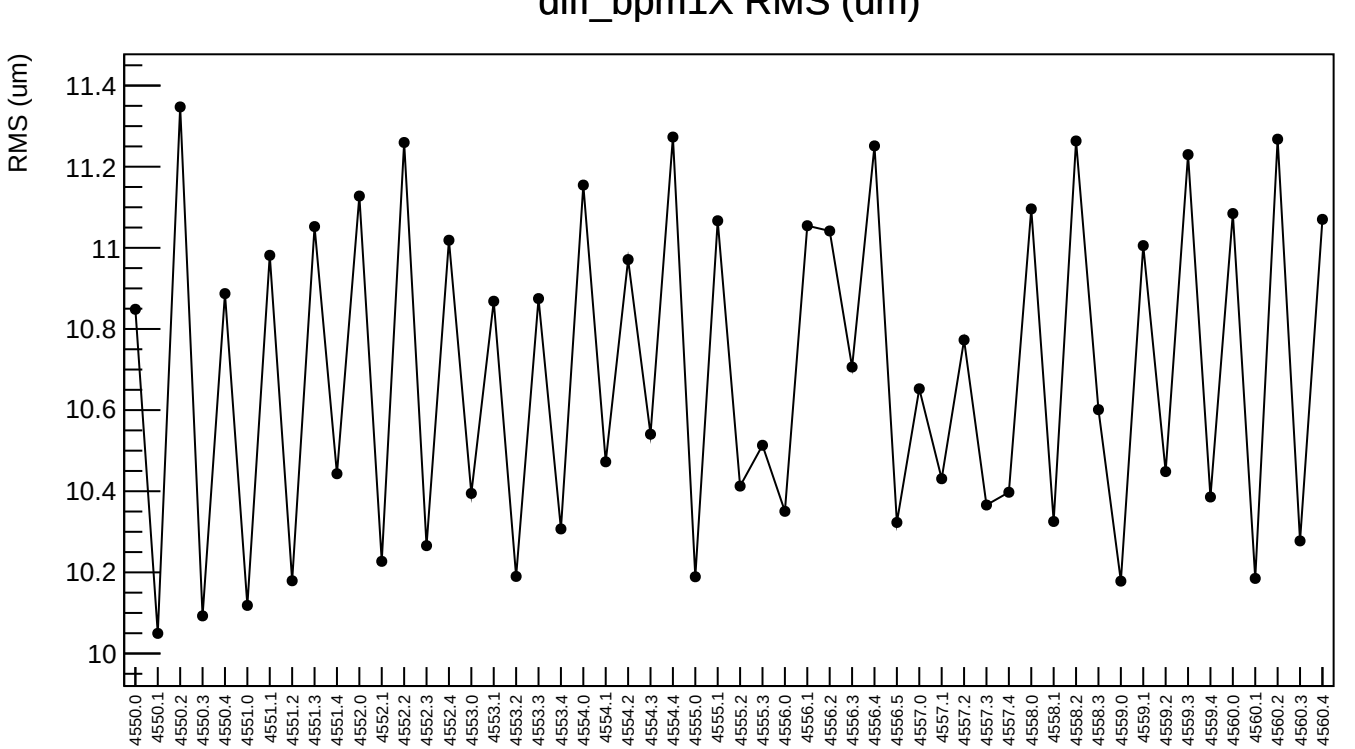

diff_bpm4aX RMS (um)
RMS (um)
1.85
1.8
1.75
1.7
1.65
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

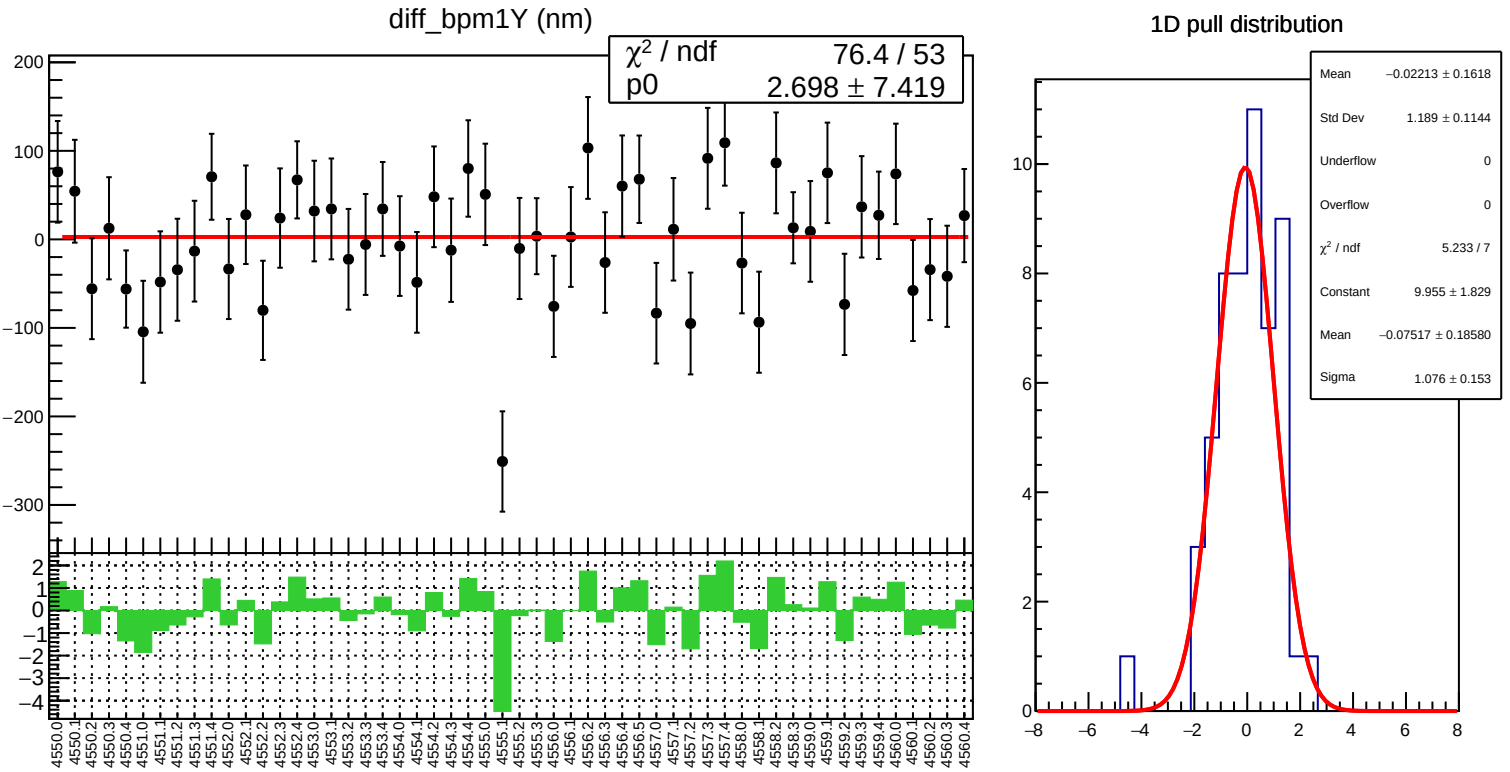

diff_bpm4aY (nm)
χ² / ndf 79.99 / 53
p0 0.866 ± 8.769
1D pull distribution
Mean −0.03135 ± 0.1656
Std Dev 1.217 ± 0.1171
Underflow 0
Overflow 0
χ² / ndf 8.003 / 7
Constant 8.844 ± 1.749
Mean −0.09791 ± 0.24994
Sigma 1.161 ± 0.206

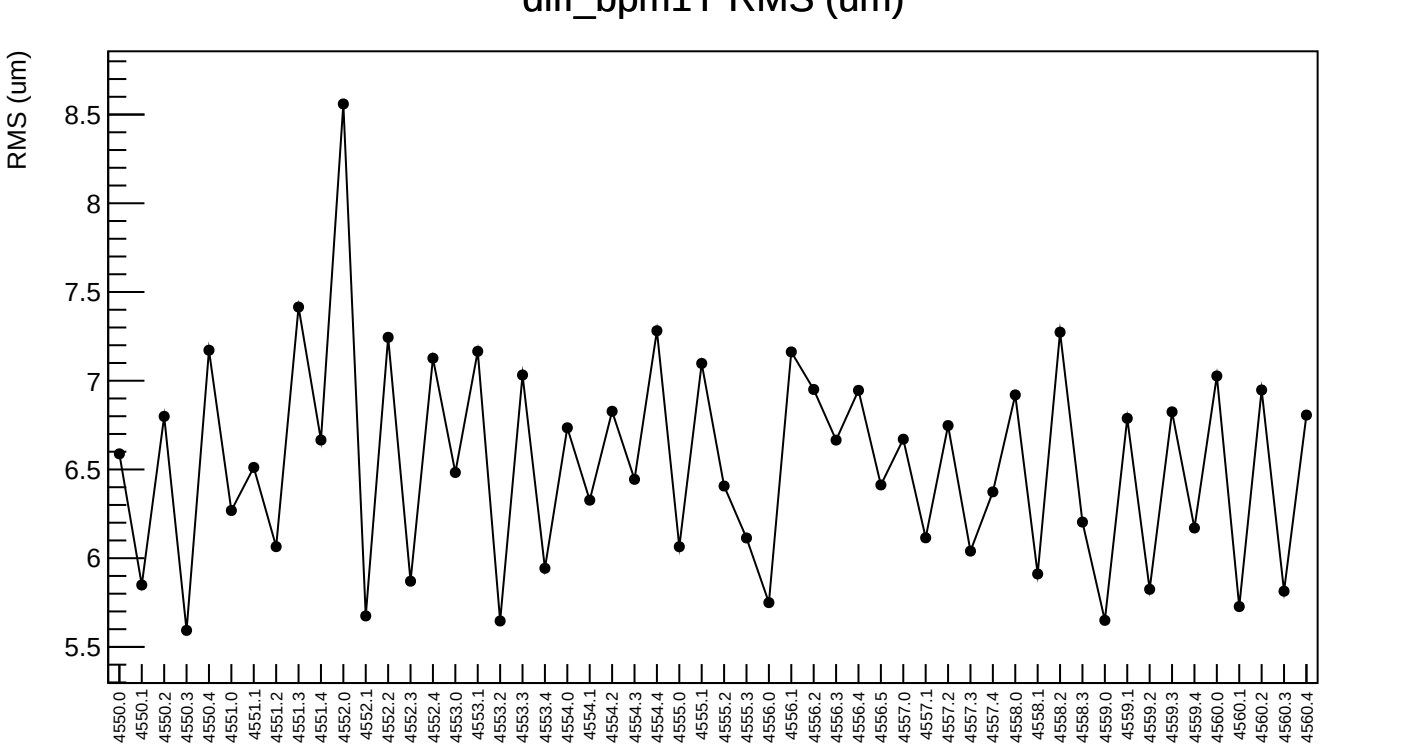

diff_bpm4aY RMS (um)
RMS (um)
10.5
10
9.5
9
8.5
8
7.5
7
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

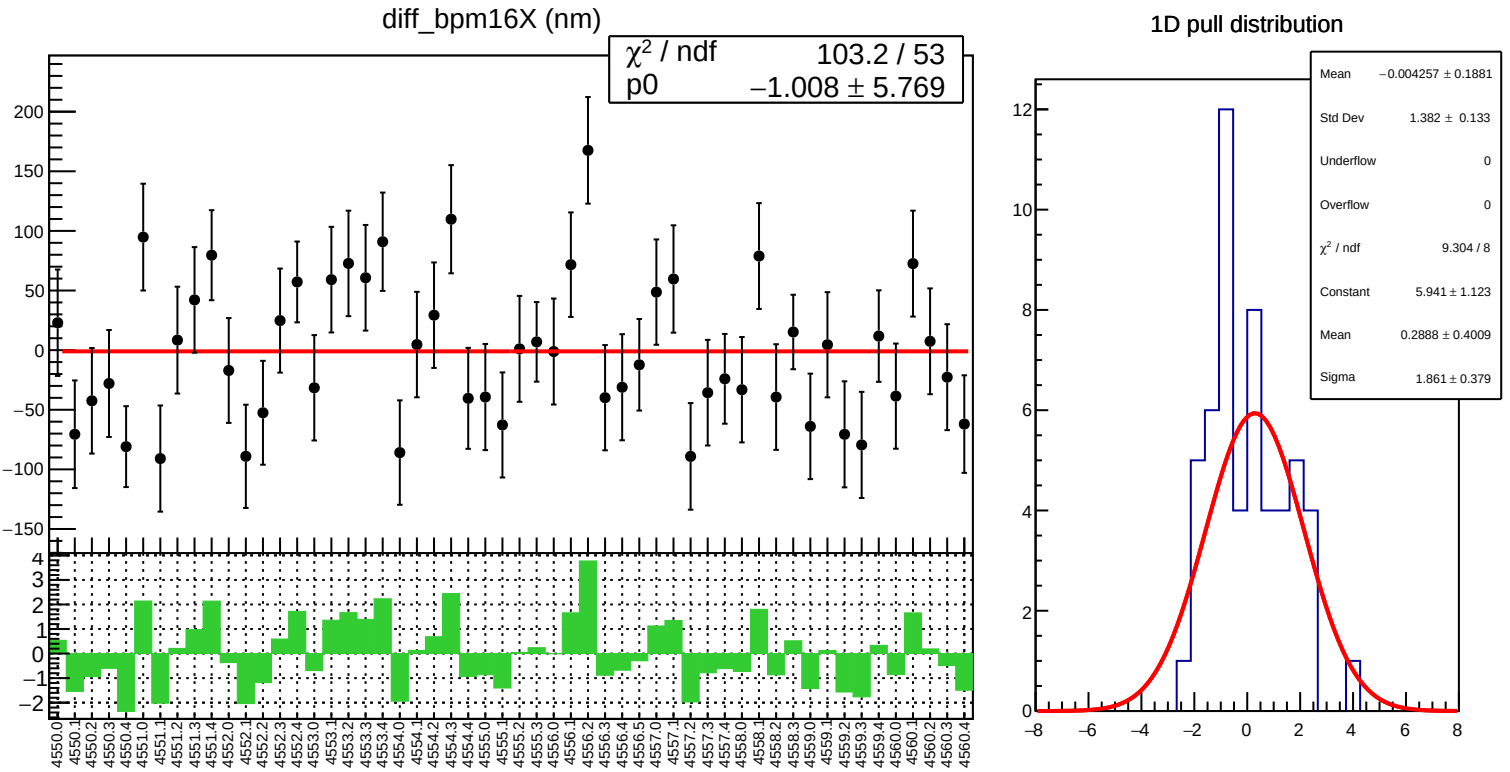

diff_bpm1X (nm)
χ² / ndf 98.38 / 53
p0 −1.912 ± 12.24

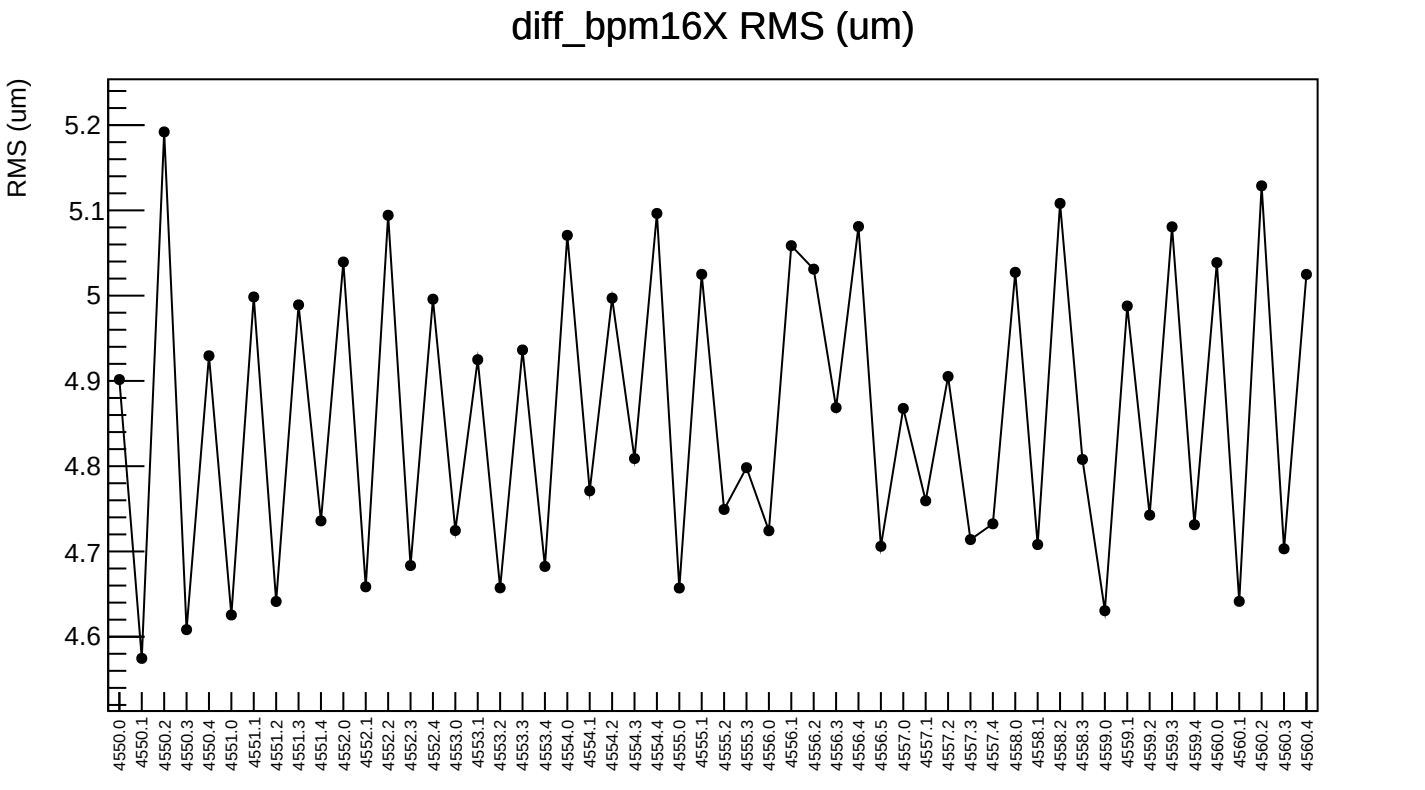

1D pull distribution
Mean 0.002817 ± 0.1837
Std Dev 1.35 ± 0.1299
Underflow 0
Overflow 0
χ² / ndf 6 / 8
Constant 7.224 ± 1.407
Mean 0.2087 ± 0.2722
Sigma 1.538 ± 0.295

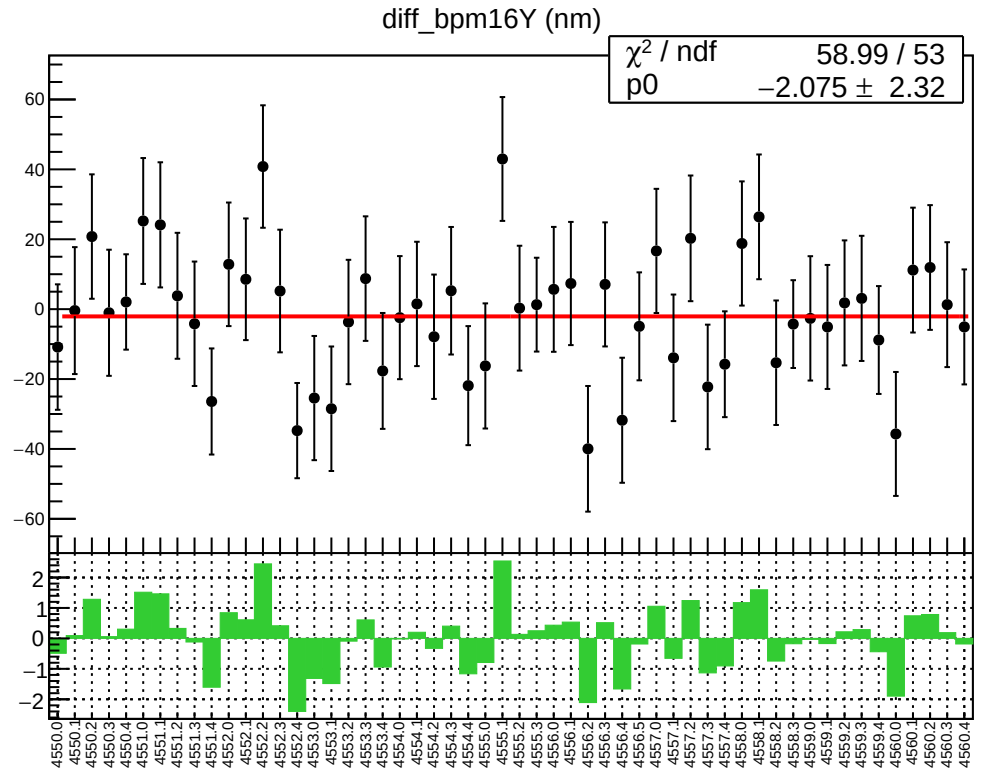

diff_bpm1X RMS (um)
RMS (um)
11.4
11.2
11
10.8
10.6
10.4
10.2
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

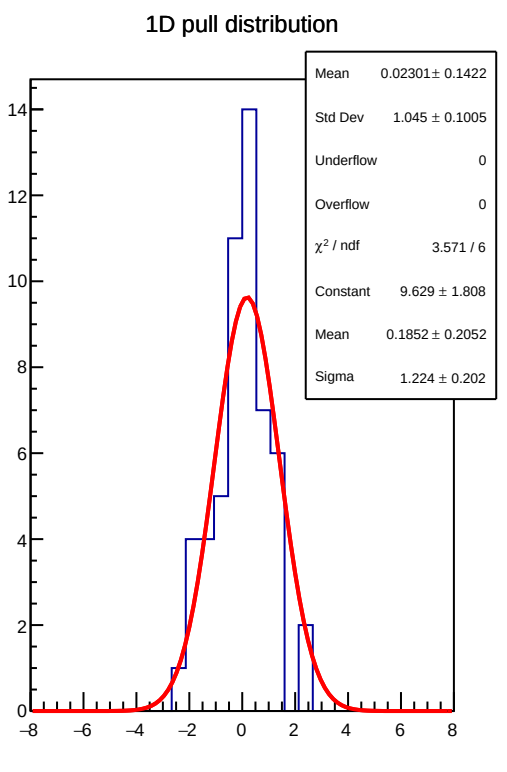

diff_bpm1Y (nm)
χ² / ndf 76.4 / 53
p0 2.698 ± 7.419
1D pull distribution
Mean −0.02213 ± 0.1618
Std Dev 1.189 ± 0.1144
Underflow 0
Overflow 0
χ² / ndf 5.233 / 7
Constant 9.955 ± 1.829
Mean −0.07517 ± 0.18580
Sigma 1.076 ± 0.153

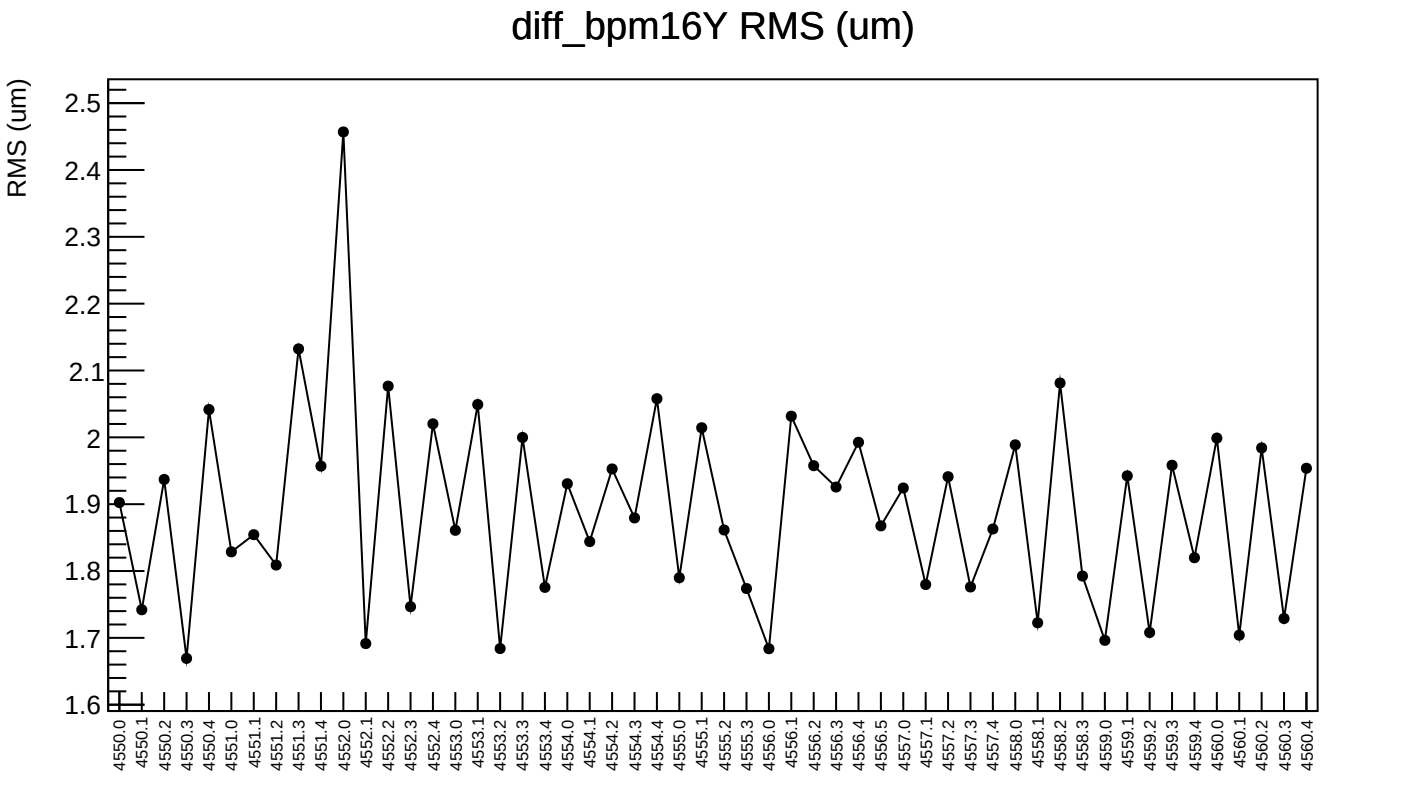

diff_bpm1Y RMS (um)
RMS (um)
8.5
8
7.5
7
6.5
6
5.5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

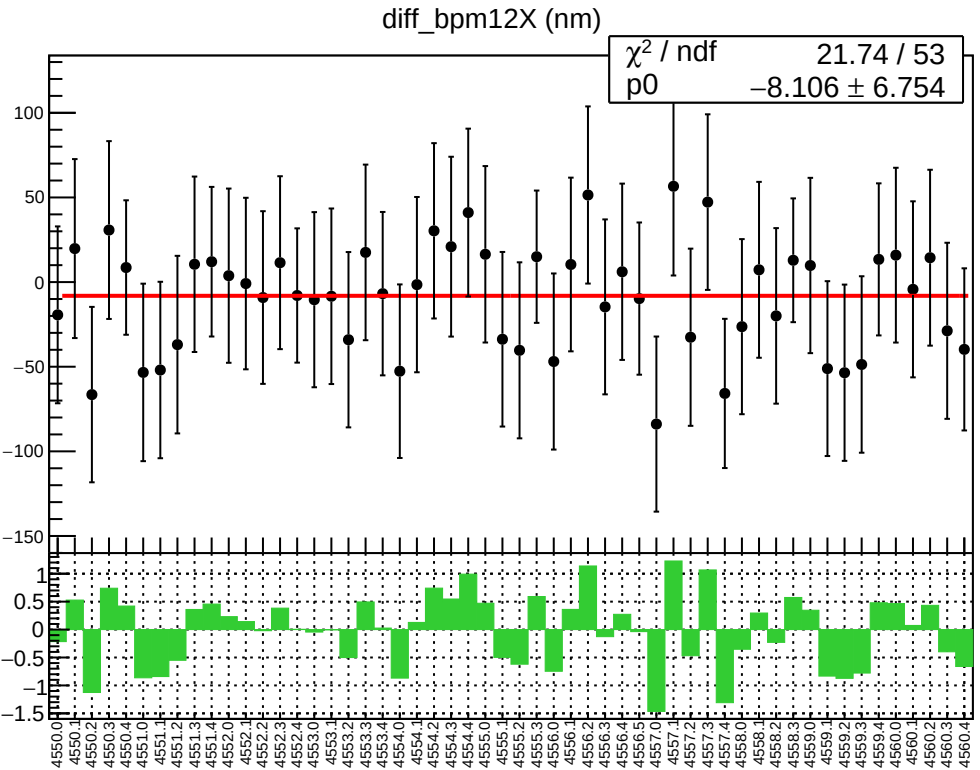

diff_bpm16X (nm)
χ² / ndf 103.2 / 53
p0 −1.008 ± 5.769
1D pull distribution
Mean −0.004257 ± 0.1881
Std Dev 1.382 ± 0.133
Underflow 0
Overflow 0
χ² / ndf 9.304 / 8
Constant 5.941 ± 1.123
Mean 0.2888 ± 0.4009
Sigma 1.861 ± 0.379

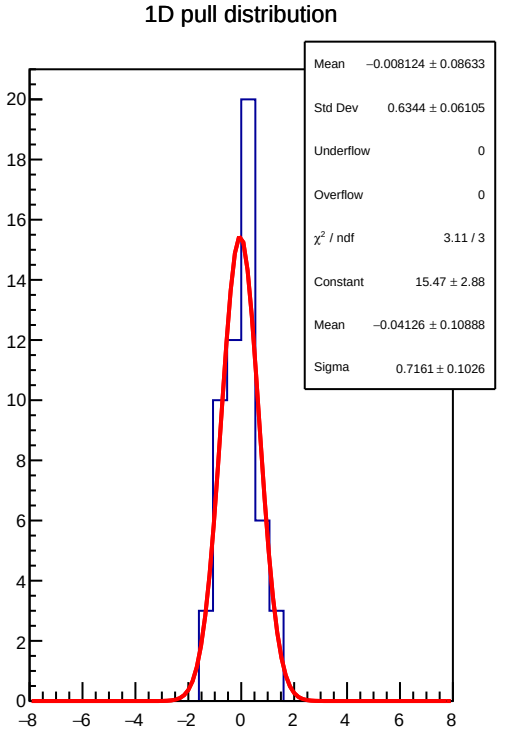

diff_bpm16X RMS (um)
RMS (um)
5.2
5.1
5
4.9
4.8
4.7
4.6
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

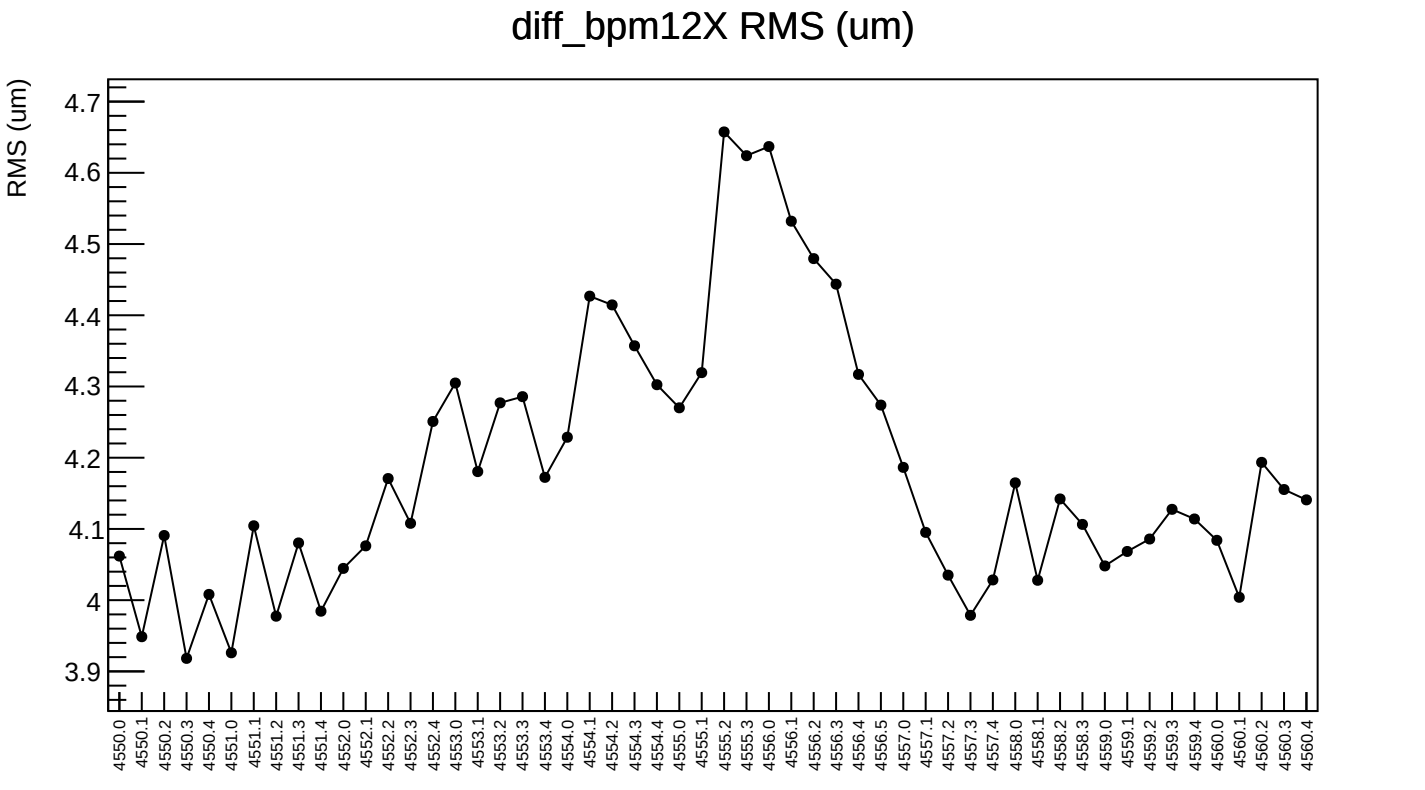

diff_bpm16Y (nm)
χ² / ndf 58.99 / 53
p0 −2.075 ± 2.32

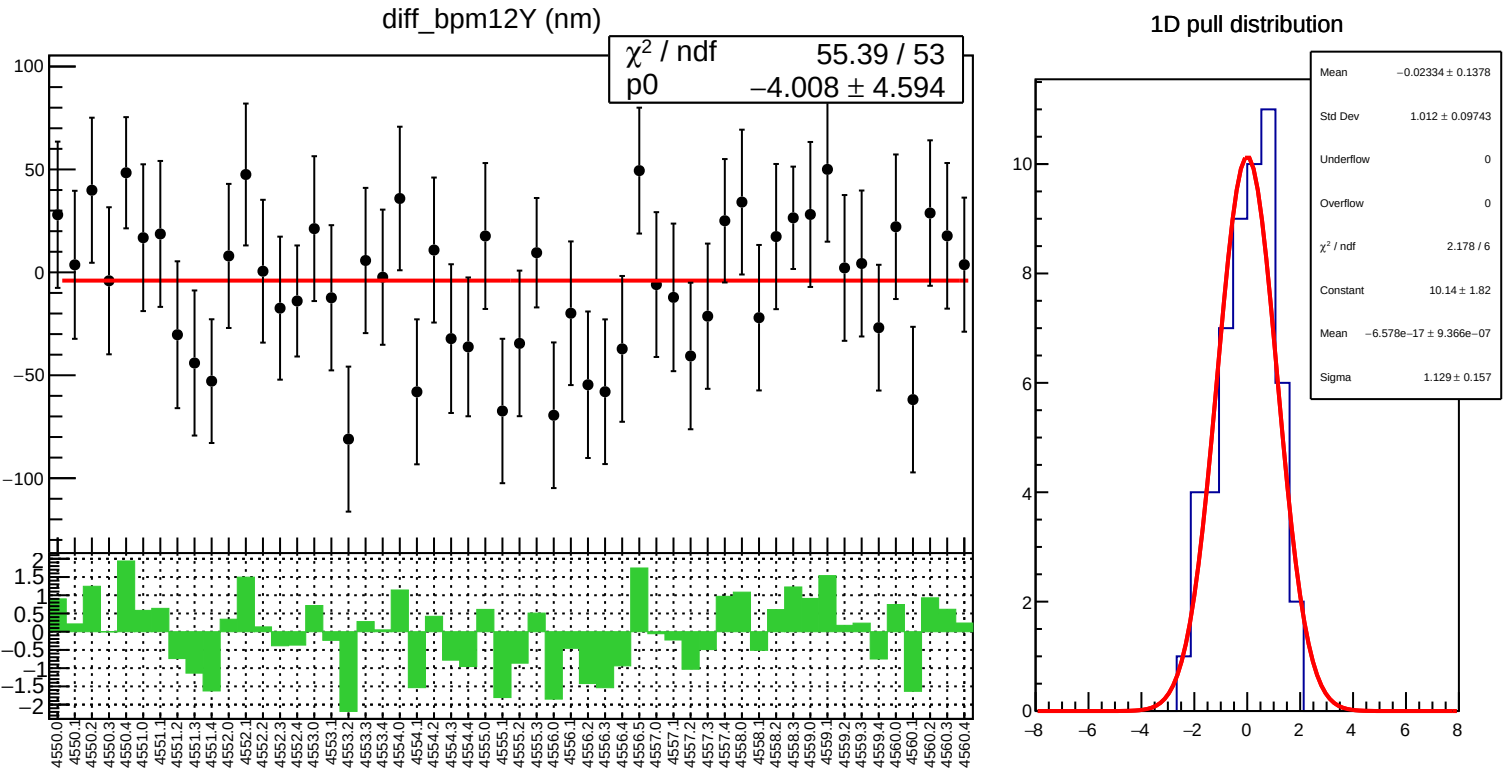

1D pull distribution
Mean 0.02301± 0.1422
Std Dev 1.045 ± 0.1005
Underflow 0
Overflow 0
χ² / ndf 3.571 / 6
Constant 9.629 ± 1.808
Mean 0.1852 ± 0.2052
Sigma 1.224 ± 0.202

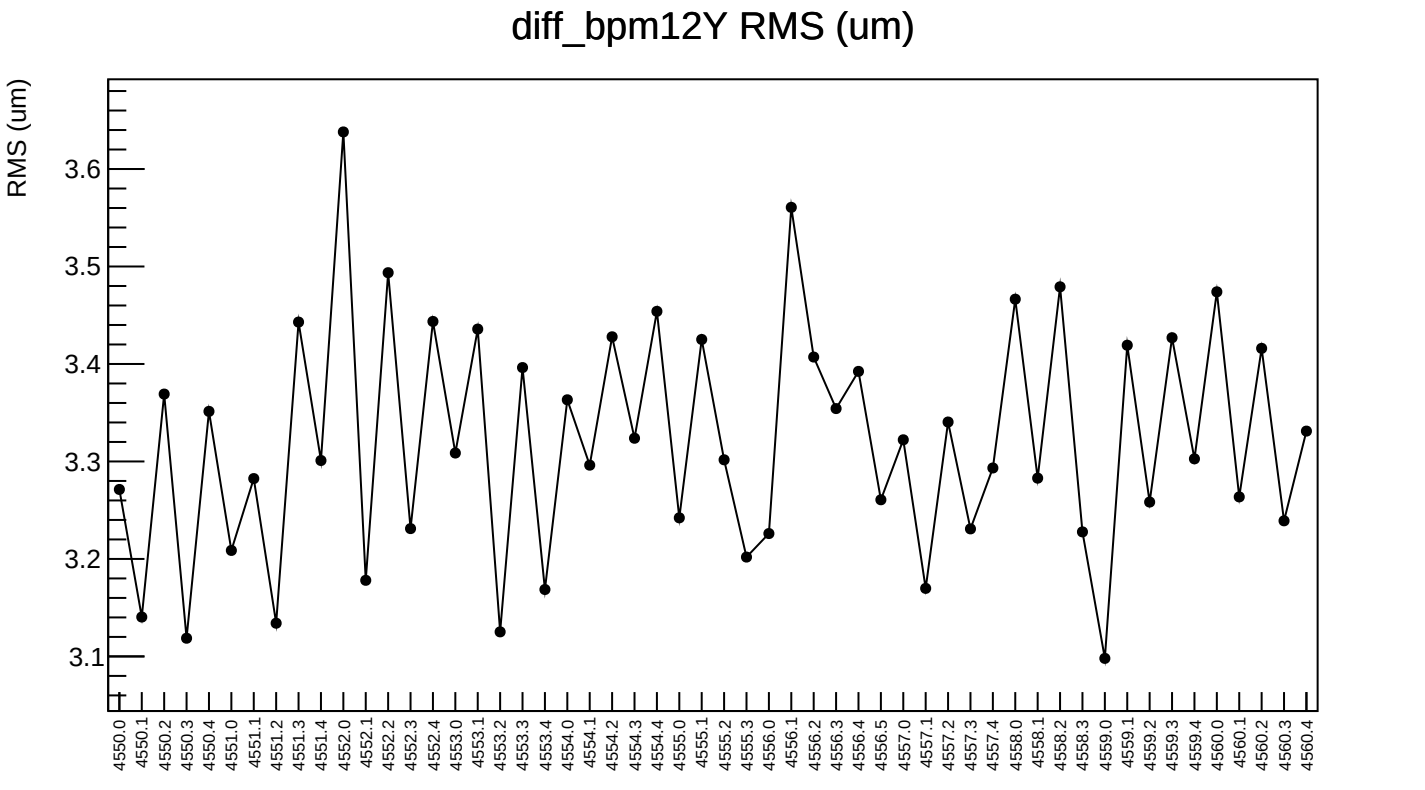

diff_bpm16Y RMS (um)
RMS (um)
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

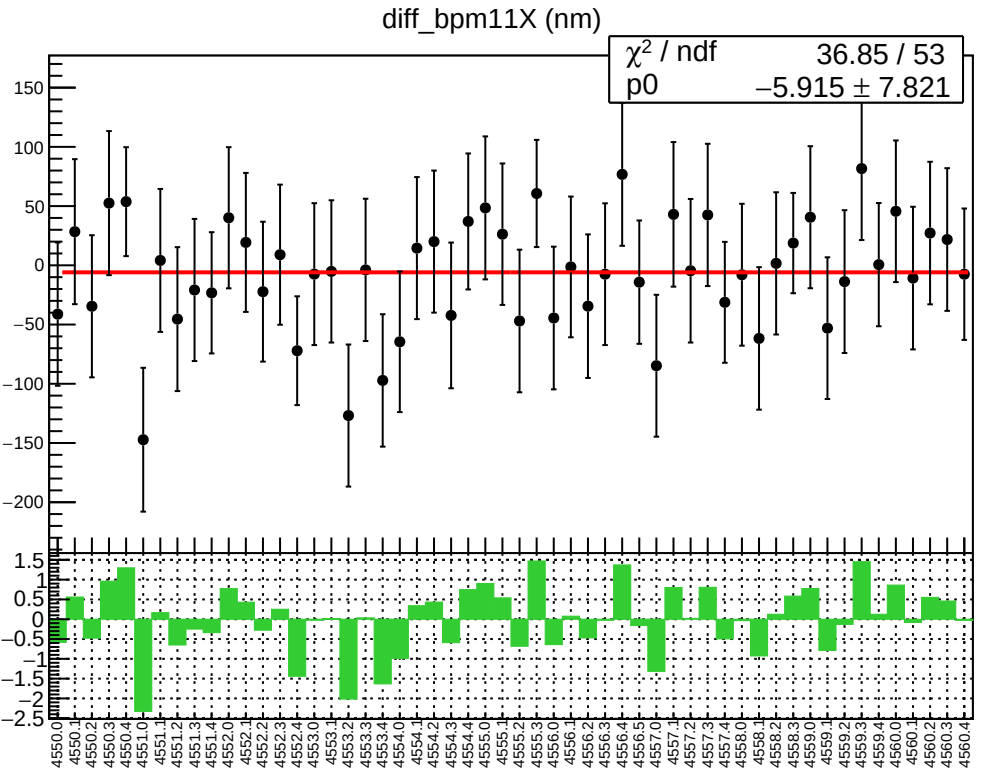

diff_bpm12X (nm)
χ² / ndf 21.74 / 53
p0 −8.106 ± 6.754
100
50
0
−50
−100
−150
1
0.5
0
−0.5
−1
−1.5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

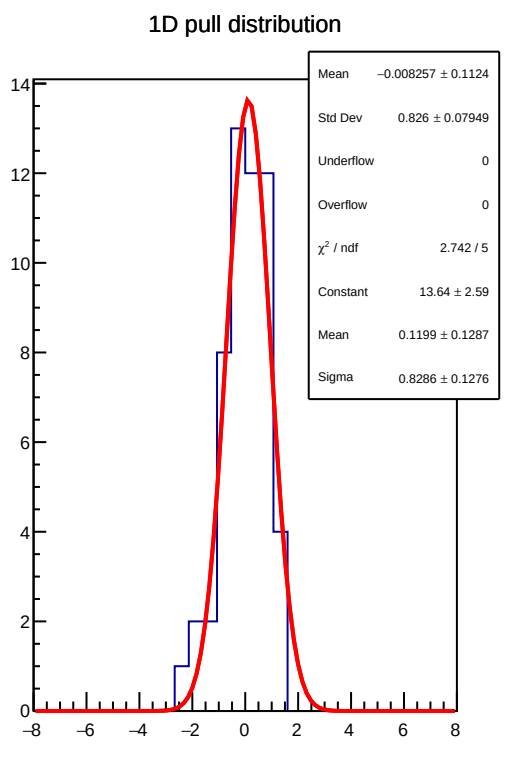

1D pull distribution
Mean −0.008124 ± 0.08633
Std Dev 0.6344 ± 0.06105
Underflow 0
Overflow 0
χ² / ndf 3.11 / 3
Constant 15.47 ± 2.88
Mean −0.04126 ± 0.10888
Sigma 0.7161 ± 0.1026
20
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

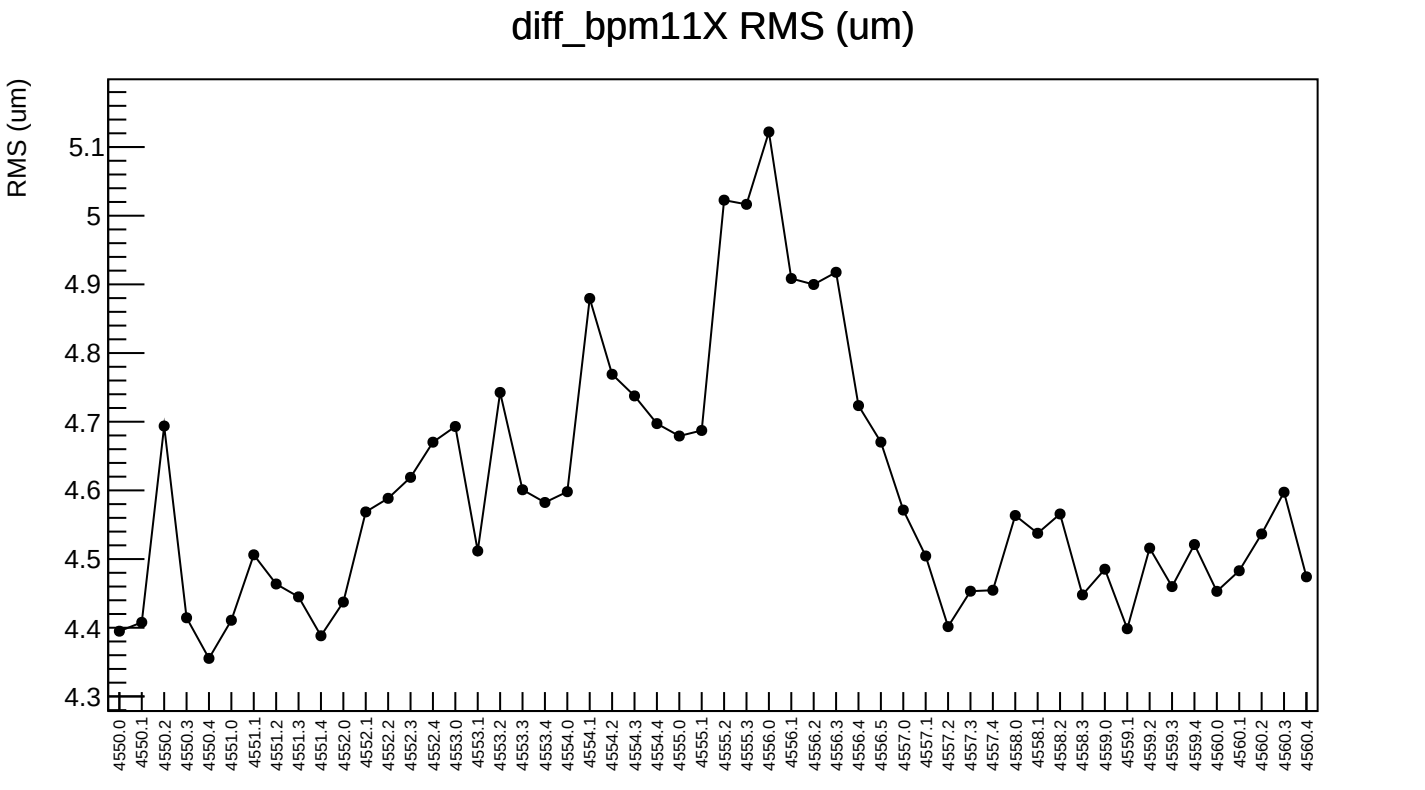

diff_bpm12X RMS (um)
RMS (um)
4.7
4.6
4.5
4.4
4.3
4.2
4.1
4
3.9
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

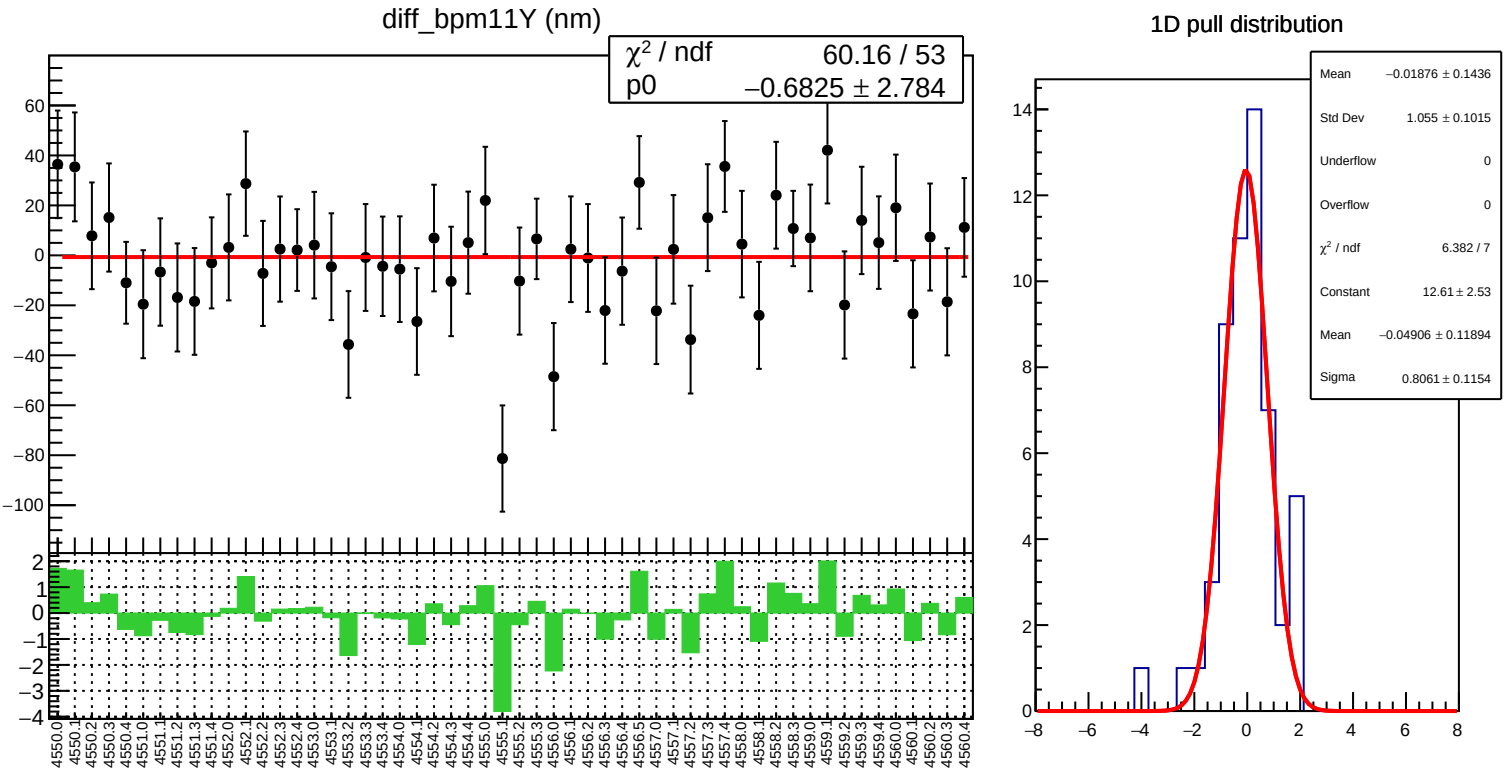

diff_bpm12Y (nm)
χ² / ndf 55.39 / 53
p0 −4.008 ± 4.594
1D pull distribution
Mean −0.02334 ± 0.1378
Std Dev 1.012 ± 0.09743
Underflow 0
Overflow 0
χ² / ndf 2.178 / 6
Constant 10.14 ± 1.82
Mean −6.578e−17 ± 9.366e−07
Sigma 1.129 ± 0.157

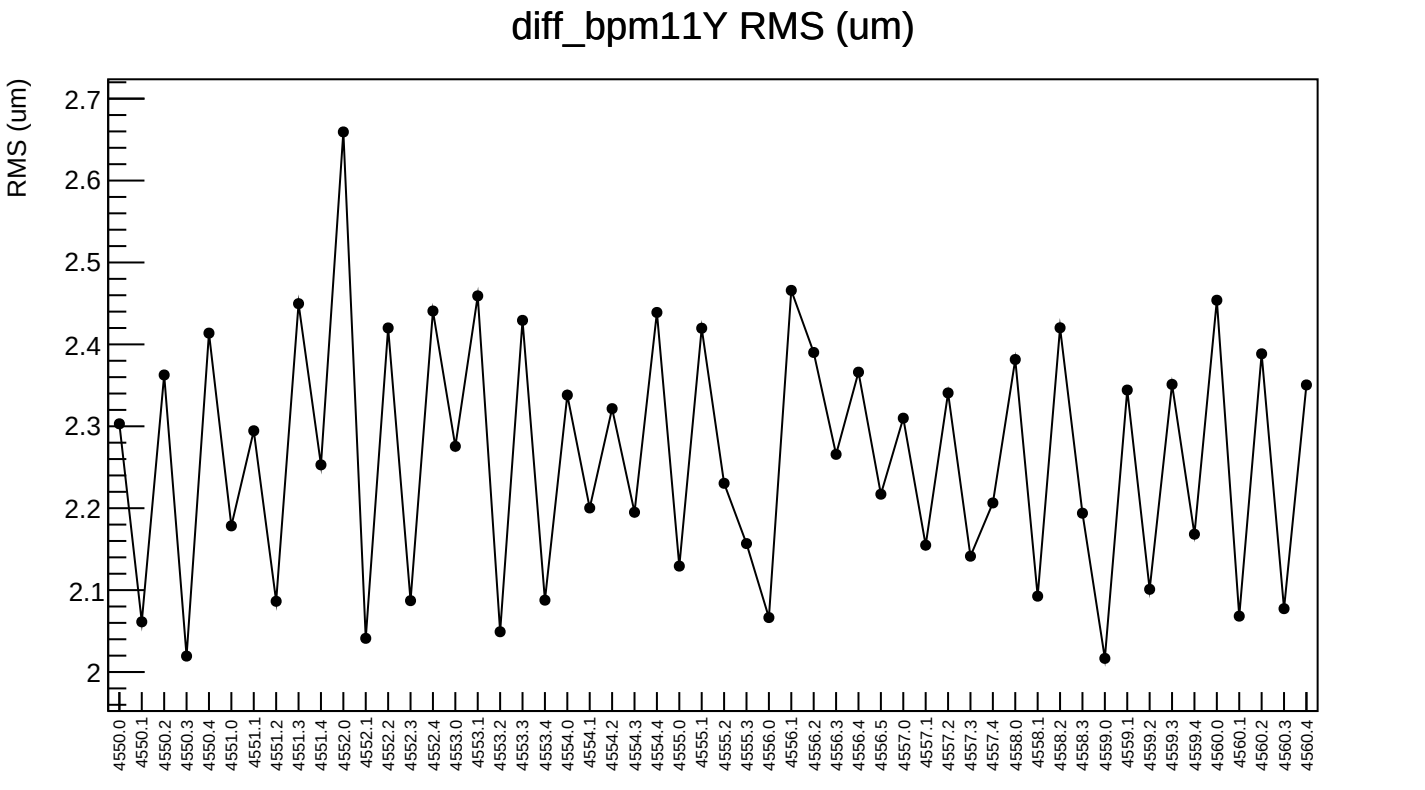

diff_bpm12Y RMS (um)
RMS (um)
3.6
3.5
3.4
3.3
3.2
3.1
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

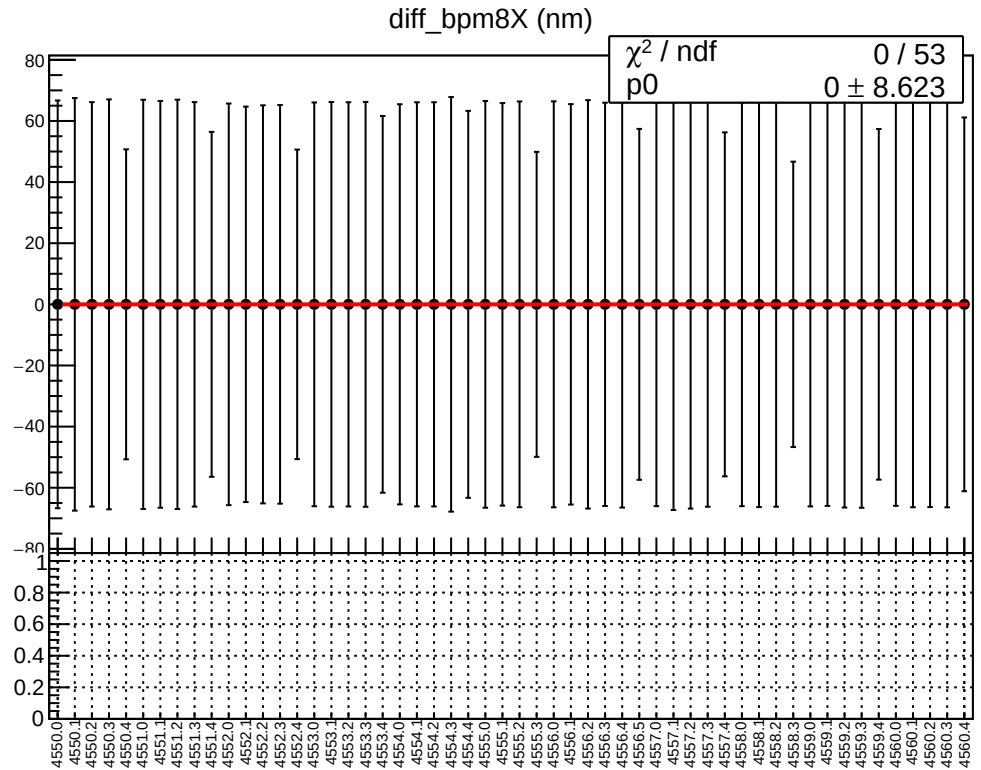

diff_bpm11X (nm)
χ² / ndf 36.85 / 53
p0 −5.915 ± 7.821

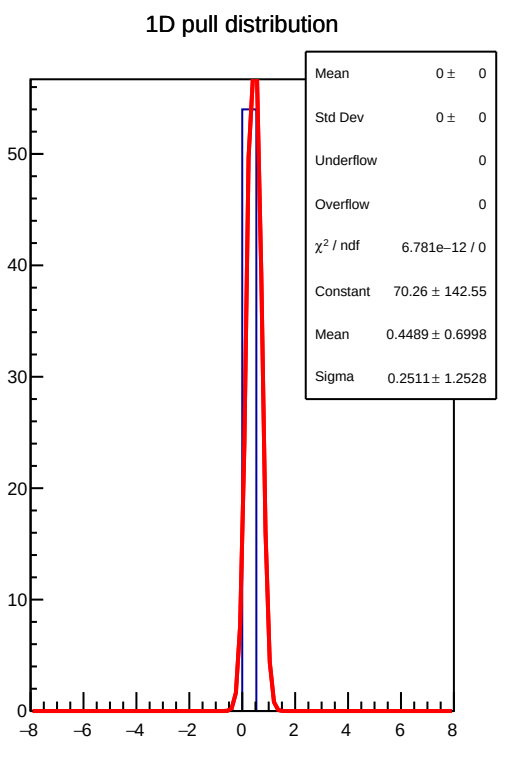

1D pull distribution
Mean −0.008257 ± 0.1124
Std Dev 0.826 ± 0.07949
Underflow 0
Overflow 0
χ² / ndf 2.742 / 5
Constant 13.64 ± 2.59
Mean 0.1199 ± 0.1287
Sigma 0.8286 ± 0.1276

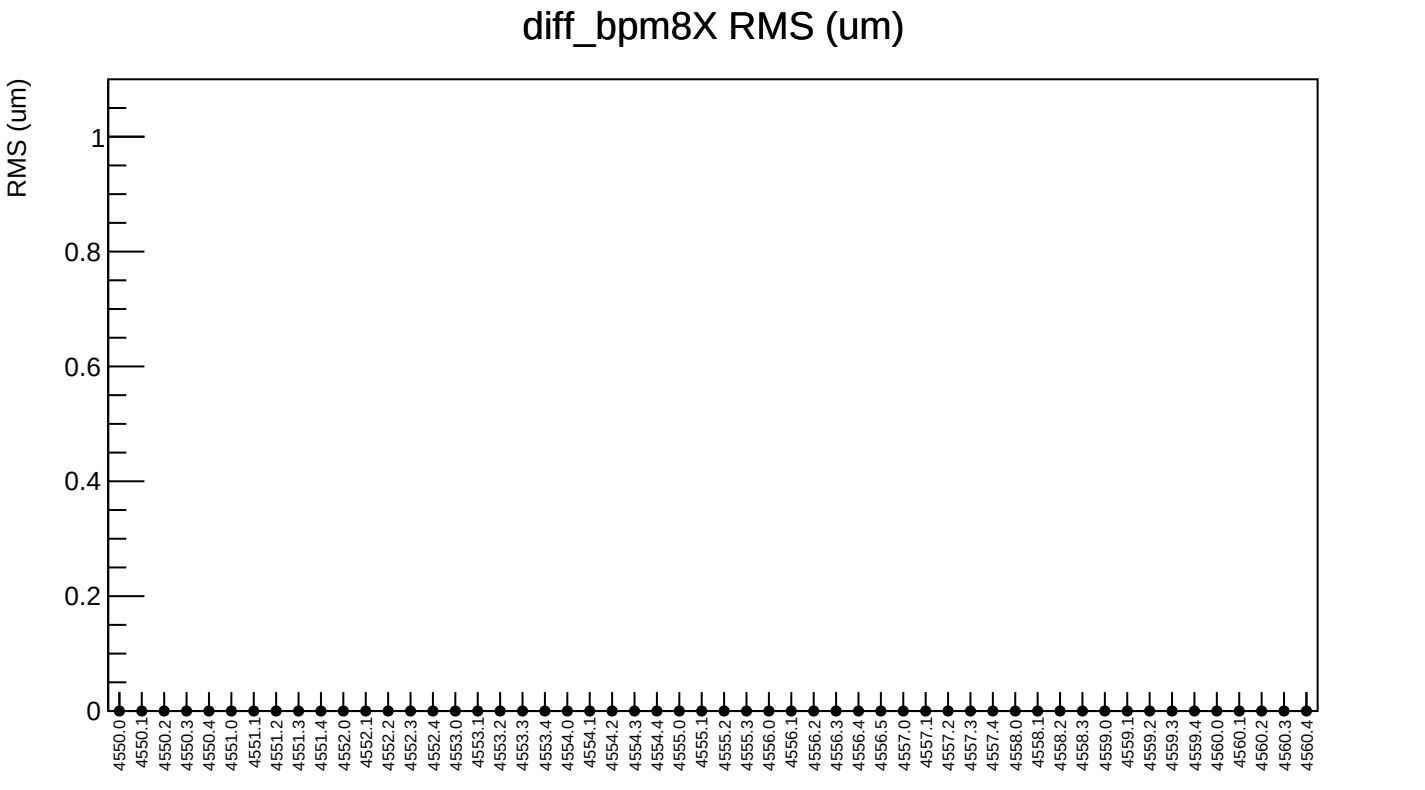

diff_bpm11X RMS (um)
RMS (um)
5.1
5
4.9
4.8
4.7
4.6
4.5
4.4
4.3
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

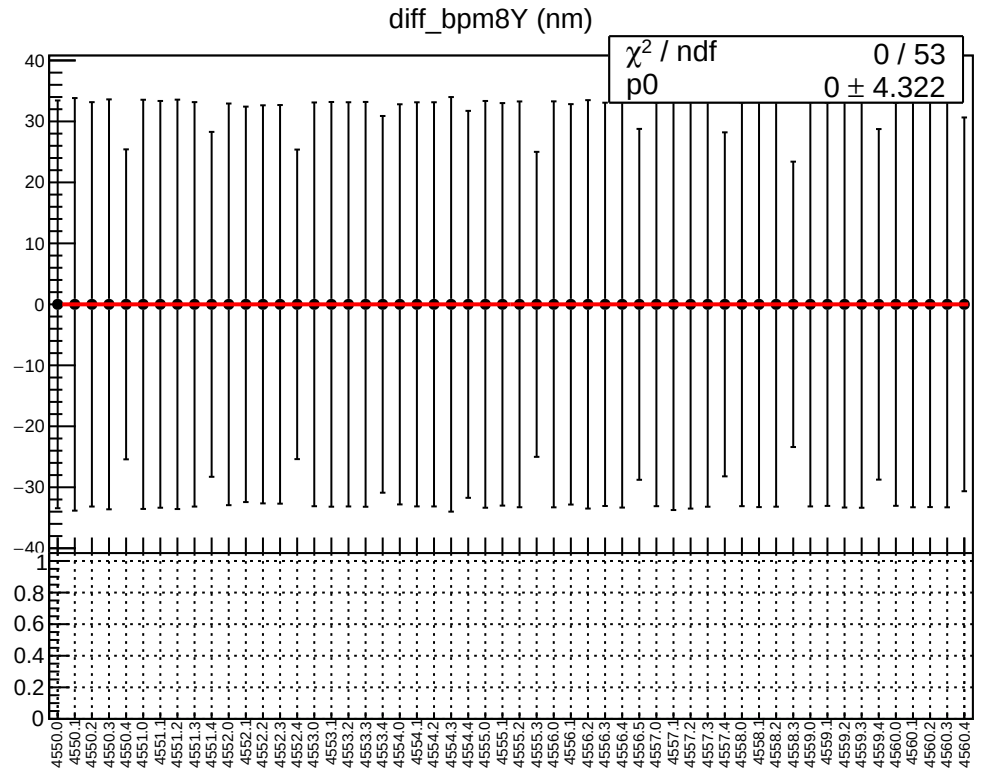

diff_bpm11Y (nm)
χ² / ndf 60.16 / 53
p0 −0.6825 ± 2.784
1D pull distribution
Mean −0.01876 ± 0.1436
Std Dev 1.055 ± 0.1015
Underflow 0
Overflow 0
χ² / ndf 6.382 / 7
Constant 12.61 ± 2.53
Mean −0.04906 ± 0.11894
Sigma 0.8061 ± 0.1154

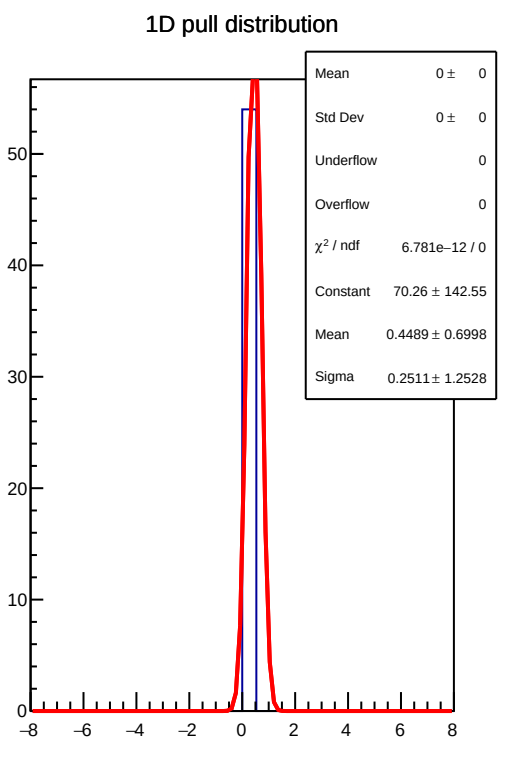

diff_bpm11Y RMS (um)
RMS (um)
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

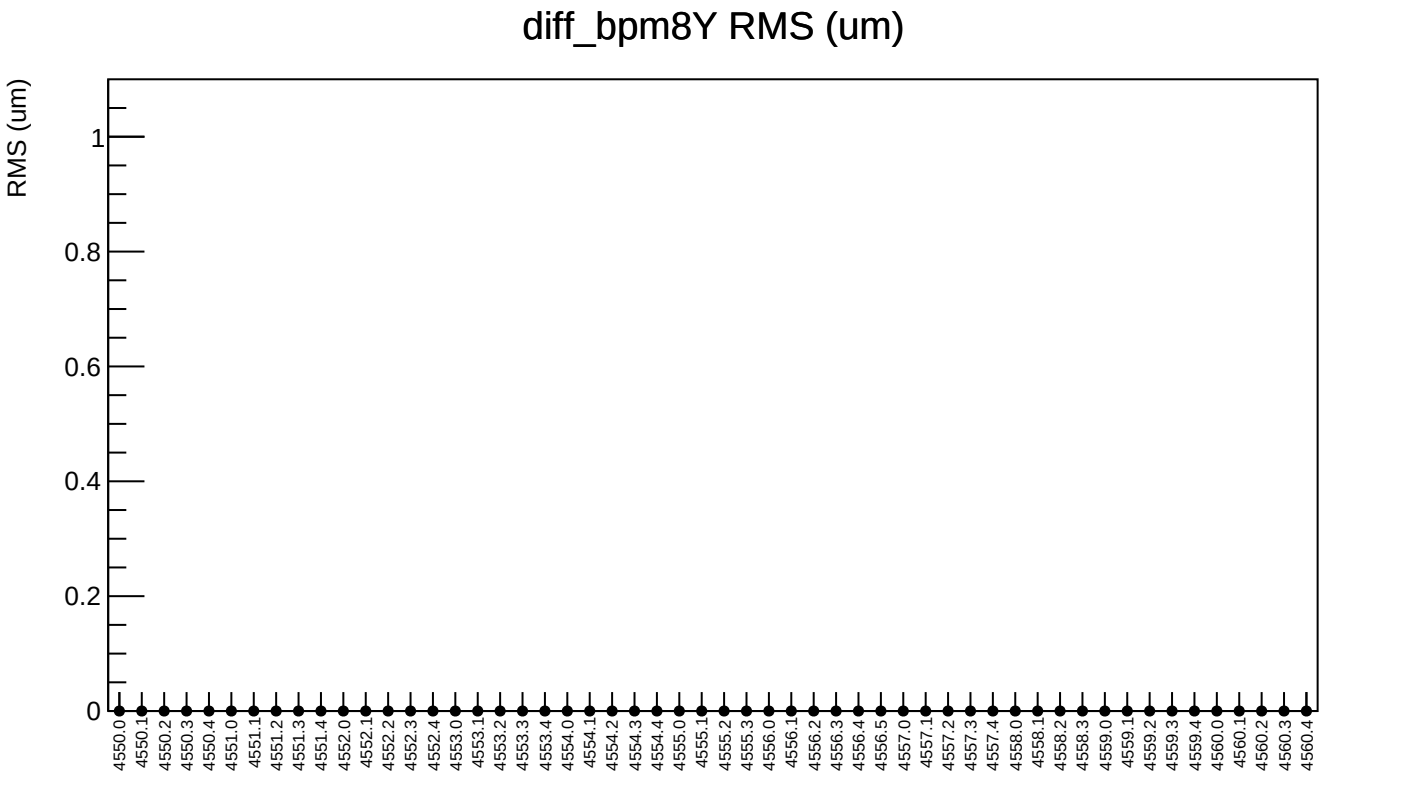

diff_bpm8X (nm)
χ² / ndf 0 / 53
p0 0 ± 8.623

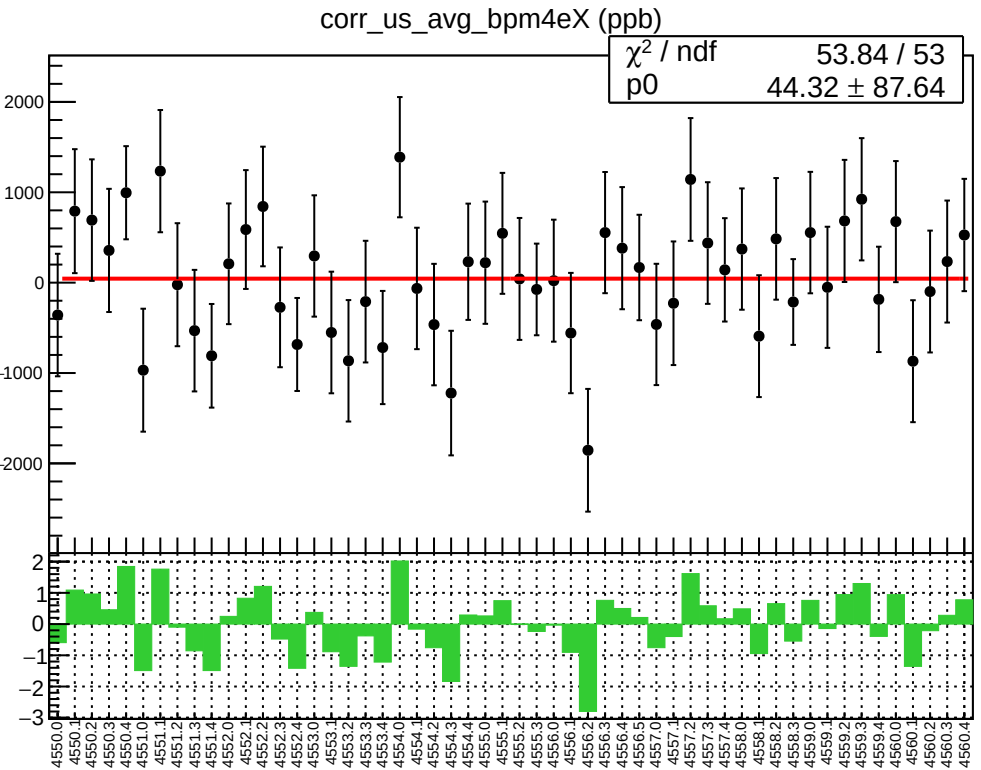

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

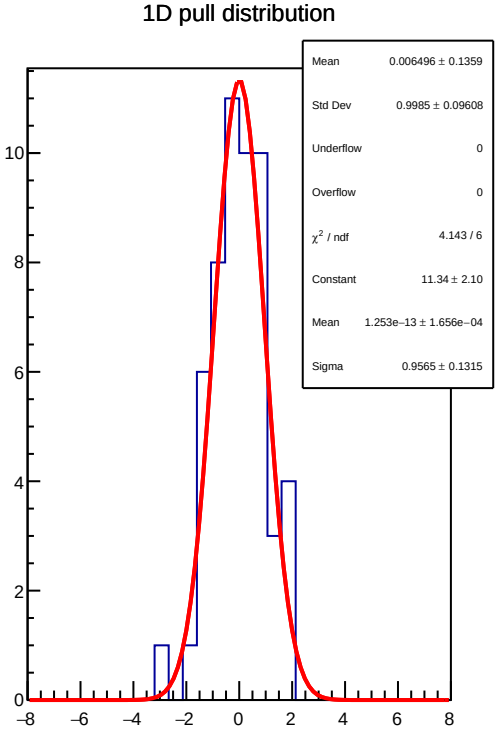

diff_bpm8X RMS (um)
RMS (um)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

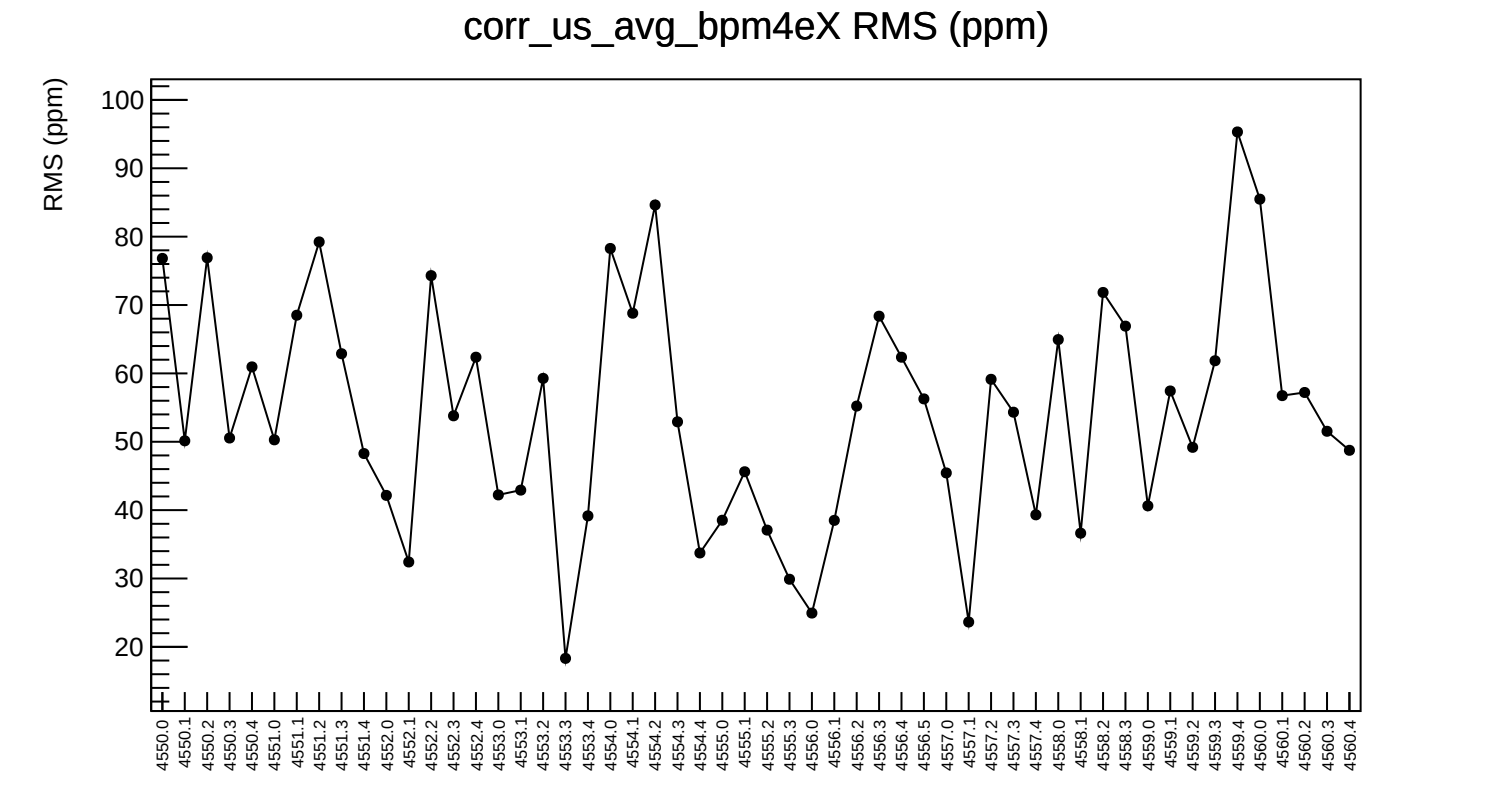

diff_bpm8Y (nm)
χ² / ndf 0 / 53
p0 0 ± 4.322

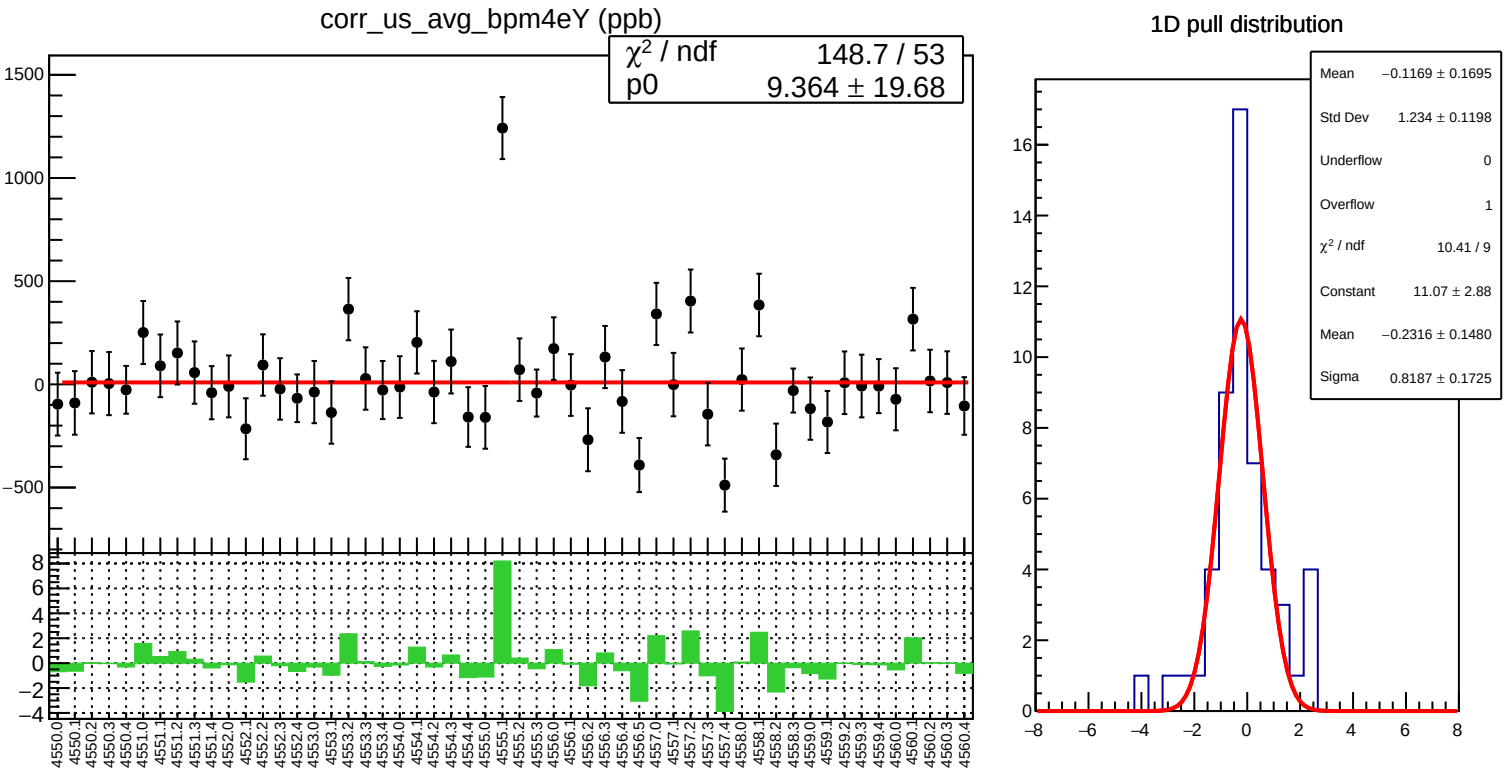

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

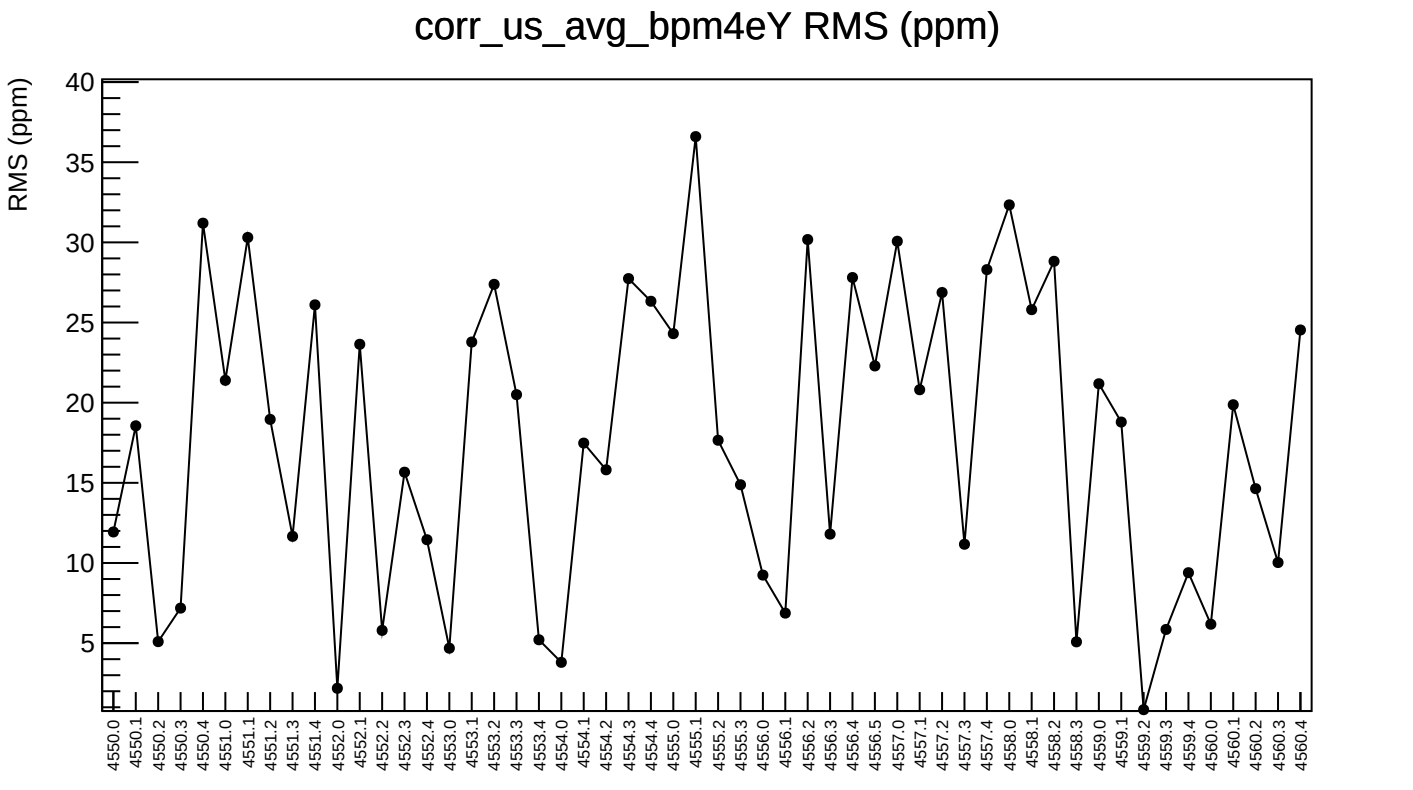

diff_bpm8Y RMS (um)
RMS (um)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

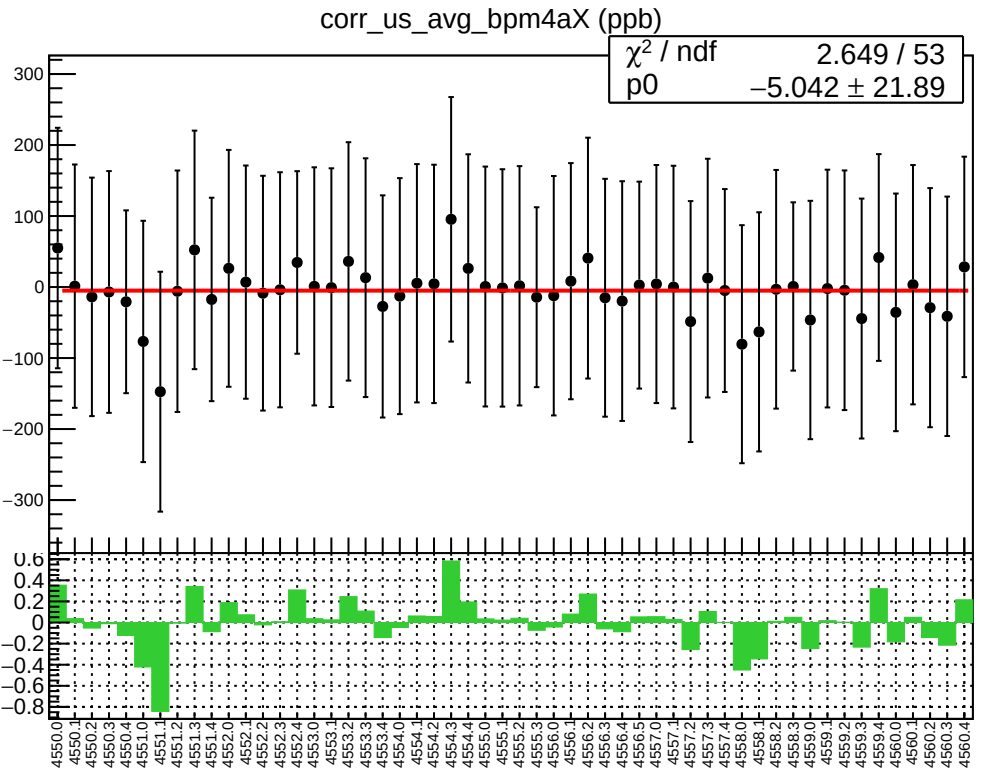

corr_us_avg_bpm4eX (ppb)
χ² / ndf 53.84 / 53
p0 44.32 ± 87.64
2000
1000
0
-1000
-2000
2
1
0
−1
−2
−3
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

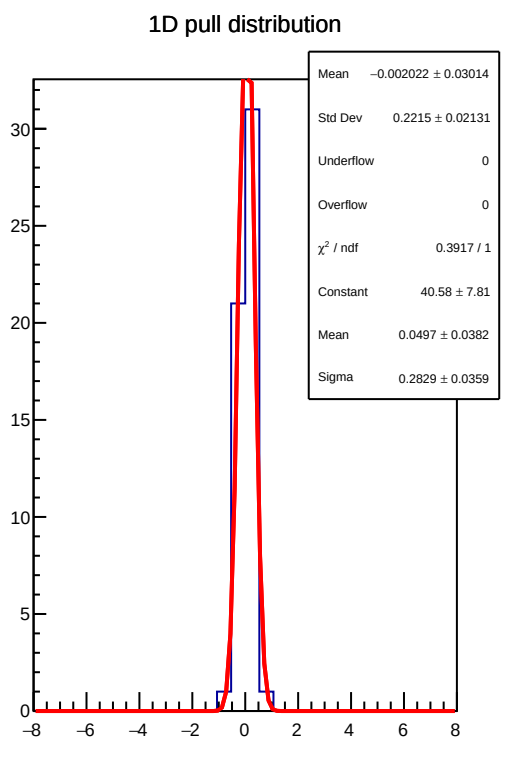

1D pull distribution
Mean 0.006496 ± 0.1359
Std Dev 0.9985 ± 0.09608
Underflow 0
Overflow 0
χ² / ndf 4.143 / 6
Constant 11.34 ± 2.10
Mean 1.253e−13 ± 1.656e−04
Sigma 0.9565 ± 0.1315
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

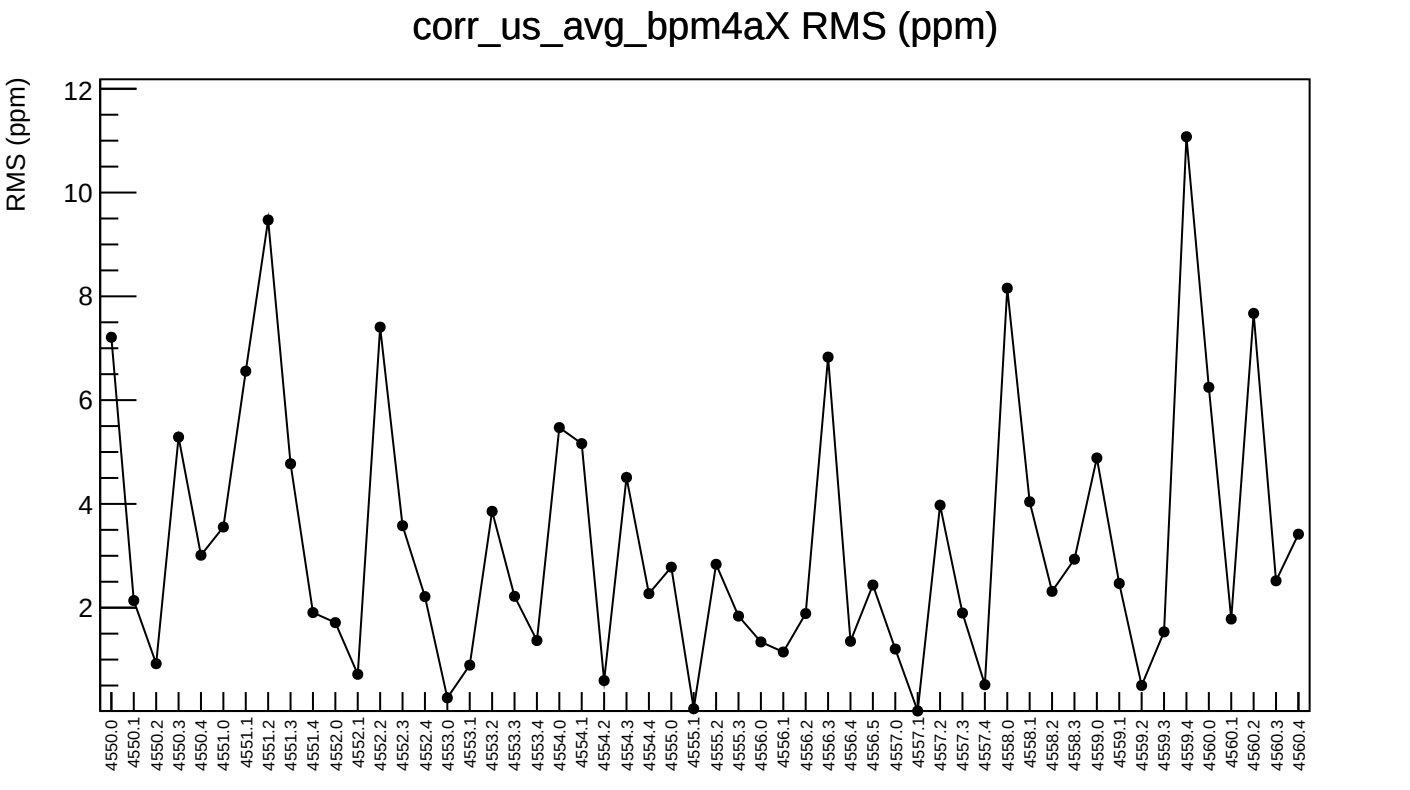

corr_us_avg_bpm4eX RMS (ppm)
RMS (ppm)
100
90
80
70
60
50
40
30
20
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

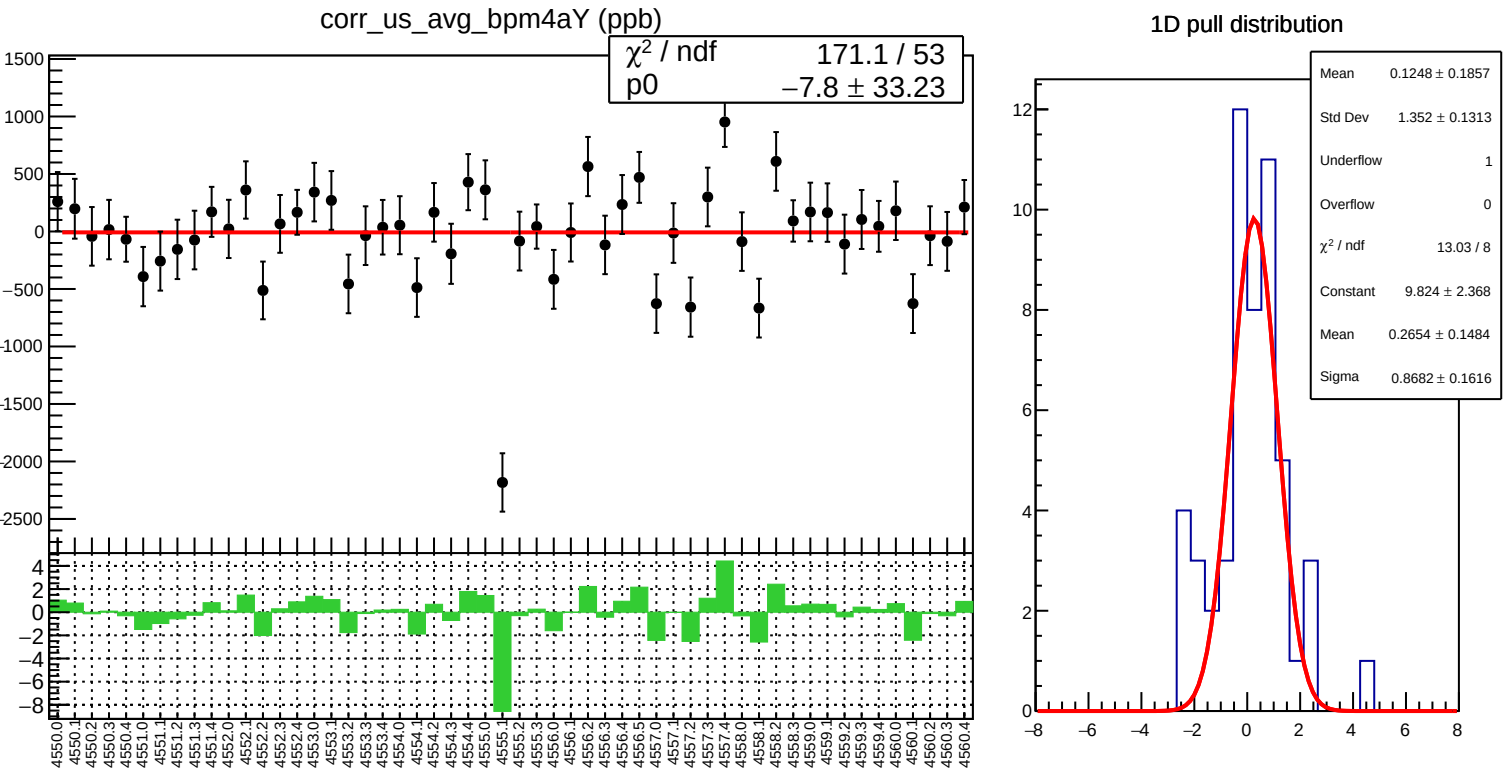

corr_us_avg_bpm4eY (ppb)
χ² / ndf 148.7 / 53
p0 9.364 ± 19.68
1500
1000
500
0
−500
8
6
4
2
0
−2
−4
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4
1D pull distribution
Mean −0.1169 ± 0.1695
Std Dev 1.234 ± 0.1198
Underflow 0
Overflow 1
χ² / ndf 10.41 / 9
Constant 11.07 ± 2.88
Mean −0.2316 ± 0.1480
Sigma 0.8187 ± 0.1725
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

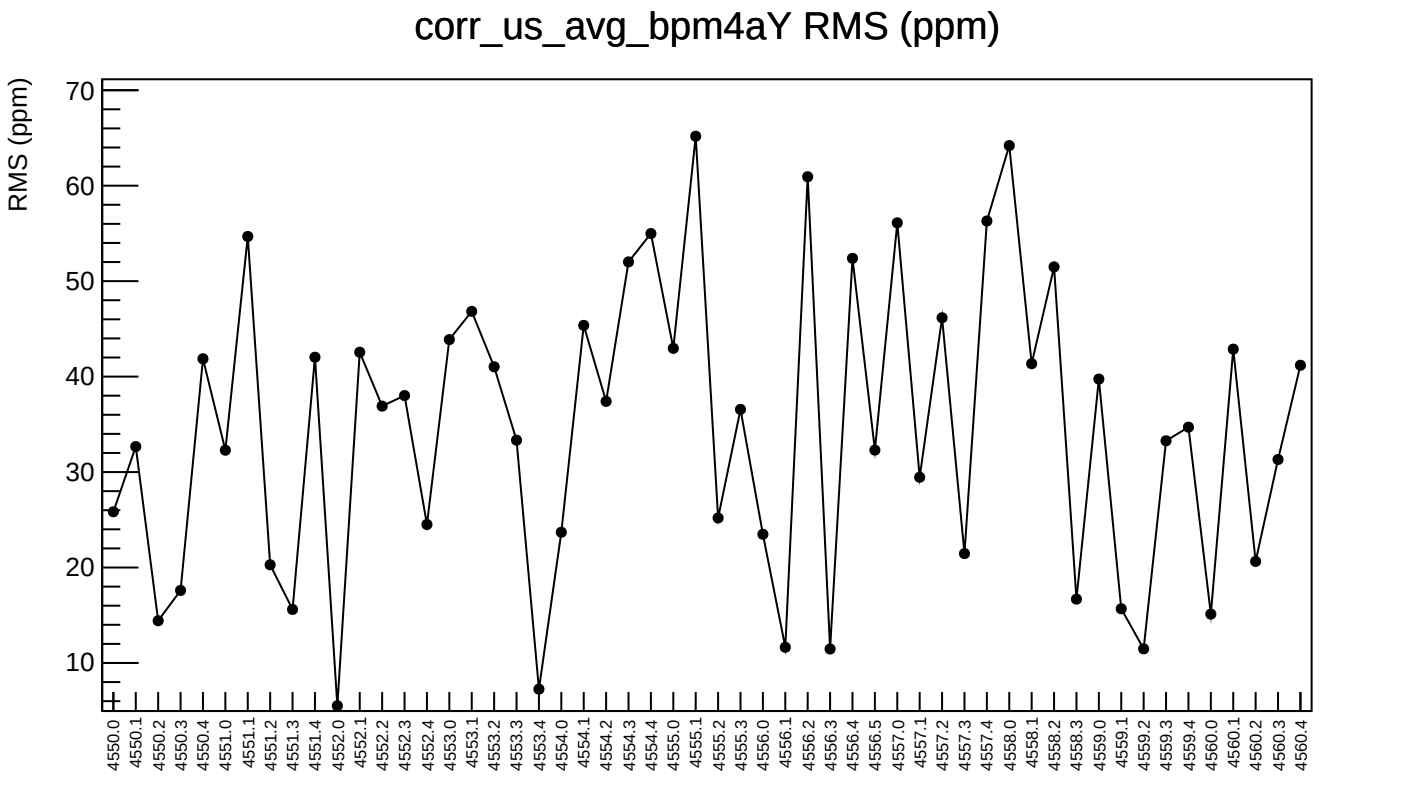

corr_us_avg_bpm4eY RMS (ppm)
RMS (ppm)
40
35
30
25
20
15
10
5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

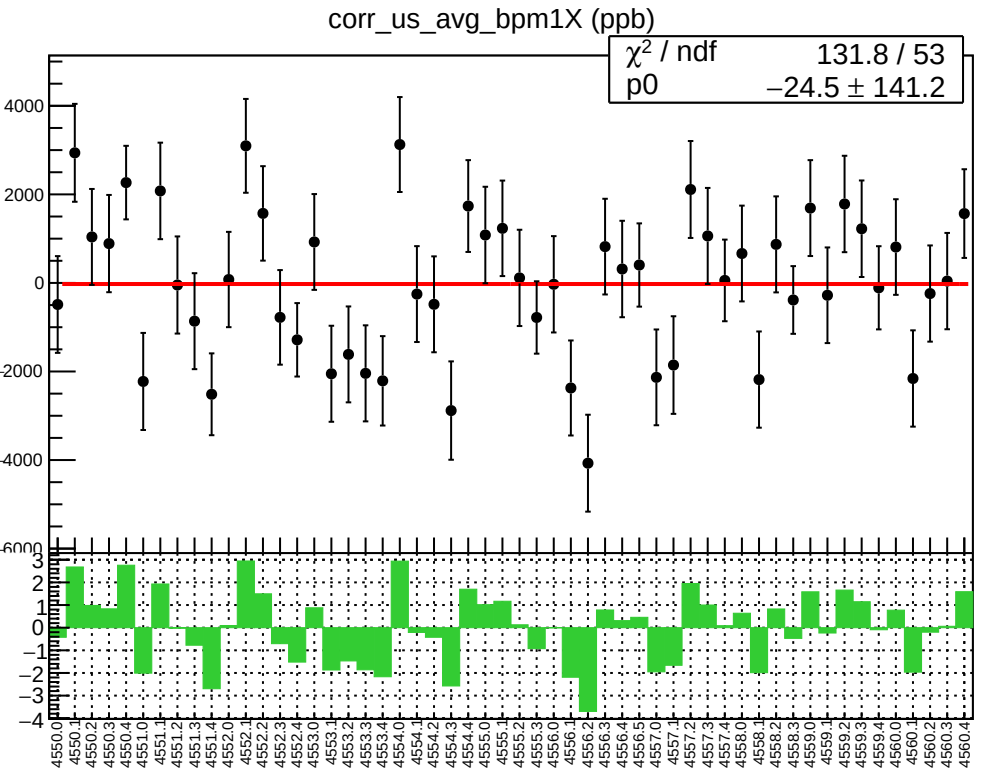

corr_us_avg_bpm4aX (ppb)
χ² / ndf 2.649 / 53
p0 −5.042 ± 21.89

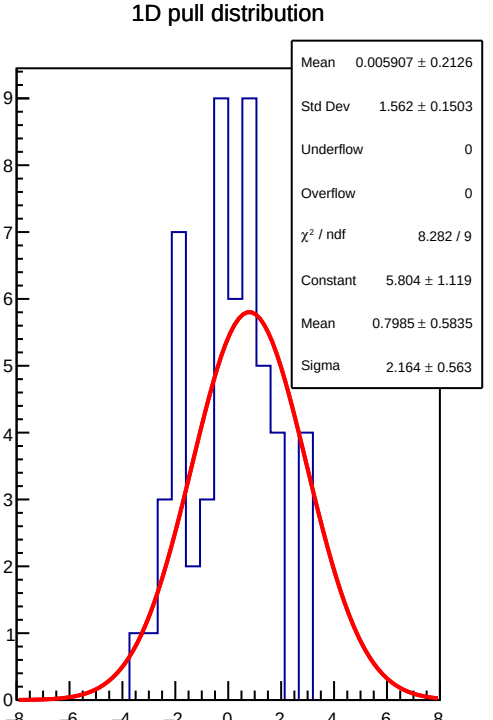

1D pull distribution
Mean −0.002022 ± 0.03014
Std Dev 0.2215 ± 0.02131
Underflow 0
Overflow 0
χ² / ndf 0.3917 / 1
Constant 40.58 ± 7.81
Mean 0.0497 ± 0.0382
Sigma 0.2829 ± 0.0359

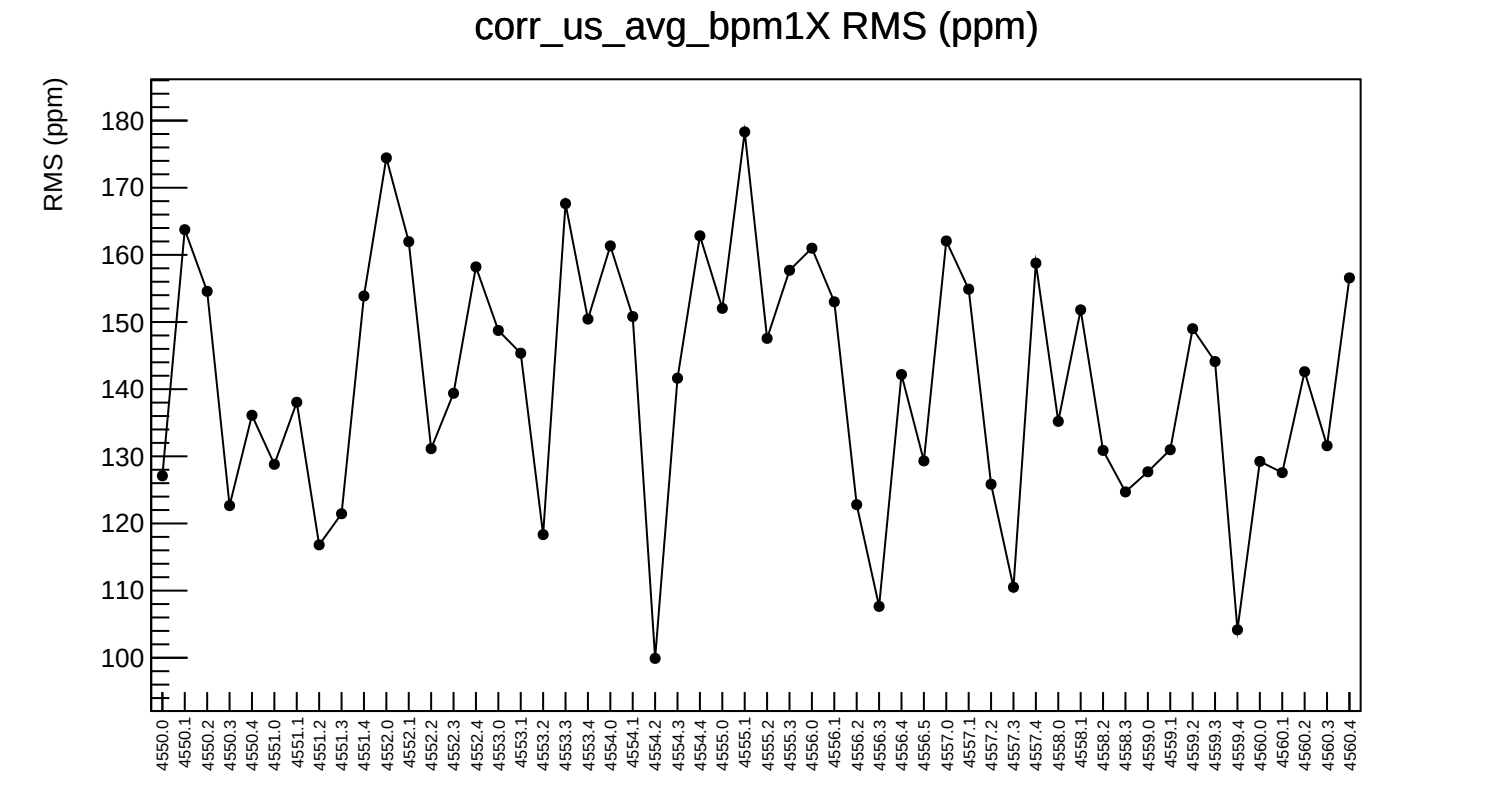

corr_us_avg_bpm4aX RMS (ppm)
RMS (ppm)
12
10
8
6
4
2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

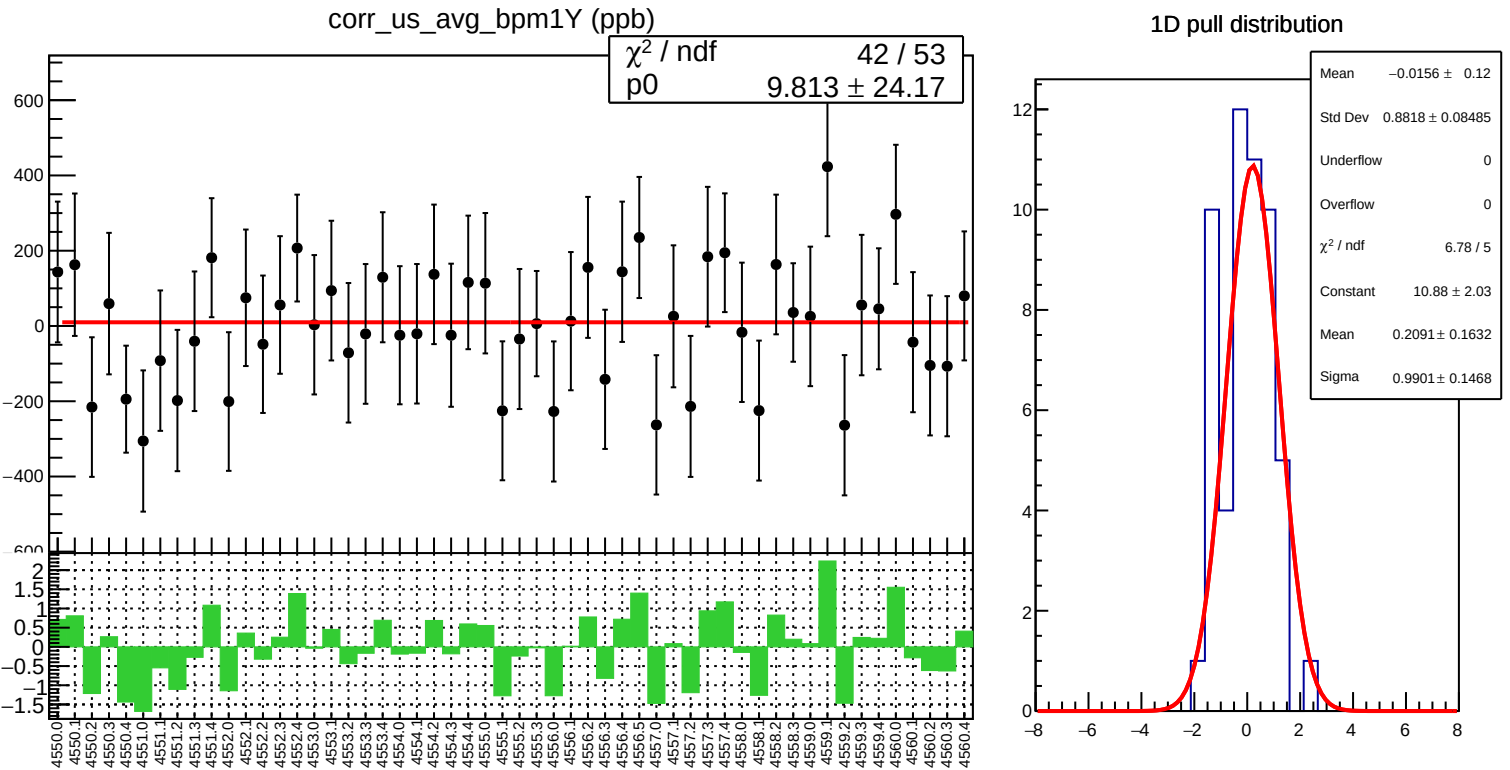

corr_us_avg_bpm4aY (ppb)
χ² / ndf 171.1 / 53
p0 −7.8 ± 33.23
1D pull distribution
Mean 0.1248 ± 0.1857
Std Dev 1.352 ± 0.1313
Underflow 1
Overflow 0
χ² / ndf 13.03 / 8
Constant 9.824 ± 2.368
Mean 0.2654 ± 0.1484
Sigma 0.8682 ± 0.1616

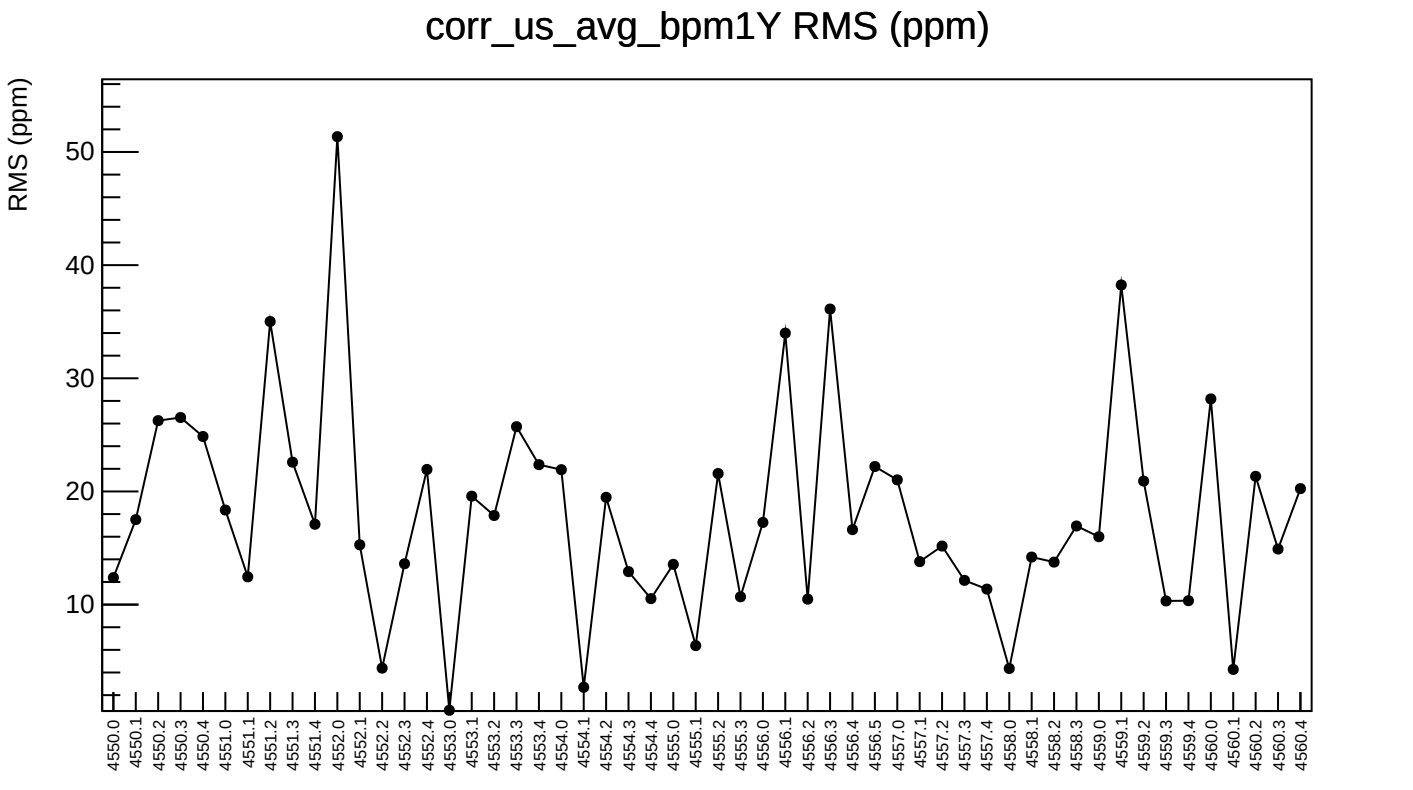

corr_us_avg_bpm4aY RMS (ppm)
RMS (ppm)
70
60
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

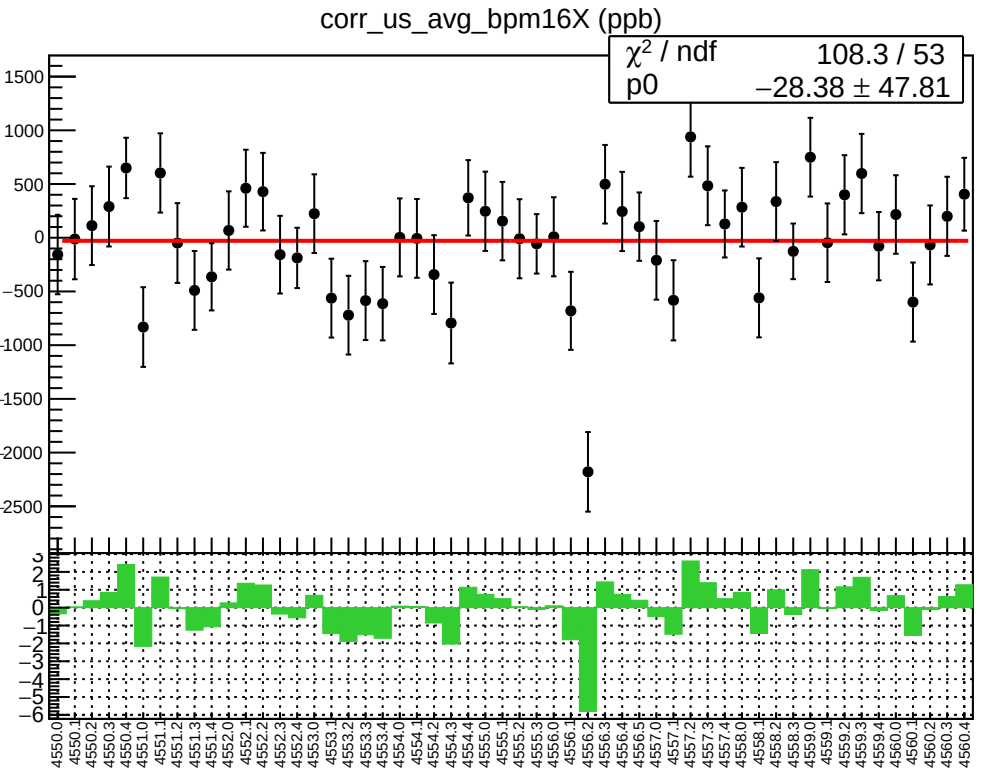

corr_us_avg_bpm1X (ppb)
χ² / ndf 131.8 / 53
p0 −24.5 ± 141.2
4000
2000
0
-2000
-4000
-6000
3
2
1
0
−1
−2
−3
−4
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

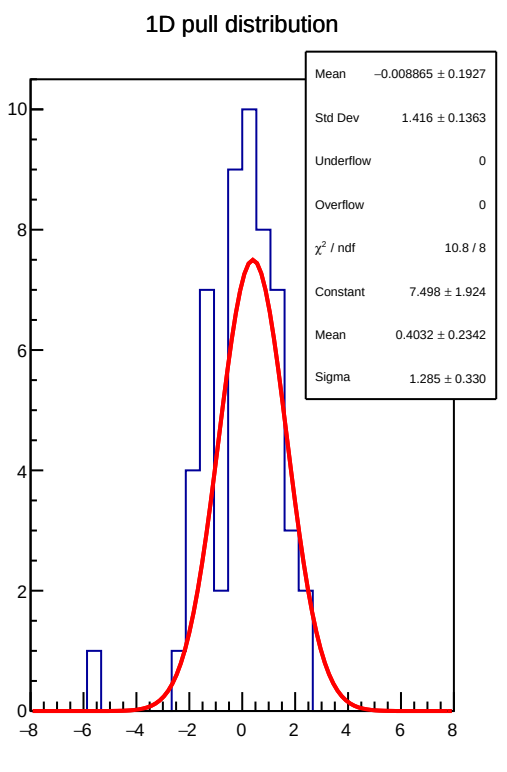

1D pull distribution
Mean 0.005907 ± 0.2126
Std Dev 1.562 ± 0.1503
Underflow 0
Overflow 0
χ² / ndf 8.282 / 9
Constant 5.804 ± 1.119
Mean 0.7985 ± 0.5835
Sigma 2.164 ± 0.563
9
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

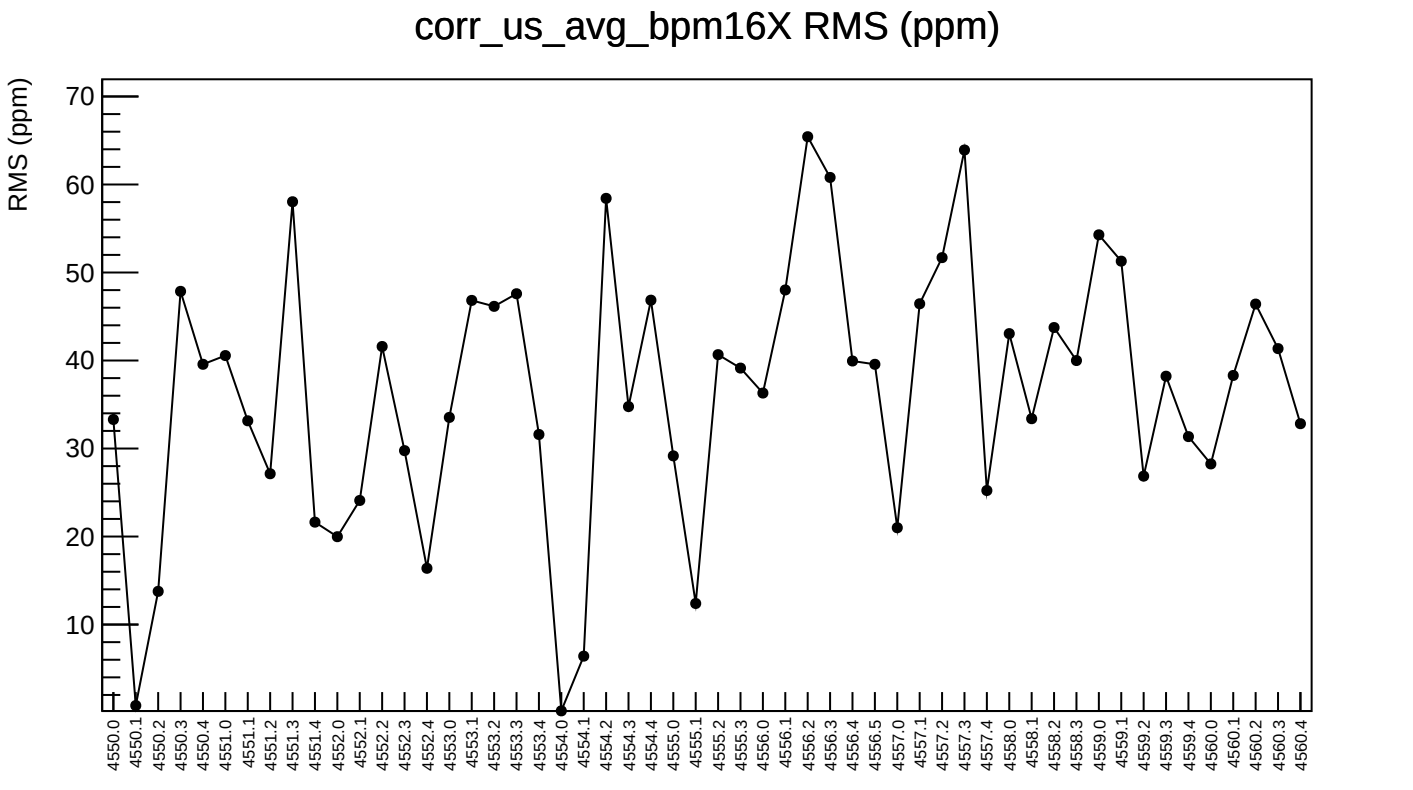

corr_us_avg_bpm1X RMS (ppm)
RMS (ppm)
180
170
160
150
140
130
120
110
100
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

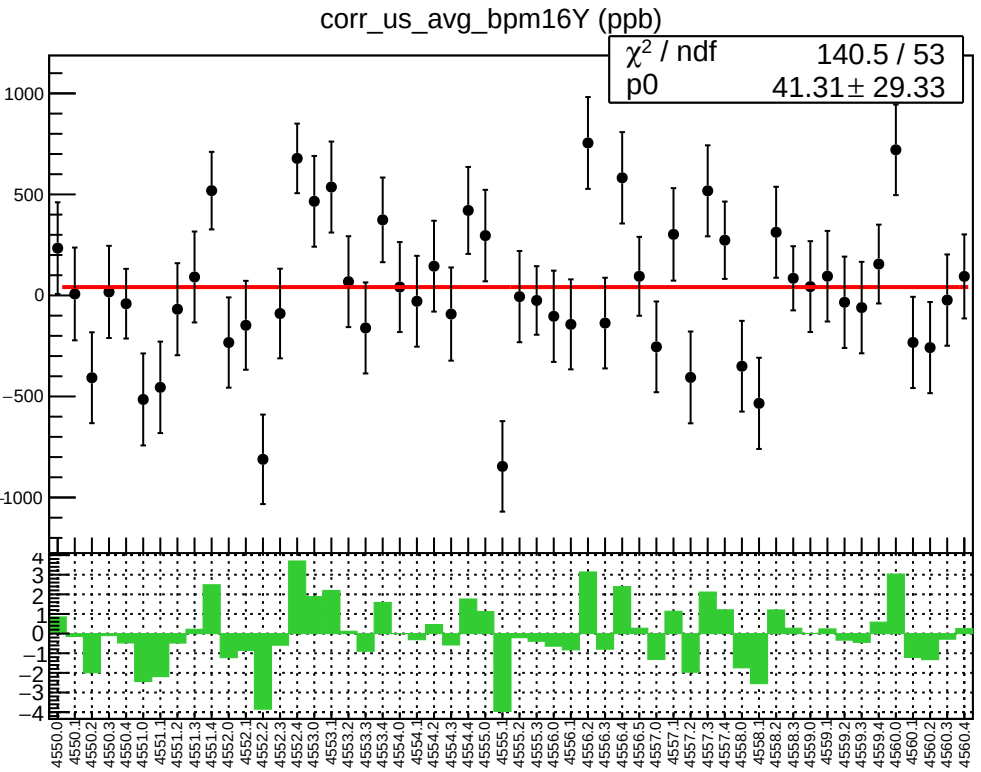

corr_us_avg_bpm1Y (ppb)
χ² / ndf 42 / 53
p0 9.813 ± 24.17
1D pull distribution
Mean −0.0156 ± 0.12
Std Dev 0.8818 ± 0.08485
Underflow 0
Overflow 0
χ² / ndf 6.78 / 5
Constant 10.88 ± 2.03
Mean 0.2091 ± 0.1632
Sigma 0.9901 ± 0.1468

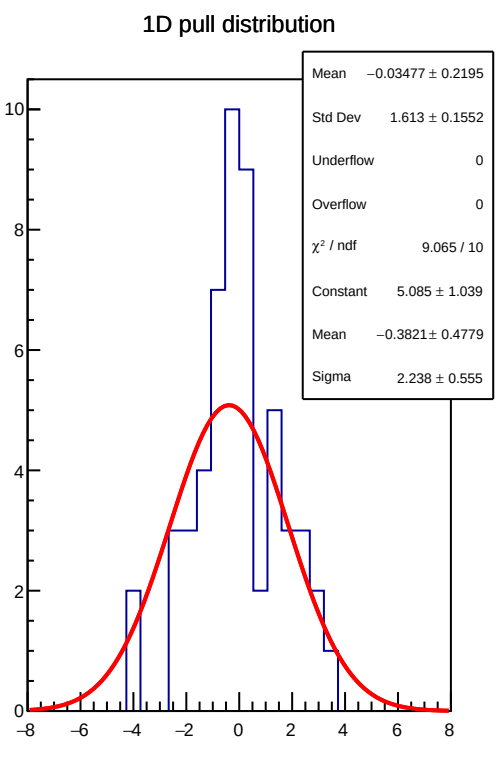

corr_us_avg_bpm1Y RMS (ppm)
RMS (ppm)
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

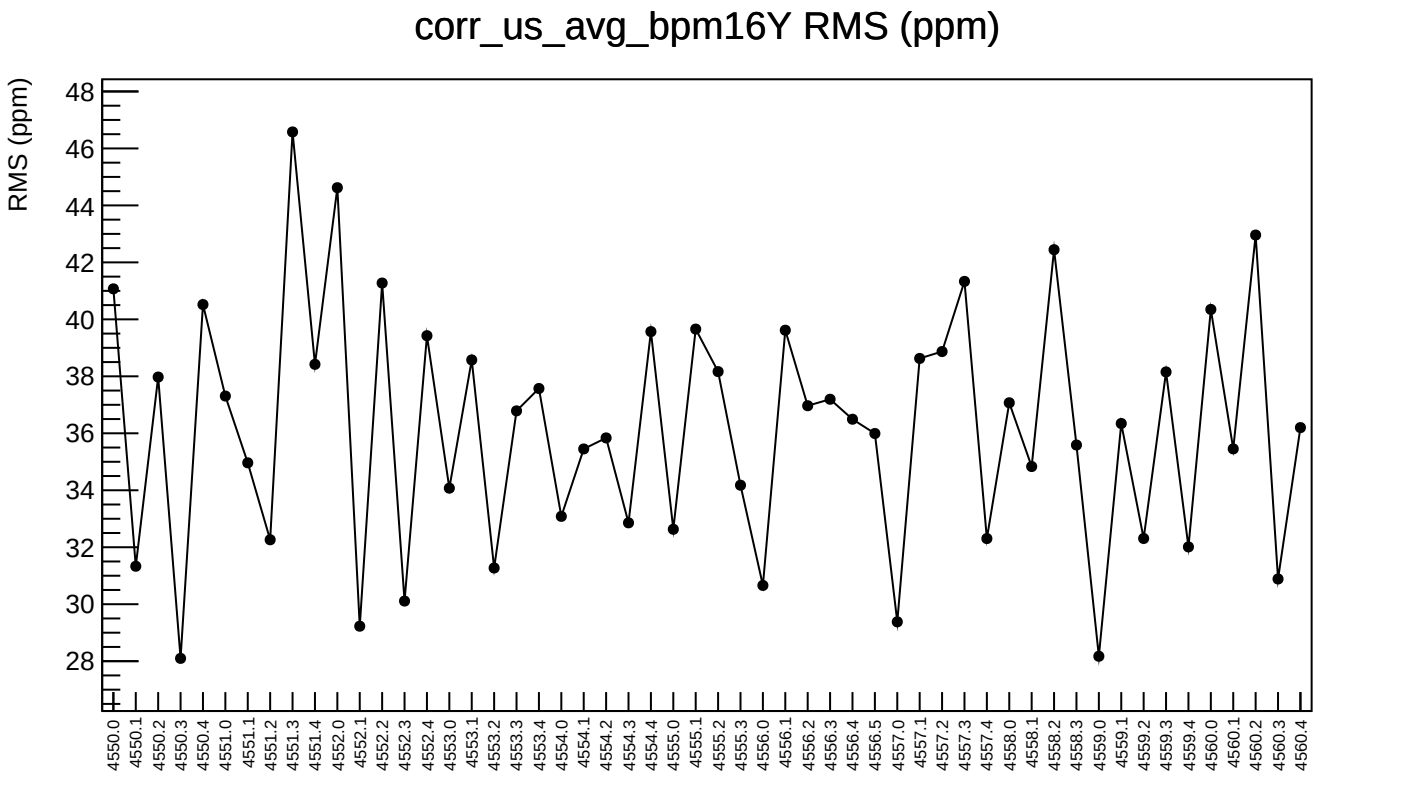

corr_us_avg_bpm16X (ppb)
χ² / ndf 108.3 / 53
p0 −28.38 ± 47.81

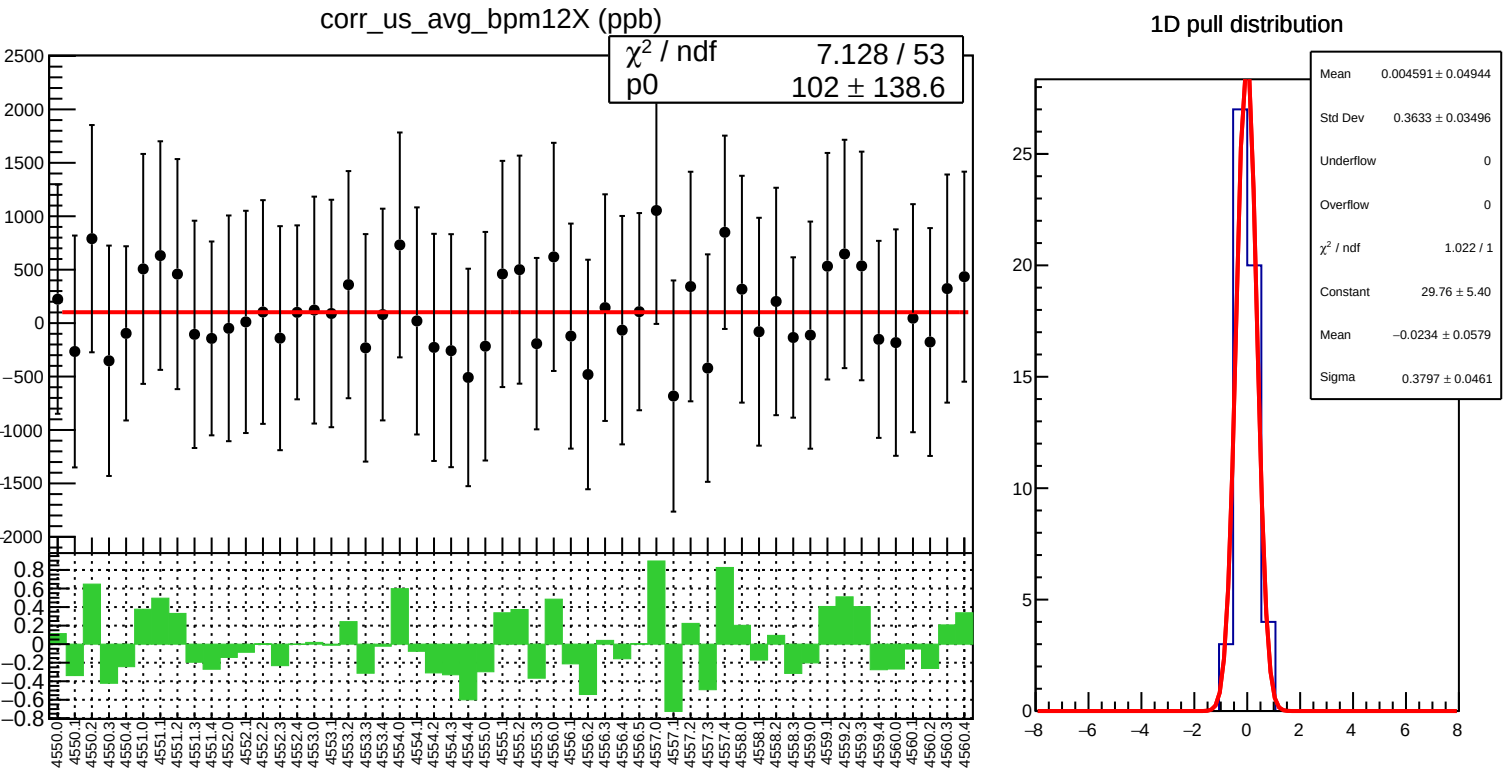

1D pull distribution
Mean −0.008865 ± 0.1927
Std Dev 1.416 ± 0.1363
Underflow 0
Overflow 0
χ² / ndf 10.8 / 8
Constant 7.498 ± 1.924
Mean 0.4032 ± 0.2342
Sigma 1.285 ± 0.330

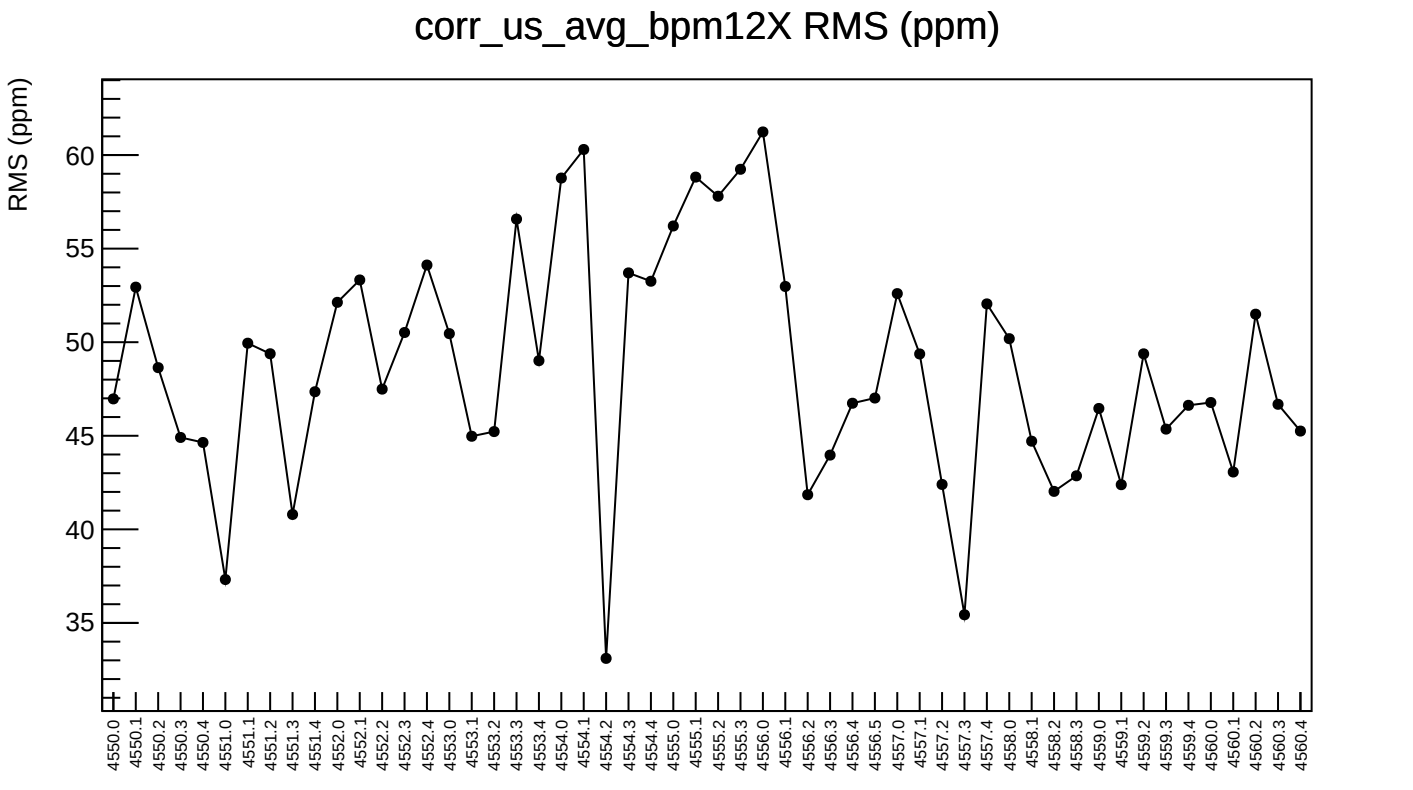

corr_us_avg_bpm16X RMS (ppm)
RMS (ppm)
70
60
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

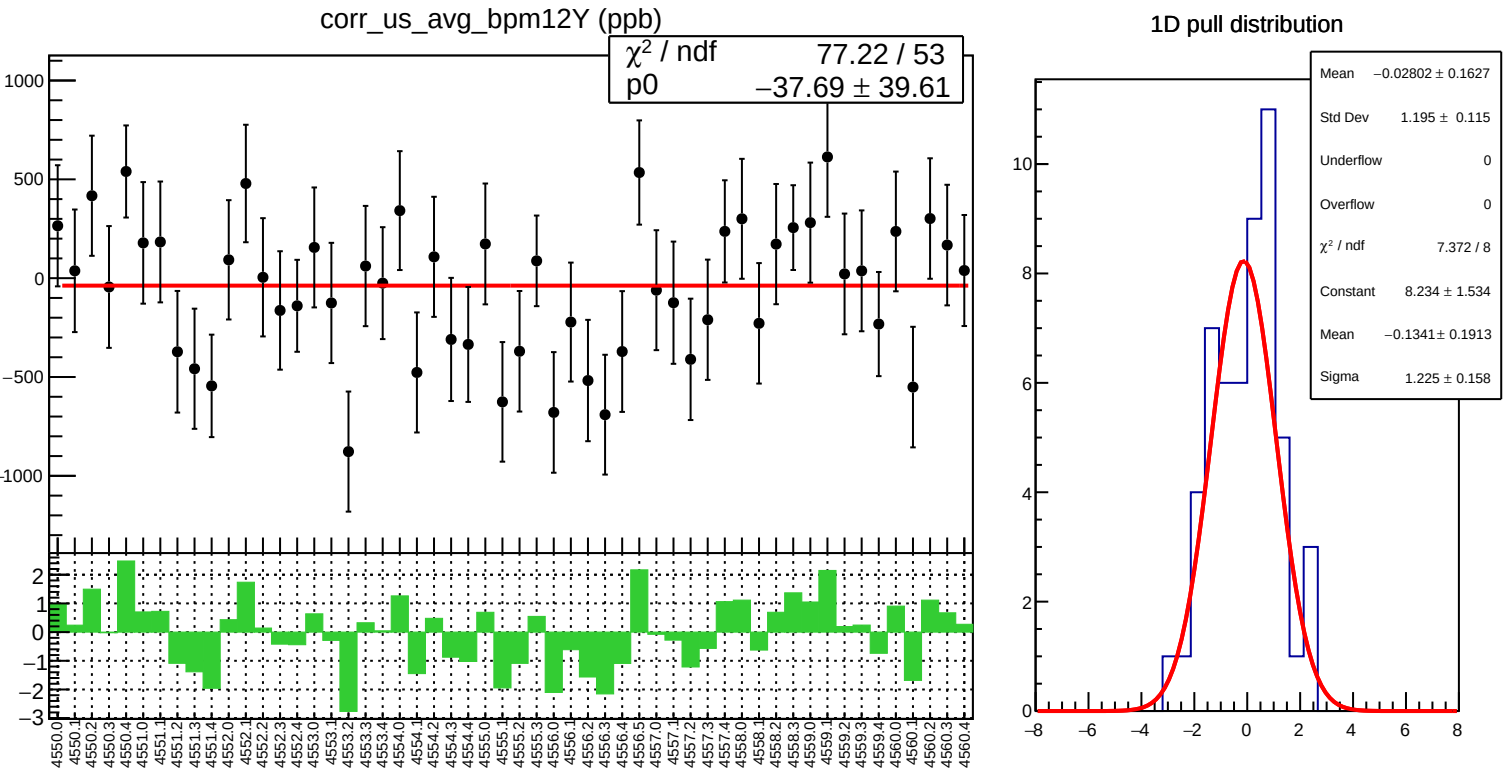

corr_us_avg_bpm16Y (ppb)
χ² / ndf 140.5 / 53
p0 41.31 ± 29.33
1000
500
0
−500
−1000
4
3
2
1
0
−1
−2
−3
−4
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

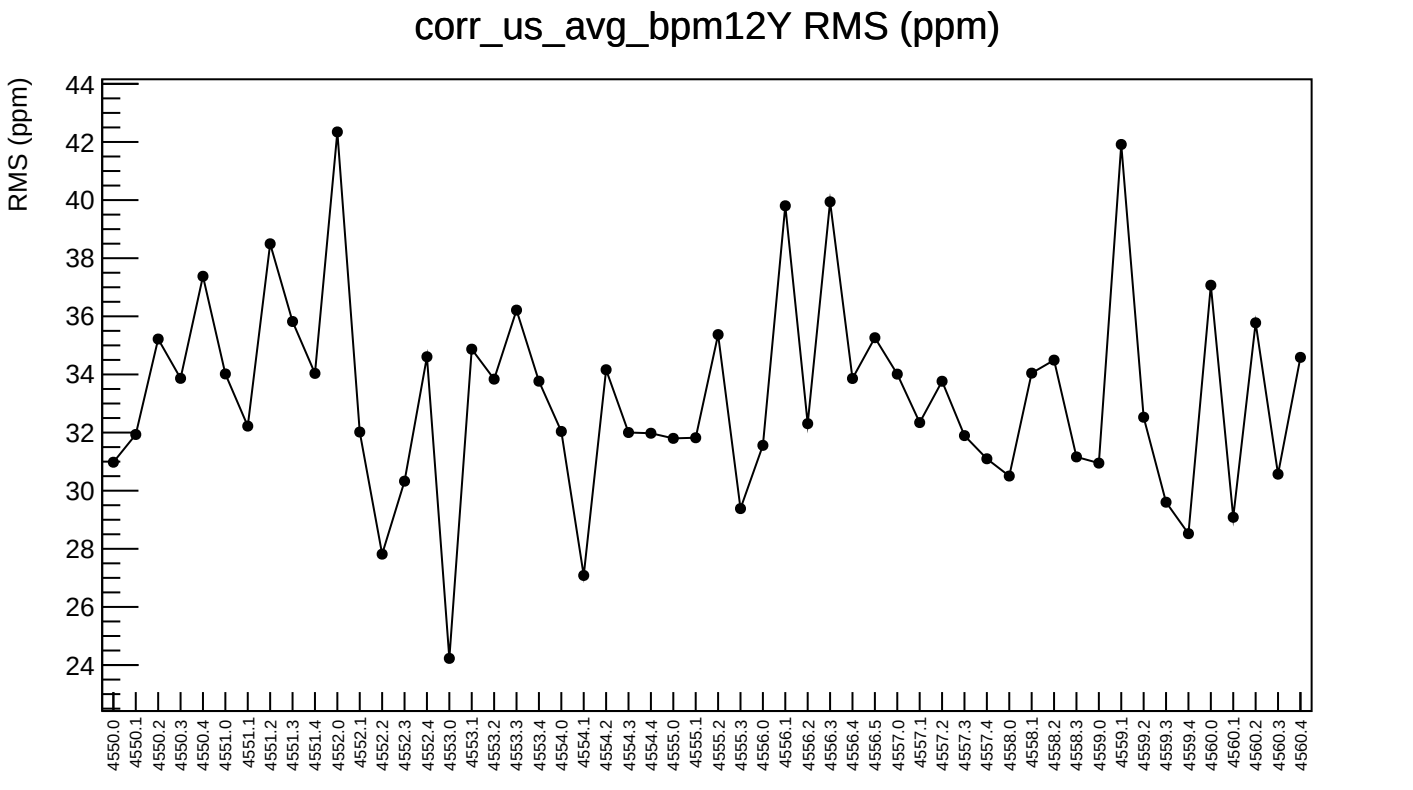

1D pull distribution
Mean −0.03477 ± 0.2195
Std Dev 1.613 ± 0.1552
Underflow 0
Overflow 0
χ² / ndf 9.065 / 10
Constant 5.085 ± 1.039
Mean −0.3821 ± 0.4779
Sigma 2.238 ± 0.555
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

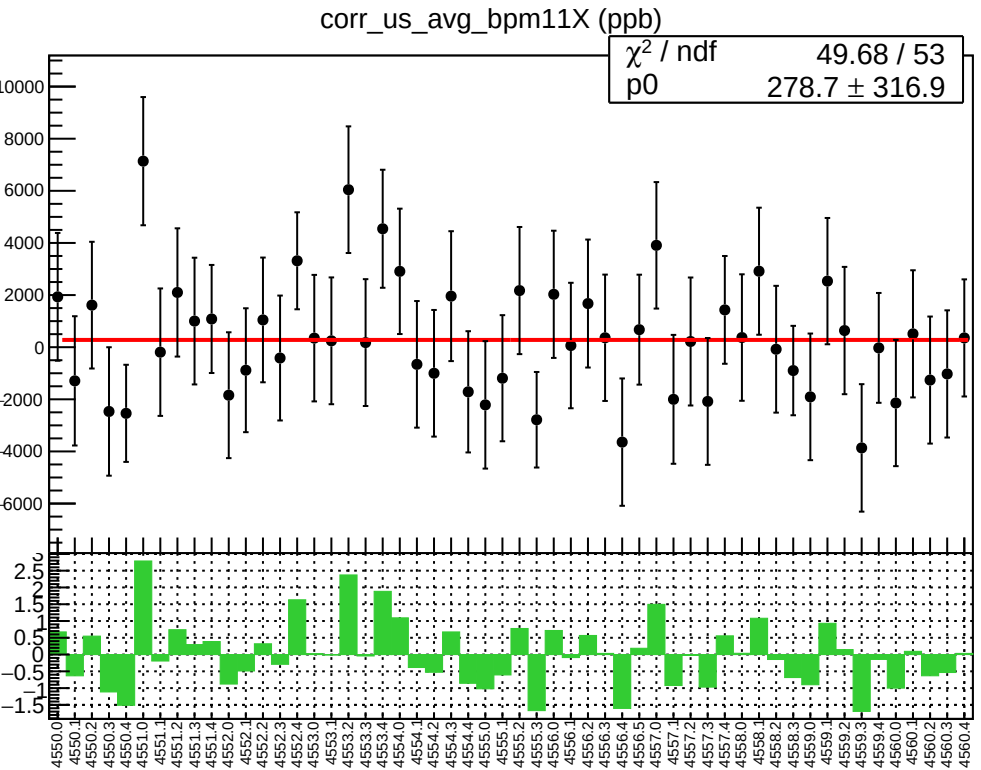

corr_us_avg_bpm16Y RMS (ppm)
RMS (ppm)
48
46
44
42
40
38
36
34
32
30
28
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

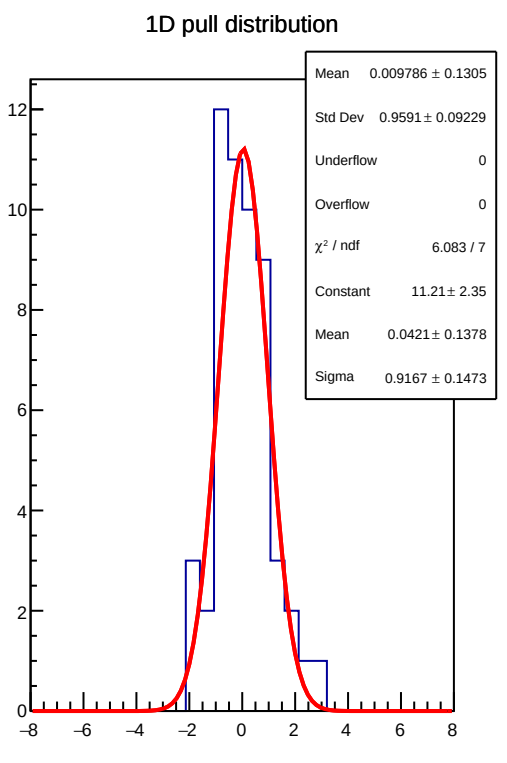

corr_us_avg_bpm12X (ppb)
χ² / ndf 7.128 / 53
p0 102 ± 138.6
1D pull distribution
Mean 0.004591 ± 0.04944
Std Dev 0.3633 ± 0.03496
Underflow 0
Overflow 0
χ² / ndf 1.022 / 1
Constant 29.76 ± 5.40
Mean −0.0234 ± 0.0579
Sigma 0.3797 ± 0.0461

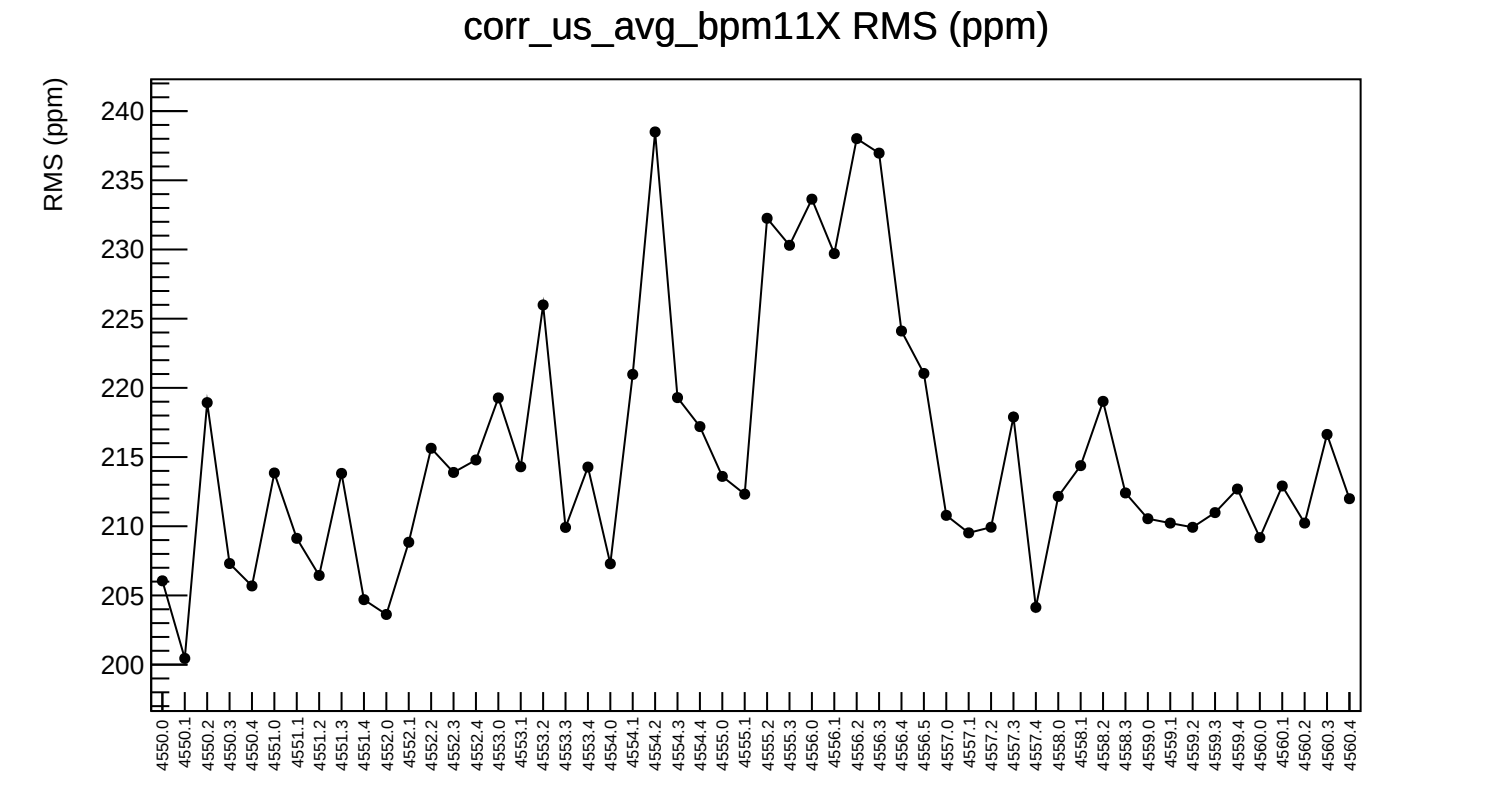

corr_us_avg_bpm12X RMS (ppm)
RMS (ppm)
60
55
50
45
40
35
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

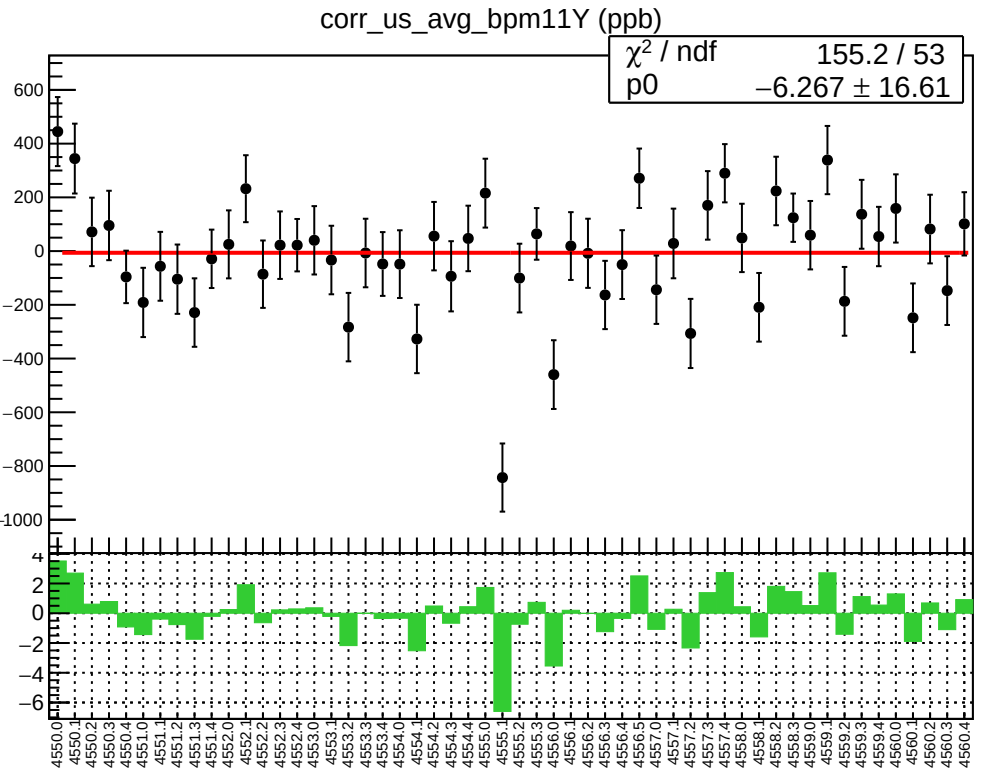

corr_us_avg_bpm12Y (ppb)
χ² / ndf 77.22 / 53
p0 −37.69 ± 39.61
1000
500
0
−500
−1000
2
1
0
−1
−2
−3
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4
1D pull distribution
Mean −0.02802 ± 0.1627
Std Dev 1.195 ± 0.115
Underflow 0
Overflow 0
χ² / ndf 7.372 / 8
Constant 8.234 ± 1.534
Mean −0.1341 ± 0.1913
Sigma 1.225 ± 0.158
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

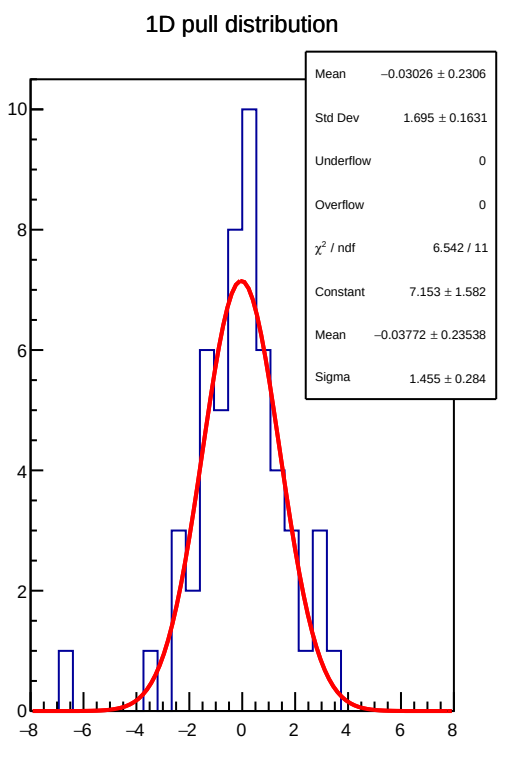

corr_us_avg_bpm12Y RMS (ppm)
RMS (ppm)
44
42
40
38
36
34
32
30
28
26
24
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

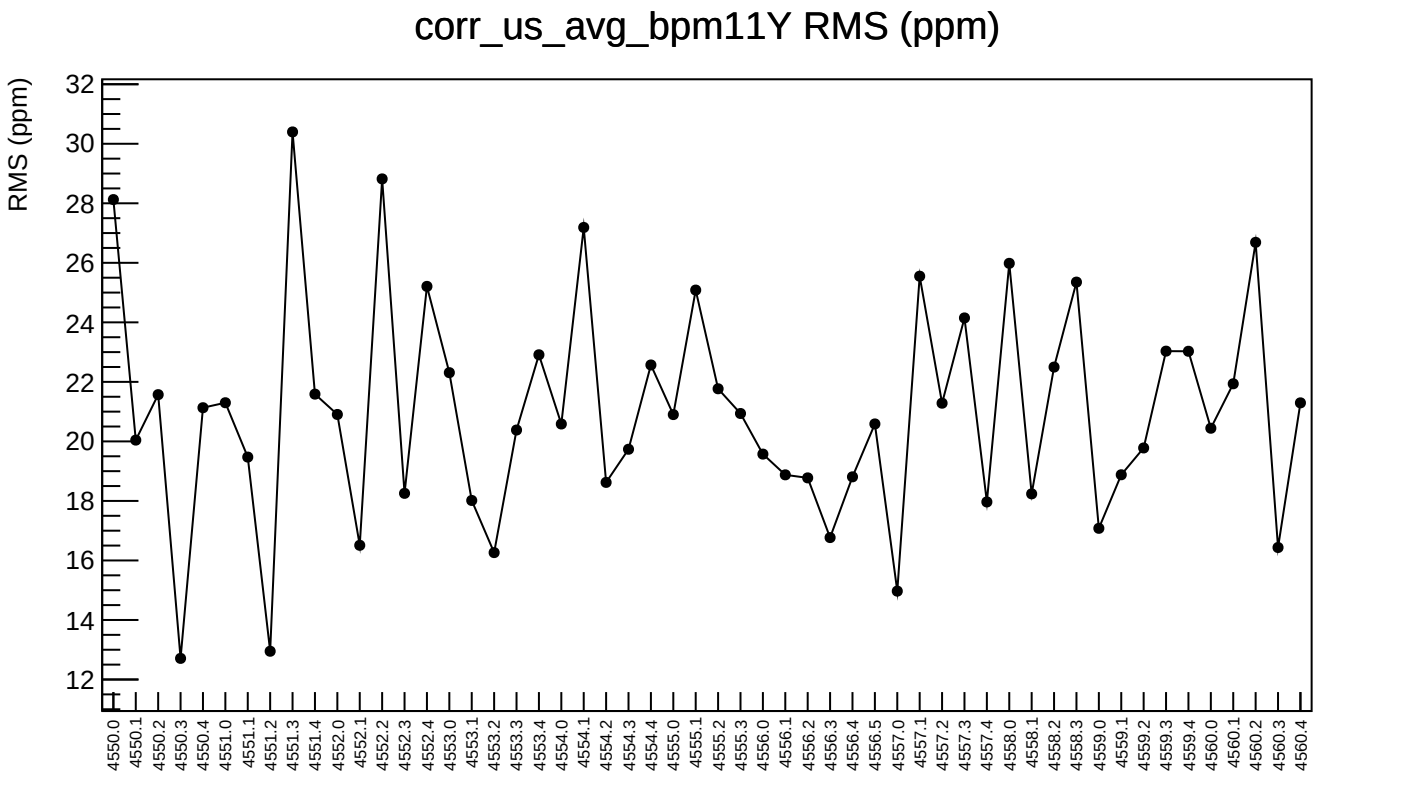

corr_us_avg_bpm11X (ppb)
χ² / ndf 49.68 / 53
p0 278.7 ± 316.9

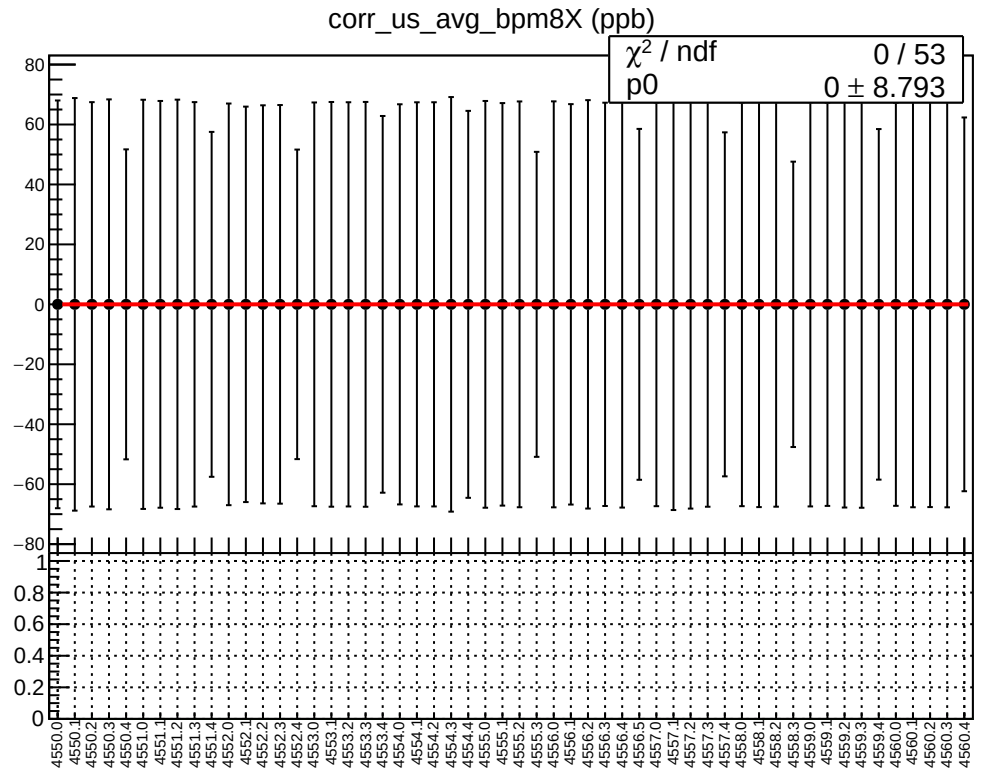

1D pull distribution
Mean 0.009786 ± 0.1305
Std Dev 0.9591 ± 0.09229
Underflow 0
Overflow 0
χ² / ndf 6.083 / 7
Constant 11.21 ± 2.35
Mean 0.0421 ± 0.1378
Sigma 0.9167 ± 0.1473

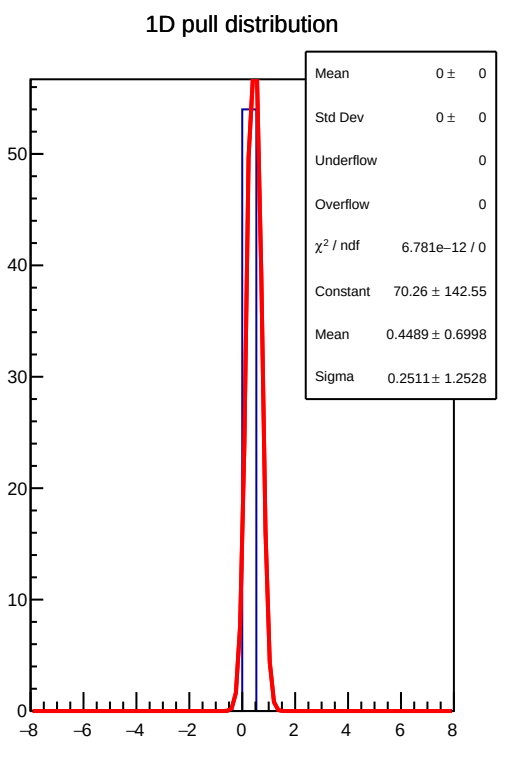

corr_us_avg_bpm11X RMS (ppm)
RMS (ppm)
240
235
230
225
220
215
210
205
200
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

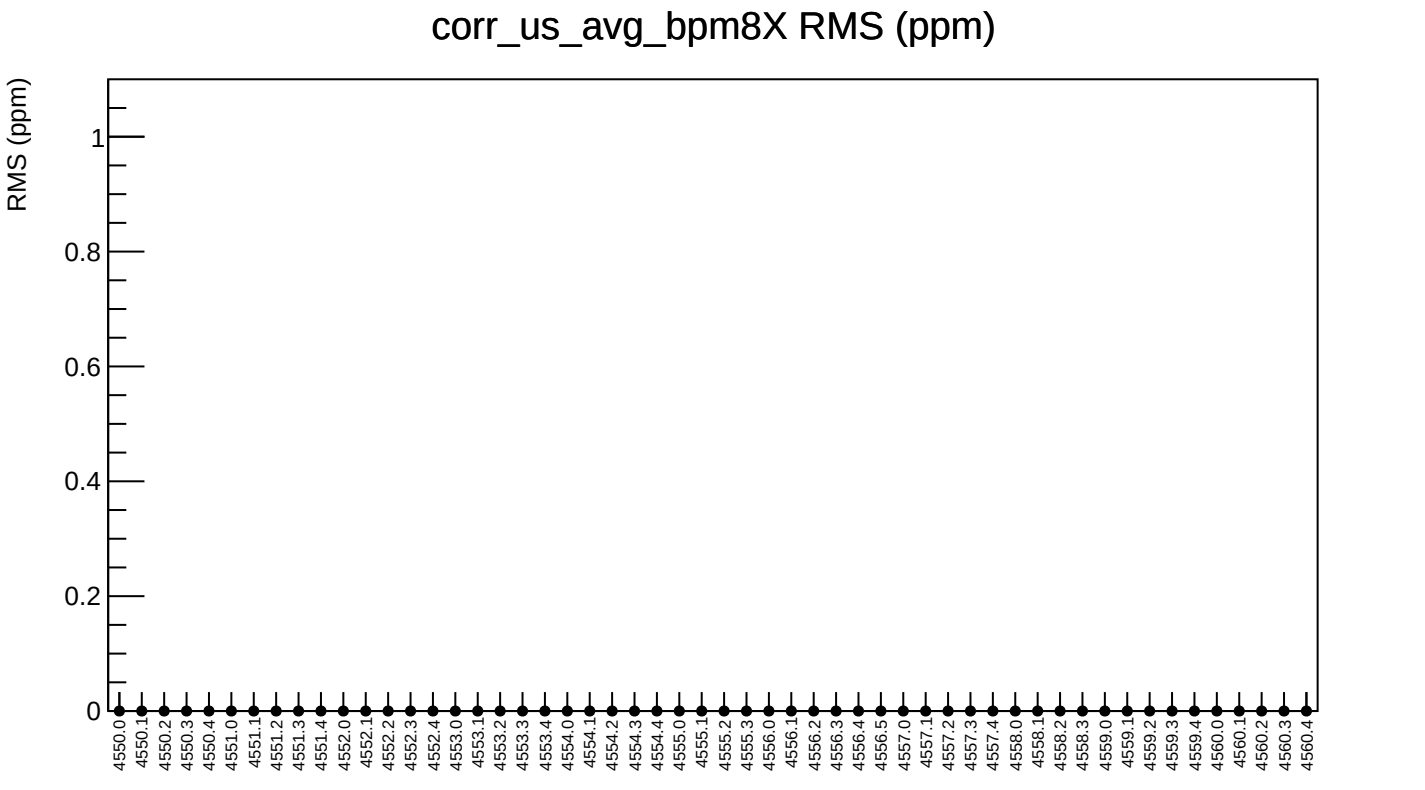

corr_us_avg_bpm11Y (ppb)
χ² / ndf 155.2 / 53
p0 −6.267 ± 16.61

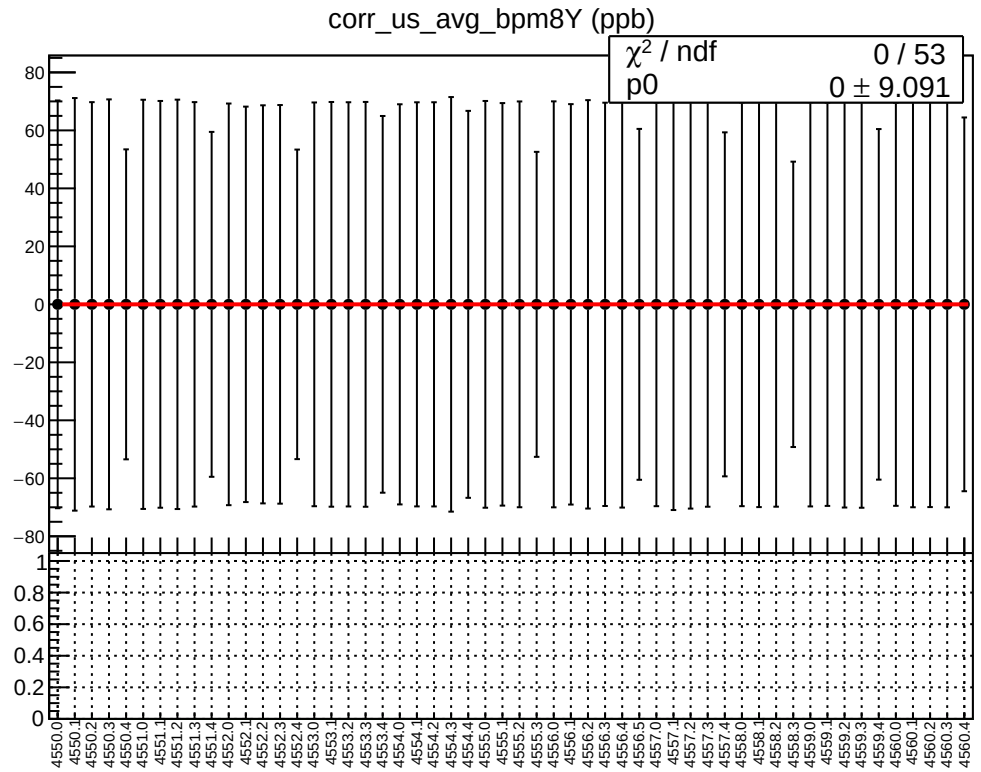

1D pull distribution
Mean −0.03026 ± 0.2306
Std Dev 1.695 ± 0.1631
Underflow 0
Overflow 0
χ² / ndf 6.542 / 11
Constant 7.153 ± 1.582
Mean −0.03772 ± 0.23538
Sigma 1.455 ± 0.284

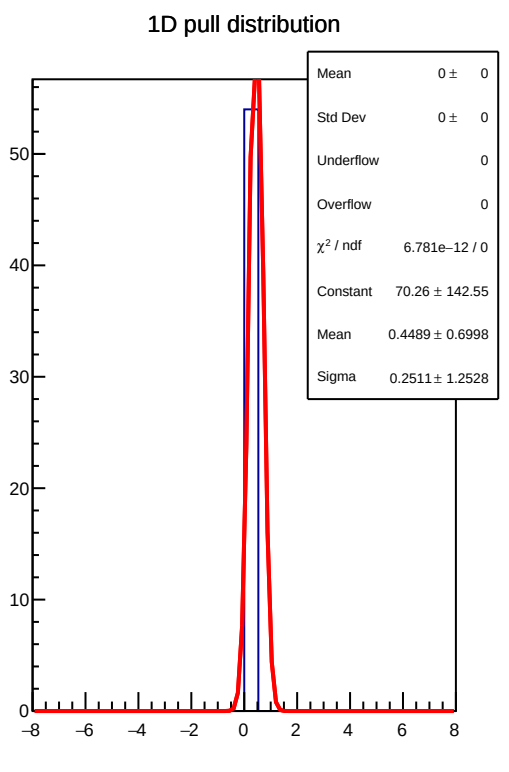

corr_us_avg_bpm11Y RMS (ppm)
RMS (ppm)
32
30
28
26
24
22
20
18
16
14
12
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

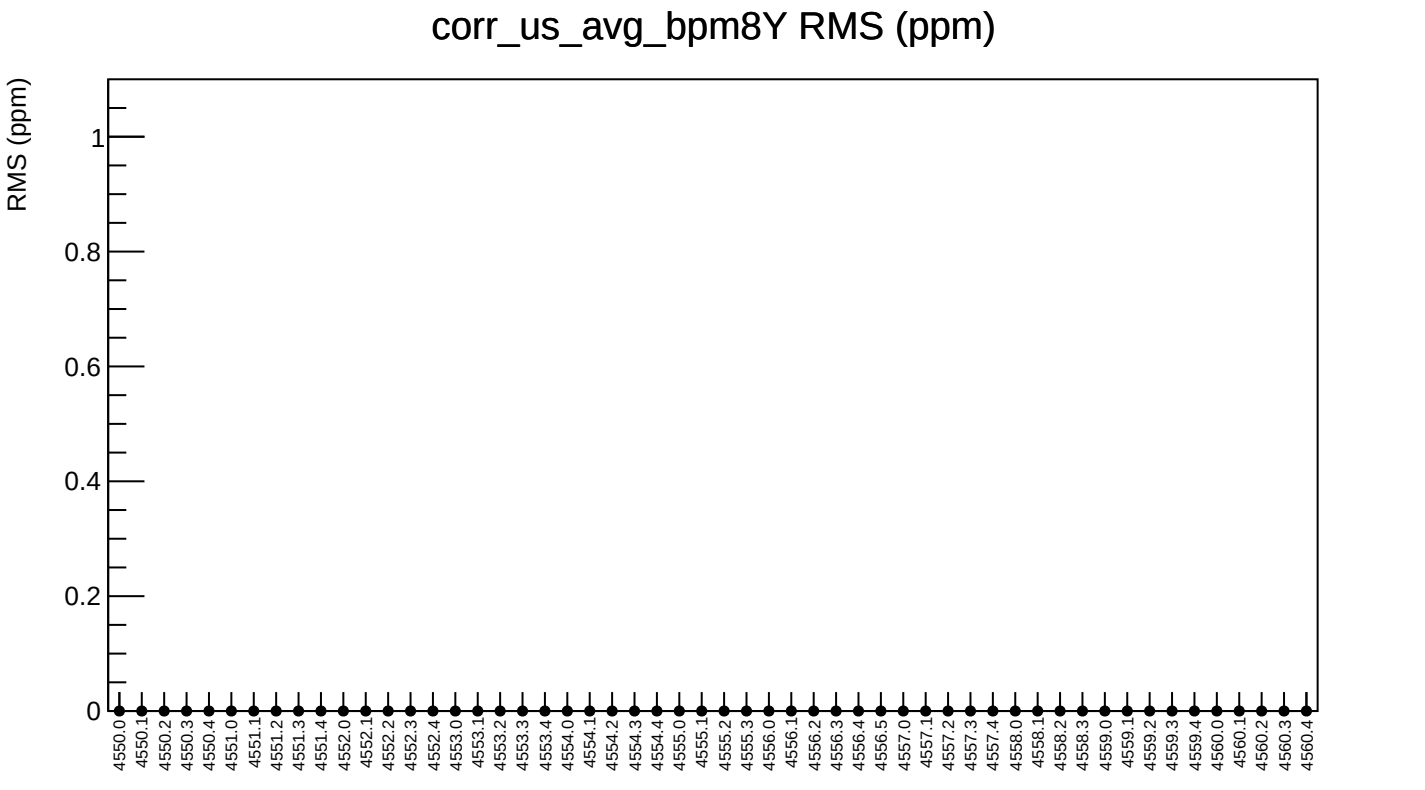

corr_us_avg_bpm8X (ppb)
χ² / ndf 0 / 53
p0 0 ± 8.793

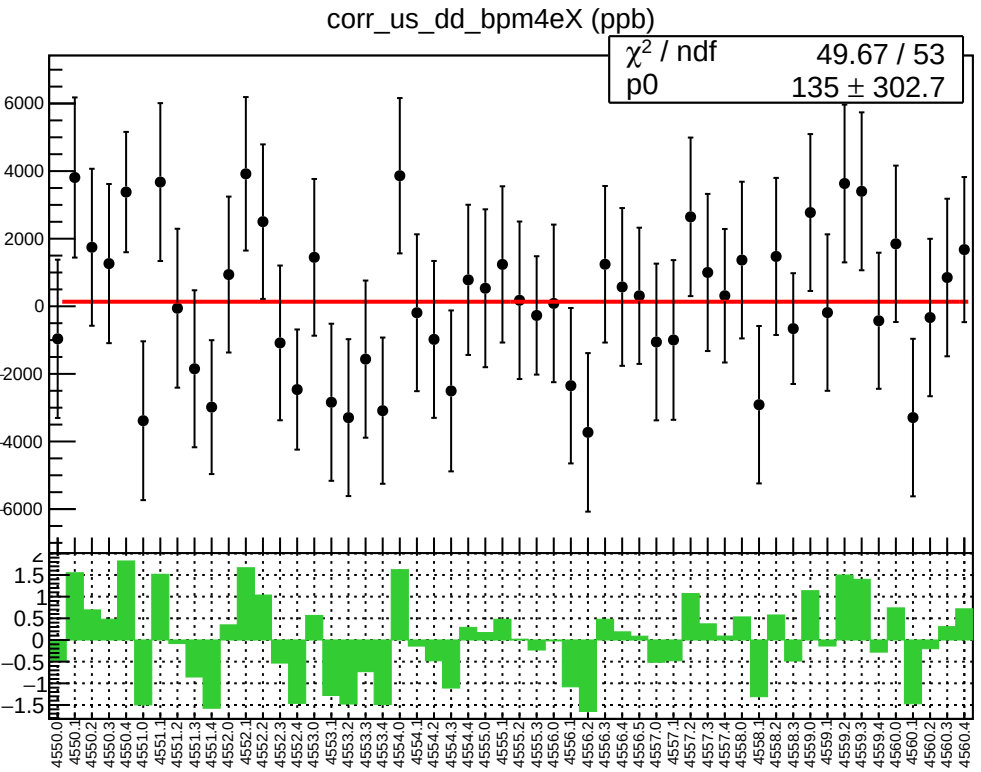

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

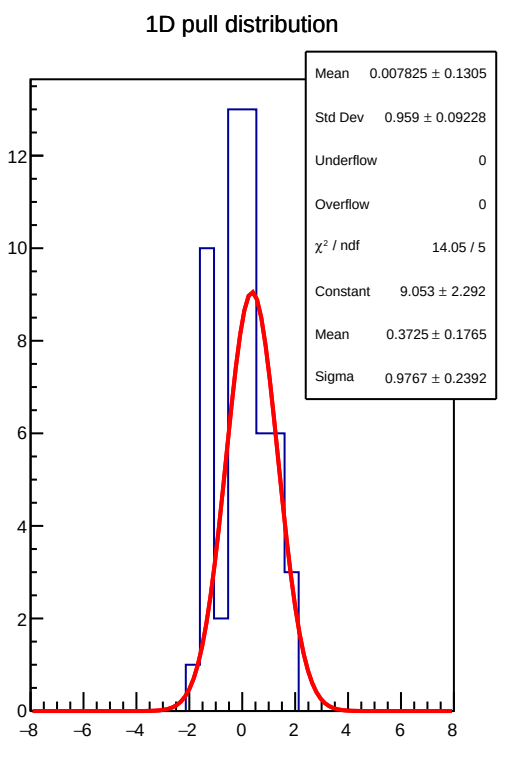

corr_us_avg_bpm8X RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

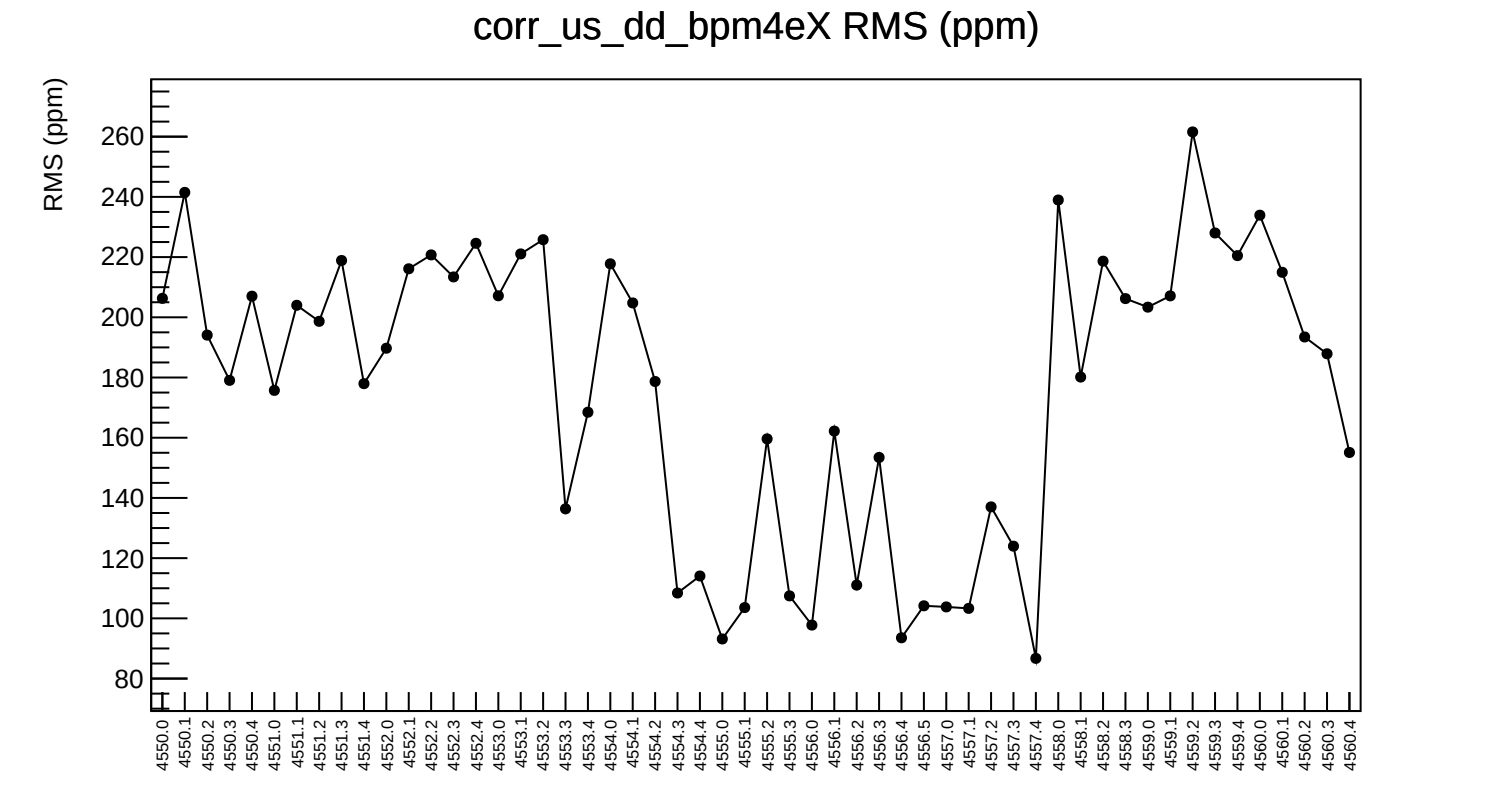

corr_us_avg_bpm8Y (ppb)
χ² / ndf 0 / 53
p0 0 ± 9.091

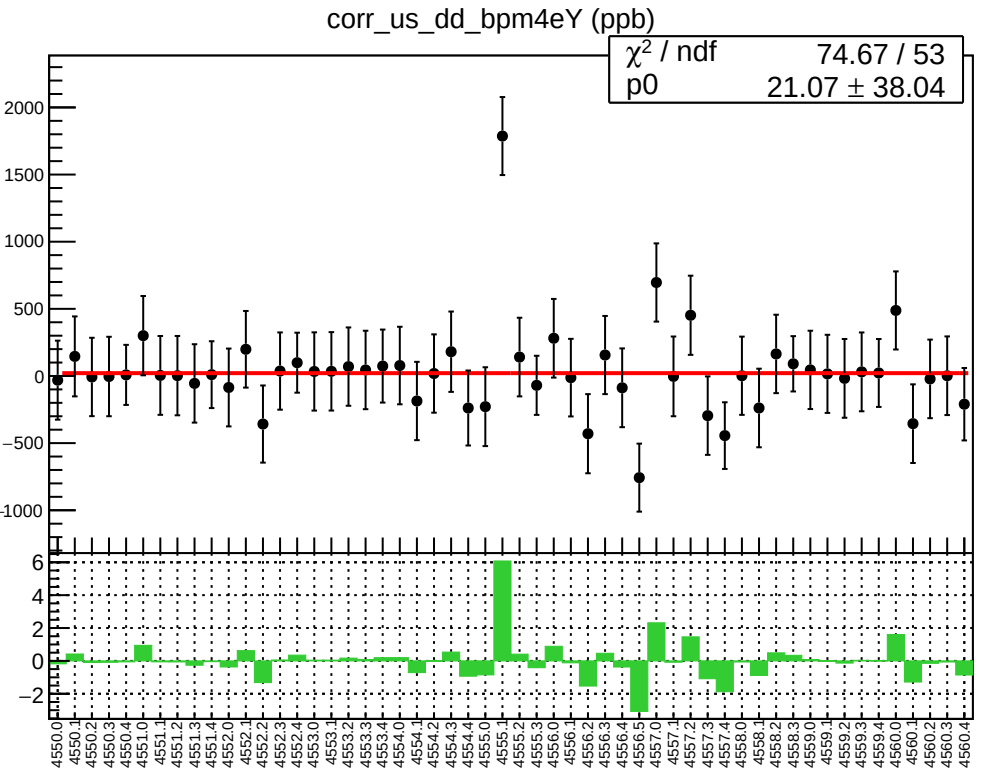

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

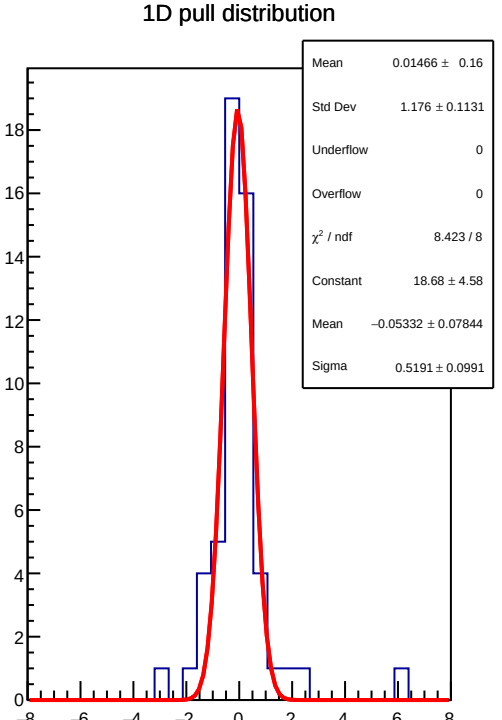

corr_us_avg_bpm8Y RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

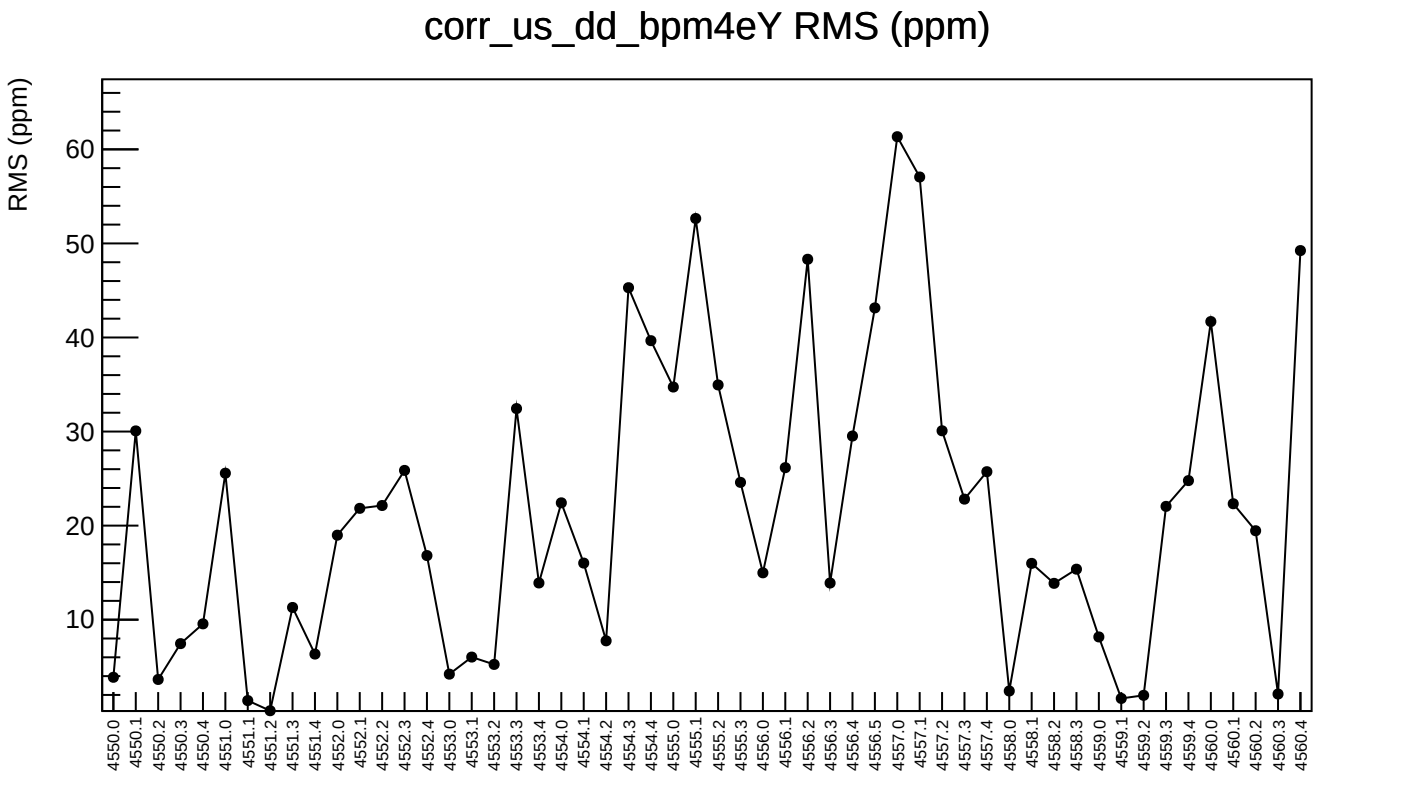

corr_us_dd_bpm4eX (ppb)
χ² / ndf 49.67 / 53
p0 135 ± 302.7
6000
4000
2000
0
-2000
-4000
-6000
1.5
1
0.5
0
−0.5
−1
−1.5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

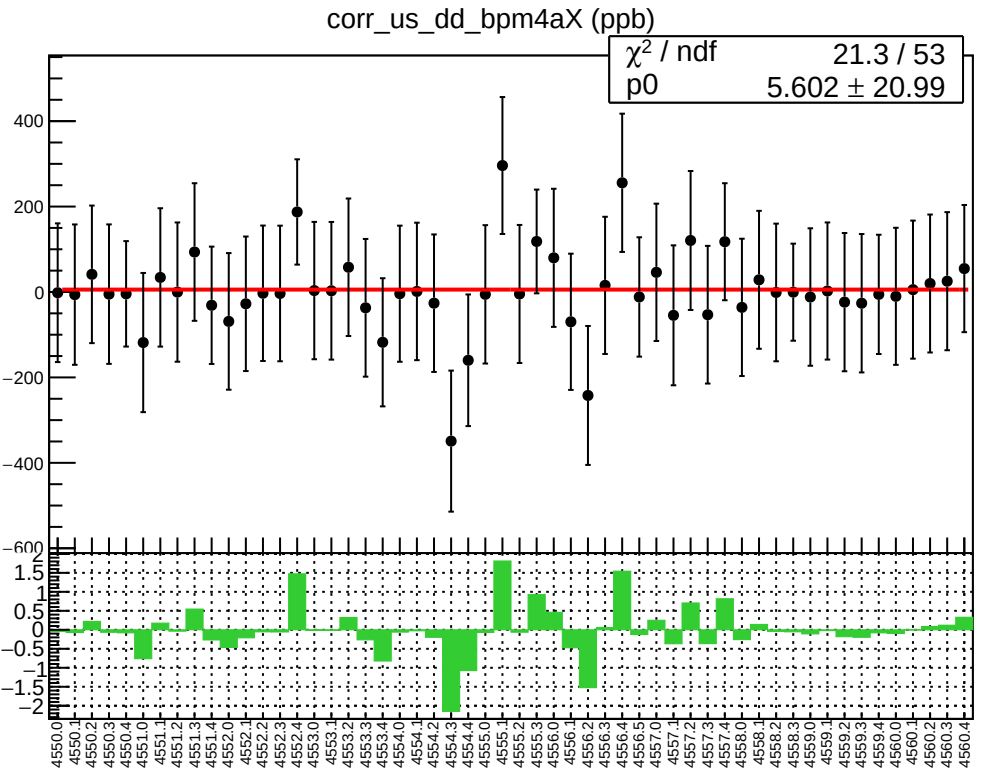

1D pull distribution
Mean 0.007825 ± 0.1305
Std Dev 0.959 ± 0.09228
Underflow 0
Overflow 0
χ² / ndf 14.05 / 5
Constant 9.053 ± 2.292
Mean 0.3725 ± 0.1765
Sigma 0.9767 ± 0.2392
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

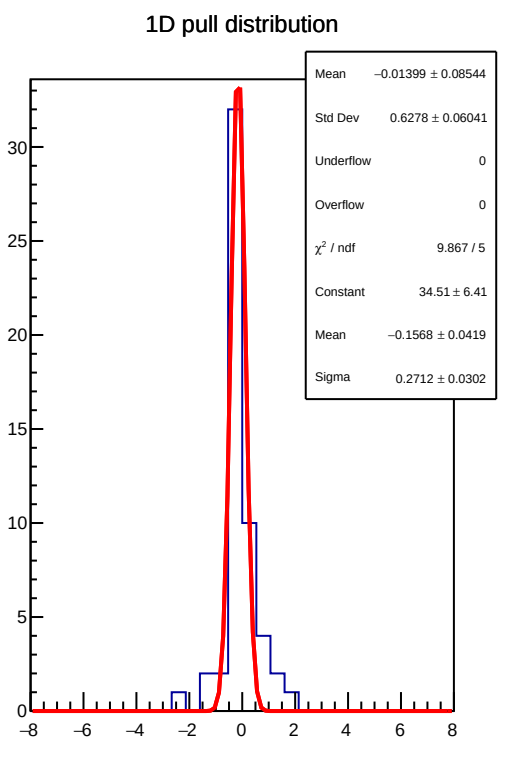

corr_us_dd_bpm4eX RMS (ppm)
RMS (ppm)
80
100
120
140
160
180
200
220
240
260
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

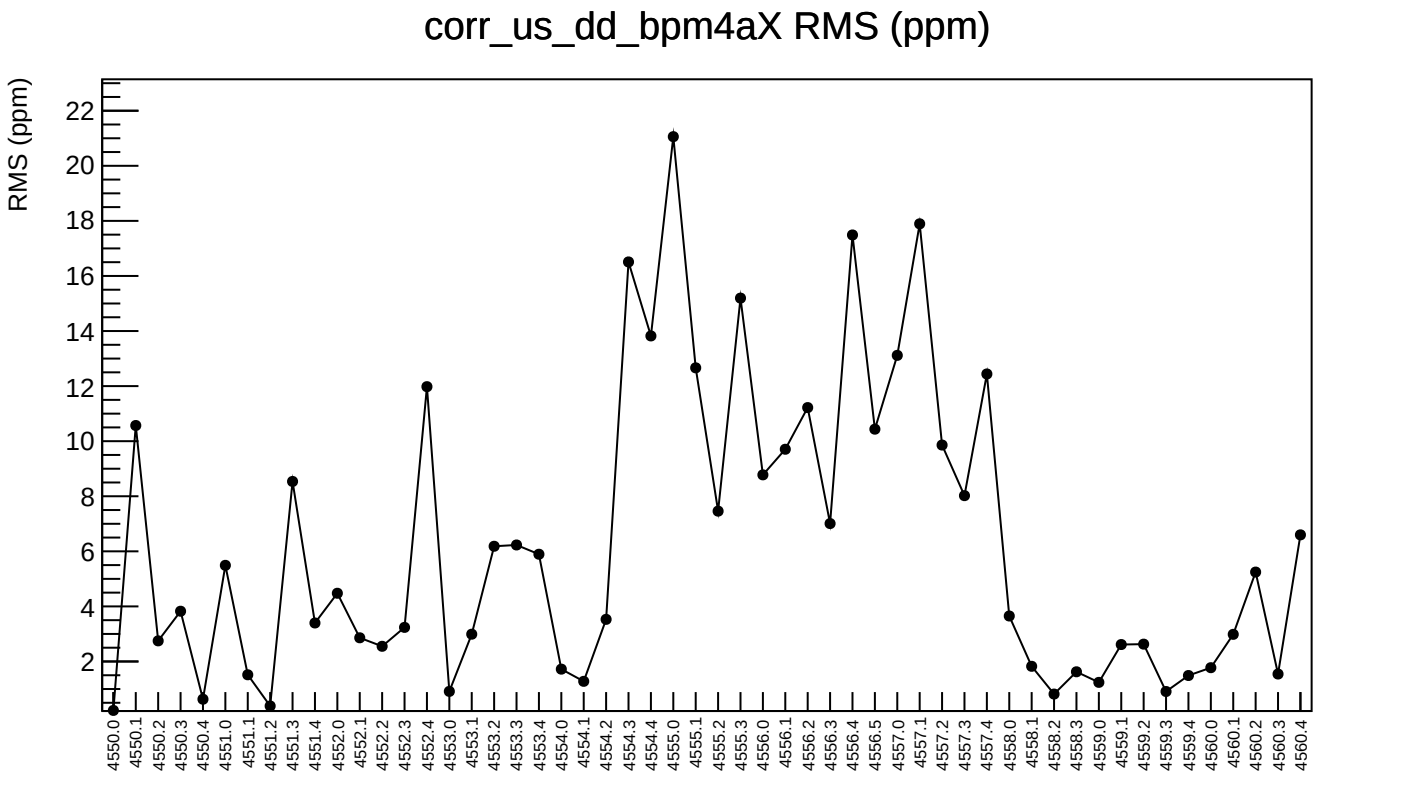

corr_us_dd_bpm4eY (ppb)
χ² / ndf 74.67 / 53
p0 21.07 ± 38.04
2000
1500
1000
500
0
−500
−1000
6
4
2
0
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

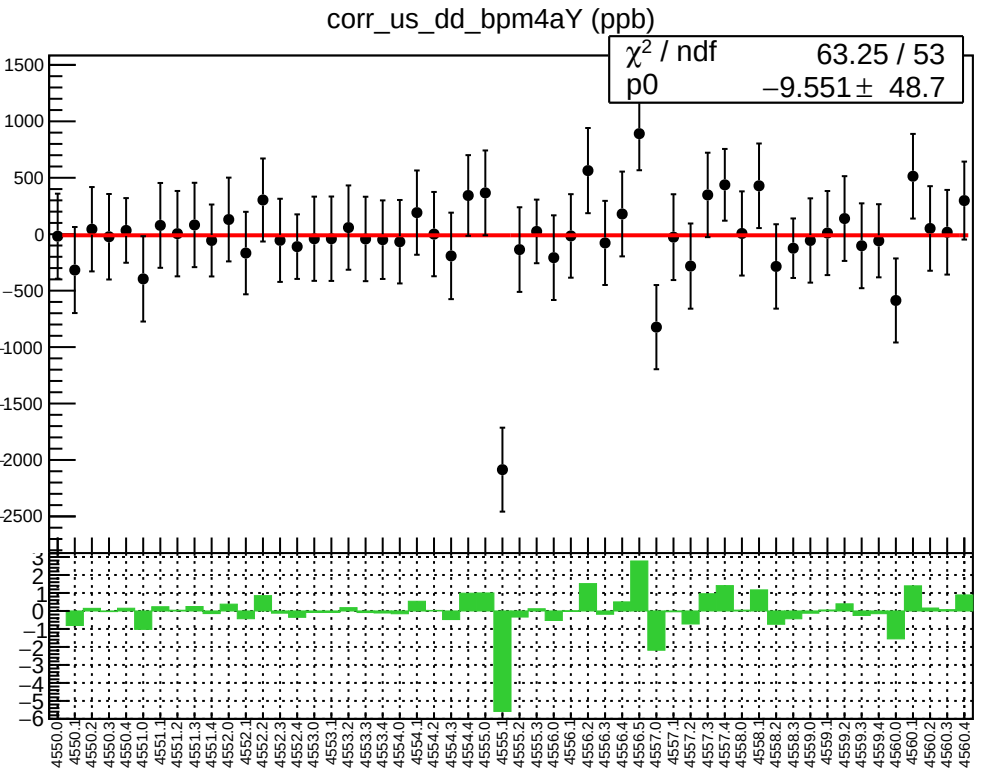

1D pull distribution
Mean 0.01466 ± 0.16
Std Dev 1.176 ± 0.1131
Underflow 0
Overflow 0
χ² / ndf 8.423 / 8
Constant 18.68 ± 4.58
Mean −0.05332 ± 0.07844
Sigma 0.5191 ± 0.0991
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

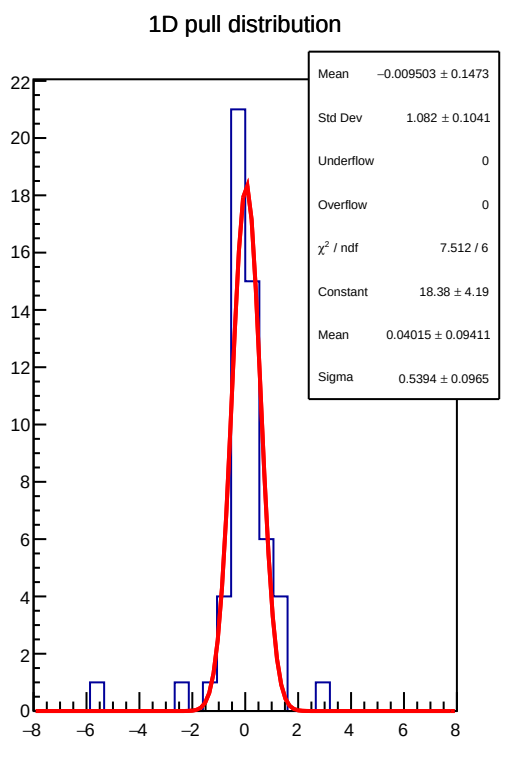

corr_us_dd_bpm4eY RMS (ppm)
RMS (ppm)
10
20
30
40
50
60
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

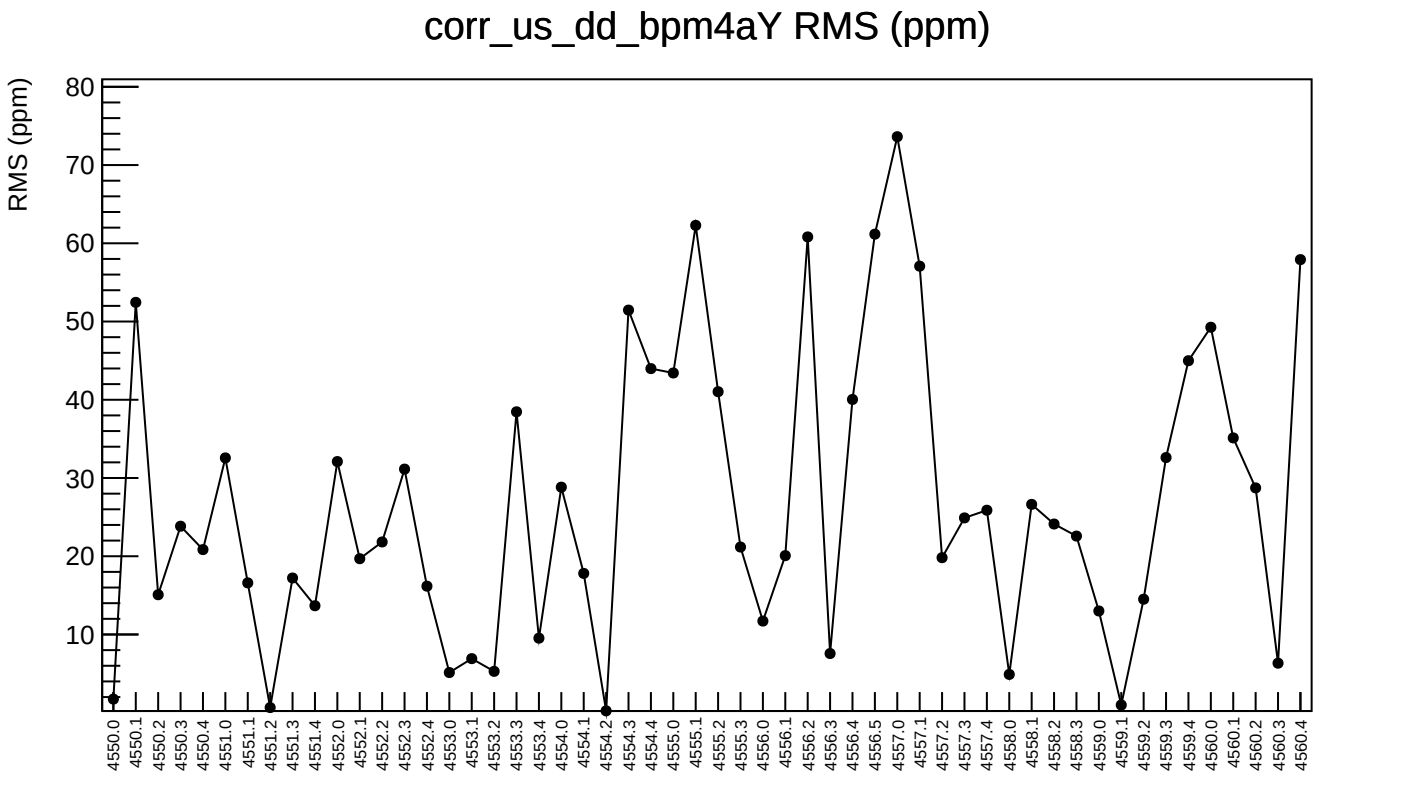

corr_us_dd_bpm4aX (ppb)
χ² / ndf 21.3 / 53
p0 5.602 ± 20.99

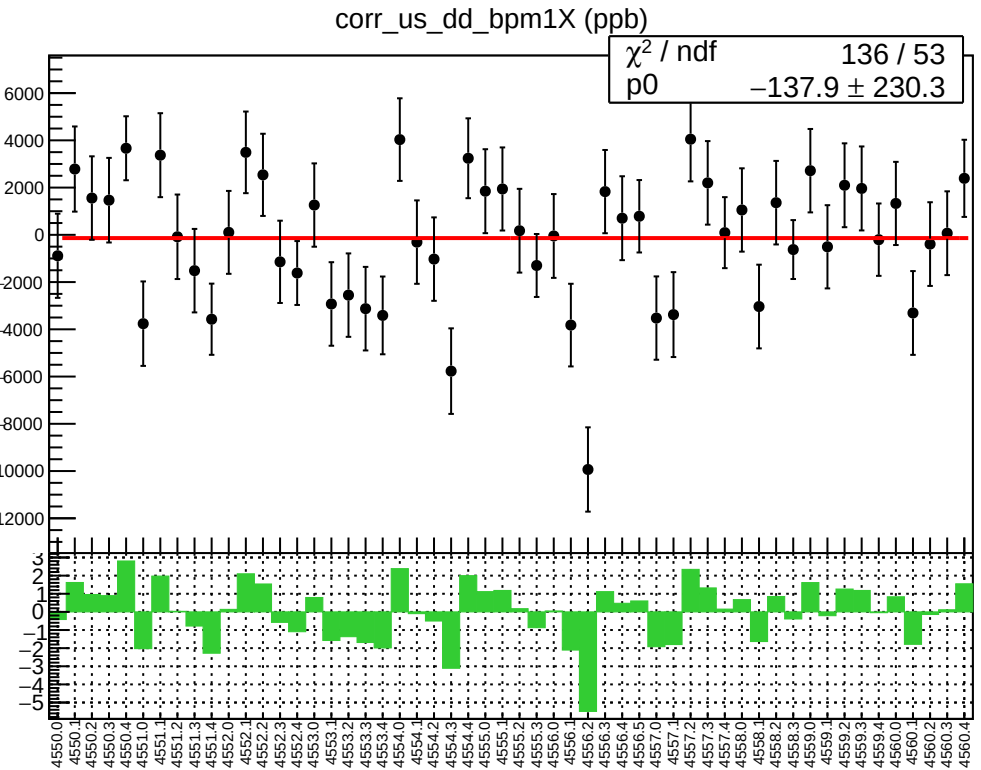

1D pull distribution
Mean −0.01399 ± 0.08544
Std Dev 0.6278 ± 0.06041
Underflow 0
Overflow 0
χ² / ndf 9.867 / 5
Constant 34.51 ± 6.41
Mean −0.1568 ± 0.0419
Sigma 0.2712 ± 0.0302

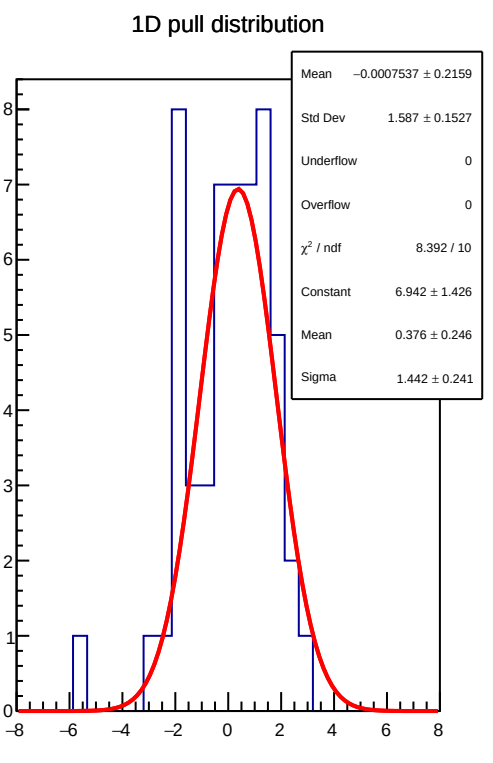

corr_us_dd_bpm4aX RMS (ppm)
RMS (ppm)
22
20
18
16
14
12
10
8
6
4
2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

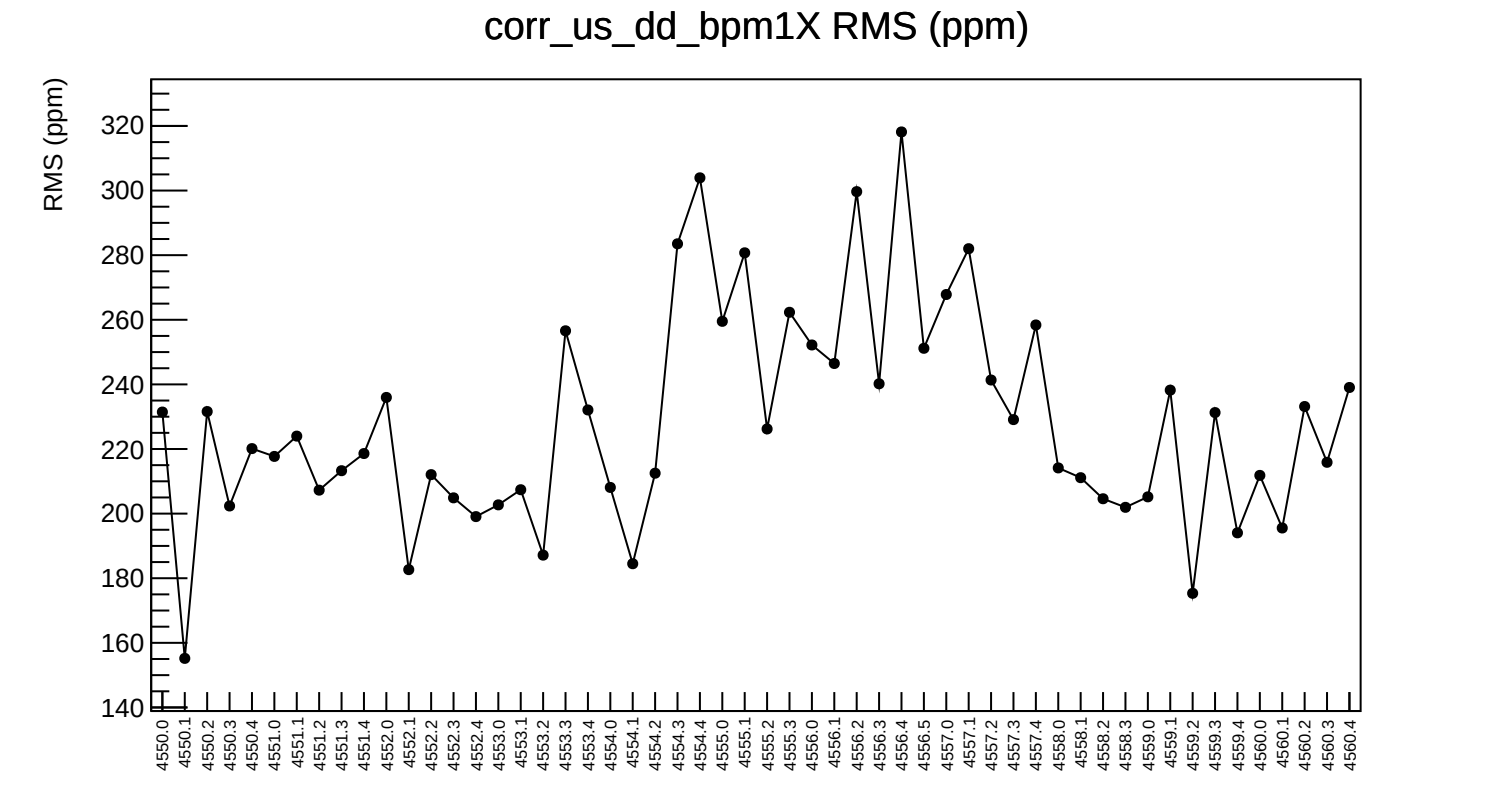

corr_us_dd_bpm4aY (ppb)
χ² / ndf 63.25 / 53
p0 −9.551 ± 48.7

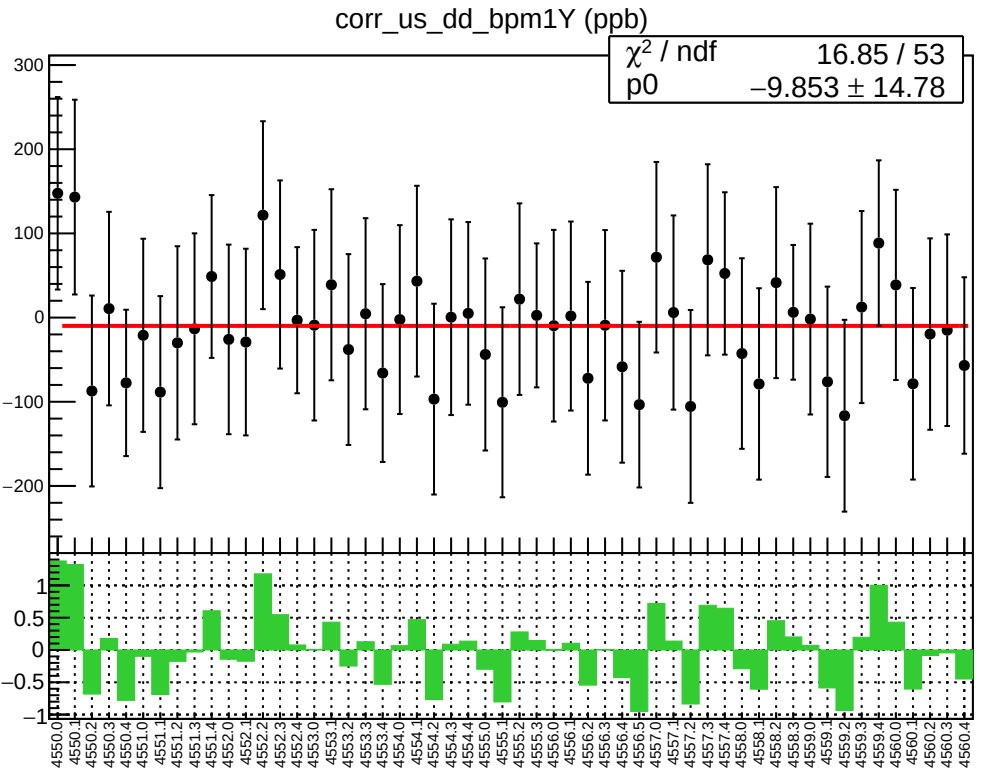

1D pull distribution
Mean −0.009503 ± 0.1473
Std Dev 1.082 ± 0.1041
Underflow 0
Overflow 0
χ² / ndf 7.512 / 6
Constant 18.38 ± 4.19
Mean 0.04015 ± 0.09411
Sigma 0.5394 ± 0.0965

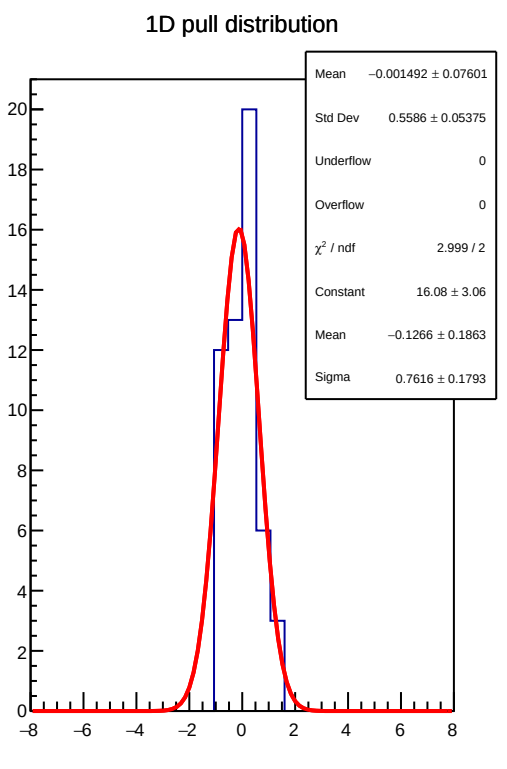

corr_us_dd_bpm4aY RMS (ppm)
RMS (ppm)
80
70
60
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

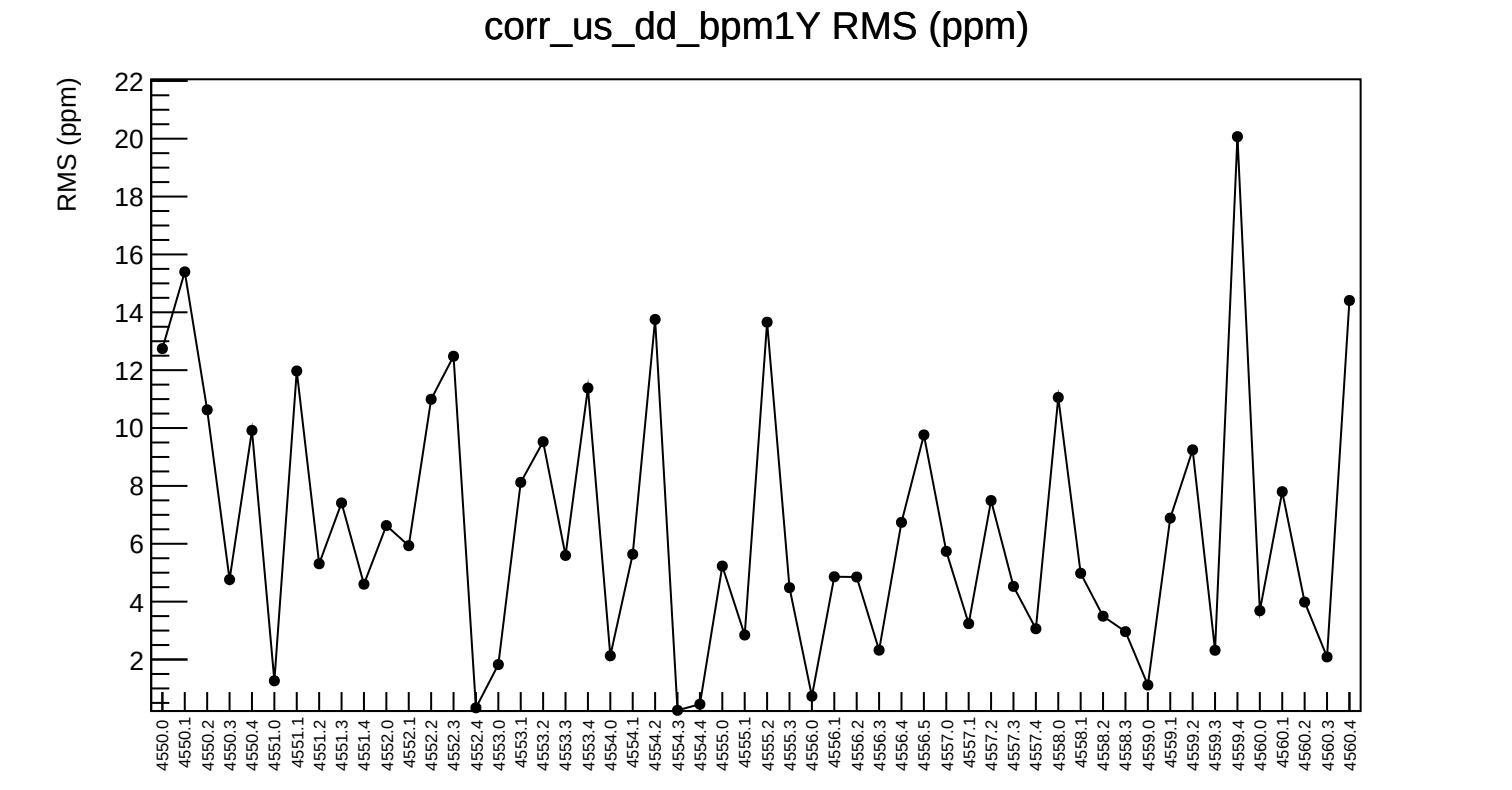

corr_us_dd_bpm1X (ppb)
χ² / ndf 136 / 53
p0 −137.9 ± 230.3

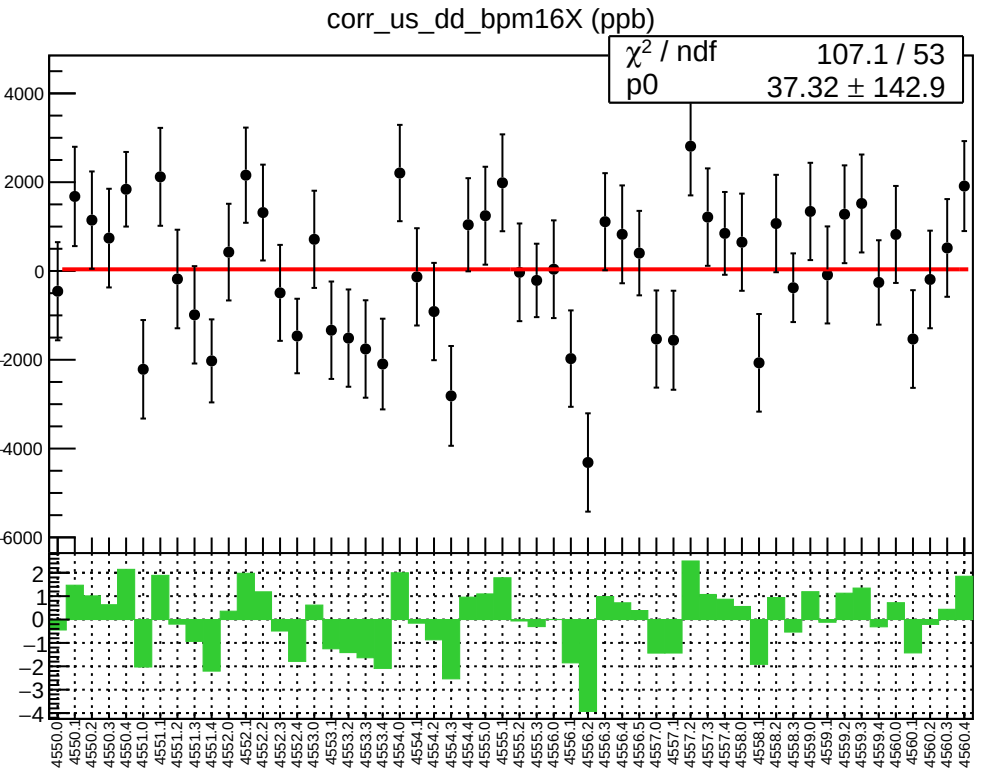

1D pull distribution
Mean −0.0007537 ± 0.2159
Std Dev 1.587 ± 0.1527
Underflow 0
Overflow 0
χ² / ndf 8.392 / 10
Constant 6.942 ± 1.426
Mean 0.376 ± 0.246
Sigma 1.442 ± 0.241

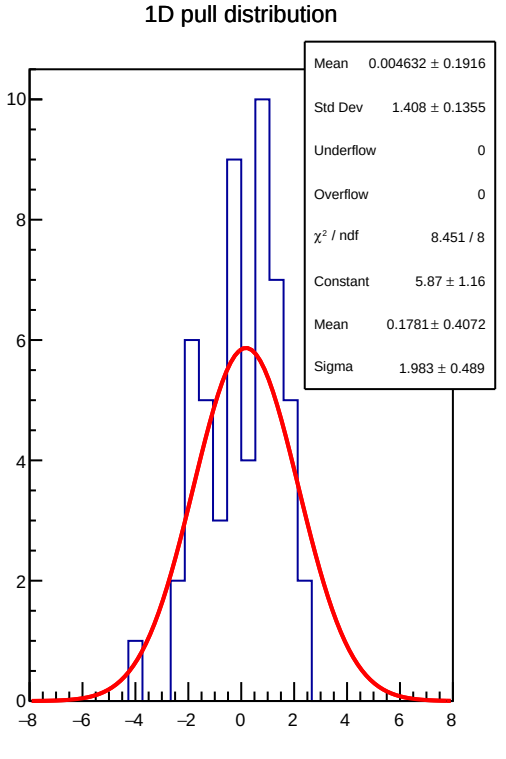

corr_us_dd_bpm1X RMS (ppm)
RMS (ppm)
320
300
280
260
240
220
200
180
160
140
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

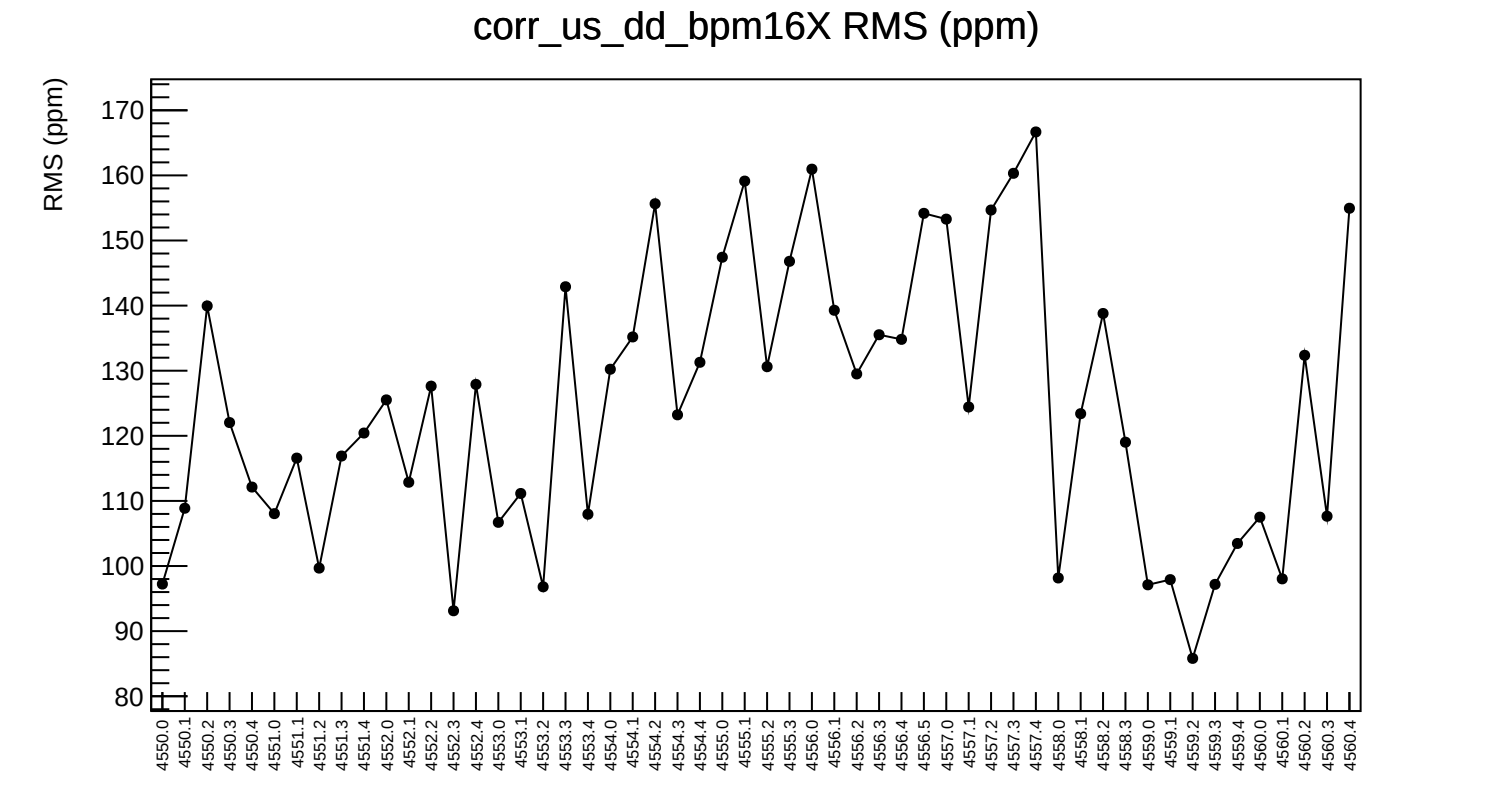

corr_us_dd_bpm1Y (ppb)
χ² / ndf 16.85 / 53
p0 −9.853 ± 14.78

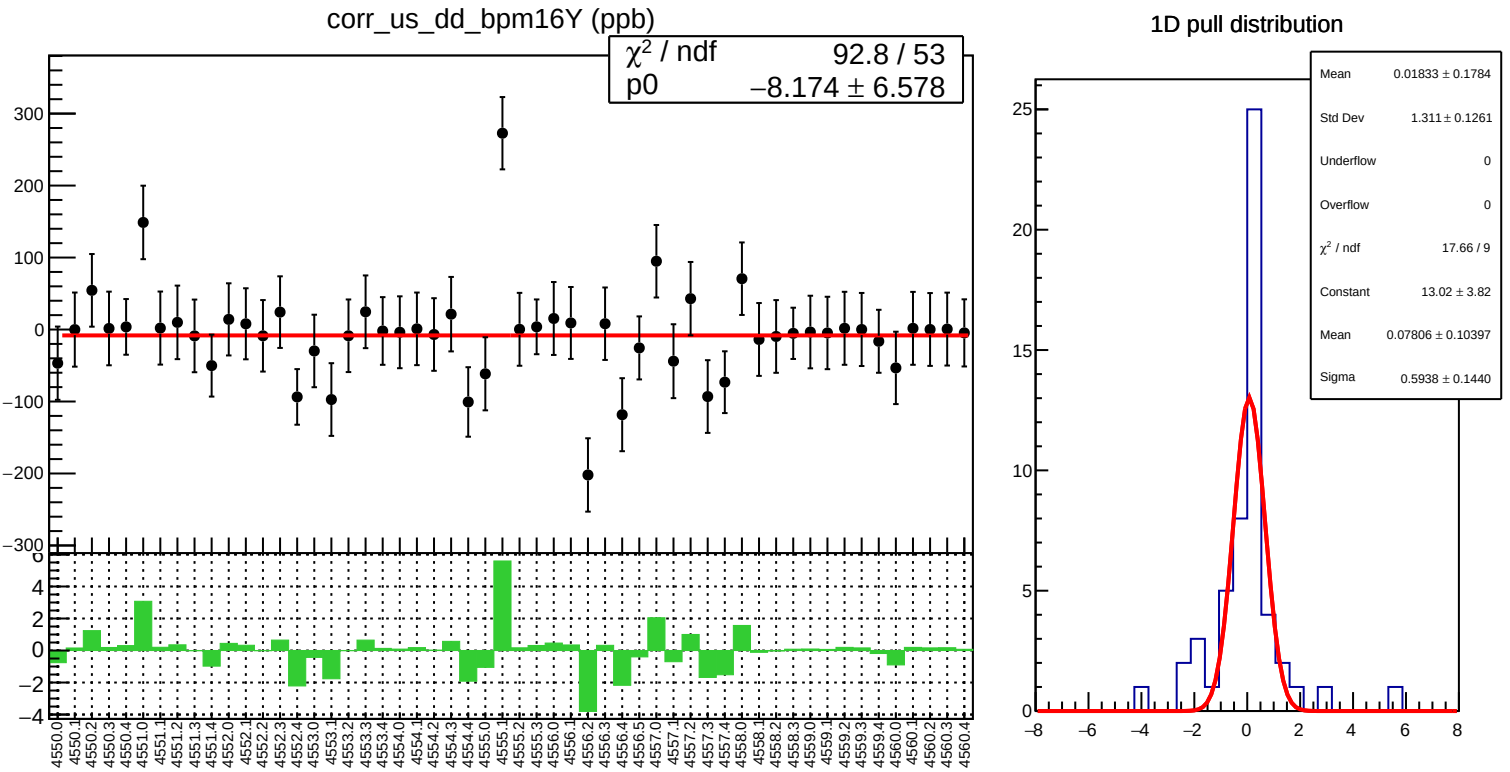

1D pull distribution
Mean −0.001492 ± 0.07601
Std Dev 0.5586 ± 0.05375
Underflow 0
Overflow 0
χ² / ndf 2.999 / 2
Constant 16.08 ± 3.06
Mean −0.1266 ± 0.1863
Sigma 0.7616 ± 0.1793

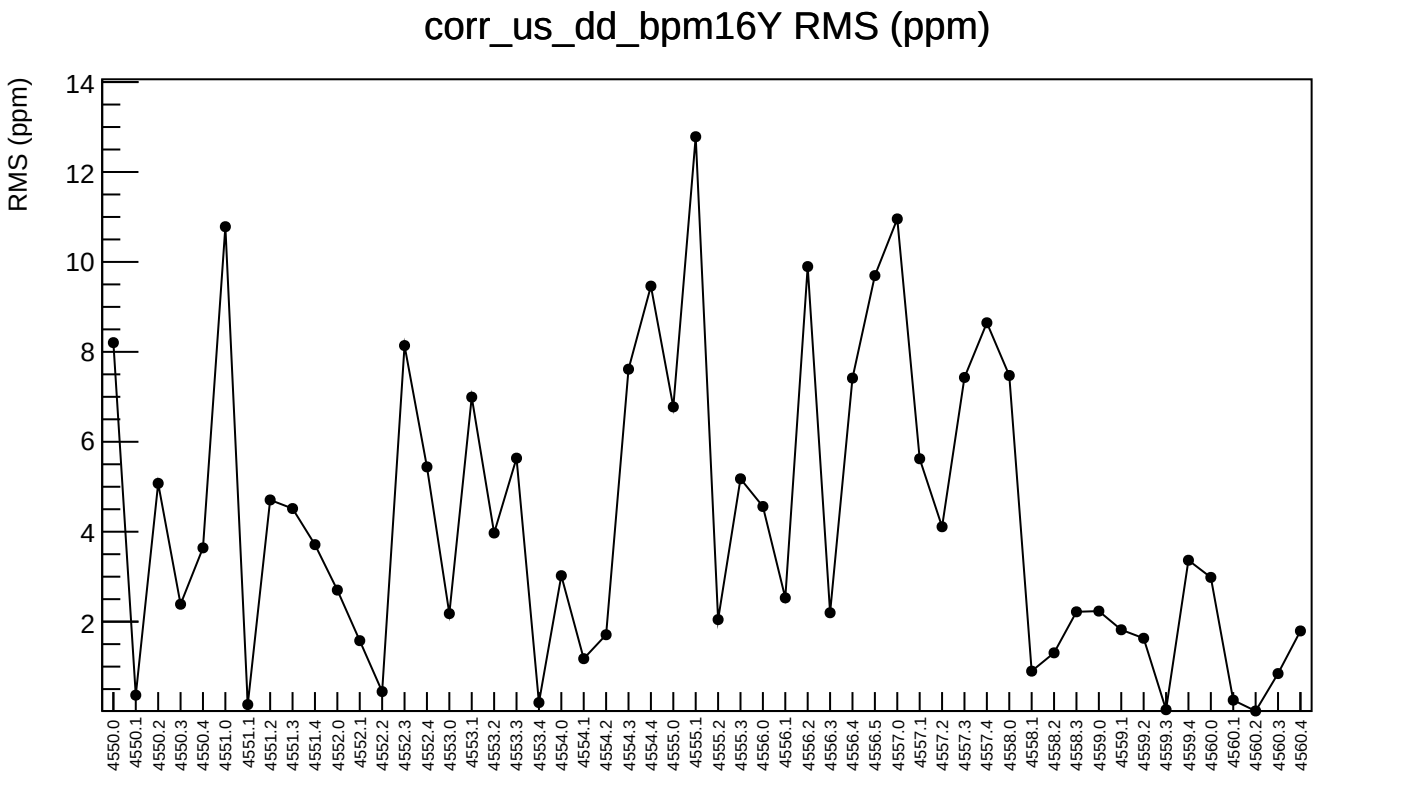

corr_us_dd_bpm1Y RMS (ppm)
RMS (ppm)
22
20
18
16
14
12
10
8
6
4
2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

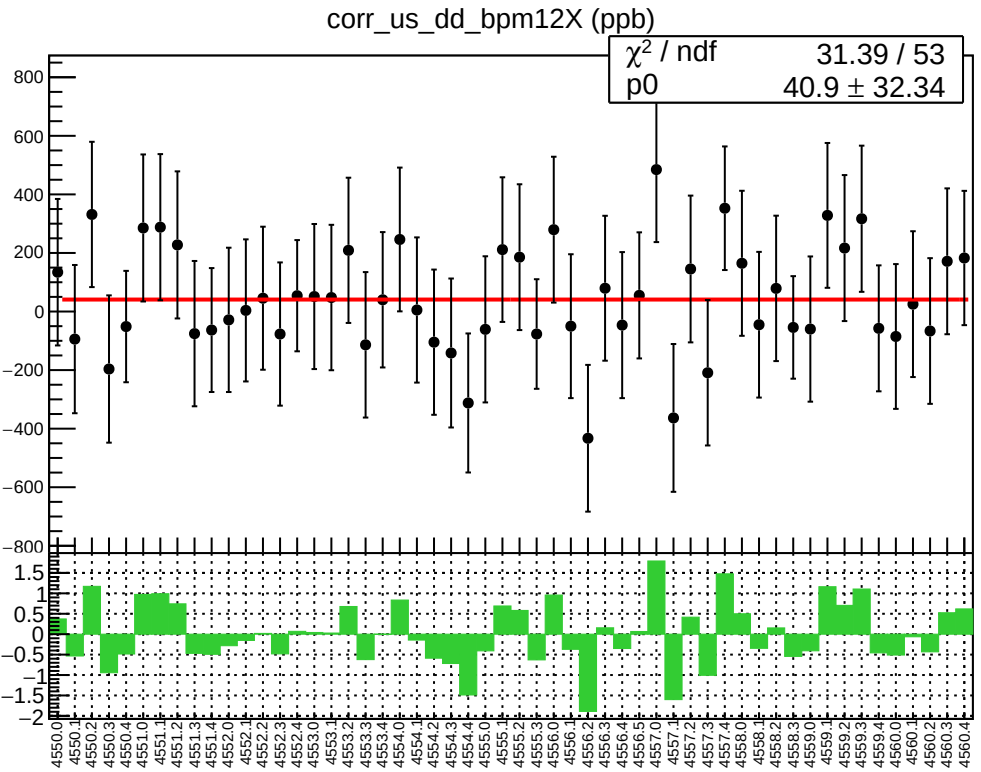

corr_us_dd_bpm16X (ppb)
χ² / ndf 107.1 / 53
p0 37.32 ± 142.9
4000
2000
0
-2000
-4000
-6000
2
1
0
−1
−2
−3
−4
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

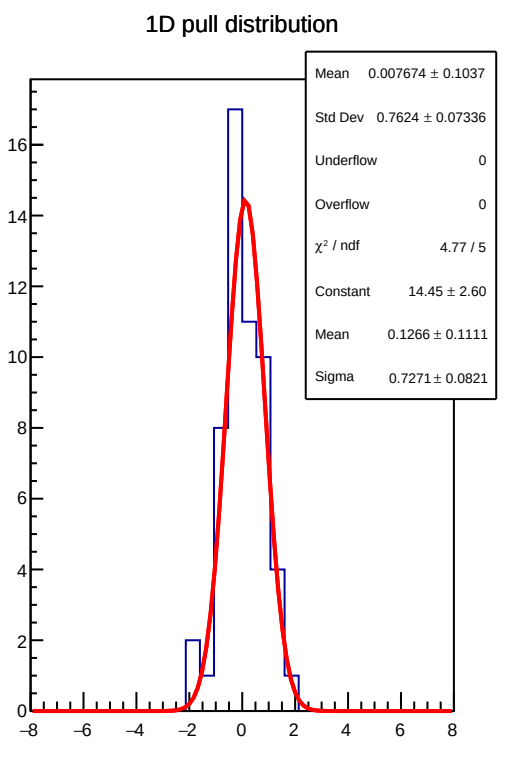

1D pull distribution
Mean 0.004632 ± 0.1916
Std Dev 1.408 ± 0.1355
Underflow 0
Overflow 0
χ² / ndf 8.451 / 8
Constant 5.87 ± 1.16
Mean 0.1781 ± 0.4072
Sigma 1.983 ± 0.489
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

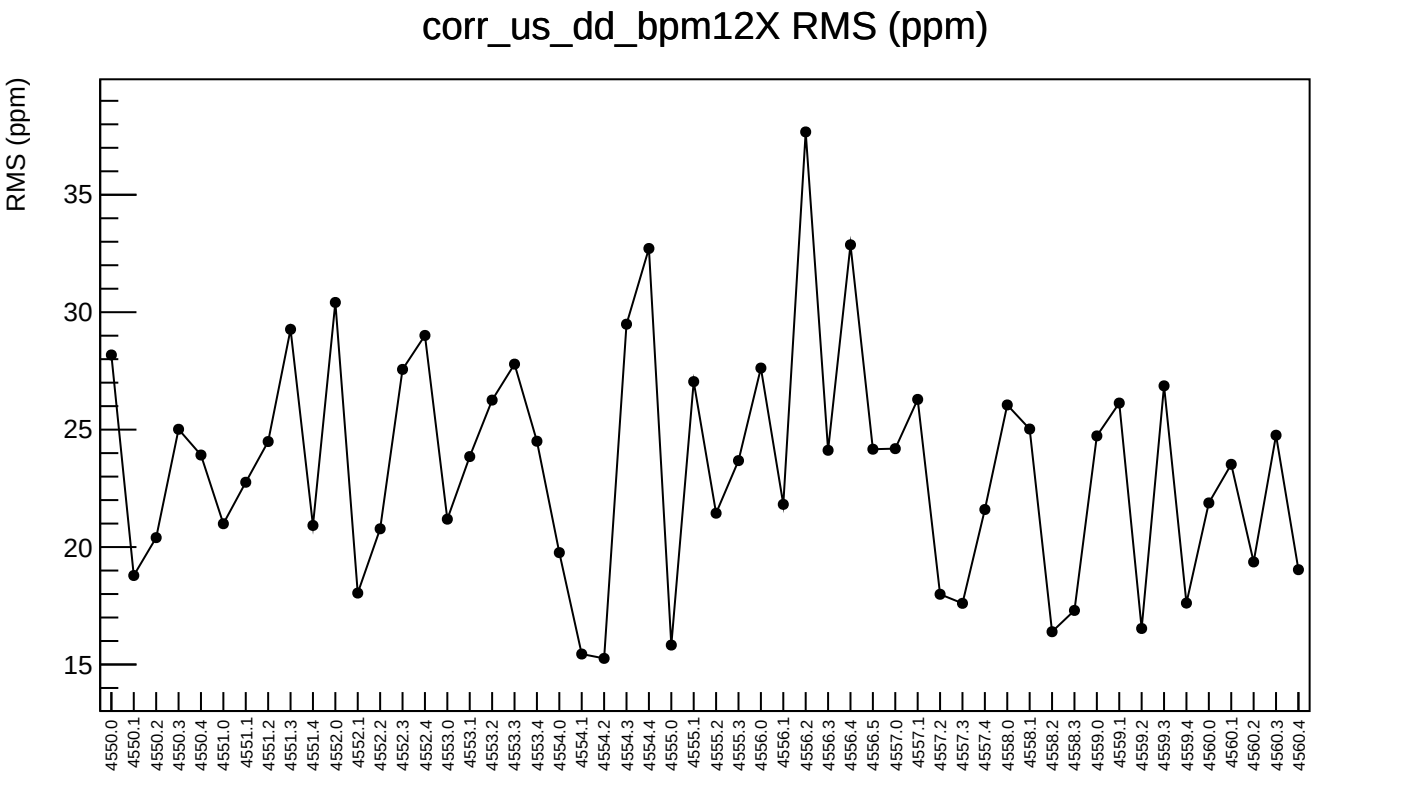

corr_us_dd_bpm16X RMS (ppm)
RMS (ppm)
170
160
150
140
130
120
110
100
90
80
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

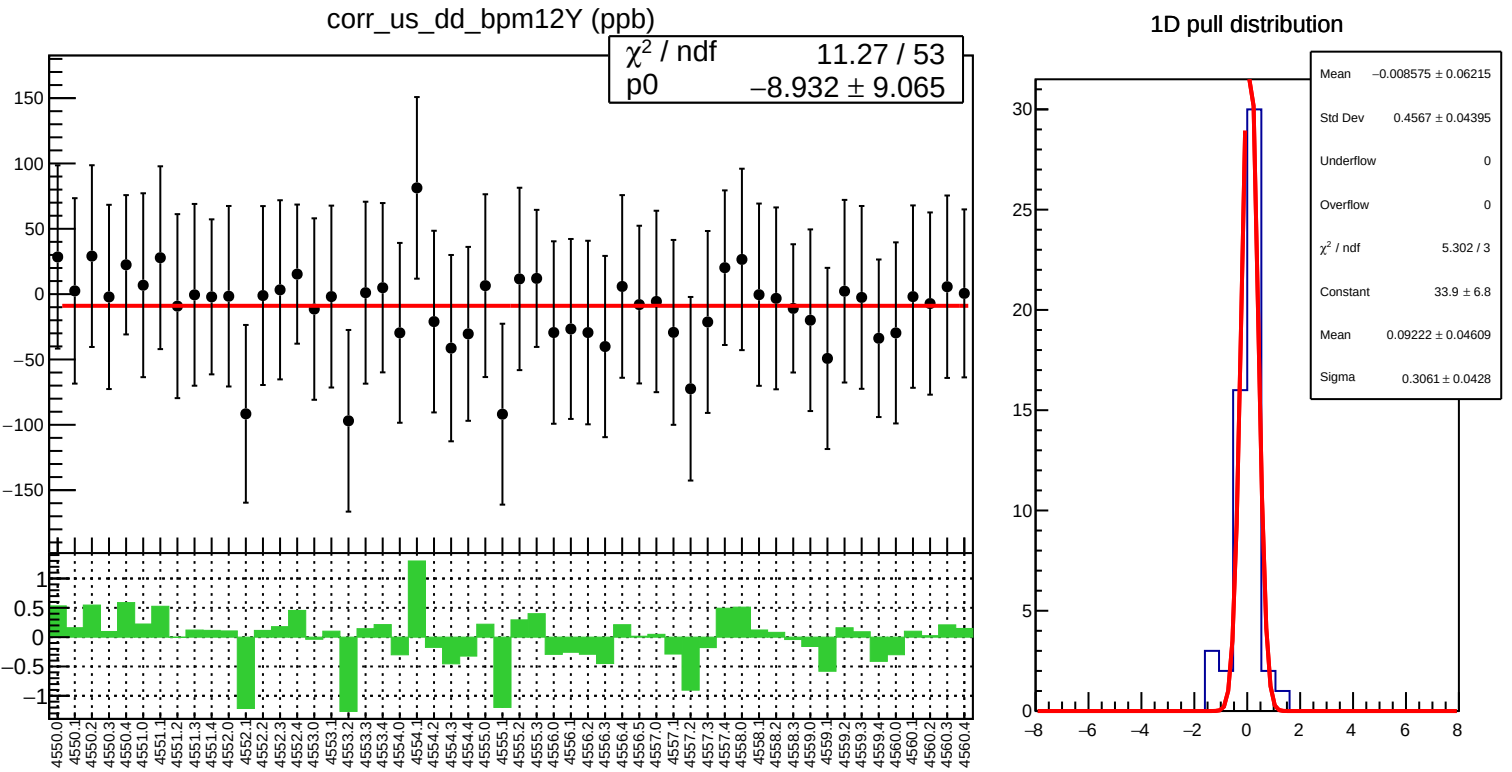

corr_us_dd_bpm16Y (ppb)
χ² / ndf 92.8 / 53
p0 −8.174 ± 6.578
1D pull distribution
Mean 0.01833 ± 0.1784
Std Dev 1.311 ± 0.1261
Underflow 0
Overflow 0
χ² / ndf 17.66 / 9
Constant 13.02 ± 3.82
Mean 0.07806 ± 0.10397
Sigma 0.5938 ± 0.1440

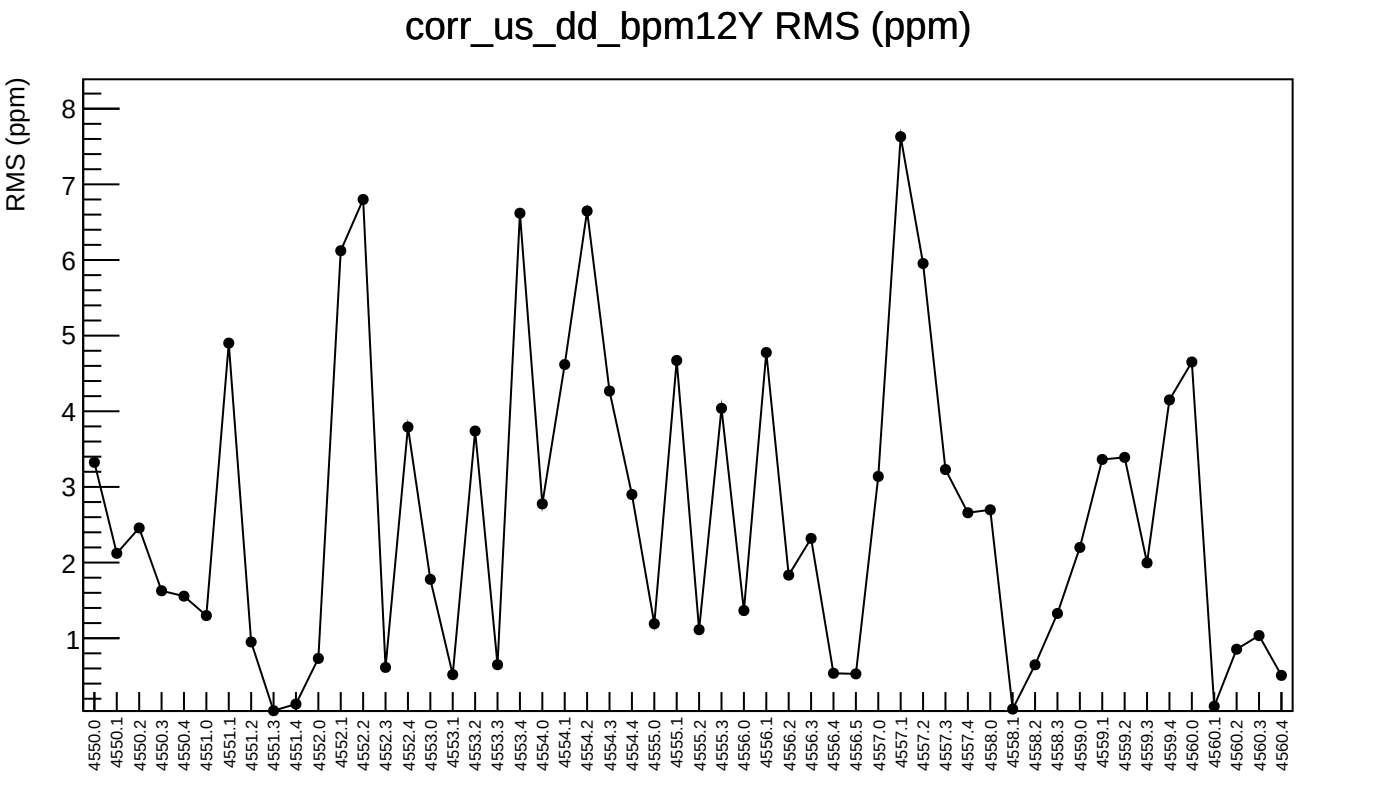

corr_us_dd_bpm16Y RMS (ppm)
RMS (ppm)
14
12
10
8
6
4
2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

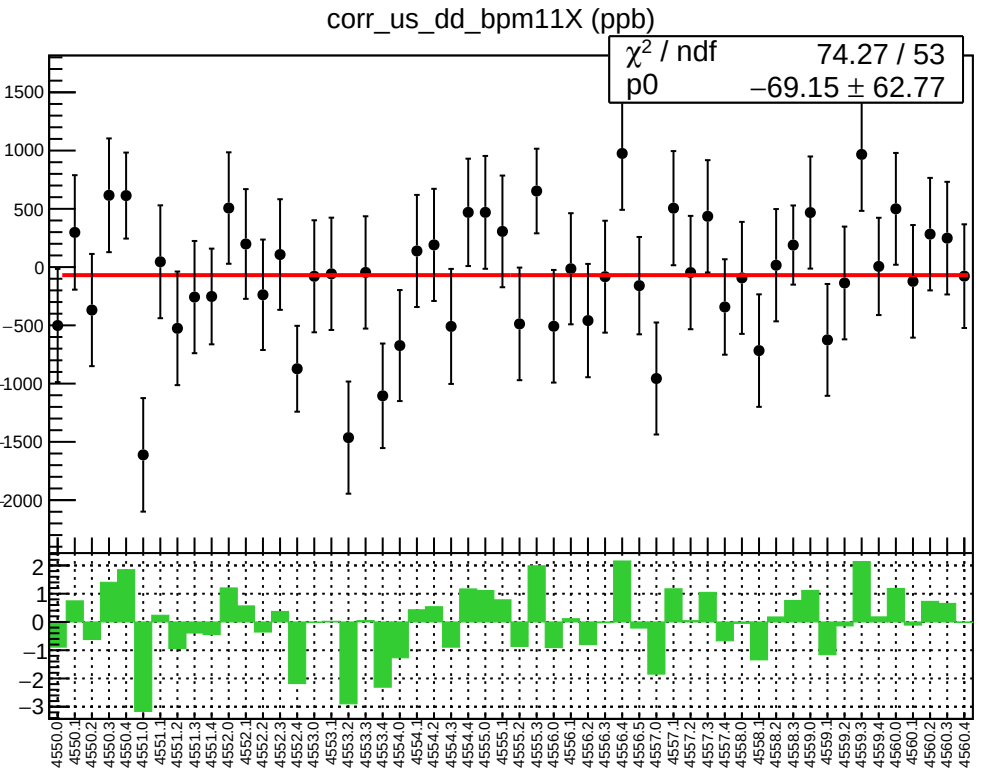

corr_us_dd_bpm12X (ppb)
χ² / ndf 31.39 / 53
p0 40.9 ± 32.34

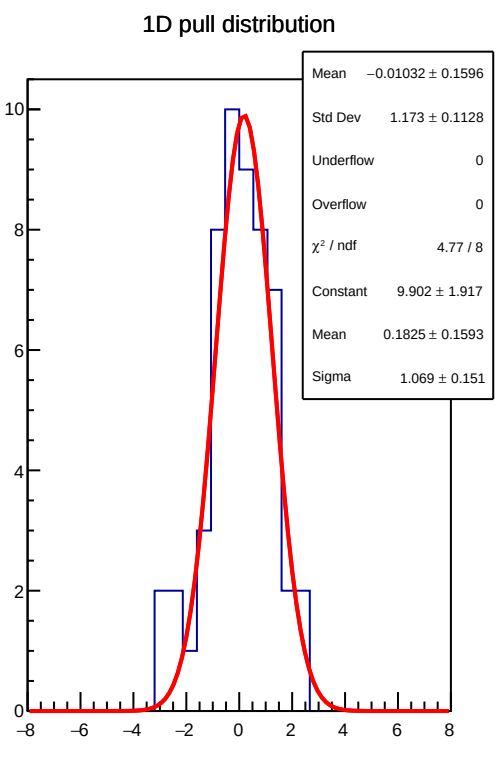

1D pull distribution
Mean 0.007674 ± 0.1037
Std Dev 0.7624 ± 0.07336
Underflow 0
Overflow 0
χ² / ndf 4.77 / 5
Constant 14.45 ± 2.60
Mean 0.1266 ± 0.1111
Sigma 0.7271 ± 0.0821

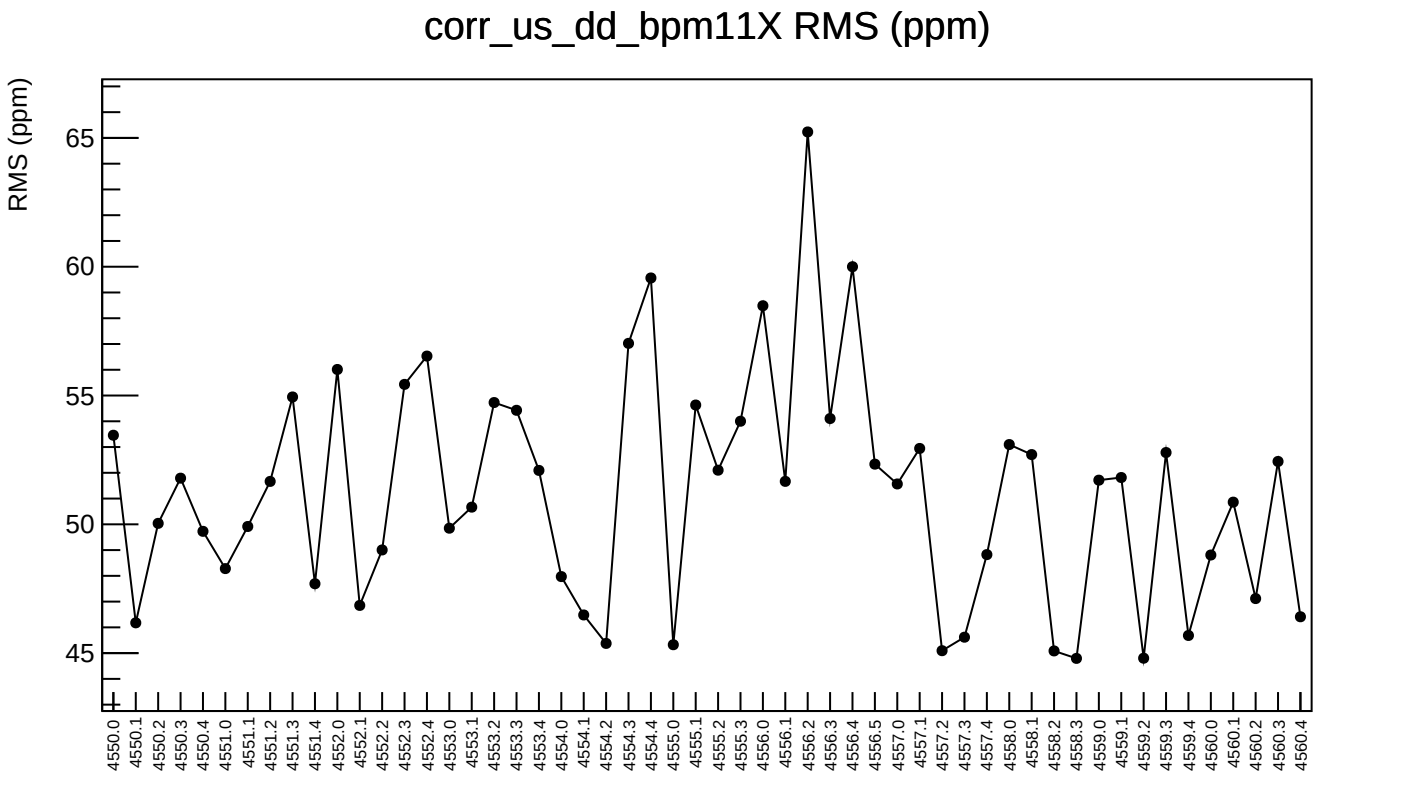

corr_us_dd_bpm12X RMS (ppm)
RMS (ppm)
35
30
25
20
15
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

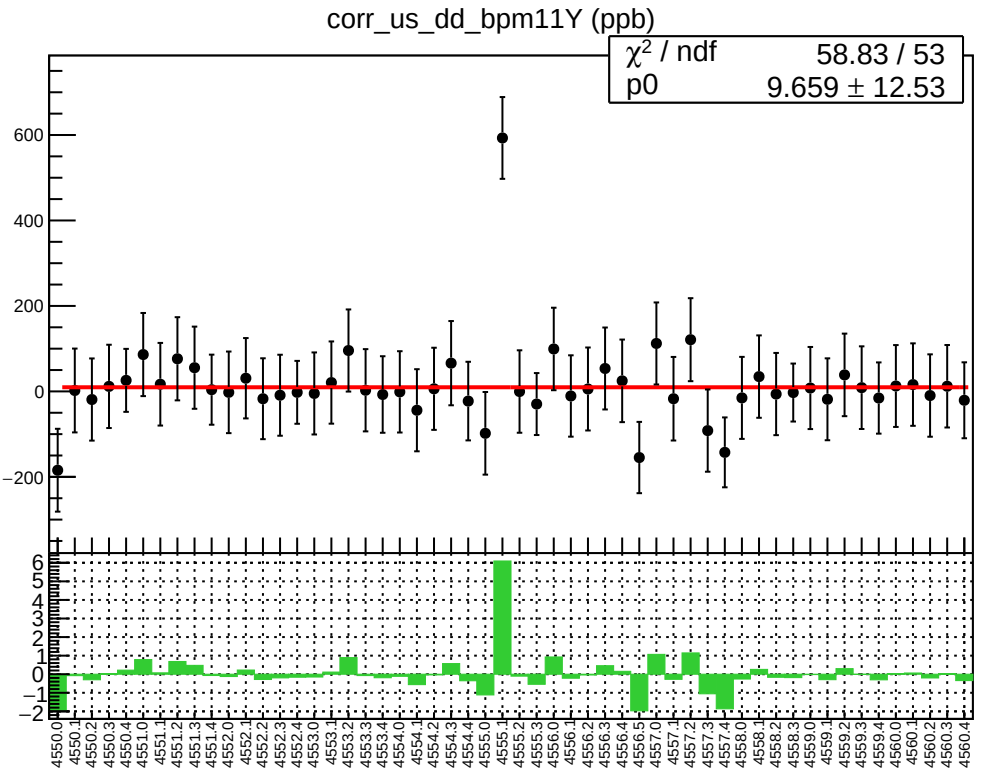

corr_us_dd_bpm12Y (ppb)
χ² / ndf 11.27 / 53
p0 −8.932 ± 9.065
1D pull distribution
Mean −0.008575 ± 0.06215
Std Dev 0.4567 ± 0.04395
Underflow 0
Overflow 0
χ² / ndf 5.302 / 3
Constant 33.9 ± 6.8
Mean 0.09222 ± 0.04609
Sigma 0.3061 ± 0.0428

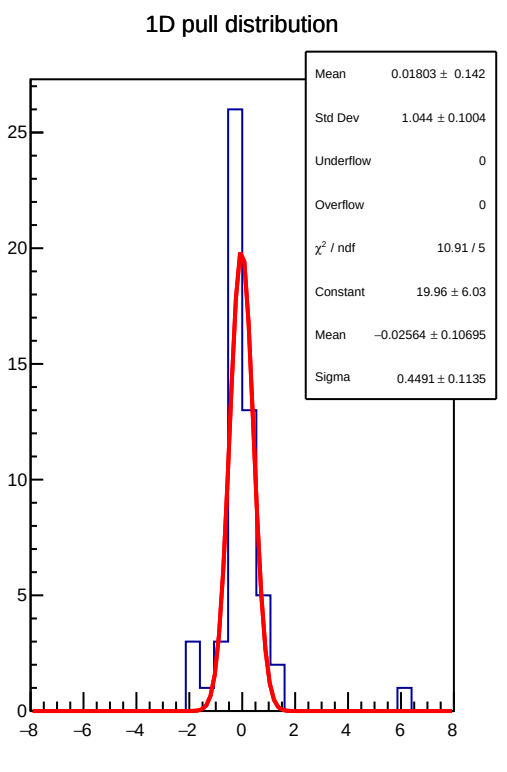

corr_us_dd_bpm12Y RMS (ppm)
RMS (ppm)
1
2
3
4
5
6
7
8
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

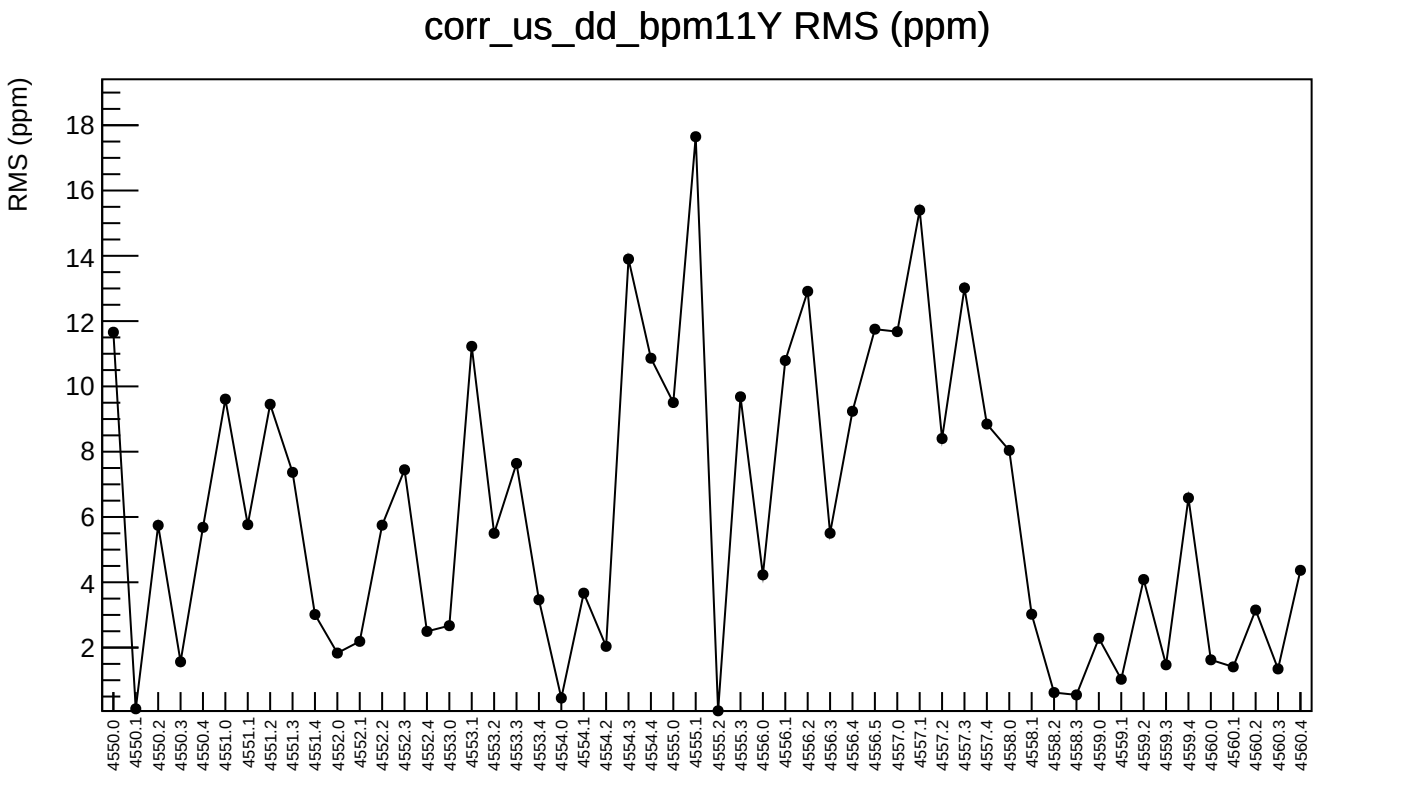

corr_us_dd_bpm11X (ppb)
χ² / ndf 74.27 / 53
p0 −69.15 ± 62.77
1500
1000
500
0
−500
−1000
−1500
−2000
2
1
0
−1
−2
−3
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

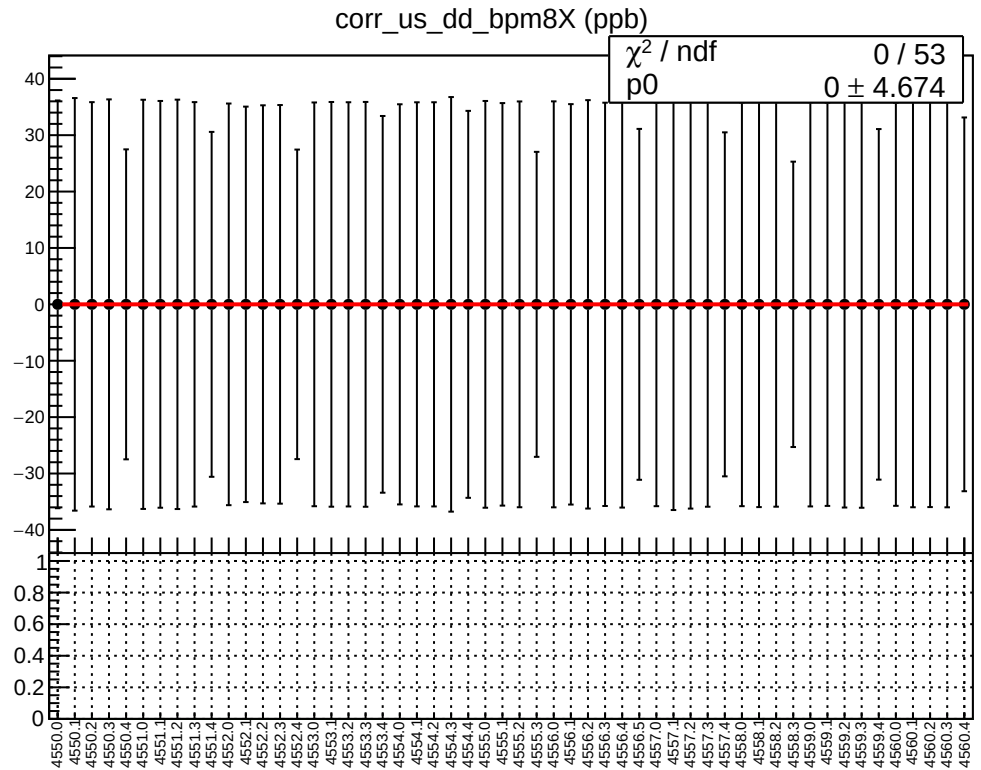

1D pull distribution
Mean −0.01032 ± 0.1596
Std Dev 1.173 ± 0.1128
Underflow 0
Overflow 0
χ² / ndf 4.77 / 8
Constant 9.902 ± 1.917
Mean 0.1825 ± 0.1593
Sigma 1.069 ± 0.151
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

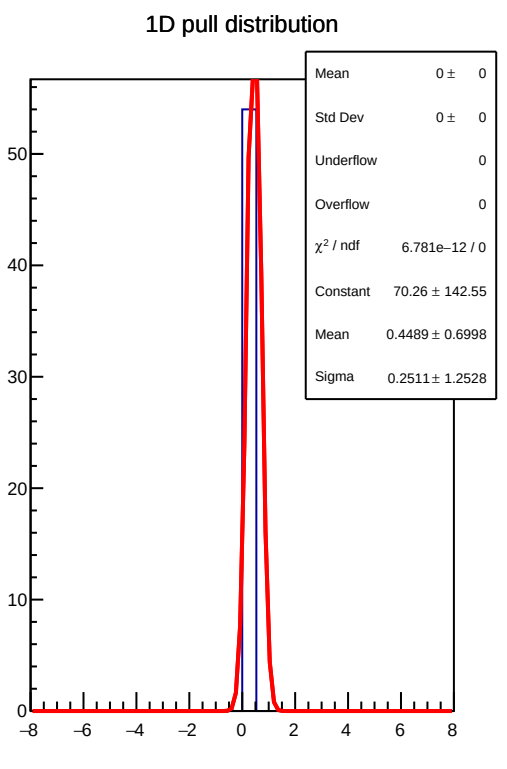

corr_us_dd_bpm11X RMS (ppm)
RMS (ppm)
65
60
55
50
45
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

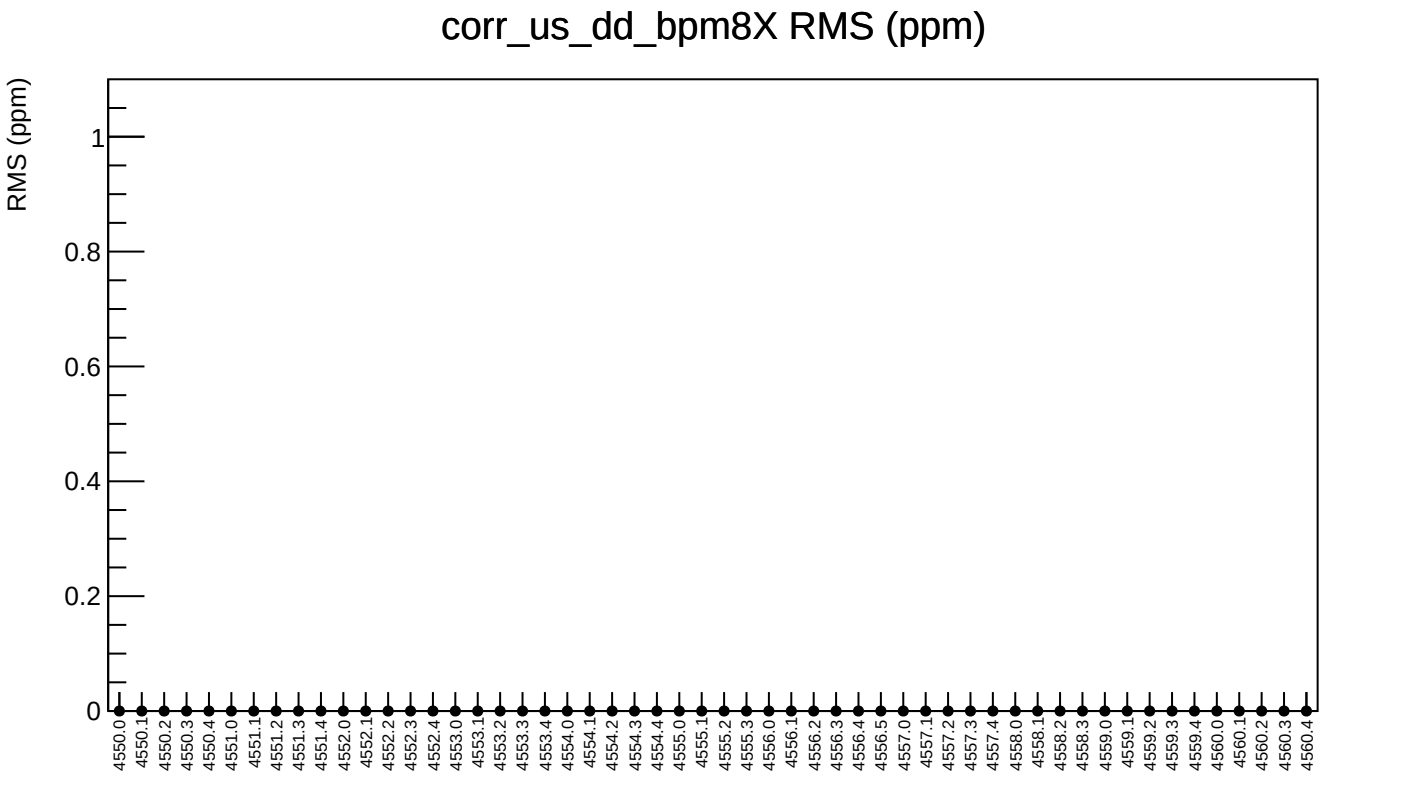

corr_us_dd_bpm11Y (ppb)
χ² / ndf 58.83 / 53
p0 9.659 ± 12.53

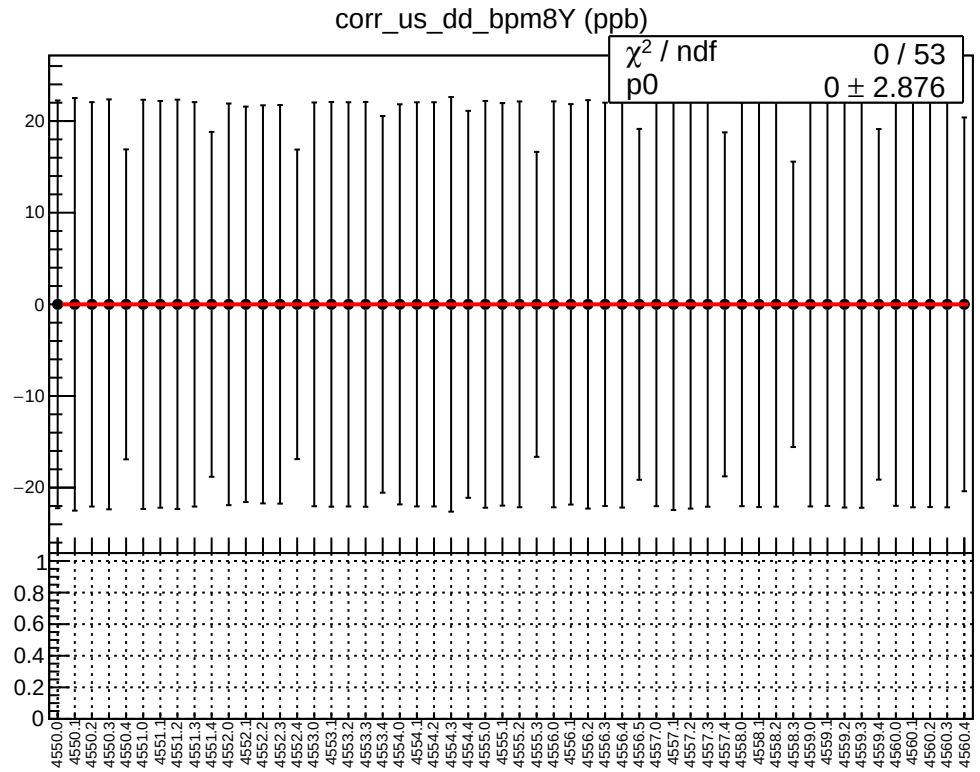

1D pull distribution
Mean 0.01803 ± 0.142
Std Dev 1.044 ± 0.1004
Underflow 0
Overflow 0
χ² / ndf 10.91 / 5
Constant 19.96 ± 6.03
Mean −0.02564 ± 0.10695
Sigma 0.4491 ± 0.1135

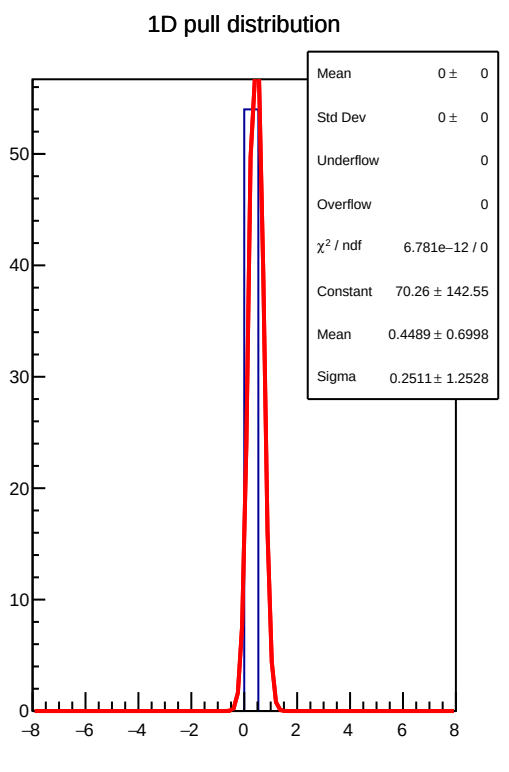

corr_us_dd_bpm11Y RMS (ppm)
RMS (ppm)
18
16
14
12
10
8
6
4
2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

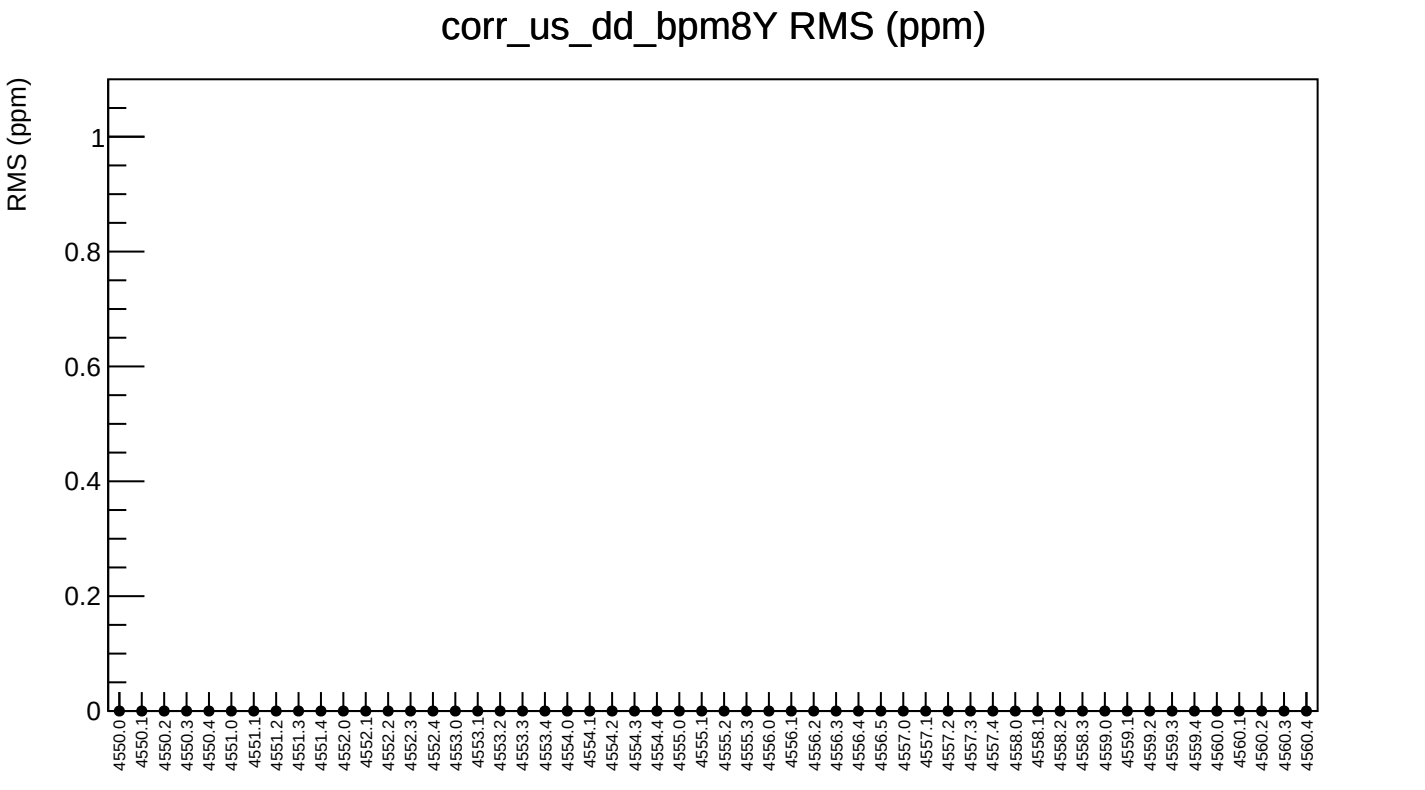

corr_us_dd_bpm8X (ppb)
χ² / ndf 0 / 53
p0 0 ± 4.674

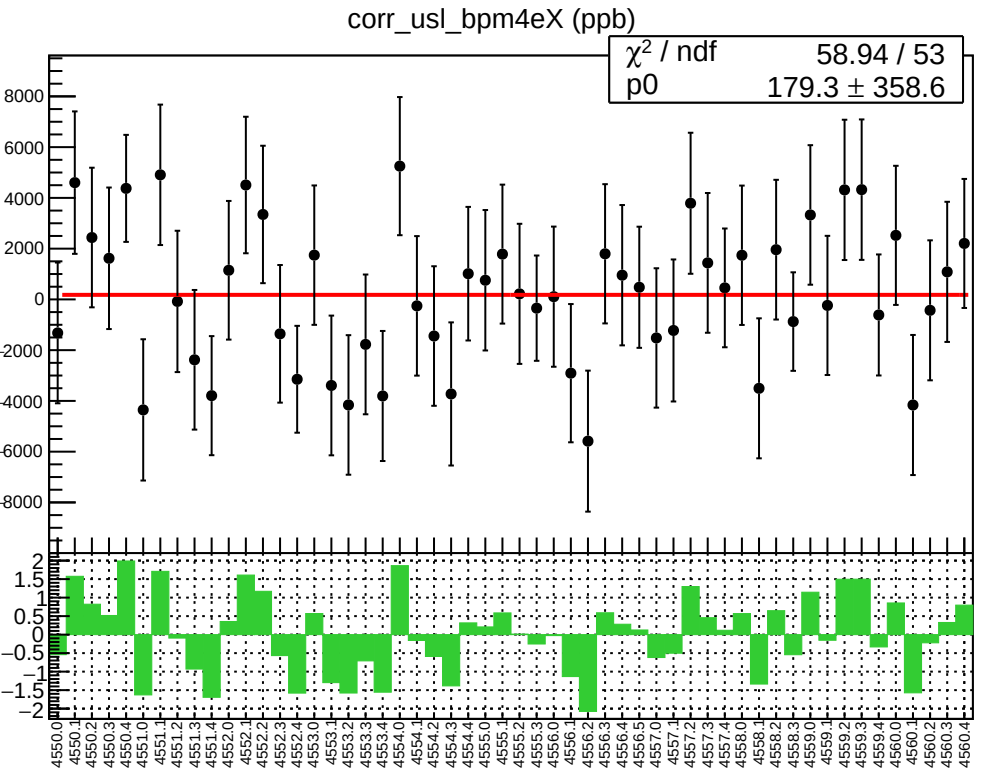

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

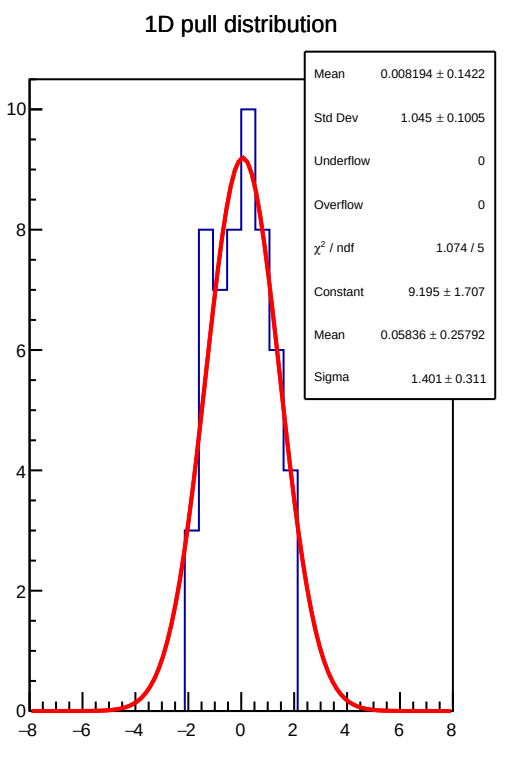

corr_us_dd_bpm8X RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

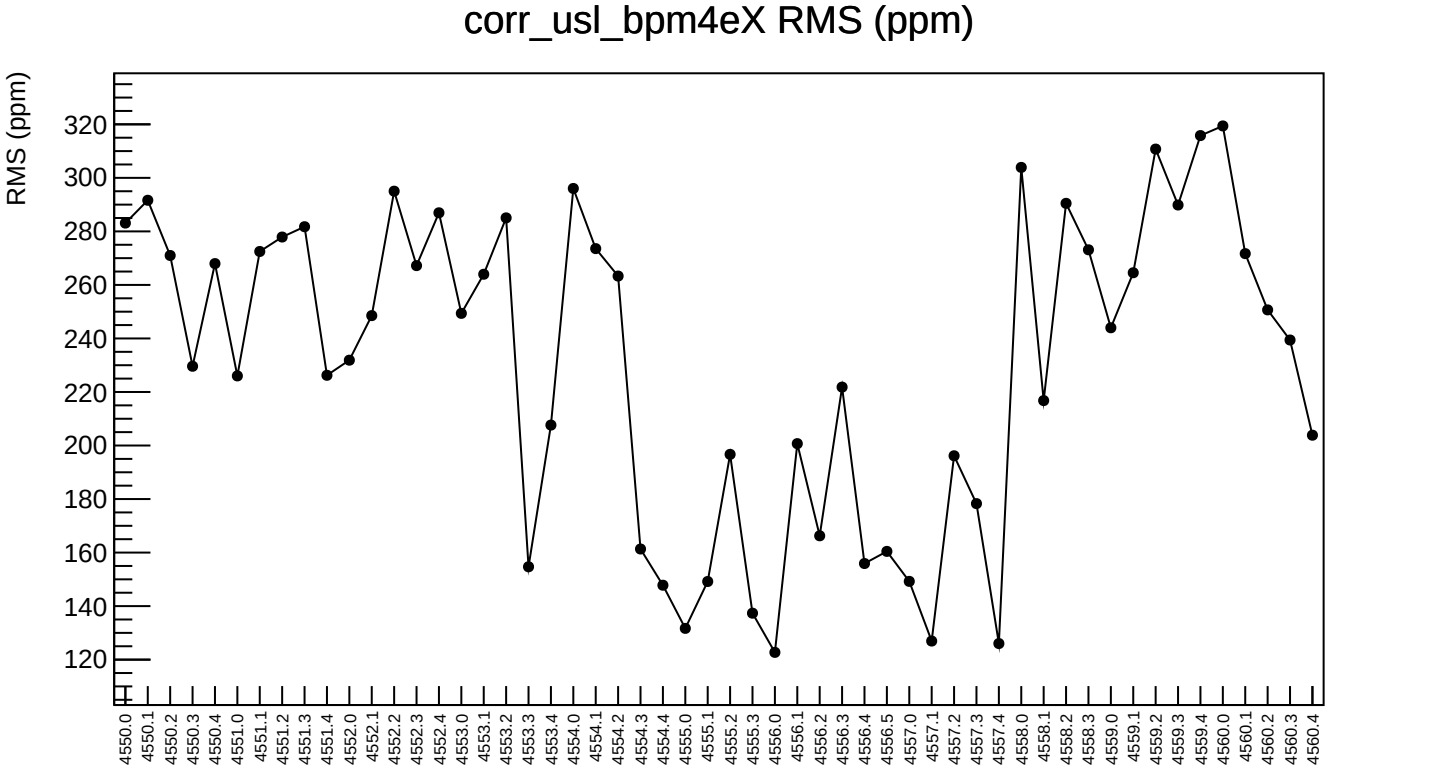

corr_us_dd_bpm8Y (ppb)
χ² / ndf 0 / 53
p0 0 ± 2.876

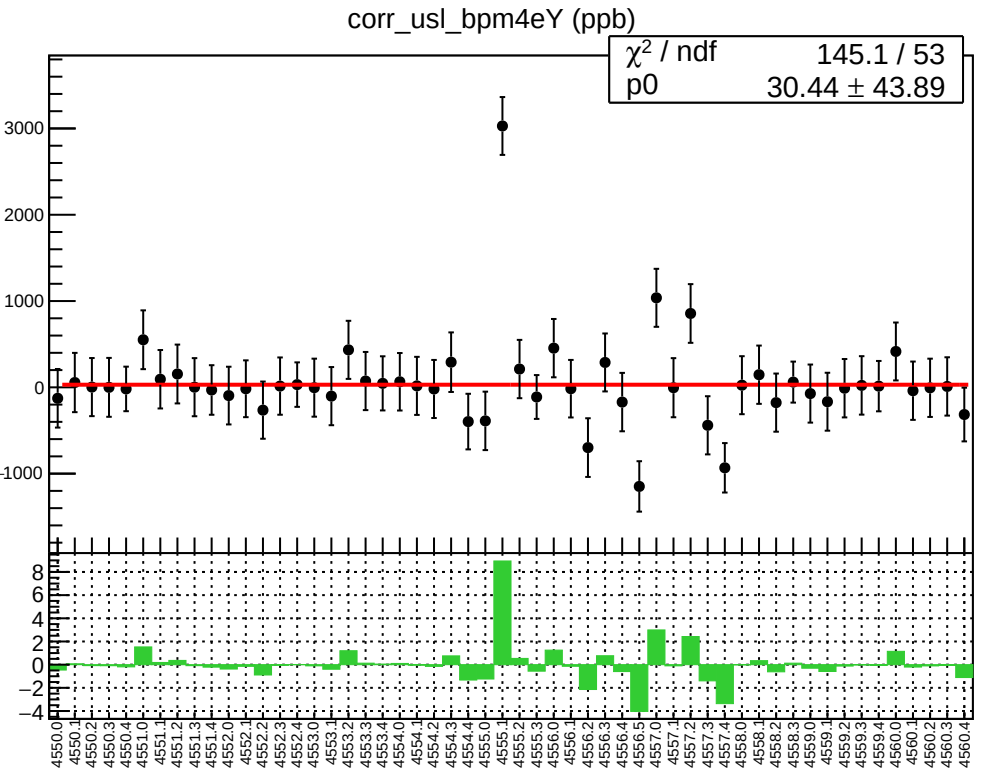

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

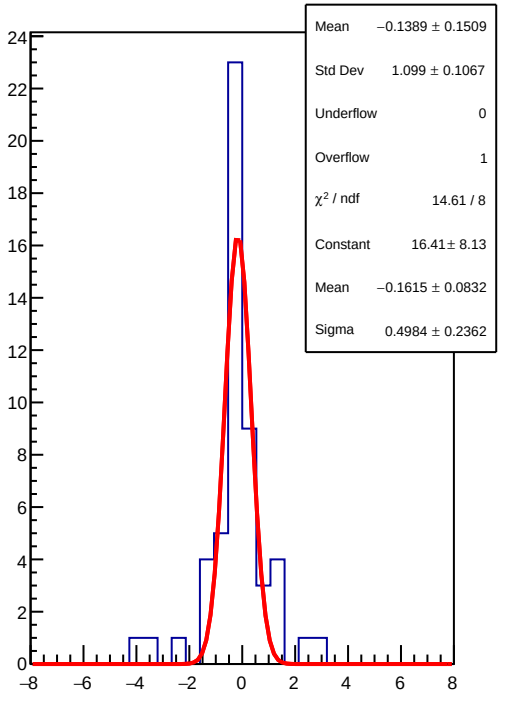

corr_us_dd_bpm8Y RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

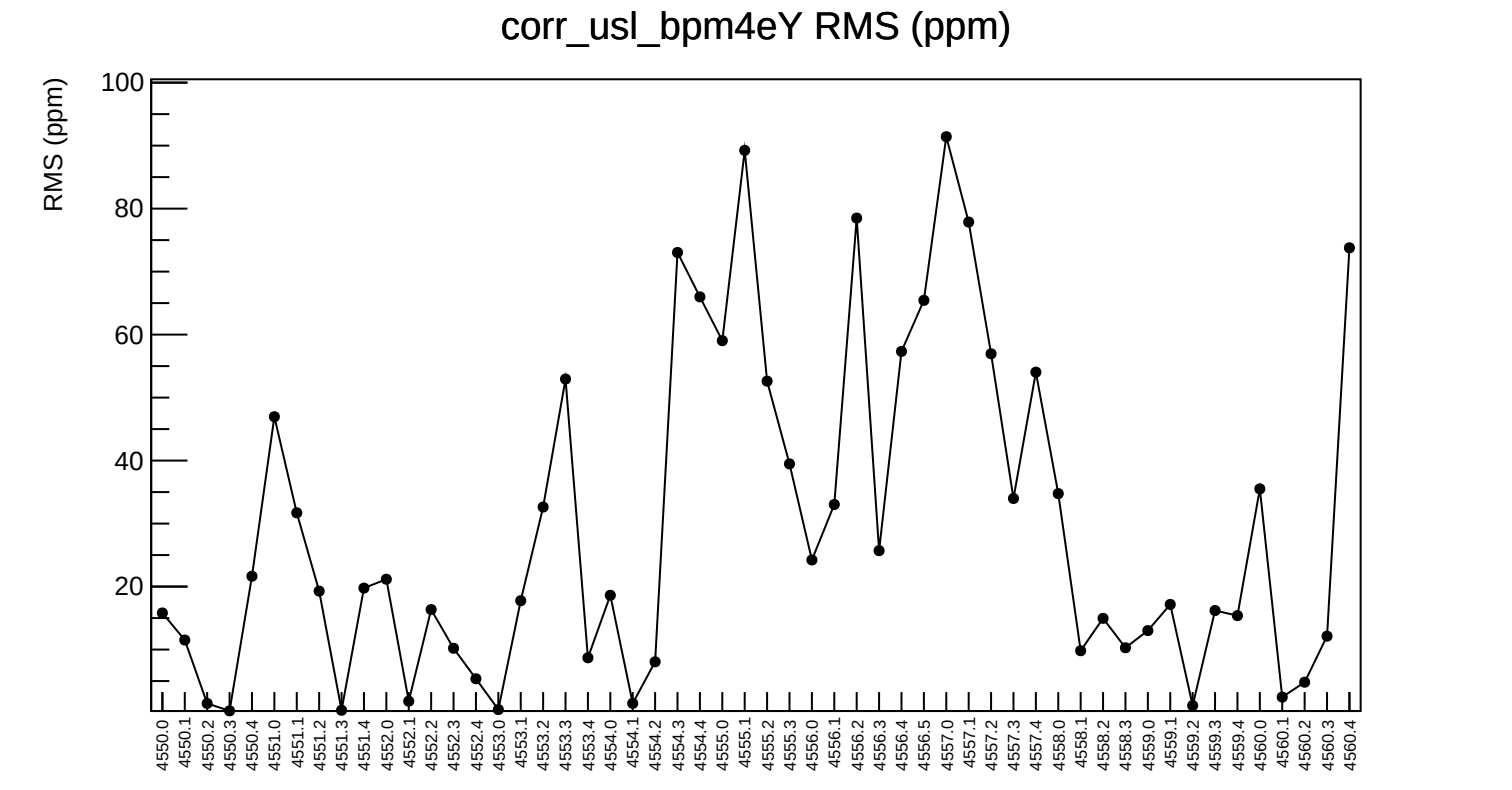

corr_usl_bpm4eX (ppb)
χ² / ndf 58.94 / 53
p0 179.3 ± 358.6
8000
6000
4000
2000
0
-2000
-4000
-6000
-8000
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

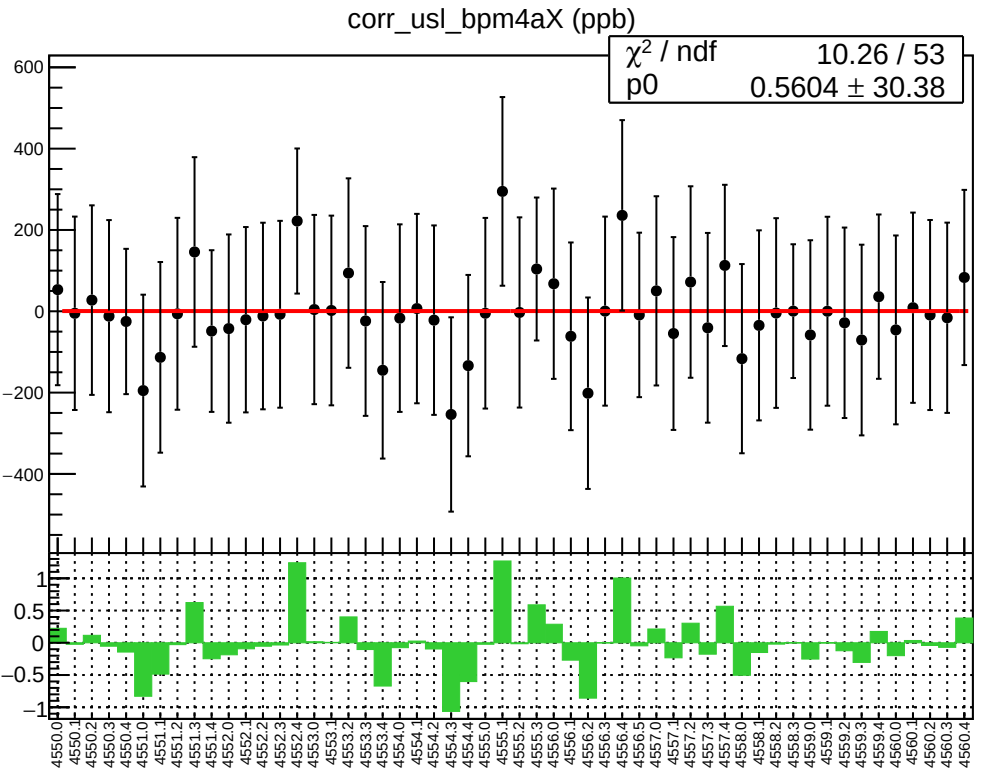

1D pull distribution
Mean 0.008194 ± 0.1422
Std Dev 1.045 ± 0.1005
Underflow 0
Overflow 0
χ² / ndf 1.074 / 5
Constant 9.195 ± 1.707
Mean 0.05836 ± 0.25792
Sigma 1.401 ± 0.311
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

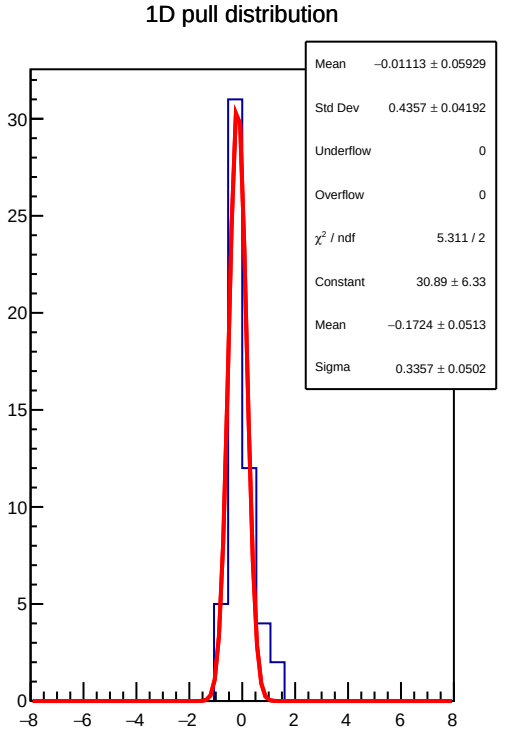

corr_usl_bpm4eX RMS (ppm)
RMS (ppm)
320
300
280
260
240
220
200
180
160
140
120
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

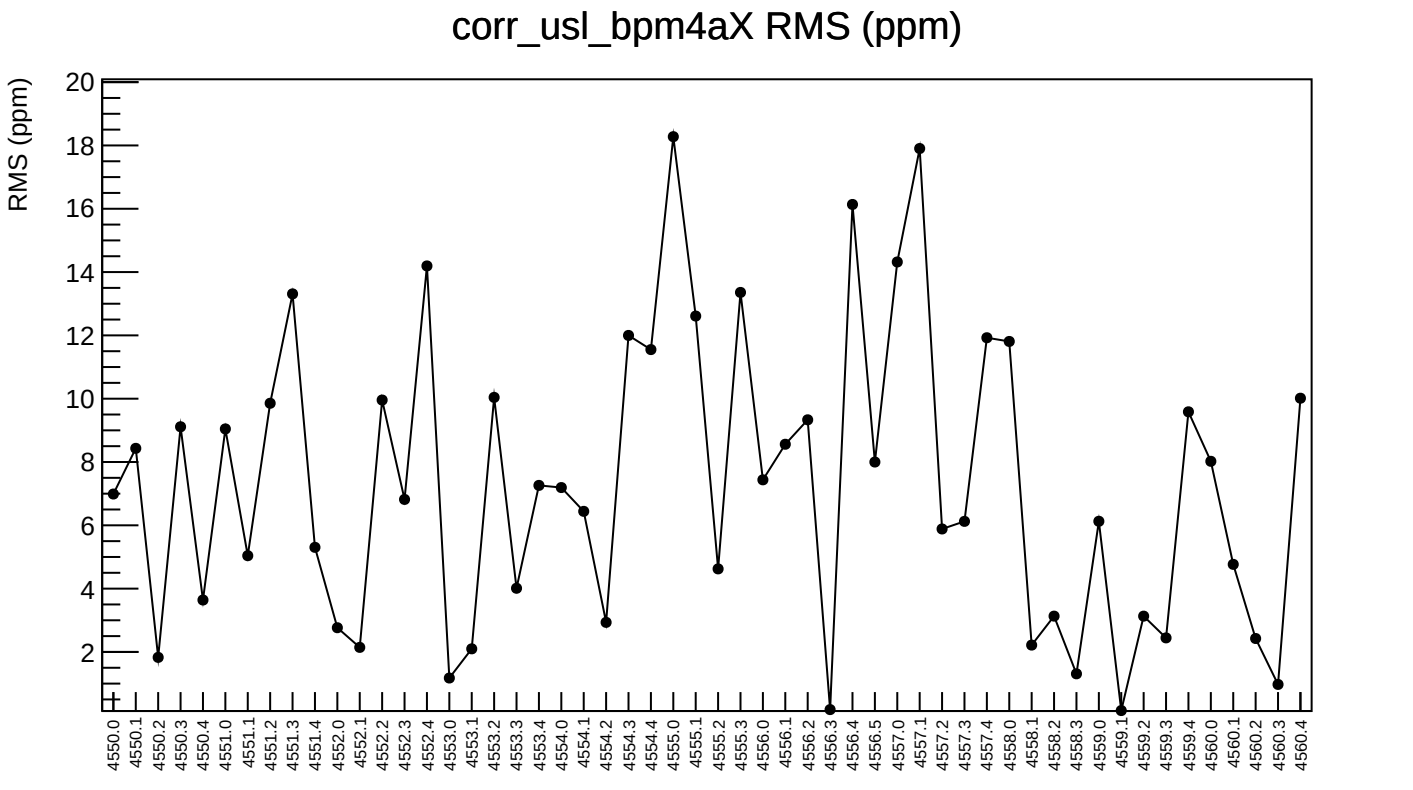

corr_usl_bpm4eY (ppb)
χ² / ndf 145.1 / 53
p0 30.44 ± 43.89
3000
2000
1000
0
-1000
8
6
4
2
0
−2
−4
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

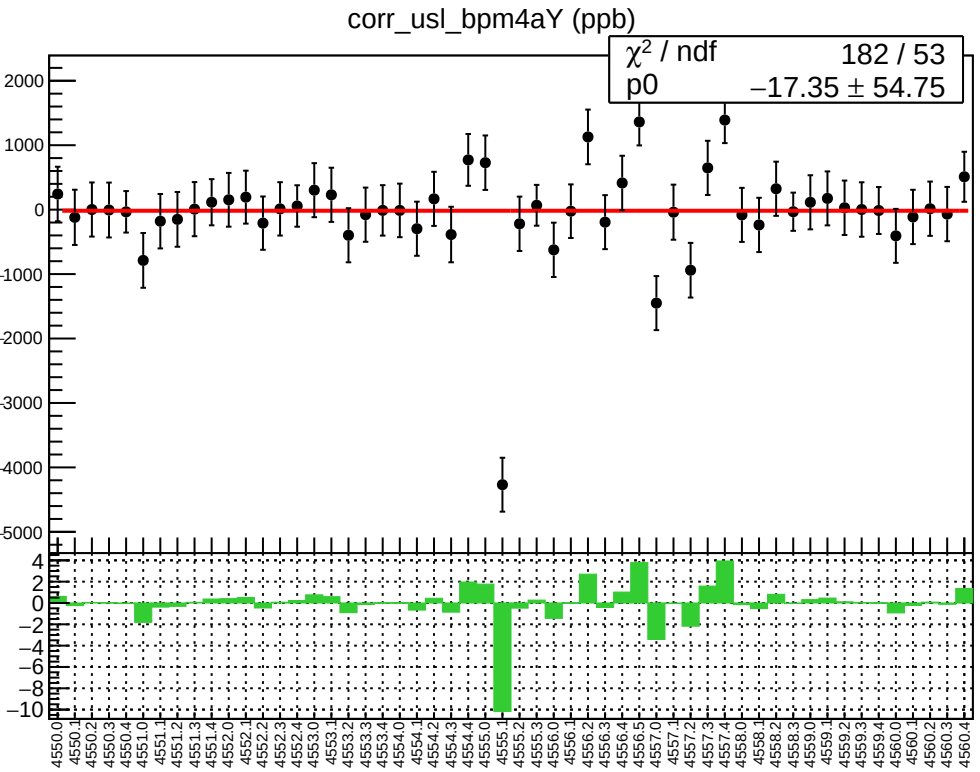

1D pull distribution
Mean −0.1389 ± 0.1509
Std Dev 1.099 ± 0.1067
Underflow 0
Overflow 1
χ² / ndf 14.61 / 8
Constant 16.41± 8.13
Mean −0.1615 ± 0.0832
Sigma 0.4984 ± 0.2362
24
22
20
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

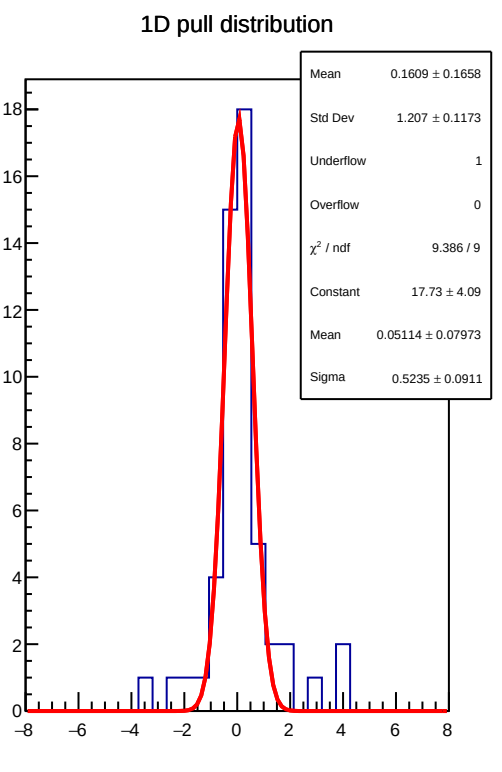

corr_usl_bpm4eY RMS (ppm)
RMS (ppm)
100
80
60
40
20
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

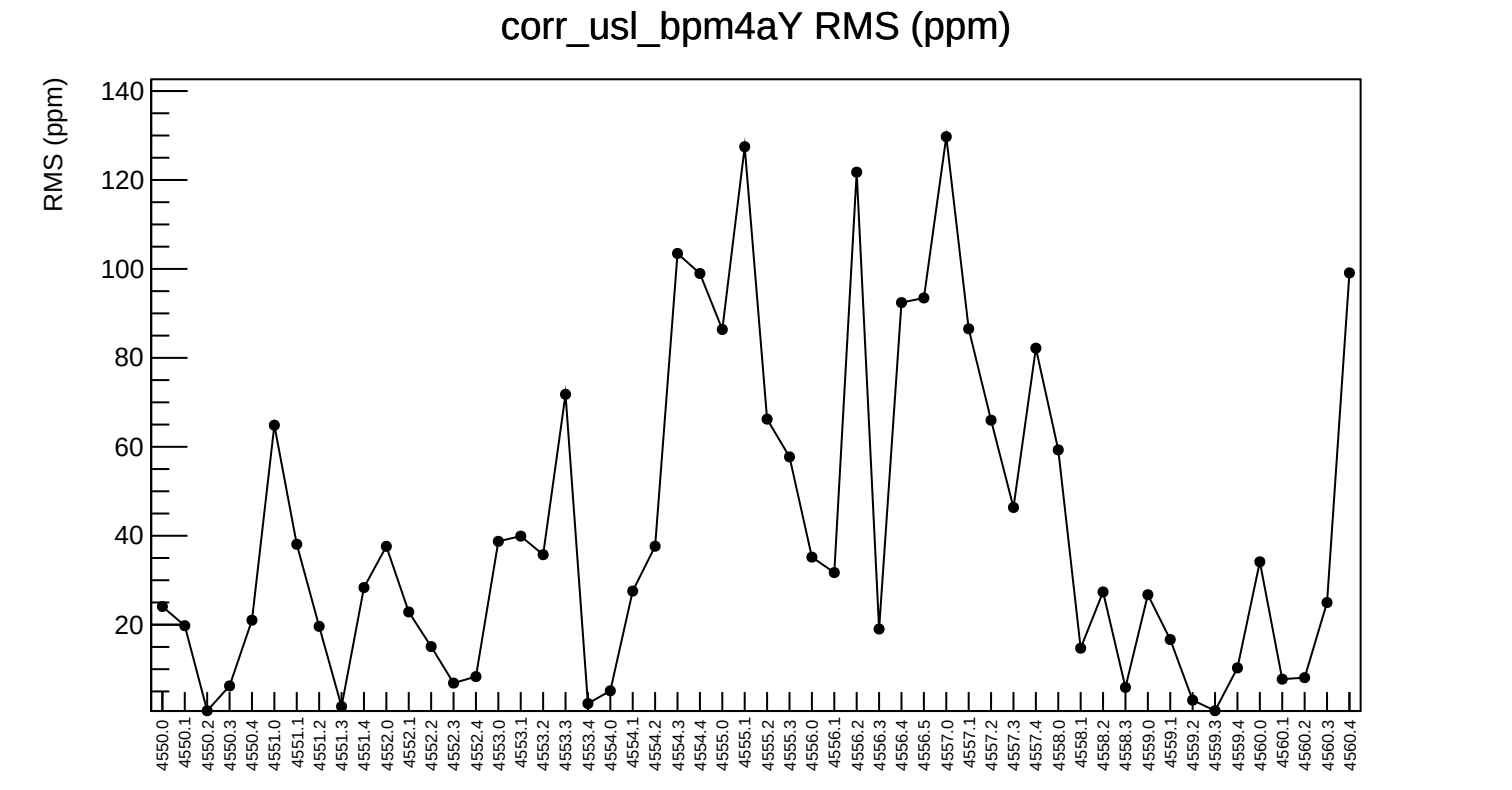

corr_usl_bpm4aX (ppb)
χ² / ndf 10.26 / 53
p0 0.5604 ± 30.38
600
400
200
0
−200
−400
1
0.5
0
−0.5
−1
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

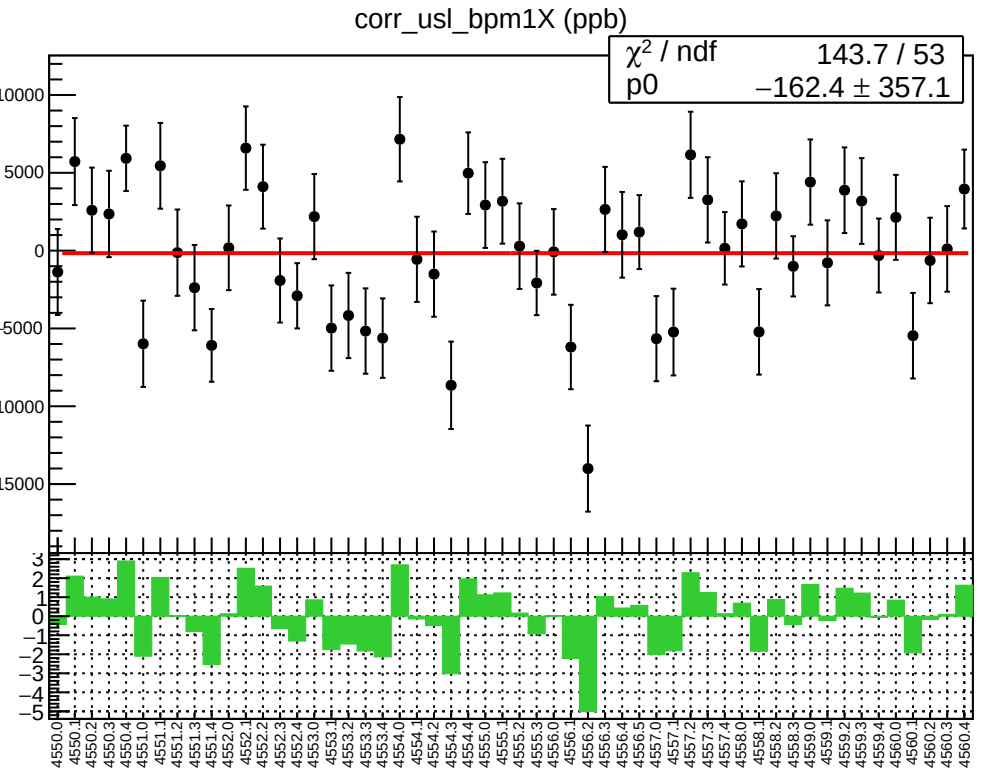

1D pull distribution
Mean −0.01113 ± 0.05929
Std Dev 0.4357 ± 0.04192
Underflow 0
Overflow 0
χ² / ndf 5.311 / 2
Constant 30.89 ± 6.33
Mean −0.1724 ± 0.0513
Sigma 0.3357 ± 0.0502
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

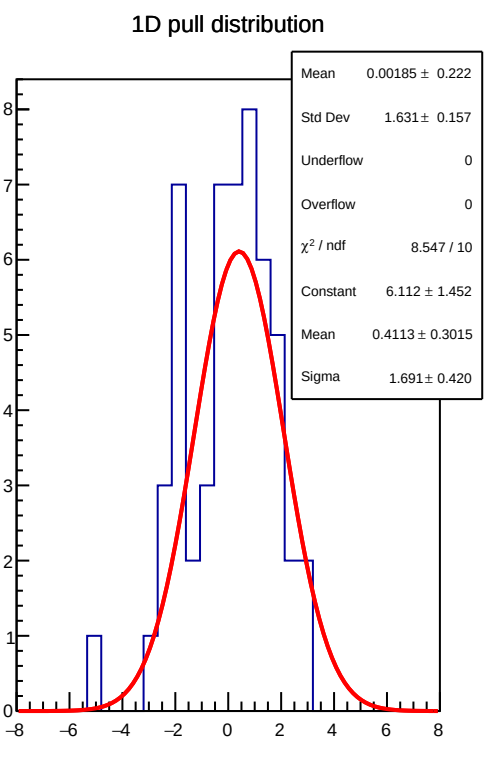

corr_usl_bpm4aX RMS (ppm)
RMS (ppm)
20
18
16
14
12
10
8
6
4
2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

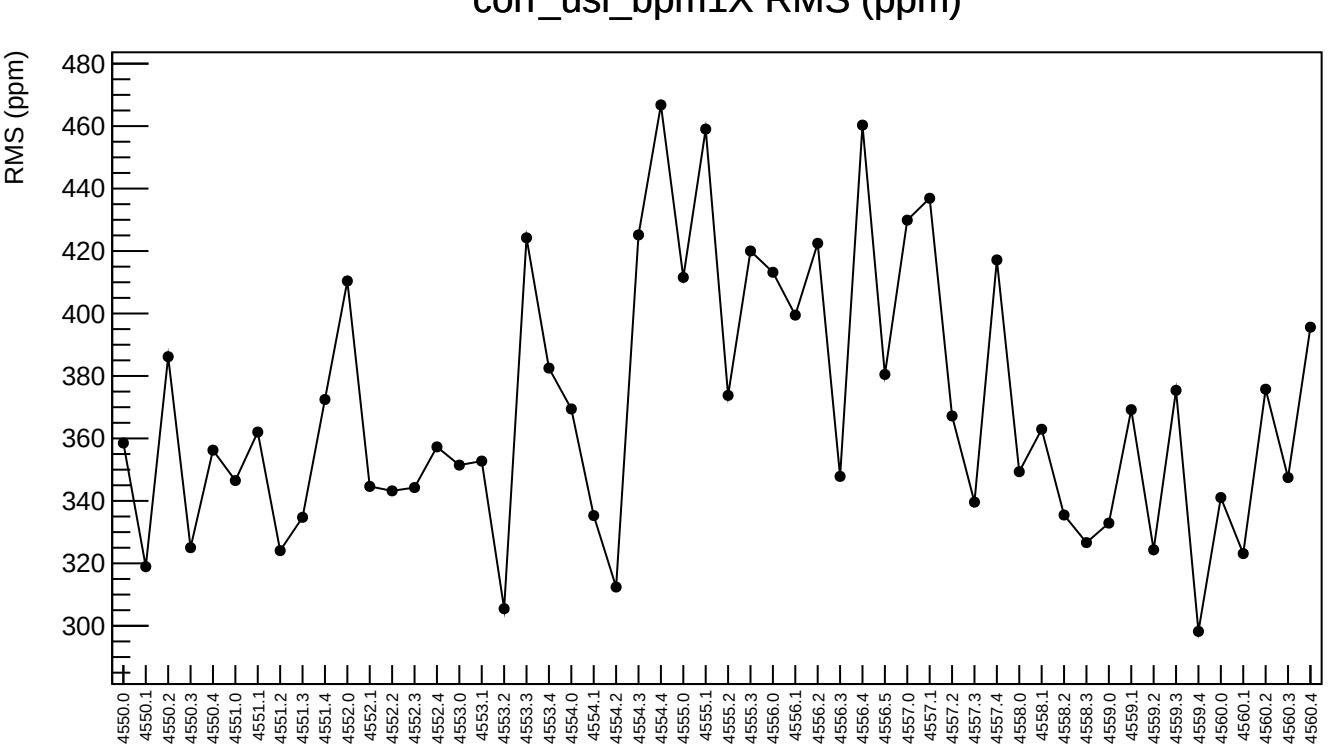

corr_usl_bpm4aY (ppb)
χ² / ndf 182 / 53
p0 −17.35 ± 54.75

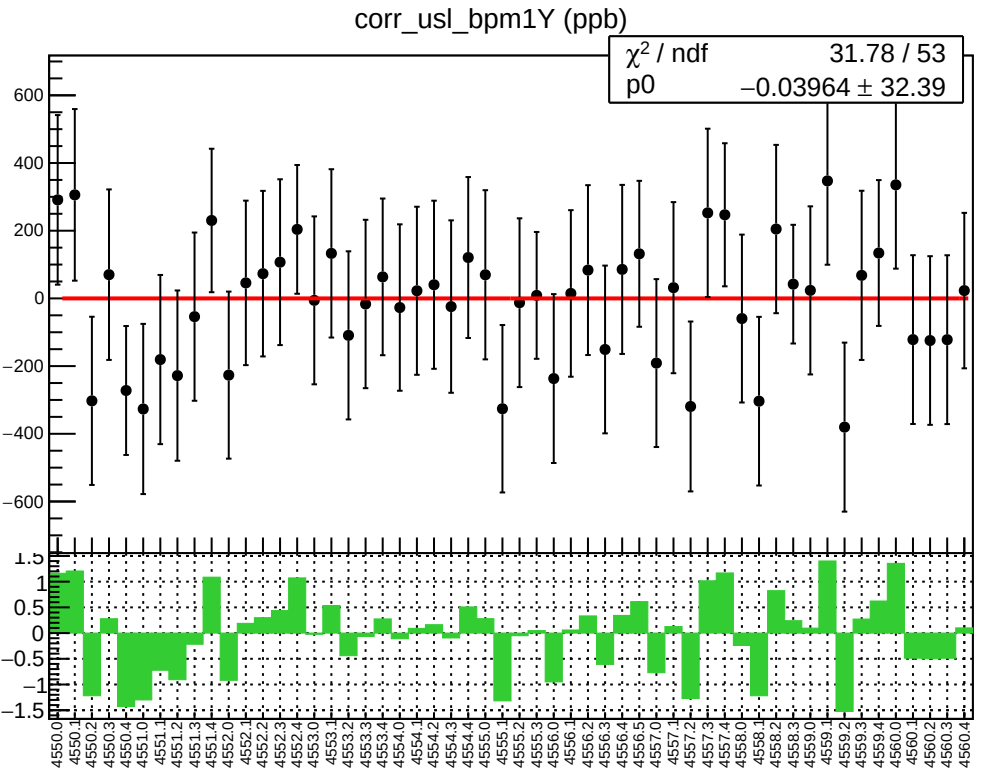

1D pull distribution
Mean 0.1609 ± 0.1658
Std Dev 1.207 ± 0.1173
Underflow 1
Overflow 0
χ² / ndf 9.386 / 9
Constant 17.73 ± 4.09
Mean 0.05114 ± 0.07973
Sigma 0.5235 ± 0.0911

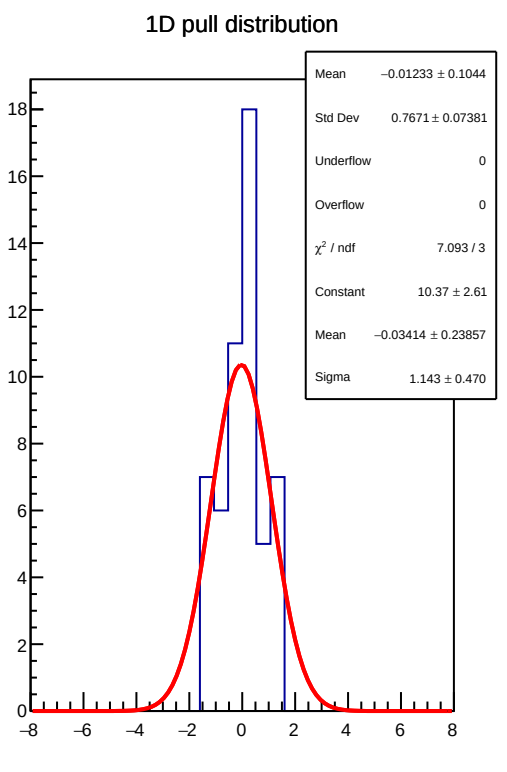

corr_usl_bpm4aY RMS (ppm)
RMS (ppm)
140
120
100
80
60
40
20
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

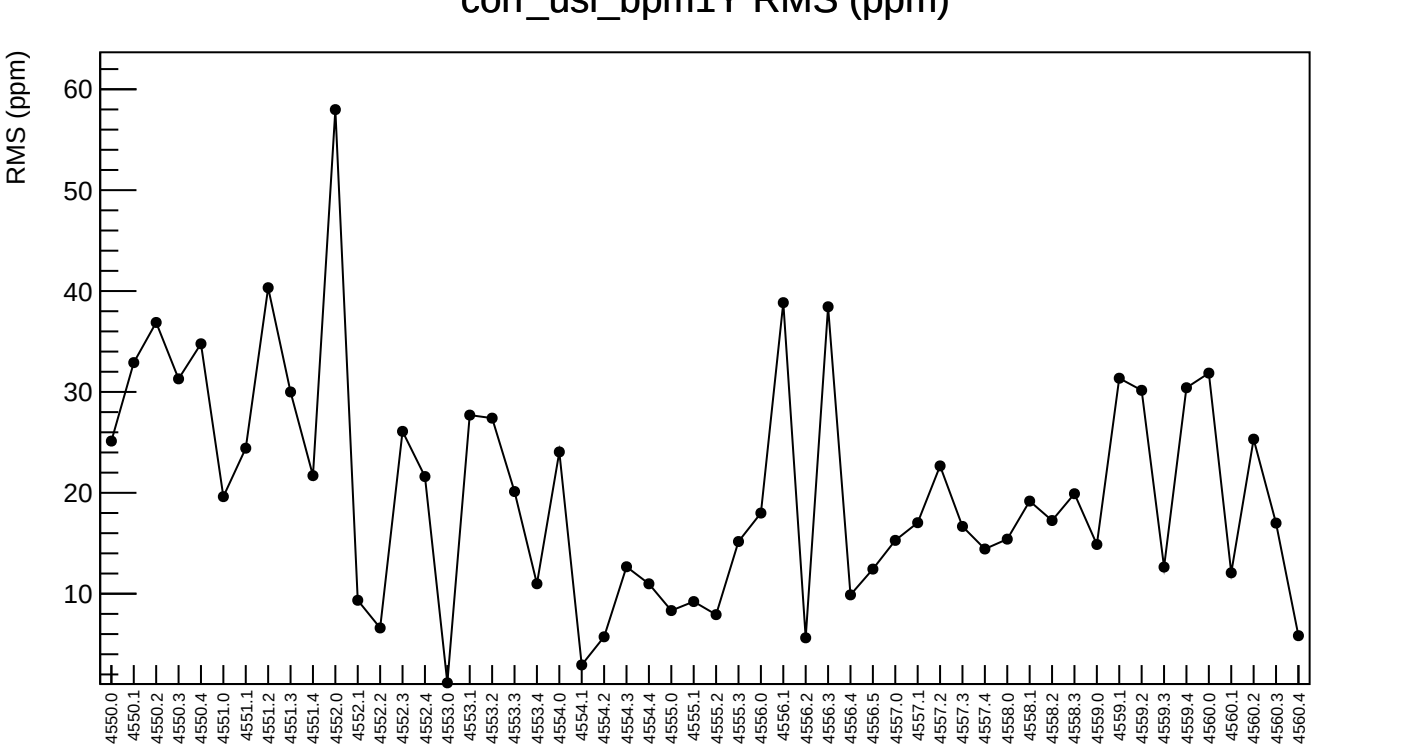

corr_usl_bpm1X (ppb)
χ² / ndf 143.7 / 53
p0 −162.4 ± 357.1

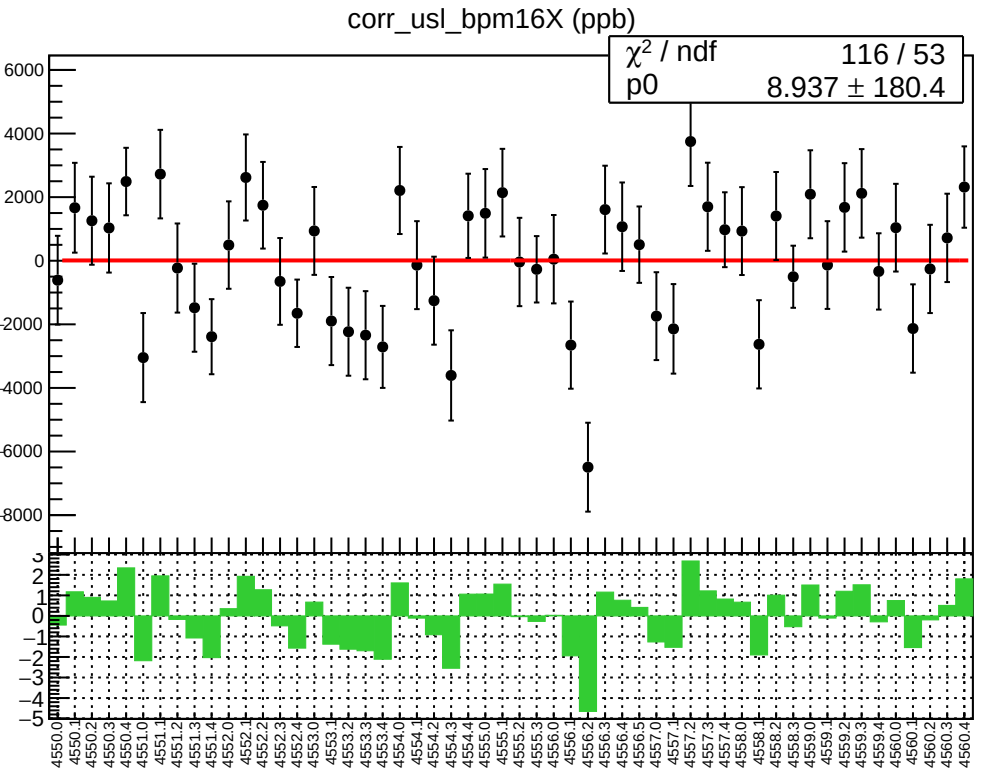

1D pull distribution
Mean 0.00185 ± 0.222
Std Dev 1.631 ± 0.157
Underflow 0
Overflow 0
χ² / ndf 8.547 / 10
Constant 6.112 ± 1.452
Mean 0.4113 ± 0.3015
Sigma 1.691 ± 0.420

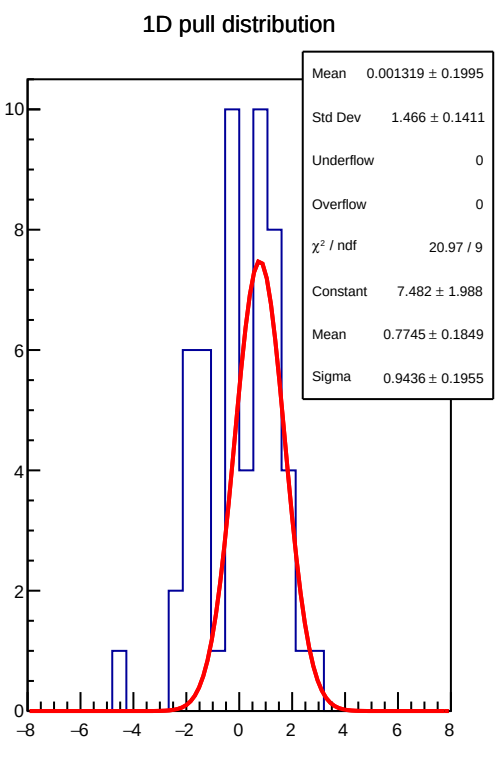

corr_usl_bpm1X RMS (ppm)
RMS (ppm)
480
460
440
420
400
380
360
340
320
300
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

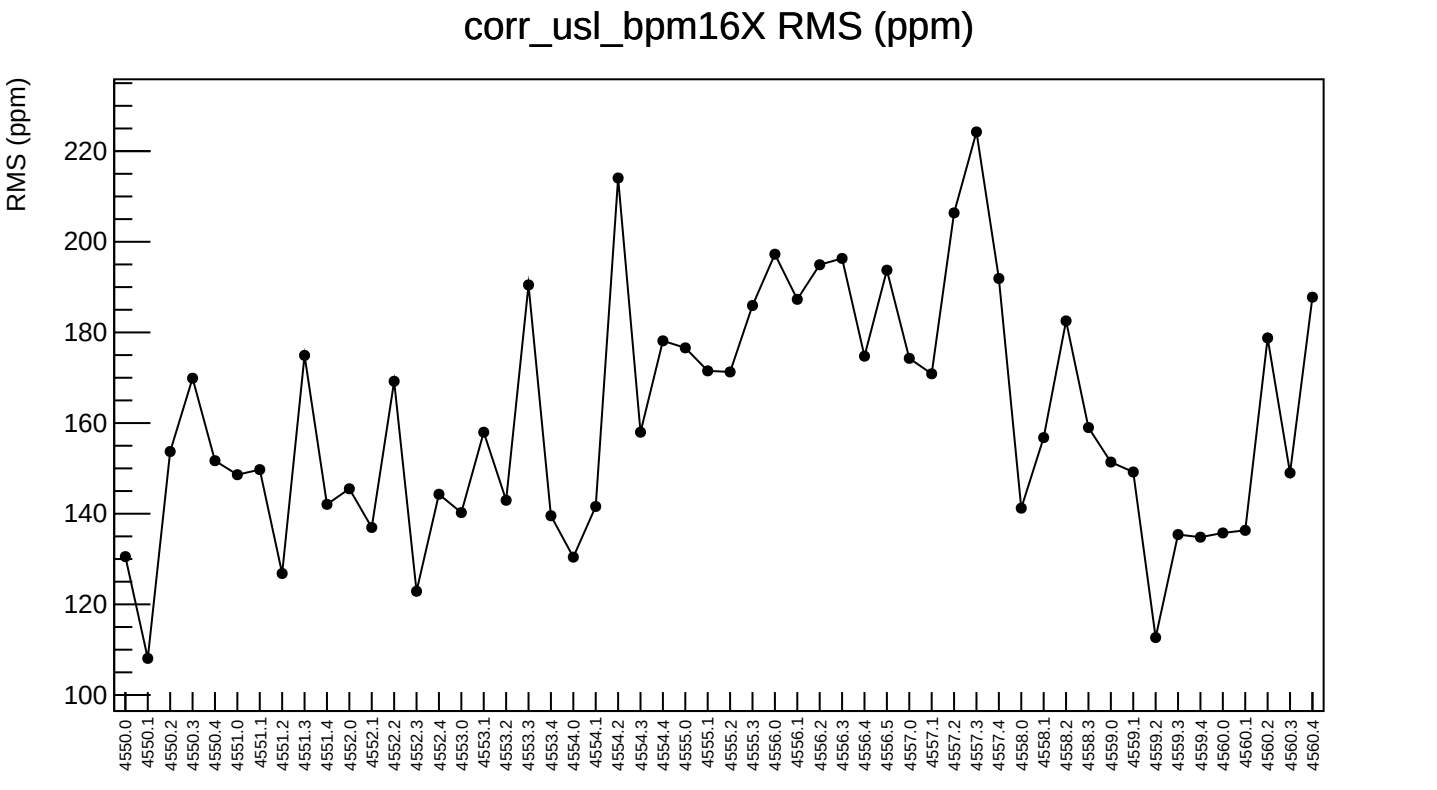

corr_usl_bpm1Y (ppb)
χ² / ndf 31.78 / 53
p0 −0.03964 ± 32.39
600
400
200
0
−200
−400
−600
1.5
1
0.5
0
−0.5
−1
−1.5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

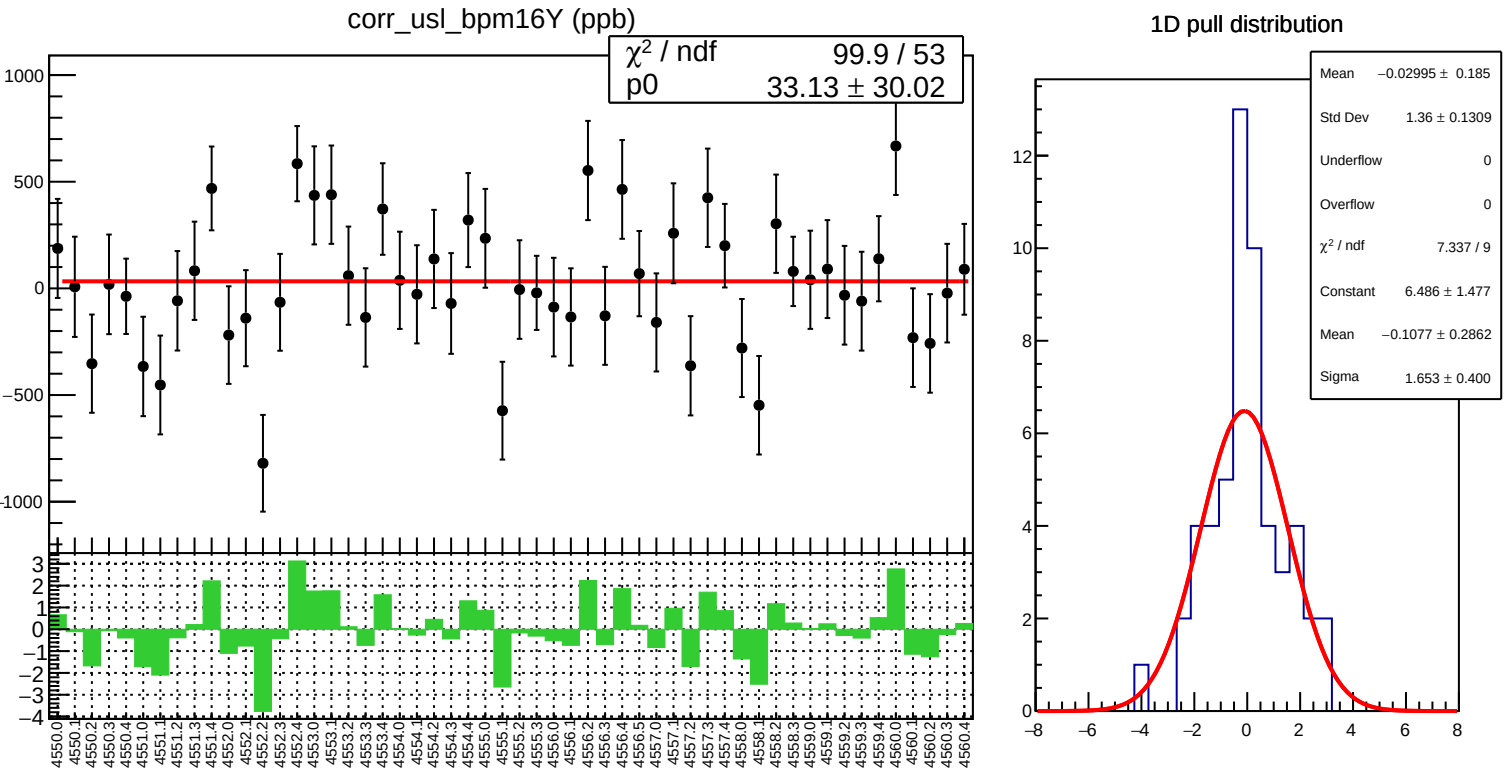

1D pull distribution
Mean −0.01233 ± 0.1044
Std Dev 0.7671 ± 0.07381
Underflow 0
Overflow 0
χ² / ndf 7.093 / 3
Constant 10.37 ± 2.61
Mean −0.03414 ± 0.23857
Sigma 1.143 ± 0.470
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

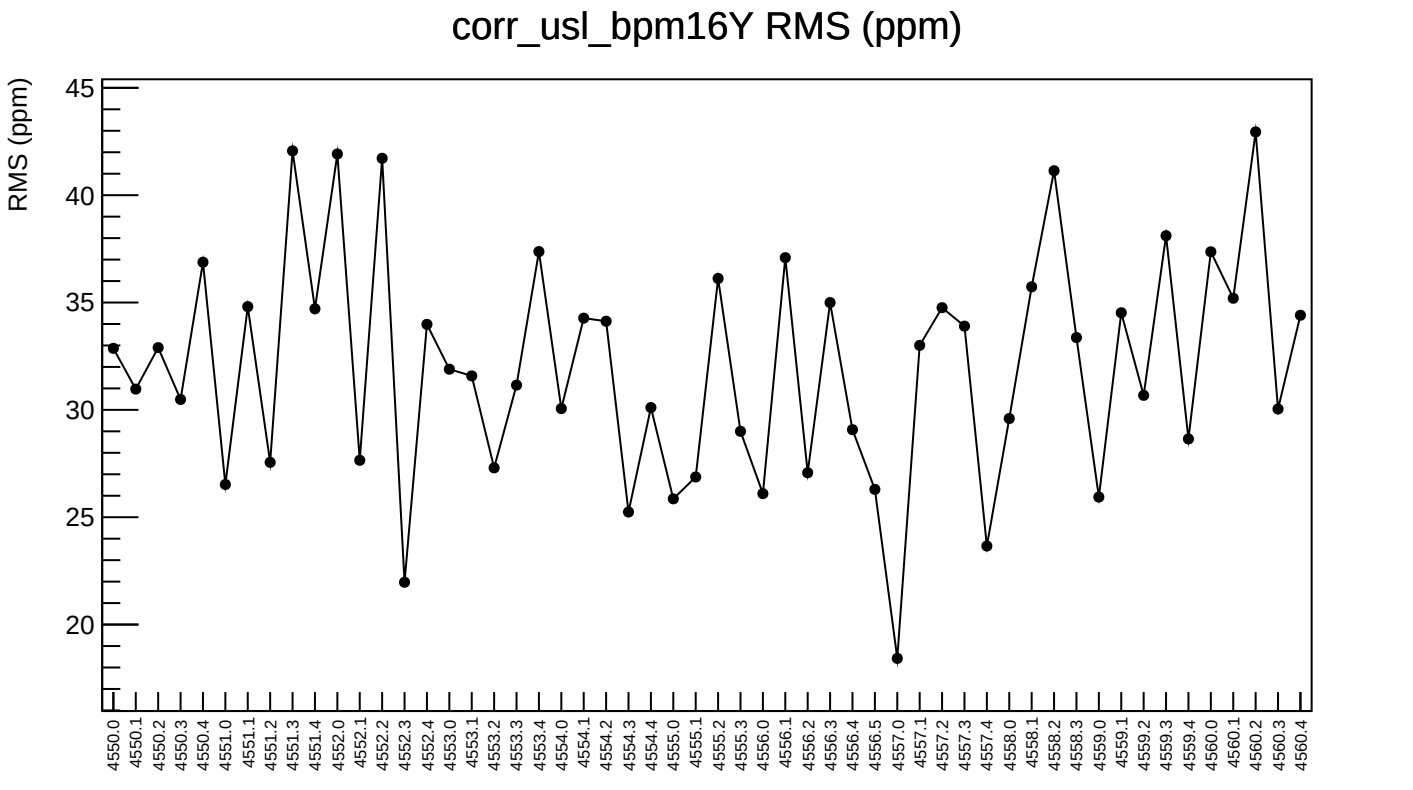

corr_usl_bpm1Y RMS (ppm)
RMS (ppm)
60
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

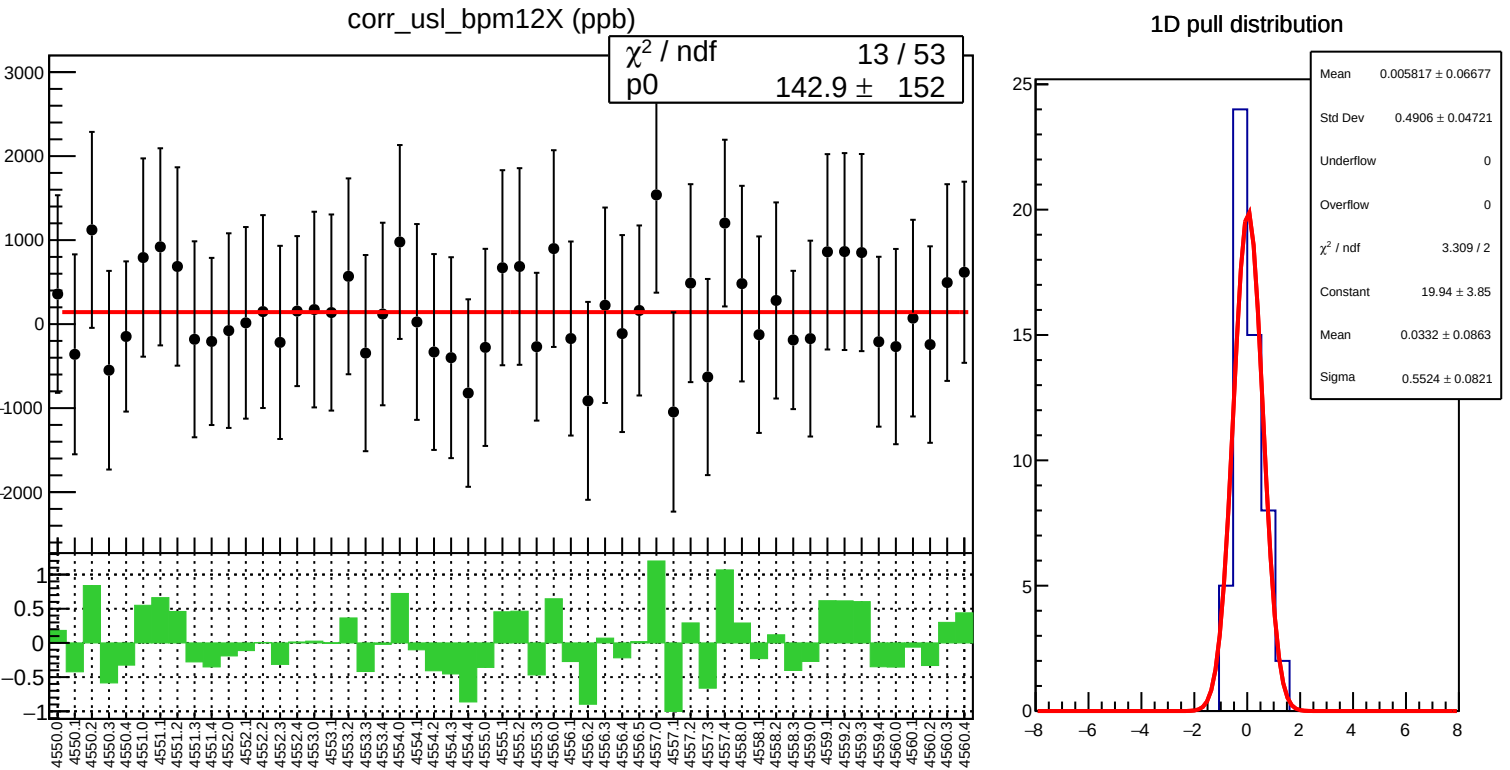

corr_usl_bpm16X (ppb)
χ² / ndf 116 / 53
p0 8.937 ± 180.4

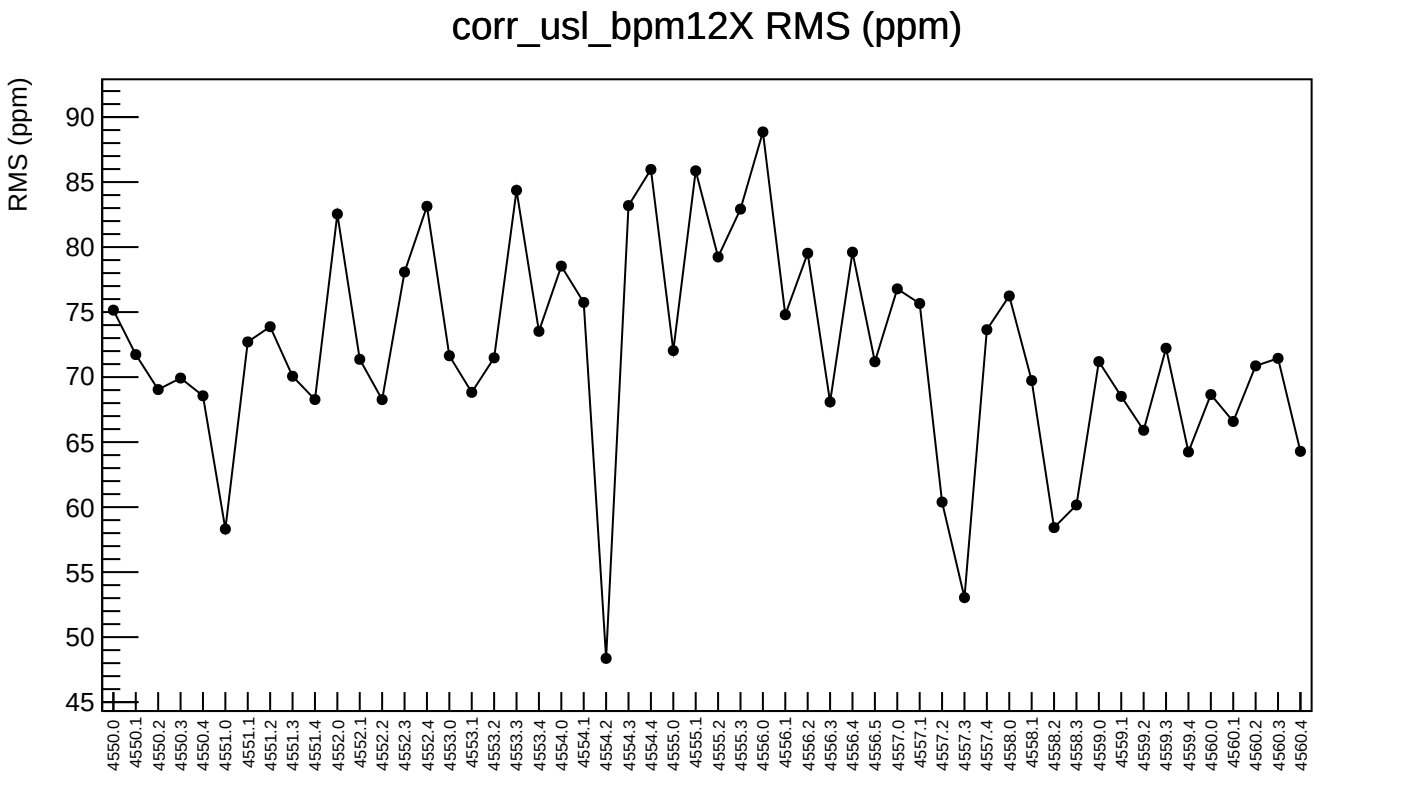

1D pull distribution
Mean 0.001319 ± 0.1995
Std Dev 1.466 ± 0.1411
Underflow 0
Overflow 0
χ² / ndf 20.97 / 9
Constant 7.482 ± 1.988
Mean 0.7745 ± 0.1849
Sigma 0.9436 ± 0.1955

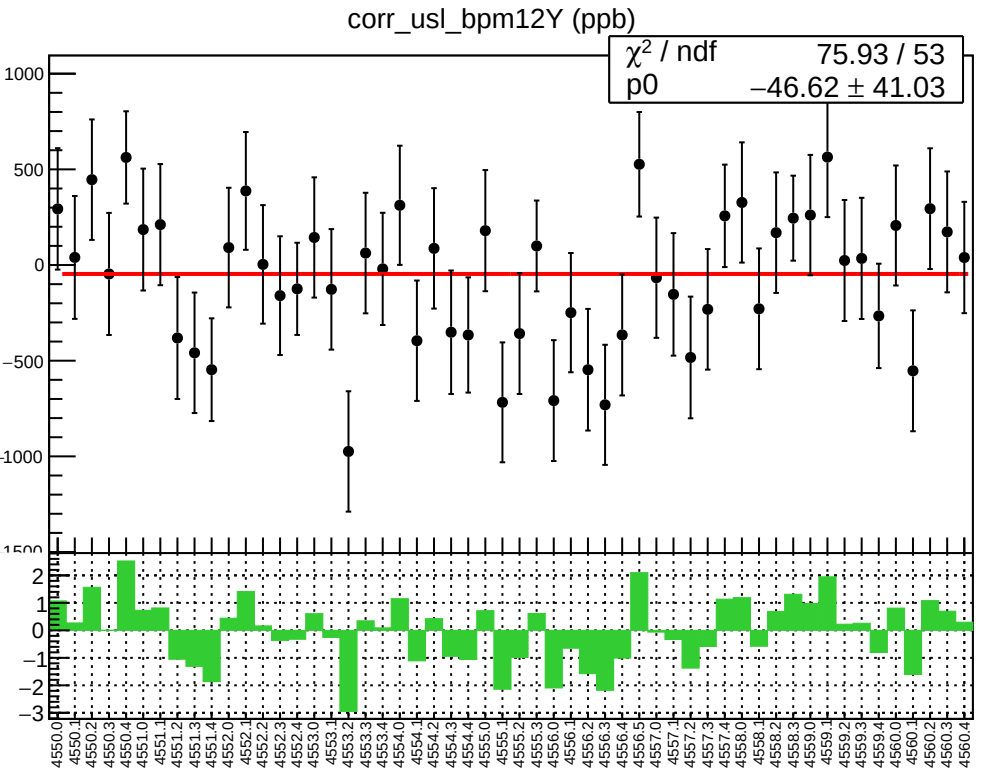

corr_usl_bpm16X RMS (ppm)
RMS (ppm)
100
120
140
160
180
200
220
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

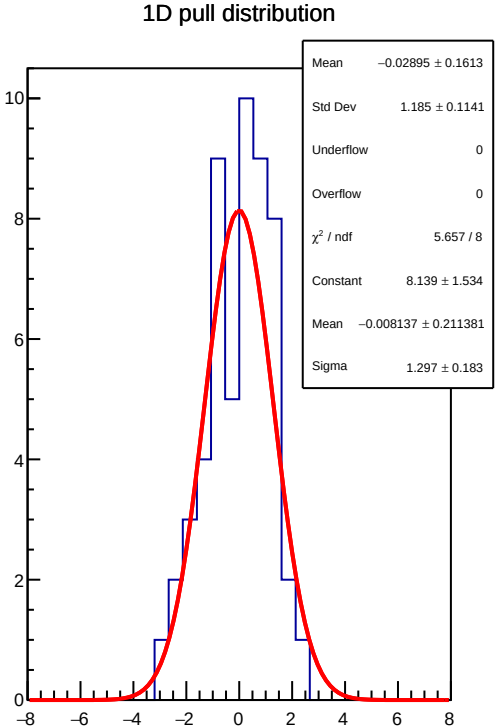

corr_usl_bpm16Y (ppb)
χ² / ndf 99.9 / 53
p0 33.13 ± 30.02
1000
500
0
−500
−1000
3
2
1
0
−1
−2
−3
−4
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4
1D pull distribution
Mean −0.02995 ± 0.185
Std Dev 1.36 ± 0.1309
Underflow 0
Overflow 0
χ² / ndf 7.337 / 9
Constant 6.486 ± 1.477
Mean −0.1077 ± 0.2862
Sigma 1.653 ± 0.400
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

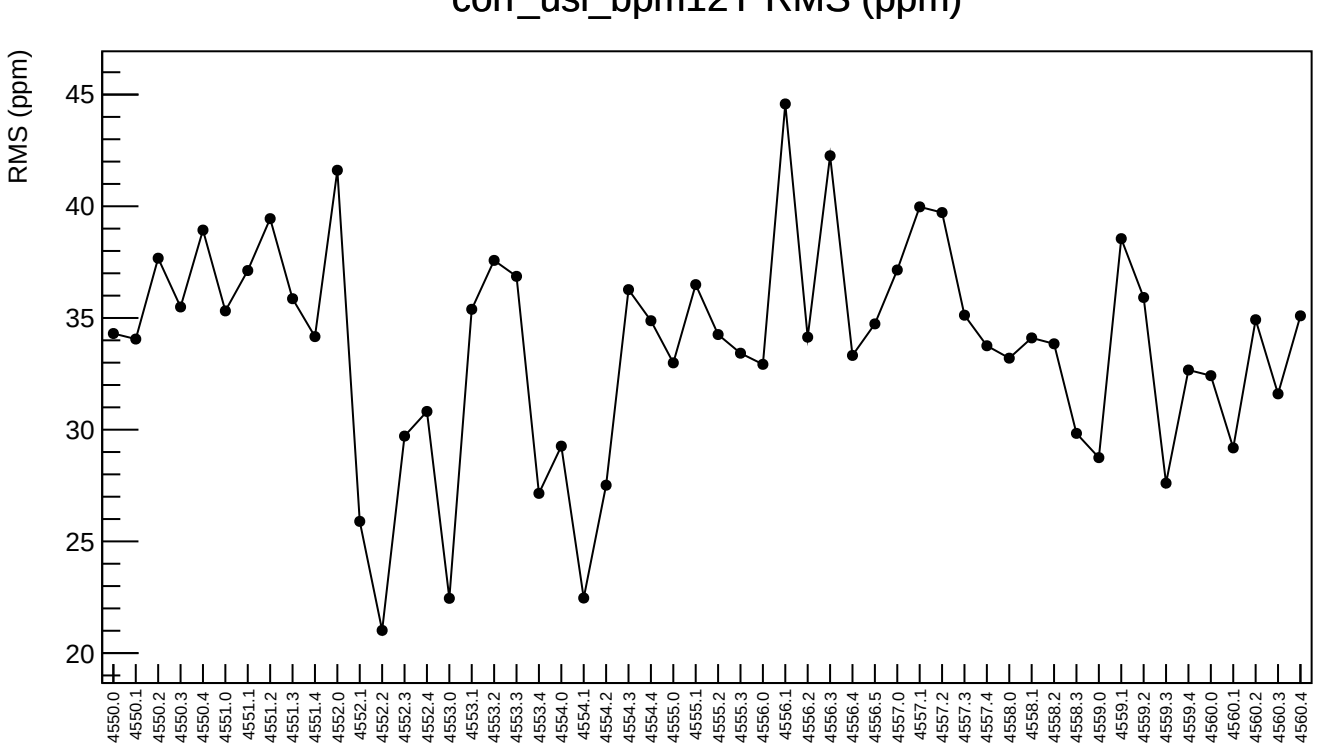

corr_usl_bpm16Y RMS (ppm)
RMS (ppm)
45
40
35
30
25
20
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

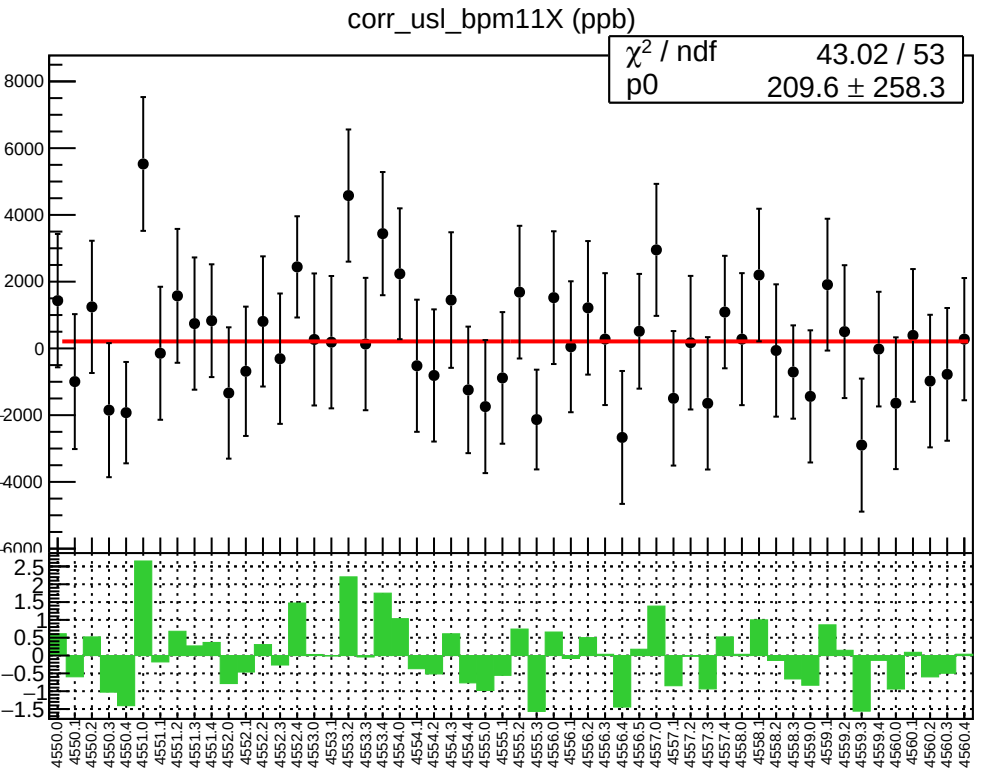

corr_usl_bpm12X (ppb)
χ² / ndf 13 / 53
p0 142.9 ± 152
3000
2000
1000
0
-1000
-2000
1
0.5
0
−0.5
−1
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4
1D pull distribution
Mean 0.005817 ± 0.06677
Std Dev 0.4906 ± 0.04721
Underflow 0
Overflow 0
χ² / ndf 3.309 / 2
Constant 19.94 ± 3.85
Mean 0.0332 ± 0.0863
Sigma 0.5524 ± 0.0821
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

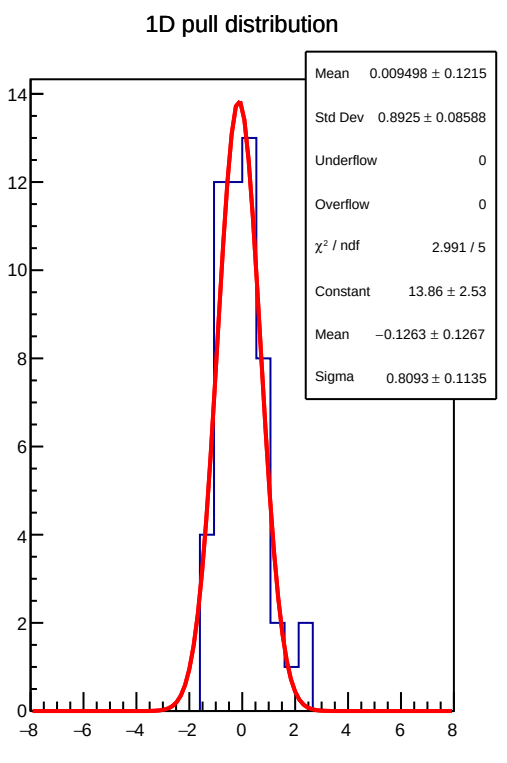

corr_usl_bpm12X RMS (ppm)
RMS (ppm)
90
85
80
75
70
65
60
55
50
45
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

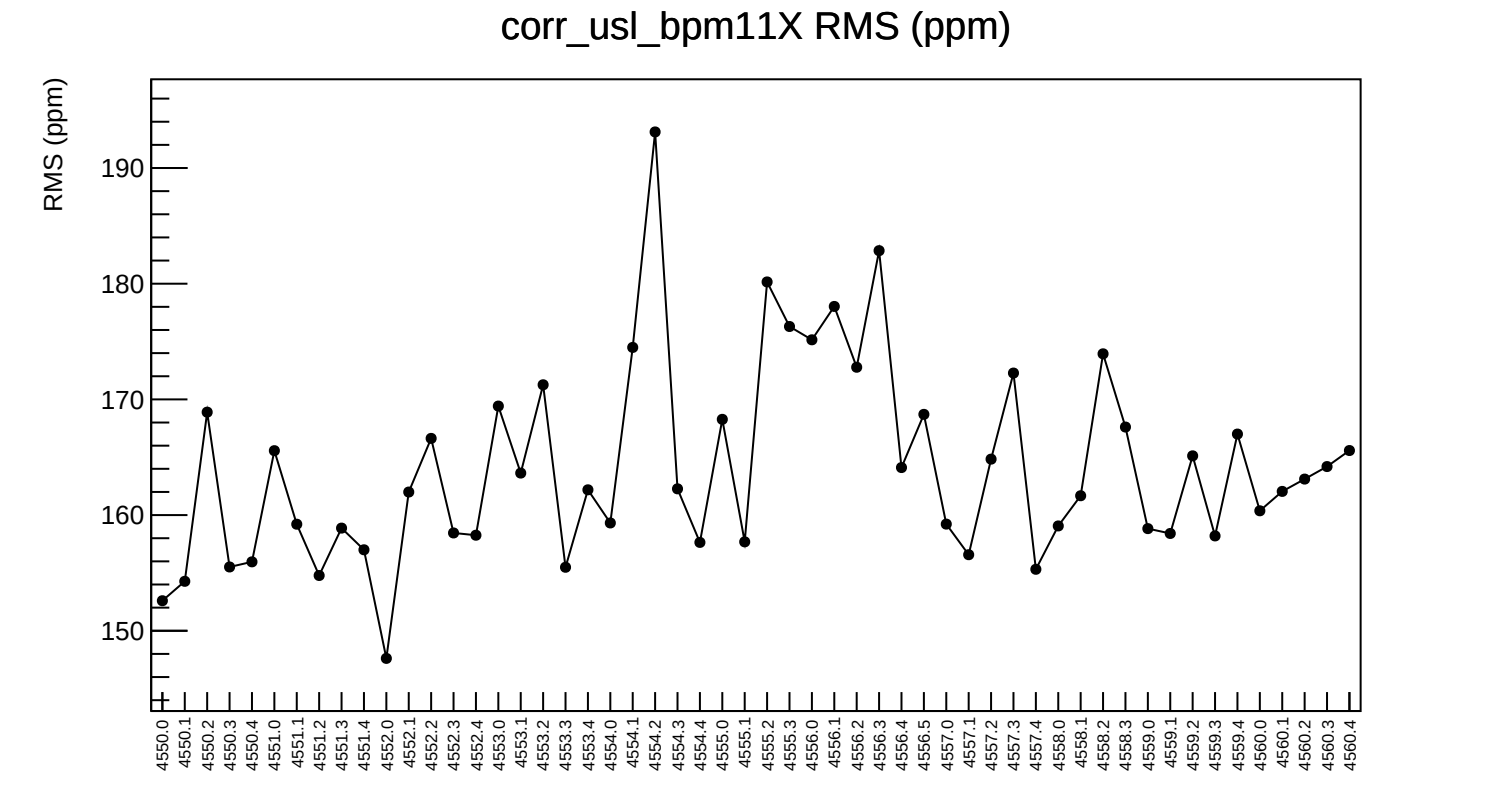

corr_usl_bpm12Y (ppb)
χ² / ndf 75.93 / 53
p0 −46.62 ± 41.03
1000
500
0
−500
−1000
2
1
0
−1
−2
−3
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

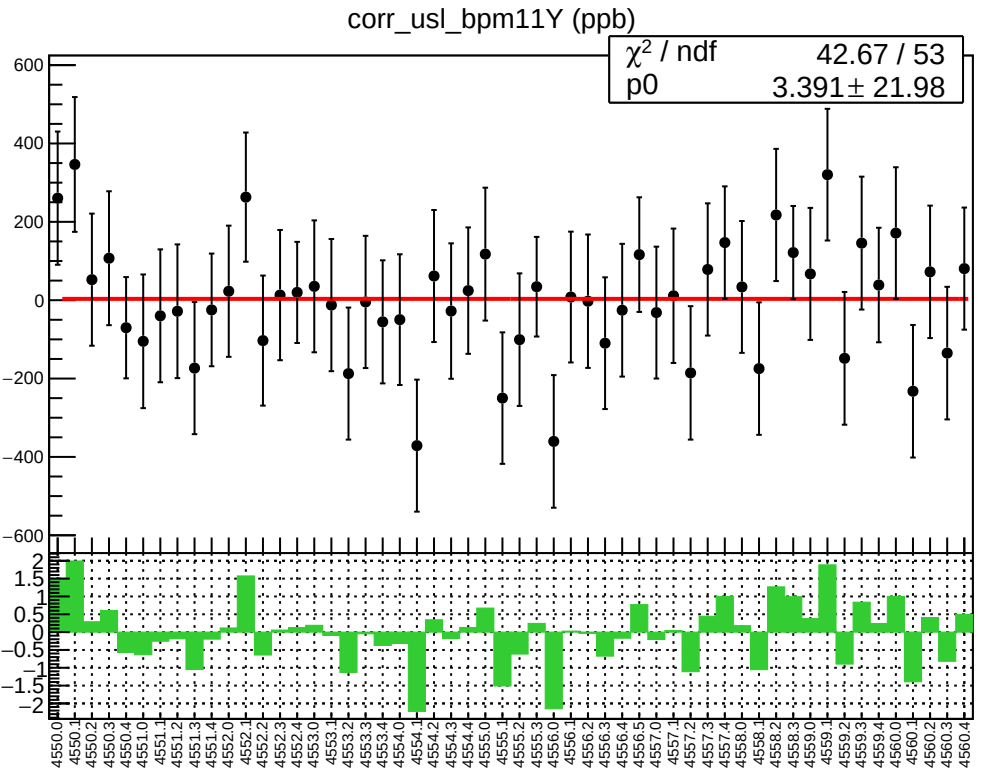

1D pull distribution
Mean −0.02895 ± 0.1613
Std Dev 1.185 ± 0.1141
Underflow 0
Overflow 0
χ² / ndf 5.657 / 8
Constant 8.139 ± 1.534
Mean −0.008137 ± 0.211381
Sigma 1.297 ± 0.183
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

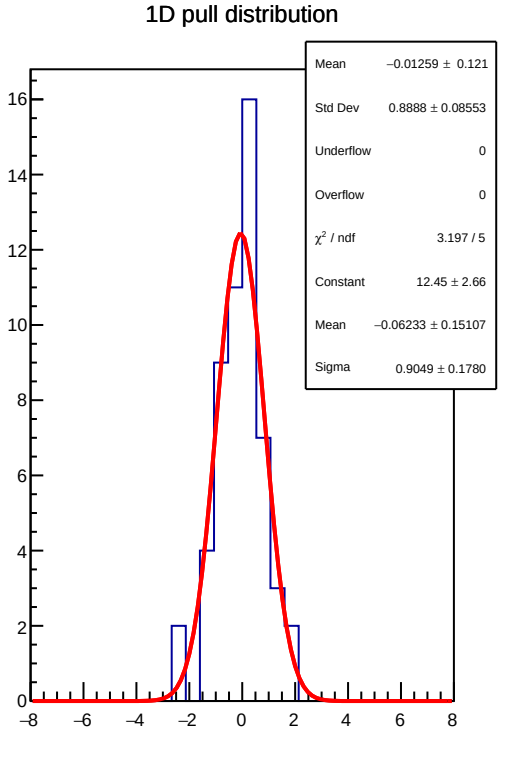

corr_usl_bpm12Y RMS (ppm)
RMS (ppm)
45
40
35
30
25
20
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

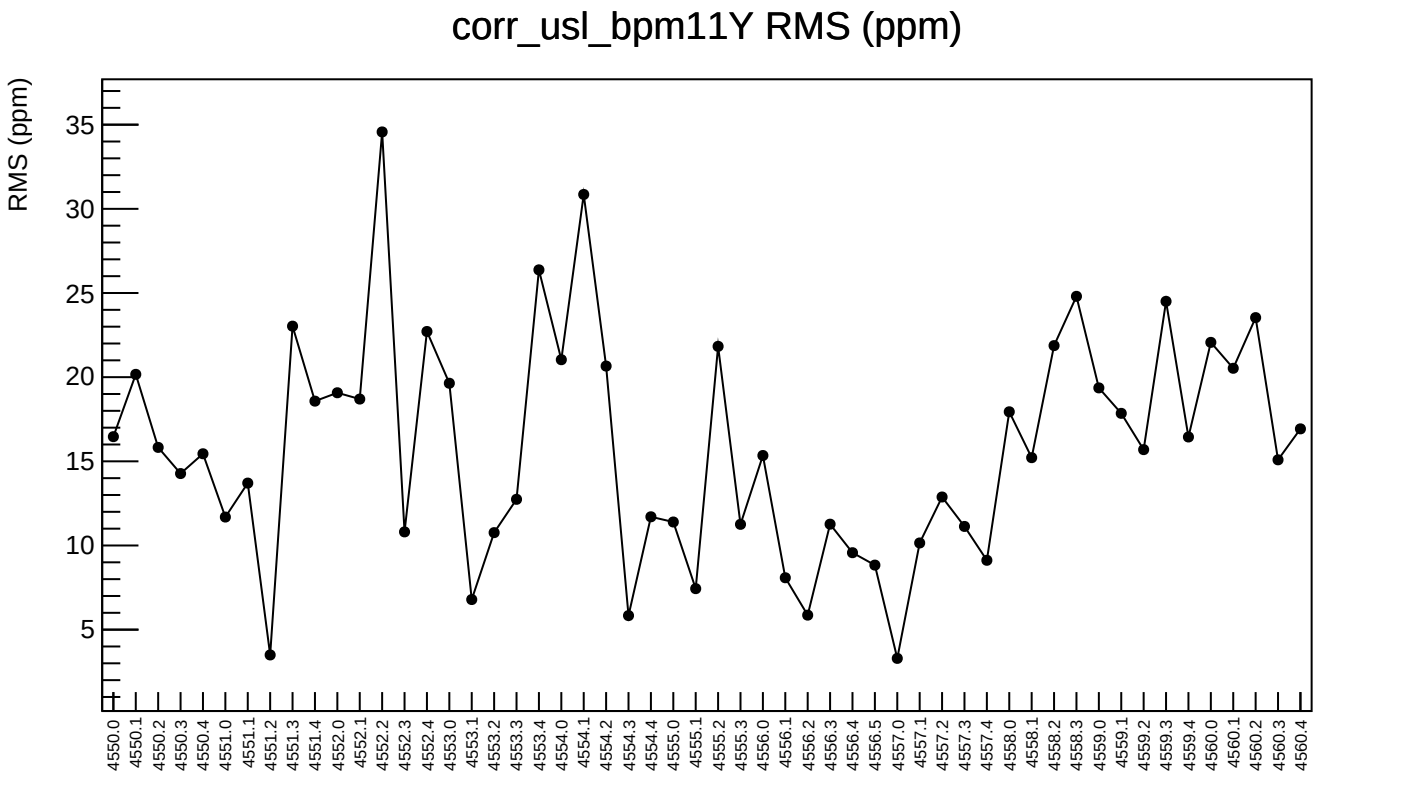

corr_usl_bpm11X (ppb)
χ² / ndf 43.02 / 53
p0 209.6 ± 258.3
8000
6000
4000
2000
0
-2000
-4000
-6000
2.5
2
1.5
1
0.5
0
−0.5
−1
−1.5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

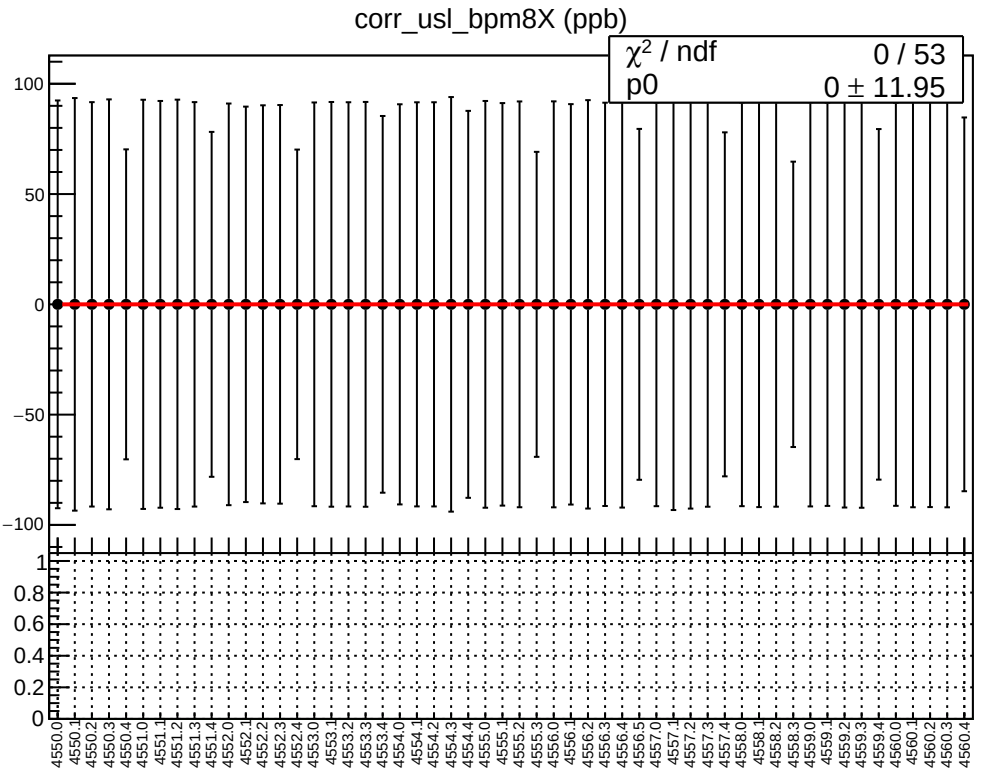

1D pull distribution
Mean 0.009498 ± 0.1215
Std Dev 0.8925 ± 0.08588
Underflow 0
Overflow 0
χ² / ndf 2.991 / 5
Constant 13.86 ± 2.53
Mean −0.1263 ± 0.1267
Sigma 0.8093 ± 0.1135
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

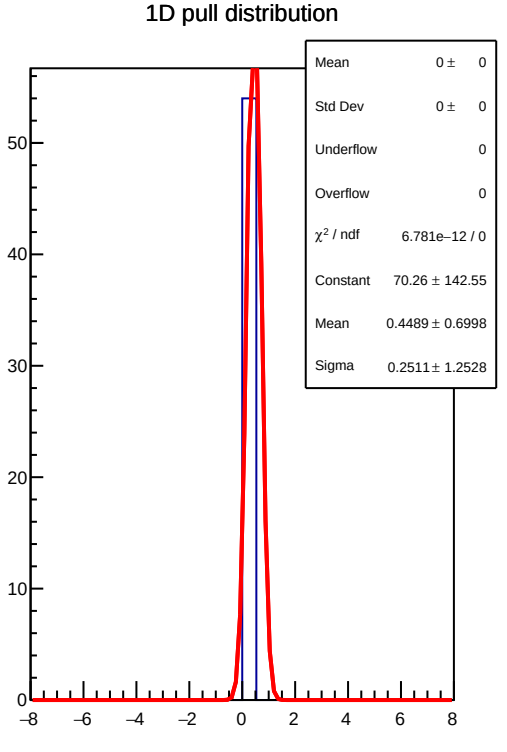

corr_usl_bpm11X RMS (ppm)
RMS (ppm)
190
180
170
160
150
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

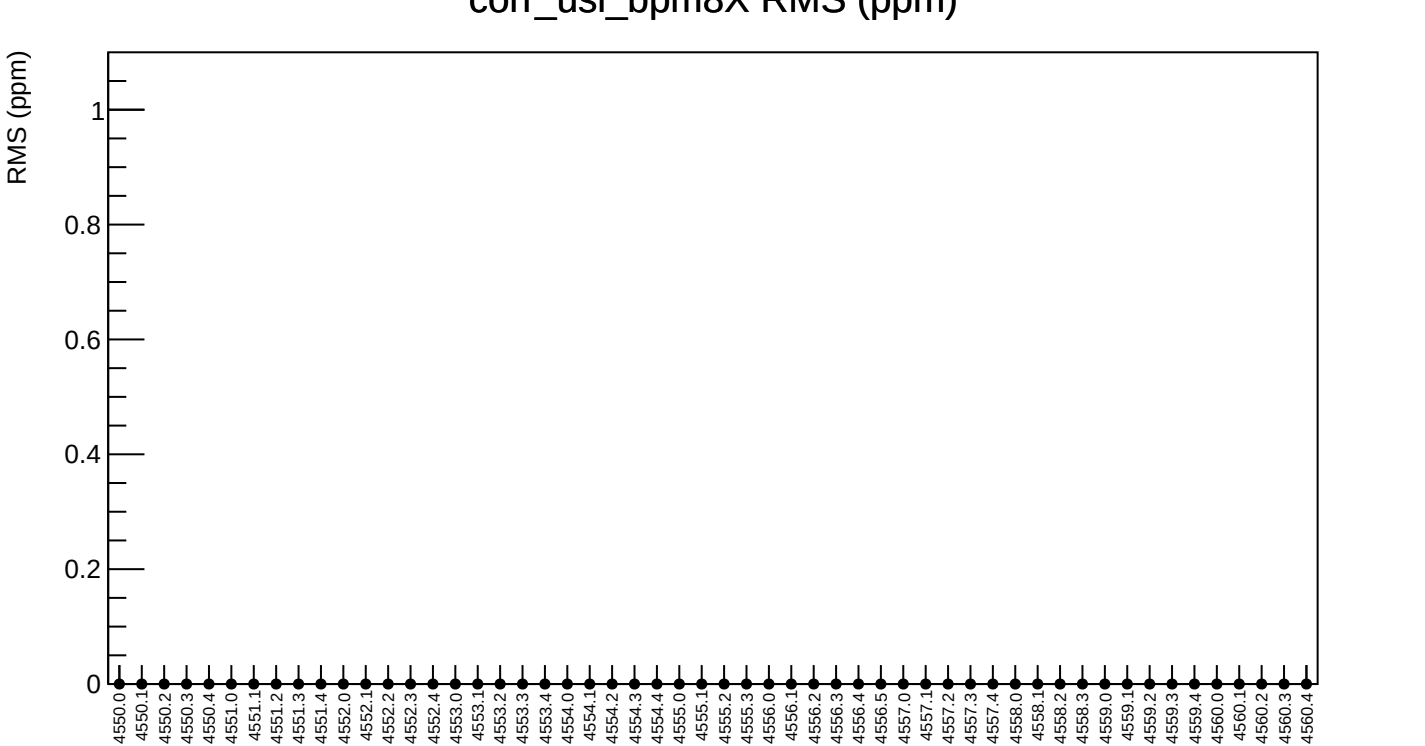

corr_usl_bpm11Y (ppb)
χ² / ndf 42.67 / 53
p0 3.391± 21.98
600
400
200
0
−200
−400
−600
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

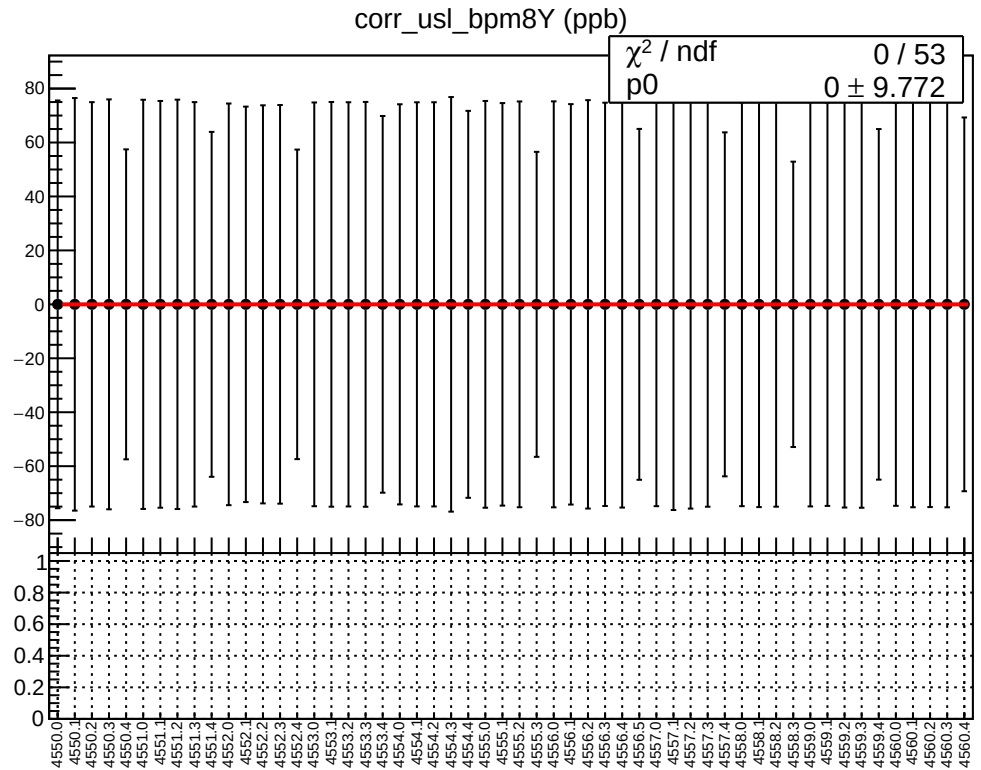

1D pull distribution
Mean −0.01259 ± 0.121
Std Dev 0.8888 ± 0.08553
Underflow 0
Overflow 0
χ² / ndf 3.197 / 5
Constant 12.45 ± 2.66
Mean −0.06233 ± 0.15107
Sigma 0.9049 ± 0.1780
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

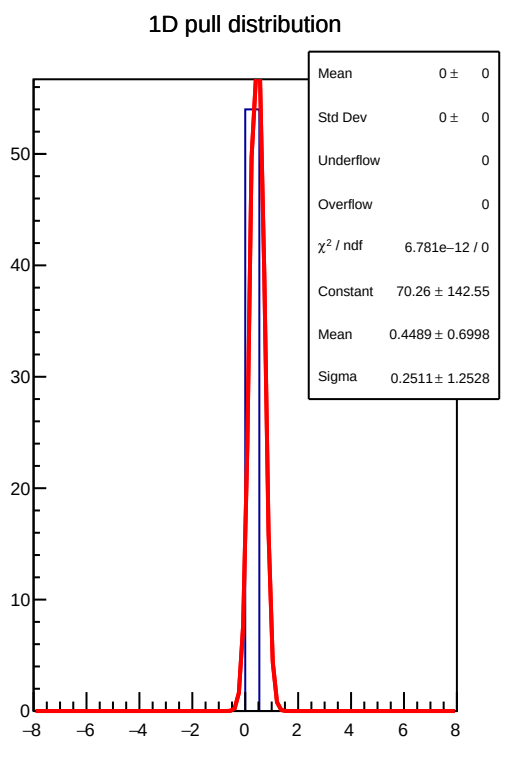

corr_usl_bpm11Y RMS (ppm)
RMS (ppm)
35
30
25
20
15
10
5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

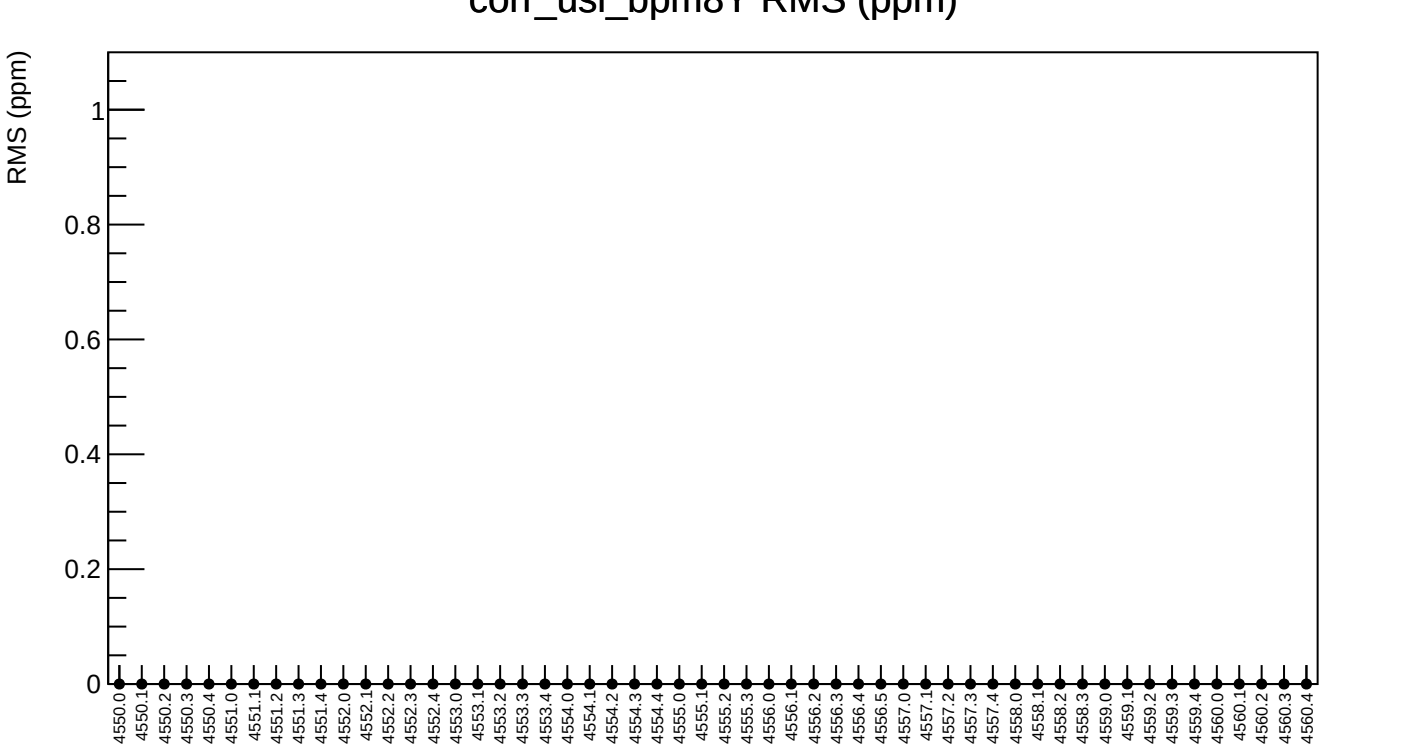

corr_usl_bpm8X (ppb)
χ² / ndf 0 / 53
p0 0 ± 11.95
100
50
0
−50
−100
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

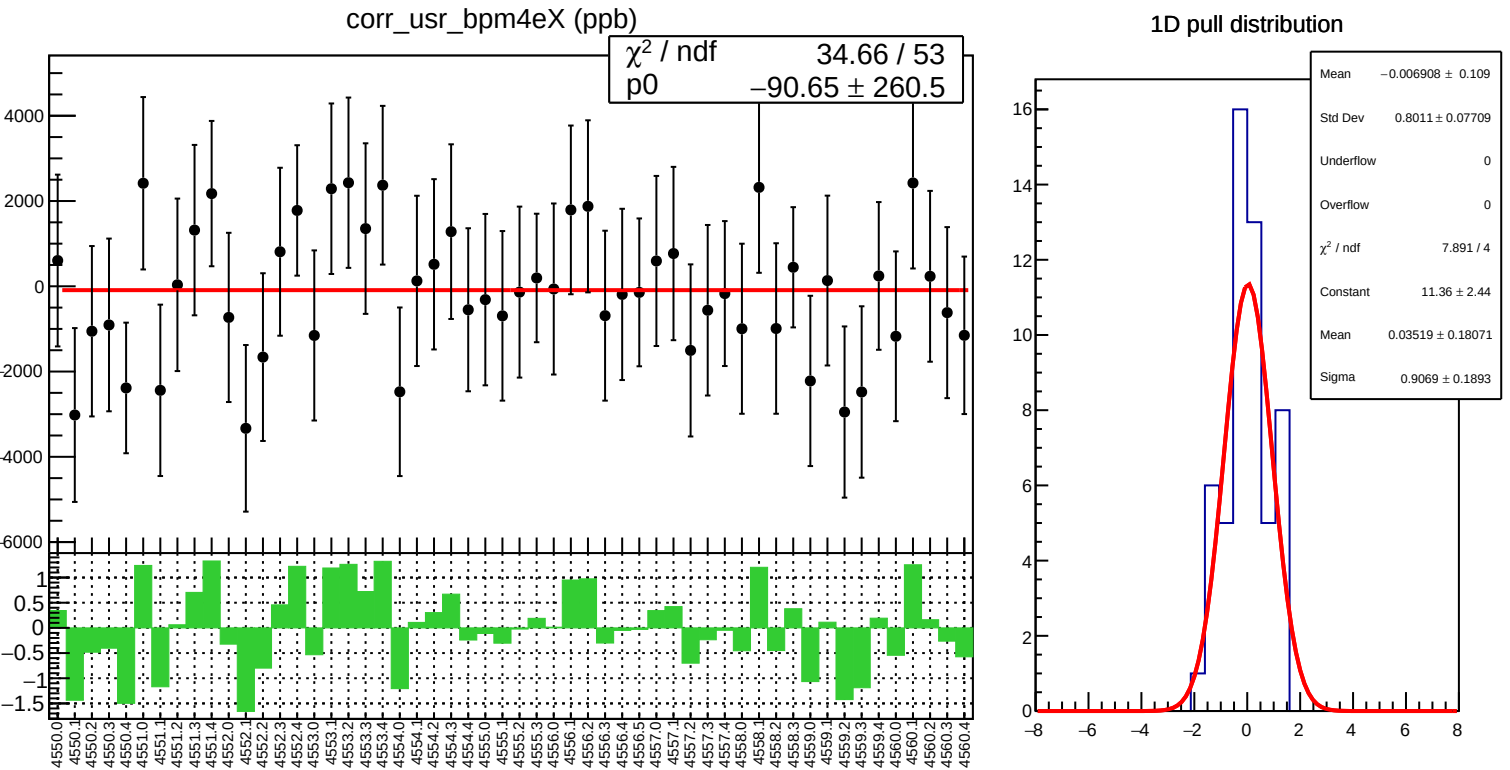

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528
50
40
30
20
10
0
−8
−6
−4
−2
0
2
4
6
8

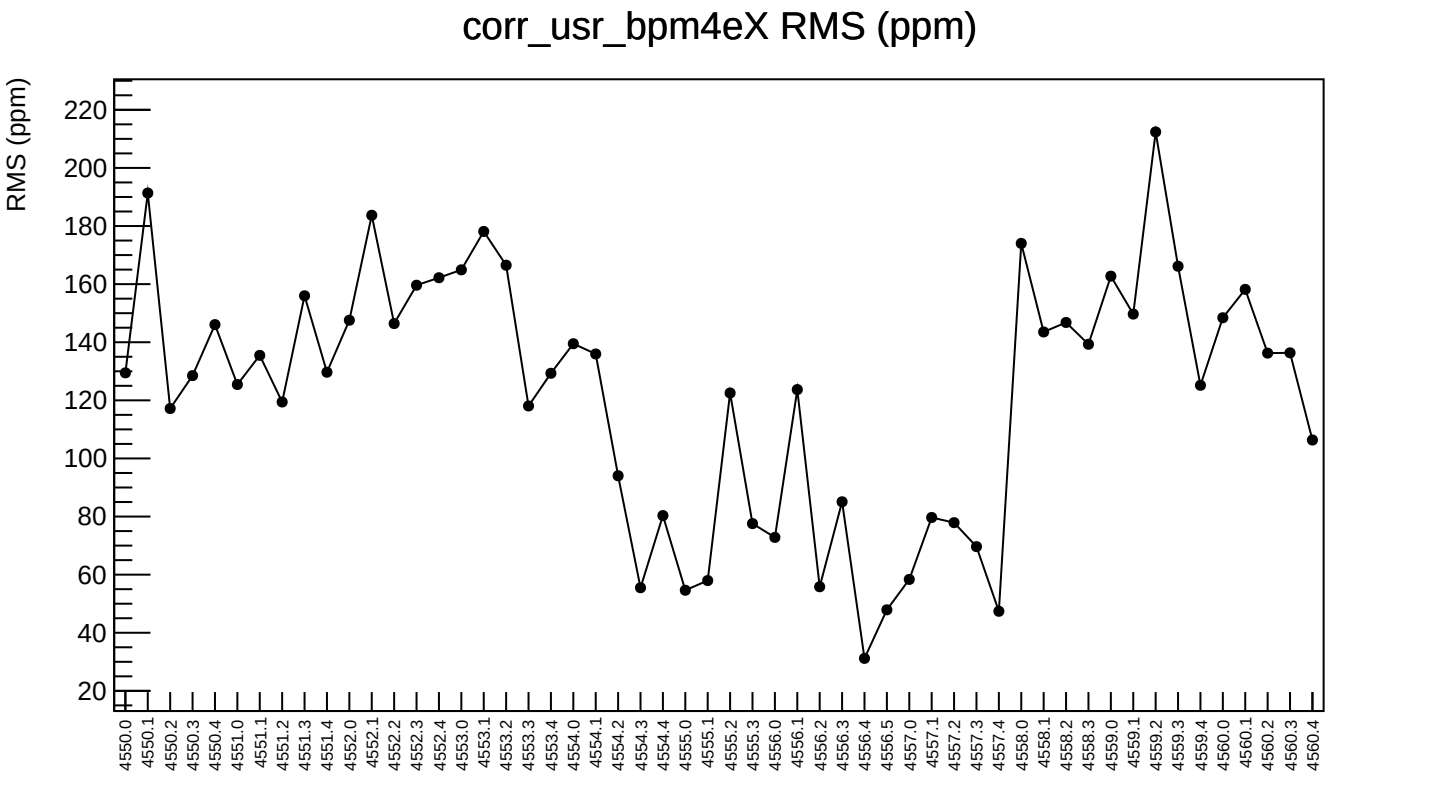

corr_usl_bpm8X RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

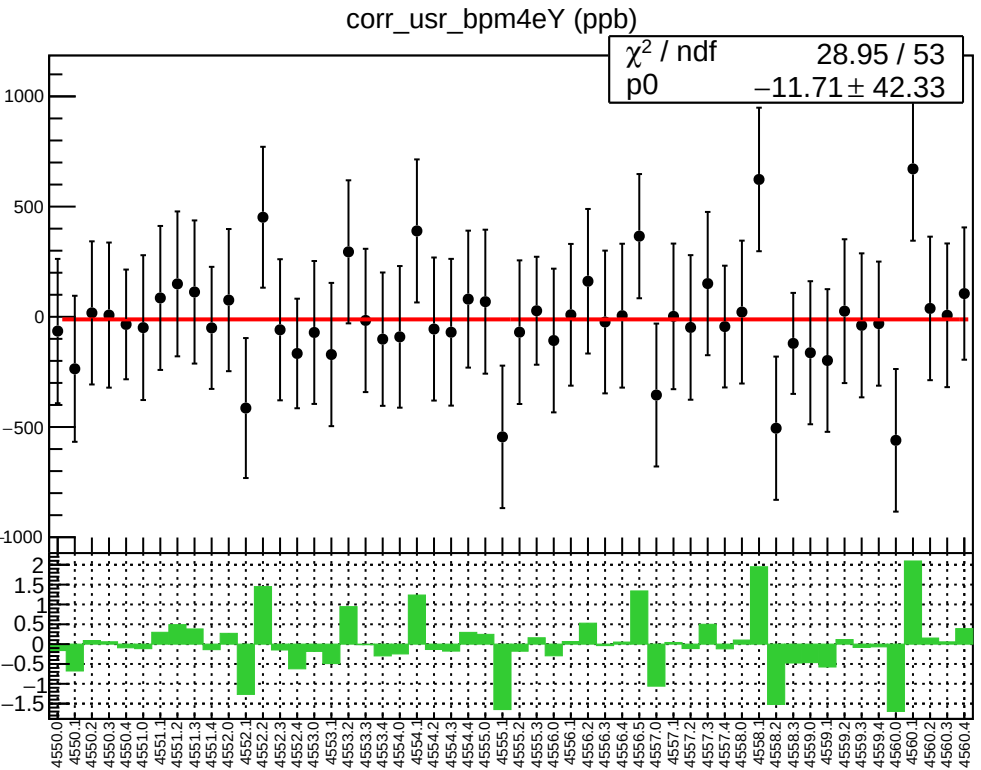

corr_usl_bpm8Y (ppb)
χ² / ndf 0 / 53
p0 0 ± 9.772

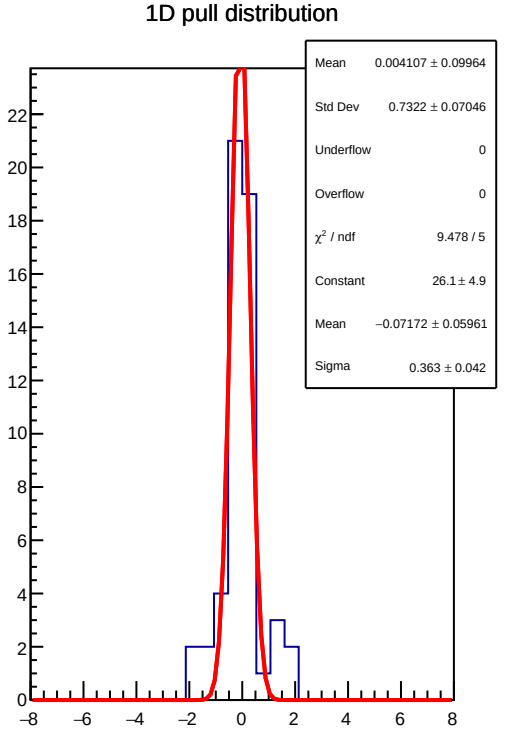

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528

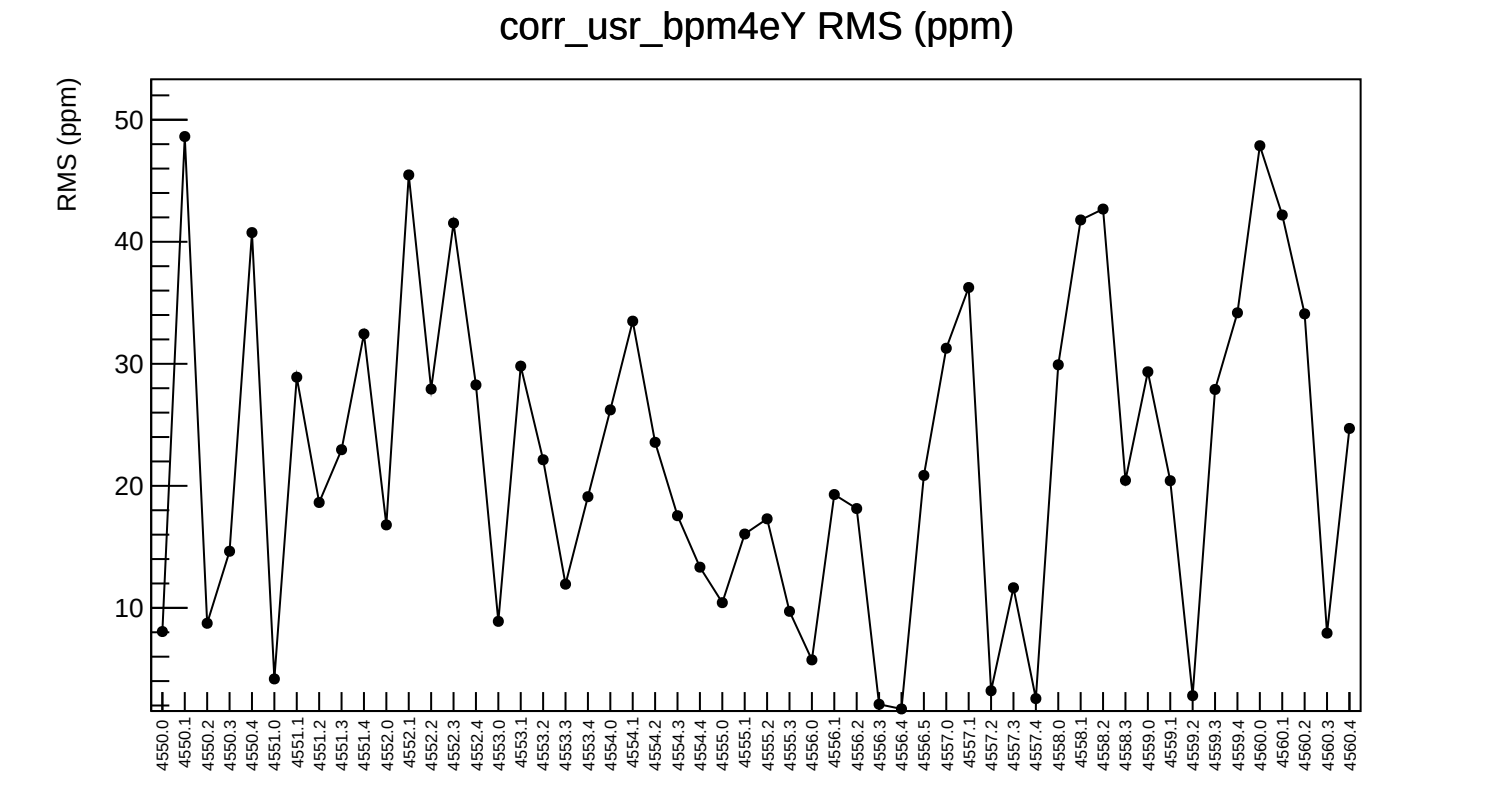

corr_usl_bpm8Y RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

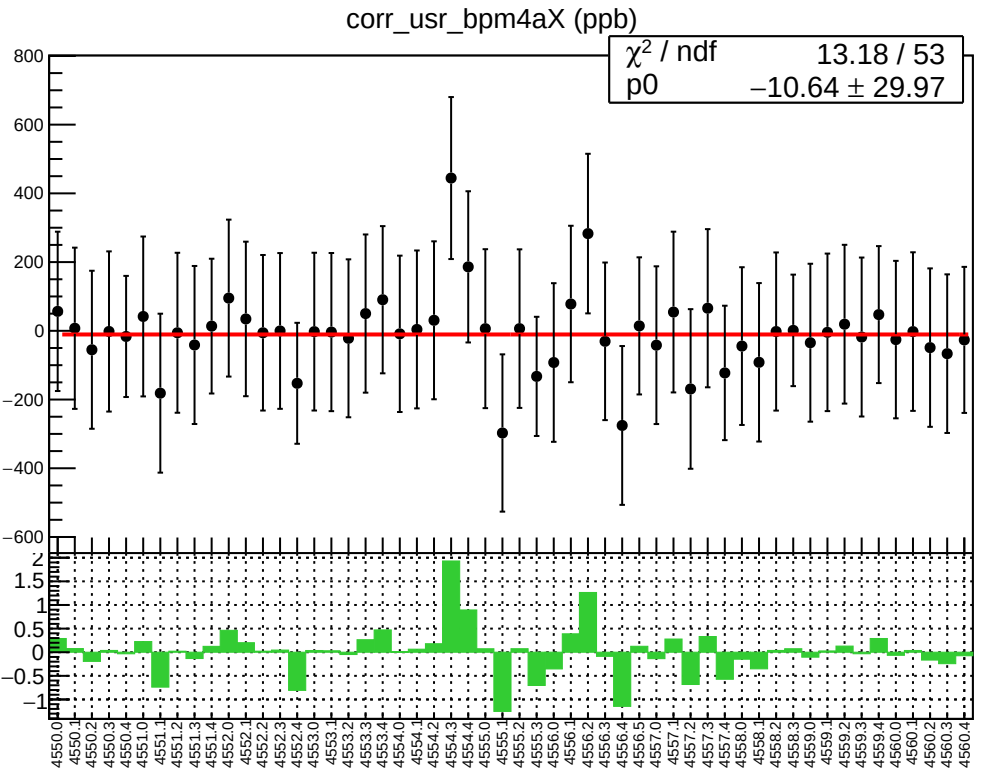

corr_usr_bpm4eX (ppb)
χ² / ndf 34.66 / 53
p0 −90.65 ± 260.5
1D pull distribution
Mean −0.006908 ± 0.109
Std Dev 0.8011 ± 0.07709
Underflow 0
Overflow 0
χ² / ndf 7.891 / 4
Constant 11.36 ± 2.44
Mean 0.03519 ± 0.18071
Sigma 0.9069 ± 0.1893

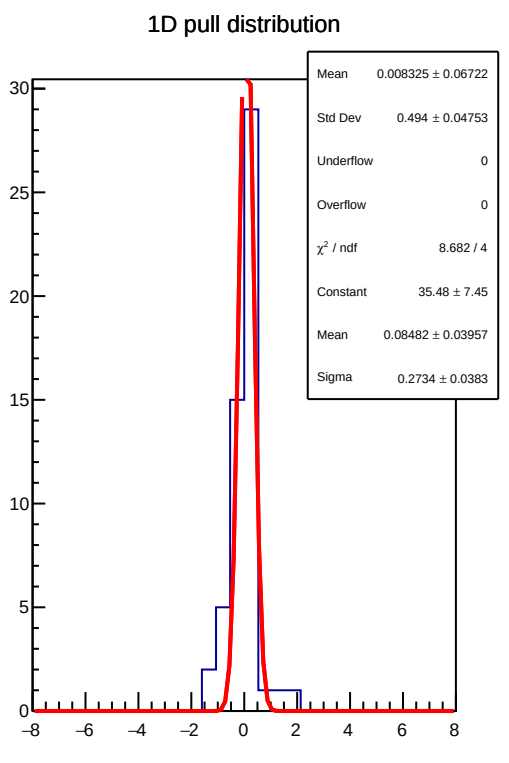

corr_usr_bpm4eX RMS (ppm)
RMS (ppm)
220
200
180
160
140
120
100
80
60
40
20
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

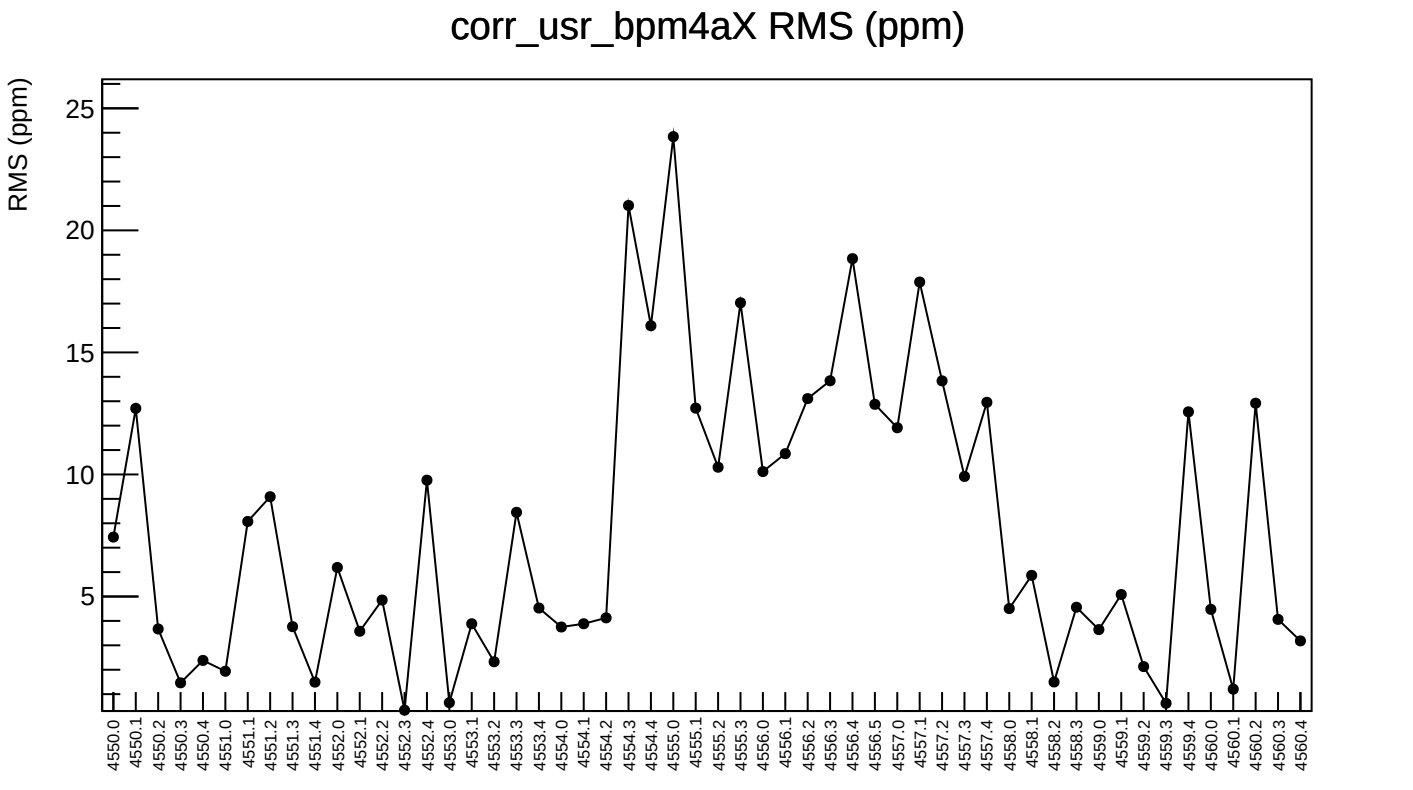

corr_usr_bpm4eY (ppb)
χ² / ndf 28.95 / 53
p0 −11.71 ± 42.33
1000
500
0
−500
−1000
2
1.5
1
0.5
0
−0.5
−1
−1.5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

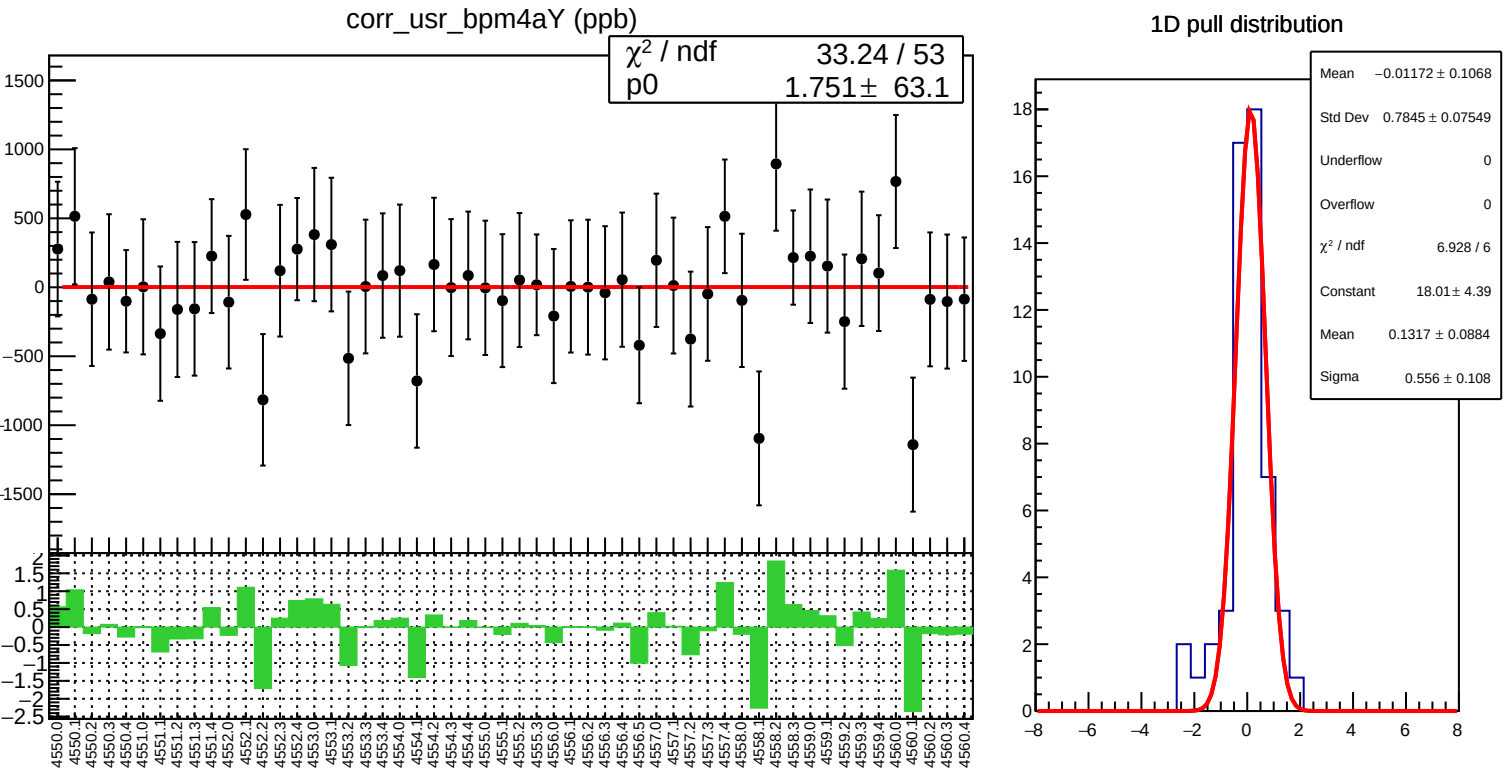

1D pull distribution
Mean 0.004107 ± 0.09964
Std Dev 0.7322 ± 0.07046
Underflow 0
Overflow 0
χ² / ndf 9.478 / 5
Constant 26.1 ± 4.9
Mean −0.07172 ± 0.05961
Sigma 0.363 ± 0.042
22
20
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

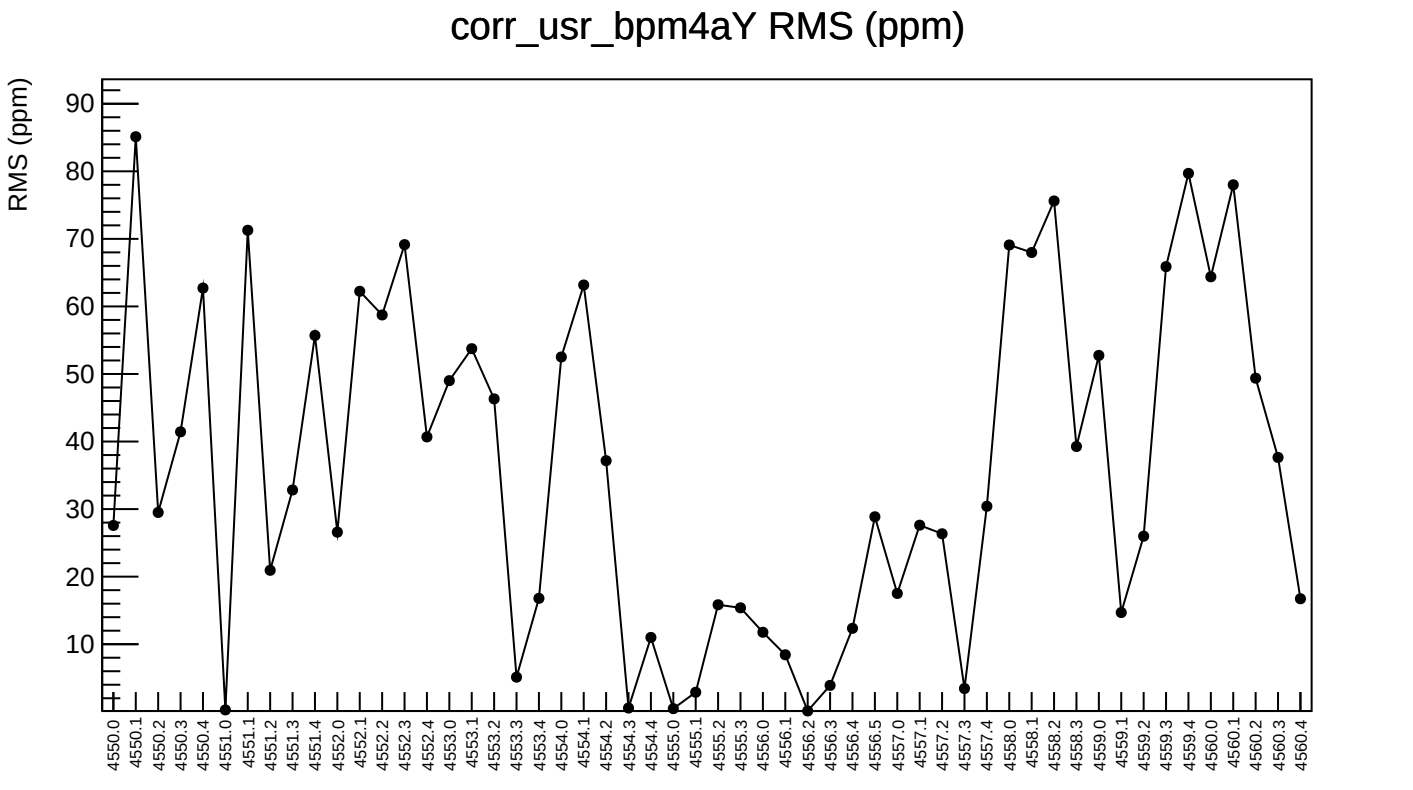

corr_usr_bpm4eY RMS (ppm)
RMS (ppm)
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

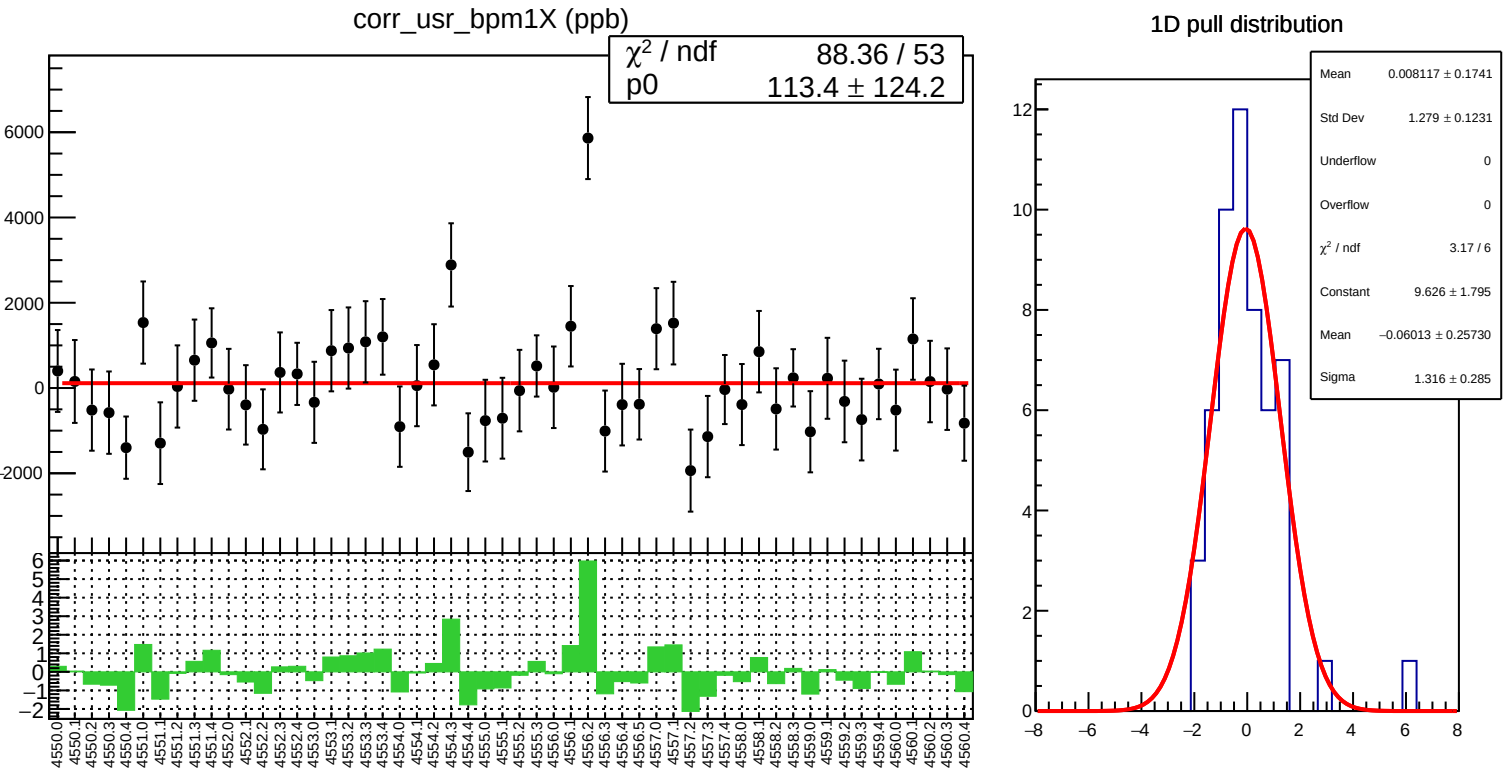

corr_usr_bpm4aX (ppb)
χ² / ndf 13.18 / 53
p0 −10.64 ± 29.97

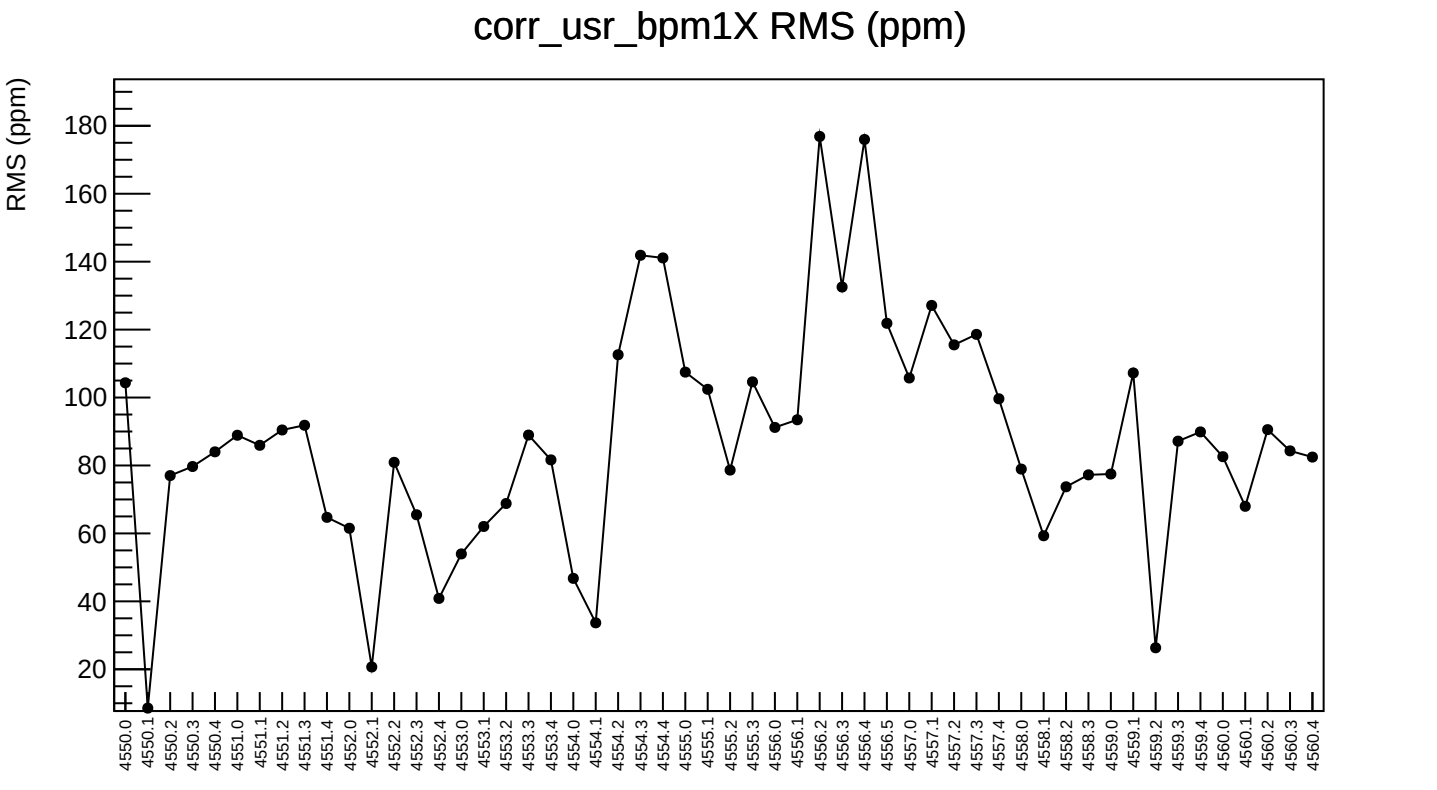

1D pull distribution
Mean 0.008325 ± 0.06722
Std Dev 0.494 ± 0.04753
Underflow 0
Overflow 0
χ² / ndf 8.682 / 4
Constant 35.48 ± 7.45
Mean 0.08482 ± 0.03957
Sigma 0.2734 ± 0.0383

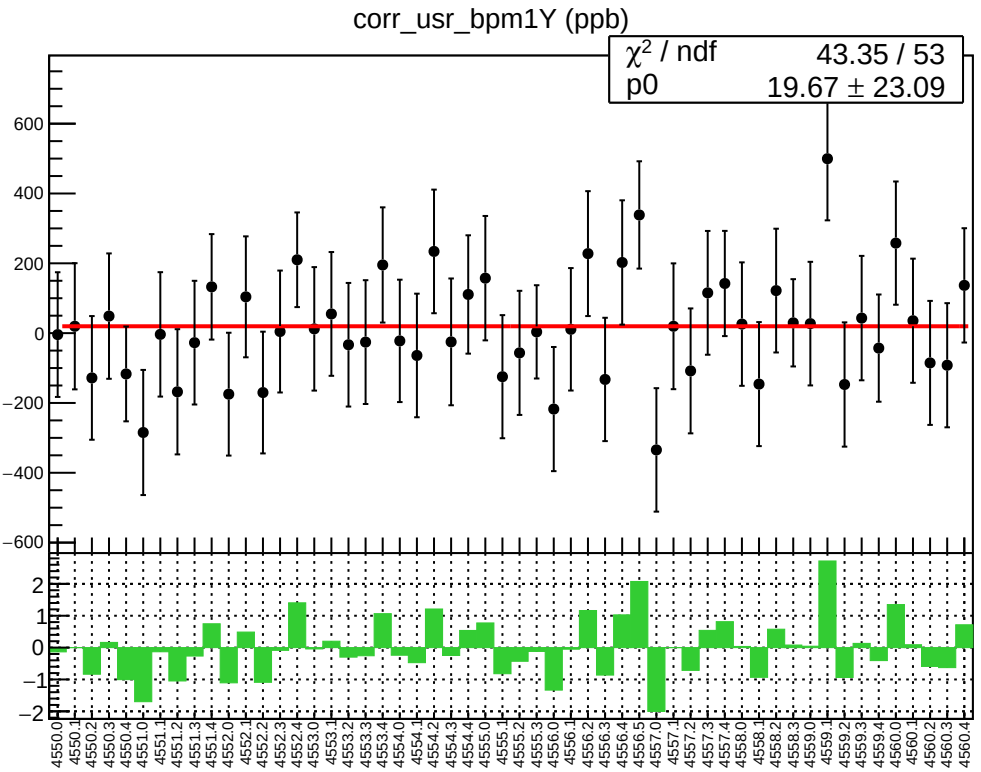

corr_usr_bpm4aX RMS (ppm)
RMS (ppm)
25
20
15
10
5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

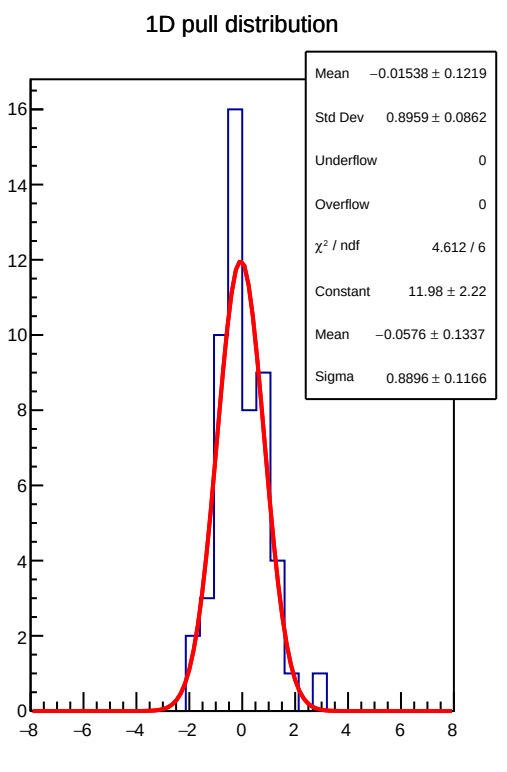

corr_usr_bpm4aY (ppb)
χ² / ndf 33.24 / 53
p0 1.751± 63.1
1D pull distribution
Mean −0.01172 ± 0.1068
Std Dev 0.7845 ± 0.07549
Underflow 0
Overflow 0
χ² / ndf 6.928 / 6
Constant 18.01± 4.39
Mean 0.1317 ± 0.0884
Sigma 0.556 ± 0.108

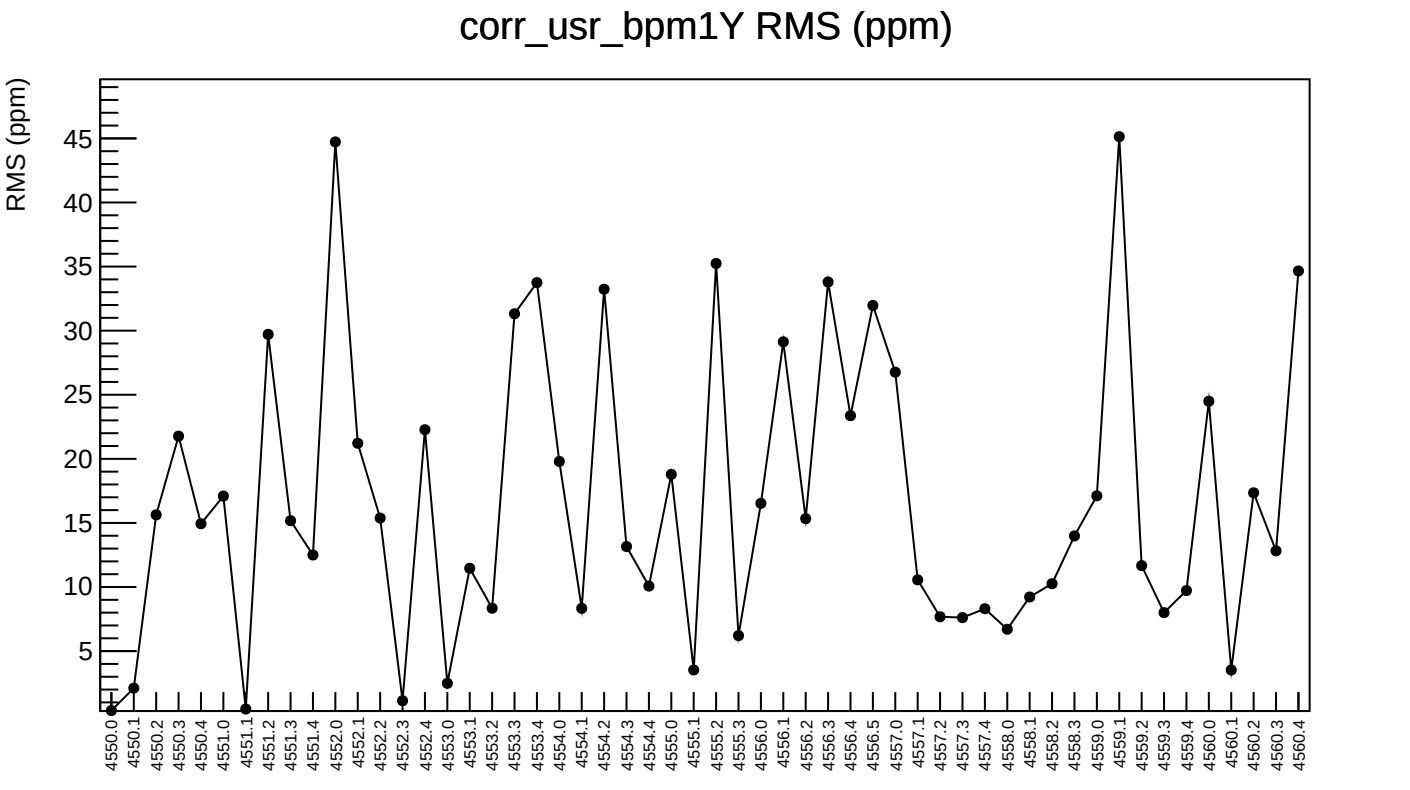

corr_usr_bpm4aY RMS (ppm)
RMS (ppm)
90
80
70
60
50
40
30
20
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

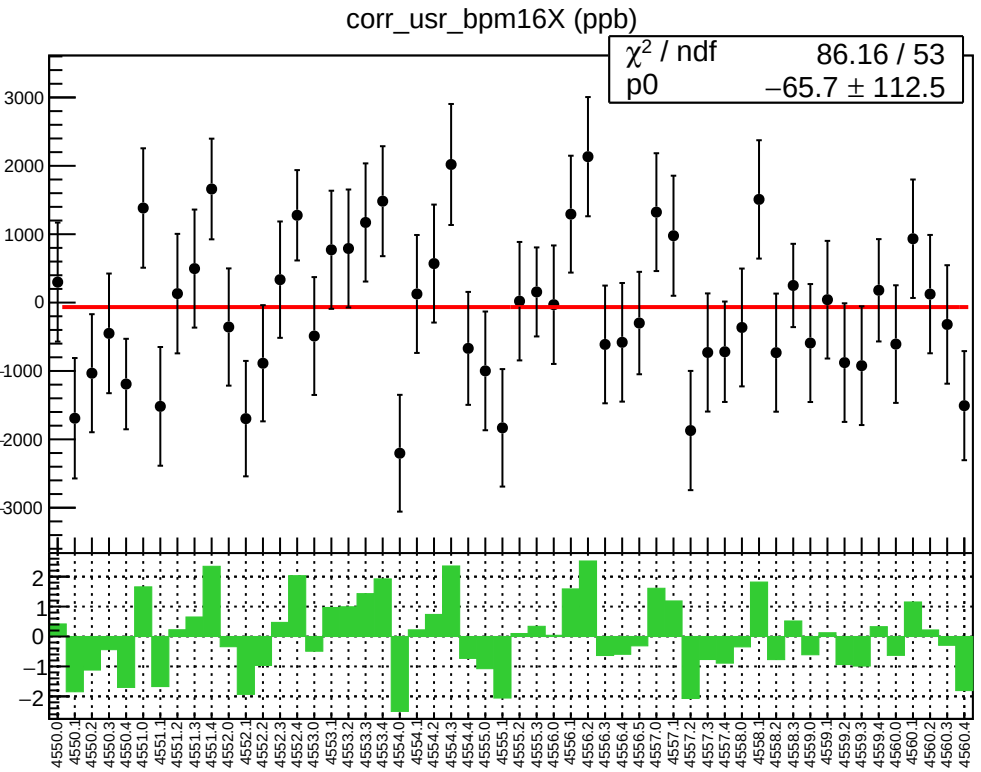

corr_usr_bpm1X (ppb)
χ² / ndf 88.36 / 53
p0 113.4 ± 124.2
1D pull distribution
Mean 0.008117 ± 0.1741
Std Dev 1.279 ± 0.1231
Underflow 0
Overflow 0
χ² / ndf 3.17 / 6
Constant 9.626 ± 1.795
Mean −0.06013 ± 0.25730
Sigma 1.316 ± 0.285

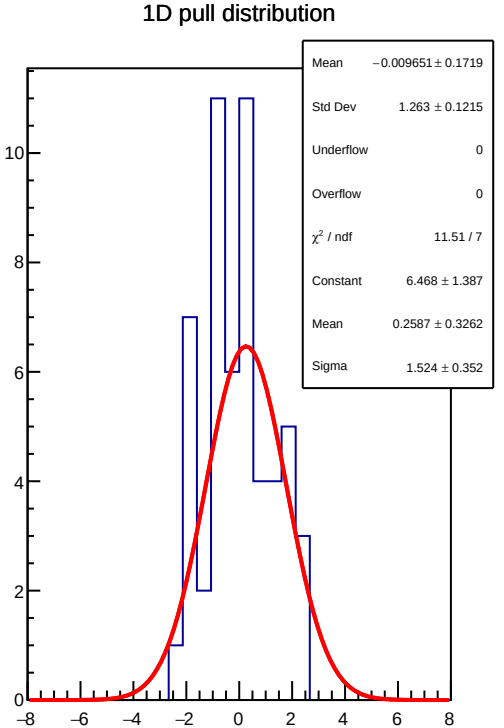

corr_usr_bpm1X RMS (ppm)
RMS (ppm)
180
160
140
120
100
80
60
40
20
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

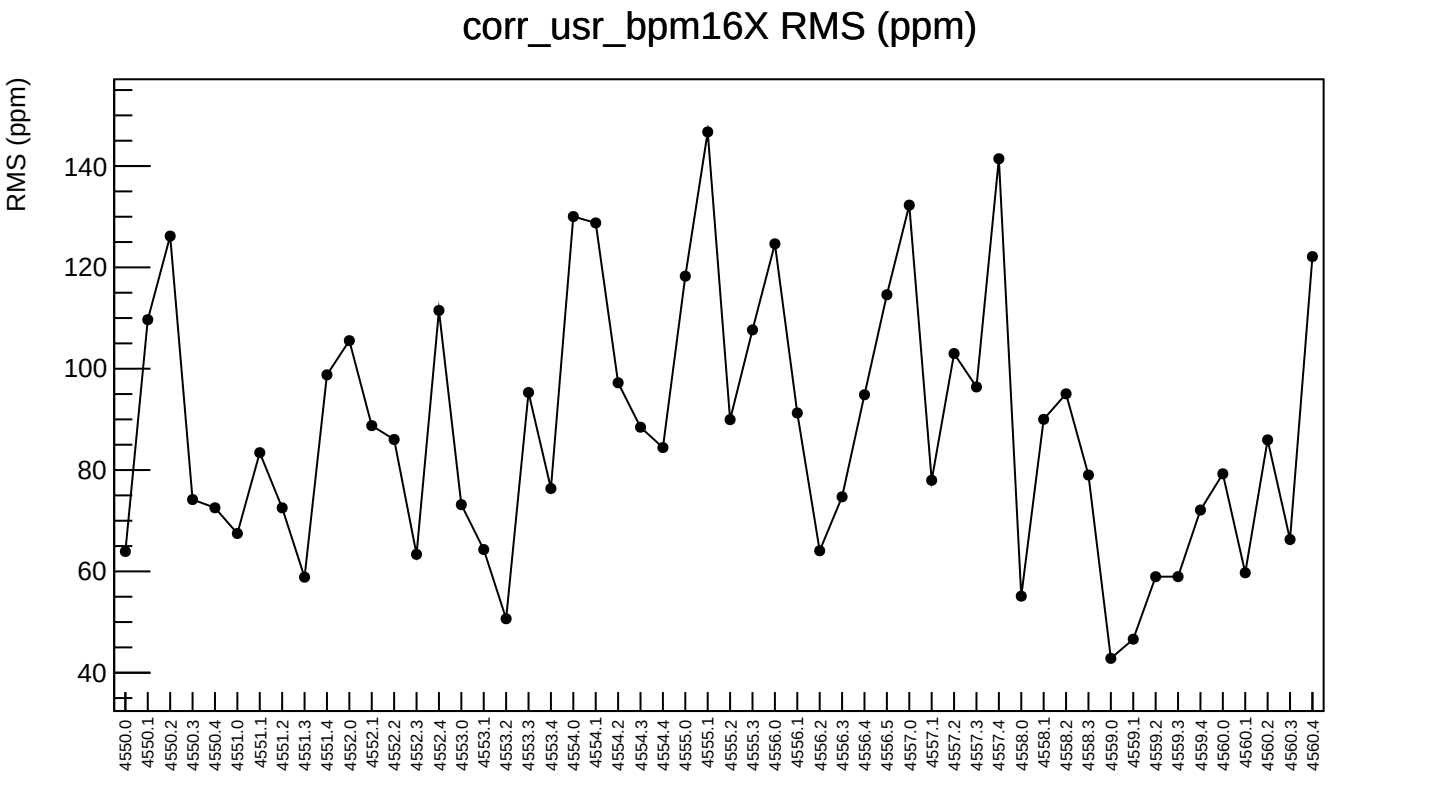

corr_usr_bpm1Y (ppb)
χ² / ndf 43.35 / 53
p0 19.67 ± 23.09
600
400
200
0
−200
−400
−600
2
1
0
−1
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

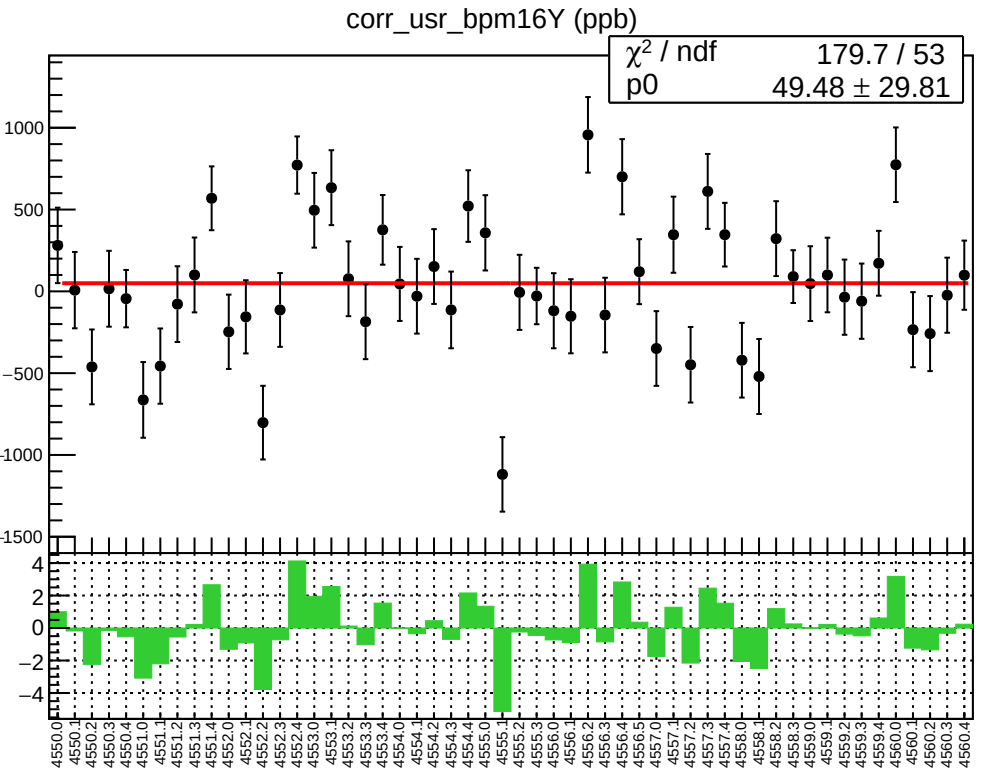

1D pull distribution
Mean −0.01538 ± 0.1219
Std Dev 0.8959 ± 0.0862
Underflow 0
Overflow 0
χ² / ndf 4.612 / 6
Constant 11.98 ± 2.22
Mean −0.0576 ± 0.1337
Sigma 0.8896 ± 0.1166
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

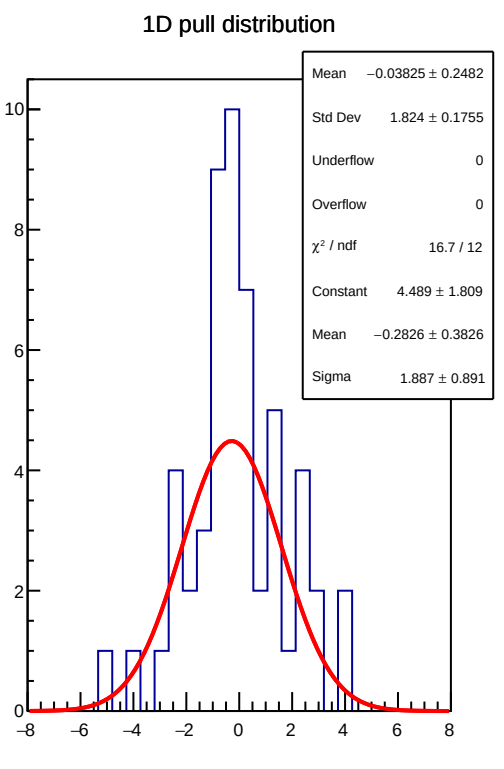

corr_usr_bpm1Y RMS (ppm)
RMS (ppm)
45
40
35
30
25
20
15
10
5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

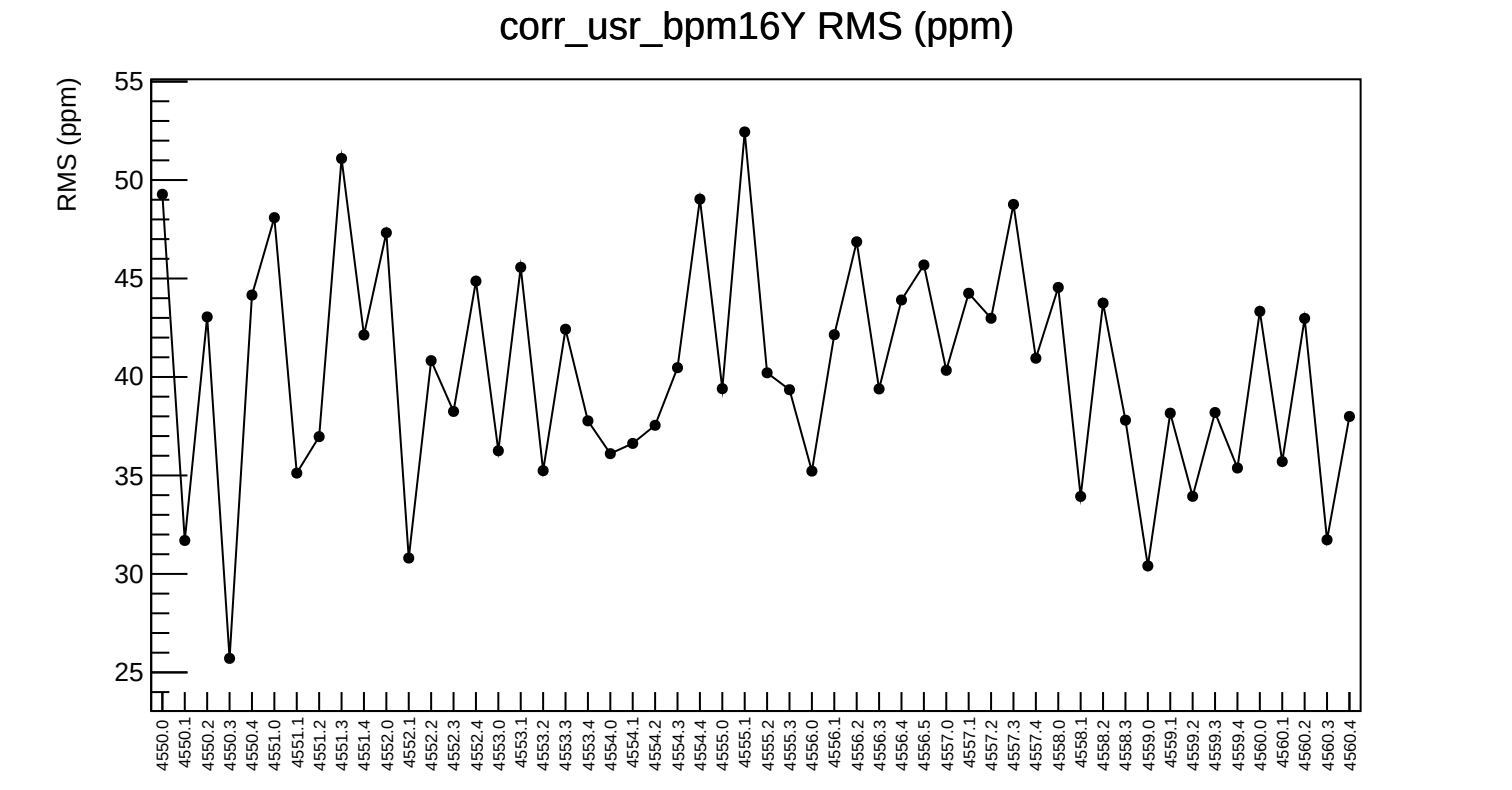

corr_usr_bpm16X (ppb)
χ² / ndf 86.16 / 53
p0 −65.7 ± 112.5
3000
2000
1000
0
-1000
-2000
-3000
2
1
0
−1
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

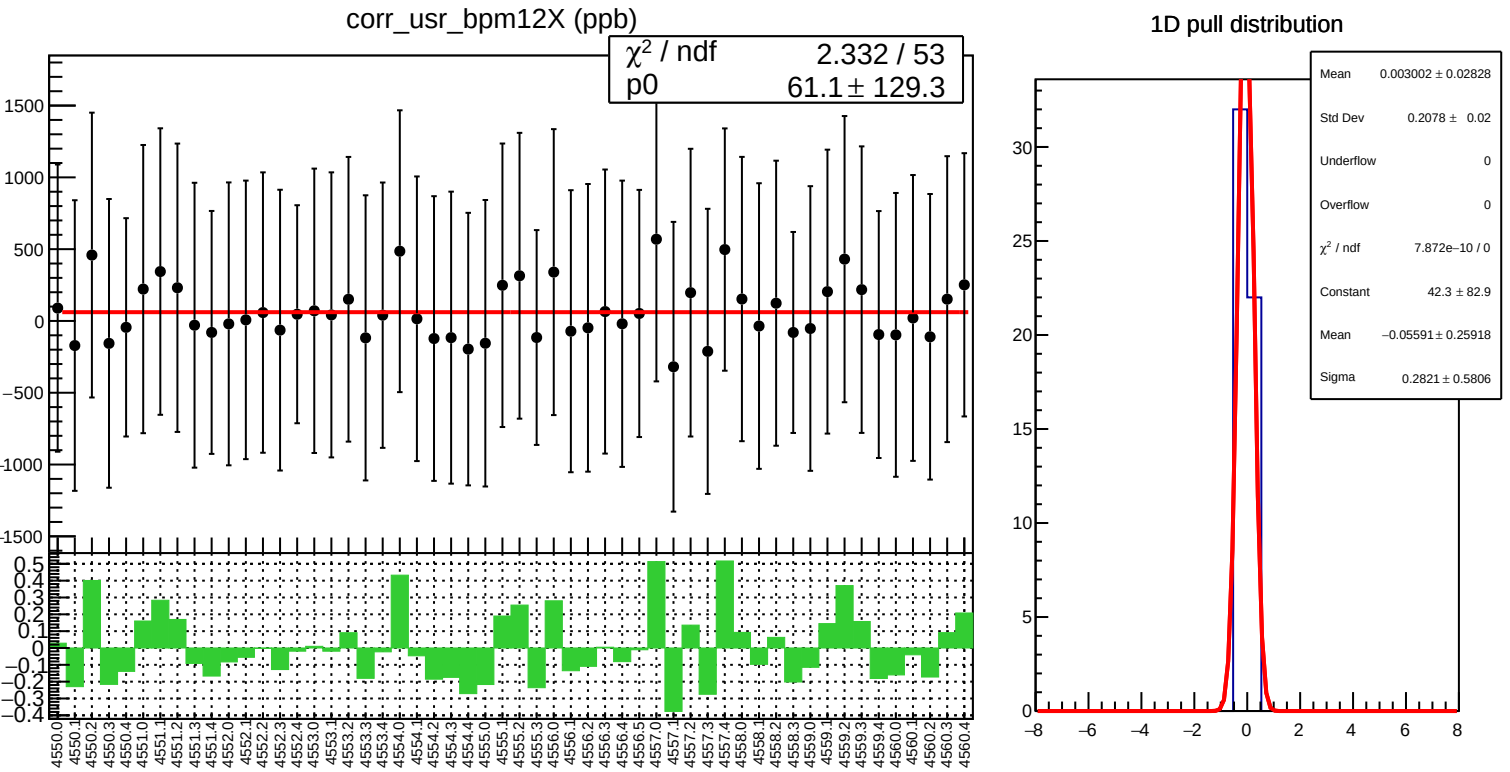

1D pull distribution
Mean −0.009651 ± 0.1719
Std Dev 1.263 ± 0.1215
Underflow 0
Overflow 0
χ² / ndf 11.51 / 7
Constant 6.468 ± 1.387
Mean 0.2587 ± 0.3262
Sigma 1.524 ± 0.352
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

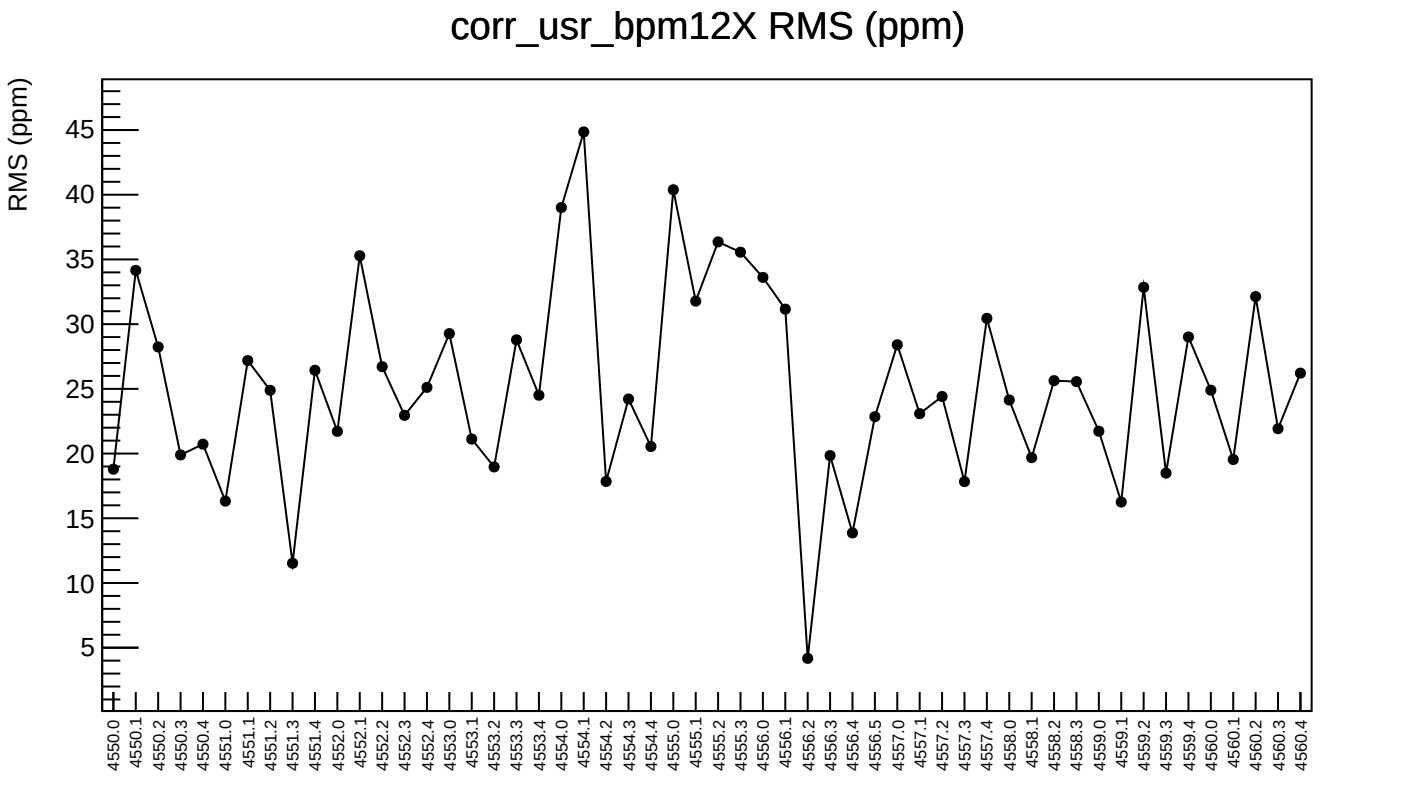

corr_usr_bpm16X RMS (ppm)
RMS (ppm)
140
120
100
80
60
40
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

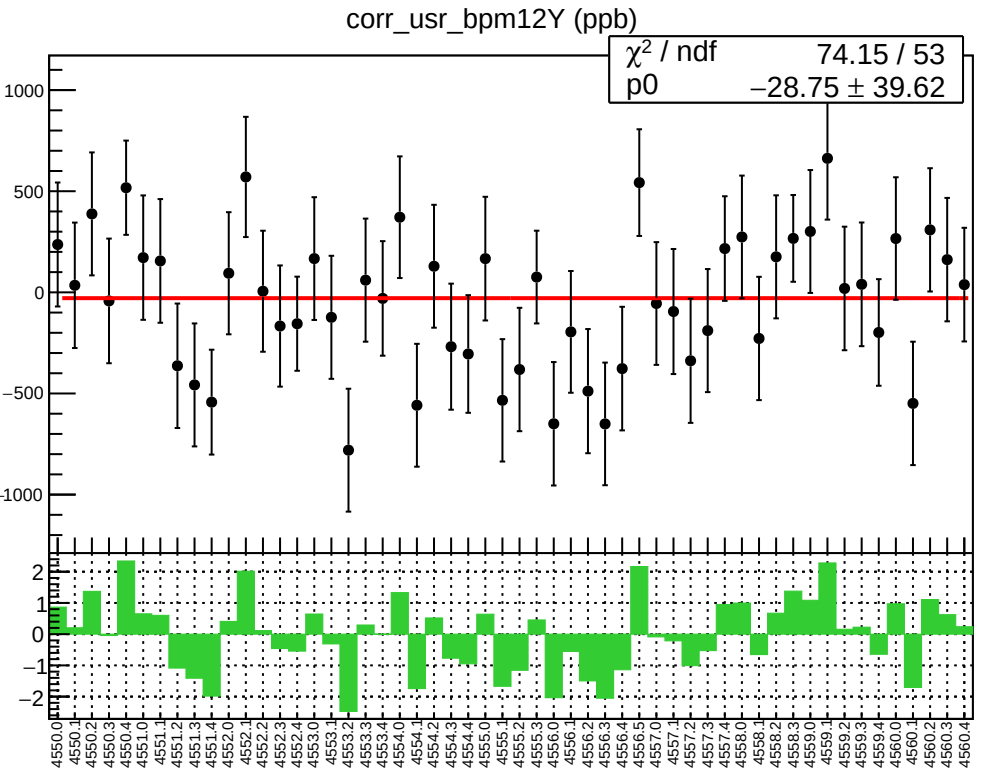

corr_usr_bpm16Y (ppb)
χ² / ndf 179.7 / 53
p0 49.48 ± 29.81
1000
500
0
−500
−1000
−1500
4
2
0
−2
−4
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

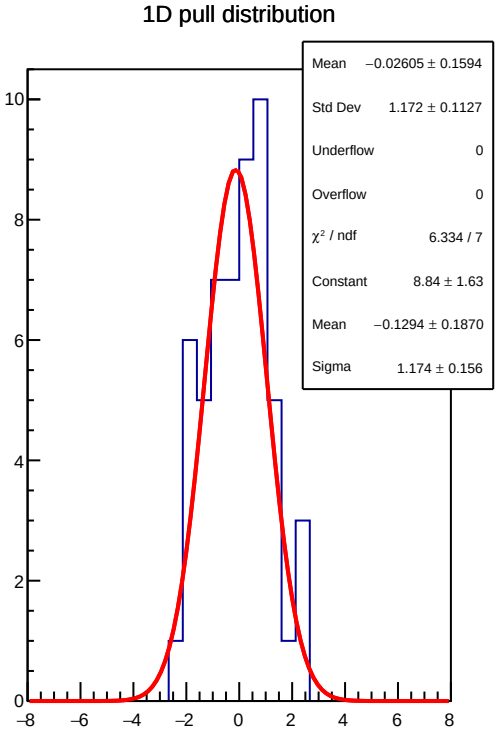

1D pull distribution
Mean −0.03825 ± 0.2482
Std Dev 1.824 ± 0.1755
Underflow 0
Overflow 0
χ² / ndf 16.7 / 12
Constant 4.489 ± 1.809
Mean −0.2826 ± 0.3826
Sigma 1.887 ± 0.891
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

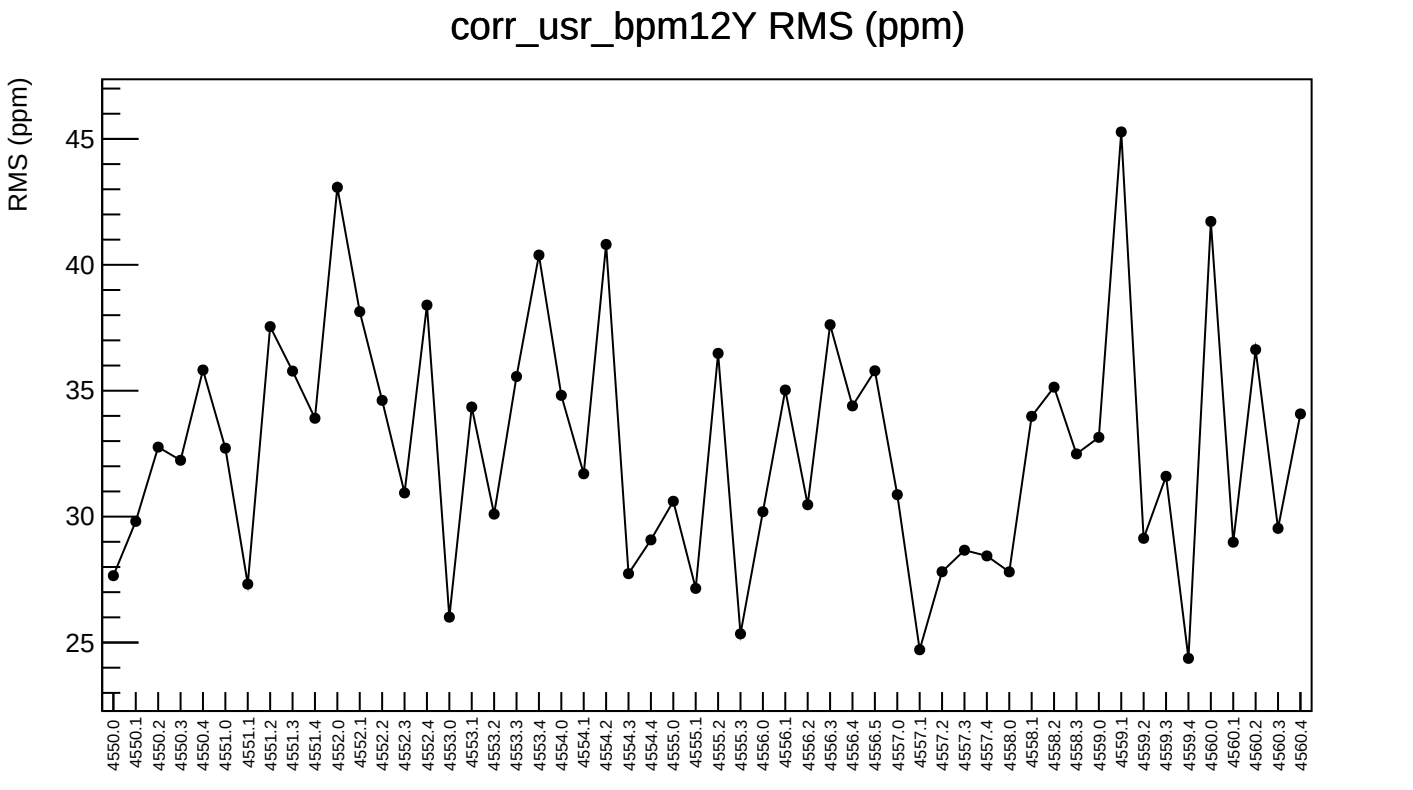

corr_usr_bpm16Y RMS (ppm)
RMS (ppm)
55
50
45
40
35
30
25
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

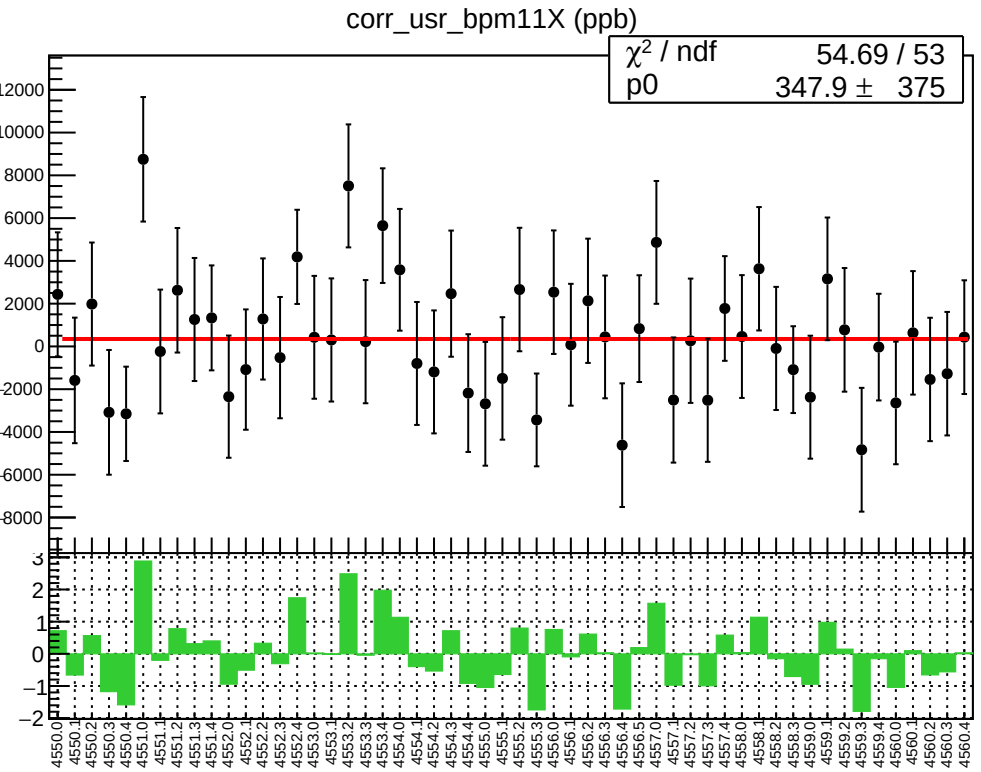

corr_usr_bpm12X (ppb)
χ² / ndf 2.332 / 53
p0 61.1 ± 129.3
1D pull distribution
Mean 0.003002 ± 0.02828
Std Dev 0.2078 ± 0.02
Underflow 0
Overflow 0
χ² / ndf 7.872e−10 / 0
Constant 42.3 ± 82.9
Mean −0.05591 ± 0.25918
Sigma 0.2821 ± 0.5806

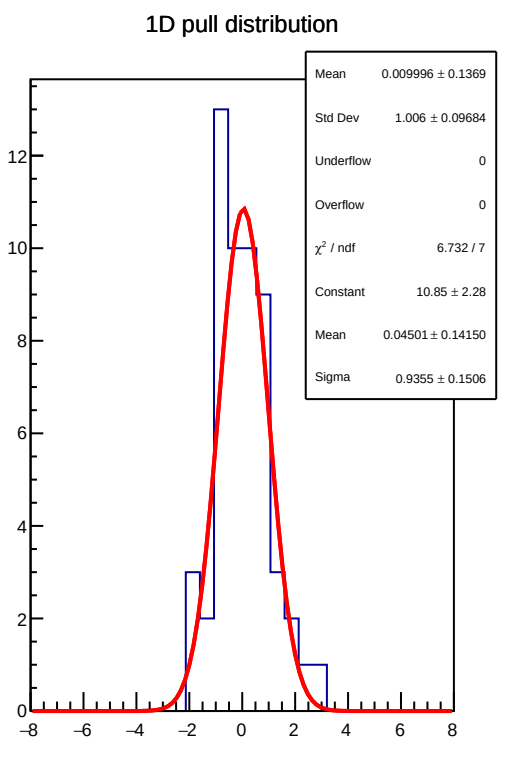

corr_usr_bpm12X RMS (ppm)
RMS (ppm)
45
40
35
30
25
20
15
10
5
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

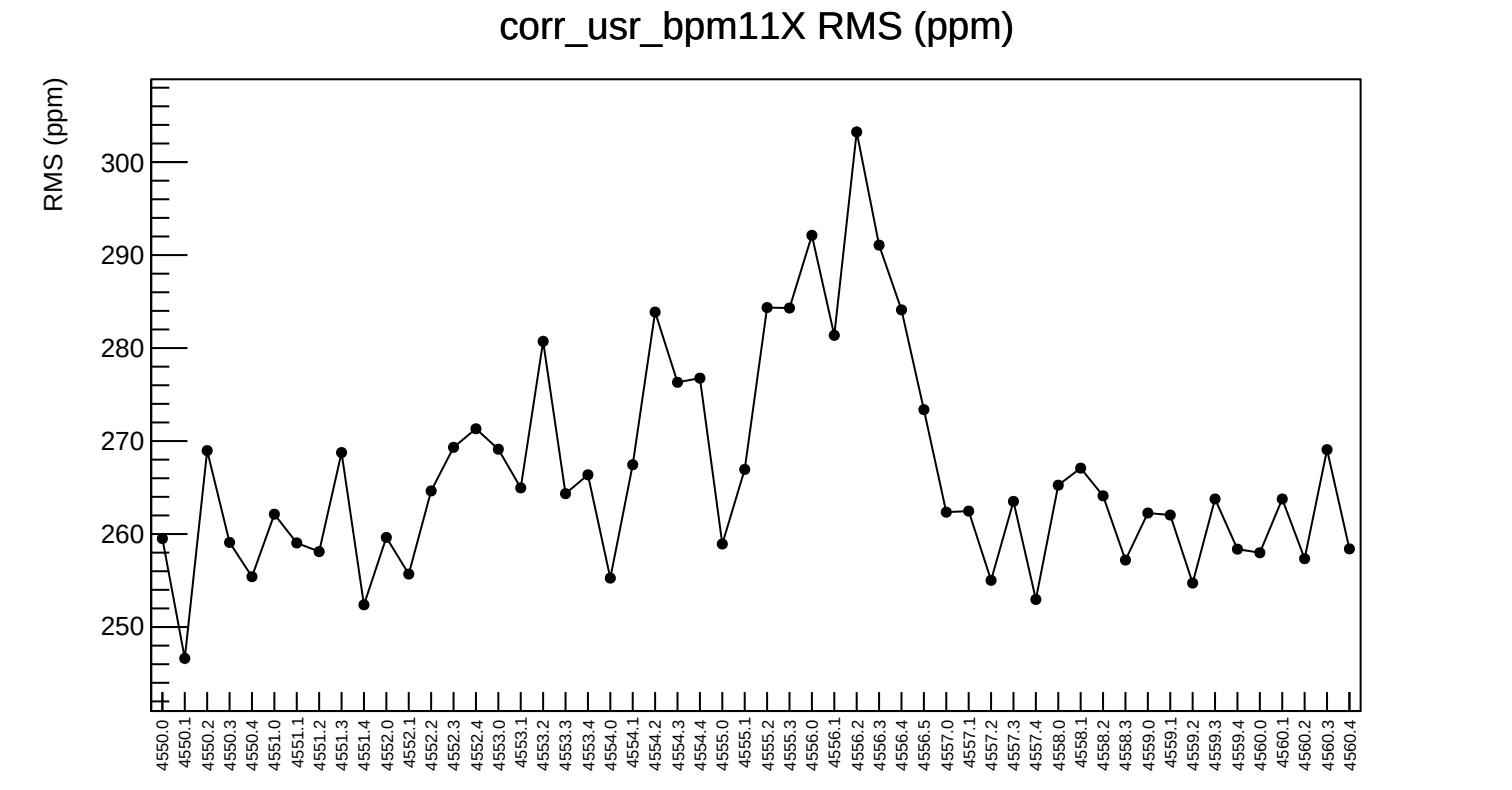

corr_usr_bpm12Y (ppb)
χ² / ndf 74.15 / 53
p0 −28.75 ± 39.62
1000
500
0
−500
−1000
2
1
0
−1
−2
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

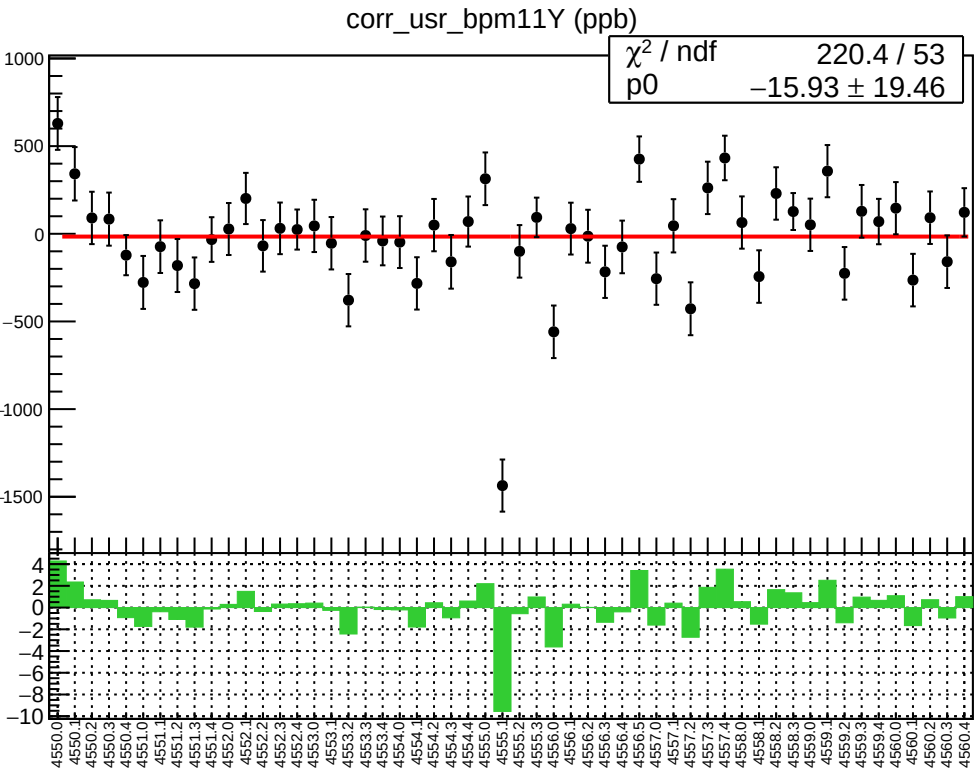

1D pull distribution
Mean −0.02605 ± 0.1594
Std Dev 1.172 ± 0.1127
Underflow 0
Overflow 0
χ² / ndf 6.334 / 7
Constant 8.84 ± 1.63
Mean −0.1294 ± 0.1870
Sigma 1.174 ± 0.156
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

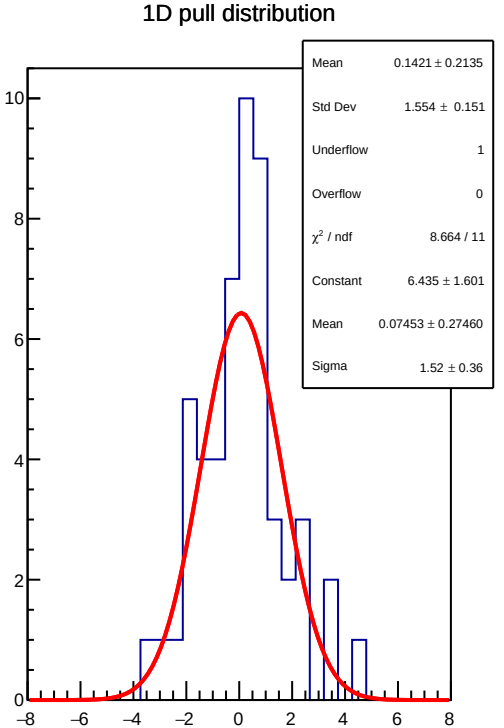

corr_usr_bpm12Y RMS (ppm)
RMS (ppm)
45
40
35
30
25
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

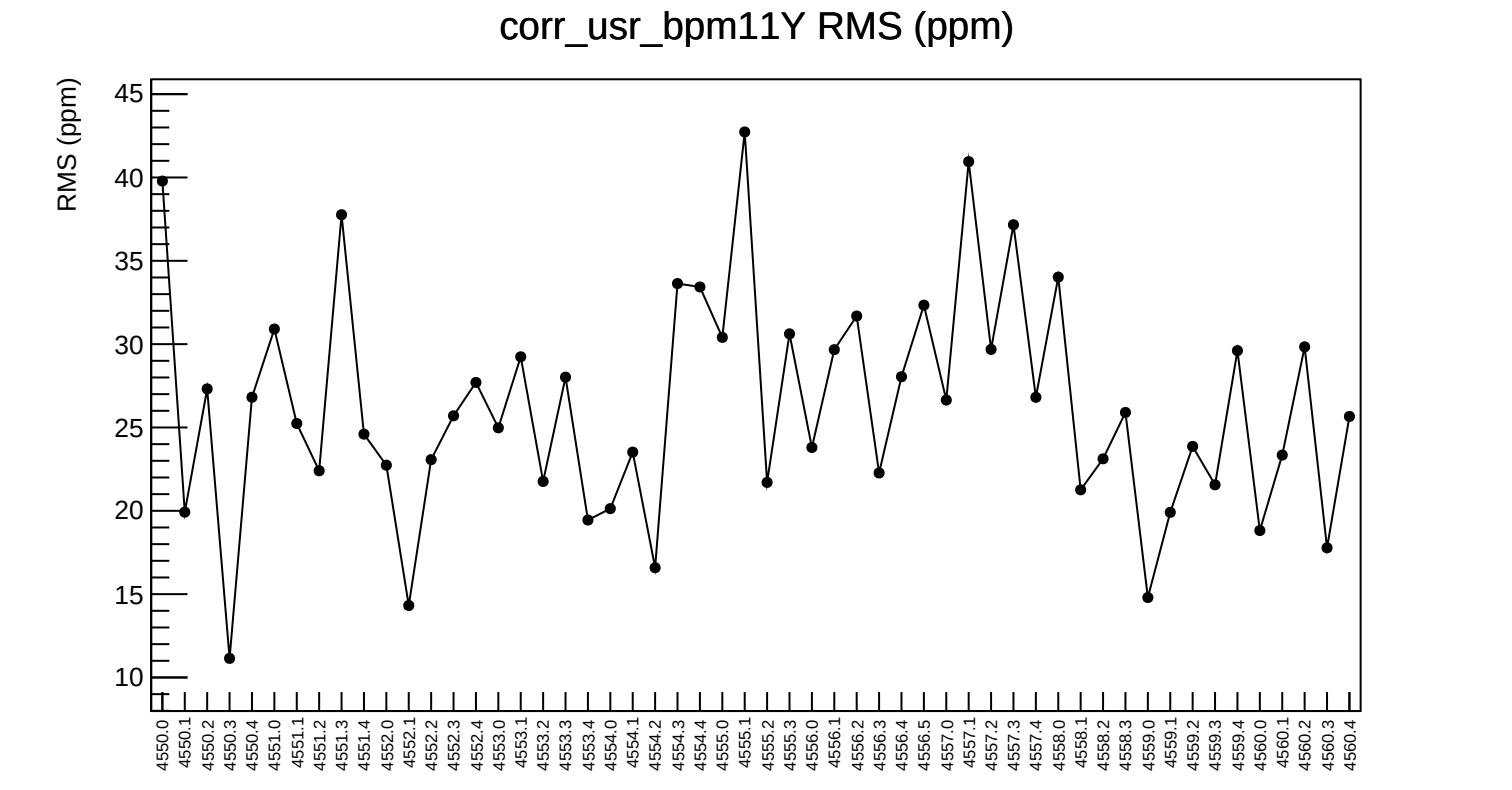

corr_usr_bpm11X (ppb)
χ² / ndf 54.69 / 53
p0 347.9 ± 375

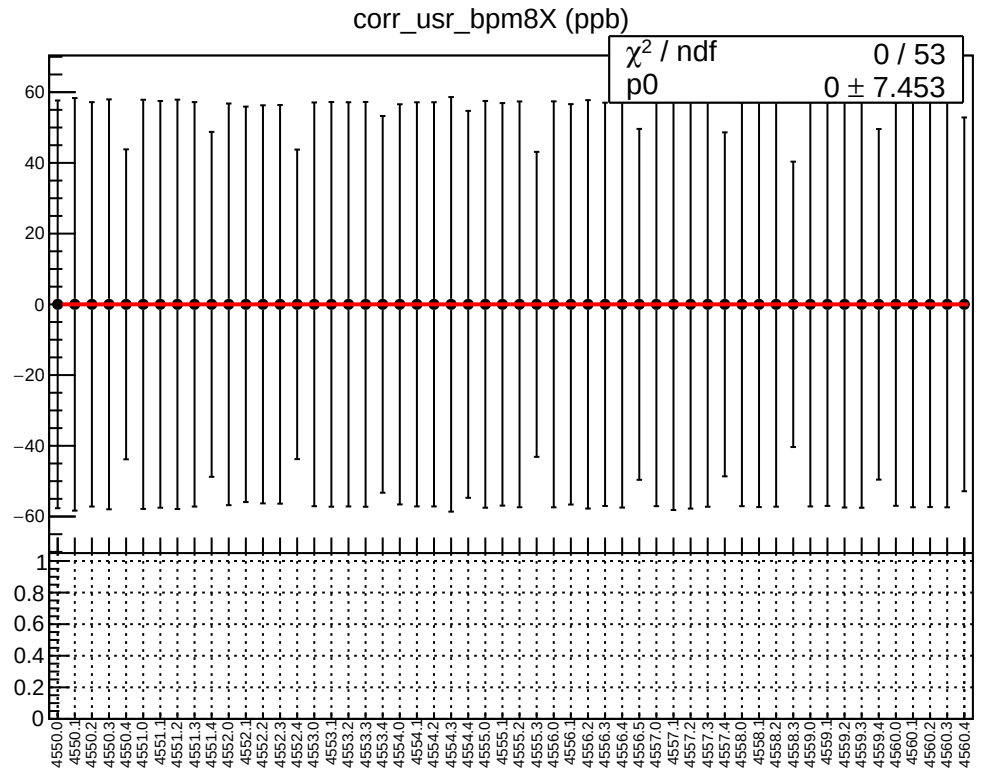

1D pull distribution
Mean 0.009996 ± 0.1369
Std Dev 1.006 ± 0.09684
Underflow 0
Overflow 0
χ² / ndf 6.732 / 7
Constant 10.85 ± 2.28
Mean 0.04501 ± 0.14150
Sigma 0.9355 ± 0.1506

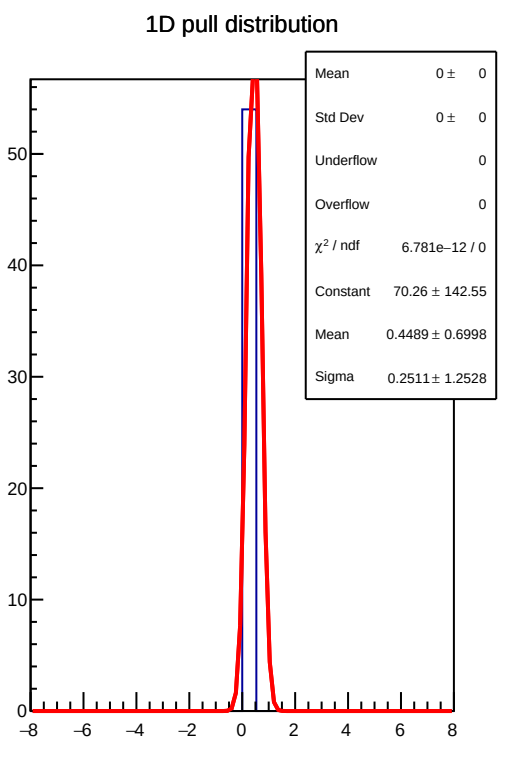

corr_usr_bpm11X RMS (ppm)
RMS (ppm)
300
290
280
270
260
250
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

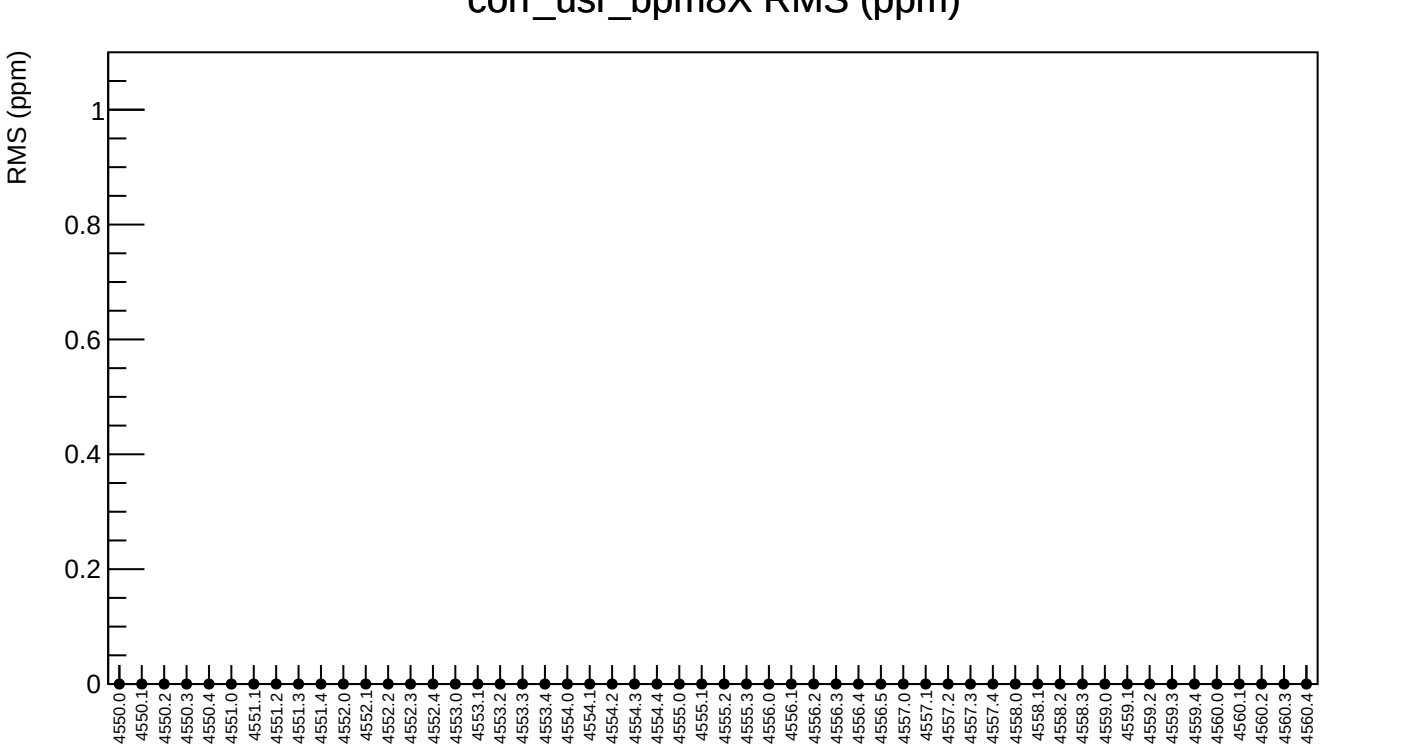

corr_usr_bpm11Y (ppb)
χ² / ndf 220.4 / 53
p0 −15.93 ± 19.46
1000
500
0
−500
−1000
−1500
4
2
0
−2
−4
−6
−8
−10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

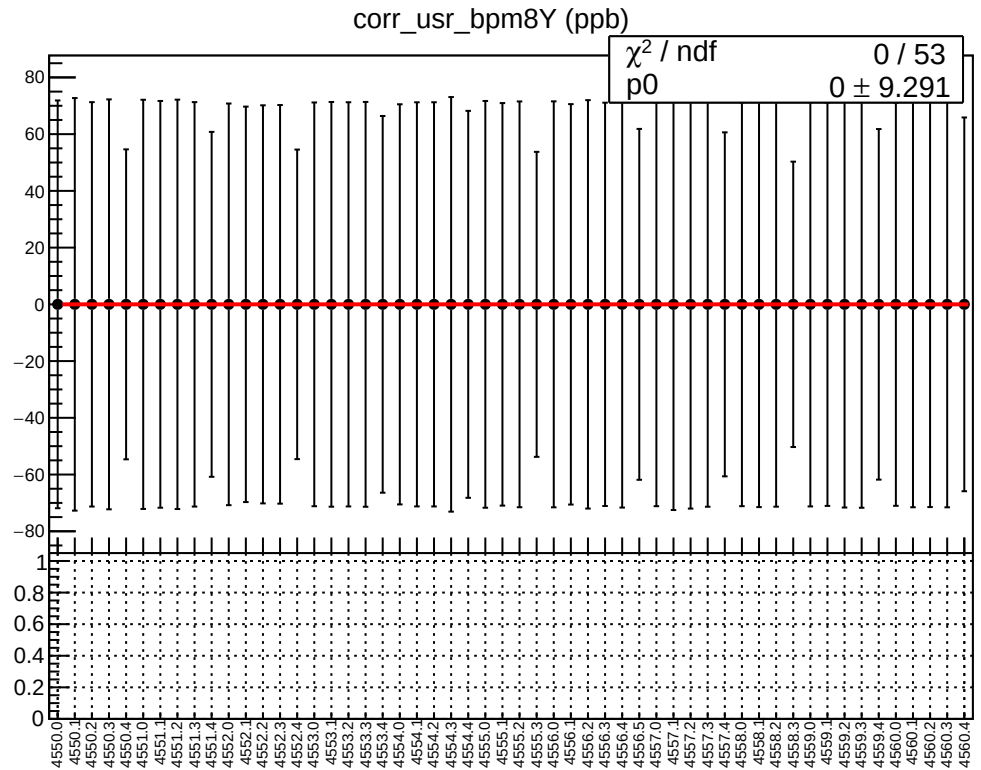

1D pull distribution
Mean 0.1421 ± 0.2135
Std Dev 1.554 ± 0.151
Underflow 1
Overflow 0
χ² / ndf 8.664 / 11
Constant 6.435 ± 1.601
Mean 0.07453 ± 0.27460
Sigma 1.52 ± 0.36
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

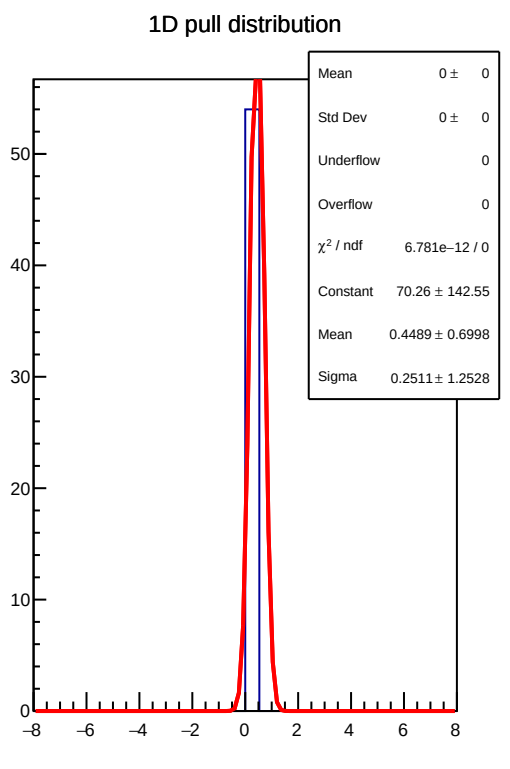

corr_usr_bpm11Y RMS (ppm)
RMS (ppm)
45
40
35
30
25
20
15
10
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4

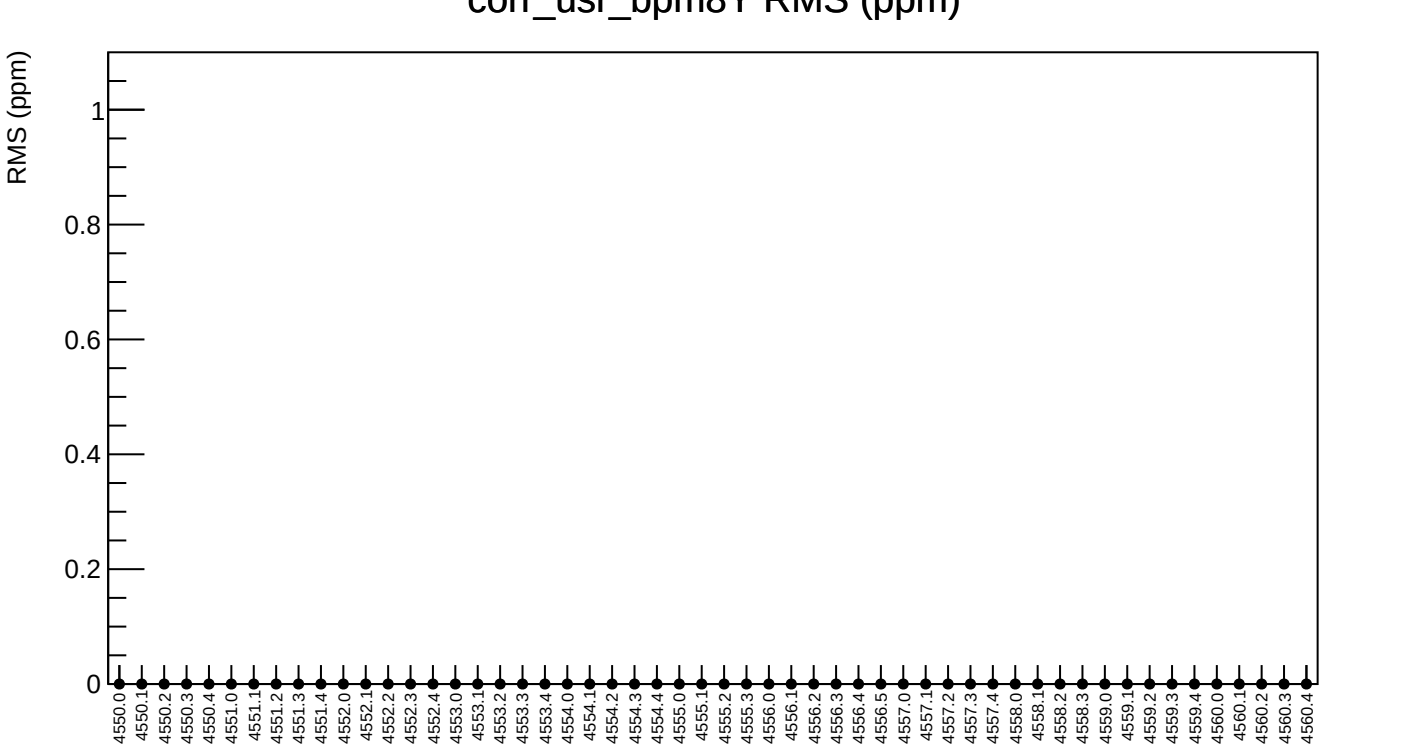

corr_usr_bpm8X (ppb)
χ² / ndf 0 / 53
p0 0 ± 7.453


1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528


corr_usr_bpm8X RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4


corr_usr_bpm8Y (ppb)
χ² / ndf 0 / 53
p0 0 ± 9.291


1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 6.781e−12 / 0
Constant 70.26 ± 142.55
Mean 0.4489 ± 0.6998
Sigma 0.2511 ± 1.2528


corr_usr_bpm8Y RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4550.0
4550.1
4550.2
4550.3
4550.4
4551.0
4551.1
4551.2
4551.3
4551.4
4552.0
4552.1
4552.2
4552.3
4552.4
4553.0
4553.1
4553.2
4553.3
4553.4
4554.0
4554.1
4554.2
4554.3
4554.4
4555.0
4555.1
4555.2
4555.3
4556.0
4556.1
4556.2
4556.3
4556.4
4556.5
4557.0
4557.1
4557.2
4557.3
4557.4
4558.0
4558.1
4558.2
4558.3
4559.0
4559.1
4559.2
4559.3
4559.4
4560.0
4560.1
4560.2
4560.3
4560.4