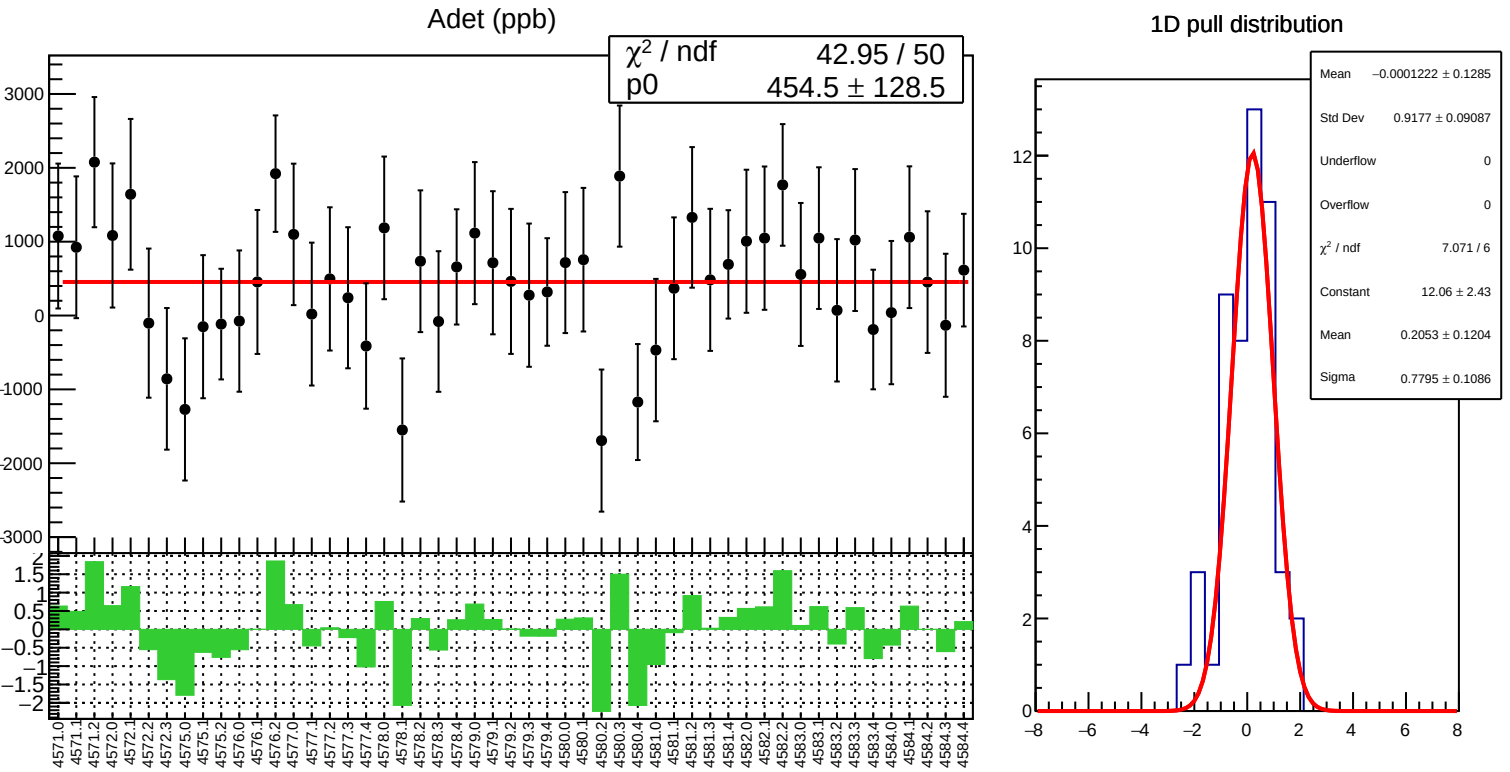
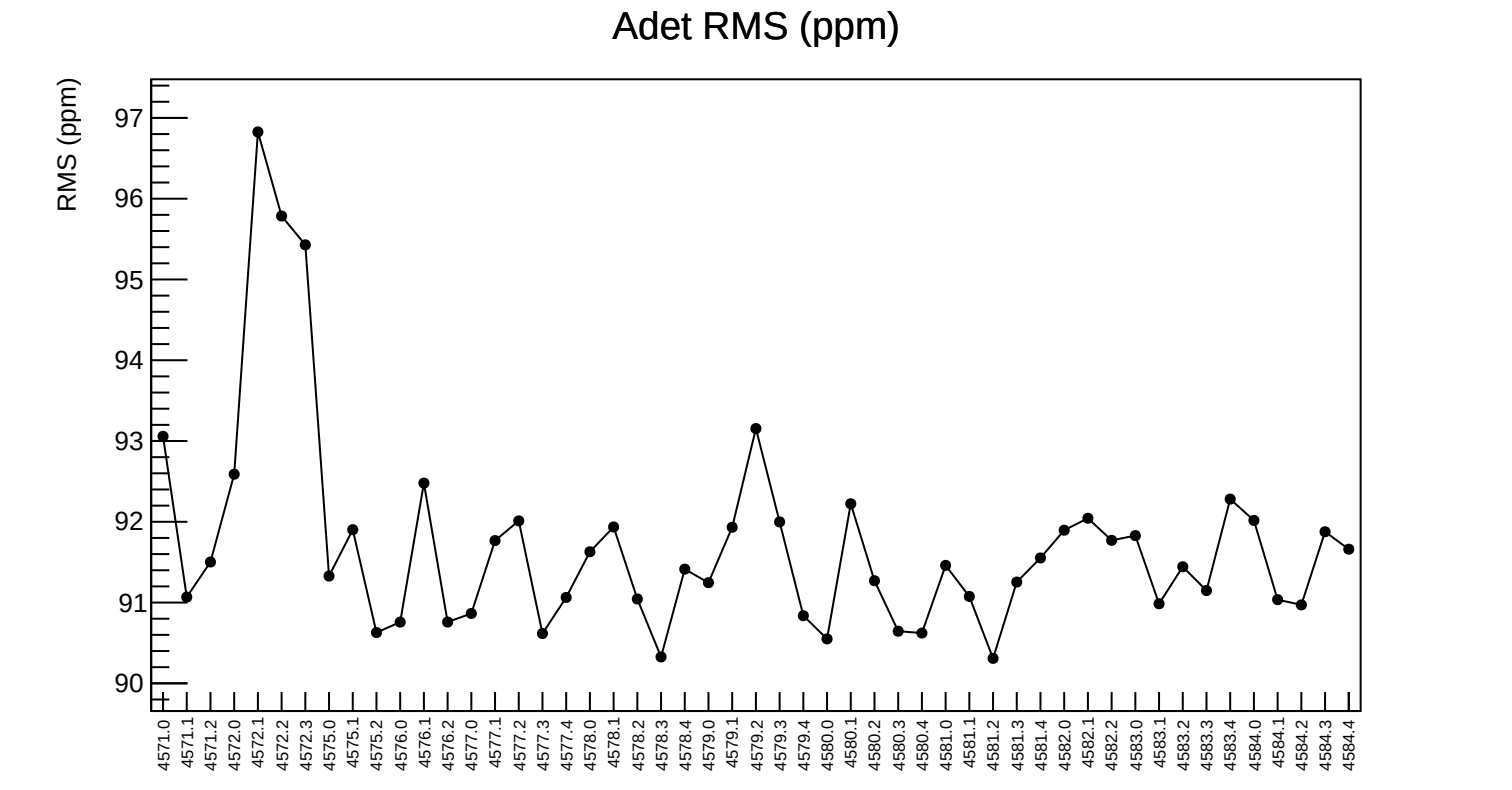
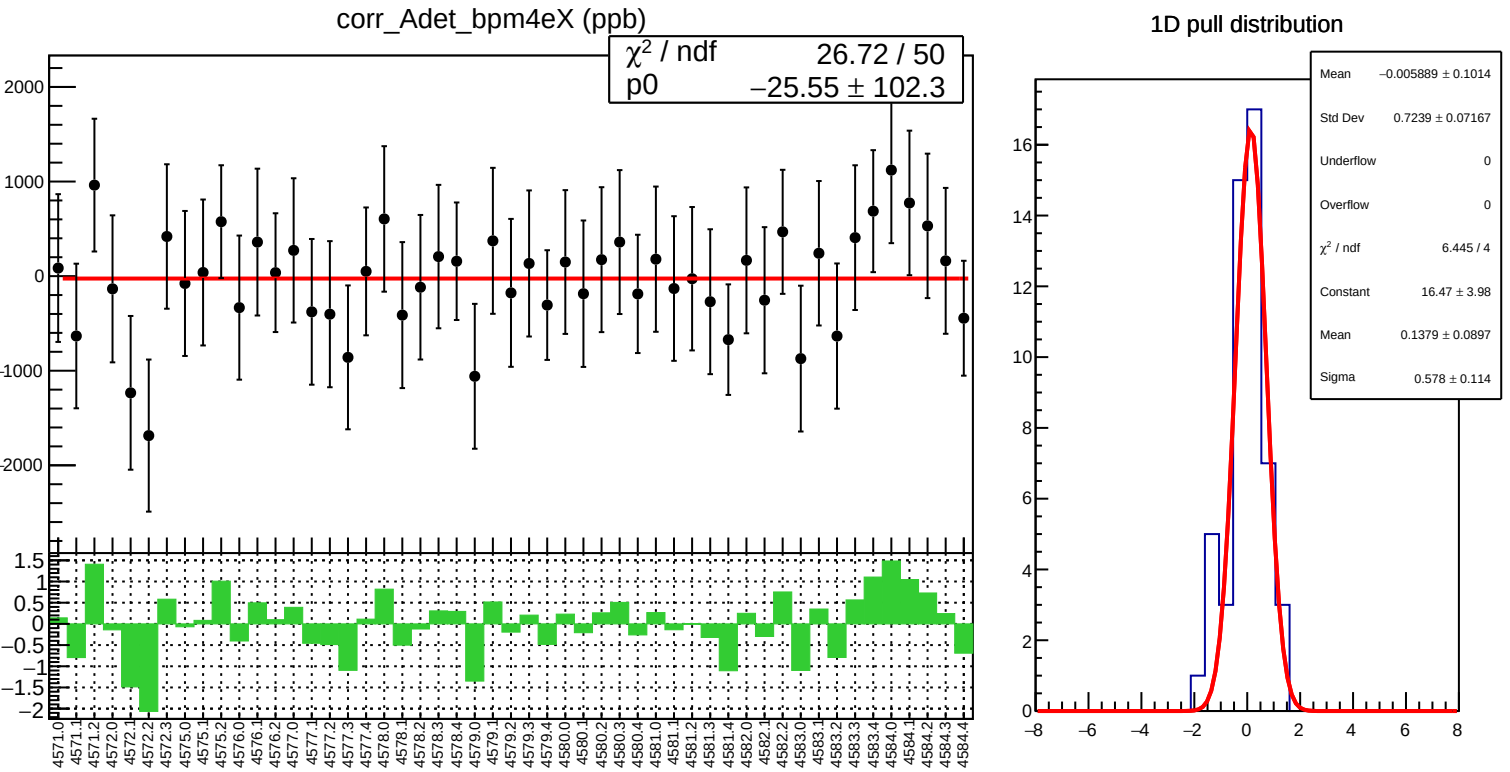
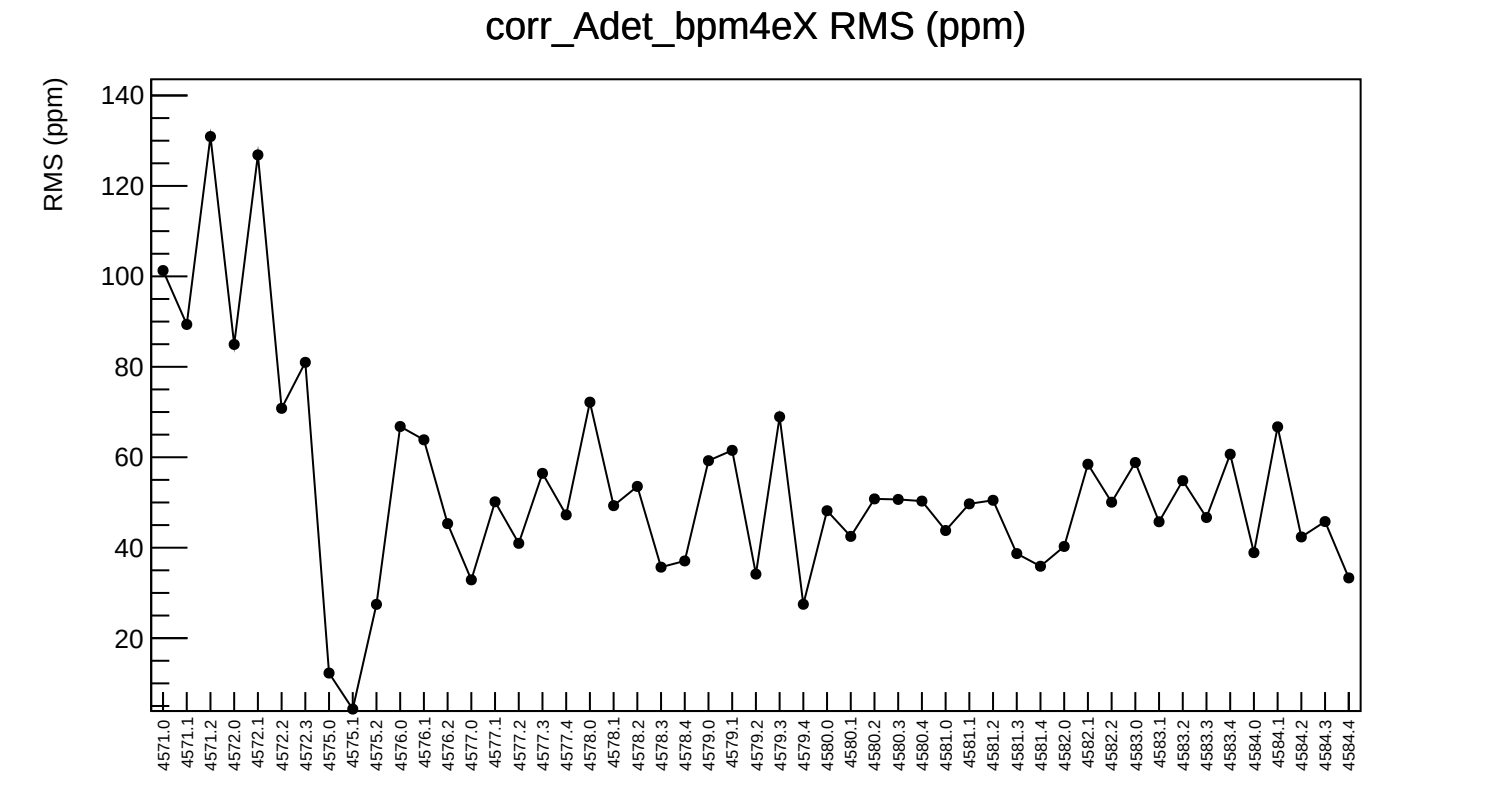
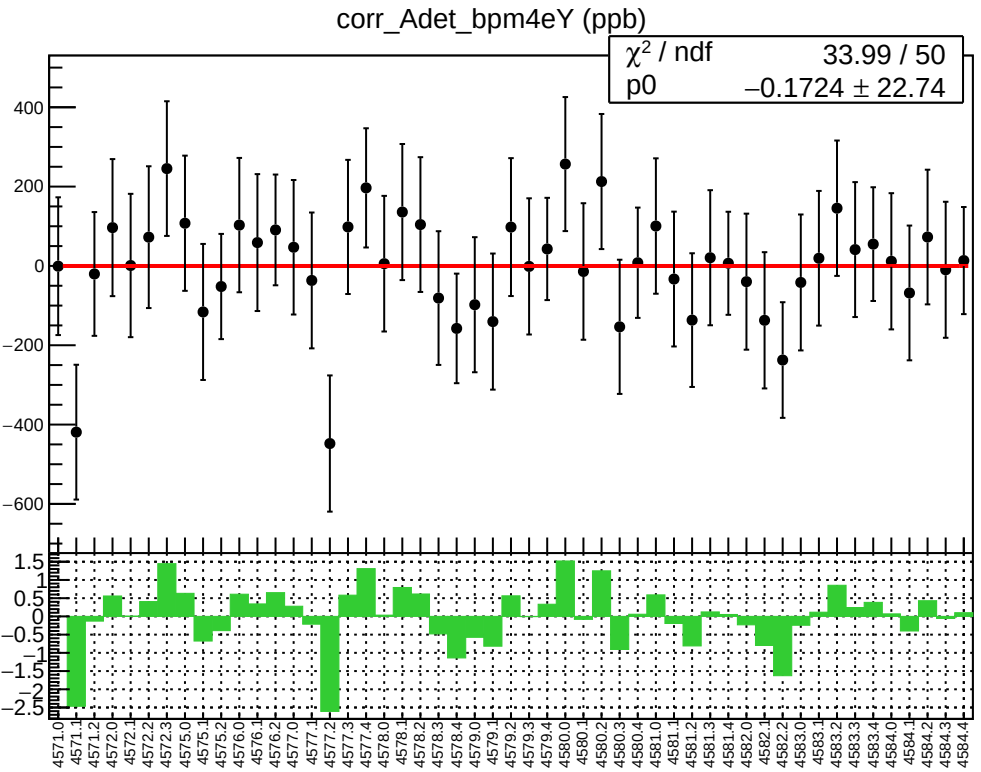
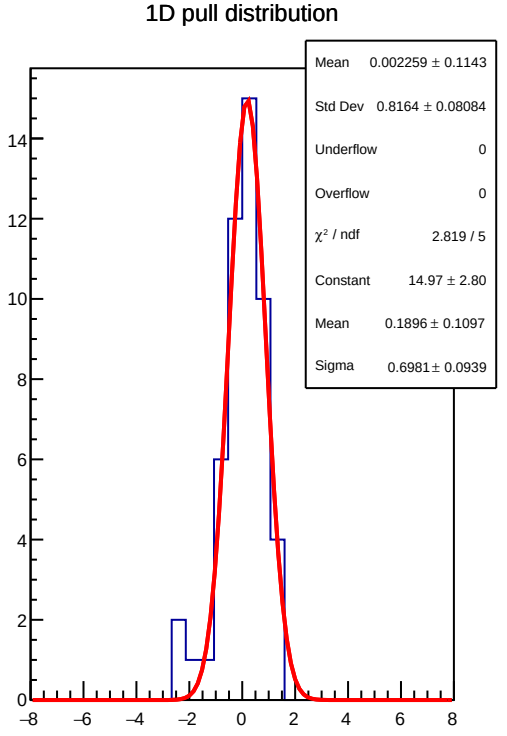

Adet (ppb)
χ² / ndf 42.95 / 50
p0 454.5 ± 128.5
1D pull distribution
Mean −0.0001222 ± 0.1285
Std Dev 0.9177 ± 0.09087
Underflow 0
Overflow 0
χ² / ndf 7.071 / 6
Constant 12.06 ± 2.43
Mean 0.2053 ± 0.1204
Sigma 0.7795 ± 0.1086

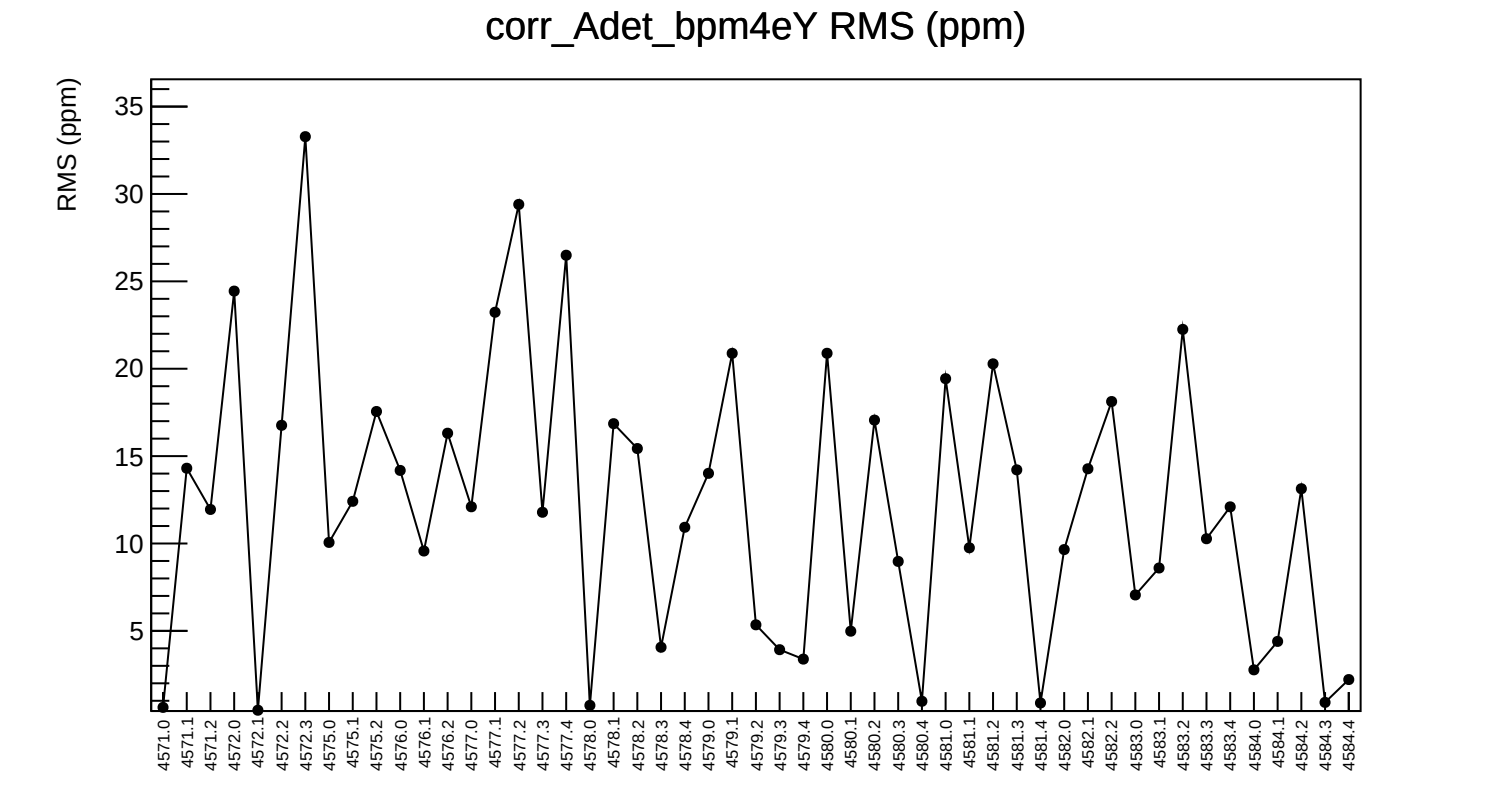

Adet RMS (ppm)
RMS (ppm)
97
96
95
94
93
92
91
90
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

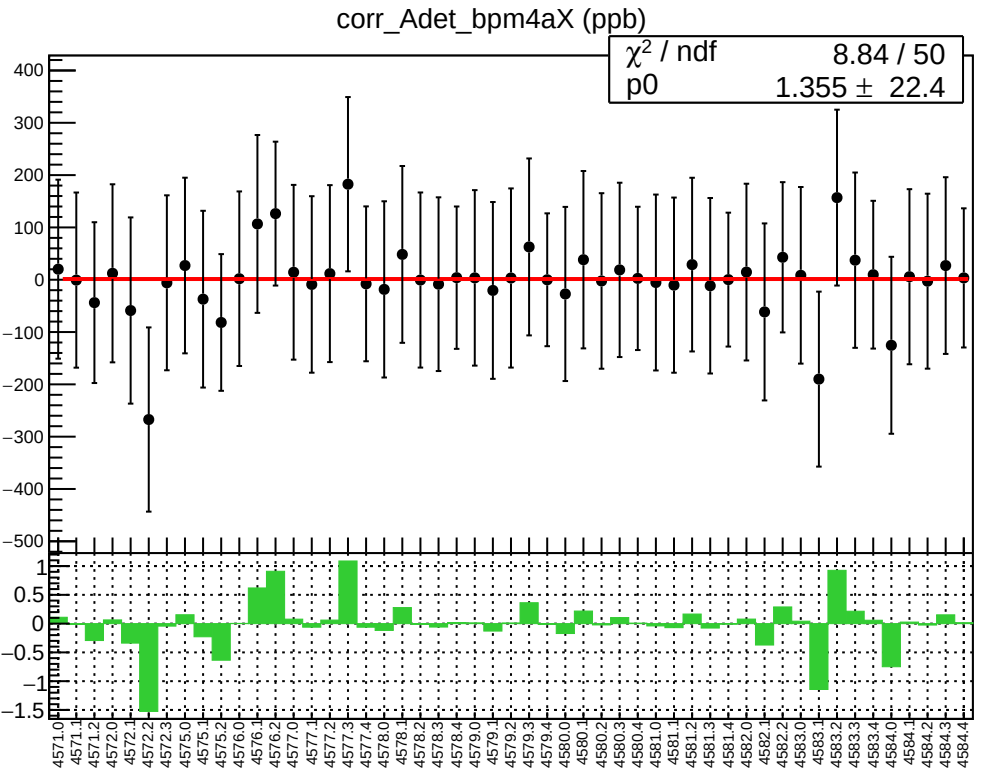

corr_Adet_bpm4eX (ppb)
χ² / ndf 26.72 / 50
p0 −25.55 ± 102.3
2000
1000
0
-1000
-2000
1.5
1
0.5
0
−0.5
−1
−1.5
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean −0.005889 ± 0.1014
Std Dev 0.7239 ± 0.07167
Underflow 0
Overflow 0
χ² / ndf 6.445 / 4
Constant 16.47 ± 3.98
Mean 0.1379 ± 0.0897
Sigma 0.578 ± 0.114
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

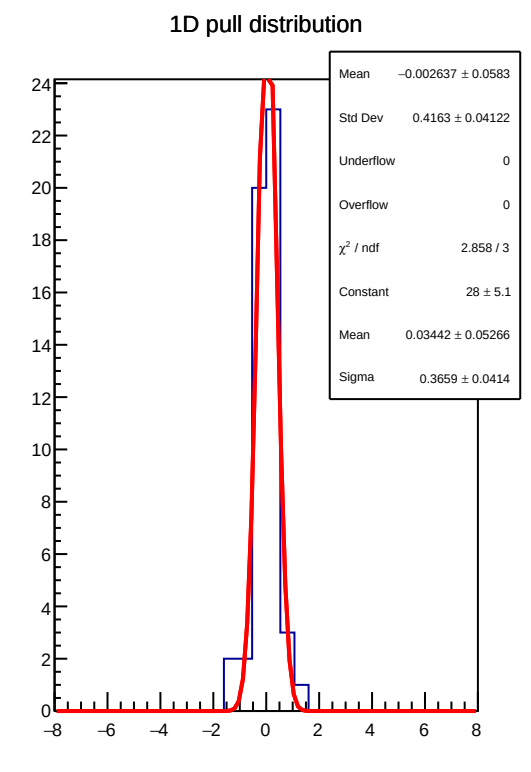

corr_Adet_bpm4eX RMS (ppm)
RMS (ppm)
140
120
100
80
60
40
20
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

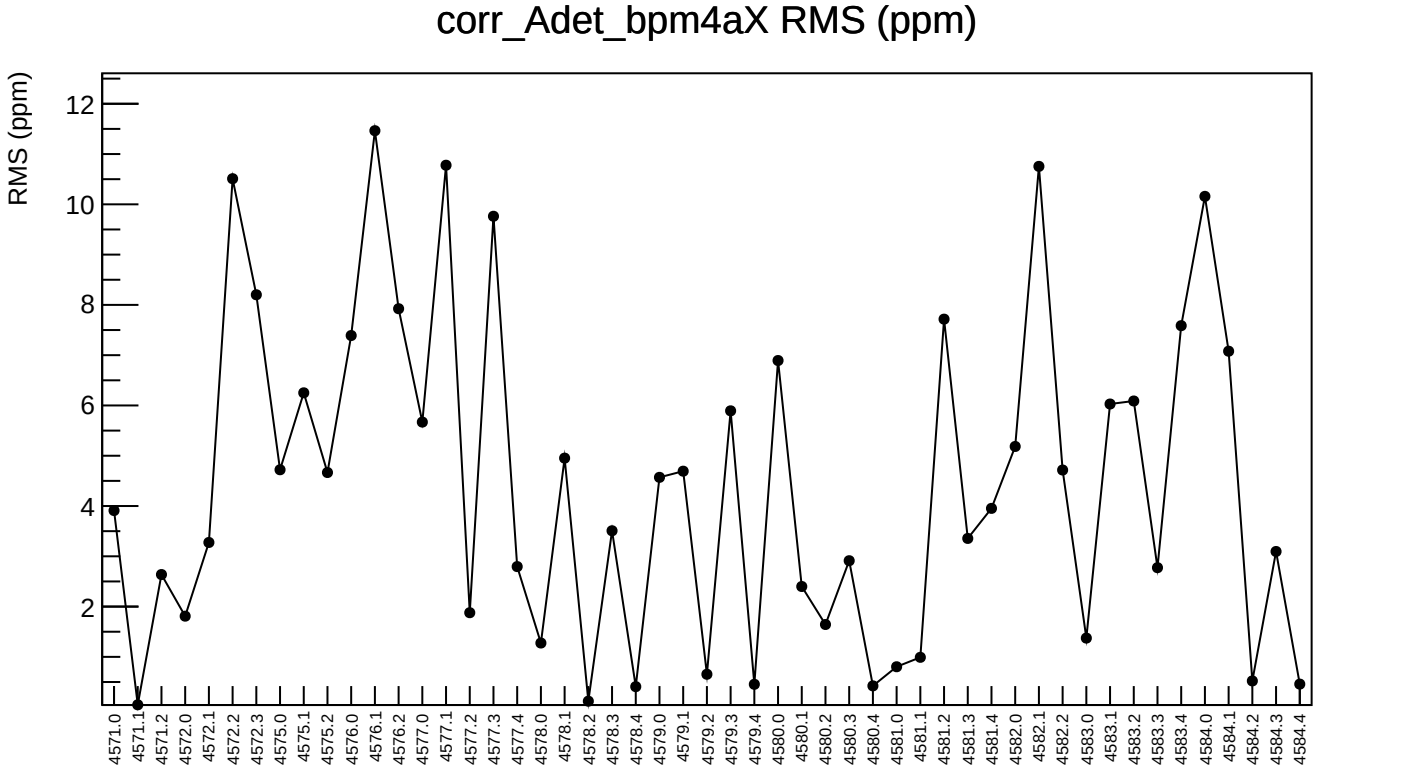

corr_Adet_bpm4eY (ppb)
χ² / ndf 33.99 / 50
p0 −0.1724 ± 22.74
400
200
0
−200
−400
−600
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

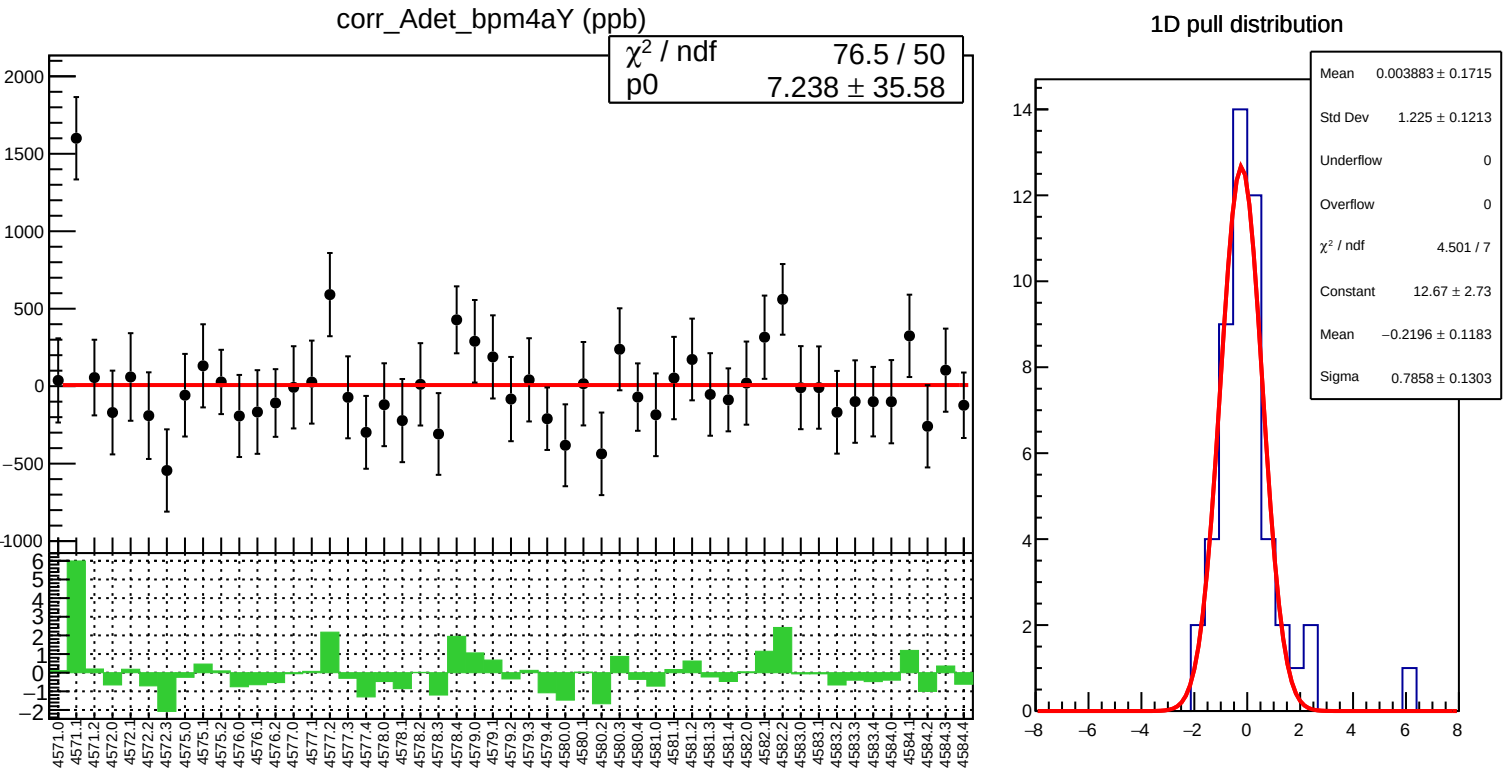

1D pull distribution
Mean 0.002259 ± 0.1143
Std Dev 0.8164 ± 0.08084
Underflow 0
Overflow 0
χ² / ndf 2.819 / 5
Constant 14.97 ± 2.80
Mean 0.1896 ± 0.1097
Sigma 0.6981 ± 0.0939
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

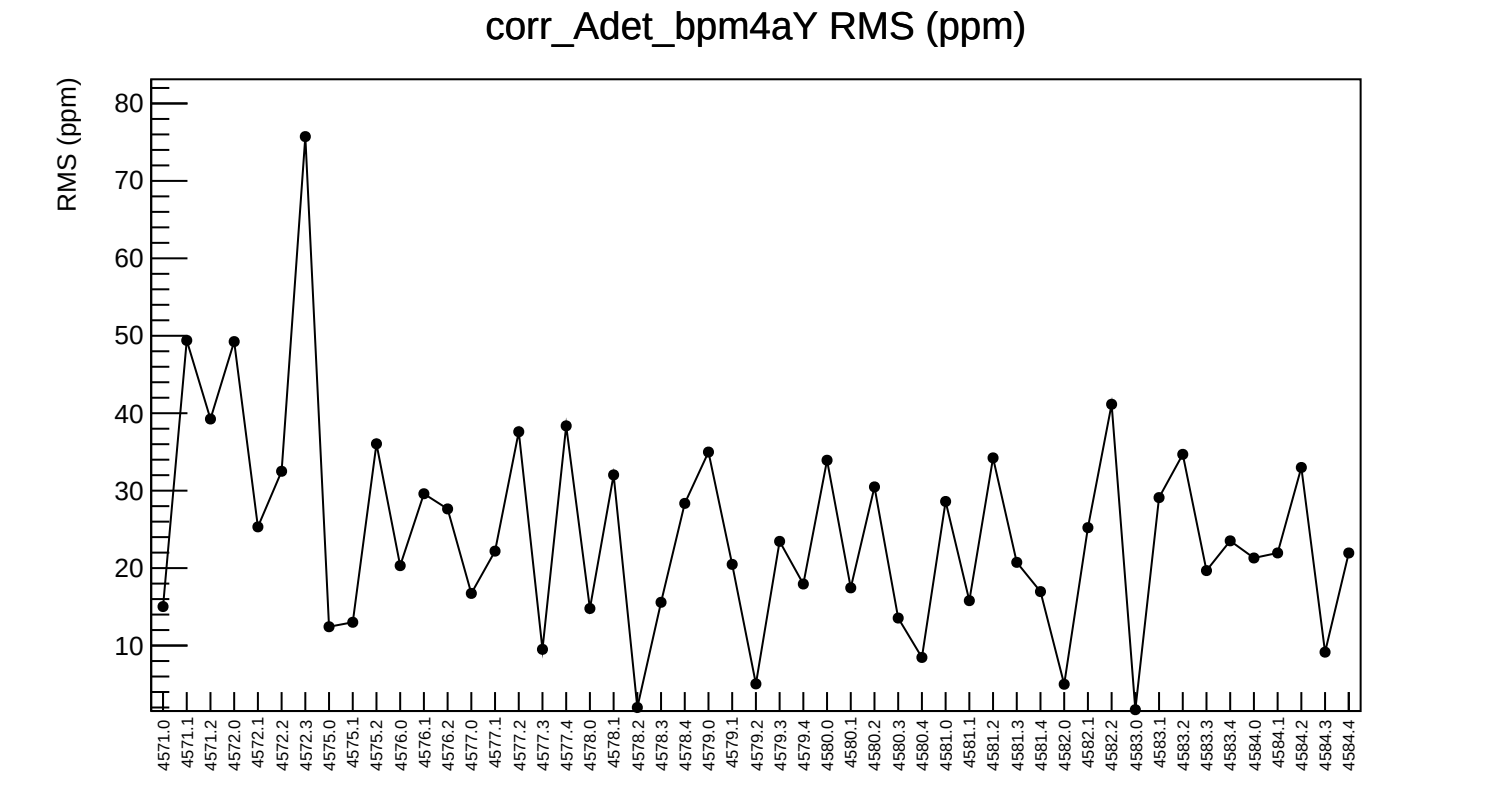

corr_Adet_bpm4eY RMS (ppm)
RMS (ppm)
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

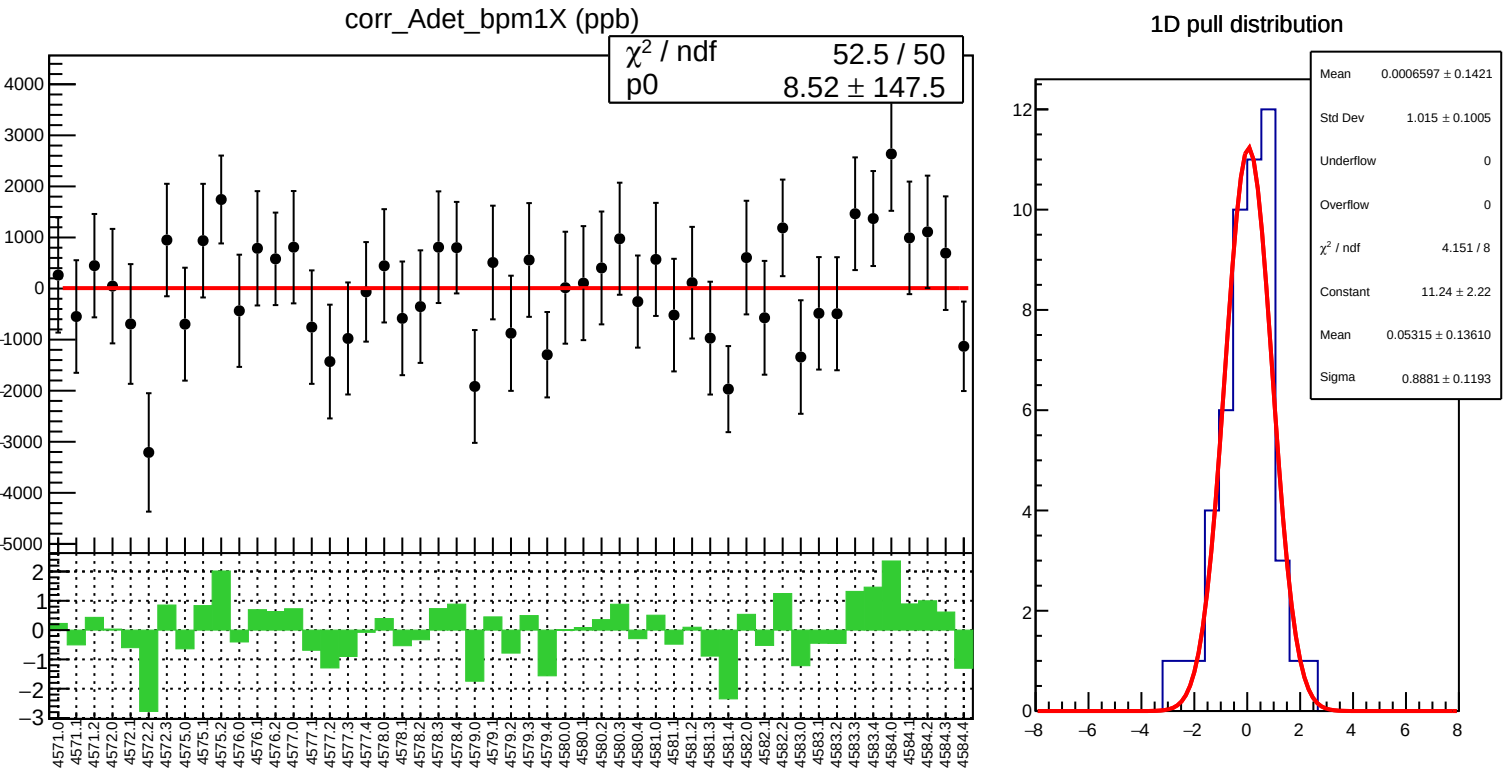

corr_Adet_bpm4aX (ppb)
χ² / ndf 8.84 / 50
p0 1.355 ± 22.4

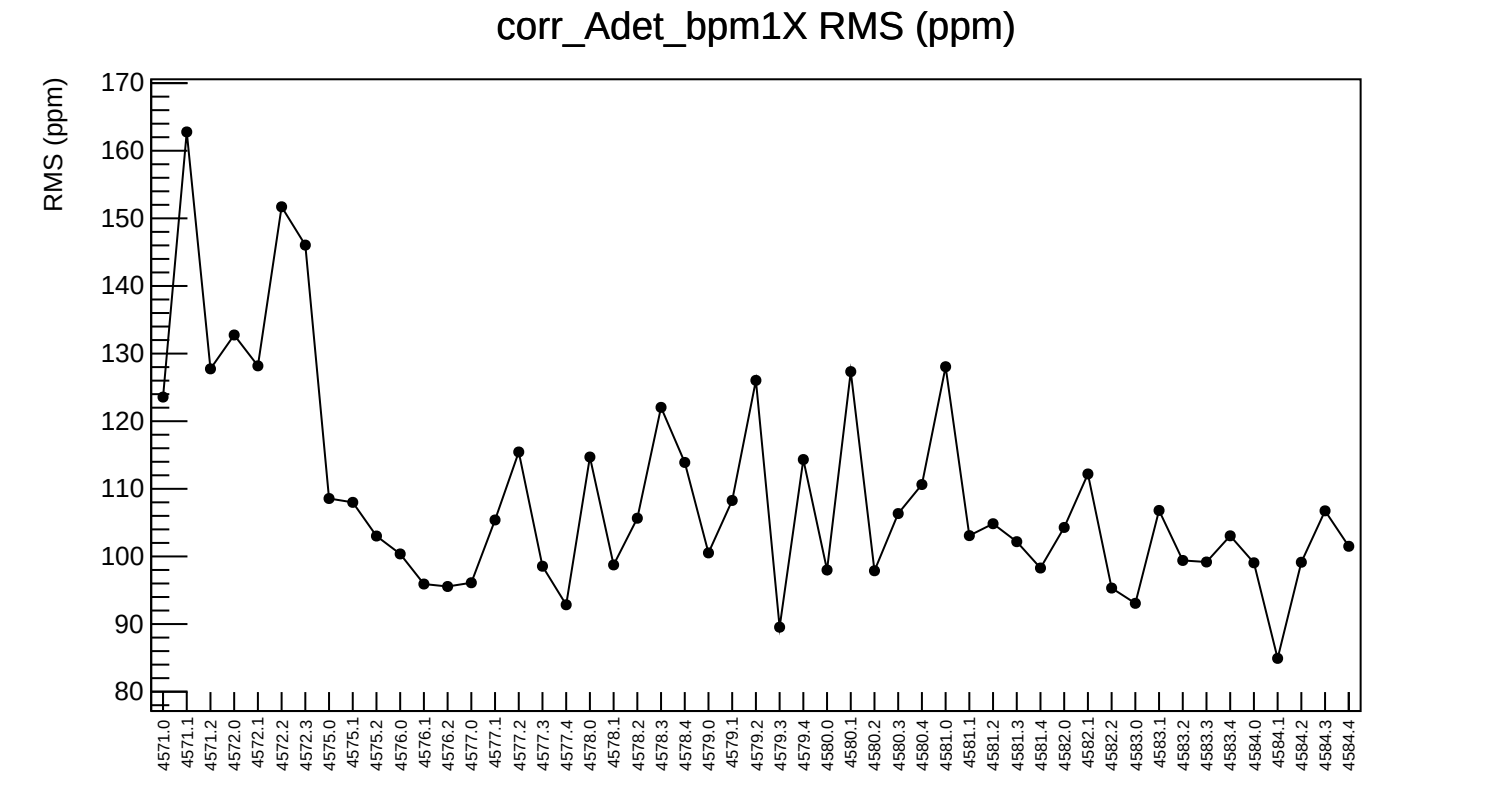

1D pull distribution
Mean −0.002637 ± 0.0583
Std Dev 0.4163 ± 0.04122
Underflow 0
Overflow 0
χ² / ndf 2.858 / 3
Constant 28 ± 5.1
Mean 0.03442 ± 0.05266
Sigma 0.3659 ± 0.0414

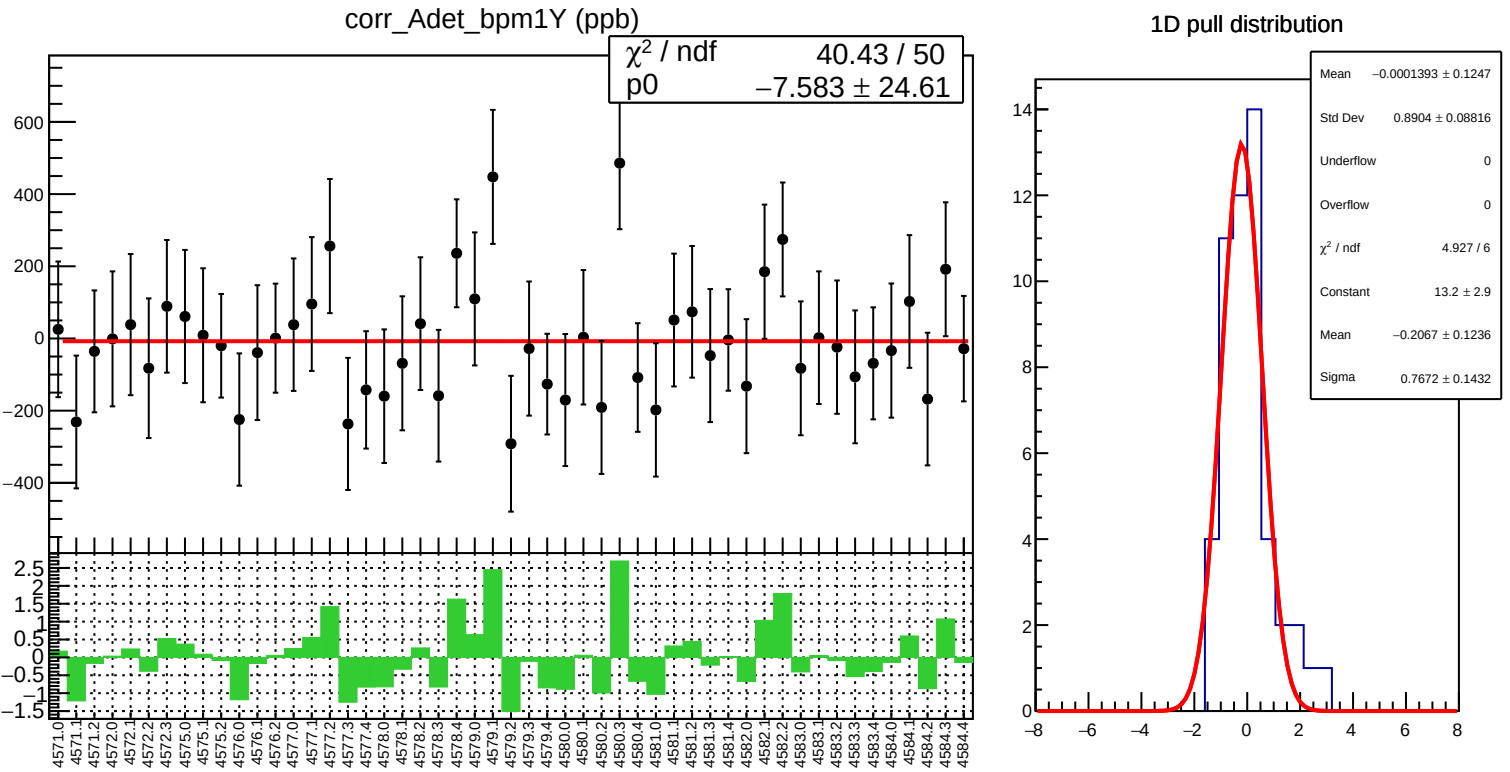

corr_Adet_bpm4aX RMS (ppm)
RMS (ppm)
12
10
8
6
4
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

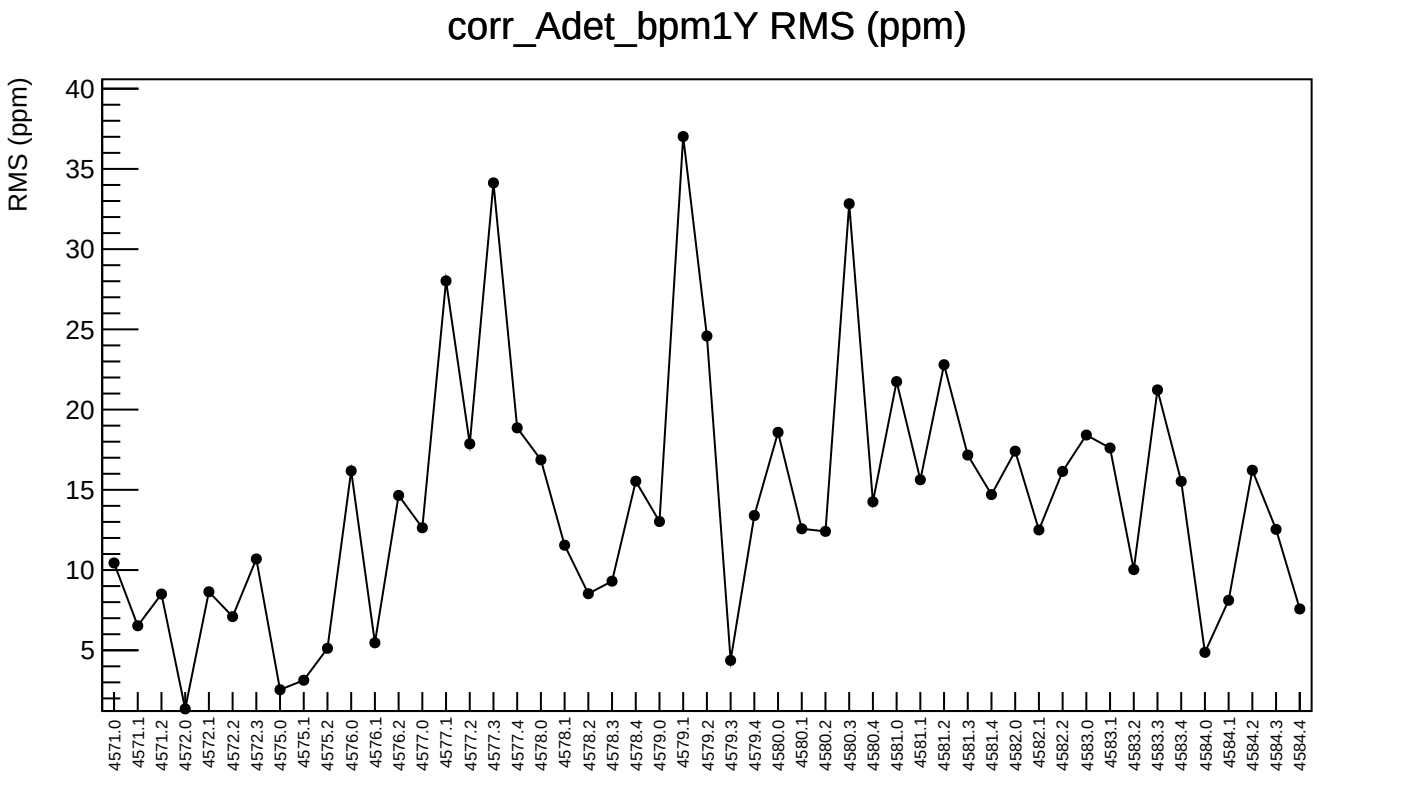

corr_Adet_bpm4aY (ppb)
χ² / ndf 76.5 / 50
p0 7.238 ± 35.58
1D pull distribution
Mean 0.003883 ± 0.1715
Std Dev 1.225 ± 0.1213
Underflow 0
Overflow 0
χ² / ndf 4.501 / 7
Constant 12.67 ± 2.73
Mean −0.2196 ± 0.1183
Sigma 0.7858 ± 0.1303

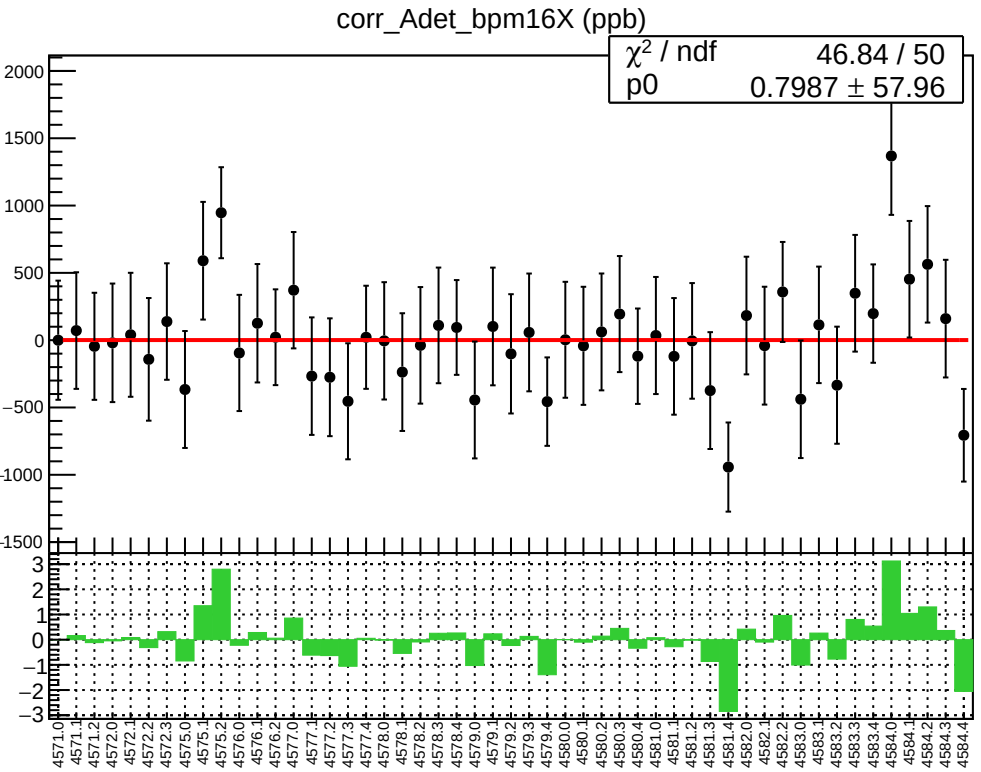

corr_Adet_bpm4aY RMS (ppm)
RMS (ppm)
80
70
60
50
40
30
20
10
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

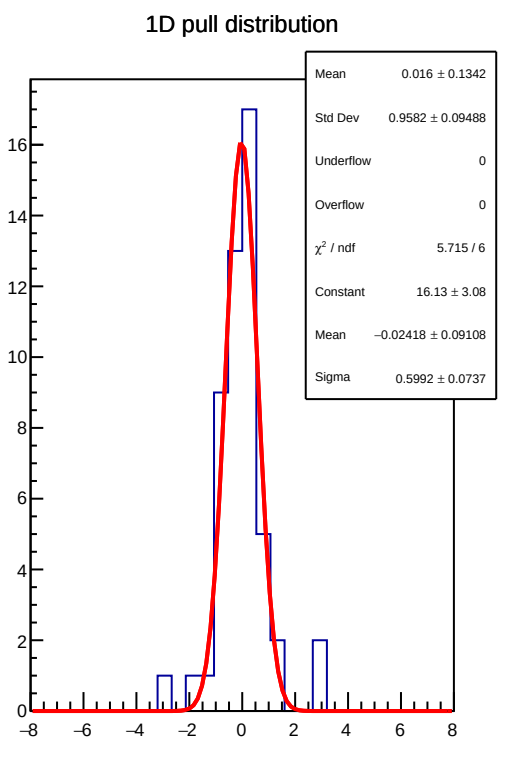

corr_Adet_bpm1X (ppb)
χ² / ndf 52.5 / 50
p0 8.52 ± 147.5
1D pull distribution
Mean 0.0006597 ± 0.1421
Std Dev 1.015 ± 0.1005
Underflow 0
Overflow 0
χ² / ndf 4.151 / 8
Constant 11.24 ± 2.22
Mean 0.05315 ± 0.13610
Sigma 0.8881 ± 0.1193

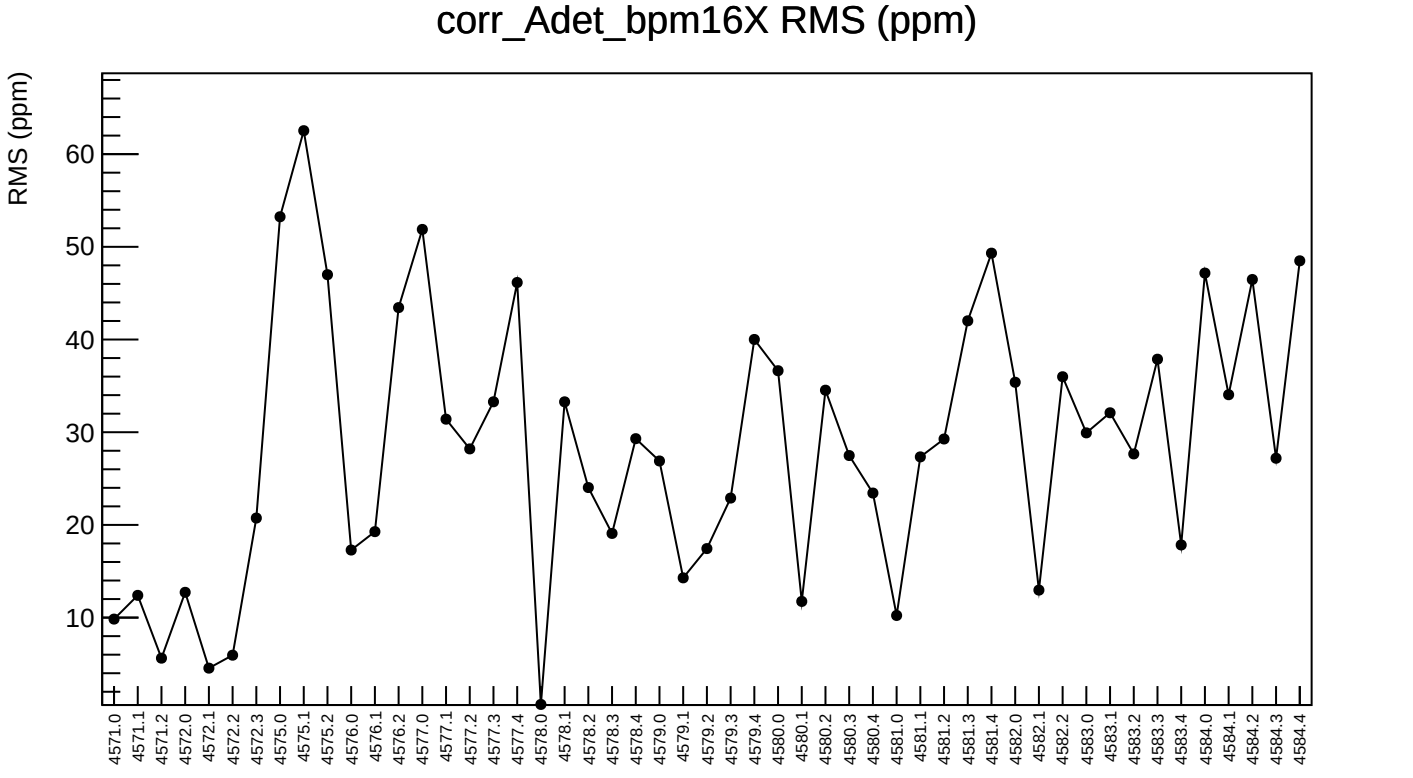

corr_Adet_bpm1X RMS (ppm)
RMS (ppm)
170
160
150
140
130
120
110
100
90
80
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

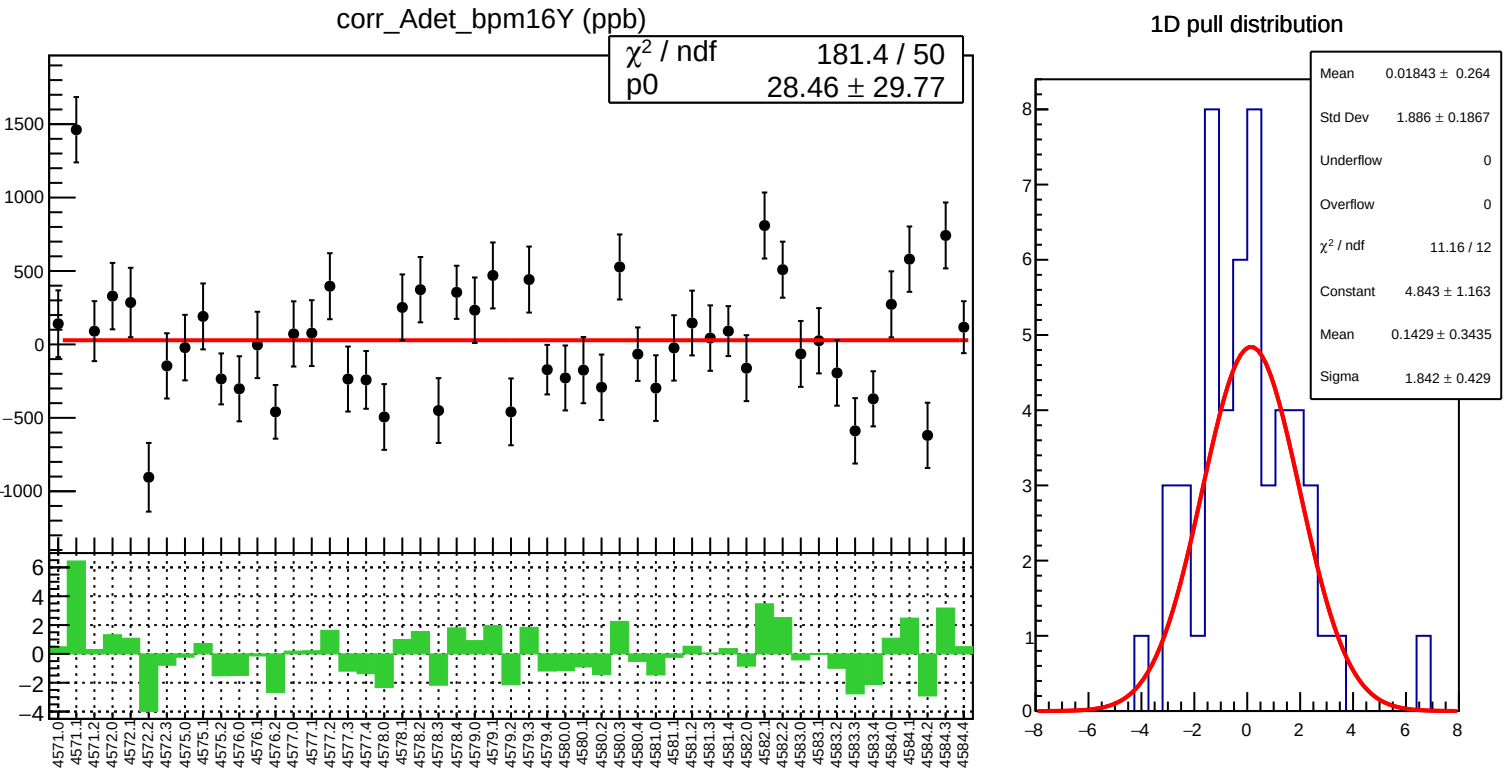

corr_Adet_bpm1Y (ppb)
χ² / ndf 40.43 / 50
p0 −7.583 ± 24.61
1D pull distribution
Mean −0.0001393 ± 0.1247
Std Dev 0.8904 ± 0.08816
Underflow 0
Overflow 0
χ² / ndf 4.927 / 6
Constant 13.2 ± 2.9
Mean −0.2067 ± 0.1236
Sigma 0.7672 ± 0.1432

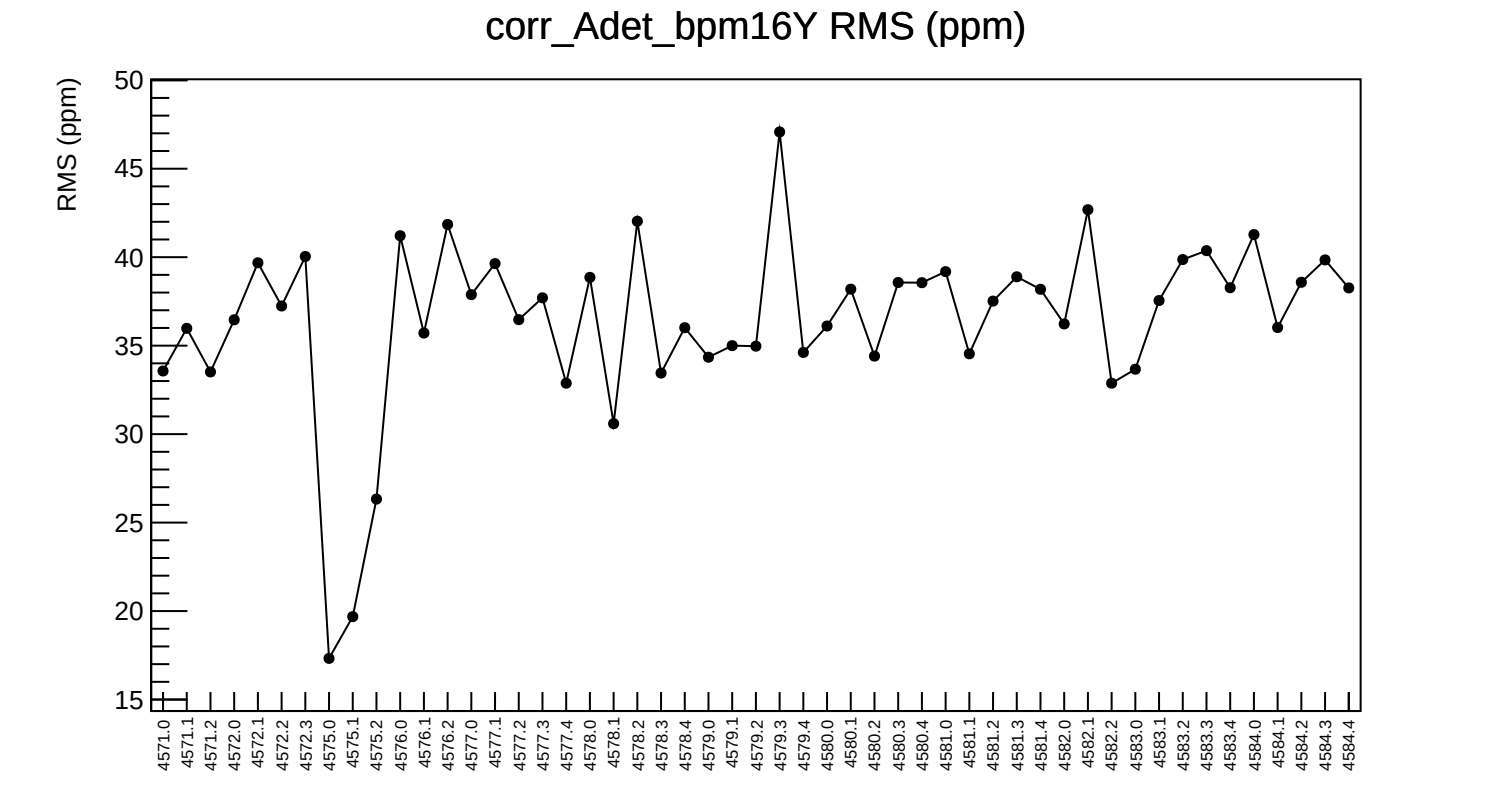

corr_Adet_bpm1Y RMS (ppm)
RMS (ppm)
40
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

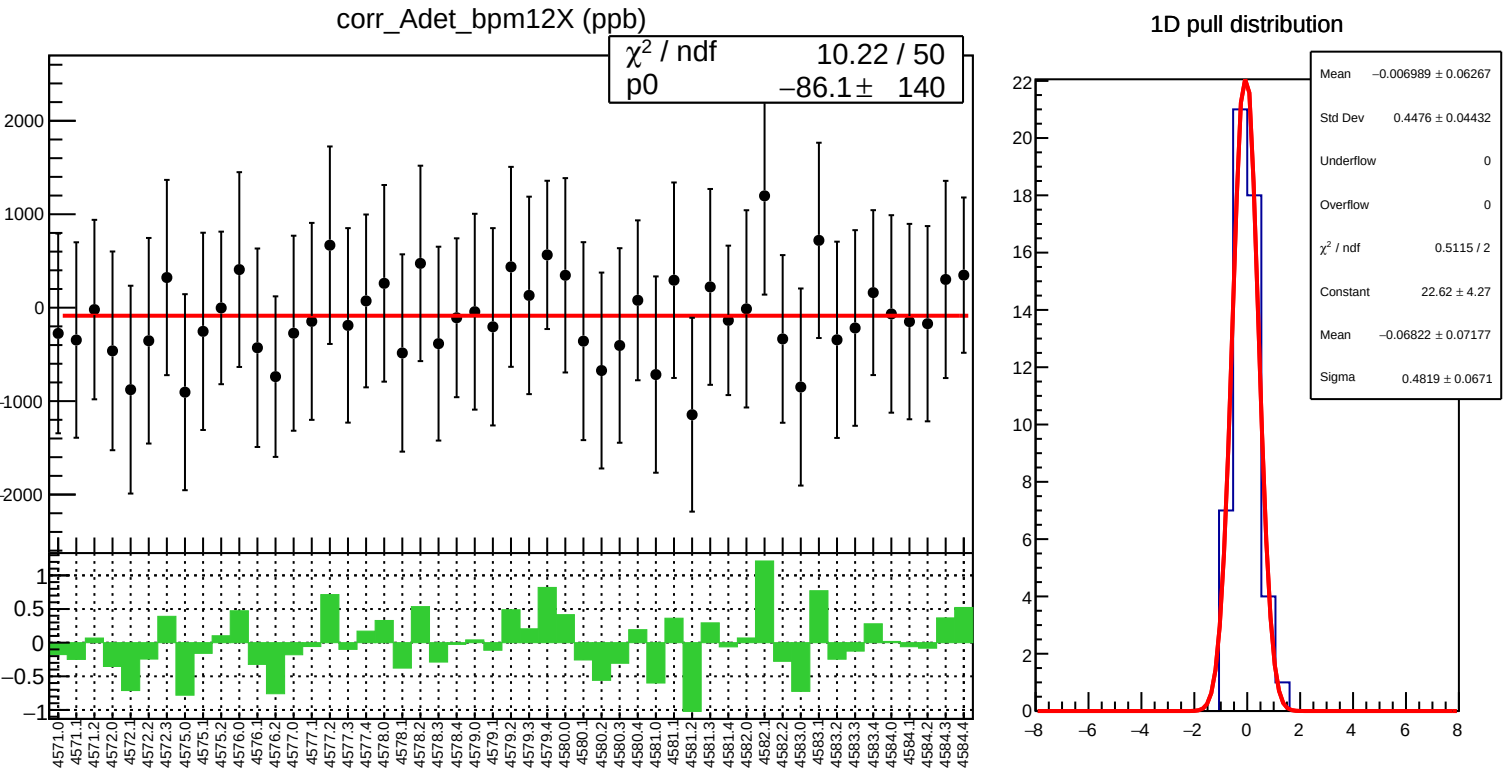

corr_Adet_bpm16X (ppb)
χ² / ndf 46.84 / 50
p0 0.7987 ± 57.96

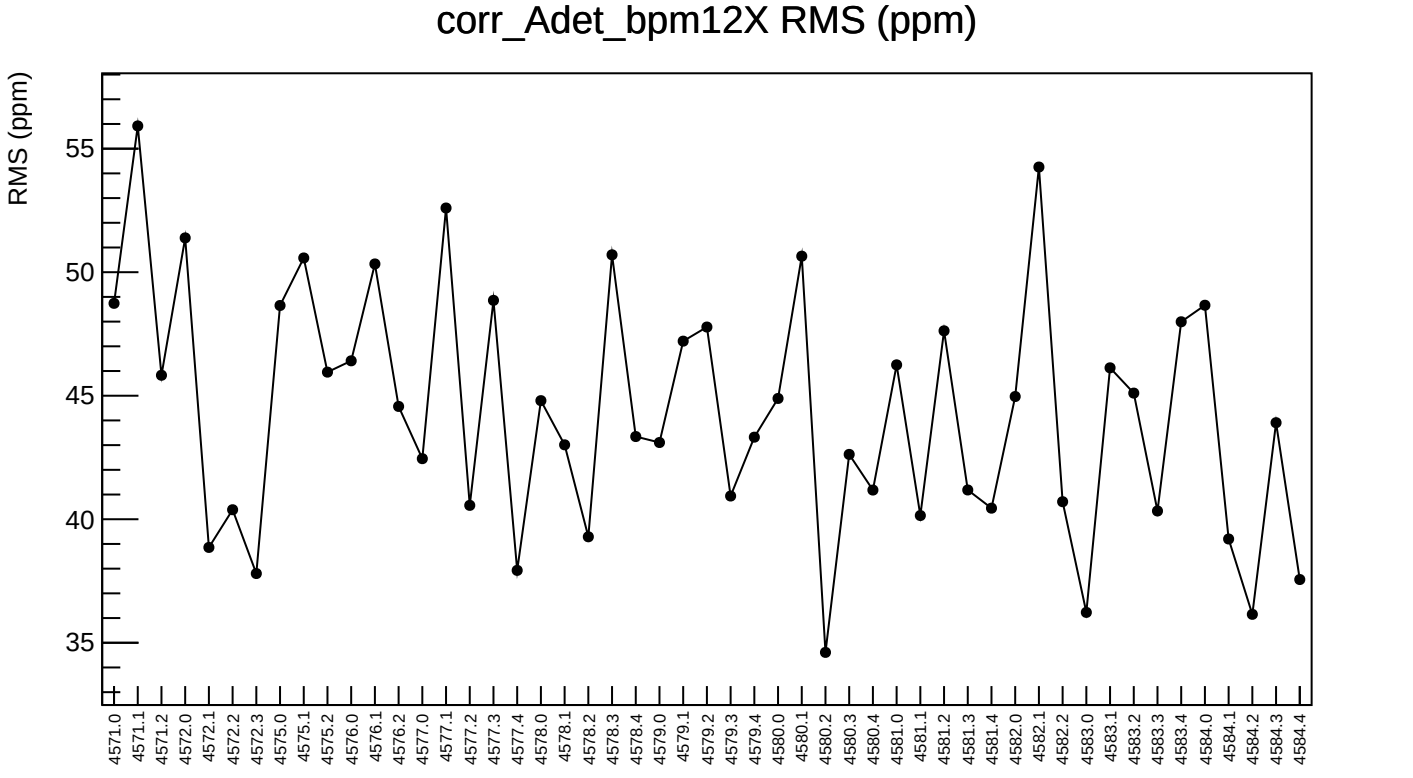

1D pull distribution
Mean 0.016 ± 0.1342
Std Dev 0.9582 ± 0.09488
Underflow 0
Overflow 0
χ² / ndf 5.715 / 6
Constant 16.13 ± 3.08
Mean −0.02418 ± 0.09108
Sigma 0.5992 ± 0.0737

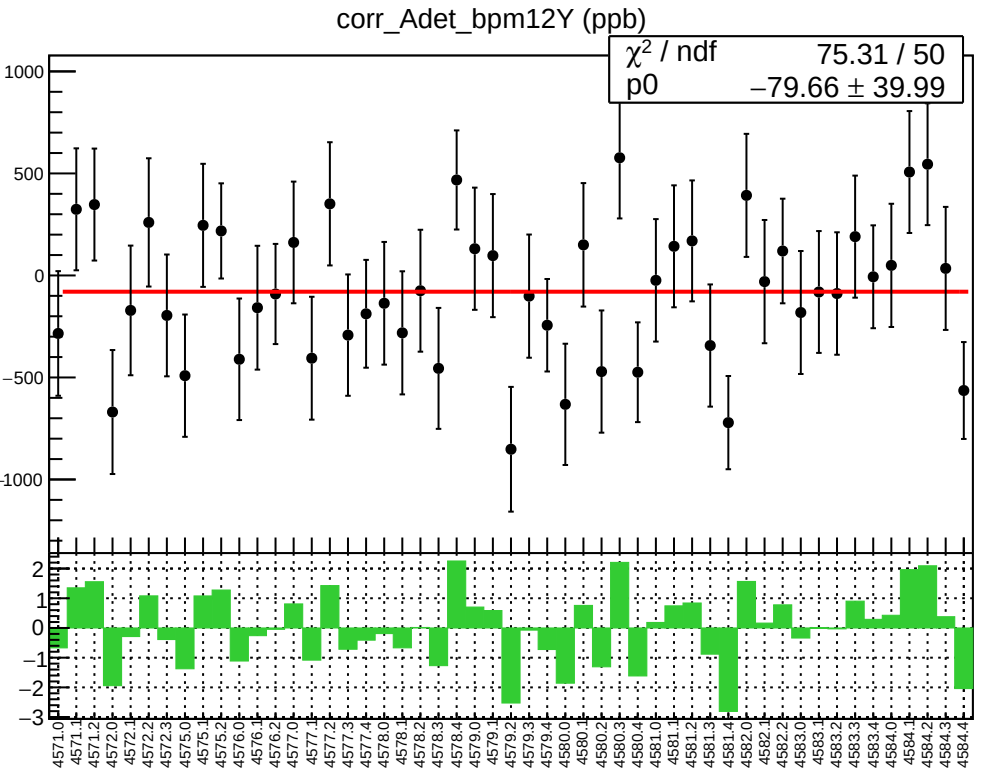

corr_Adet_bpm16X RMS (ppm)
RMS (ppm)
10
20
30
40
50
60
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

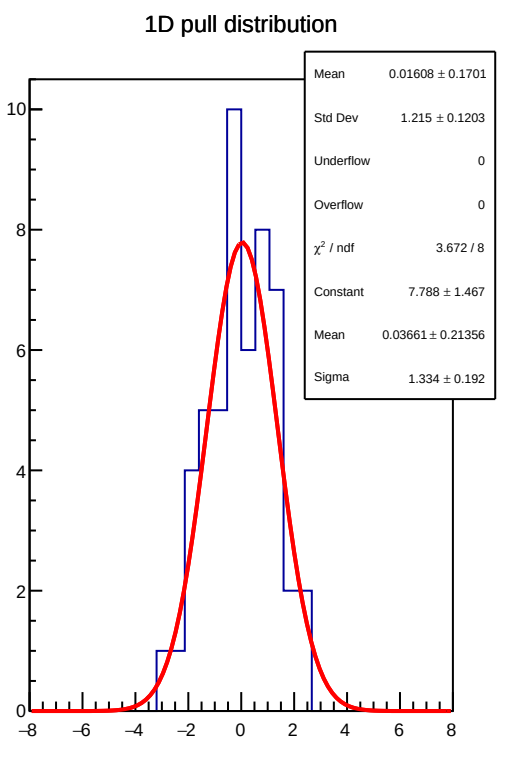

corr_Adet_bpm16Y (ppb)
χ² / ndf 181.4 / 50
p0 28.46 ± 29.77
1D pull distribution
Mean 0.01843 ± 0.264
Std Dev 1.886 ± 0.1867
Underflow 0
Overflow 0
χ² / ndf 11.16 / 12
Constant 4.843 ± 1.163
Mean 0.1429 ± 0.3435
Sigma 1.842 ± 0.429

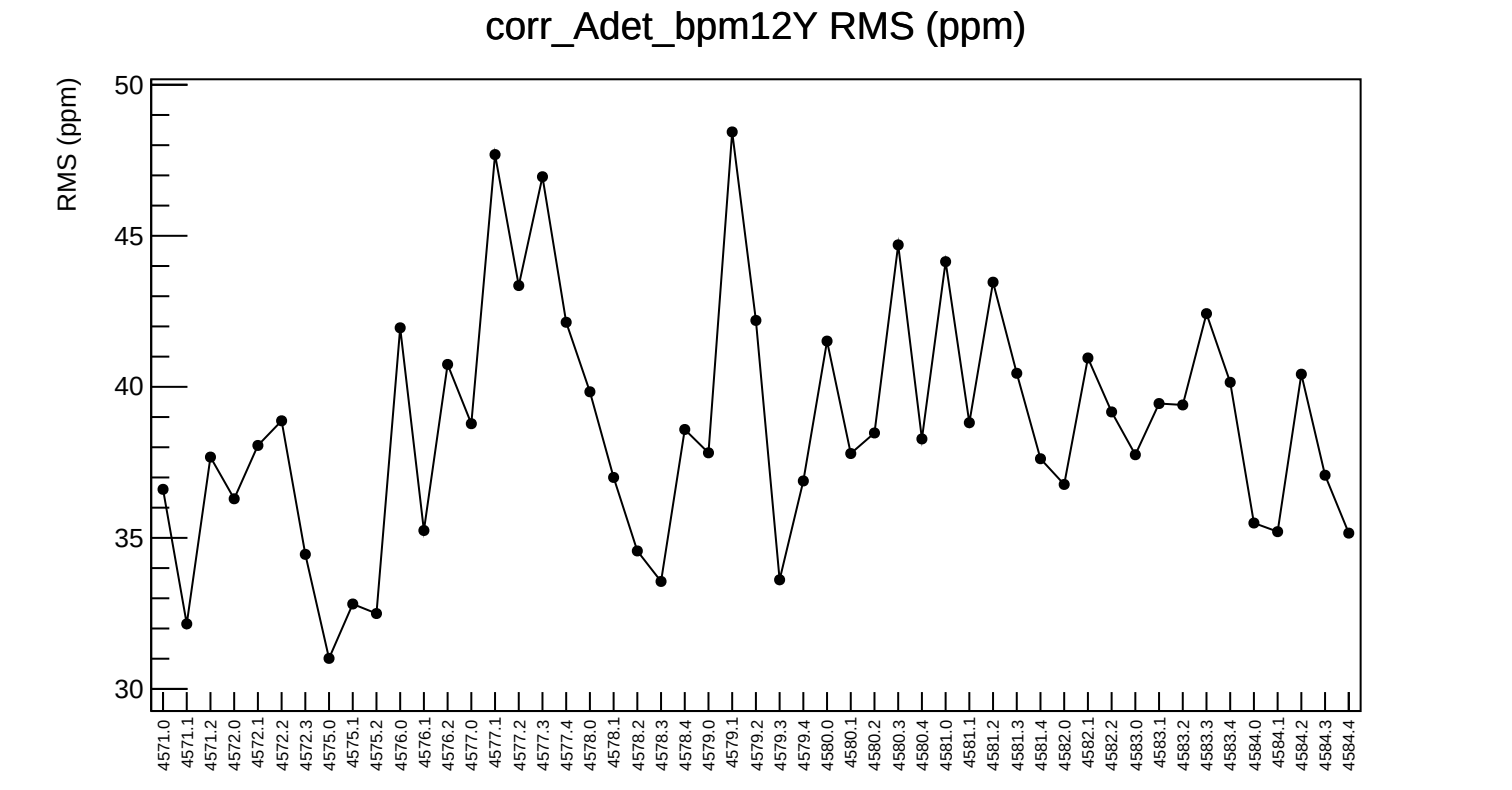

corr_Adet_bpm16Y RMS (ppm)
RMS (ppm)
50
45
40
35
30
25
20
15
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

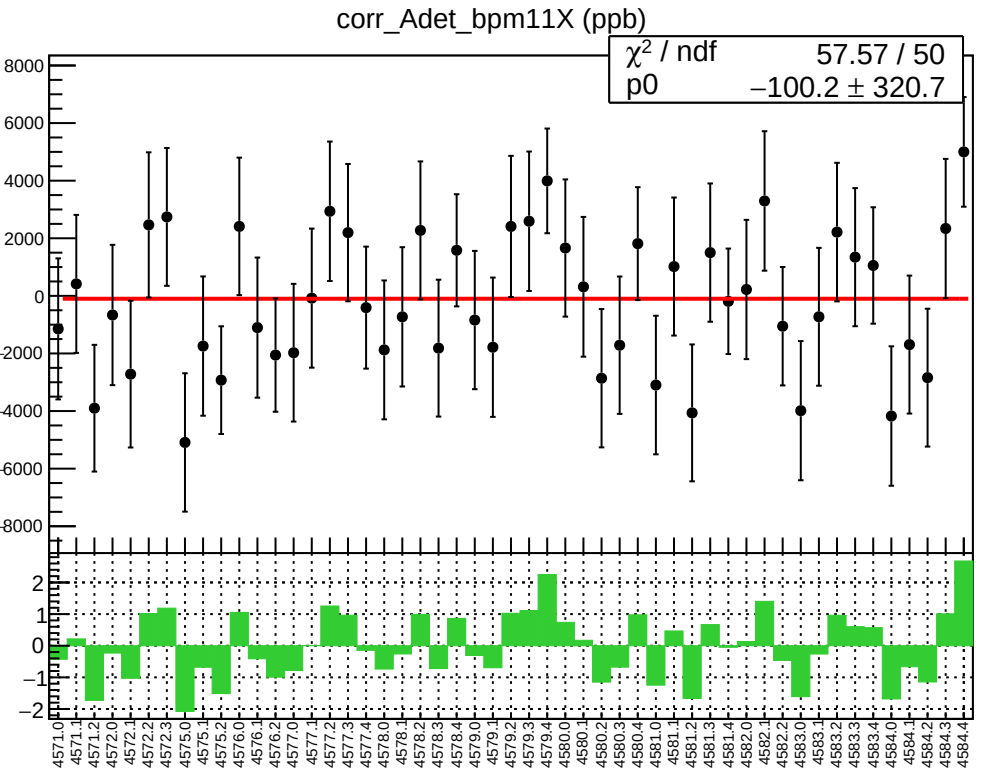

corr_Adet_bpm12X (ppb)
χ² / ndf 10.22 / 50
p0 −86.1 ± 140
2000
1000
0
-1000
-2000
1
0.5
0
−0.5
−1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean −0.006989 ± 0.06267
Std Dev 0.4476 ± 0.04432
Underflow 0
Overflow 0
χ² / ndf 0.5115 / 2
Constant 22.62 ± 4.27
Mean −0.06822 ± 0.07177
Sigma 0.4819 ± 0.0671
22
20
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

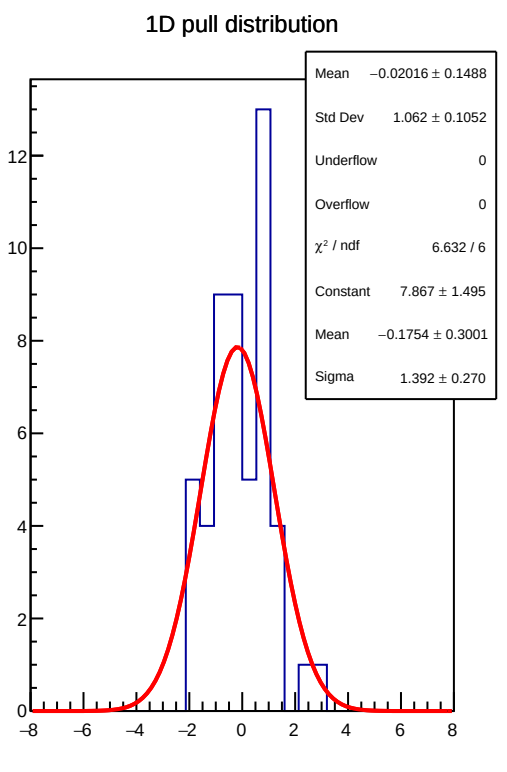

corr_Adet_bpm12X RMS (ppm)
RMS (ppm)
55
50
45
40
35
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

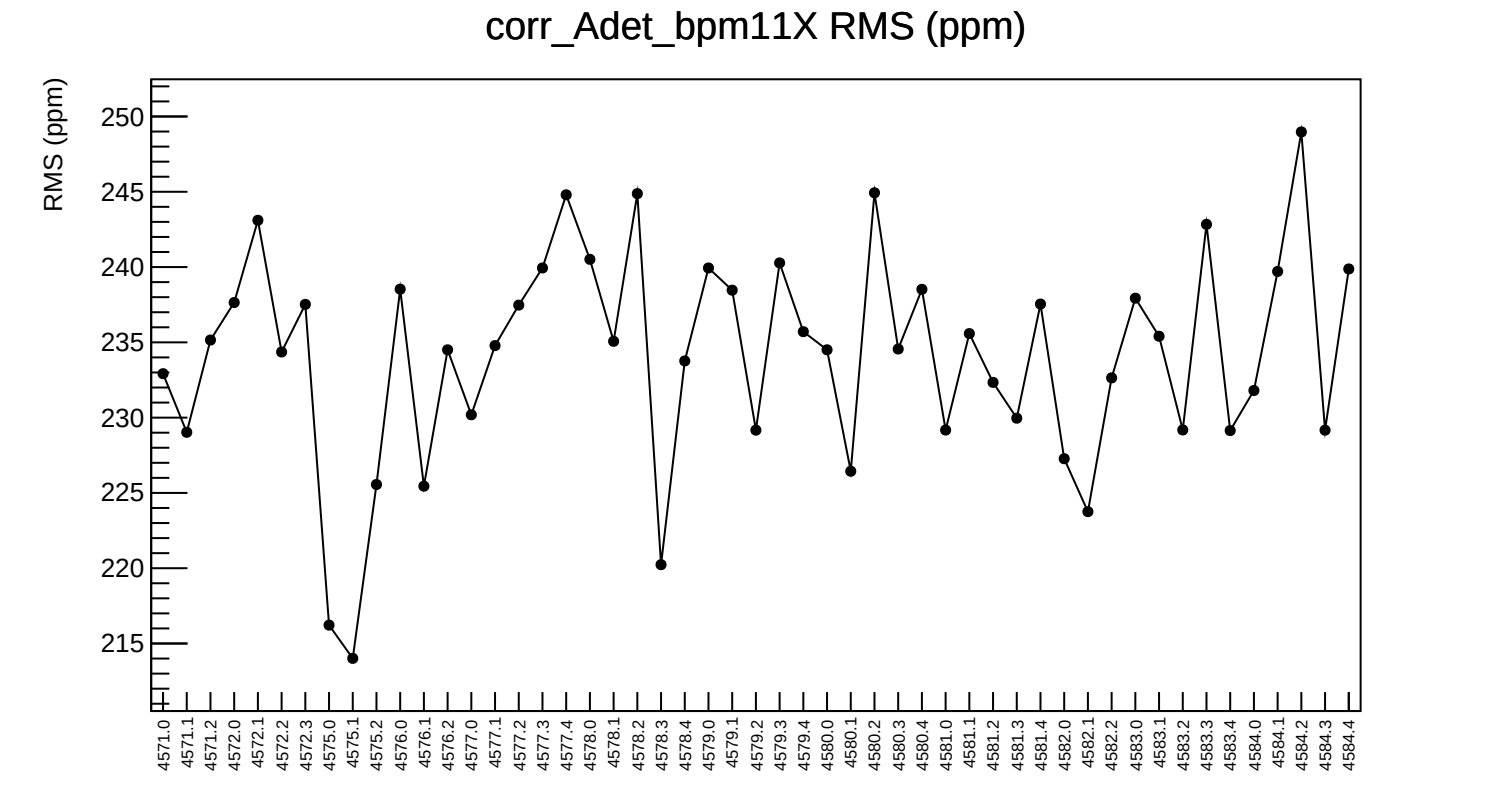

corr_Adet_bpm12Y (ppb)
χ² / ndf 75.31 / 50
p0 −79.66 ± 39.99
1000
500
0
−500
−1000
2
1
0
−1
−2
−3
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

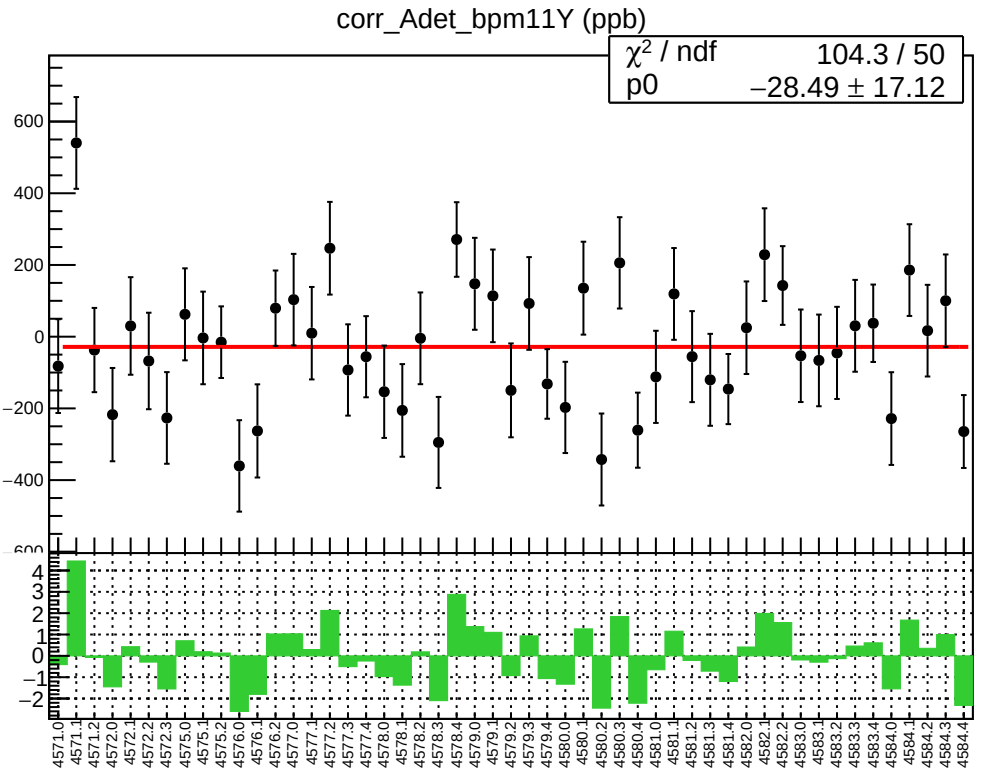

1D pull distribution
Mean 0.01608 ± 0.1701
Std Dev 1.215 ± 0.1203
Underflow 0
Overflow 0
χ² / ndf 3.672 / 8
Constant 7.788 ± 1.467
Mean 0.03661 ± 0.21356
Sigma 1.334 ± 0.192
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

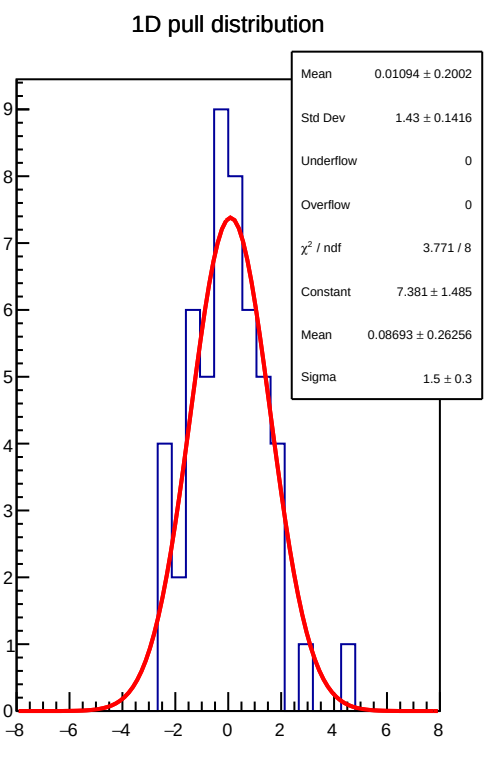

corr_Adet_bpm12Y RMS (ppm)
RMS (ppm)
50
45
40
35
30
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

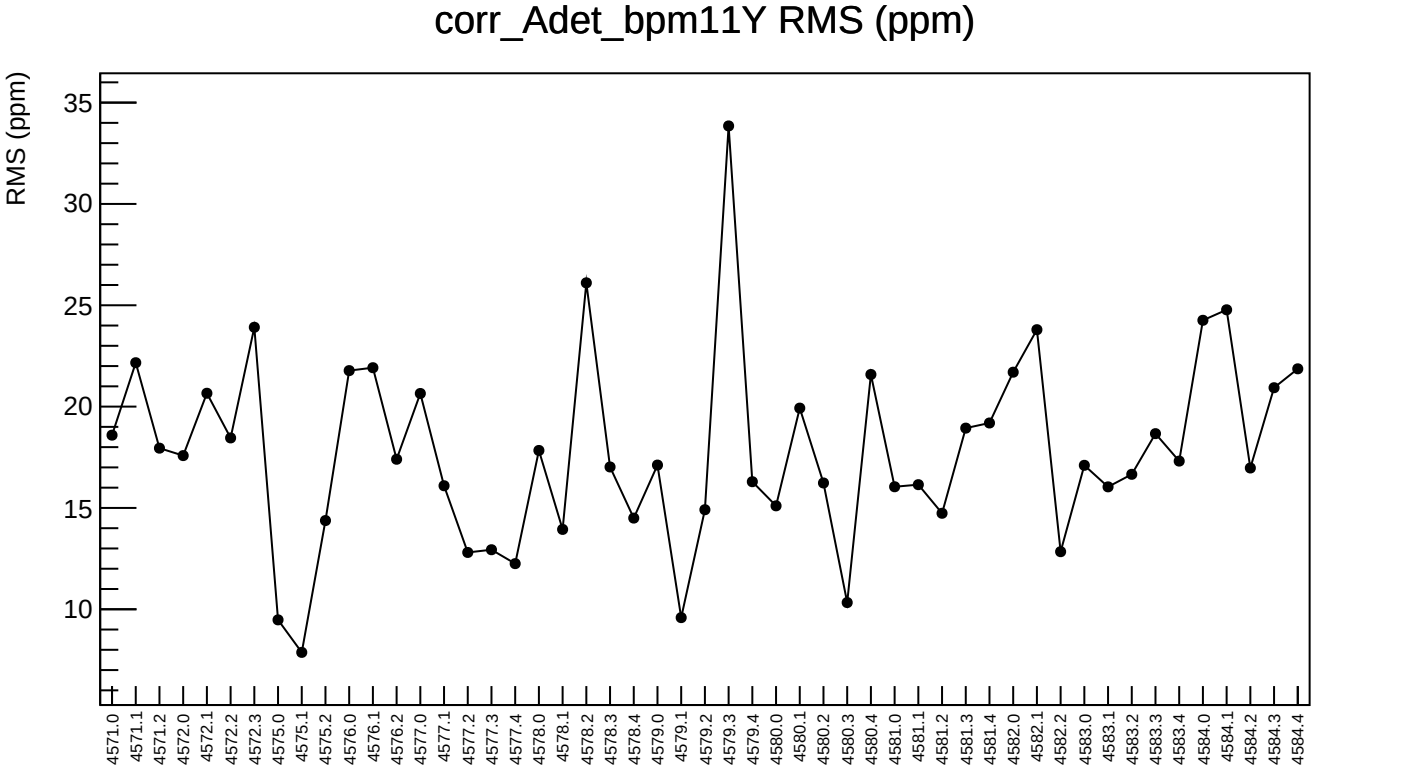

corr_Adet_bpm11X (ppb)
χ² / ndf 57.57 / 50
p0 −100.2 ± 320.7
8000
6000
4000
2000
0
-2000
-4000
-6000
-8000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

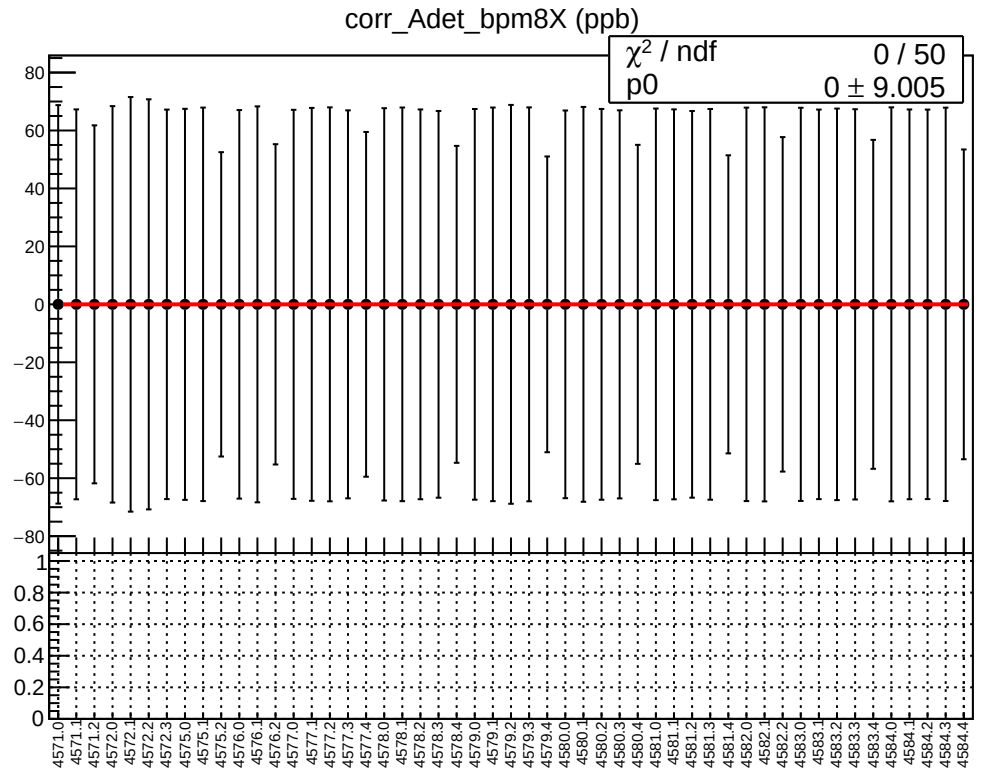

1D pull distribution
Mean −0.02016 ± 0.1488
Std Dev 1.062 ± 0.1052
Underflow 0
Overflow 0
χ² / ndf 6.632 / 6
Constant 7.867 ± 1.495
Mean −0.1754 ± 0.3001
Sigma 1.392 ± 0.270
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

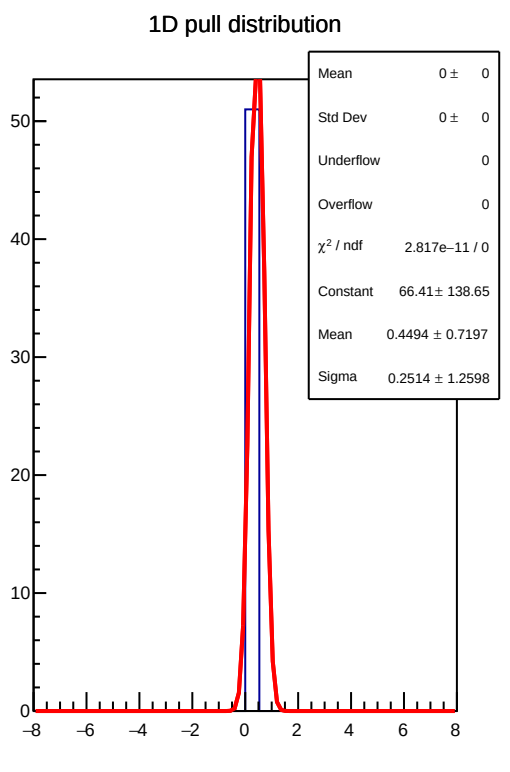

corr_Adet_bpm11X RMS (ppm)
RMS (ppm)
250
245
240
235
230
225
220
215
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

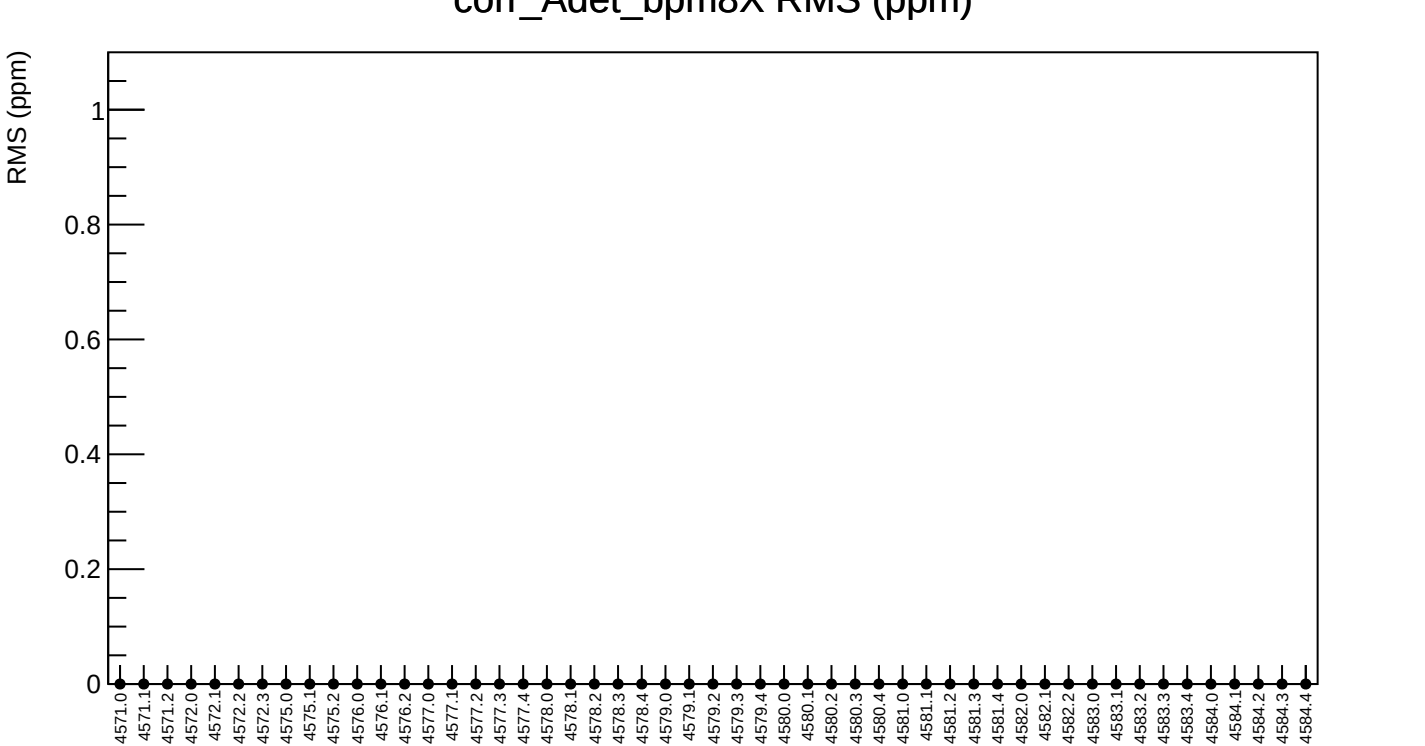

corr_Adet_bpm11Y (ppb)
χ² / ndf 104.3 / 50
p0 −28.49 ± 17.12
600
400
200
0
−200
−400
4
3
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

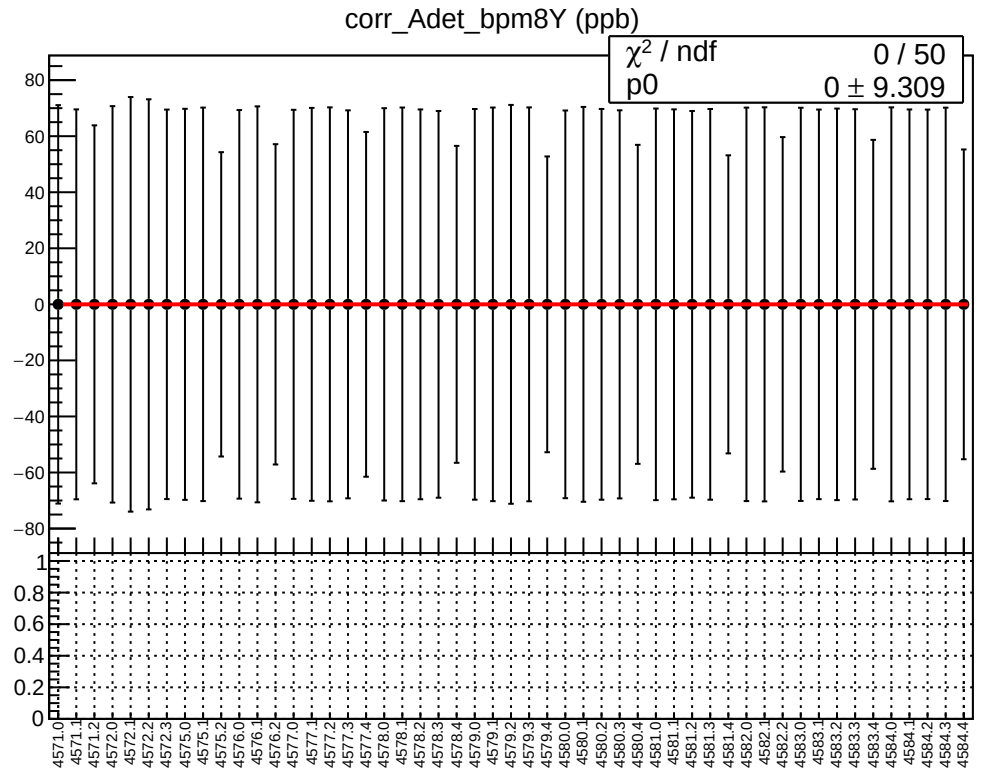

1D pull distribution
Mean 0.01094 ± 0.2002
Std Dev 1.43 ± 0.1416
Underflow 0
Overflow 0
χ² / ndf 3.771 / 8
Constant 7.381 ± 1.485
Mean 0.08693 ± 0.26256
Sigma 1.5 ± 0.3
9
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

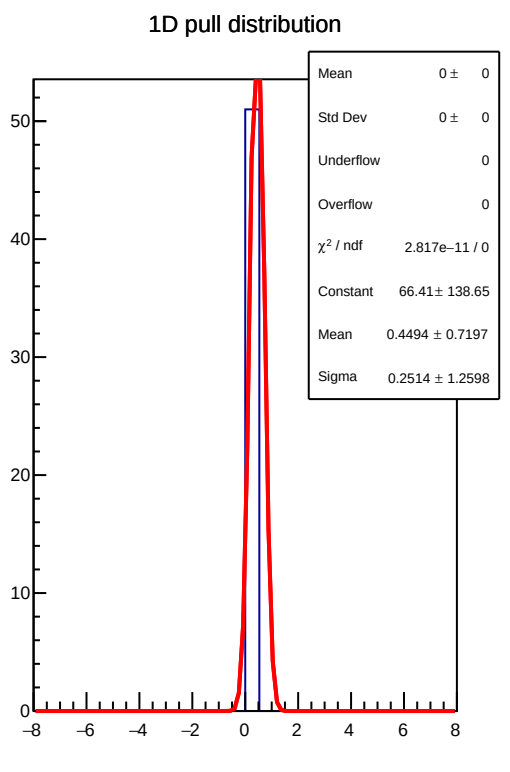

corr_Adet_bpm11Y RMS (ppm)
RMS (ppm)
35
30
25
20
15
10
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

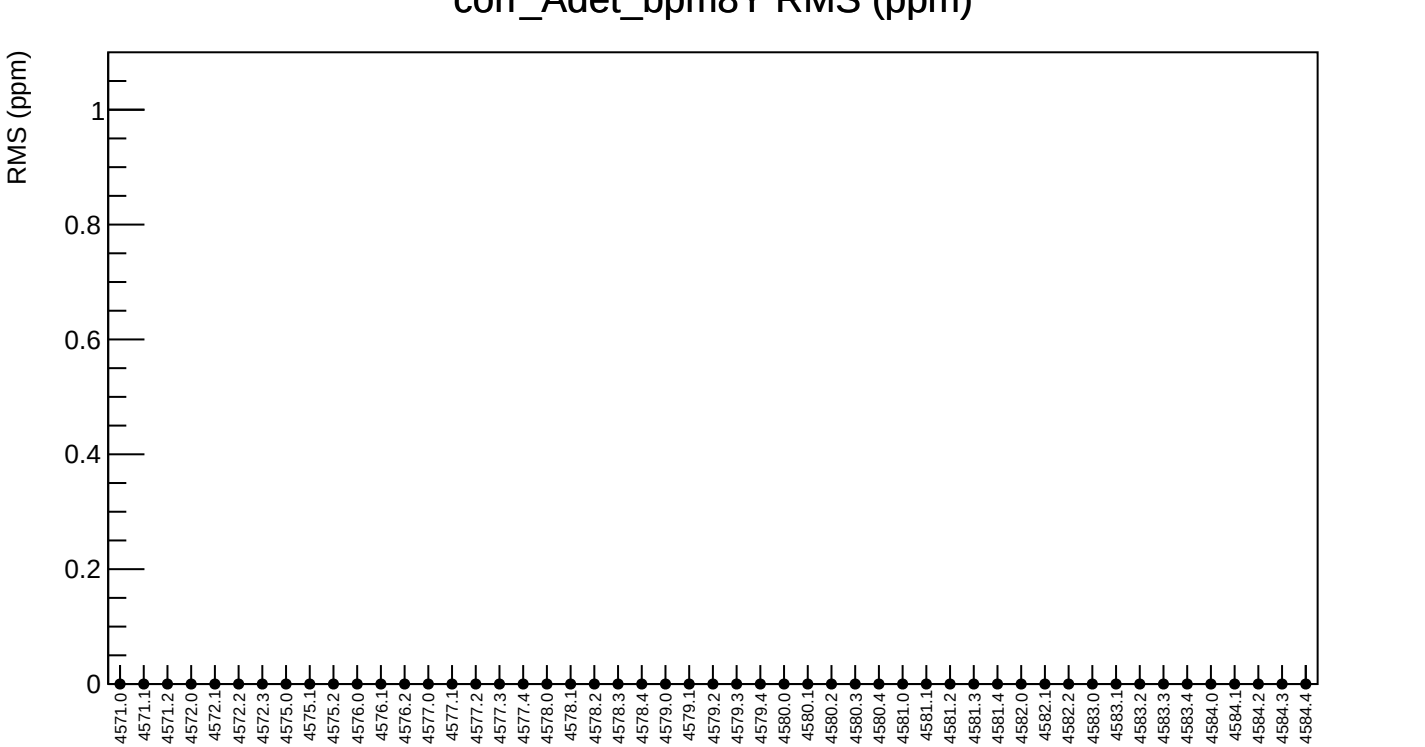

corr_Adet_bpm8X (ppb)
χ² / ndf 0 / 50
p0 0 ± 9.005

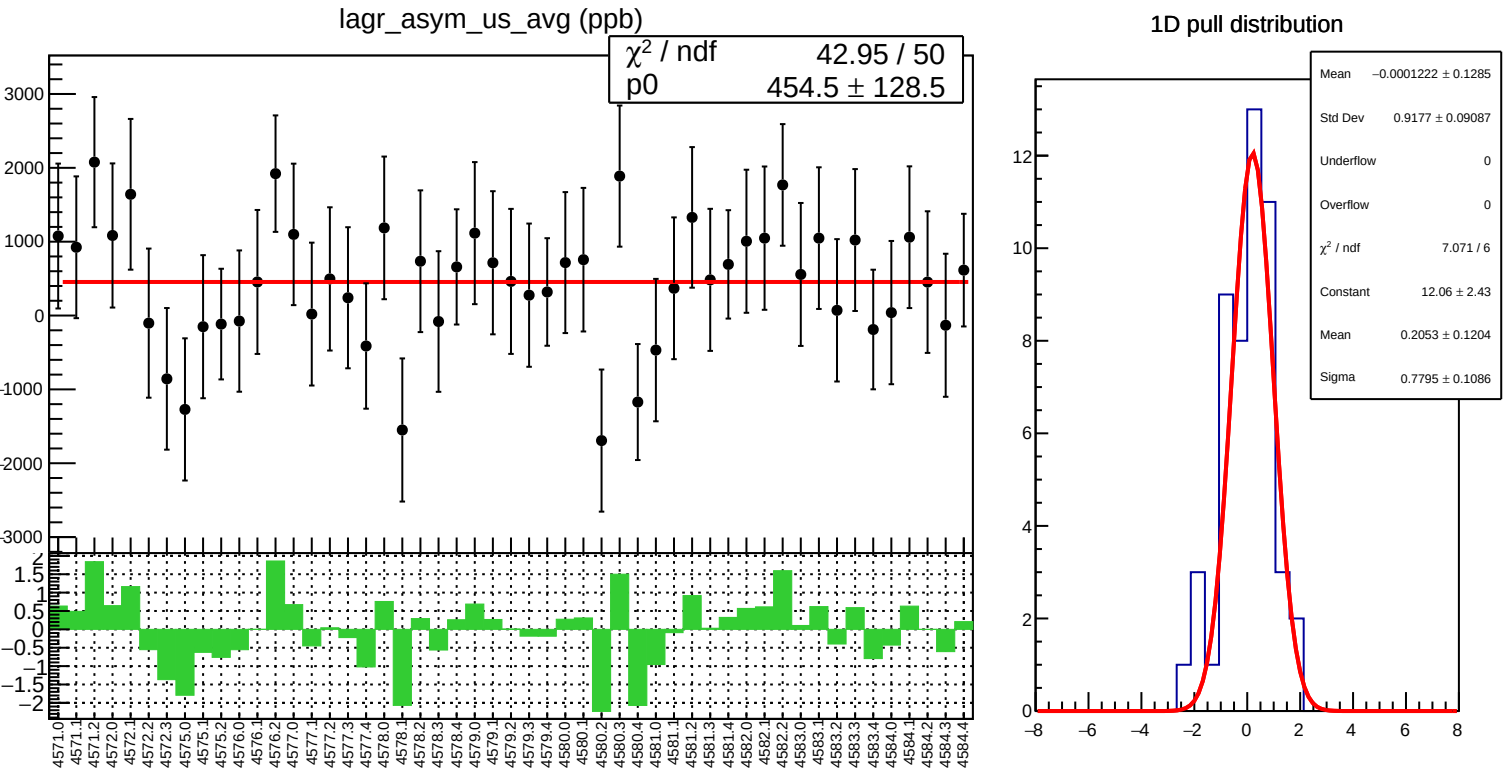

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598

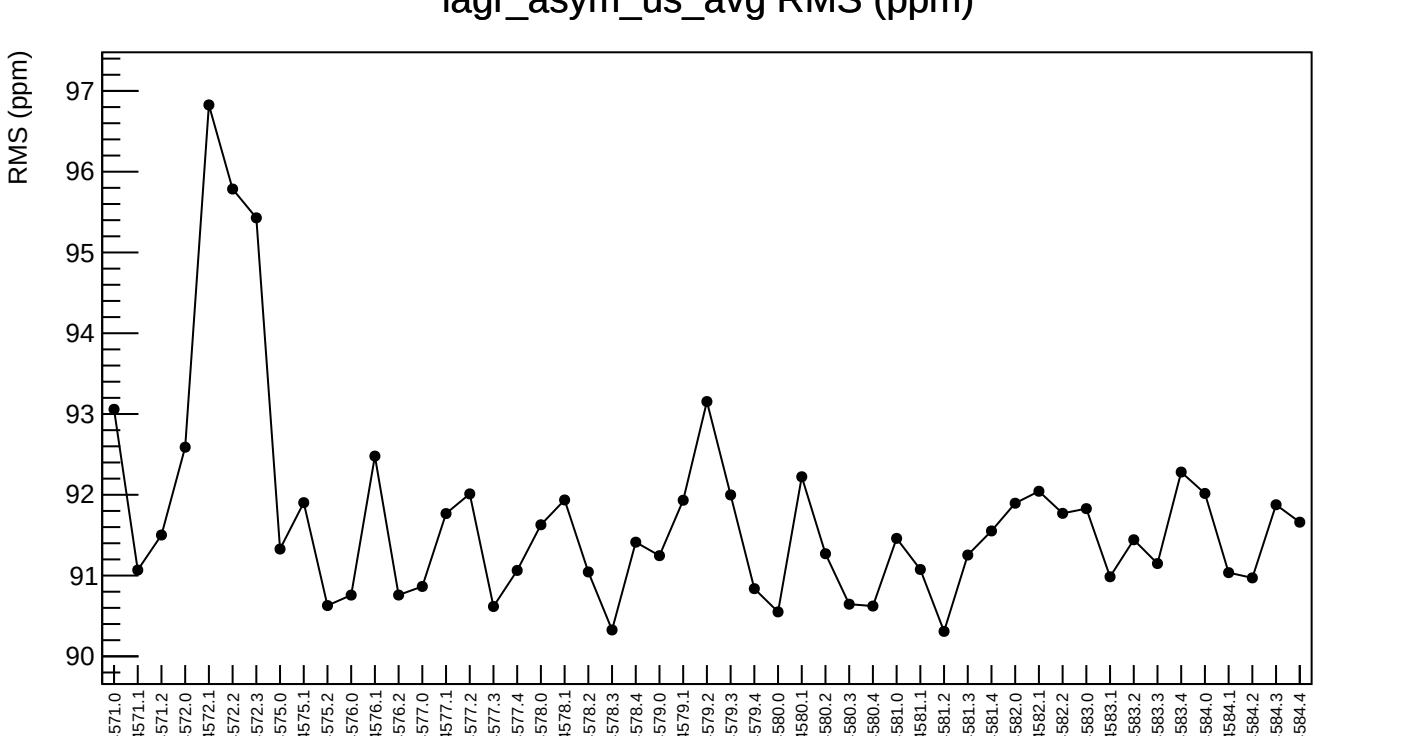

corr_Adet_bpm8X RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

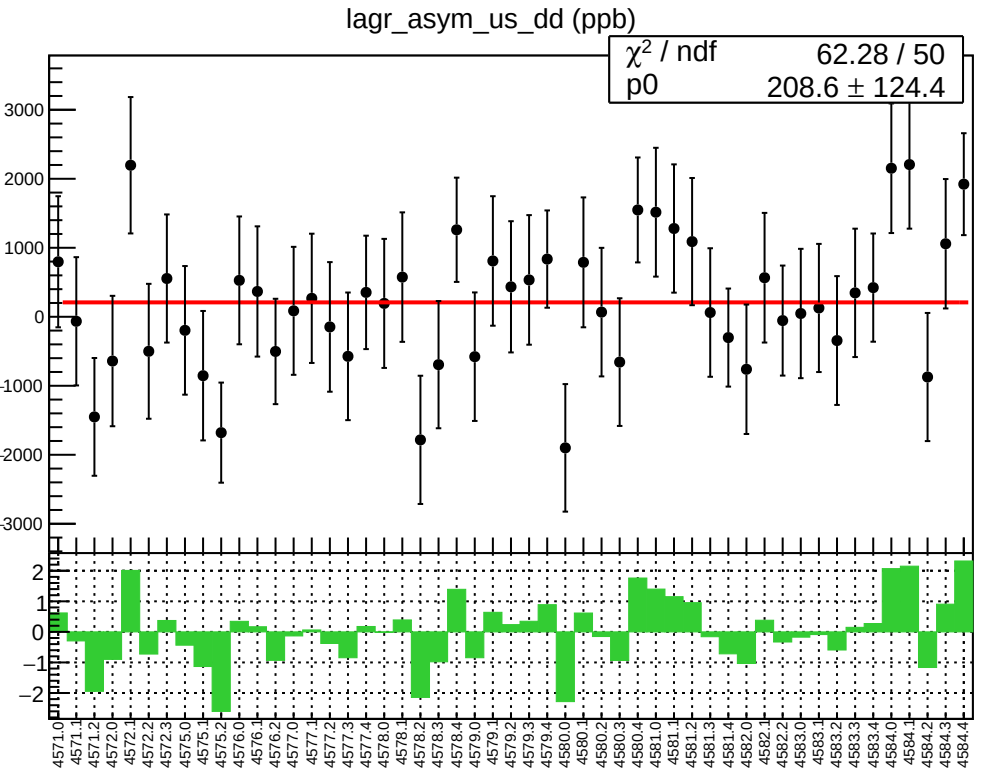

corr_Adet_bpm8Y (ppb)
χ² / ndf 0 / 50
p0 0 ± 9.309

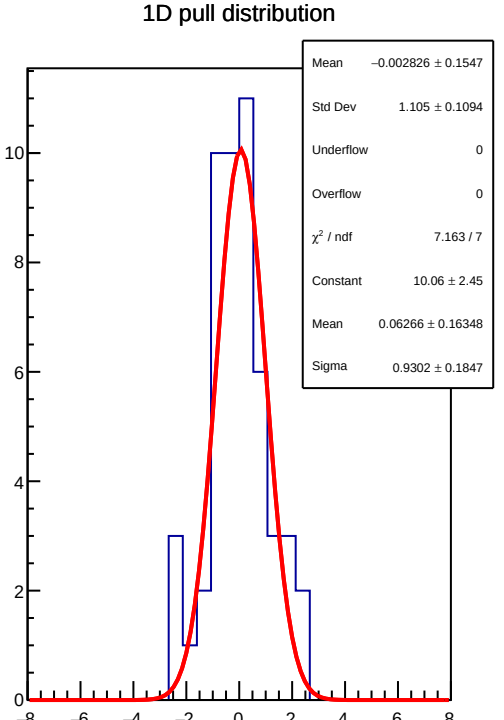

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41 ± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598

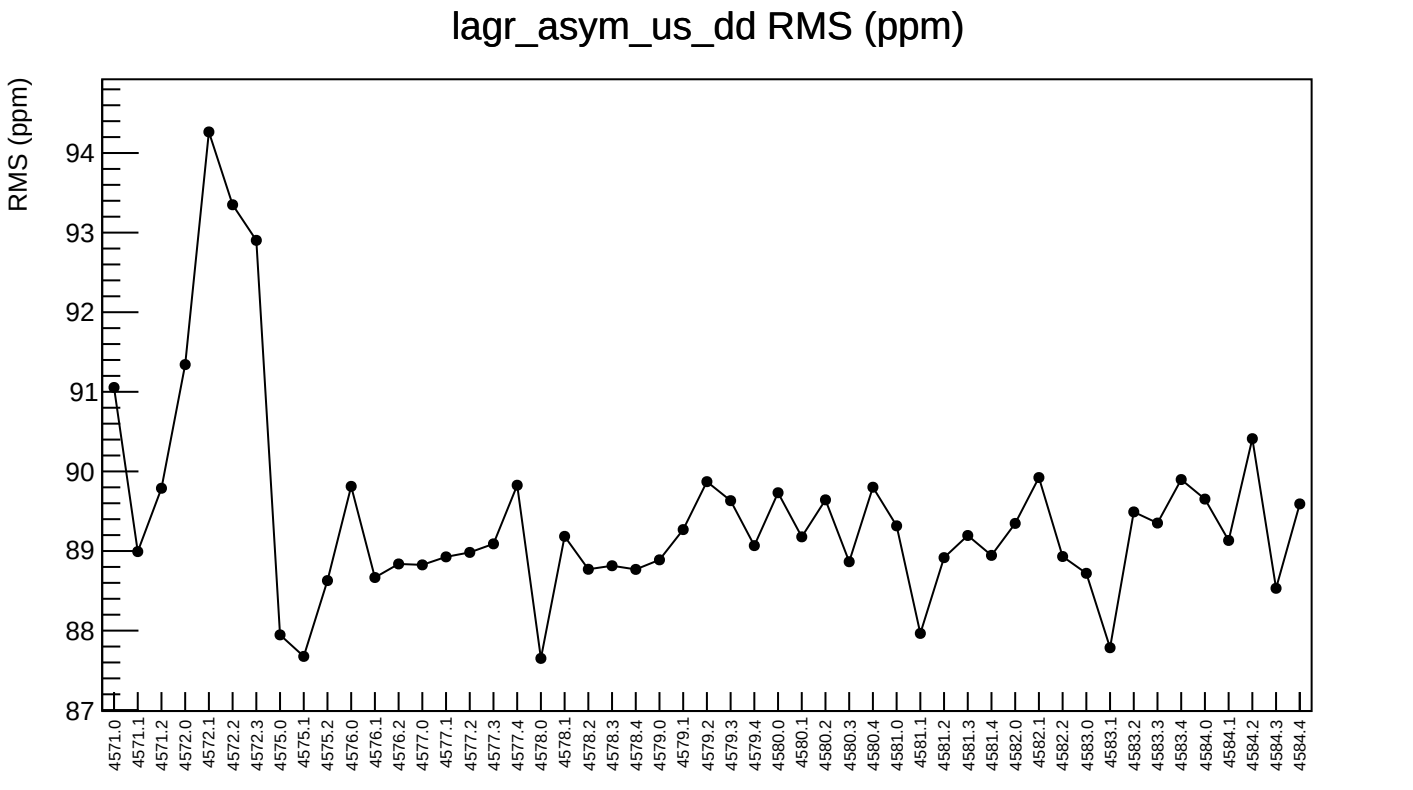

corr_Adet_bpm8Y RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

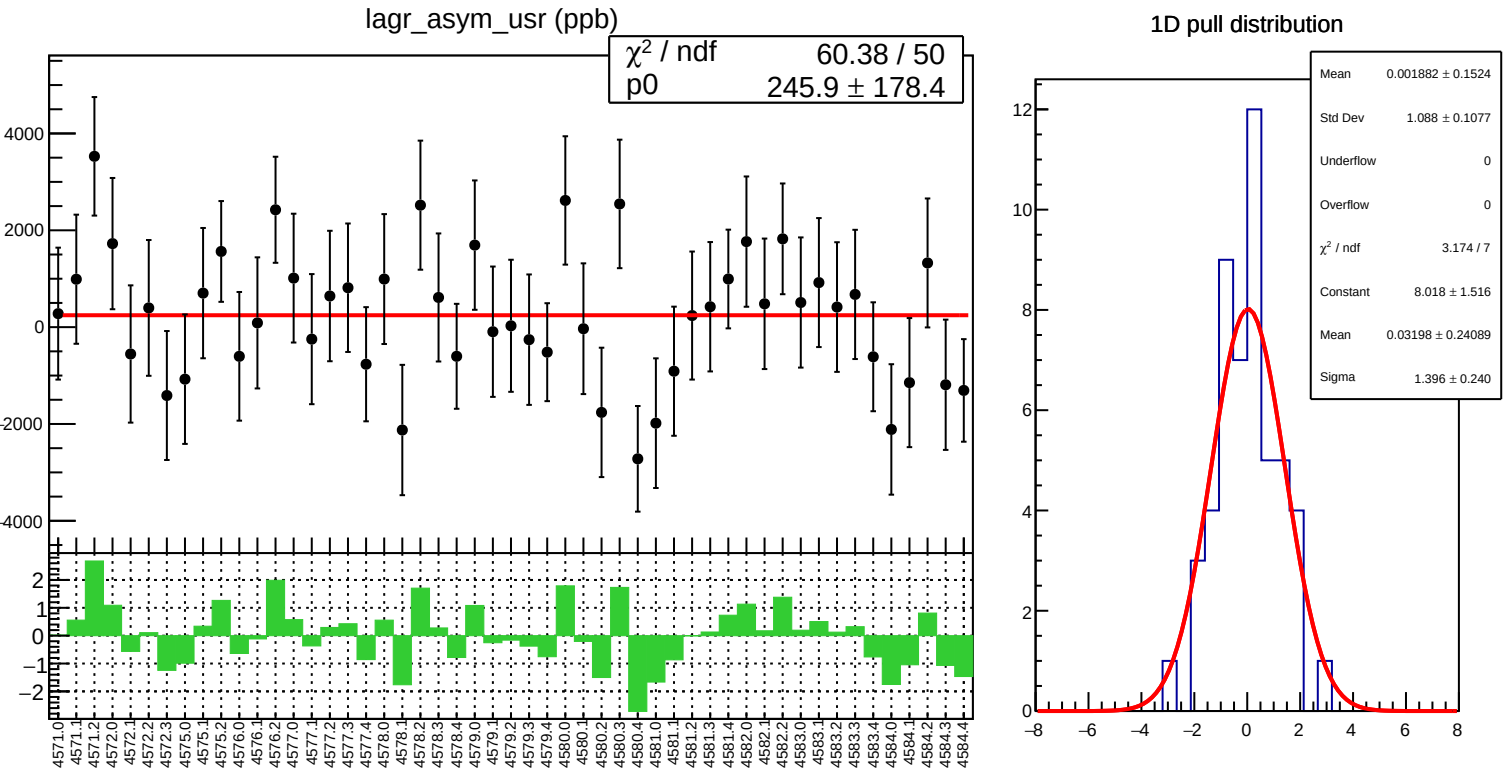

lagr_asym_us_avg (ppb)
χ² / ndf 42.95 / 50
p0 454.5 ± 128.5
3000
2000
1000
0
-1000
-2000
-3000
1.5
1
0.5
0
−0.5
−1
−1.5
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean −0.0001222 ± 0.1285
Std Dev 0.9177 ± 0.09087
Underflow 0
Overflow 0
χ² / ndf 7.071 / 6
Constant 12.06 ± 2.43
Mean 0.2053 ± 0.1204
Sigma 0.7795 ± 0.1086
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

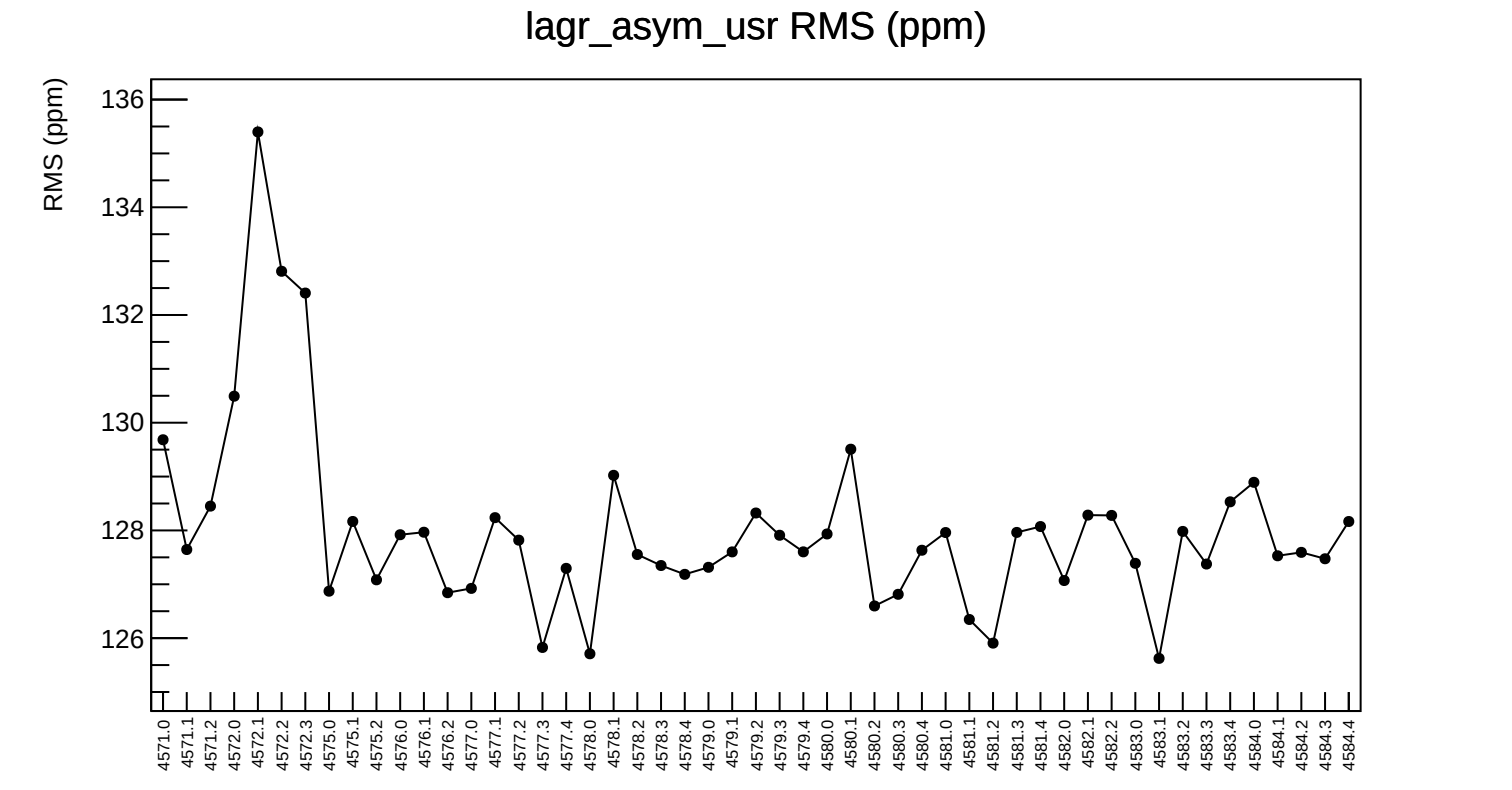

lagr_asym_us_avg RMS (ppm)
RMS (ppm)
97
96
95
94
93
92
91
90
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

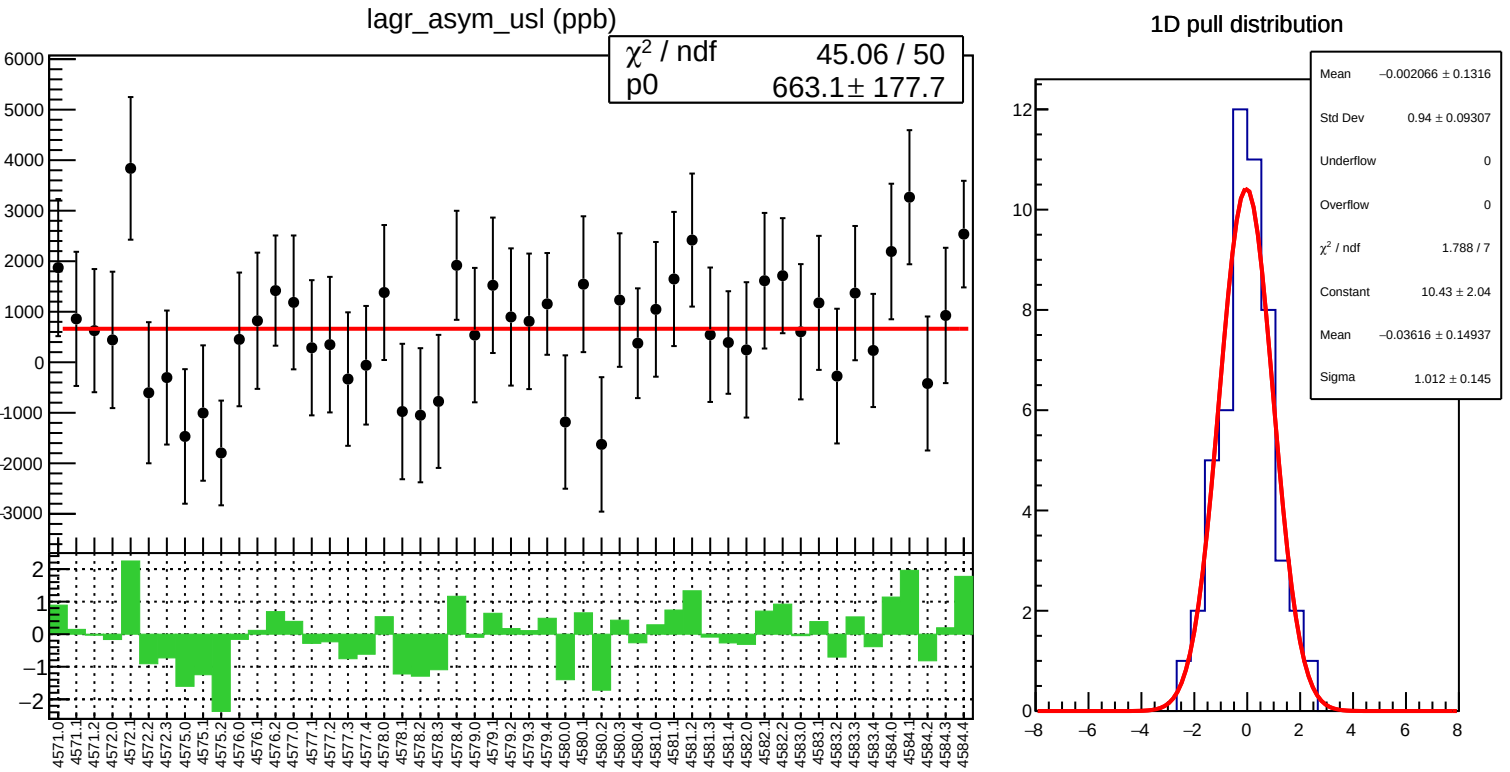

lagr_asym_us_dd (ppb)
χ² / ndf 62.28 / 50
p0 208.6 ± 124.4
3000
2000
1000
0
-1000
-2000
-3000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

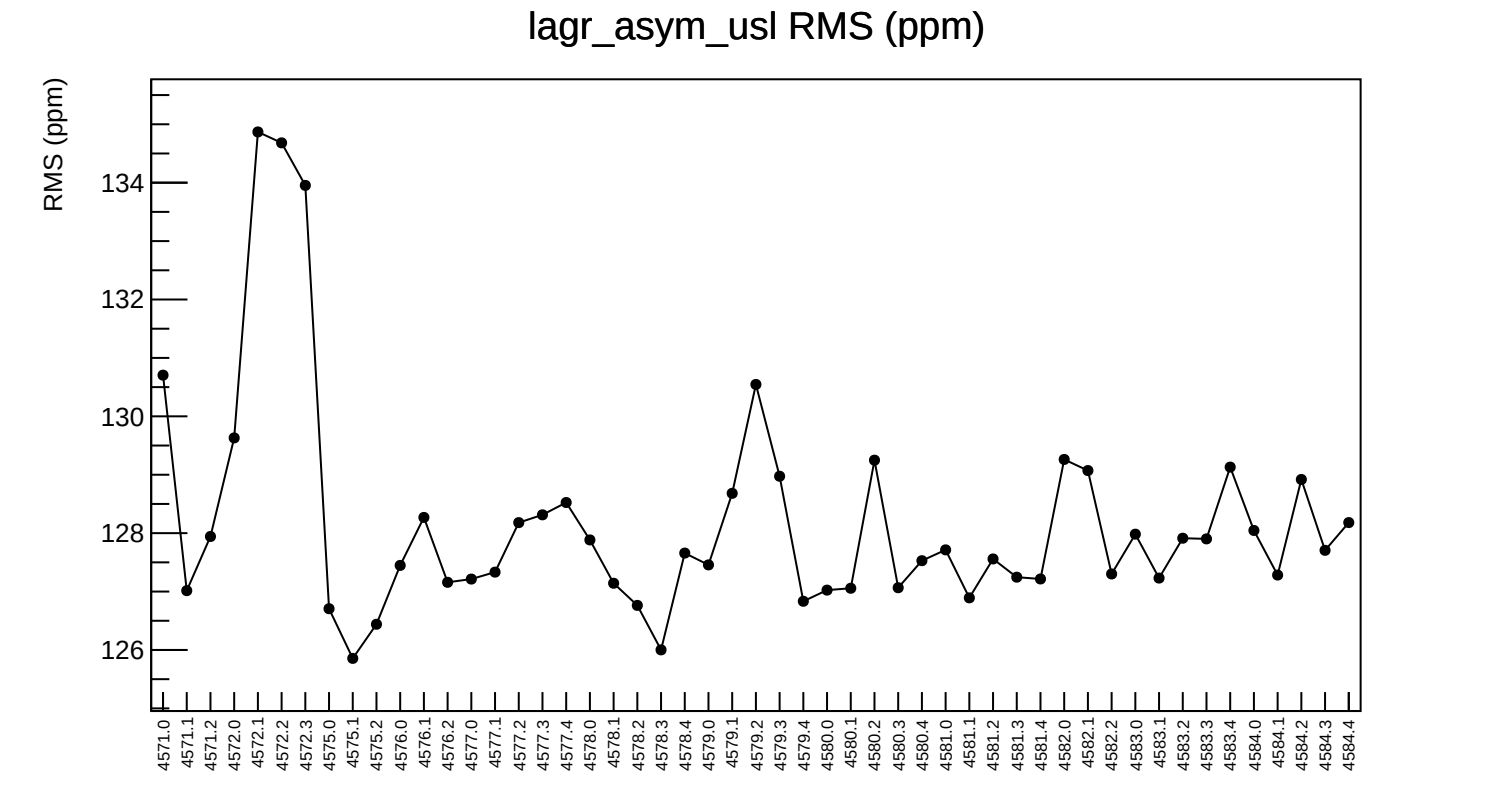

1D pull distribution
Mean −0.002826 ± 0.1547
Std Dev 1.105 ± 0.1094
Underflow 0
Overflow 0
χ² / ndf 7.163 / 7
Constant 10.06 ± 2.45
Mean 0.06266 ± 0.16348
Sigma 0.9302 ± 0.1847
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

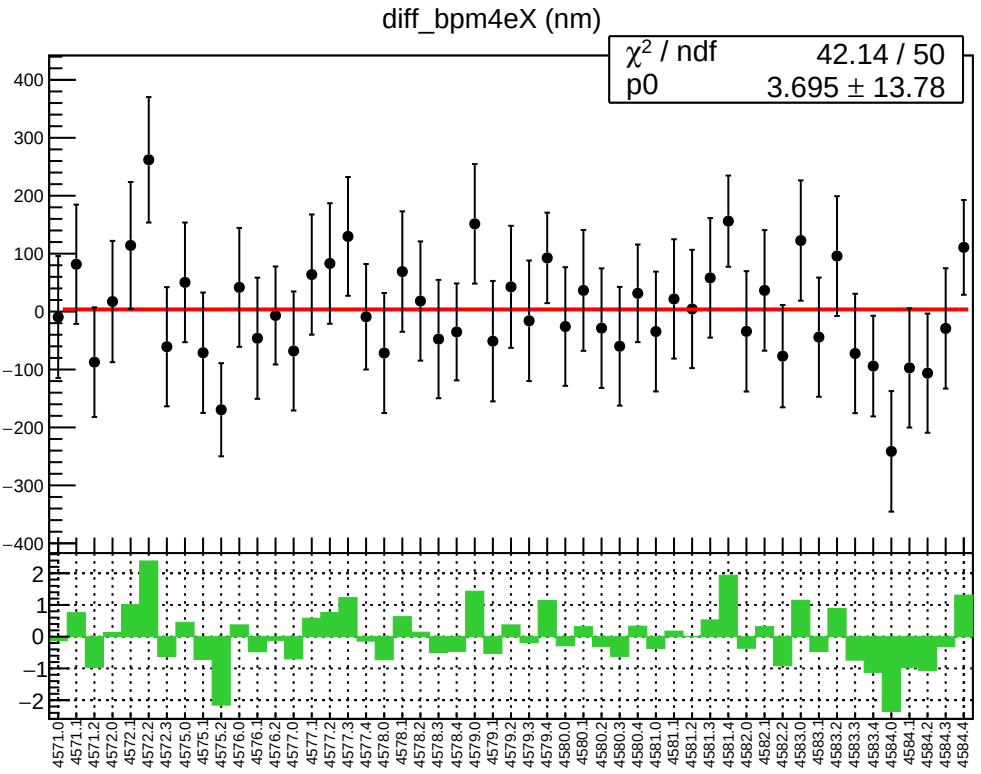

lagr_asym_us_dd RMS (ppm)
RMS (ppm)
94
93
92
91
90
89
88
87
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

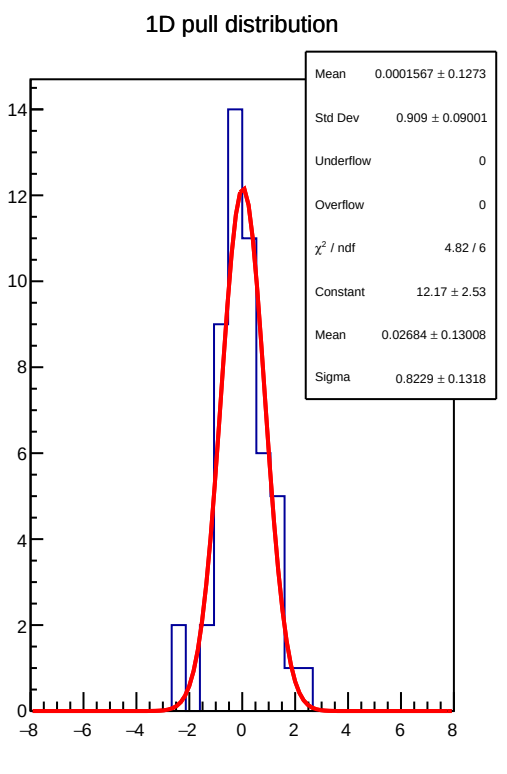

lagr_asym_usr (ppb)
χ² / ndf 60.38 / 50
p0 245.9 ± 178.4
4000
2000
0
-2000
-4000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean 0.001882 ± 0.1524
Std Dev 1.088 ± 0.1077
Underflow 0
Overflow 0
χ² / ndf 3.174 / 7
Constant 8.018 ± 1.516
Mean 0.03198 ± 0.24089
Sigma 1.396 ± 0.240
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

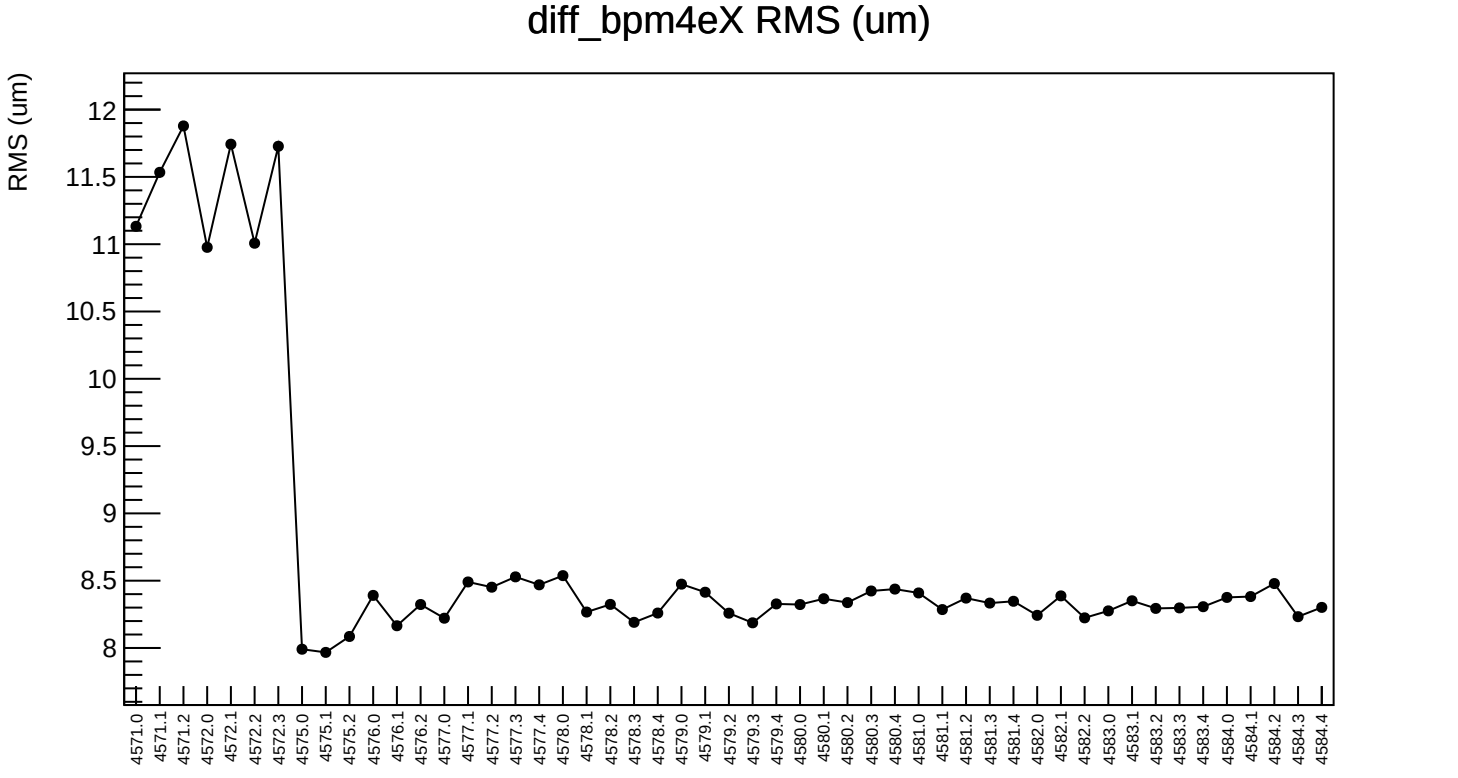

lagr_asym_usr RMS (ppm)
RMS (ppm)
136
134
132
130
128
126
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

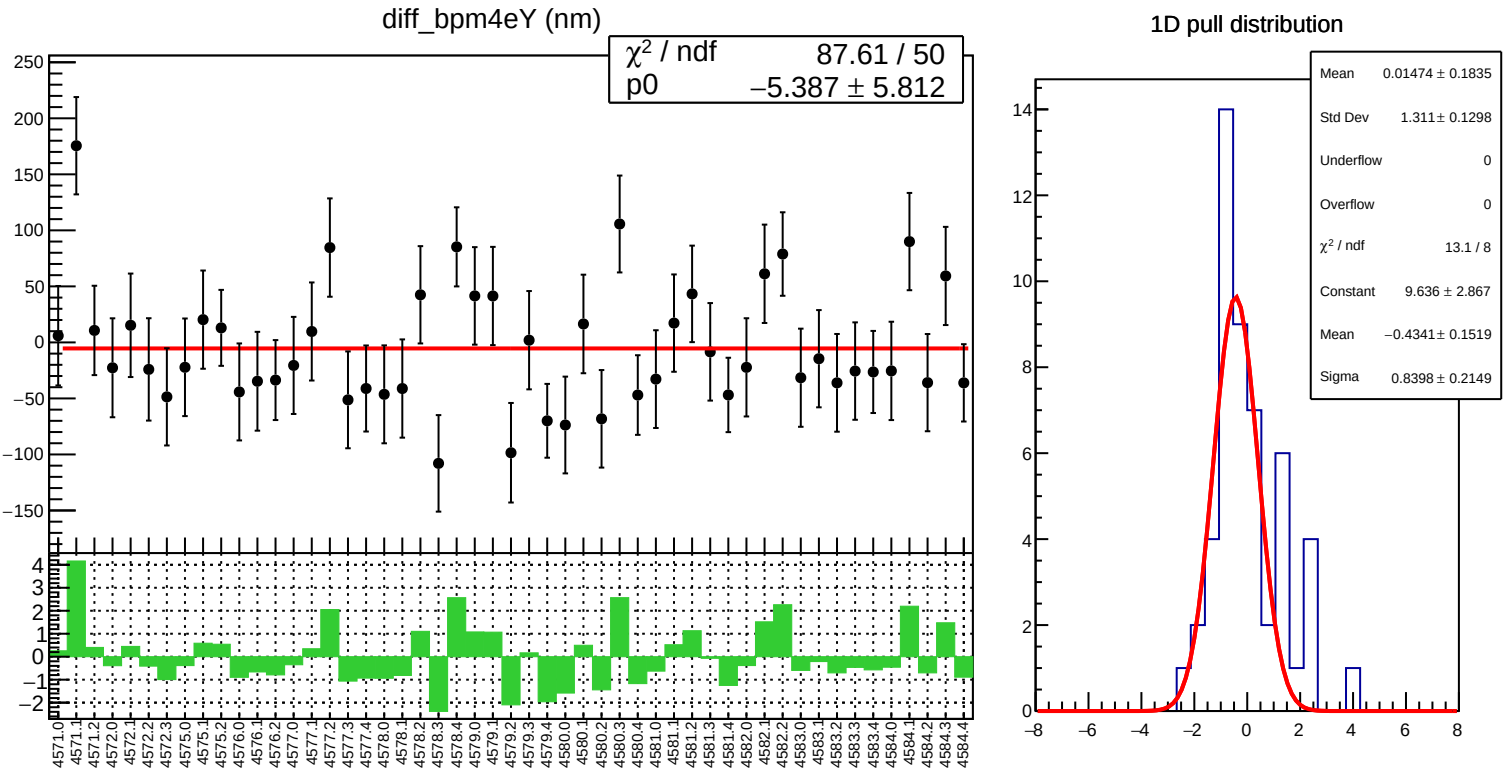

lagr_asym_usl (ppb)
χ² / ndf 45.06 / 50
p0 663.1 ± 177.7
1D pull distribution
Mean −0.002066 ± 0.1316
Std Dev 0.94 ± 0.09307
Underflow 0
Overflow 0
χ² / ndf 1.788 / 7
Constant 10.43 ± 2.04
Mean −0.03616 ± 0.14937
Sigma 1.012 ± 0.145

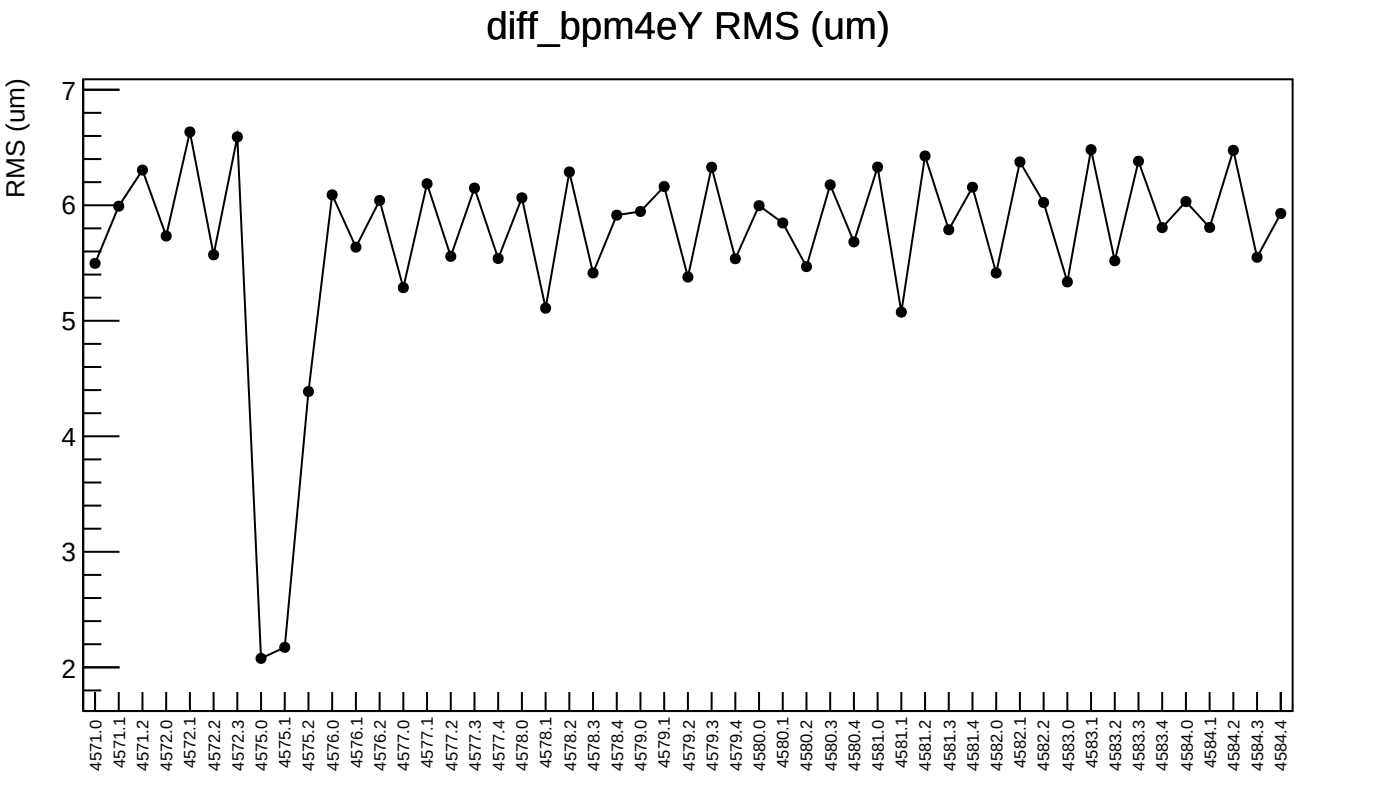

lagr_asym_usl RMS (ppm)
RMS (ppm)
134
132
130
128
126
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

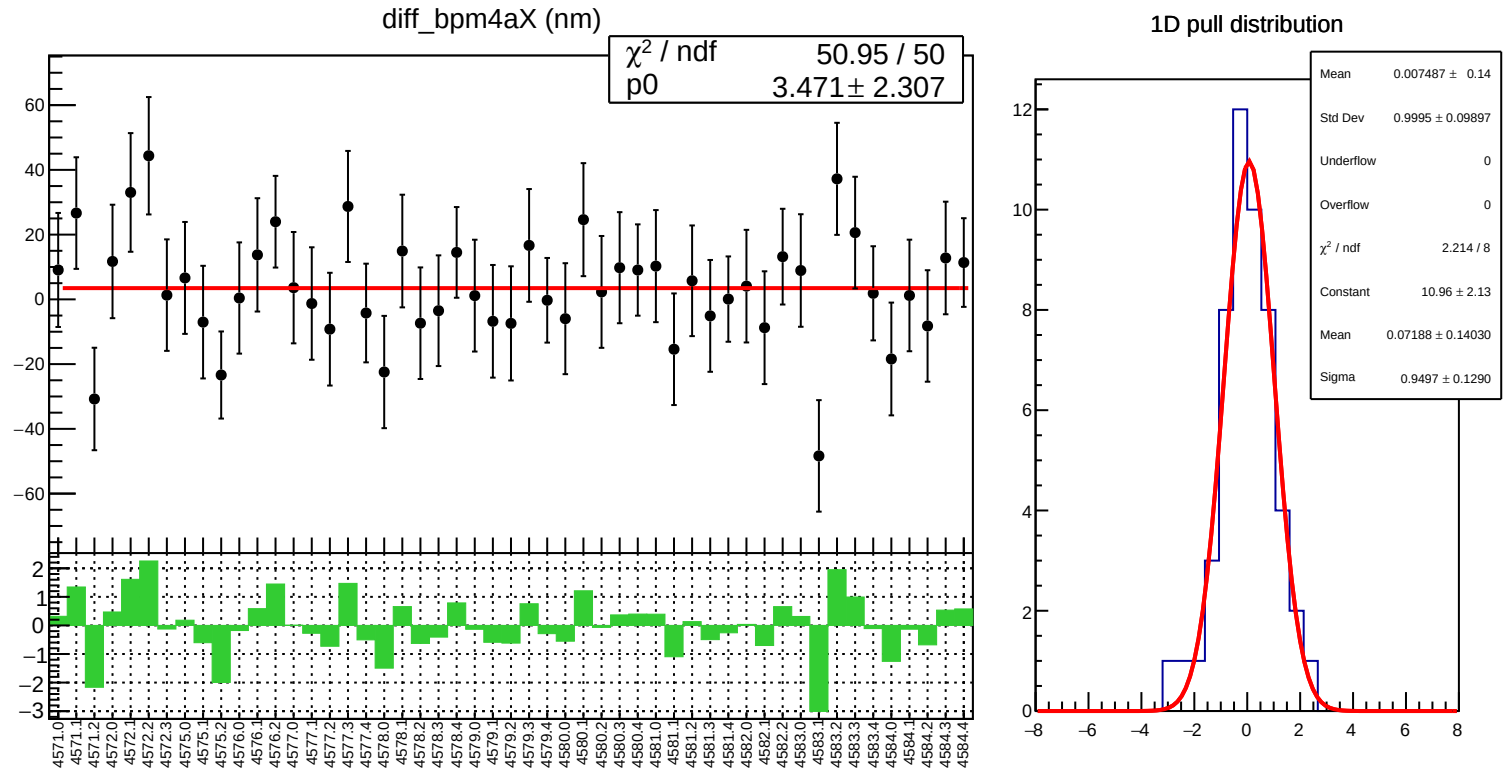

diff_bpm4eX (nm)
χ² / ndf 42.14 / 50
p0 3.695 ± 13.78

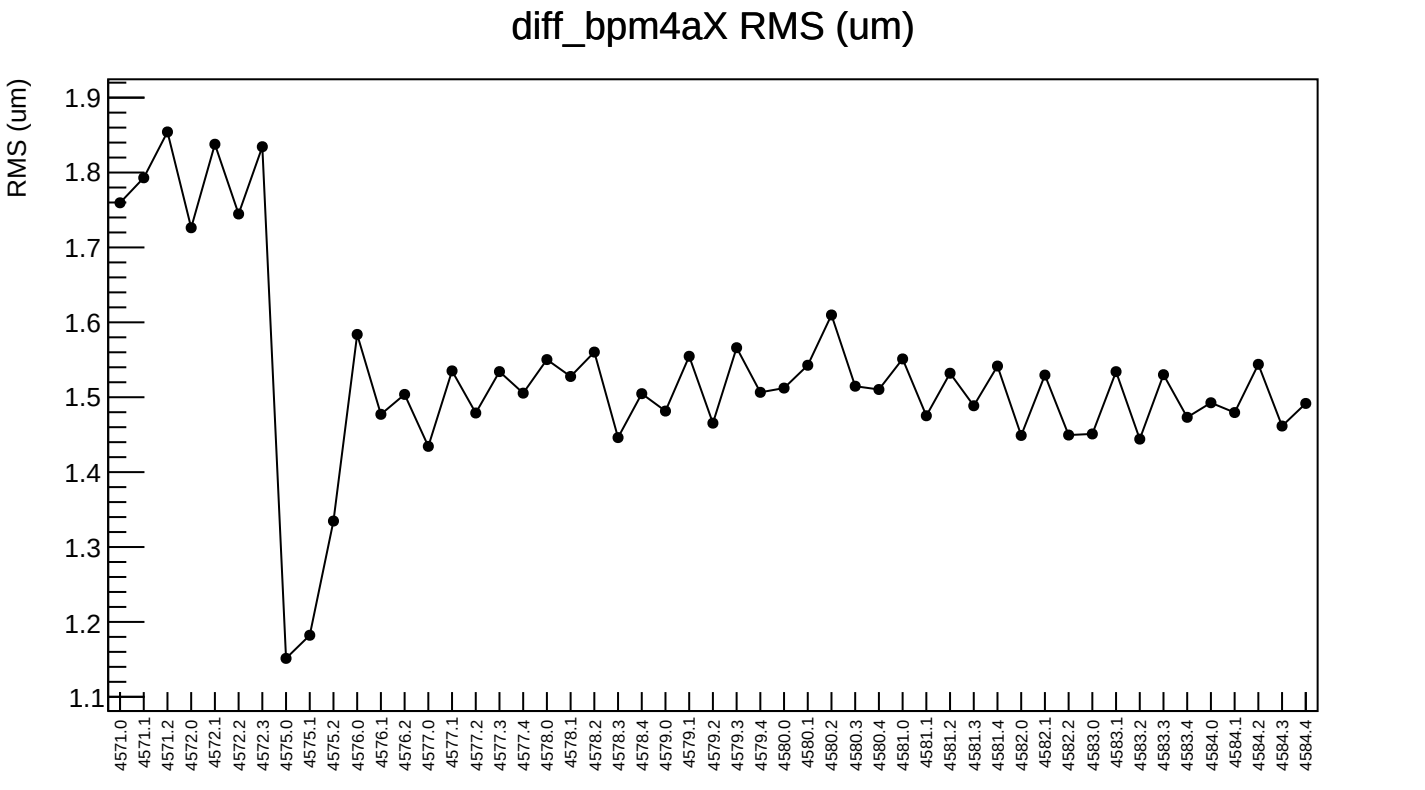

1D pull distribution
Mean 0.0001567 ± 0.1273
Std Dev 0.909 ± 0.09001
Underflow 0
Overflow 0
χ² / ndf 4.82 / 6
Constant 12.17 ± 2.53
Mean 0.02684 ± 0.13008
Sigma 0.8229 ± 0.1318

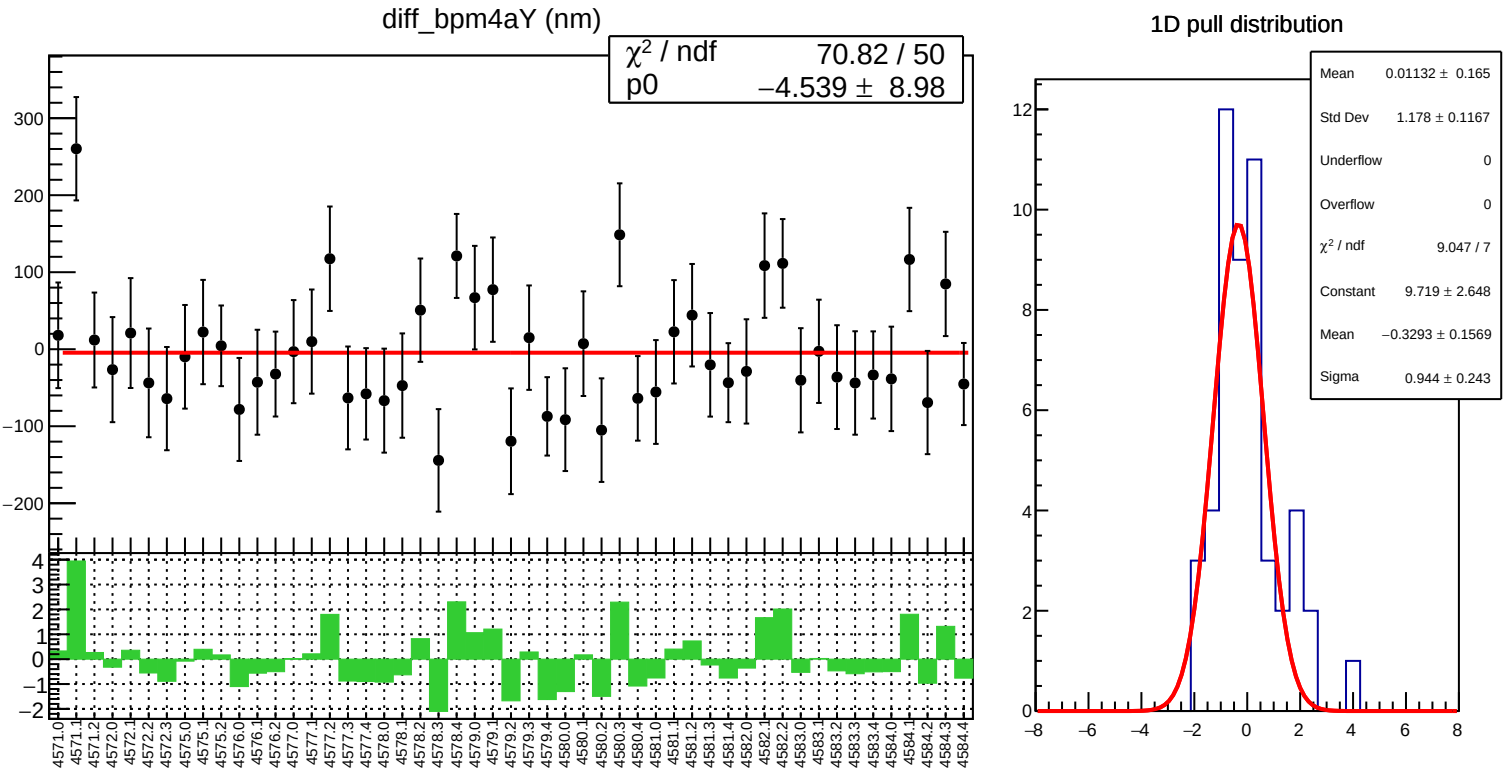

diff_bpm4eX RMS (um)
RMS (um)
12
11.5
11
10.5
10
9.5
9
8.5
8
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

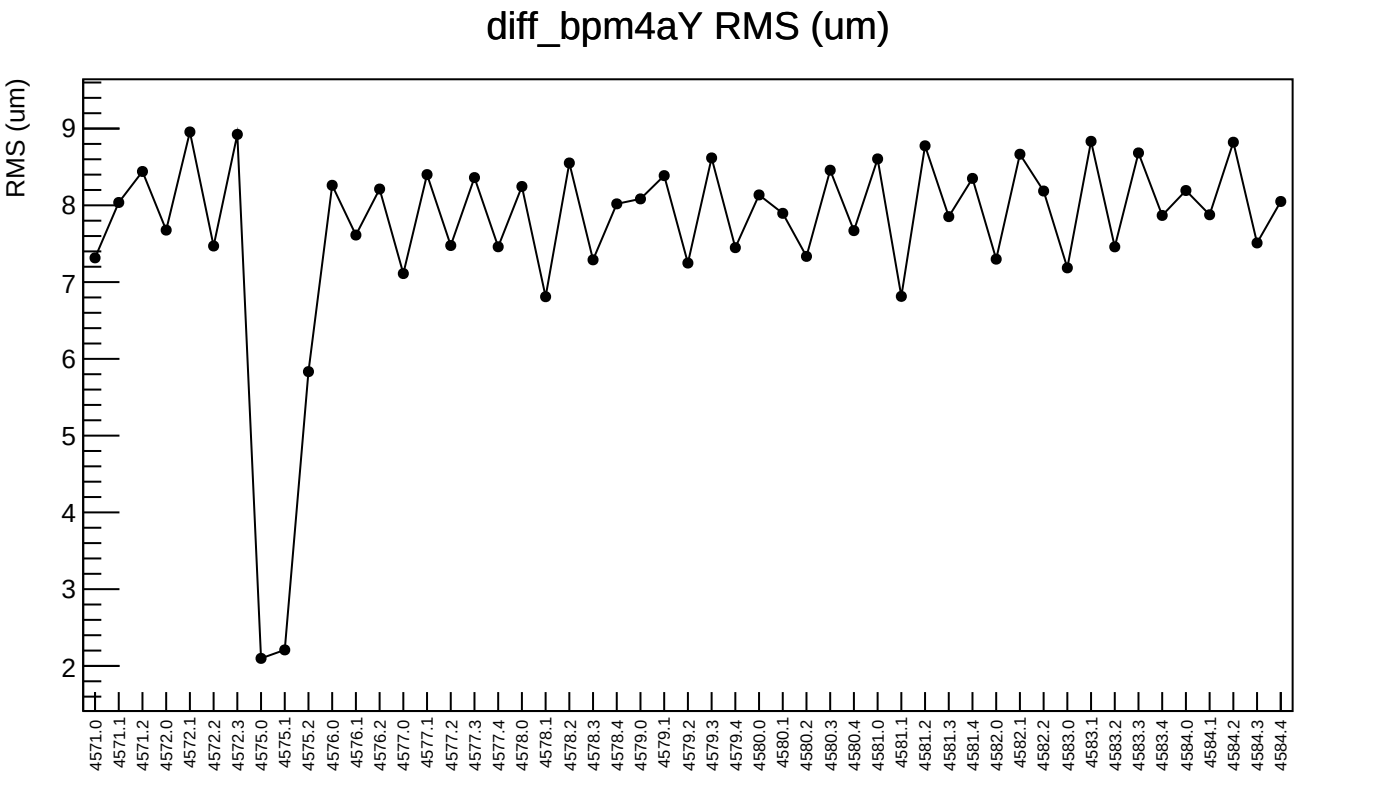

diff_bpm4eY (nm)
χ² / ndf 87.61 / 50
p0 −5.387 ± 5.812
1D pull distribution
Mean 0.01474 ± 0.1835
Std Dev 1.311 ± 0.1298
Underflow 0
Overflow 0
χ² / ndf 13.1 / 8
Constant 9.636 ± 2.867
Mean −0.4341 ± 0.1519
Sigma 0.8398 ± 0.2149

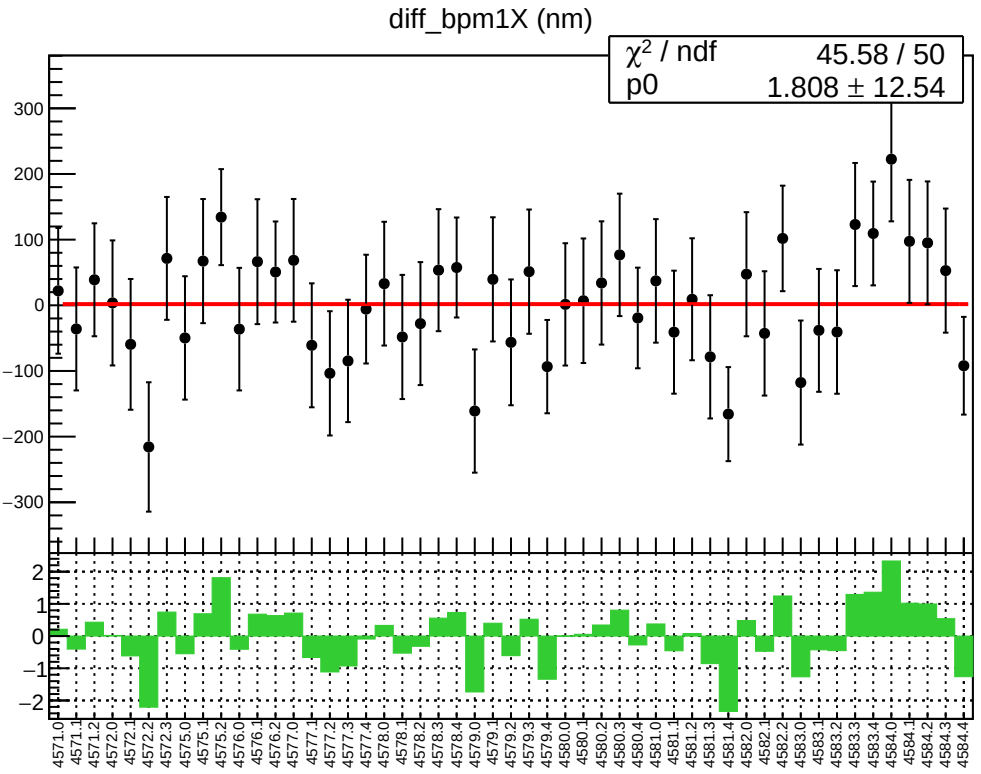

diff_bpm4eY RMS (um)
RMS (um)
7
6
5
4
3
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

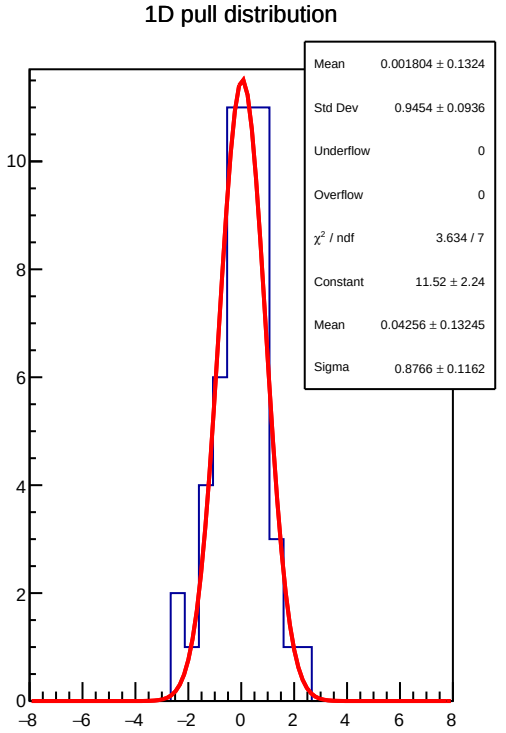

diff_bpm4aX (nm)
χ² / ndf 50.95 / 50
p0 3.471 ± 2.307
1D pull distribution
Mean 0.007487 ± 0.14
Std Dev 0.9995 ± 0.09897
Underflow 0
Overflow 0
χ² / ndf 2.214 / 8
Constant 10.96 ± 2.13
Mean 0.07188 ± 0.14030
Sigma 0.9497 ± 0.1290

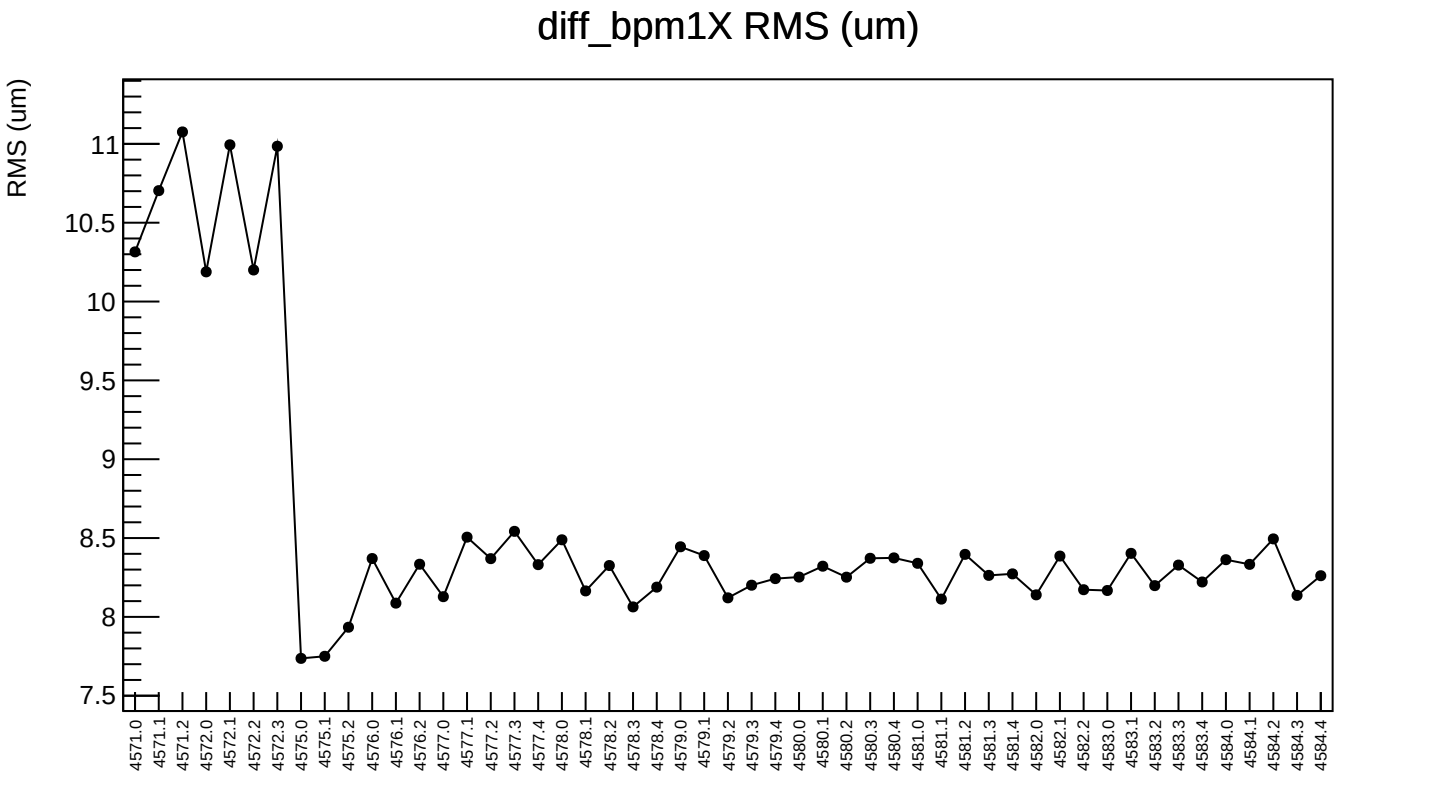

diff_bpm4aX RMS (um)
RMS (um)
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

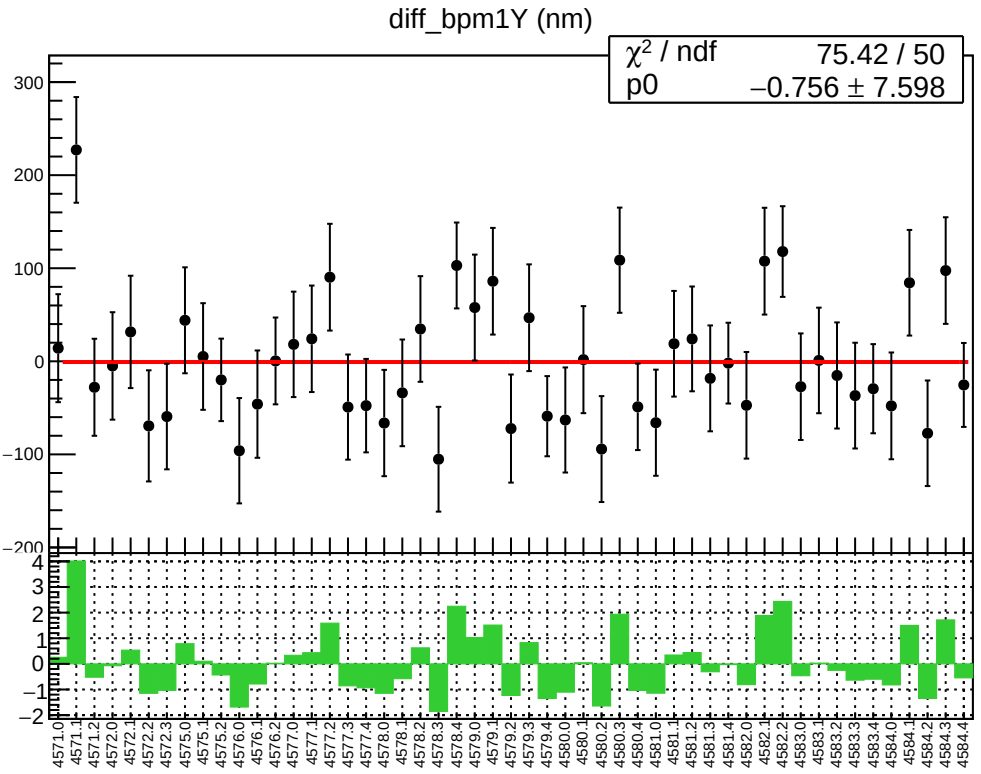

diff_bpm4aY (nm)
χ² / ndf 70.82 / 50
p0 −4.539 ± 8.98
300
200
100
0
−100
−200
4
3
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean 0.01132 ± 0.165
Std Dev 1.178 ± 0.1167
Underflow 0
Overflow 0
χ² / ndf 9.047 / 7
Constant 9.719 ± 2.648
Mean −0.3293 ± 0.1569
Sigma 0.944 ± 0.243
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

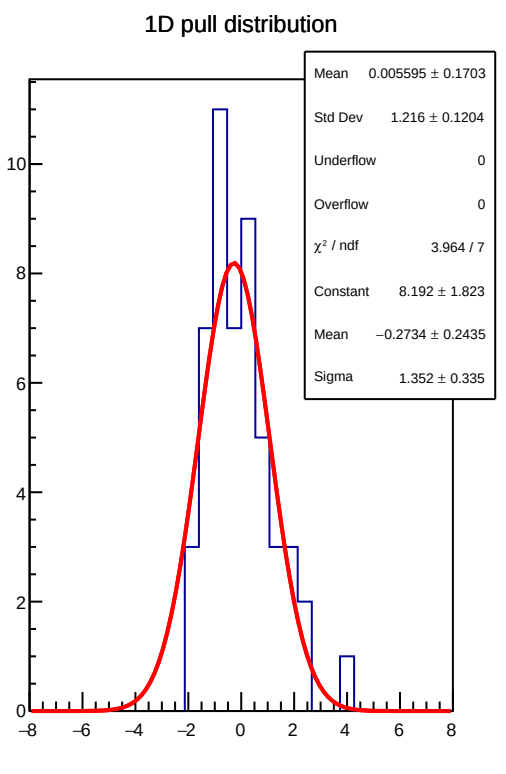

diff_bpm4aY RMS (um)
RMS (um)
9
8
7
6
5
4
3
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

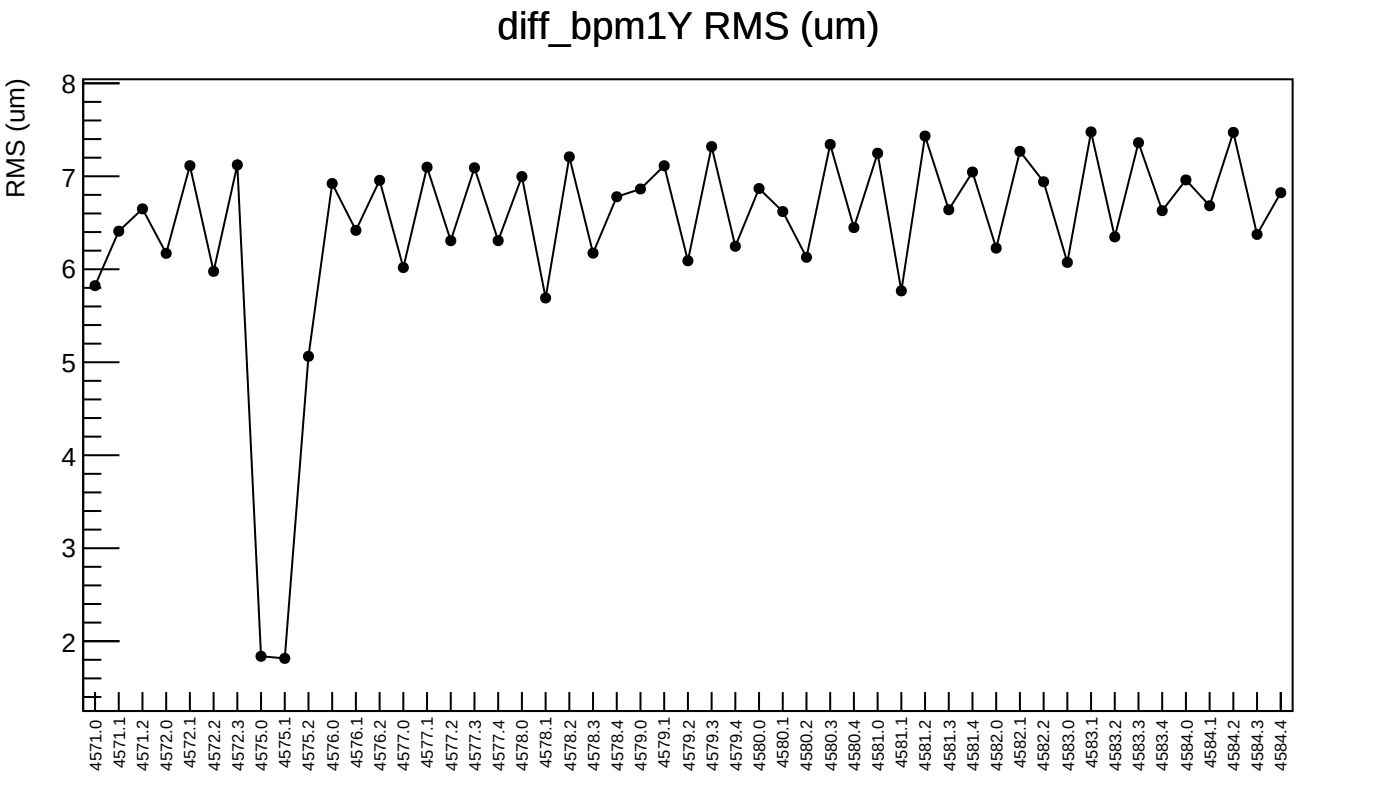

diff_bpm1X (nm)
χ² / ndf 45.58 / 50
p0 1.808 ± 12.54
300
200
100
0
−100
−200
−300
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

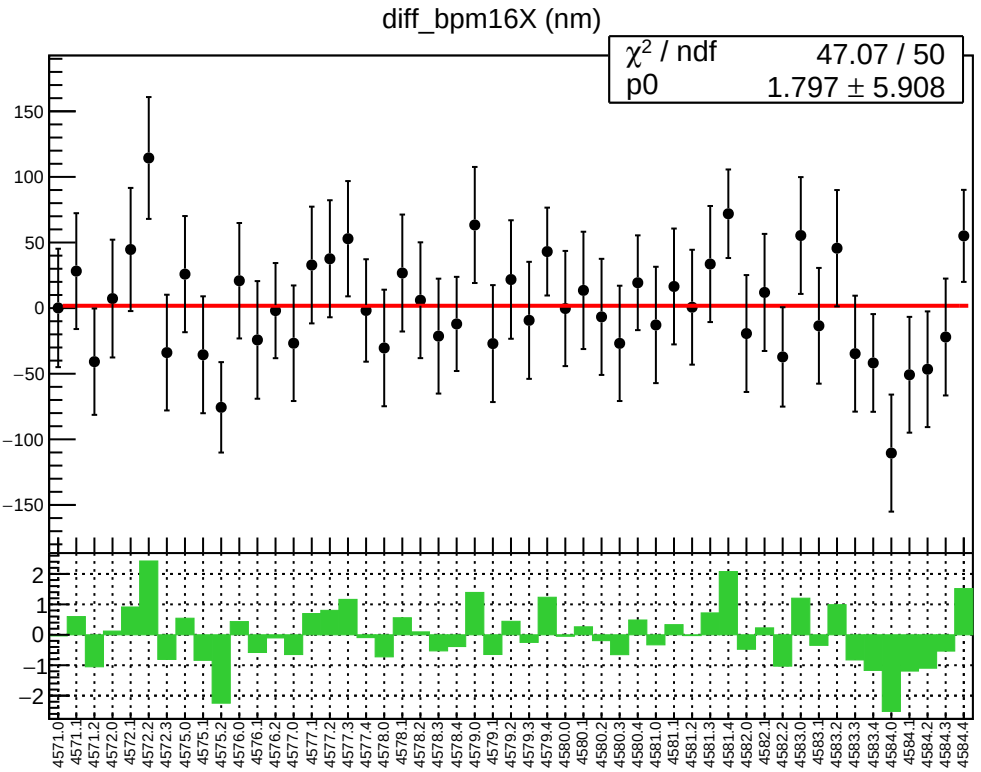

1D pull distribution
Mean 0.001804 ± 0.1324
Std Dev 0.9454 ± 0.0936
Underflow 0
Overflow 0
χ² / ndf 3.634 / 7
Constant 11.52 ± 2.24
Mean 0.04256 ± 0.13245
Sigma 0.8766 ± 0.1162
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

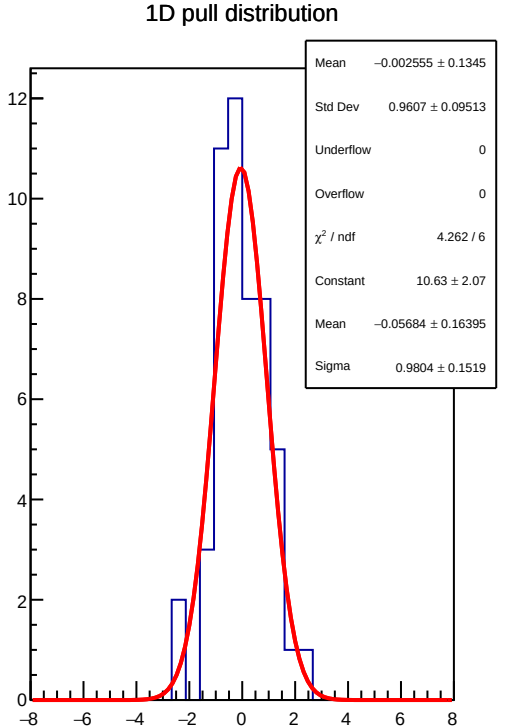

diff_bpm1X RMS (um)
RMS (um)
11
10.5
10
9.5
9
8.5
8
7.5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

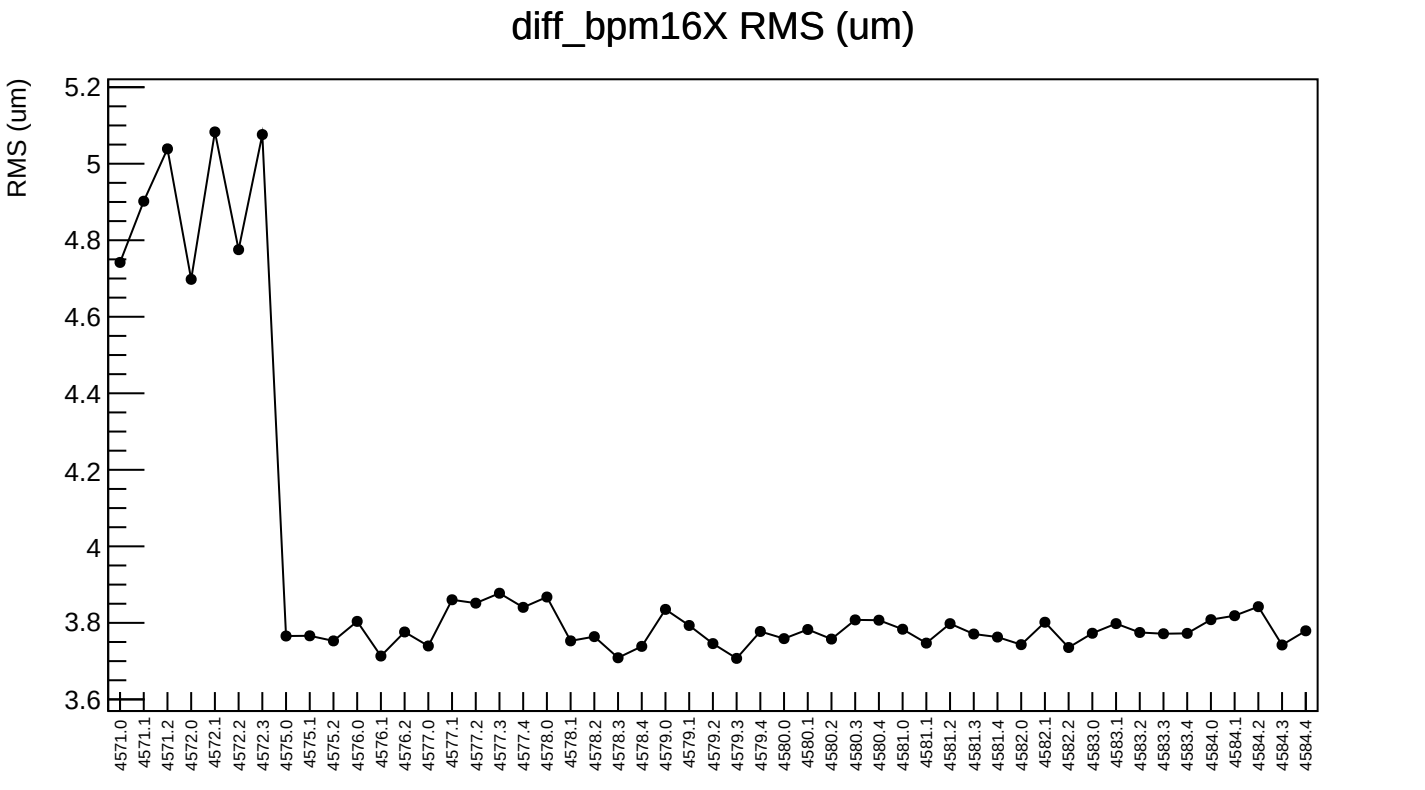

diff_bpm1Y (nm)
χ² / ndf 75.42 / 50
p0 −0.756 ± 7.598
300
200
100
0
−100
−200
4
3
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

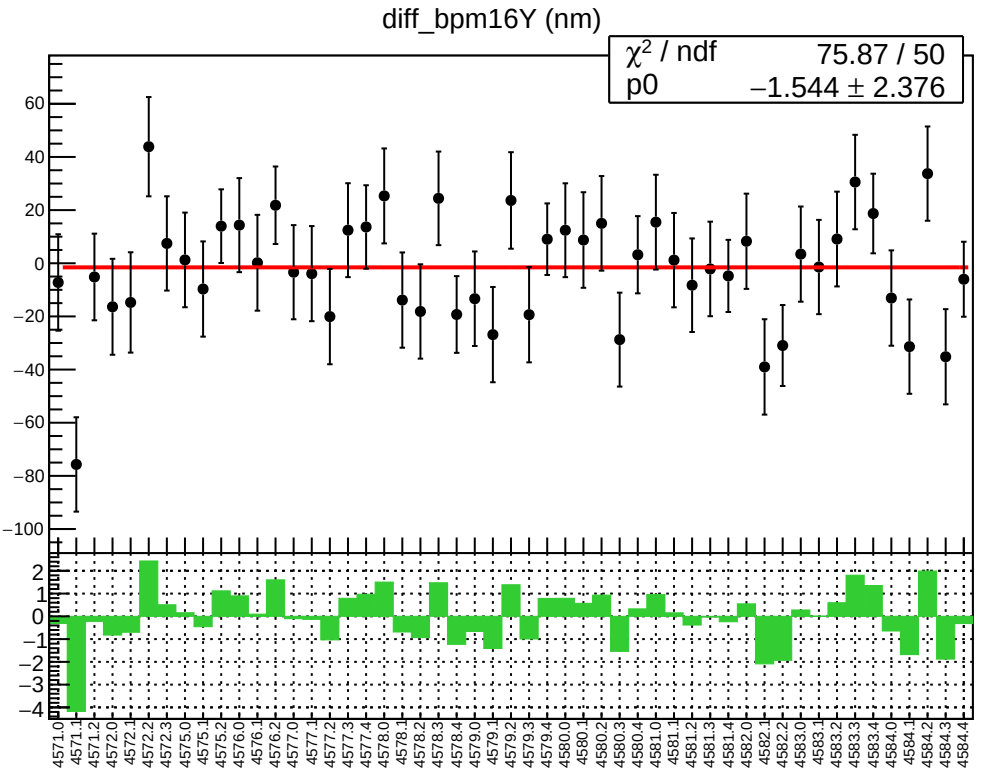

1D pull distribution
Mean 0.005595 ± 0.1703
Std Dev 1.216 ± 0.1204
Underflow 0
Overflow 0
χ² / ndf 3.964 / 7
Constant 8.192 ± 1.823
Mean −0.2734 ± 0.2435
Sigma 1.352 ± 0.335
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

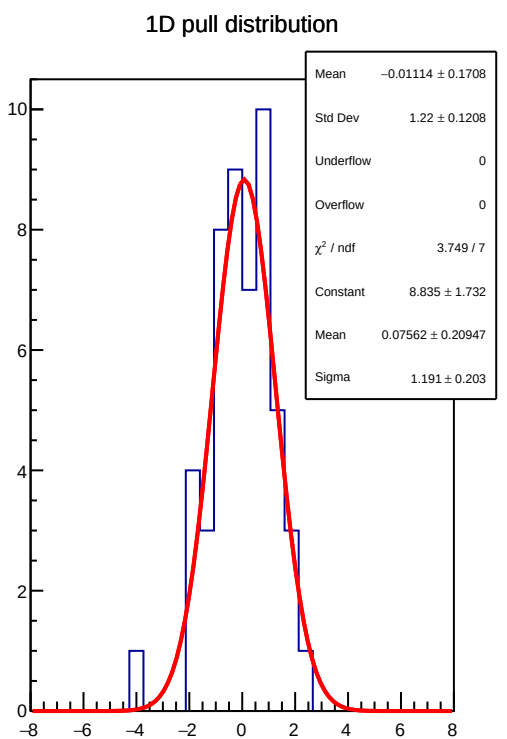

diff_bpm1Y RMS (um)
RMS (um)
8
7
6
5
4
3
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

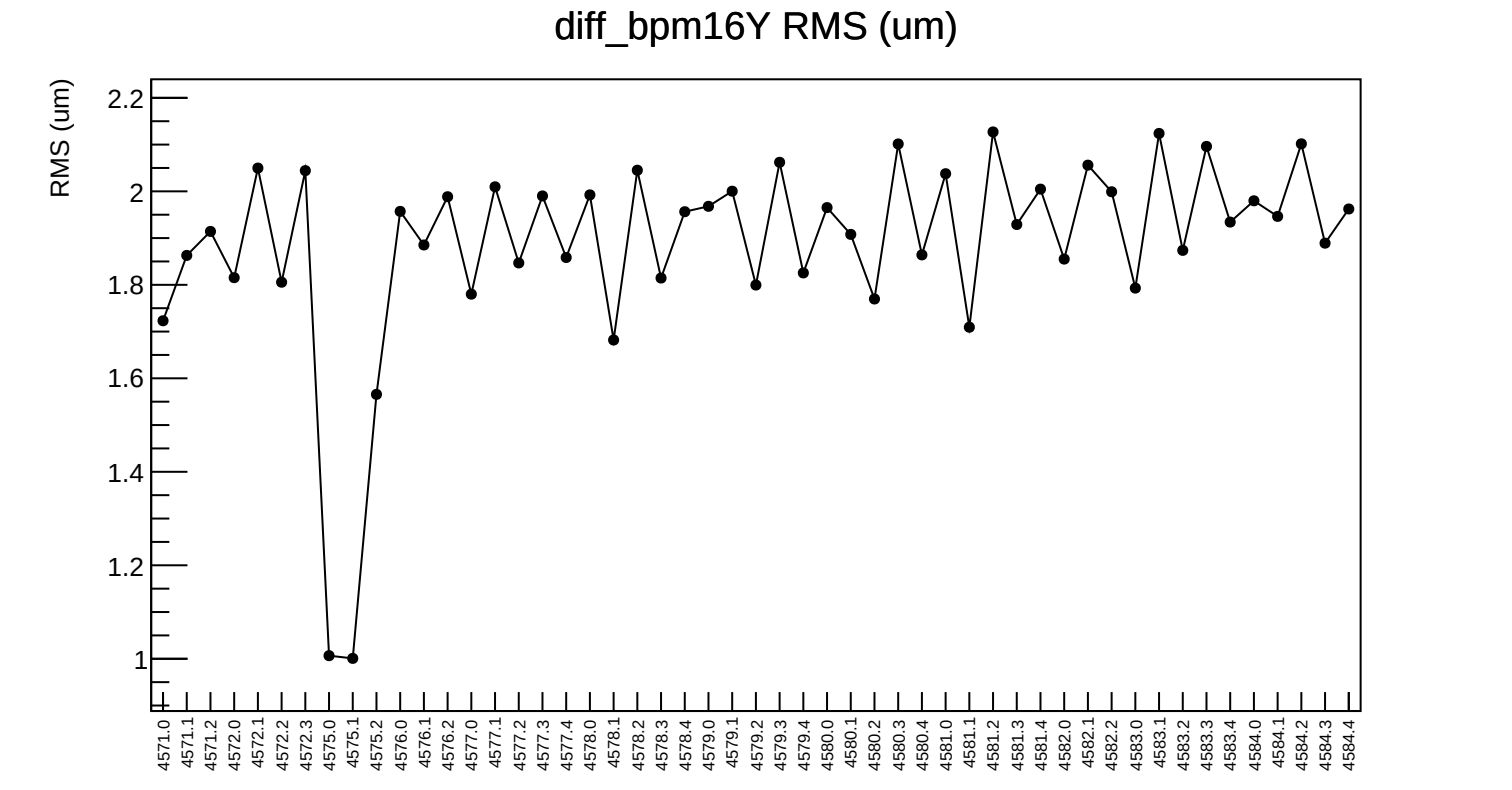

diff_bpm16X (nm)
χ² / ndf 47.07 / 50
p0 1.797 ± 5.908
150
100
50
0
−50
−100
−150
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

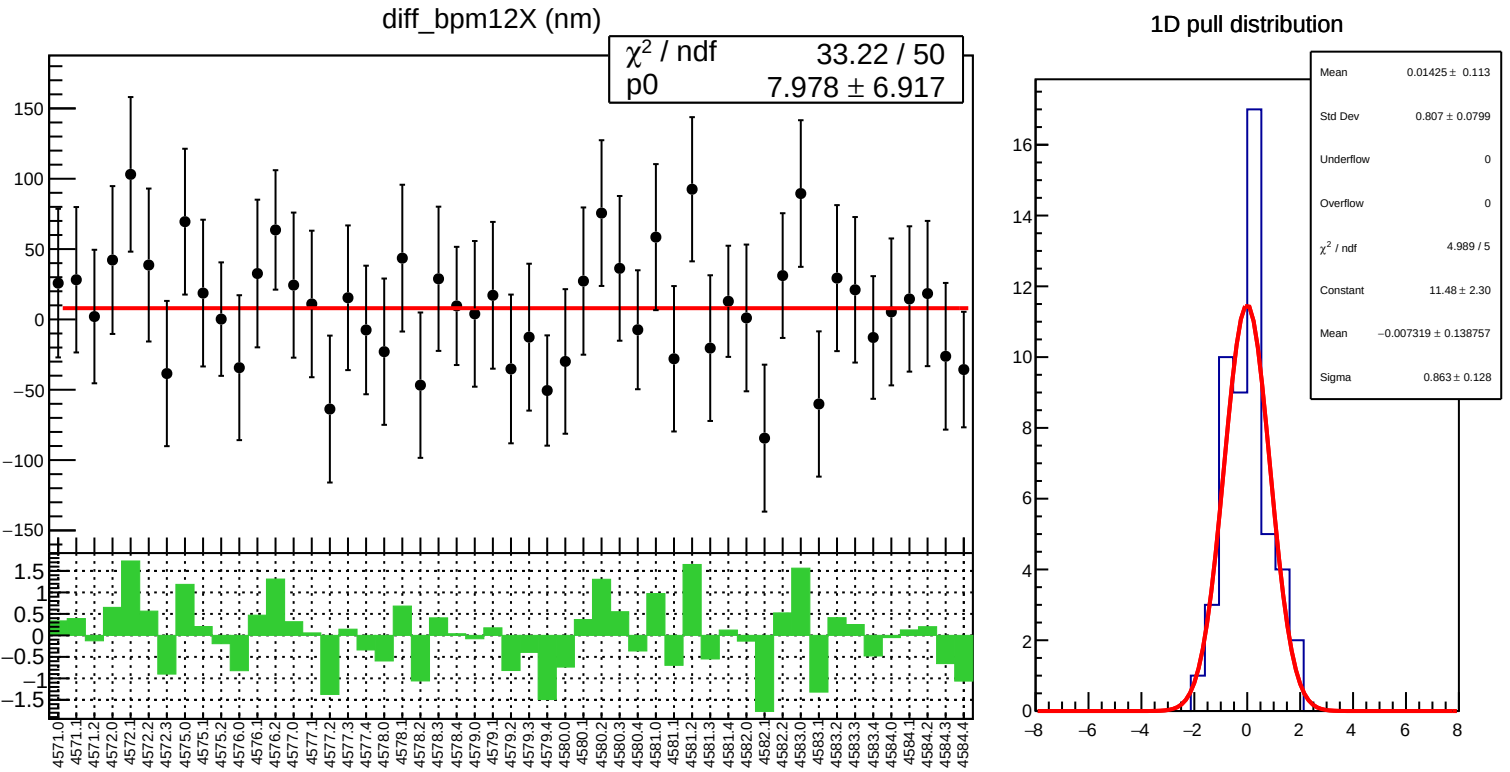

1D pull distribution
Mean −0.002555 ± 0.1345
Std Dev 0.9607 ± 0.09513
Underflow 0
Overflow 0
χ² / ndf 4.262 / 6
Constant 10.63 ± 2.07
Mean −0.05684 ± 0.16395
Sigma 0.9804 ± 0.1519
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

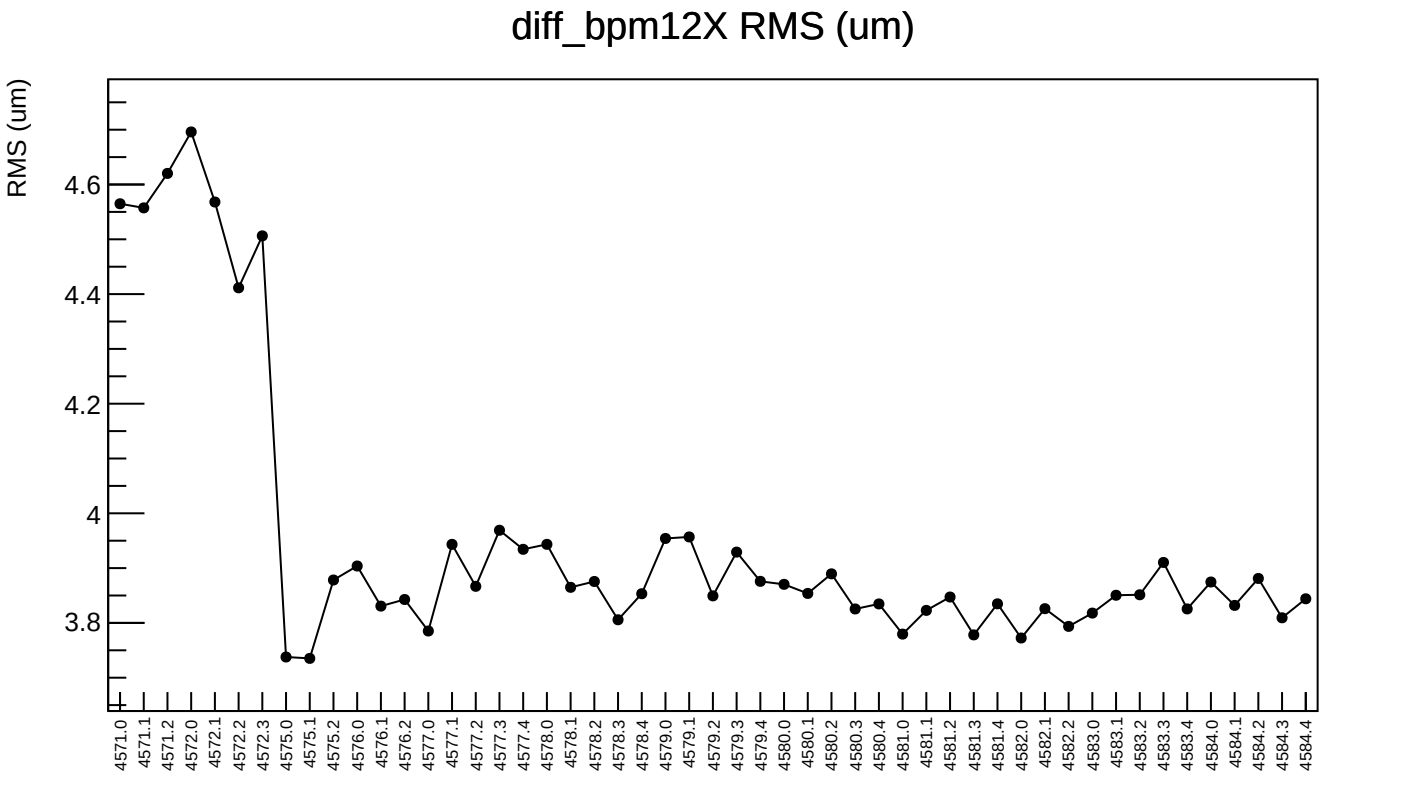

diff_bpm16X RMS (um)
RMS (um)
5.2
5
4.8
4.6
4.4
4.2
4
3.8
3.6
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

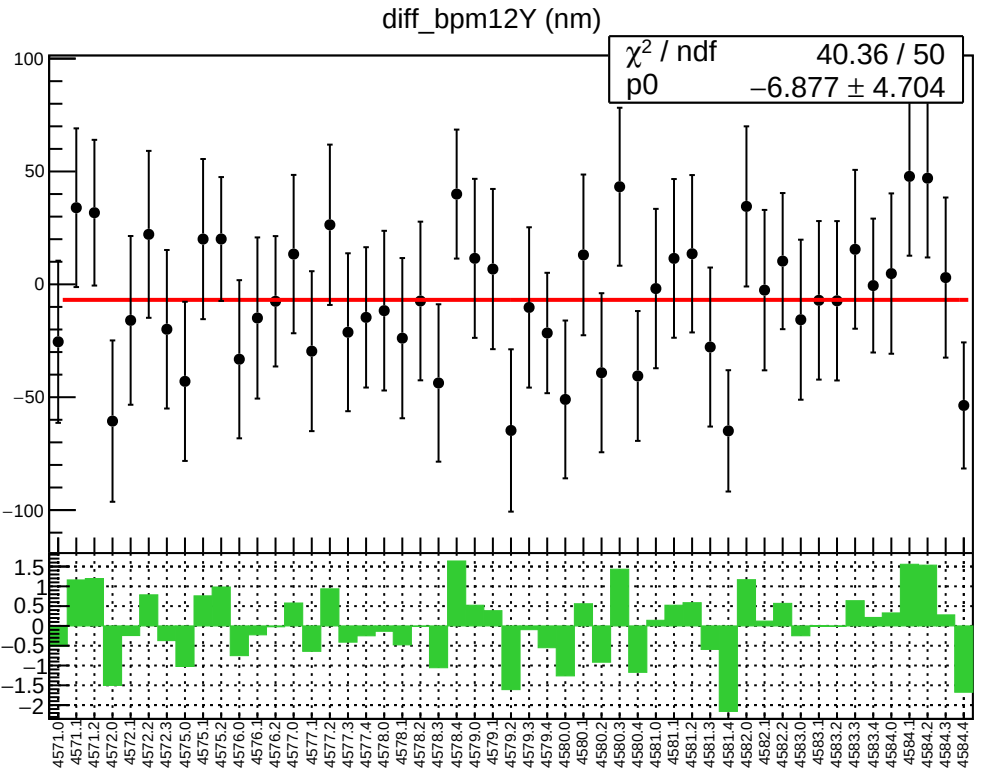

diff_bpm16Y (nm)
χ² / ndf 75.87 / 50
p0 −1.544 ± 2.376

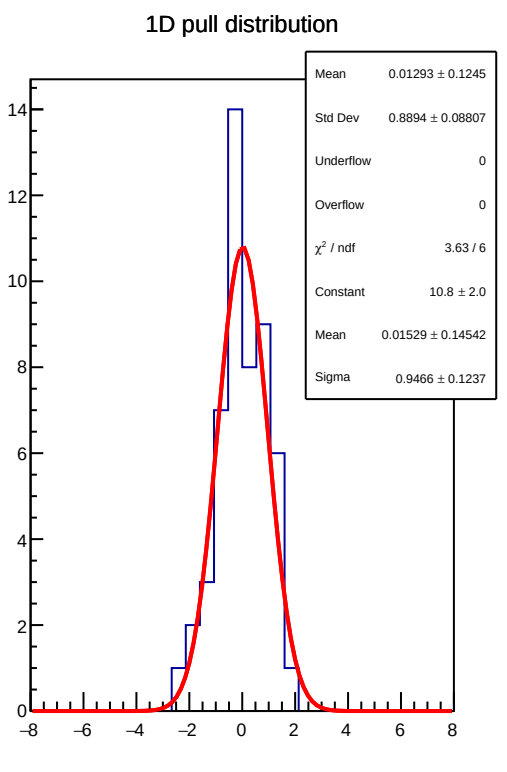

1D pull distribution
Mean −0.01114 ± 0.1708
Std Dev 1.22 ± 0.1208
Underflow 0
Overflow 0
χ² / ndf 3.749 / 7
Constant 8.835 ± 1.732
Mean 0.07562 ± 0.20947
Sigma 1.191 ± 0.203

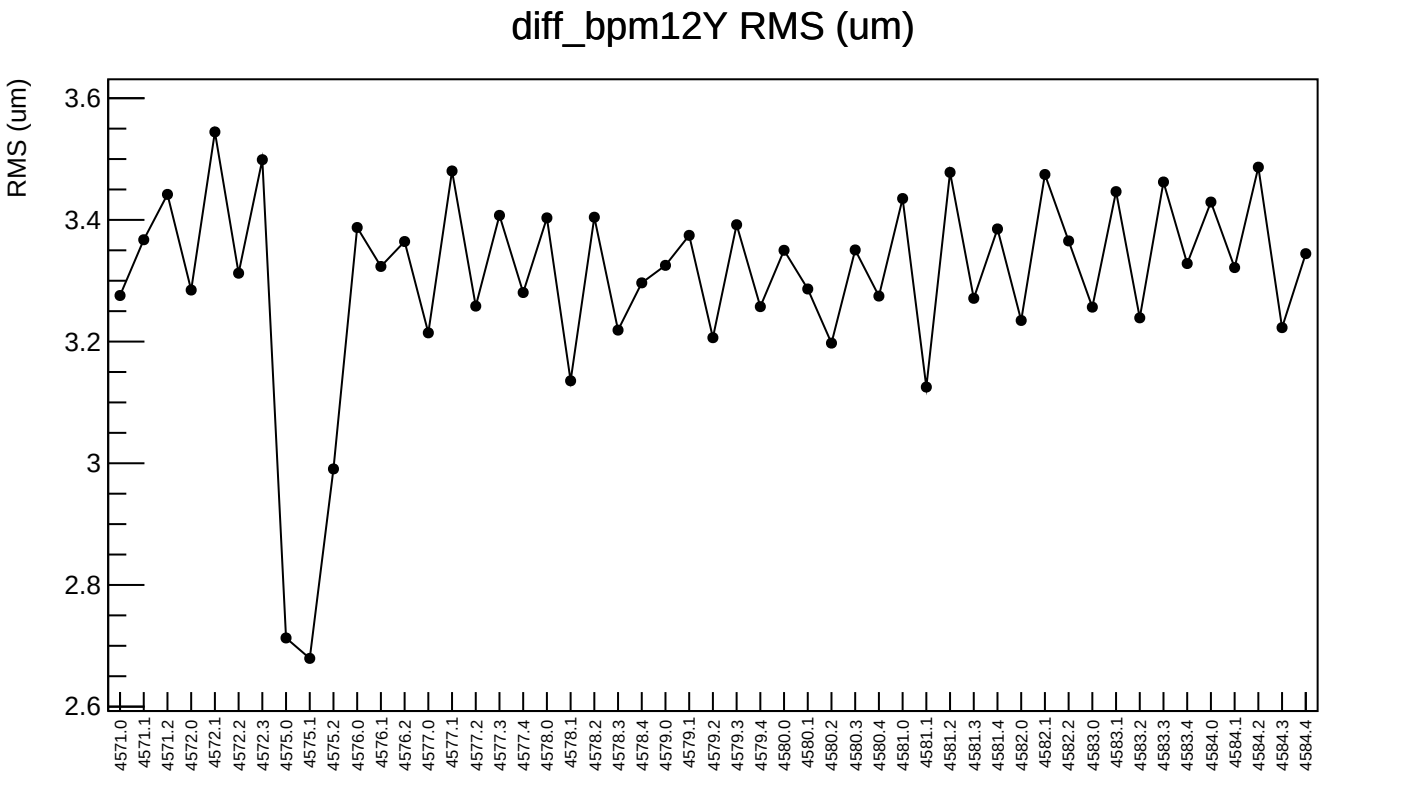

diff_bpm16Y RMS (um)
RMS (um)
2.2
2
1.8
1.6
1.4
1.2
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

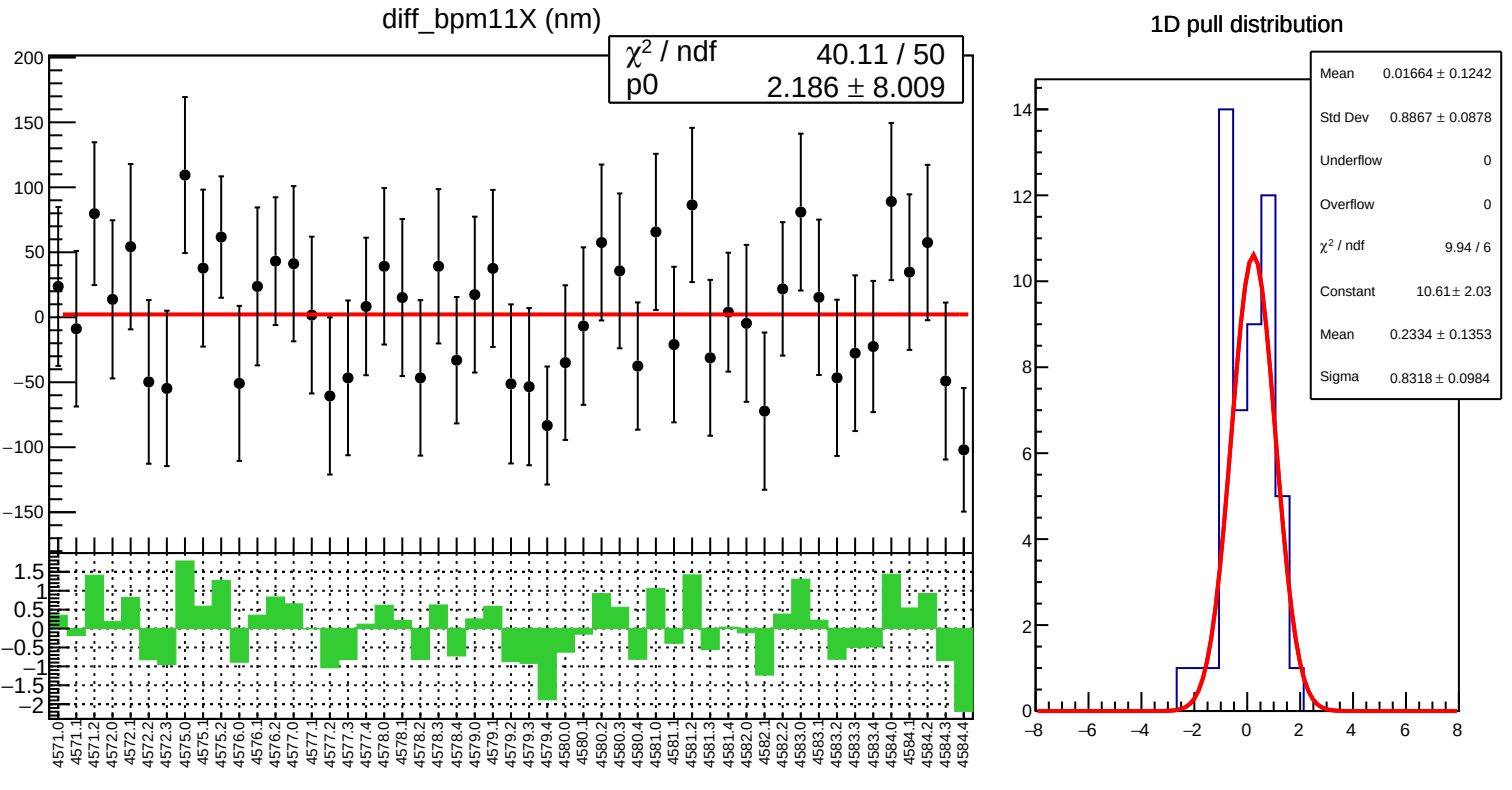

diff_bpm12X (nm)
χ² / ndf 33.22 / 50
p0 7.978 ± 6.917
1D pull distribution
Mean 0.01425 ± 0.113
Std Dev 0.807 ± 0.0799
Underflow 0
Overflow 0
χ² / ndf 4.989 / 5
Constant 11.48 ± 2.30
Mean −0.007319 ± 0.138757
Sigma 0.863 ± 0.128

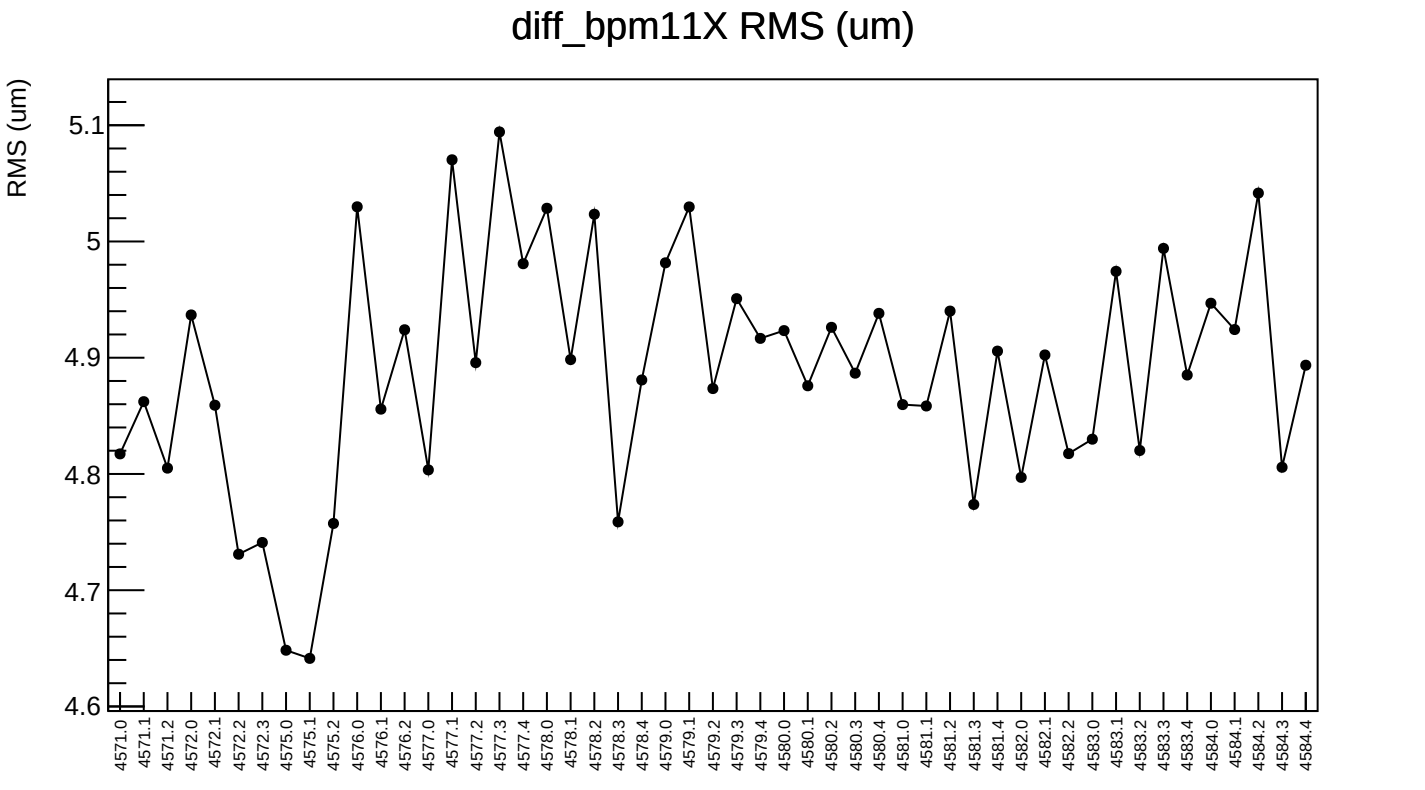

diff_bpm12X RMS (um)
RMS (um)
4.6
4.4
4.2
4
3.8
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

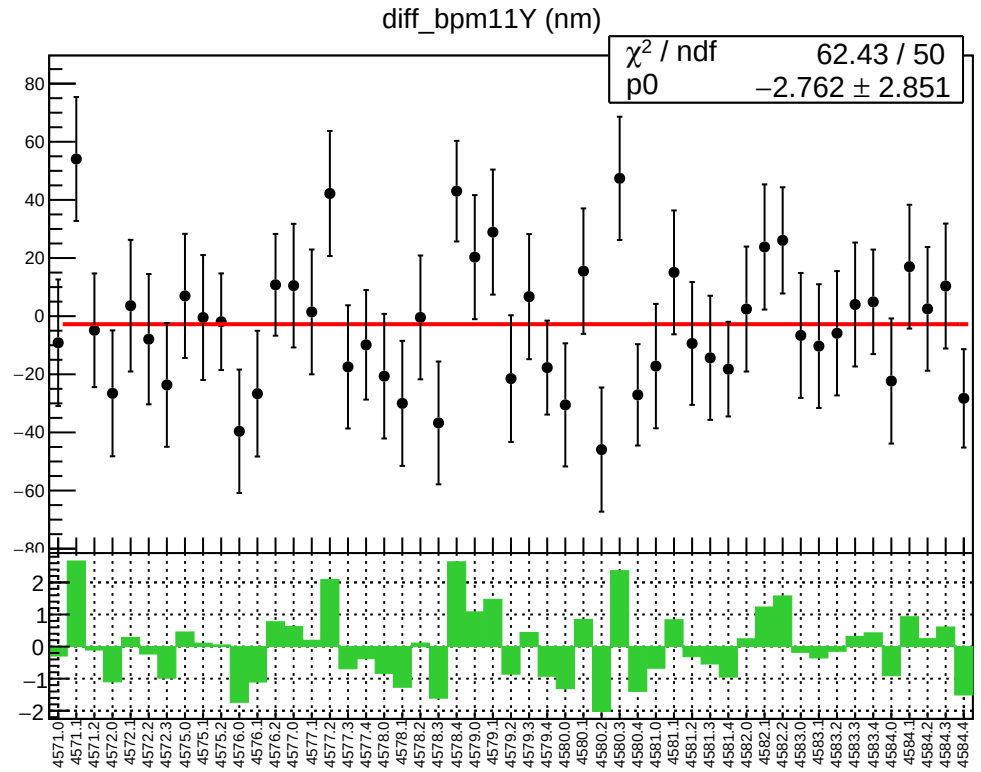

diff_bpm12Y (nm)
χ² / ndf 40.36 / 50
p0 −6.877 ± 4.704
100
50
0
−50
−100
1.5
1
0.5
0
−0.5
−1
−1.5
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

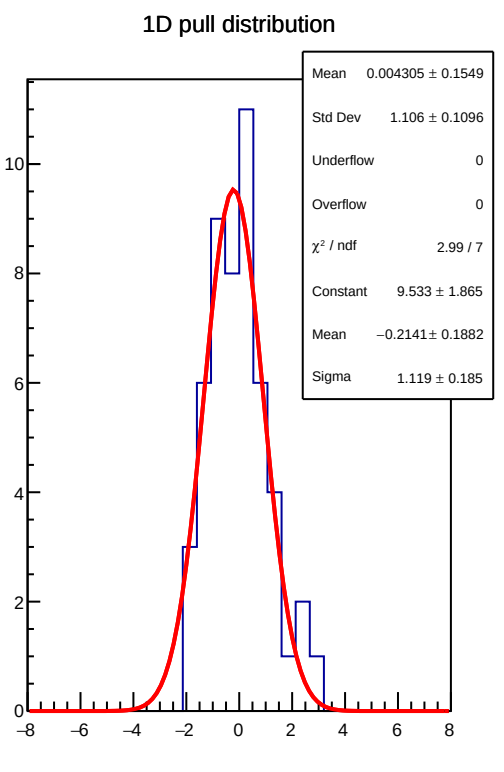

1D pull distribution
Mean 0.01293 ± 0.1245
Std Dev 0.8894 ± 0.08807
Underflow 0
Overflow 0
χ² / ndf 3.63 / 6
Constant 10.8 ± 2.0
Mean 0.01529 ± 0.14542
Sigma 0.9466 ± 0.1237
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

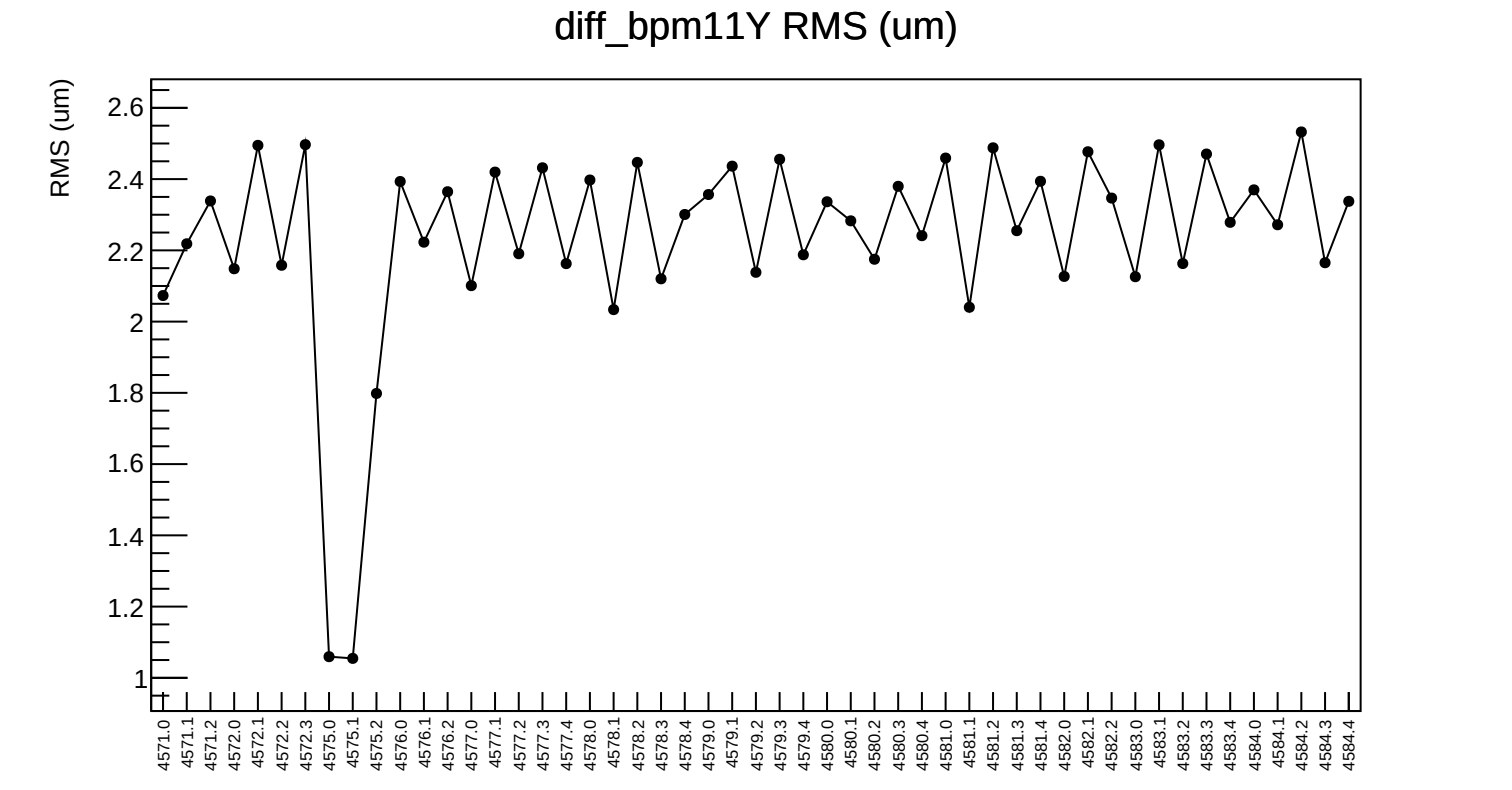

diff_bpm12Y RMS (um)
RMS (um)
3.6
3.4
3.2
3
2.8
2.6
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

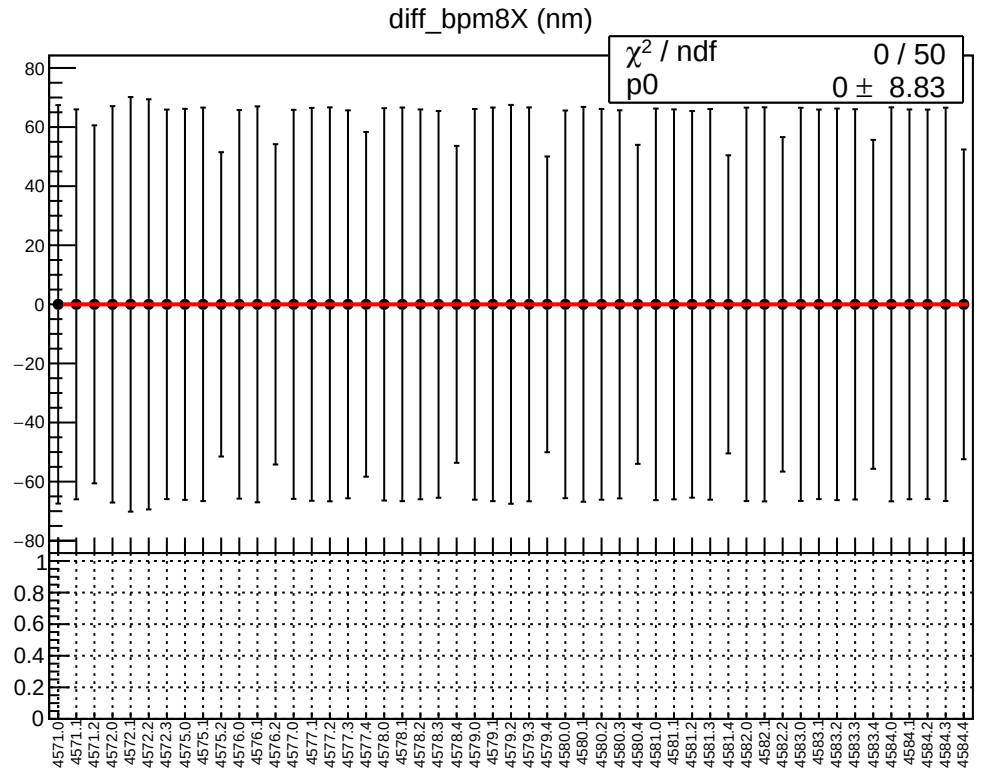

diff_bpm11X (nm)
χ² / ndf 40.11 / 50
p0 2.186 ± 8.009
1D pull distribution
Mean 0.01664 ± 0.1242
Std Dev 0.8867 ± 0.0878
Underflow 0
Overflow 0
χ² / ndf 9.94 / 6
Constant 10.61± 2.03
Mean 0.2334 ± 0.1353
Sigma 0.8318 ± 0.0984

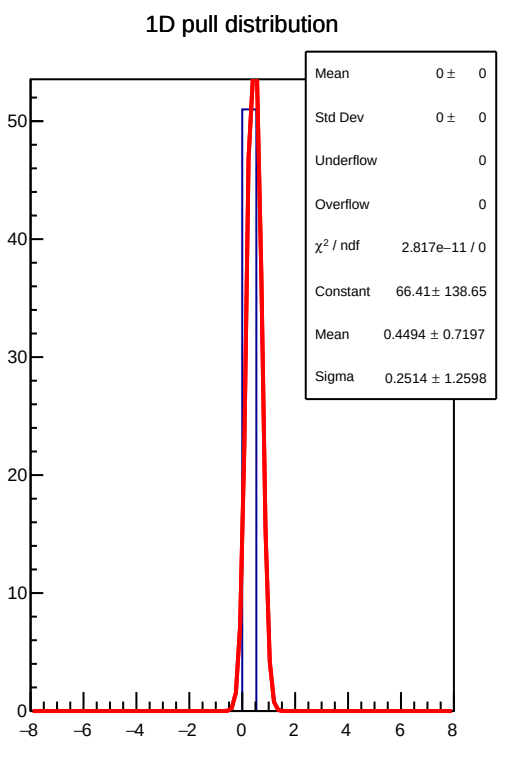

diff_bpm11X RMS (um)
RMS (um)
5.1
5
4.9
4.8
4.7
4.6
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

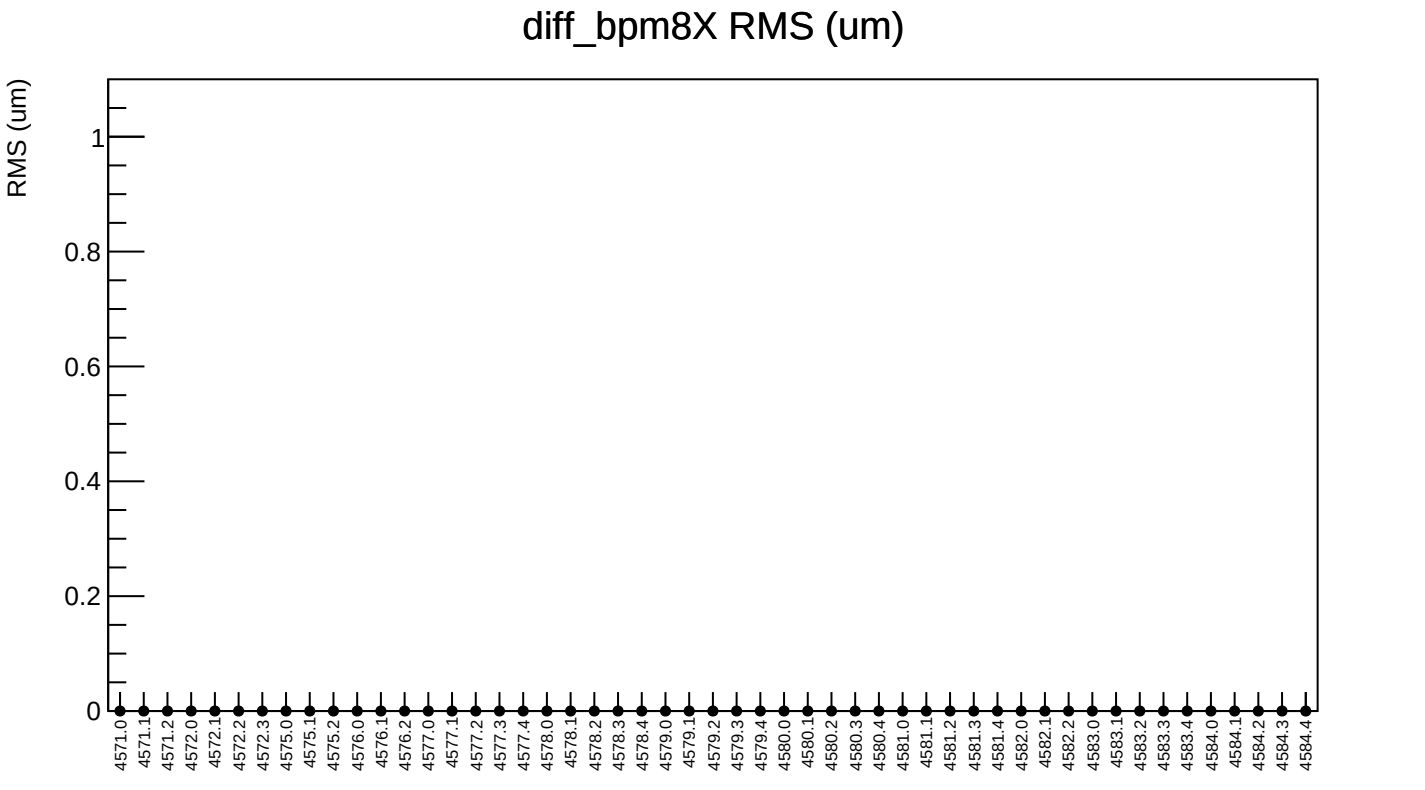

diff_bpm11Y (nm)
χ² / ndf 62.43 / 50
p0 −2.762 ± 2.851

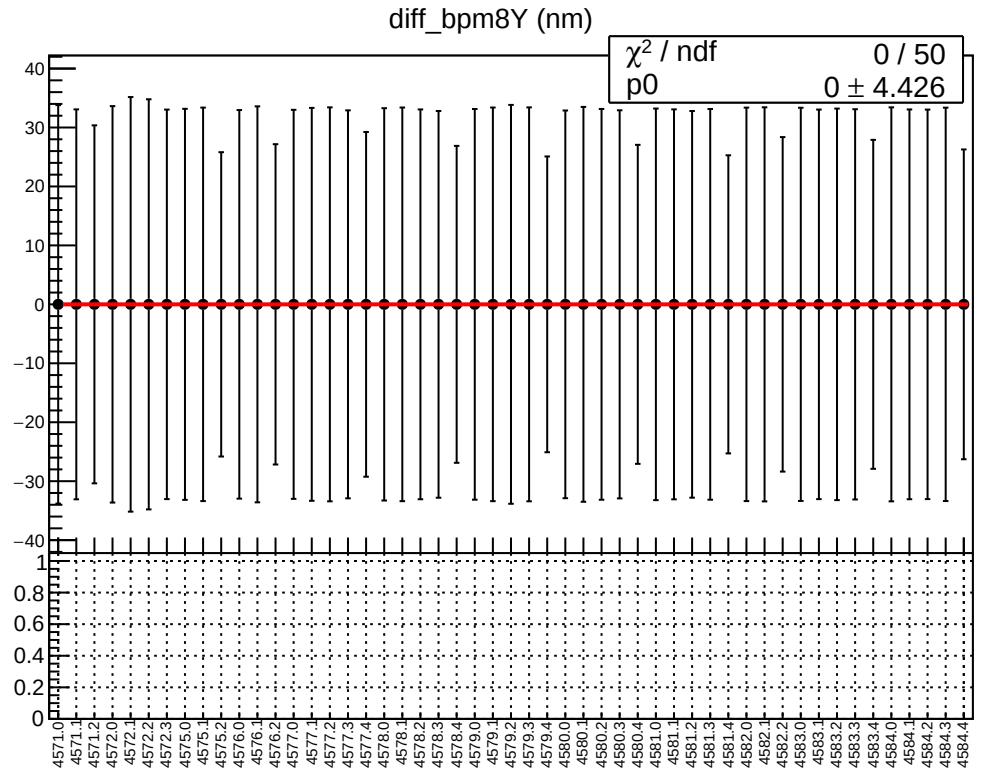

1D pull distribution
Mean 0.004305 ± 0.1549
Std Dev 1.106 ± 0.1096
Underflow 0
Overflow 0
χ² / ndf 2.99 / 7
Constant 9.533 ± 1.865
Mean −0.2141 ± 0.1882
Sigma 1.119 ± 0.185

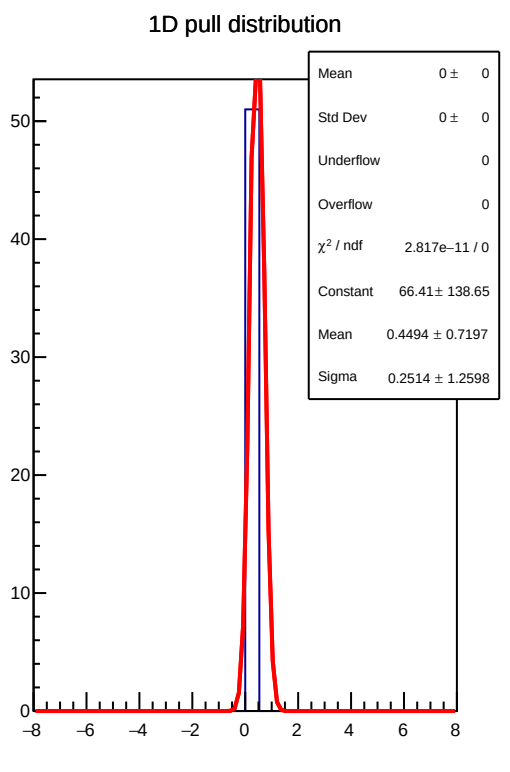

diff_bpm11Y RMS (um)
RMS (um)
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

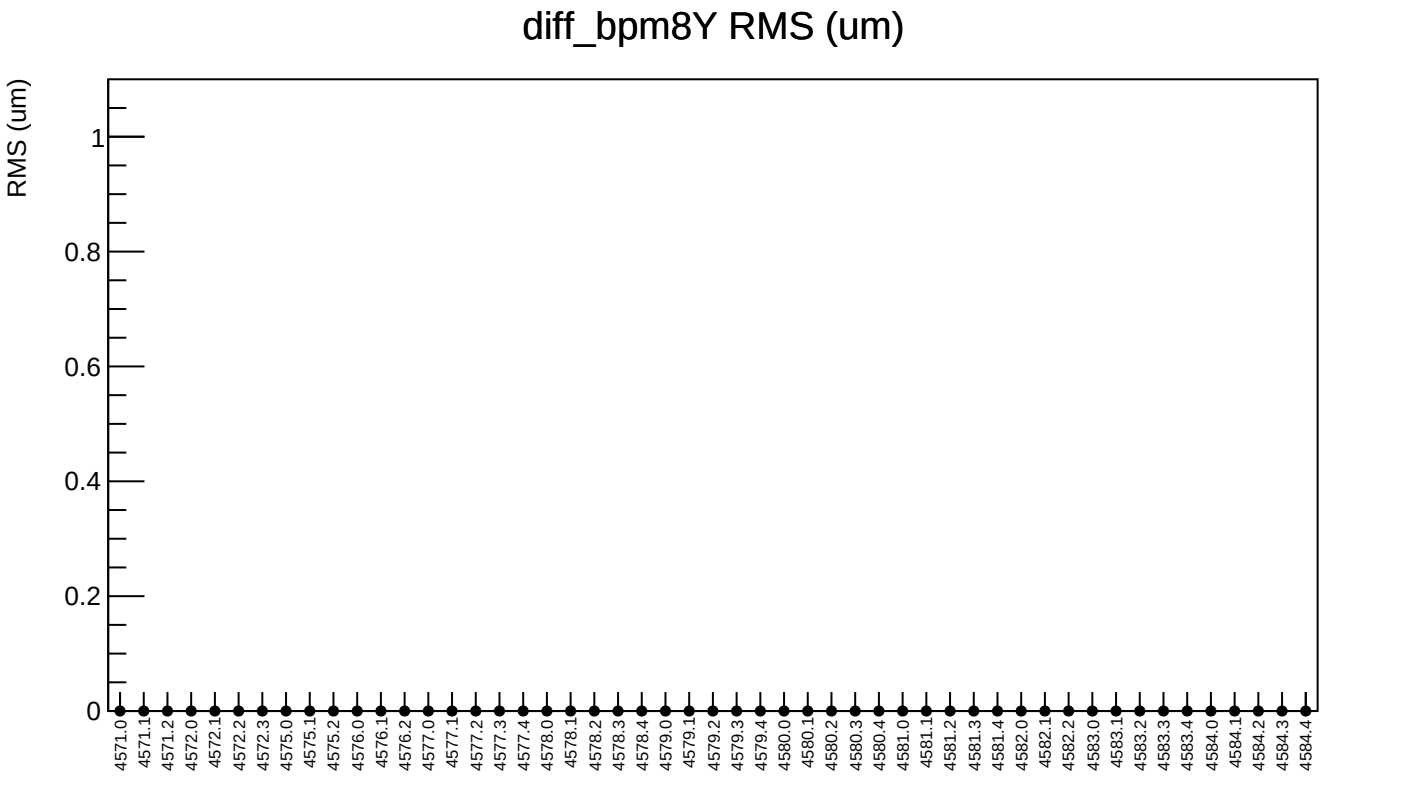

diff_bpm8X (nm)
χ² / ndf 0 / 50
p0 0 ± 8.83

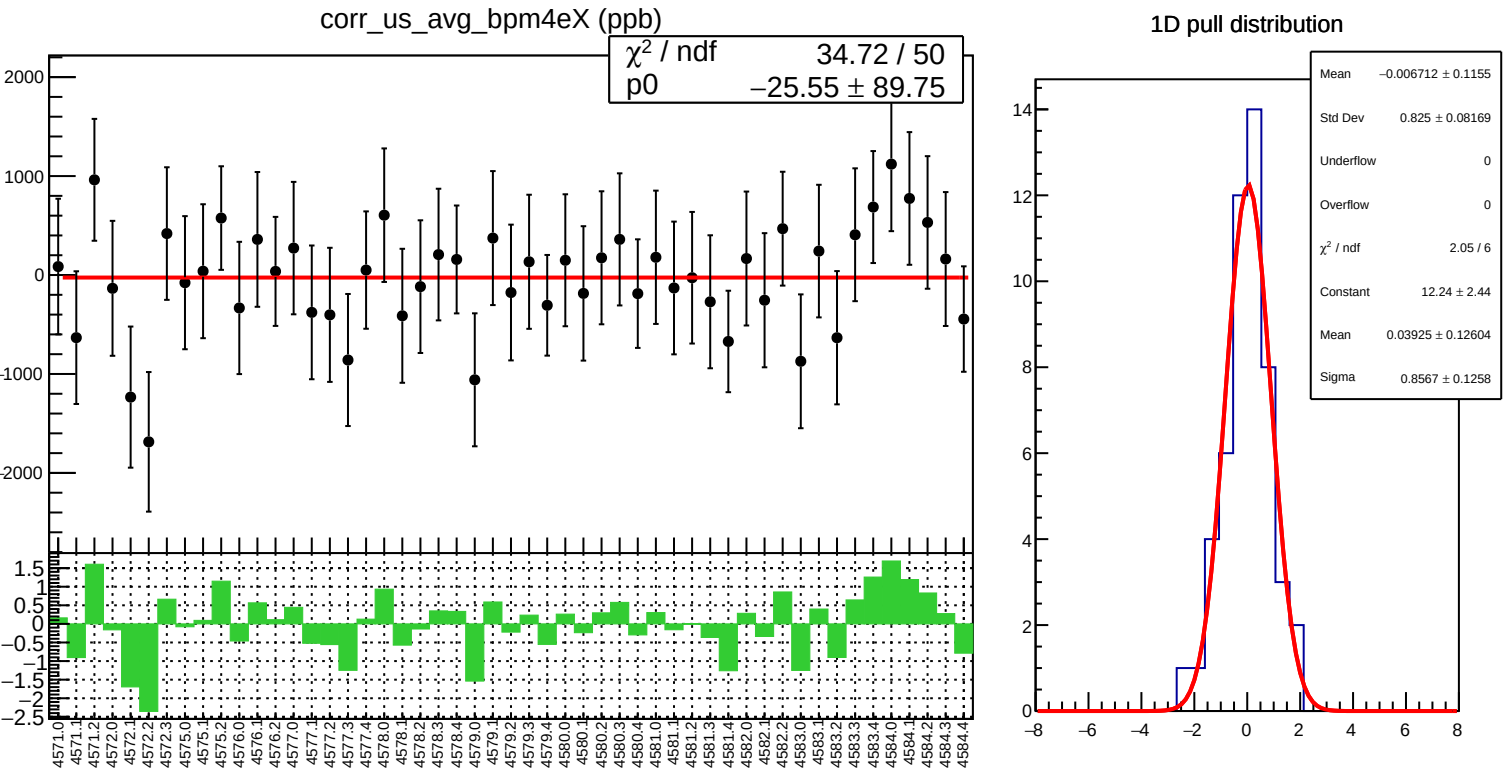

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598

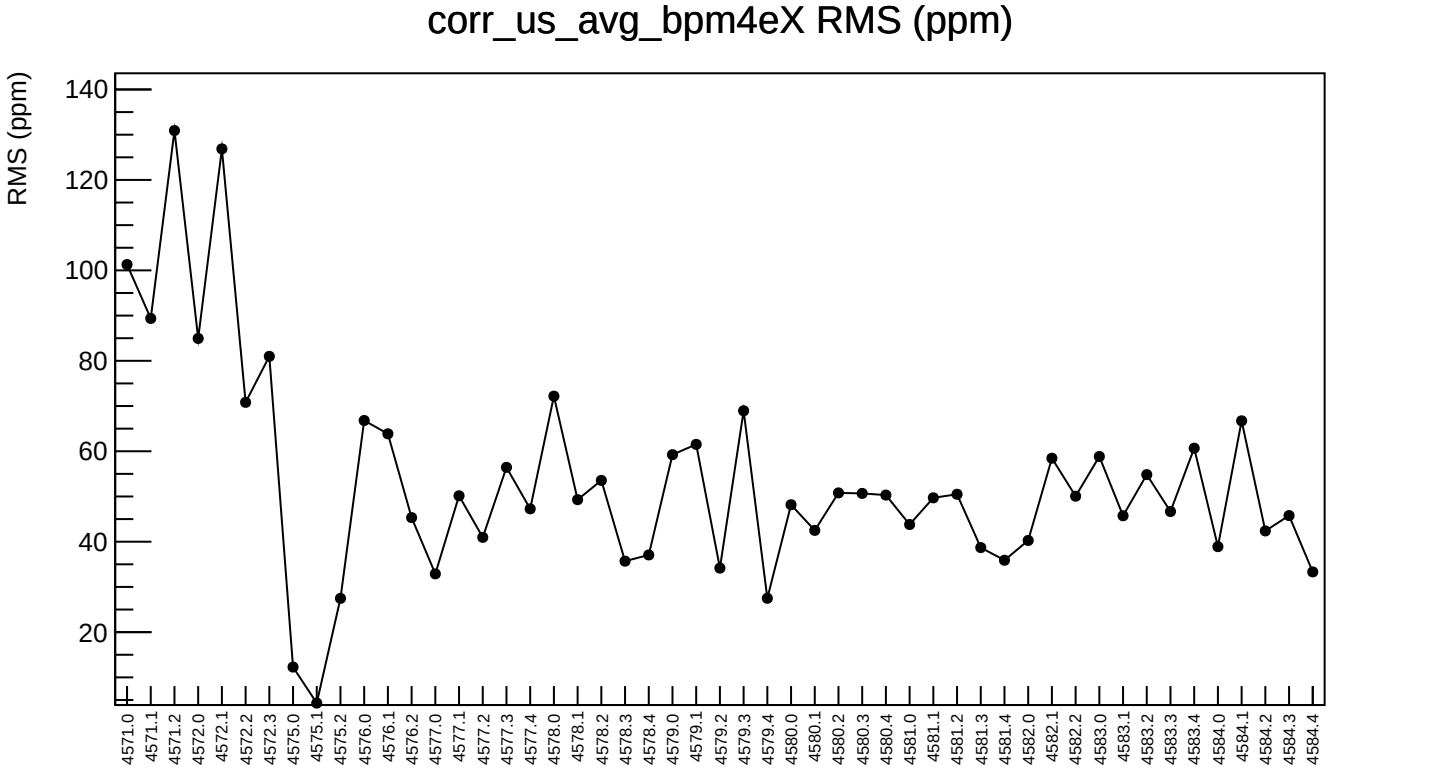

diff_bpm8X RMS (um)
RMS (um)
1
0.8
0.6
0.4
0.2
0
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

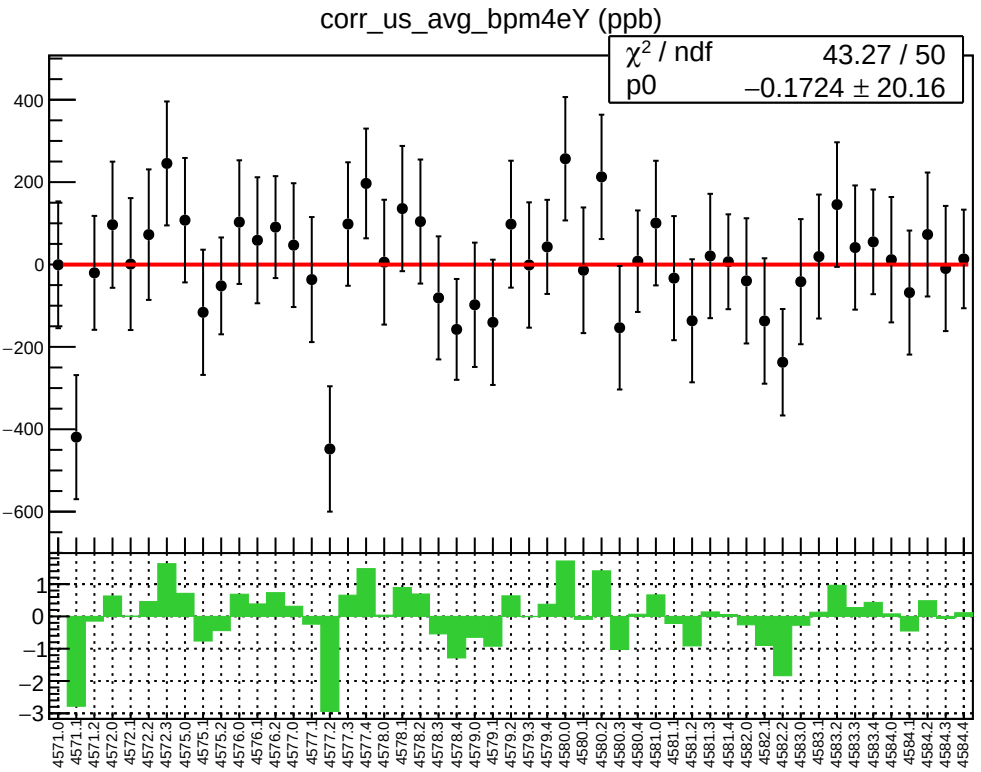

diff_bpm8Y (nm)
χ² / ndf 0 / 50
p0 0 ± 4.426

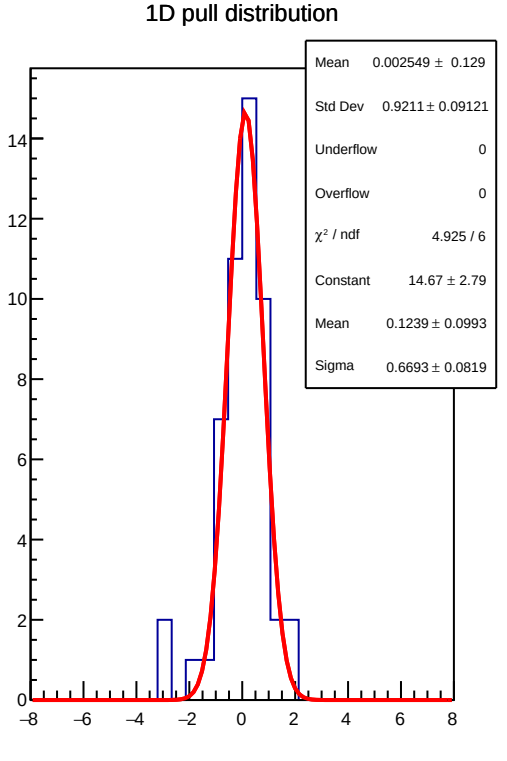

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598

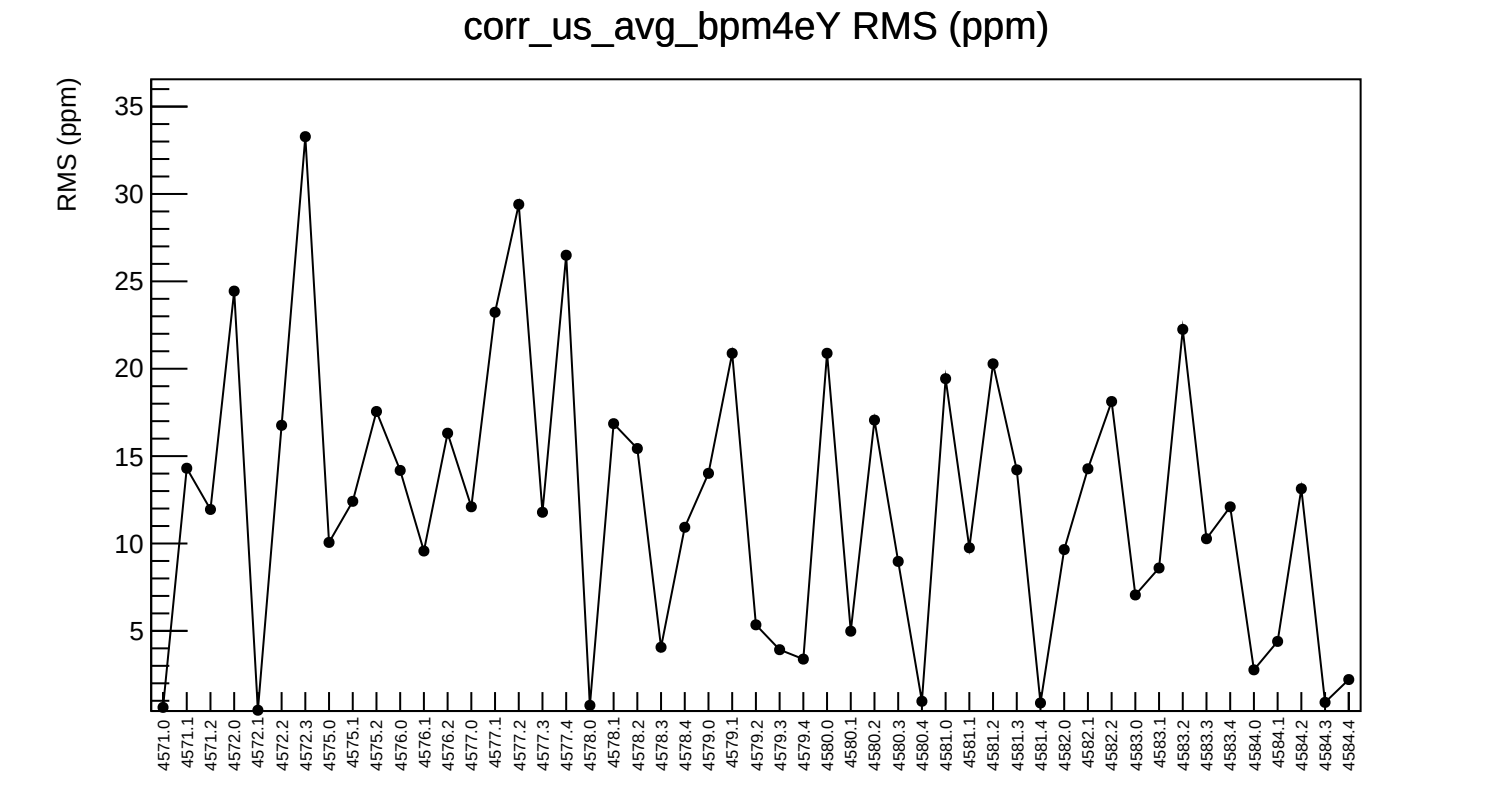

diff_bpm8Y RMS (um)
RMS (um)
1
0.8
0.6
0.4
0.2
0
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

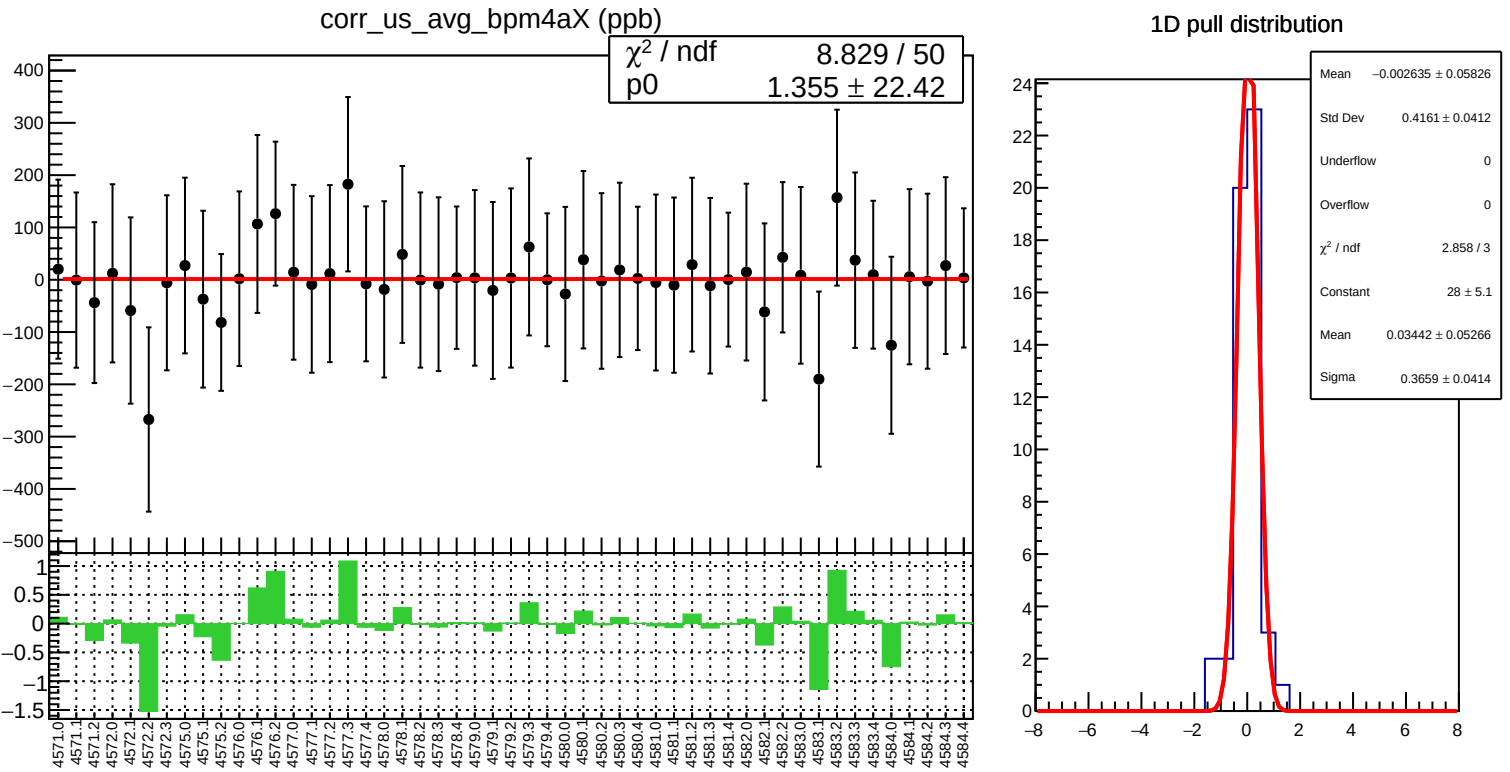

corr_us_avg_bpm4eX (ppb)
χ² / ndf 34.72 / 50
p0 −25.55 ± 89.75
2000
1000
0
-1000
-2000
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean −0.006712 ± 0.1155
Std Dev 0.825 ± 0.08169
Underflow 0
Overflow 0
χ² / ndf 2.05 / 6
Constant 12.24 ± 2.44
Mean 0.03925 ± 0.12604
Sigma 0.8567 ± 0.1258
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

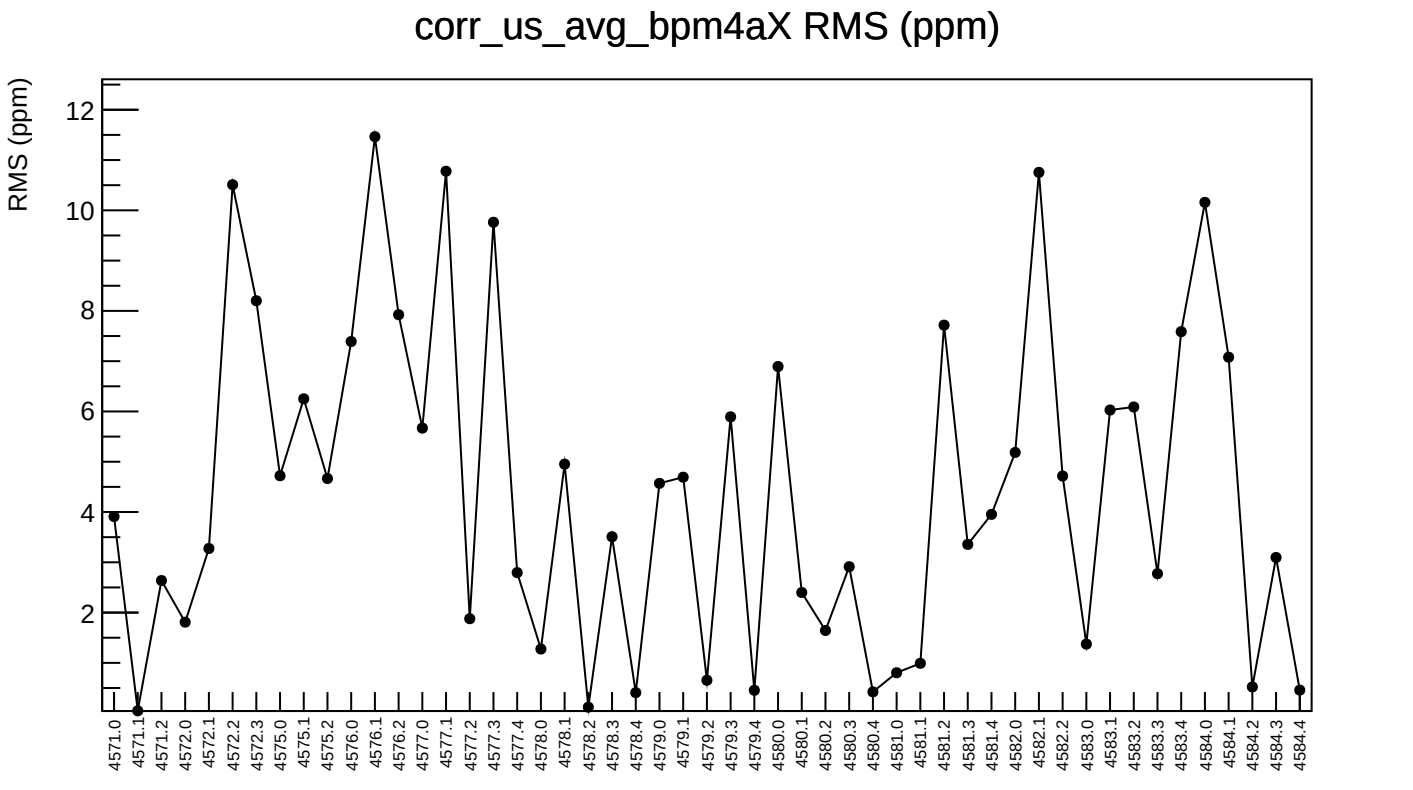

corr_us_avg_bpm4eX RMS (ppm)
RMS (ppm)
140
120
100
80
60
40
20
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

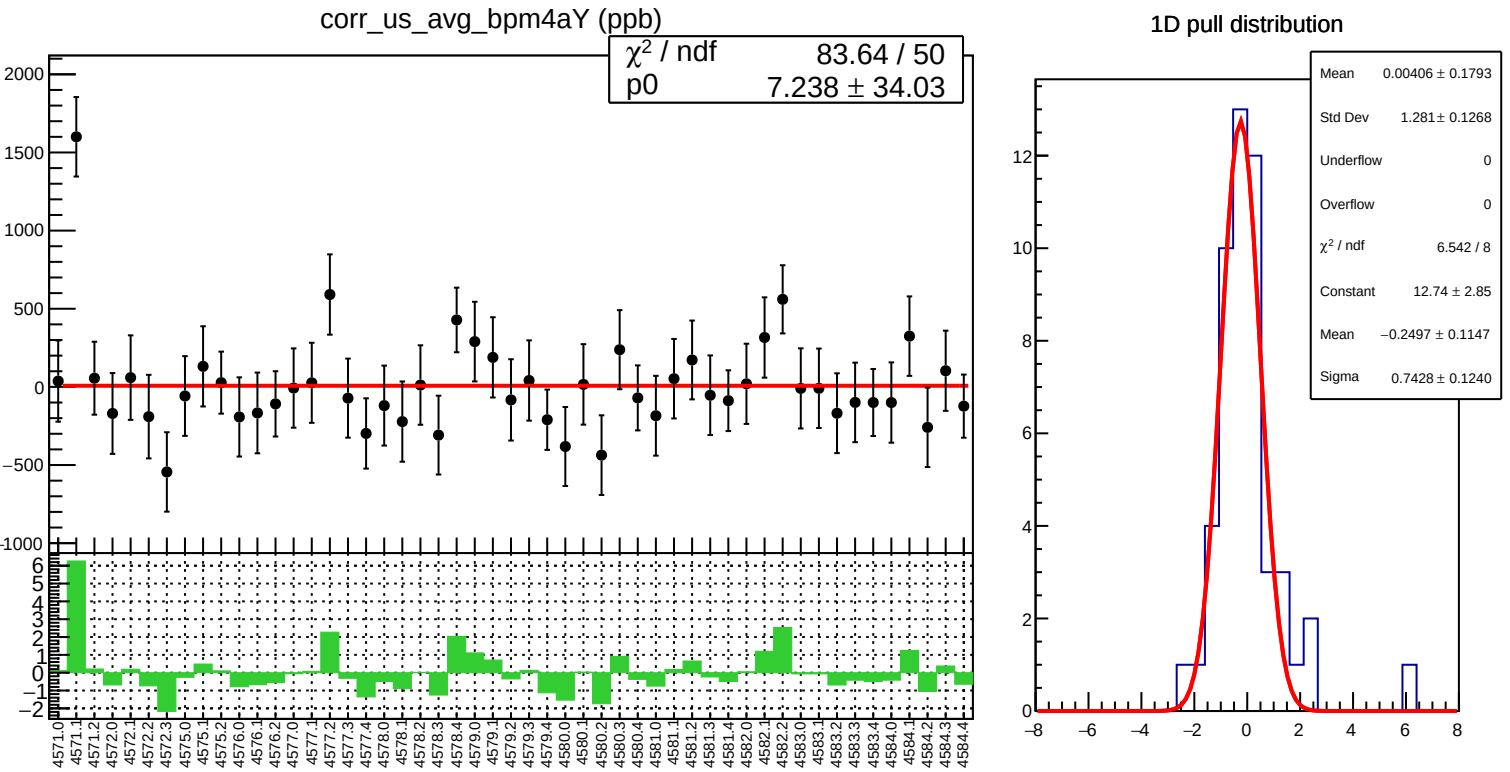

corr_us_avg_bpm4eY (ppb)
χ² / ndf 43.27 / 50
p0 −0.1724 ± 20.16
400
200
0
−200
−400
−600
1
0
−1
−2
−3
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

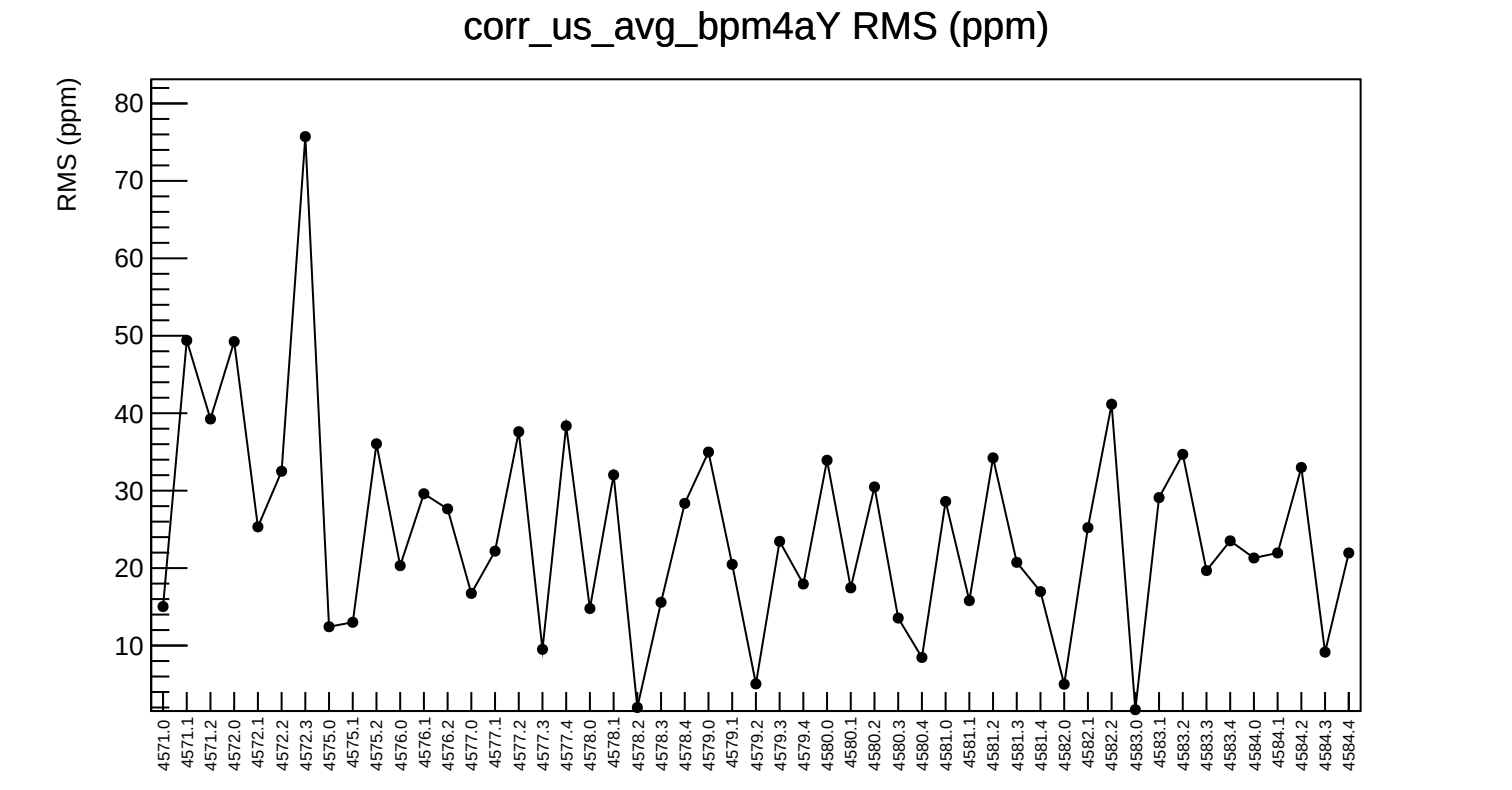

1D pull distribution
Mean 0.002549 ± 0.129
Std Dev 0.9211 ± 0.09121
Underflow 0
Overflow 0
χ² / ndf 4.925 / 6
Constant 14.67 ± 2.79
Mean 0.1239 ± 0.0993
Sigma 0.6693 ± 0.0819
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

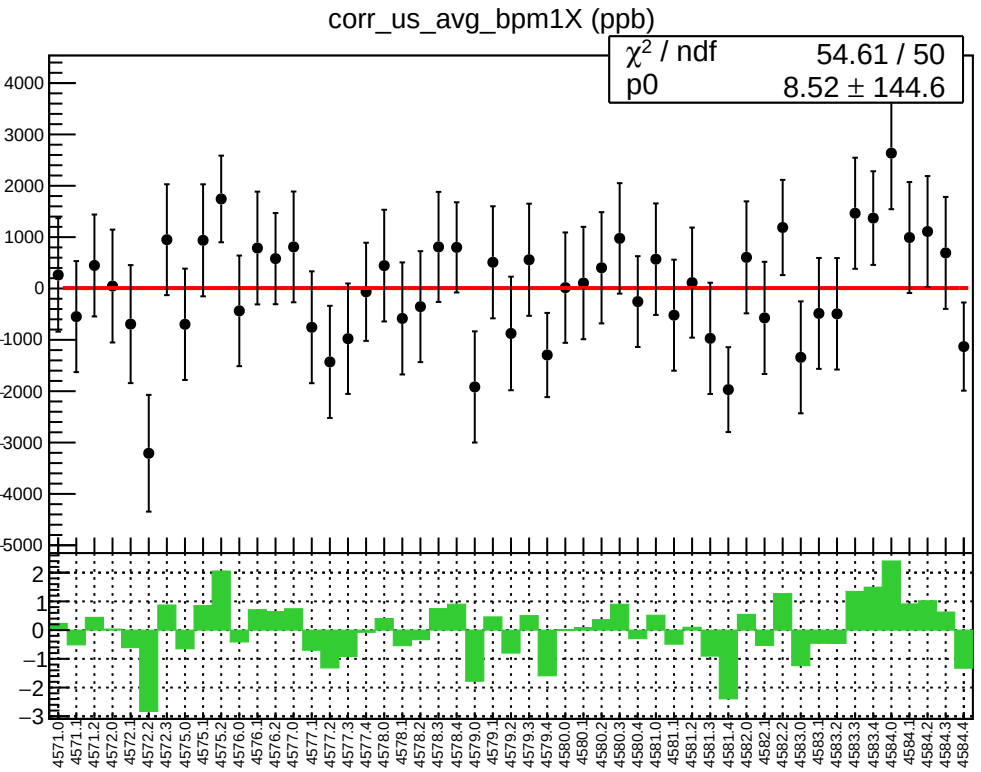

corr_us_avg_bpm4eY RMS (ppm)
RMS (ppm)
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

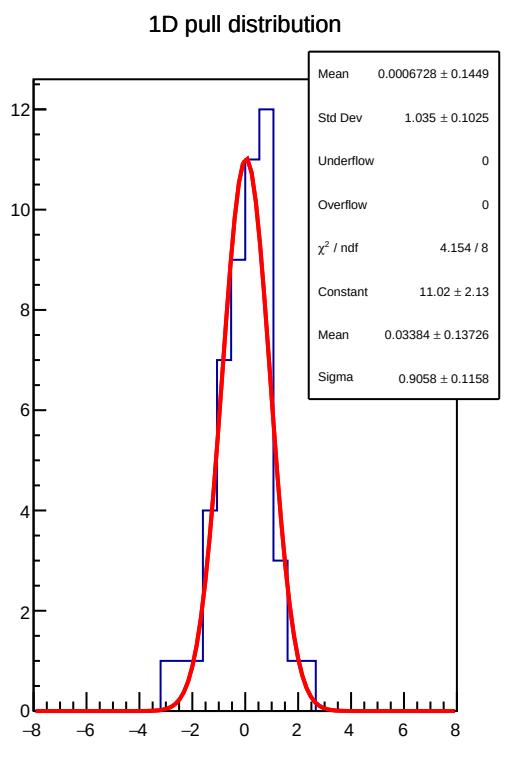

corr_us_avg_bpm4aX (ppb)
χ² / ndf 8.829 / 50
p0 1.355 ± 22.42
1D pull distribution
Mean −0.002635 ± 0.05826
Std Dev 0.4161 ± 0.0412
Underflow 0
Overflow 0
χ² / ndf 2.858 / 3
Constant 28 ± 5.1
Mean 0.03442 ± 0.05266
Sigma 0.3659 ± 0.0414

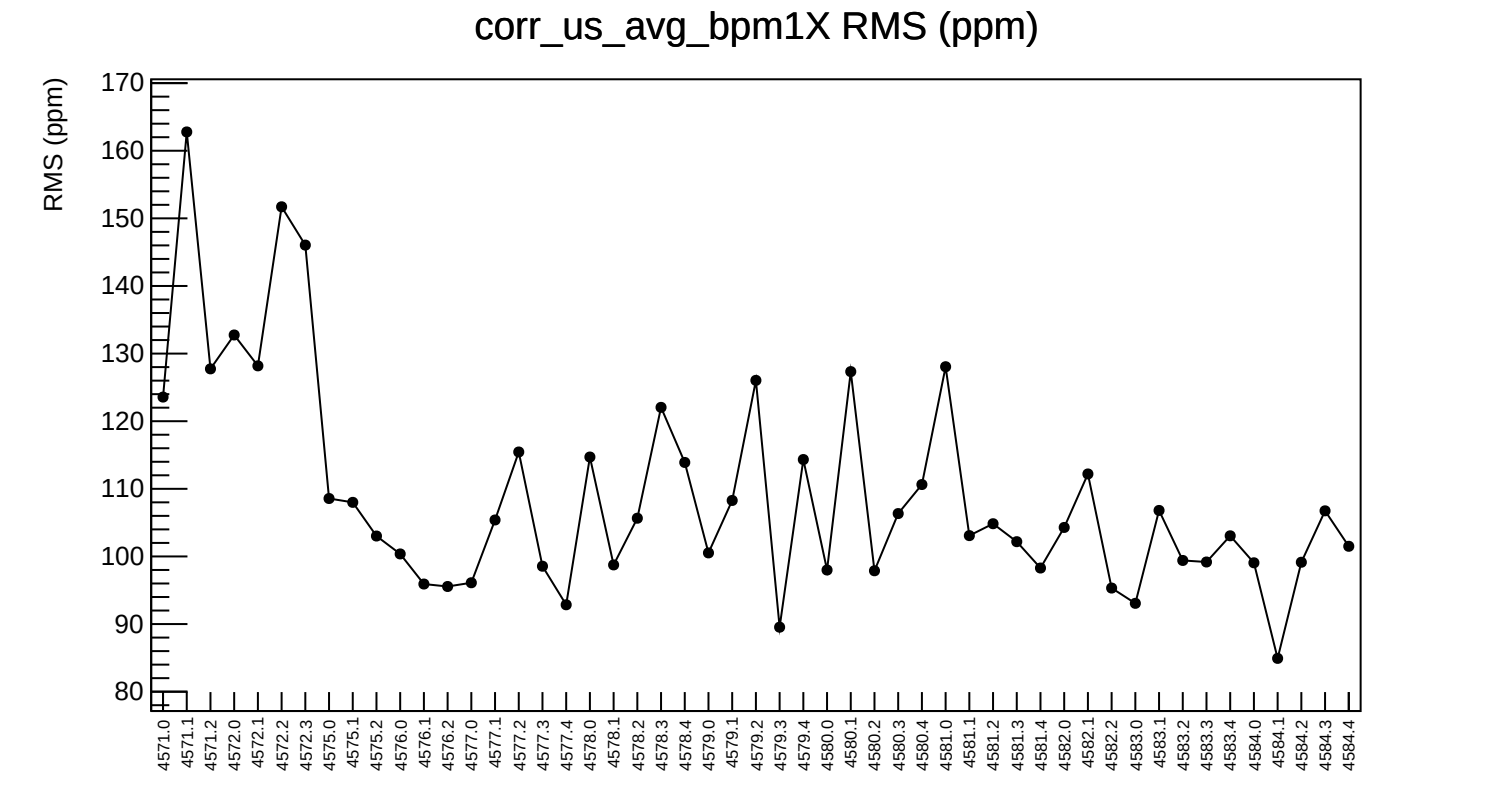

corr_us_avg_bpm4aX RMS (ppm)
RMS (ppm)
12
10
8
6
4
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

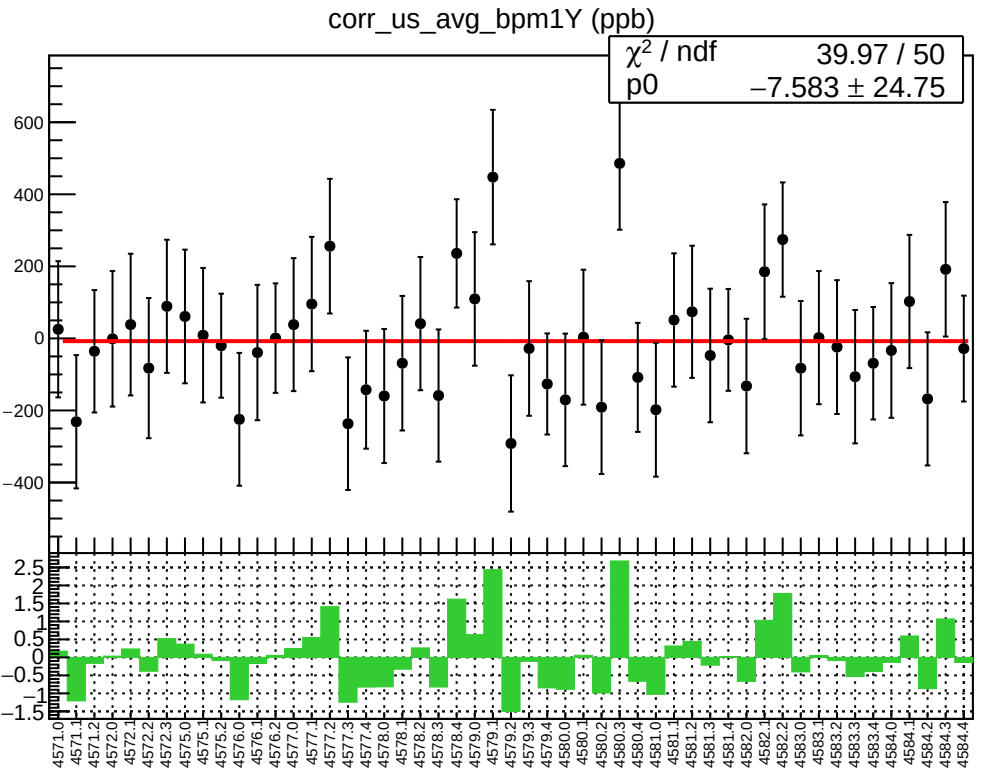

corr_us_avg_bpm4aY (ppb)
χ² / ndf 83.64 / 50
p0 7.238 ± 34.03
1D pull distribution
Mean 0.00406 ± 0.1793
Std Dev 1.281 ± 0.1268
Underflow 0
Overflow 0
χ² / ndf 6.542 / 8
Constant 12.74 ± 2.85
Mean −0.2497 ± 0.1147
Sigma 0.7428 ± 0.1240

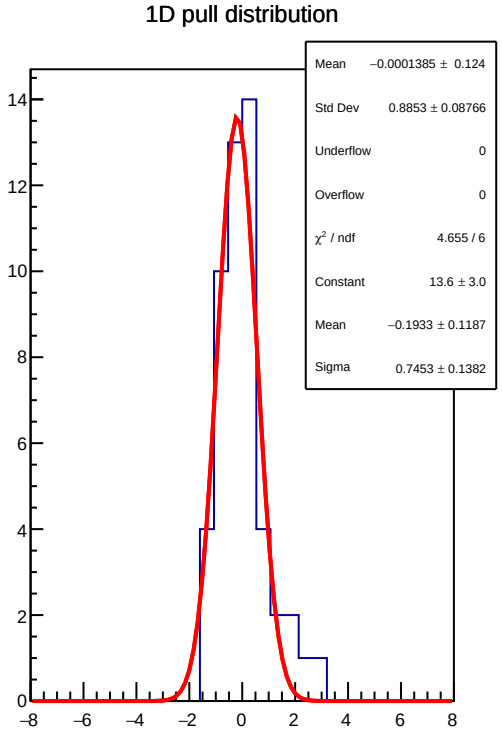

corr_us_avg_bpm4aY RMS (ppm)
RMS (ppm)
80
70
60
50
40
30
20
10
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

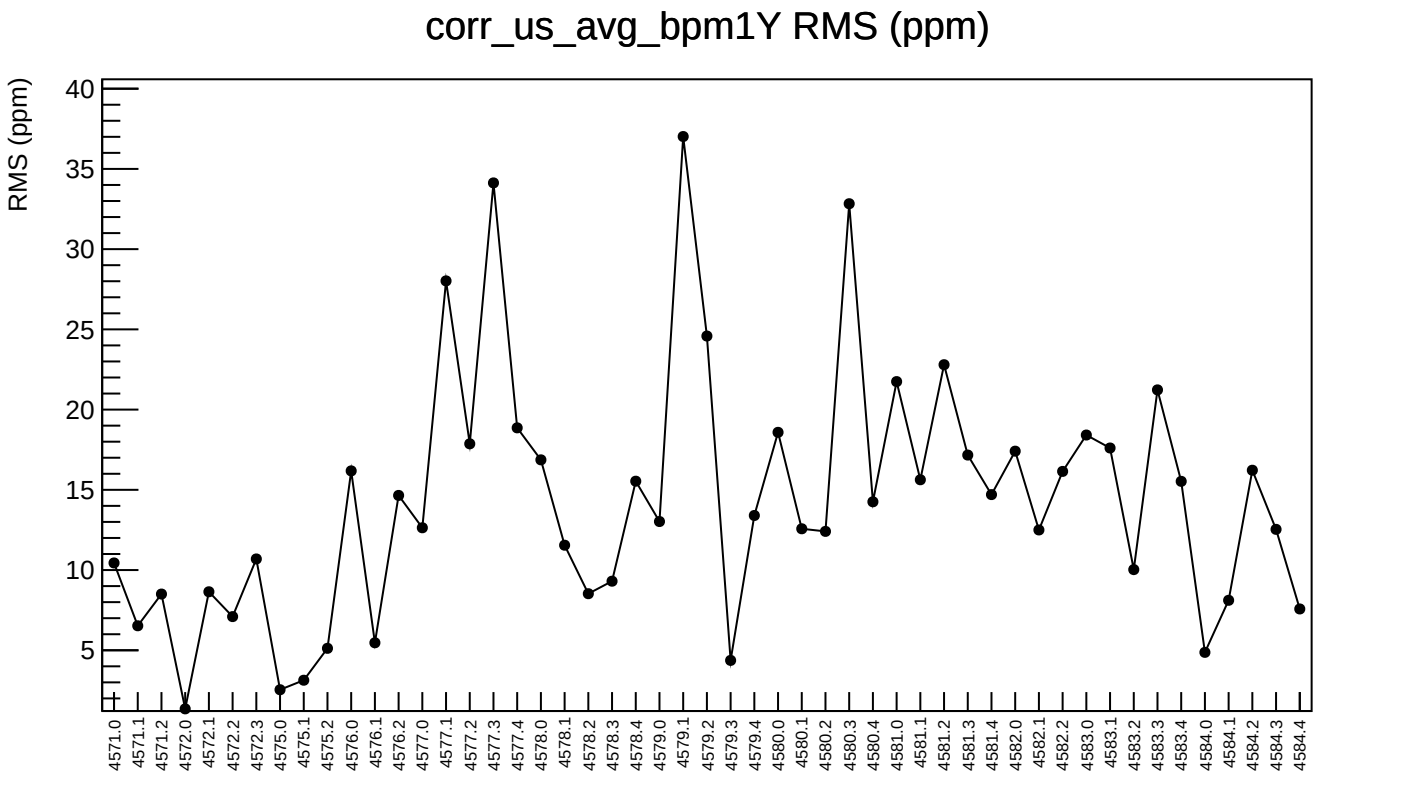

corr_us_avg_bpm1X (ppb)
χ² / ndf 54.61 / 50
p0 8.52 ± 144.6

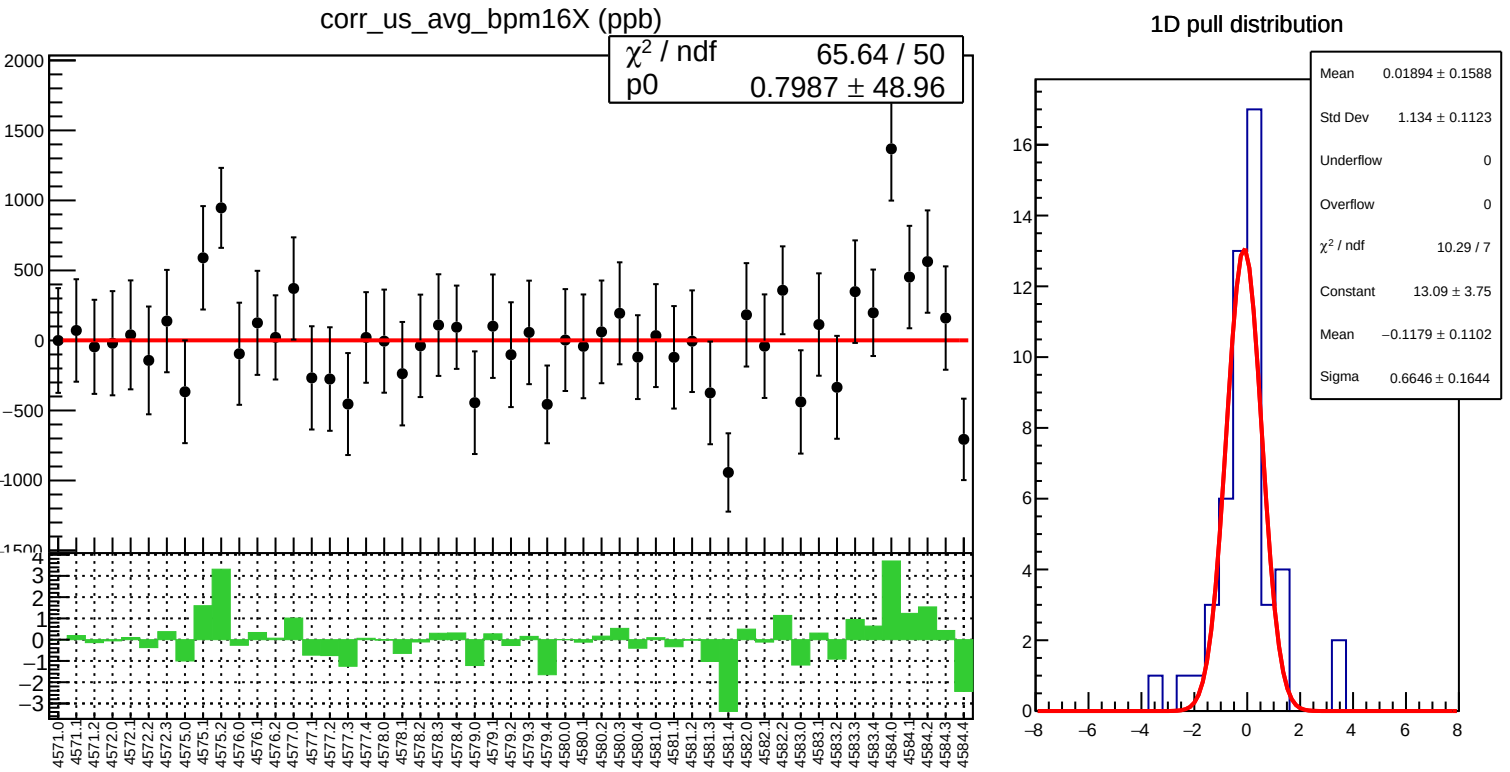

1D pull distribution
Mean 0.0006728 ± 0.1449
Std Dev 1.035 ± 0.1025
Underflow 0
Overflow 0
χ² / ndf 4.154 / 8
Constant 11.02 ± 2.13
Mean 0.03384 ± 0.13726
Sigma 0.9058 ± 0.1158

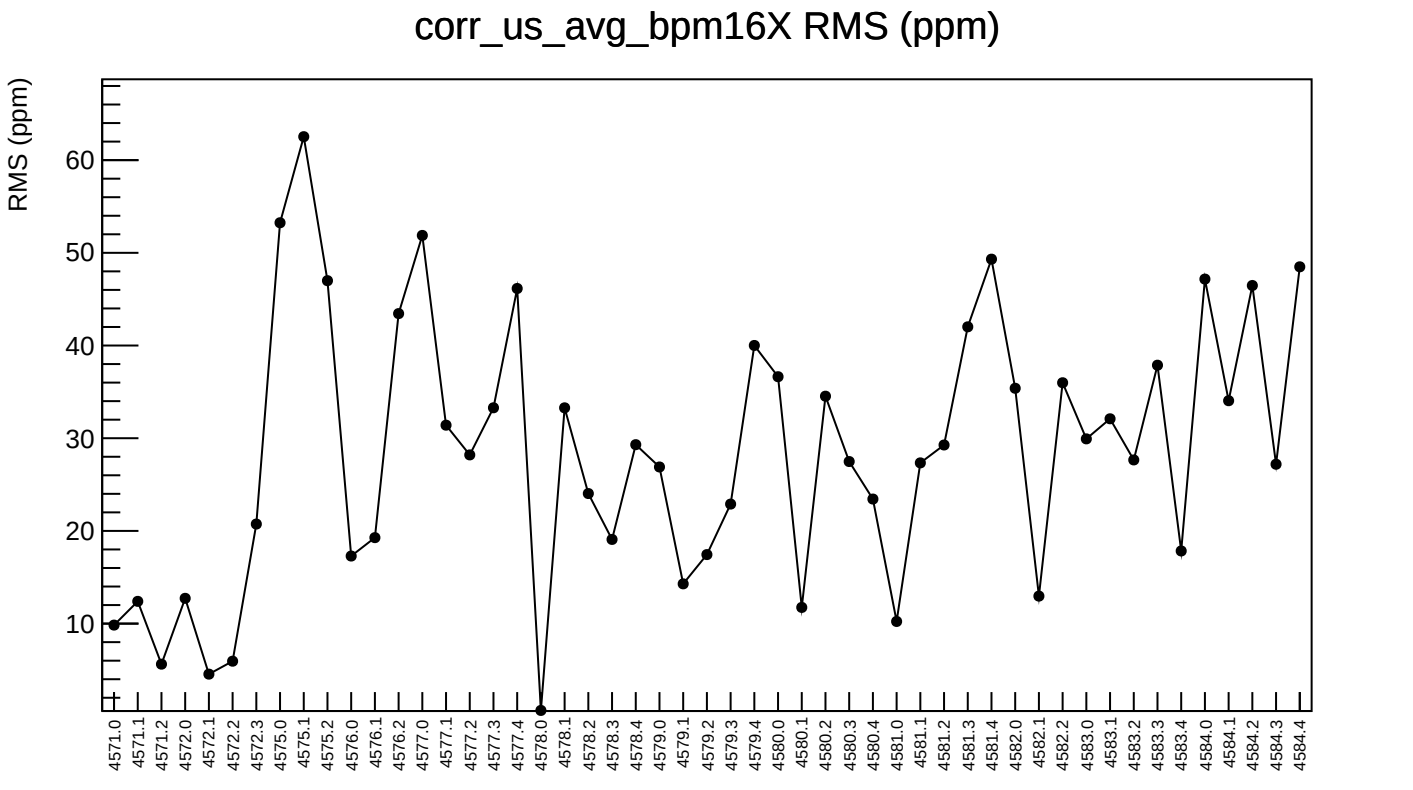

corr_us_avg_bpm1X RMS (ppm)
RMS (ppm)
170
160
150
140
130
120
110
100
90
80
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

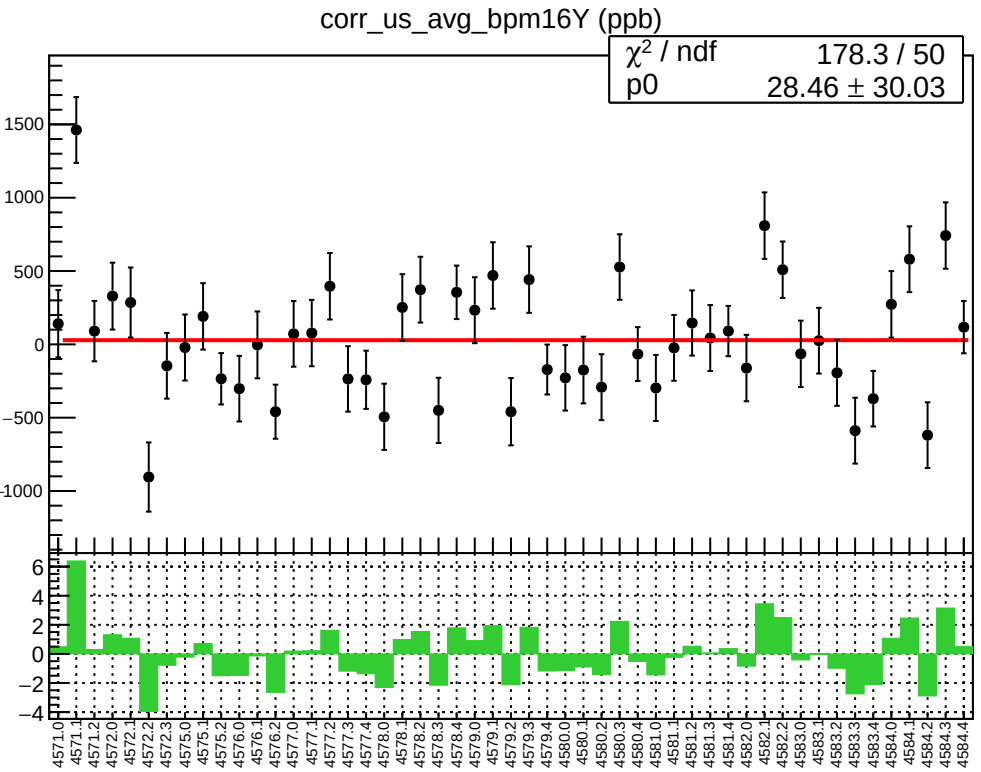

corr_us_avg_bpm1Y (ppb)
χ² / ndf 39.97 / 50
p0 −7.583 ± 24.75
600
400
200
0
−200
−400
2.5
2
1.5
1
0.5
0
−0.5
−1
−1.5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

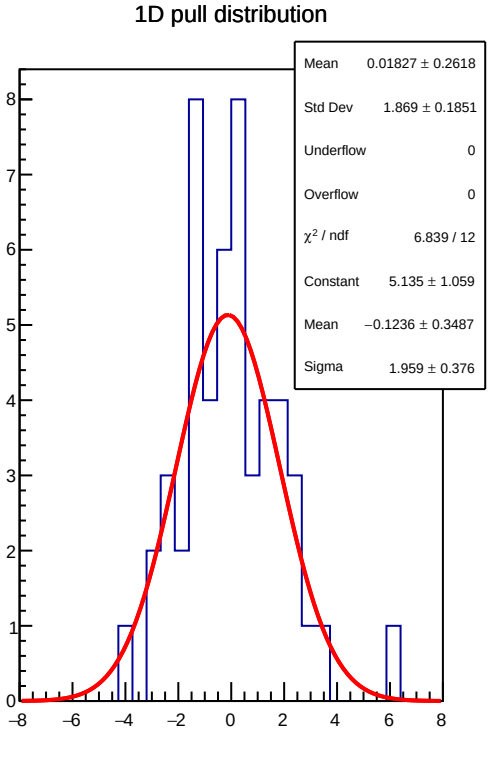

1D pull distribution
Mean −0.0001385 ± 0.124
Std Dev 0.8853 ± 0.08766
Underflow 0
Overflow 0
χ² / ndf 4.655 / 6
Constant 13.6 ± 3.0
Mean −0.1933 ± 0.1187
Sigma 0.7453 ± 0.1382
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

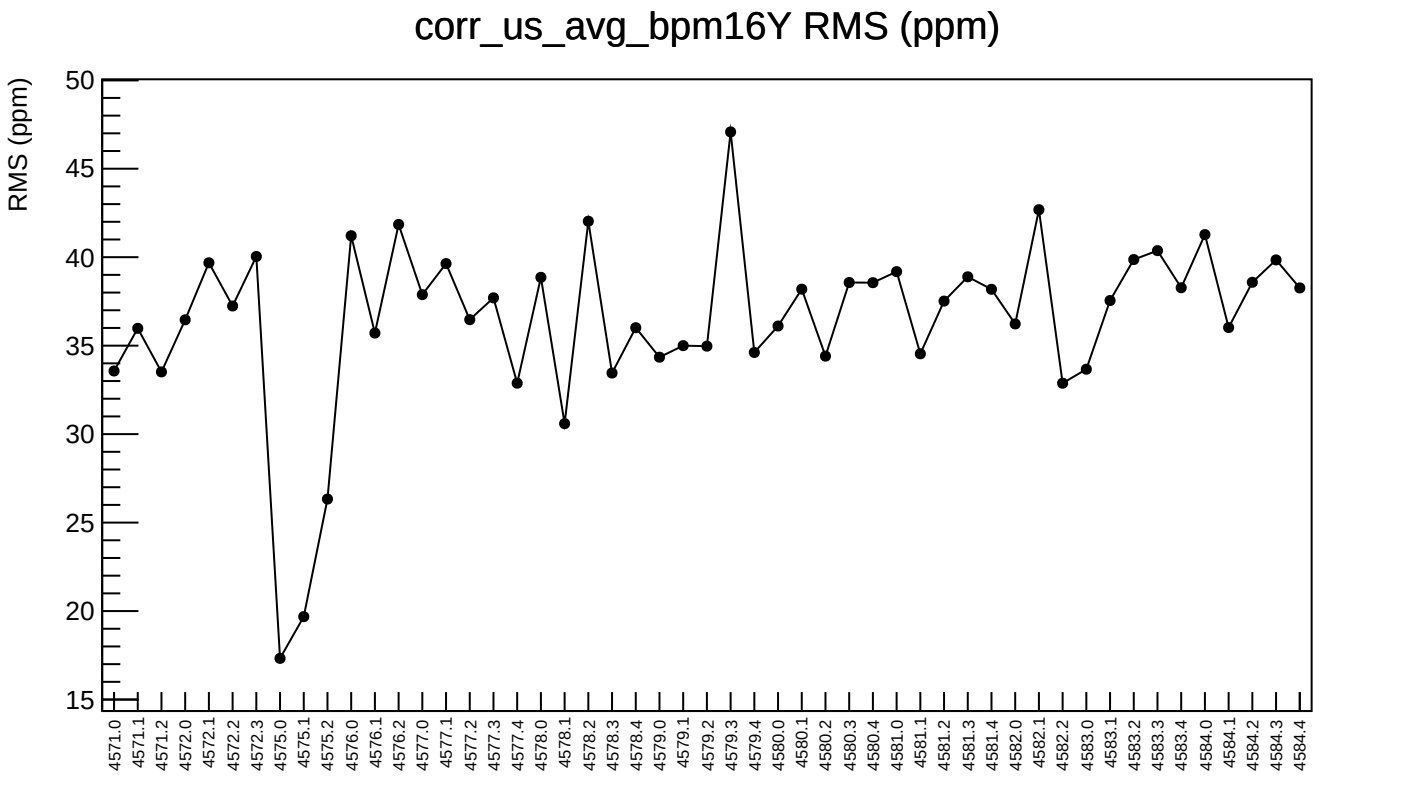

corr_us_avg_bpm1Y RMS (ppm)
RMS (ppm)
40
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

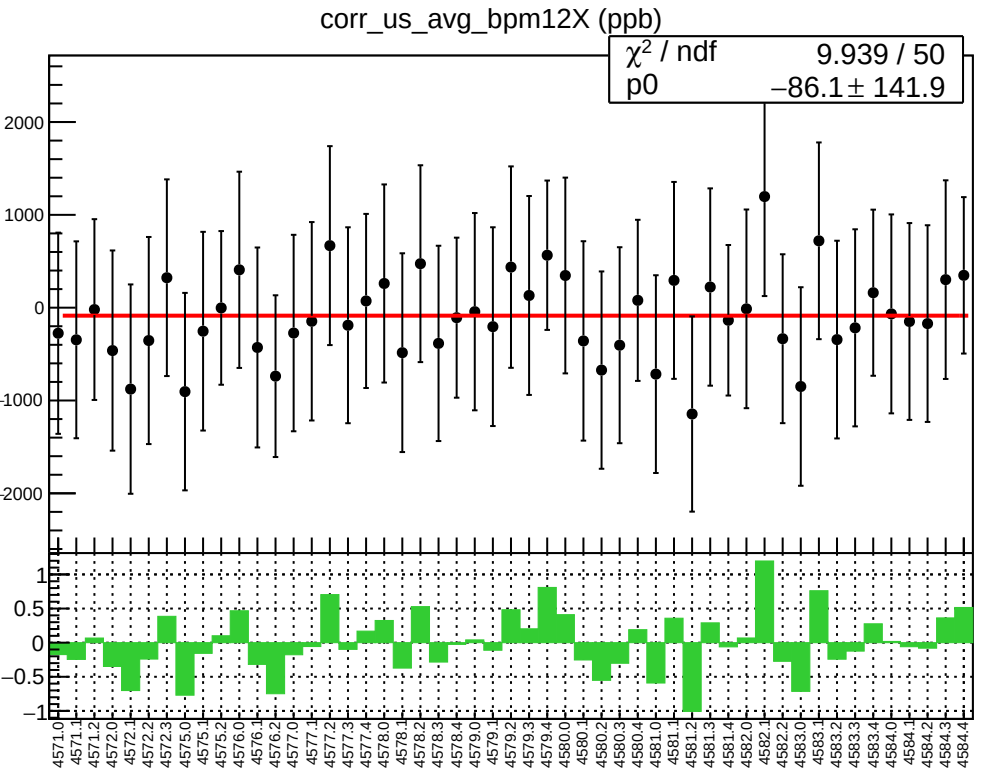

corr_us_avg_bpm16X (ppb)
χ² / ndf 65.64 / 50
p0 0.7987 ± 48.96
1D pull distribution
Mean 0.01894 ± 0.1588
Std Dev 1.134 ± 0.1123
Underflow 0
Overflow 0
χ² / ndf 10.29 / 7
Constant 13.09 ± 3.75
Mean −0.1179 ± 0.1102
Sigma 0.6646 ± 0.1644

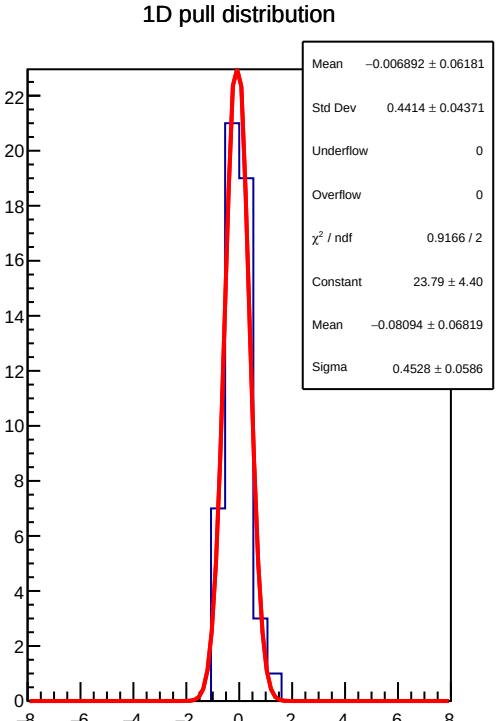

corr_us_avg_bpm16X RMS (ppm)
RMS (ppm)
10
20
30
40
50
60
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

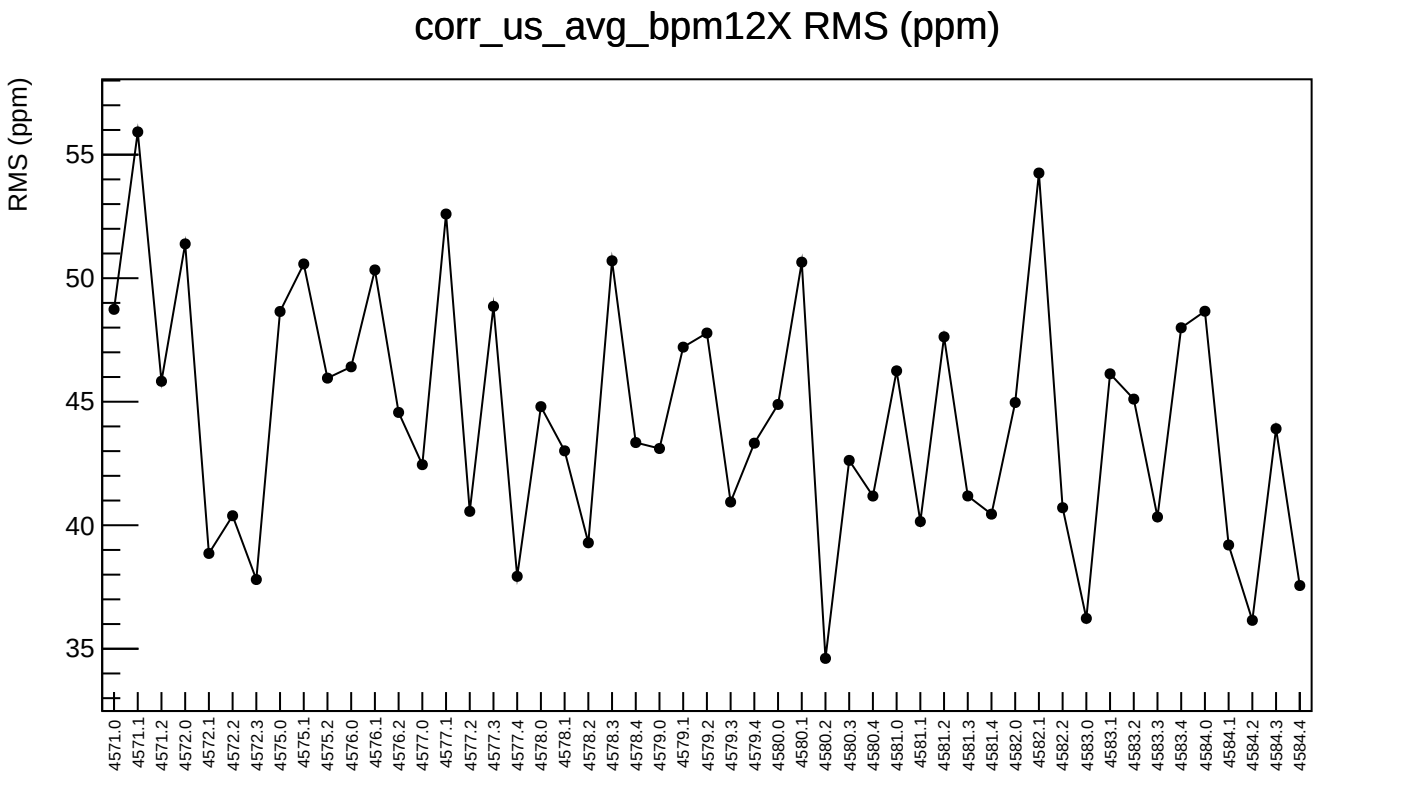

corr_us_avg_bpm16Y (ppb)
χ² / ndf 178.3 / 50
p0 28.46 ± 30.03
1500
1000
500
0
−500
−1000
6
4
2
0
−2
−4
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

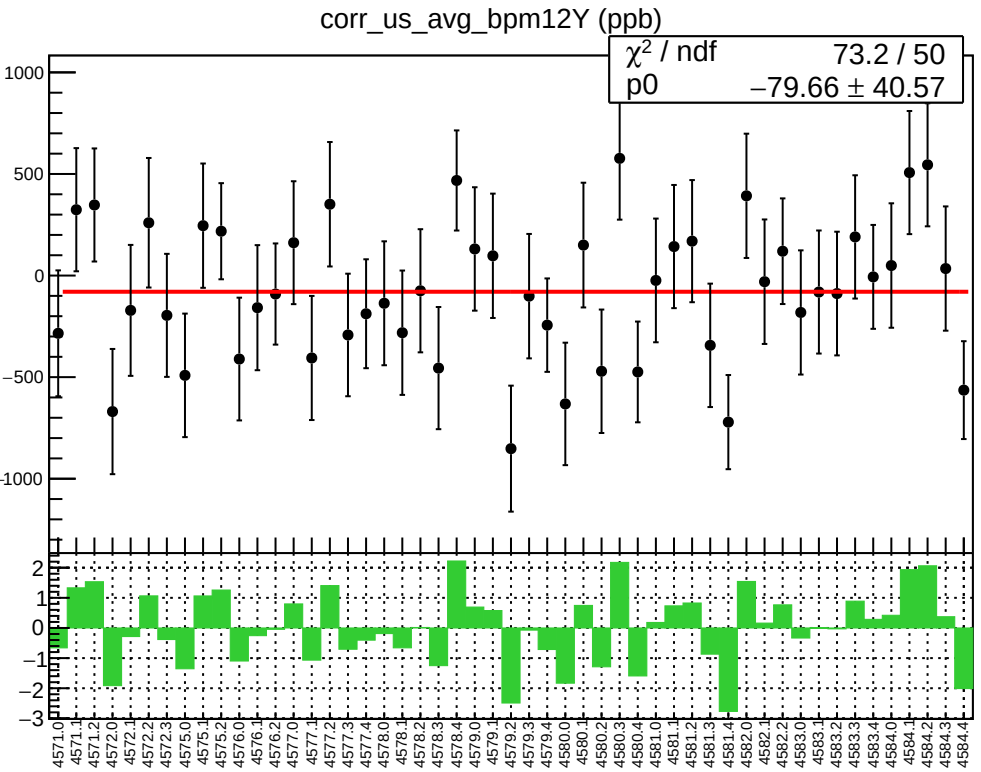

1D pull distribution
Mean 0.01827 ± 0.2618
Std Dev 1.869 ± 0.1851
Underflow 0
Overflow 0
χ² / ndf 6.839 / 12
Constant 5.135 ± 1.059
Mean −0.1236 ± 0.3487
Sigma 1.959 ± 0.376
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

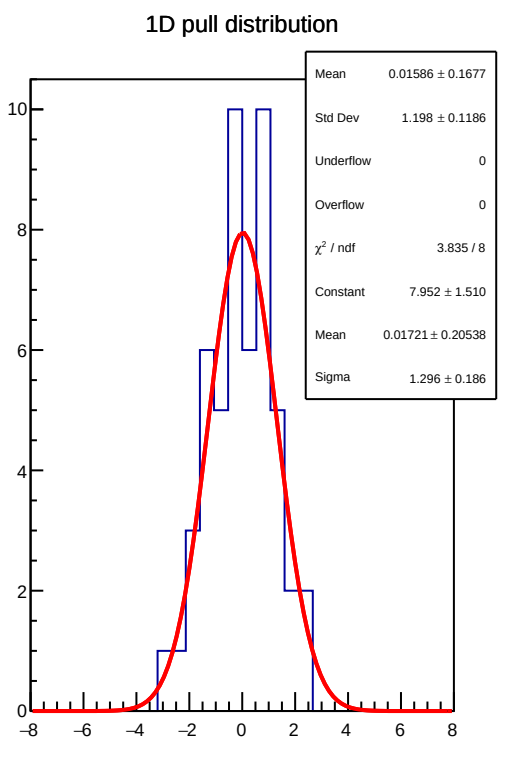

corr_us_avg_bpm16Y RMS (ppm)
RMS (ppm)
50
45
40
35
30
25
20
15
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

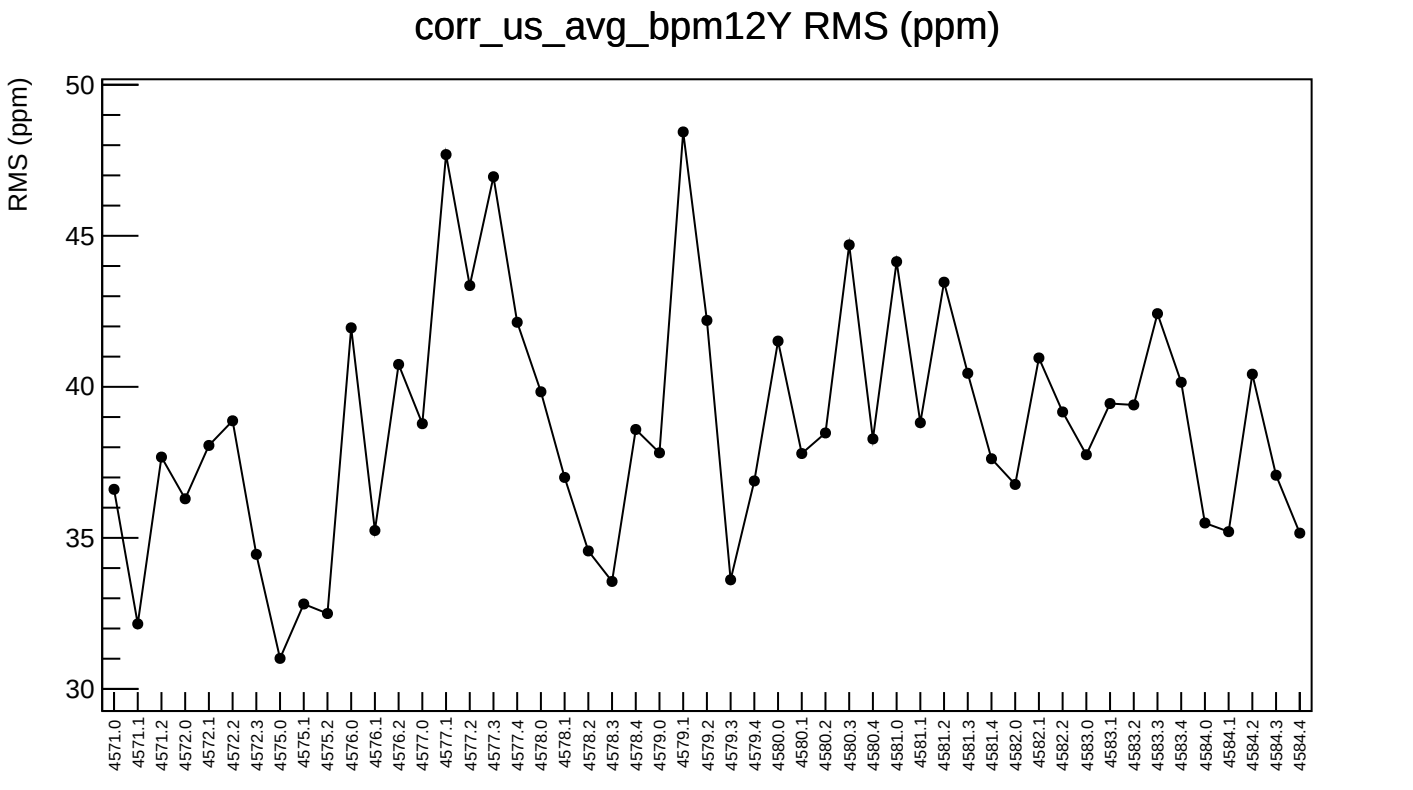

corr_us_avg_bpm12X (ppb)
χ² / ndf 9.939 / 50
p0 −86.1 ± 141.9
2000
1000
0
-1000
-2000
1
0.5
0
−0.5
−1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

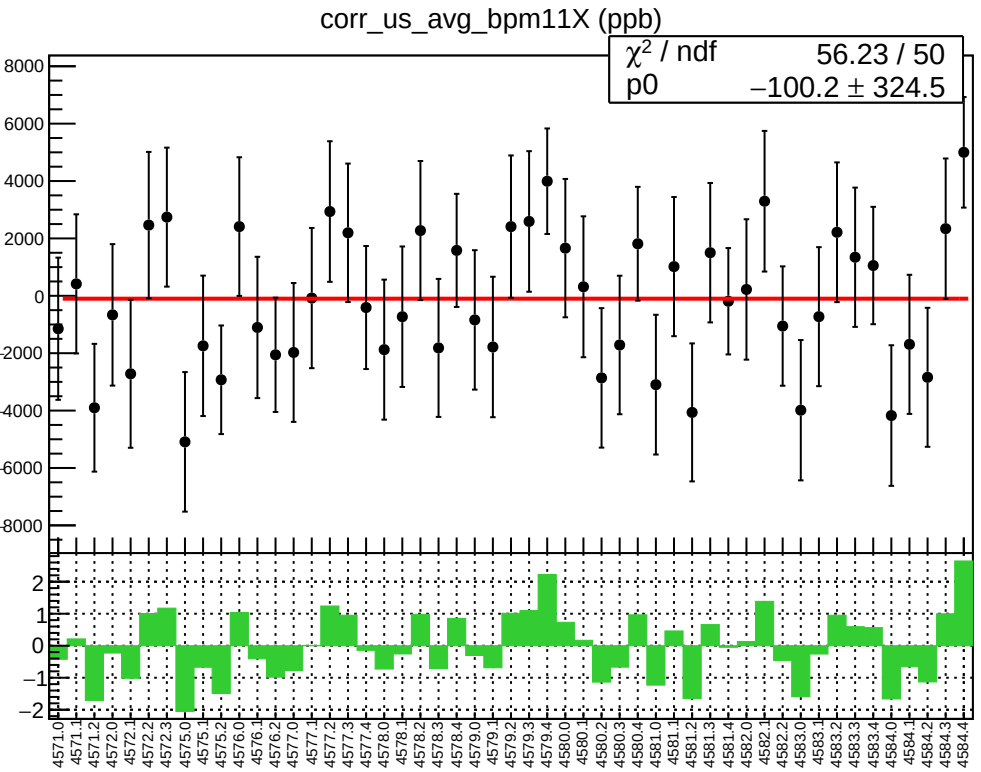

1D pull distribution
Mean −0.006892 ± 0.06181
Std Dev 0.4414 ± 0.04371
Underflow 0
Overflow 0
χ² / ndf 0.9166 / 2
Constant 23.79 ± 4.40
Mean −0.08094 ± 0.06819
Sigma 0.4528 ± 0.0586
22
20
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

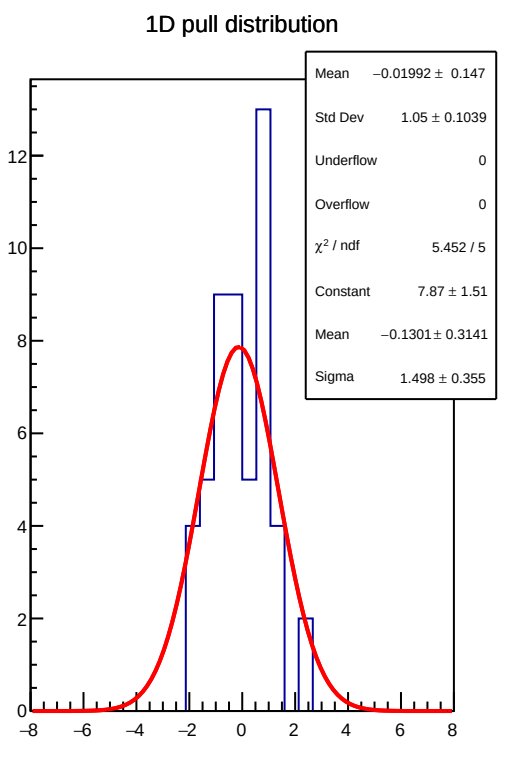

corr_us_avg_bpm12X RMS (ppm)
RMS (ppm)
55
50
45
40
35
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

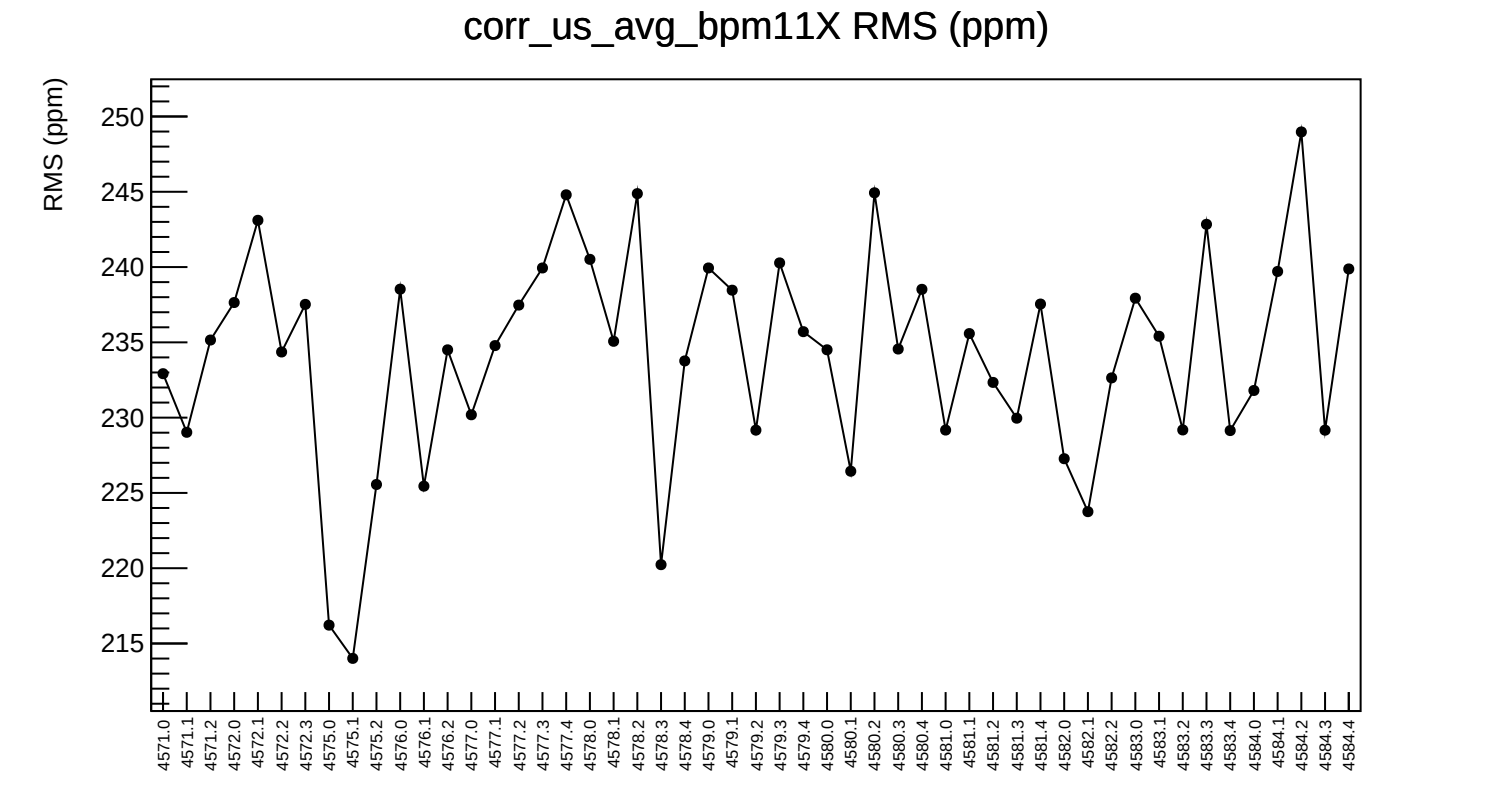

corr_us_avg_bpm12Y (ppb)
χ² / ndf 73.2 / 50
p0 −79.66 ± 40.57
1000
500
0
−500
−1000
2
1
0
−1
−2
−3
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

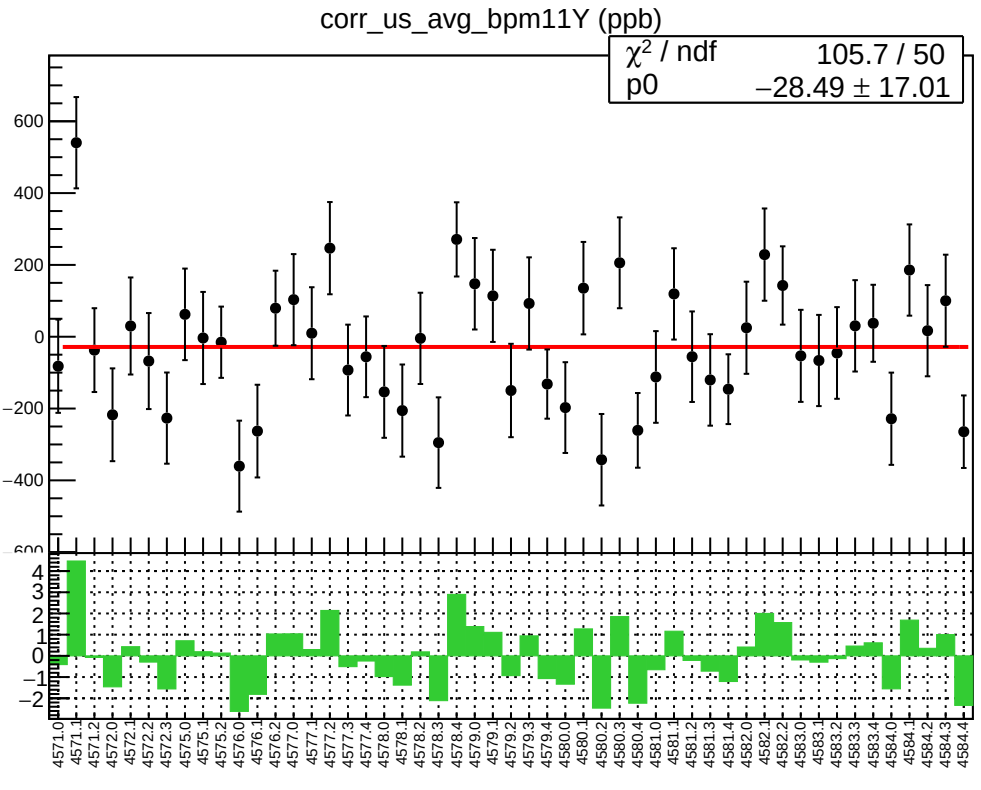

1D pull distribution
Mean 0.01586 ± 0.1677
Std Dev 1.198 ± 0.1186
Underflow 0
Overflow 0
χ² / ndf 3.835 / 8
Constant 7.952 ± 1.510
Mean 0.01721 ± 0.20538
Sigma 1.296 ± 0.186
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

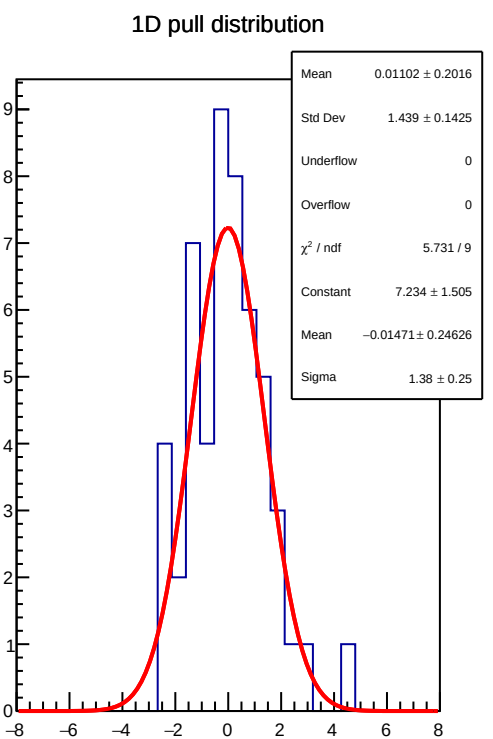

corr_us_avg_bpm12Y RMS (ppm)
RMS (ppm)
50
45
40
35
30
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

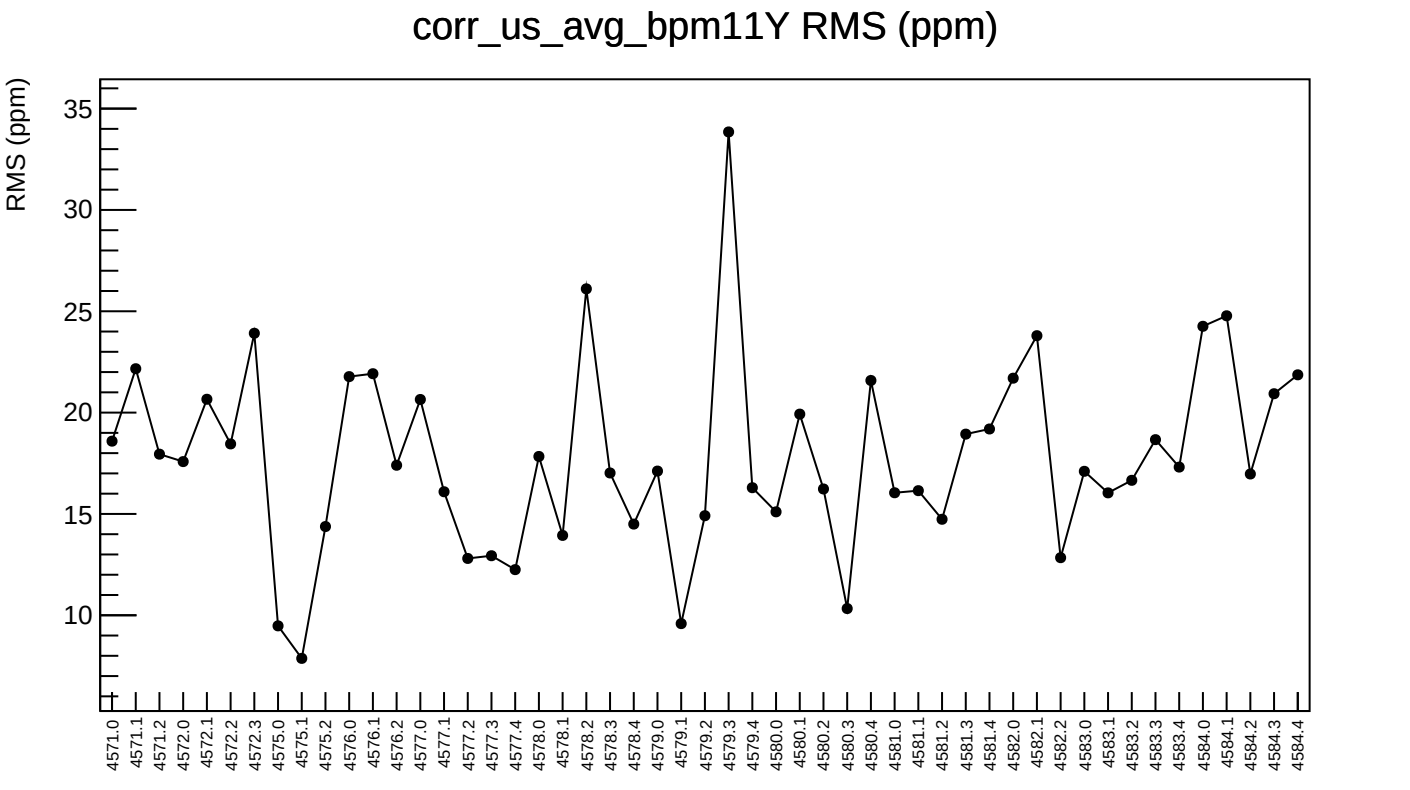

corr_us_avg_bpm11X (ppb)
χ² / ndf 56.23 / 50
p0 −100.2 ± 324.5
8000
6000
4000
2000
0
-2000
-4000
-6000
-8000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

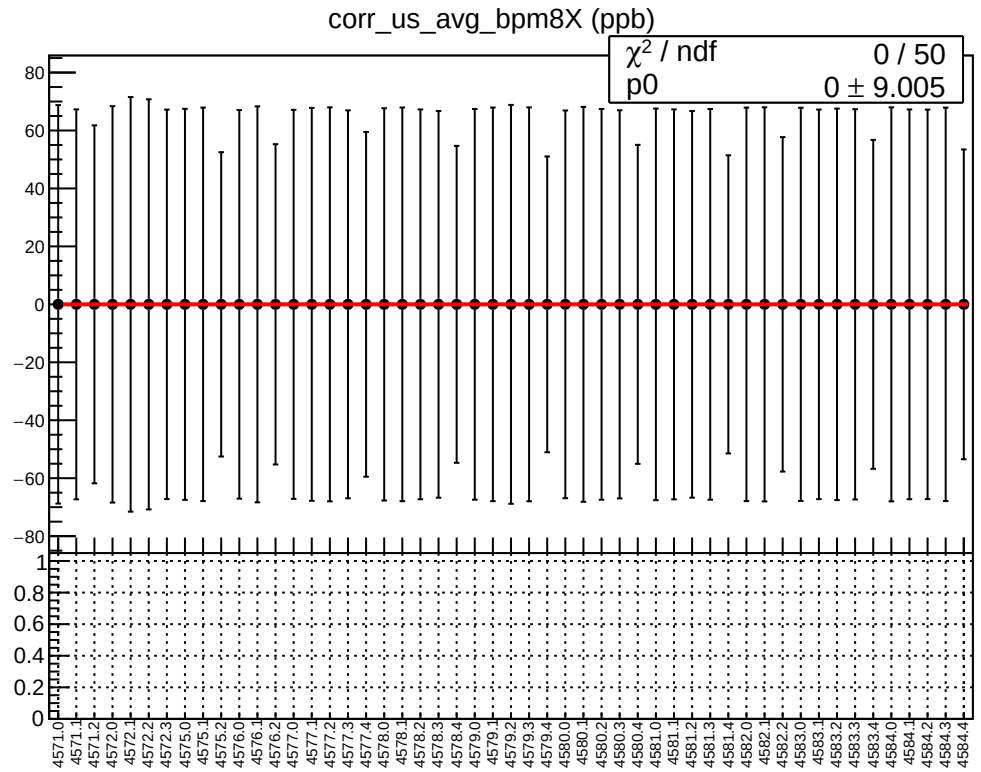

1D pull distribution
Mean −0.01992 ± 0.147
Std Dev 1.05 ± 0.1039
Underflow 0
Overflow 0
χ² / ndf 5.452 / 5
Constant 7.87 ± 1.51
Mean −0.1301 ± 0.3141
Sigma 1.498 ± 0.355
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

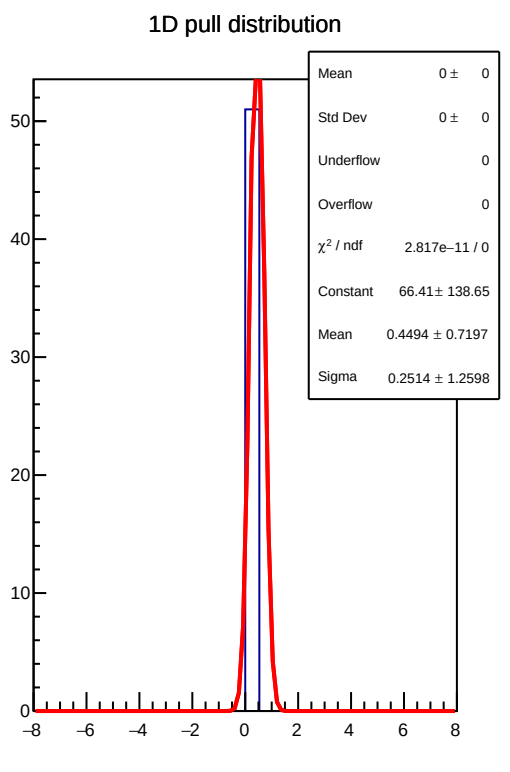

corr_us_avg_bpm11X RMS (ppm)
RMS (ppm)
250
245
240
235
230
225
220
215
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

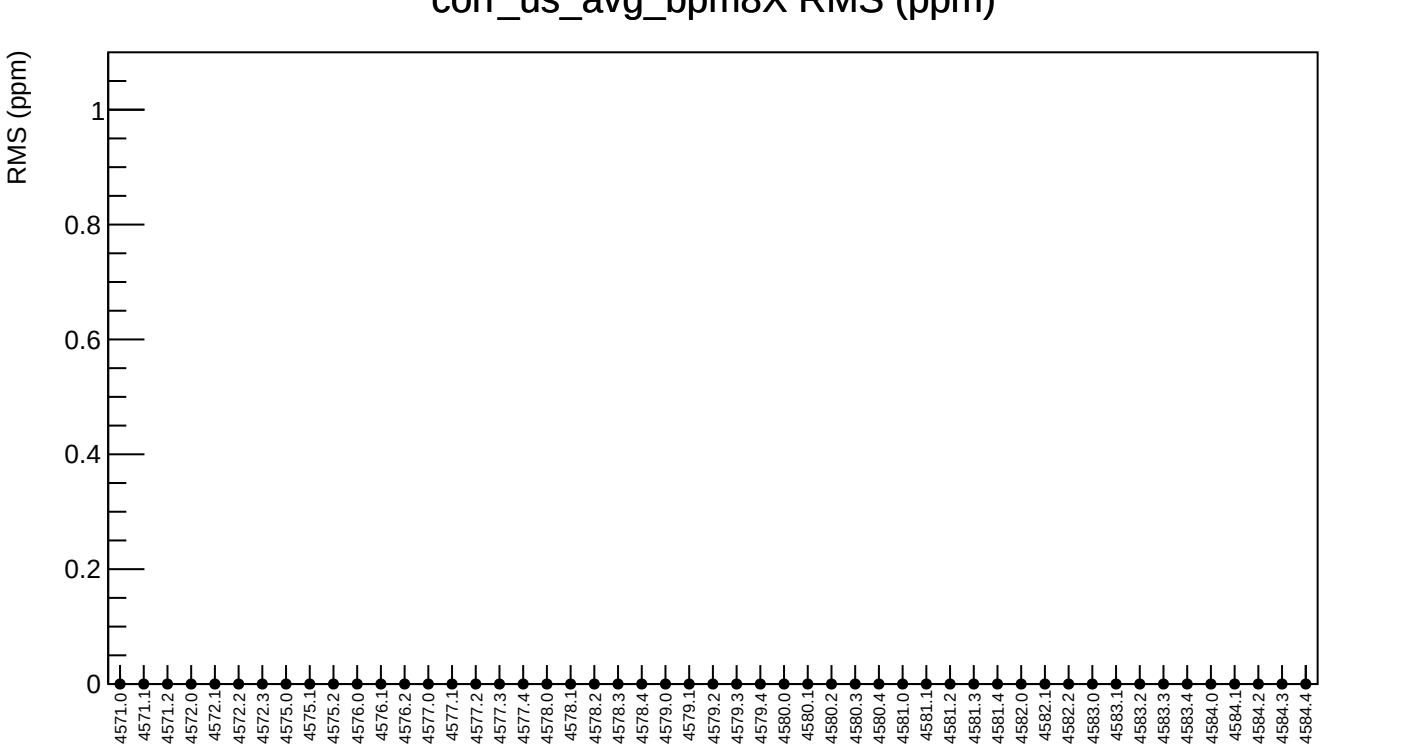

corr_us_avg_bpm11Y (ppb)
χ² / ndf 105.7 / 50
p0 −28.49 ± 17.01

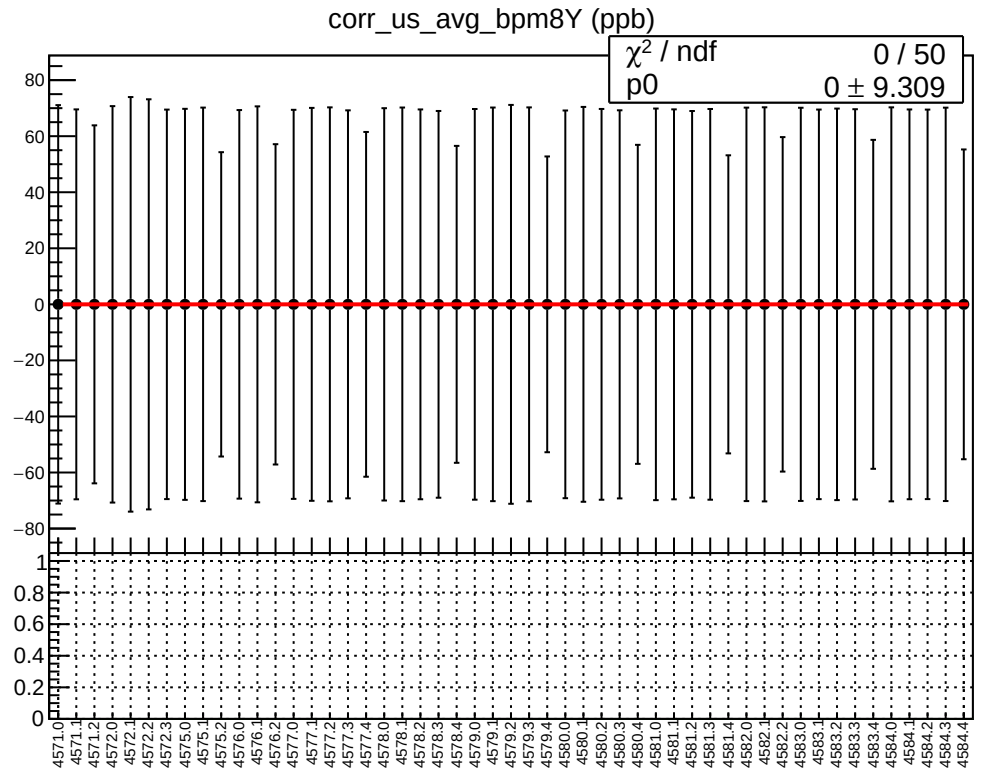

1D pull distribution
Mean 0.01102 ± 0.2016
Std Dev 1.439 ± 0.1425
Underflow 0
Overflow 0
χ² / ndf 5.731 / 9
Constant 7.234 ± 1.505
Mean −0.01471 ± 0.24626
Sigma 1.38 ± 0.25

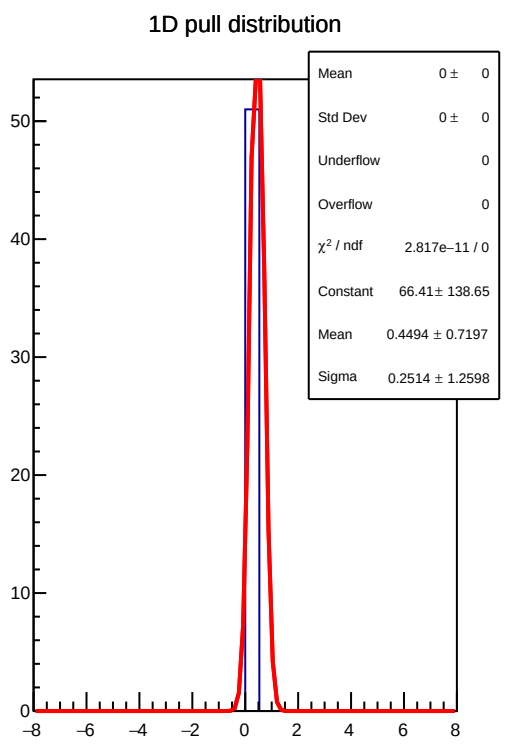

corr_us_avg_bpm11Y RMS (ppm)
RMS (ppm)
35
30
25
20
15
10
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

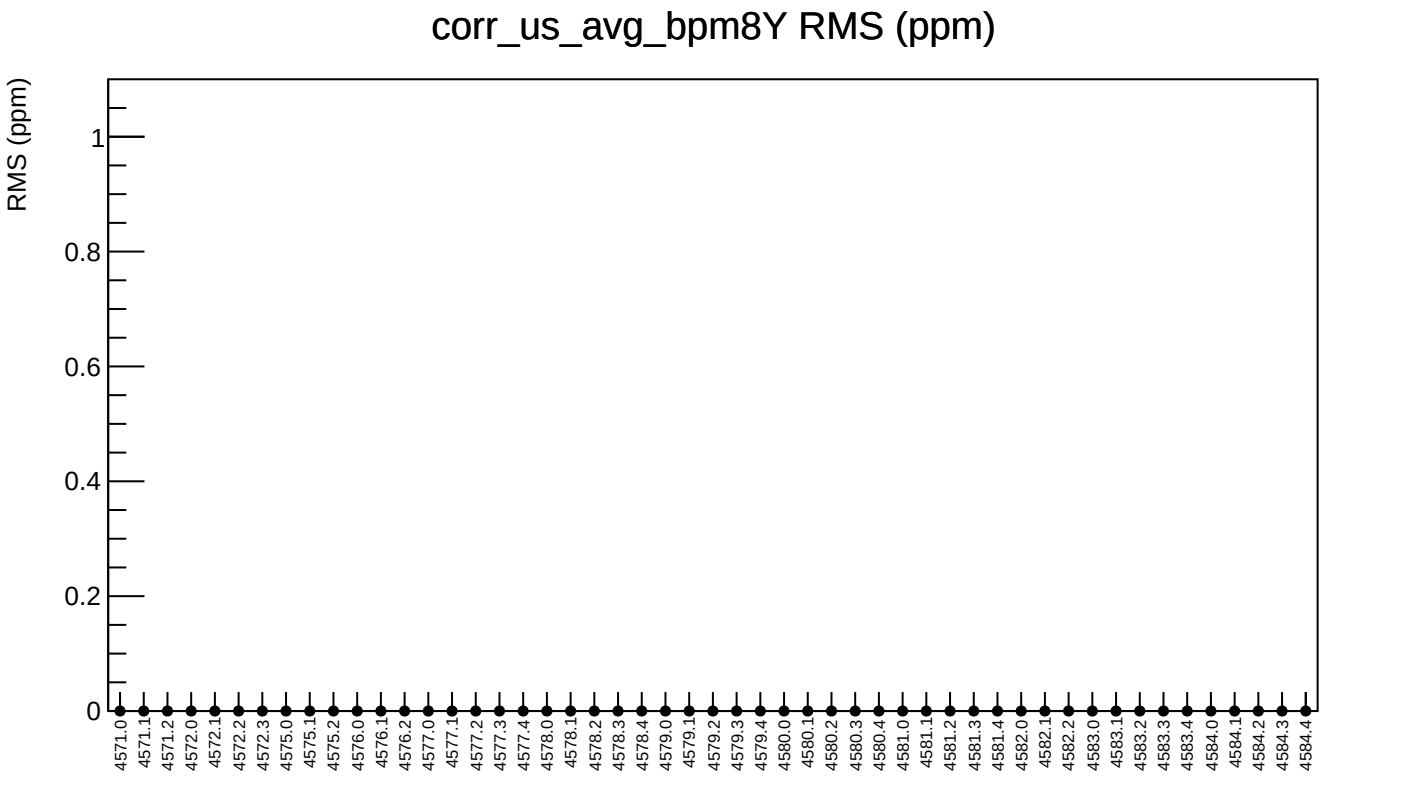

corr_us_avg_bpm8X (ppb)
χ² / ndf 0 / 50
p0 0 ± 9.005


1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598


corr_us_avg_bpm8X RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4


corr_us_avg_bpm8Y (ppb)
χ² / ndf 0 / 50
p0 0 ± 9.309


1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41 ± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598


corr_us_avg_bpm8Y RMS (ppm)
RMS (ppm)
1
0.8
0.6
0.4
0.2
0
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
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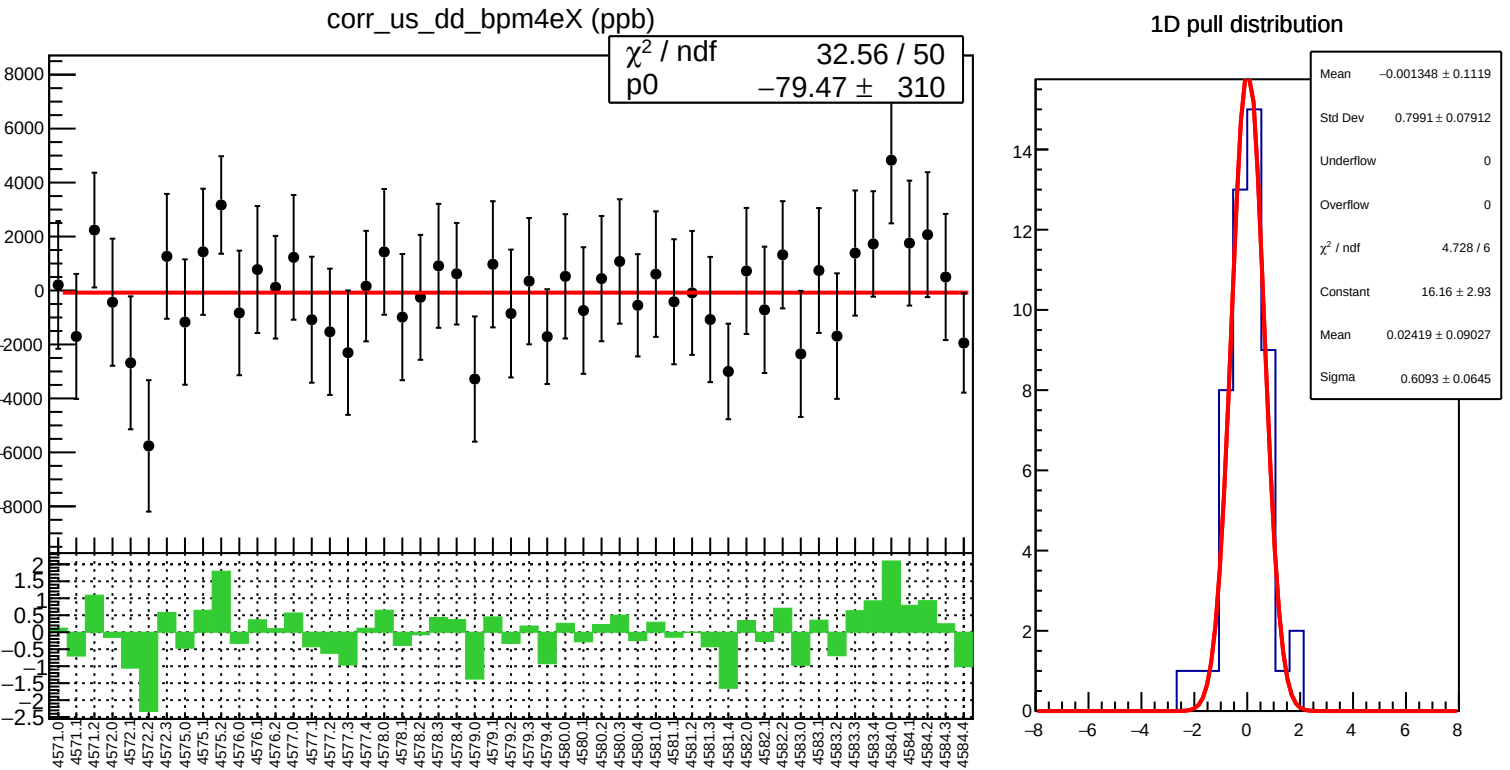
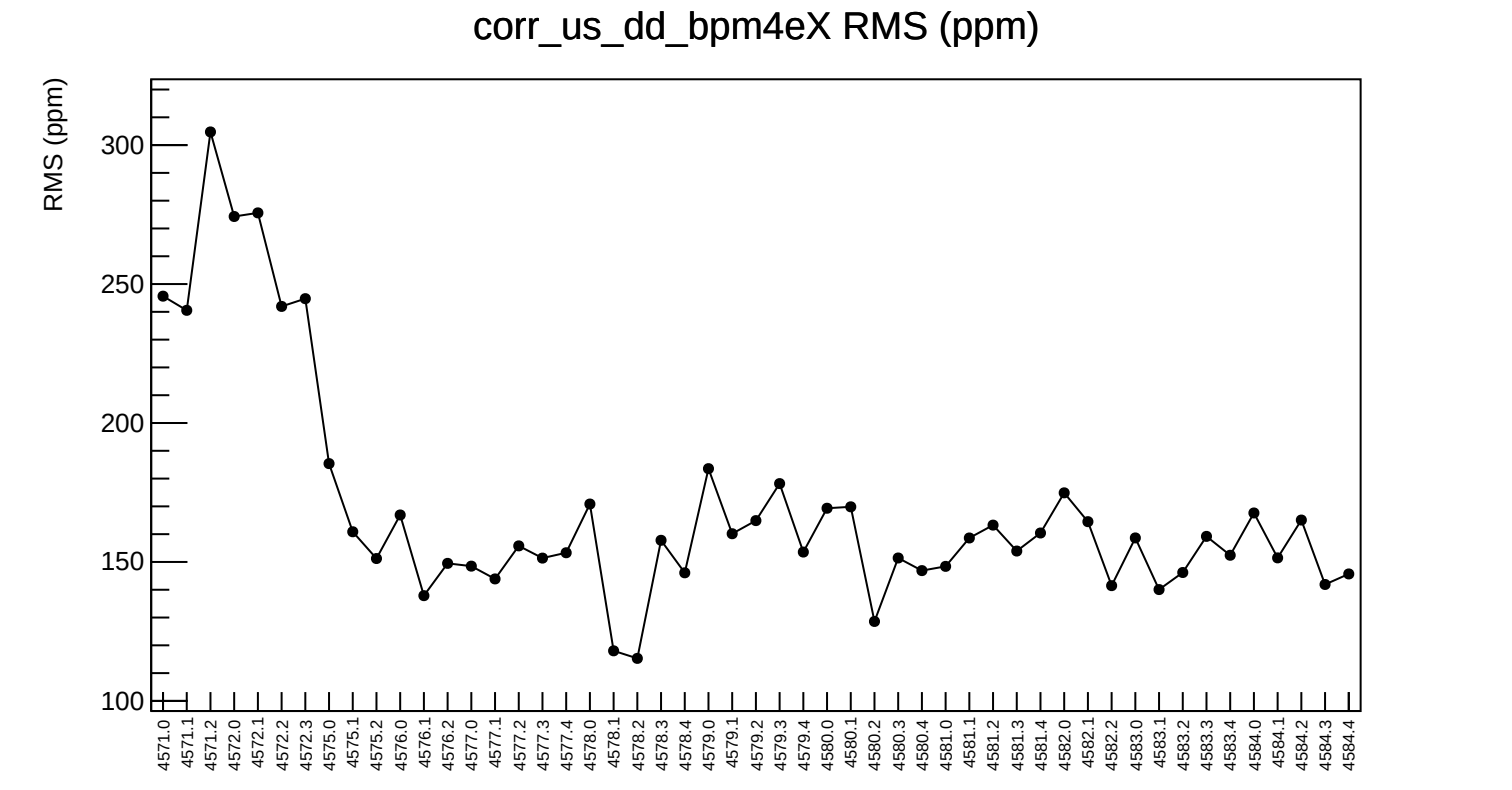
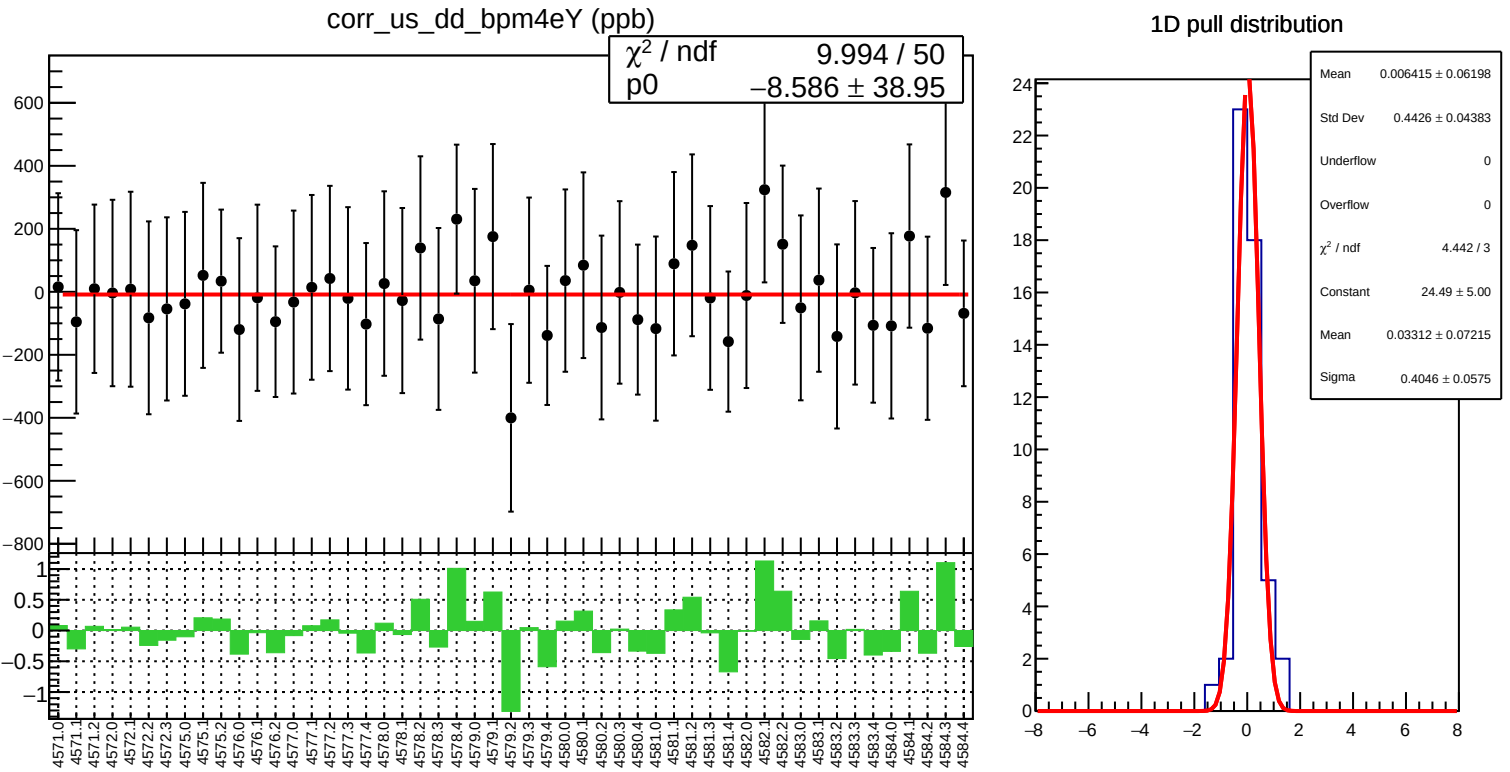
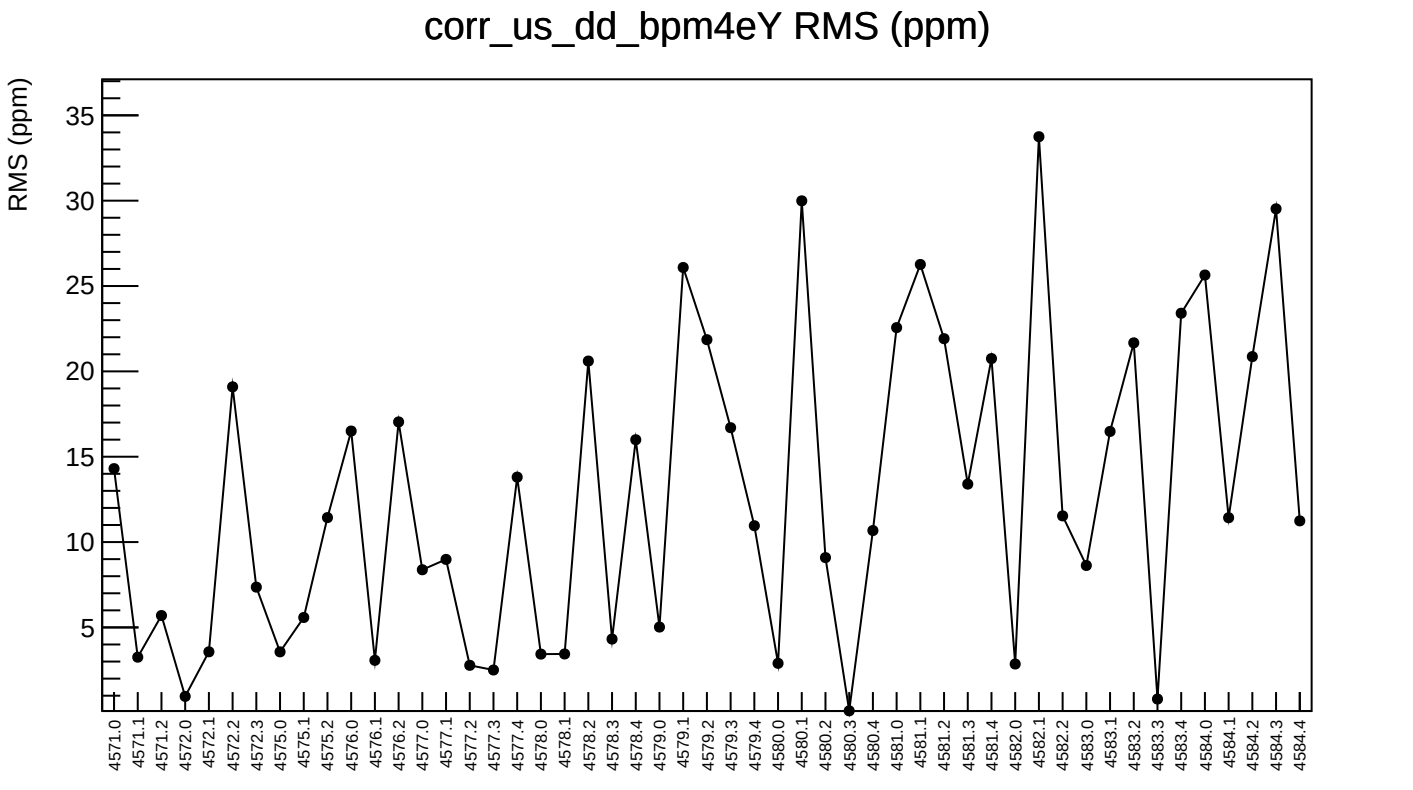
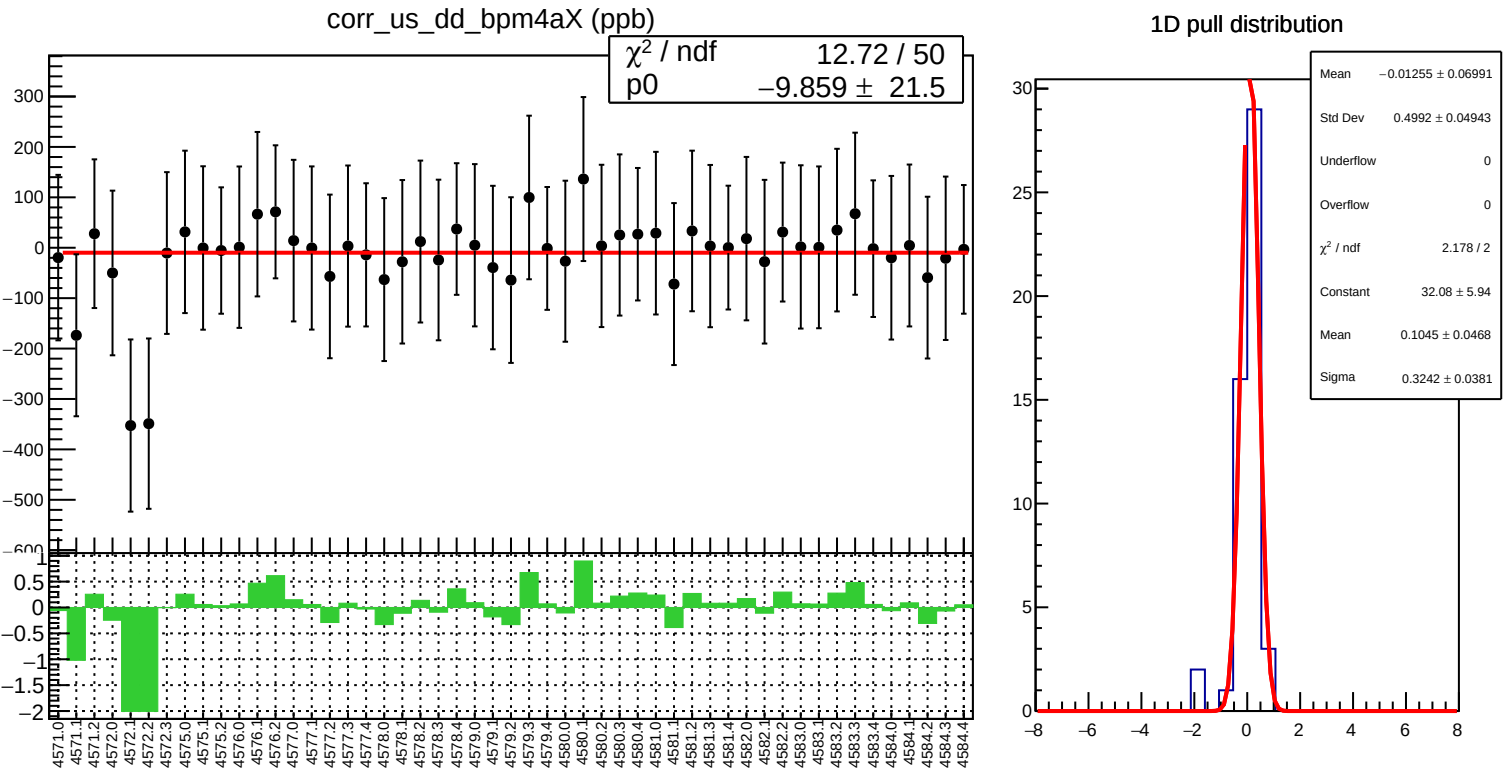
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

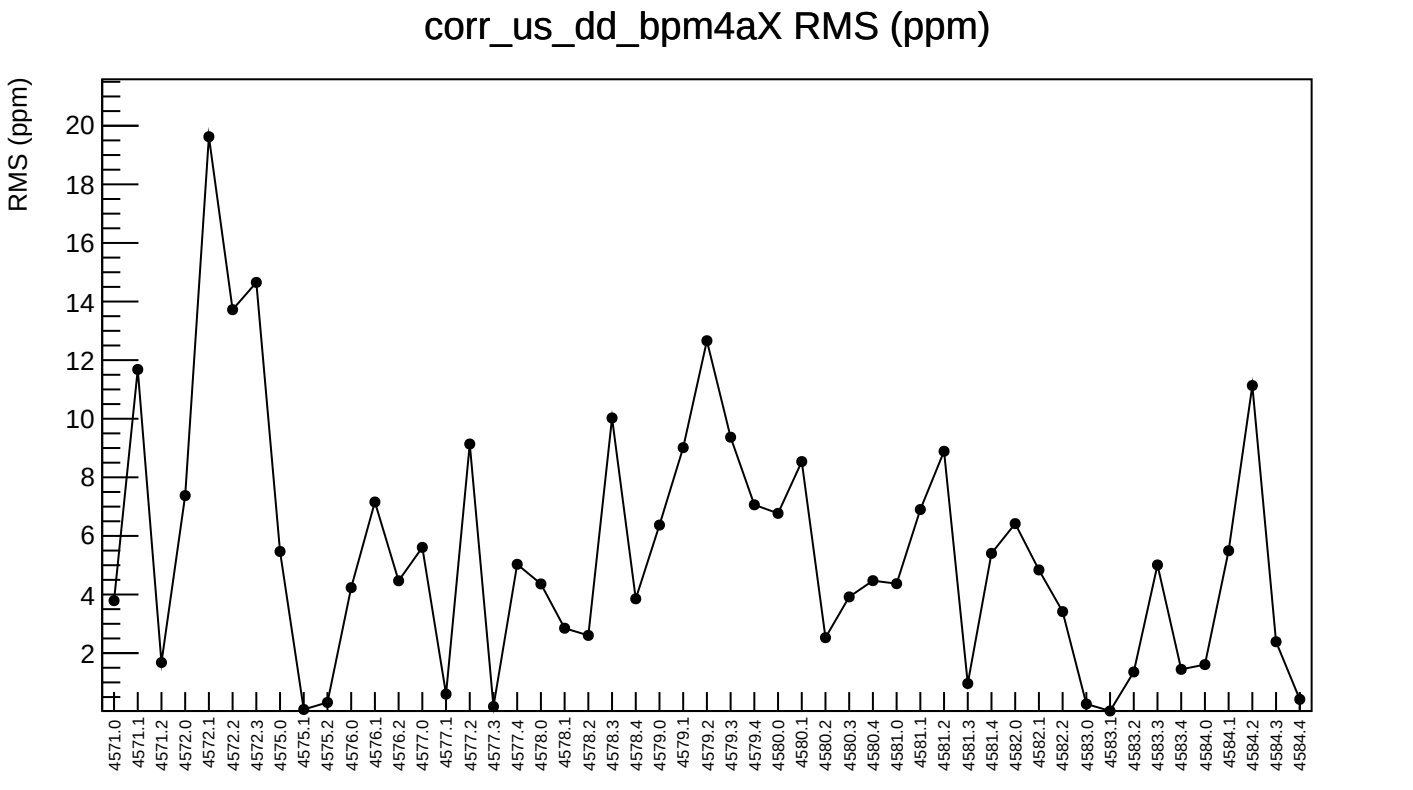

corr_us_dd_bpm4eX (ppb)
χ² / ndf 32.56 / 50
p0 −79.47 ± 310
1D pull distribution
Mean −0.001348 ± 0.1119
Std Dev 0.7991 ± 0.07912
Underflow 0
Overflow 0
χ² / ndf 4.728 / 6
Constant 16.16 ± 2.93
Mean 0.02419 ± 0.09027
Sigma 0.6093 ± 0.0645

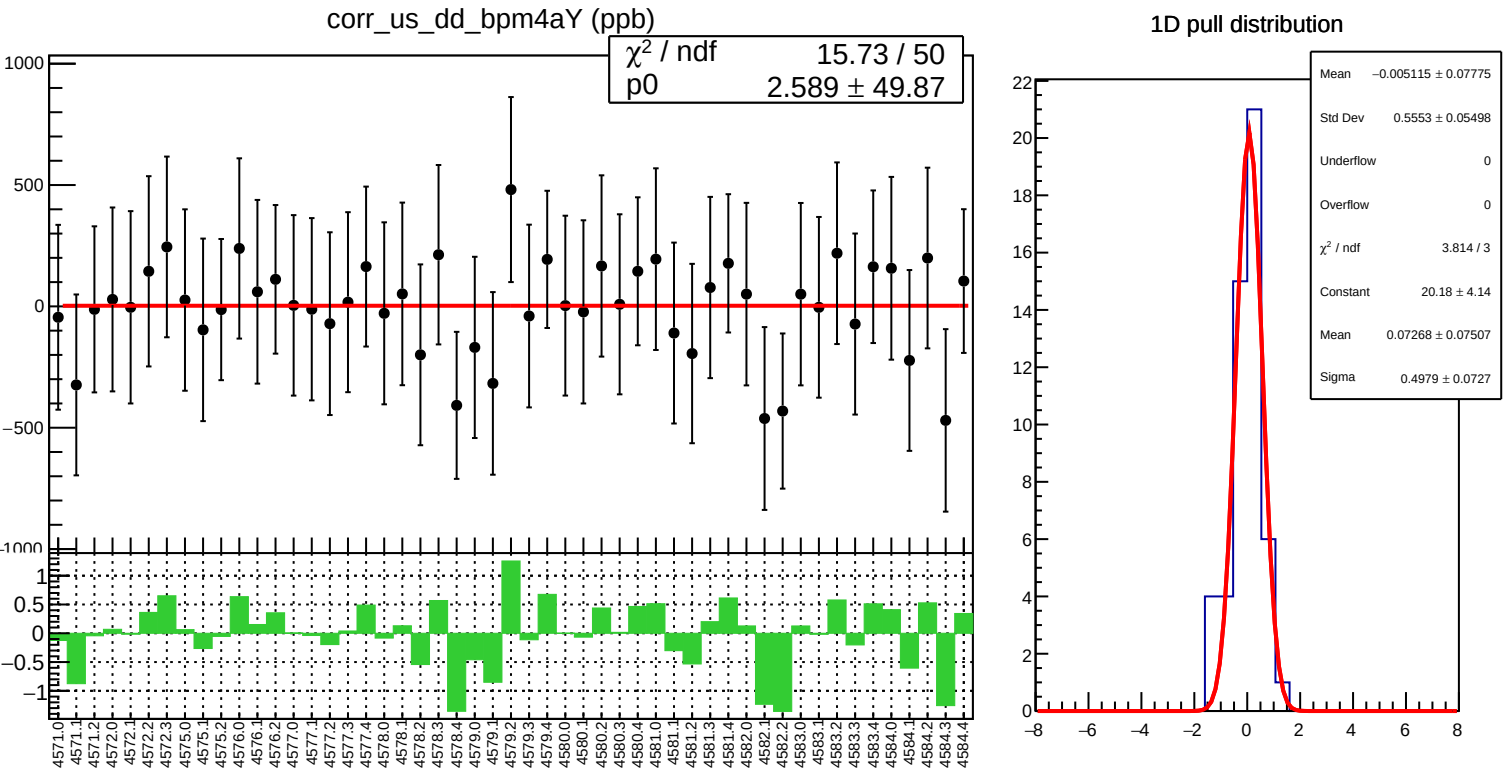

corr_us_dd_bpm4eX RMS (ppm)
RMS (ppm)
300
250
200
150
100
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

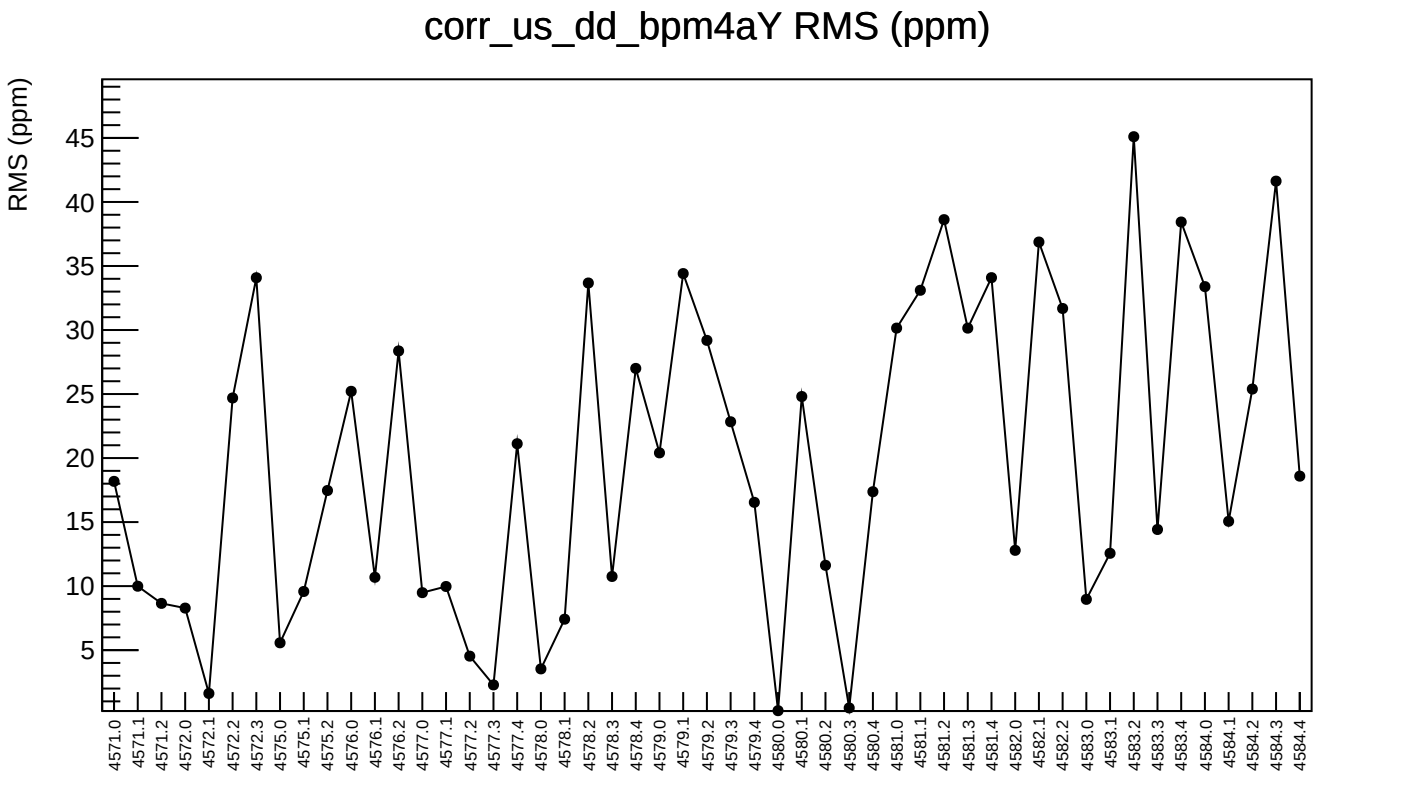

corr_us_dd_bpm4eY (ppb)
χ² / ndf 9.994 / 50
p0 −8.586 ± 38.95
1D pull distribution
Mean 0.006415 ± 0.06198
Std Dev 0.4426 ± 0.04383
Underflow 0
Overflow 0
χ² / ndf 4.442 / 3
Constant 24.49 ± 5.00
Mean 0.03312 ± 0.07215
Sigma 0.4046 ± 0.0575

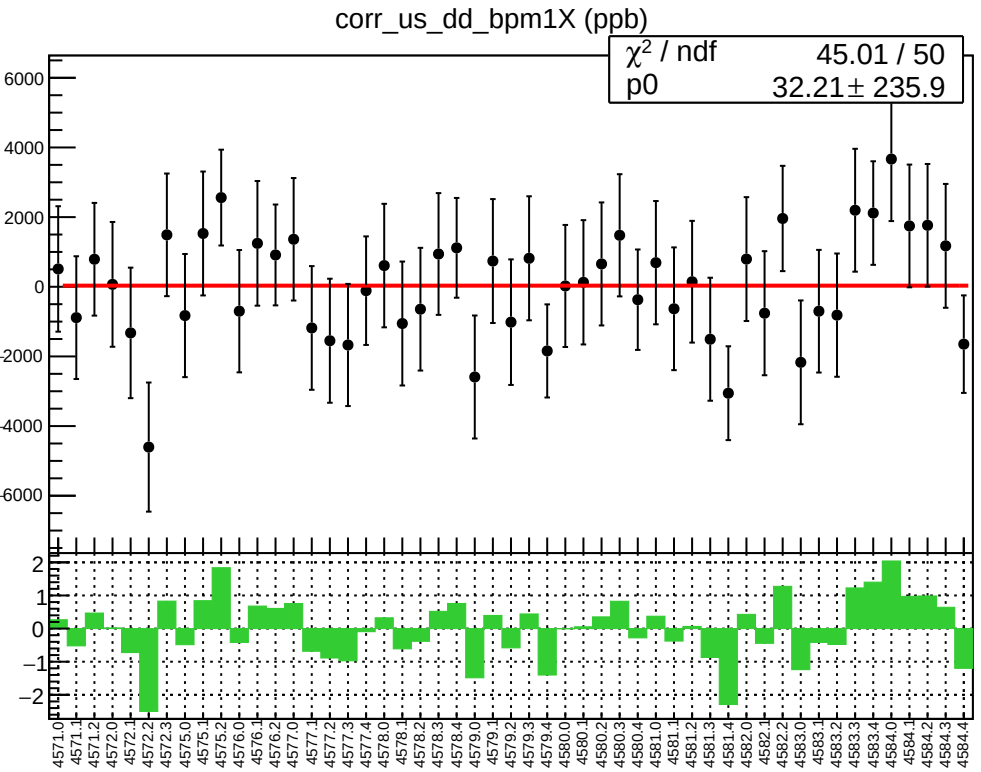

corr_us_dd_bpm4eY RMS (ppm)
RMS (ppm)
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

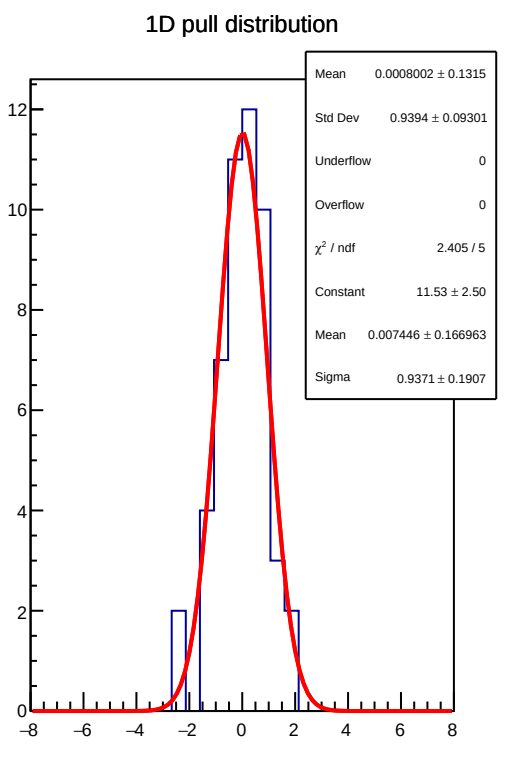

corr_us_dd_bpm4aX (ppb)
χ² / ndf 12.72 / 50
p0 −9.859 ± 21.5
1D pull distribution
Mean −0.01255 ± 0.06991
Std Dev 0.4992 ± 0.04943
Underflow 0
Overflow 0
χ² / ndf 2.178 / 2
Constant 32.08 ± 5.94
Mean 0.1045 ± 0.0468
Sigma 0.3242 ± 0.0381

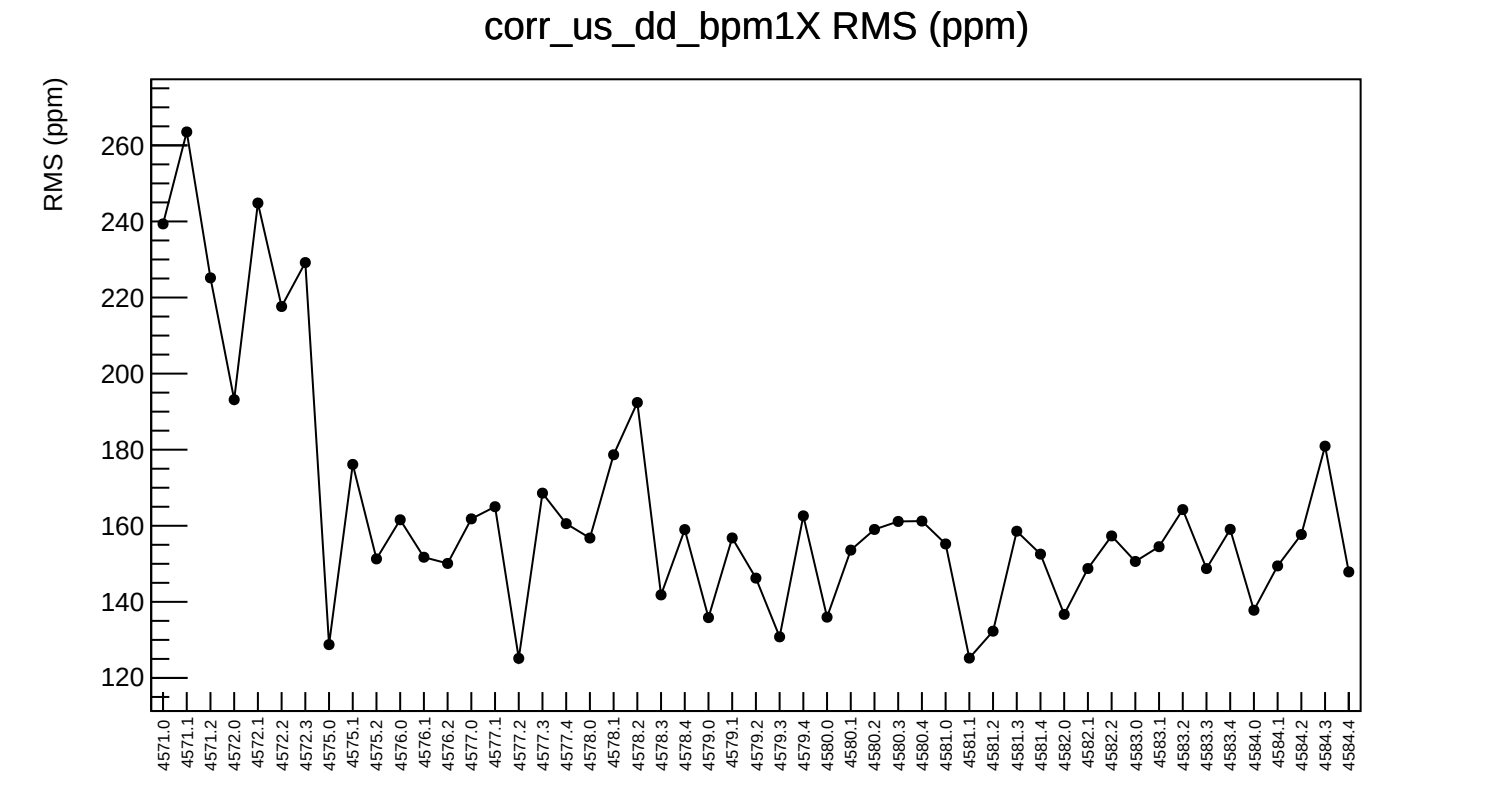

corr_us_dd_bpm4aX RMS (ppm)
RMS (ppm)
20
18
16
14
12
10
8
6
4
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

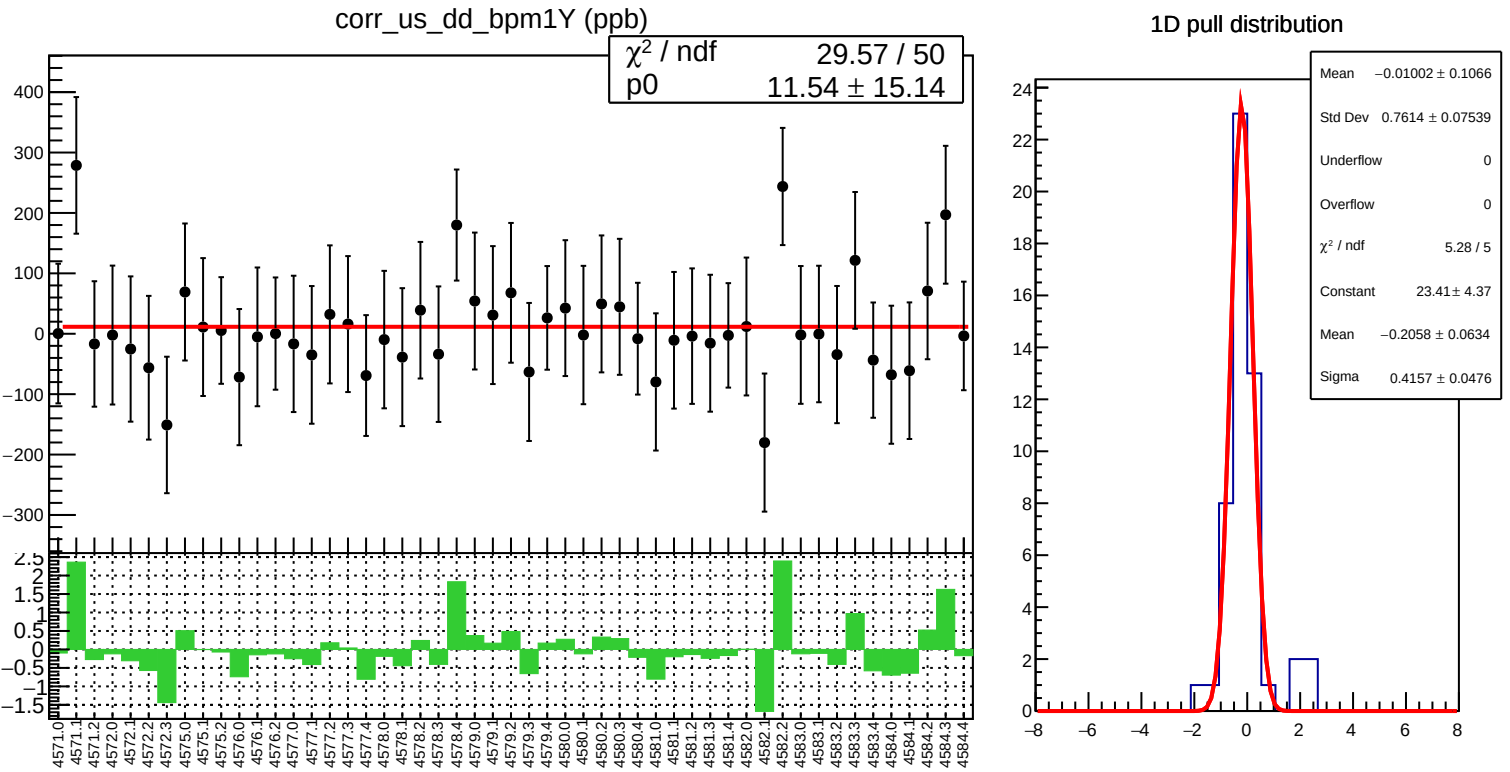

corr_us_dd_bpm4aY (ppb)
χ² / ndf 15.73 / 50
p0 2.589 ± 49.87
1000
500
0
−500
−1000
1
0.5
0
−0.5
−1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean −0.005115 ± 0.07775
Std Dev 0.5553 ± 0.05498
Underflow 0
Overflow 0
χ² / ndf 3.814 / 3
Constant 20.18 ± 4.14
Mean 0.07268 ± 0.07507
Sigma 0.4979 ± 0.0727
22
20
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

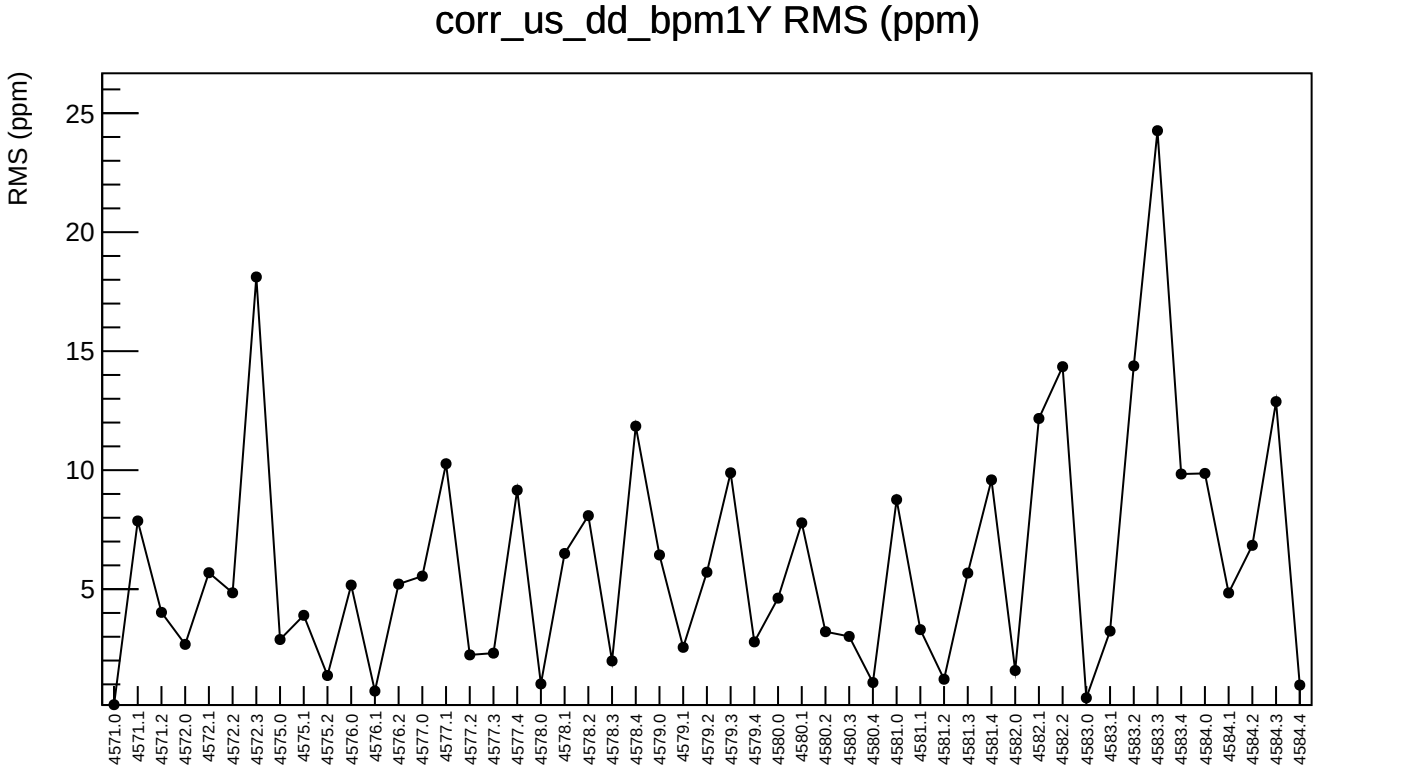

corr_us_dd_bpm4aY RMS (ppm)
RMS (ppm)
5
10
15
20
25
30
35
40
45
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

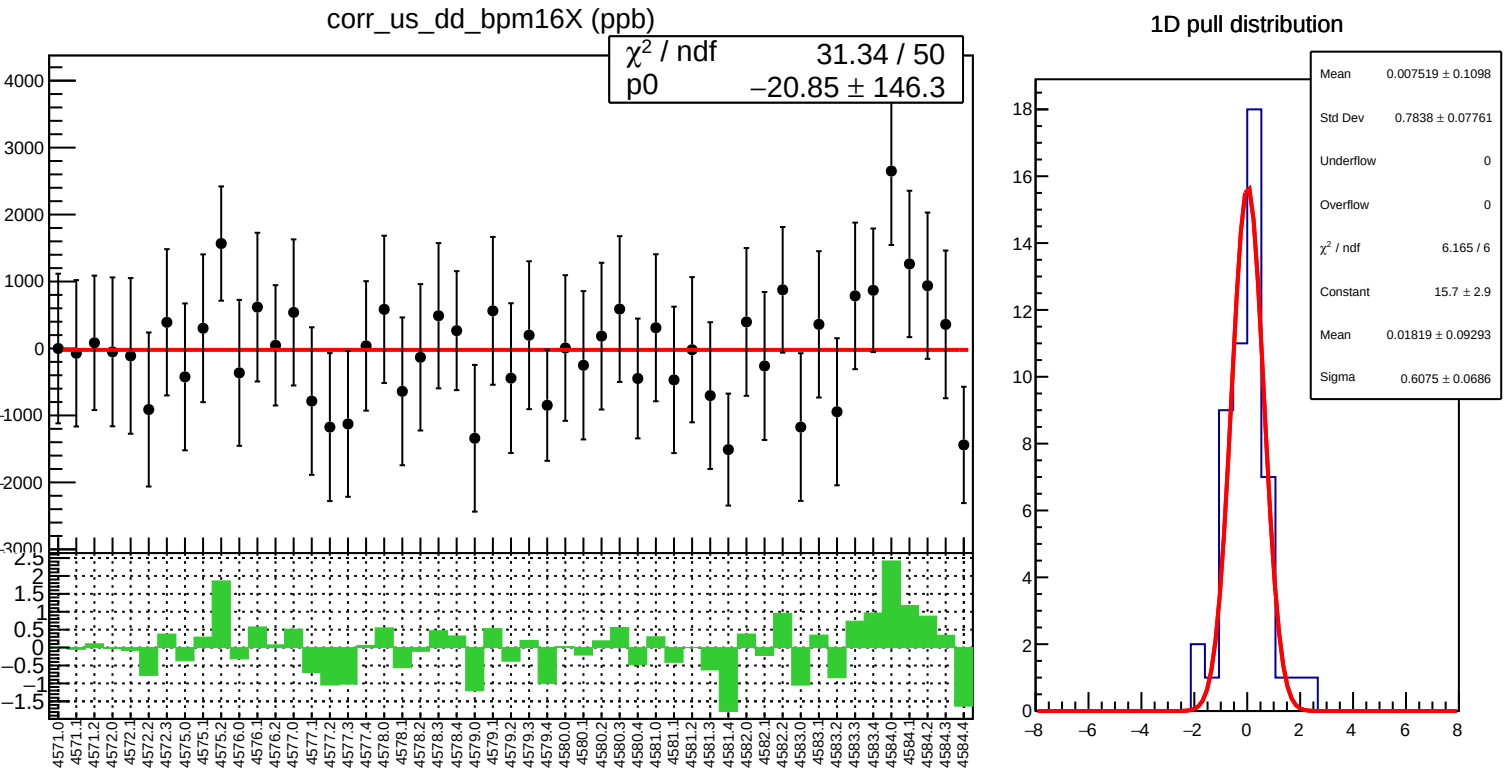

corr_us_dd_bpm1X (ppb)
χ² / ndf 45.01 / 50
p0 32.21 ± 235.9
6000
4000
2000
0
-2000
-4000
-6000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

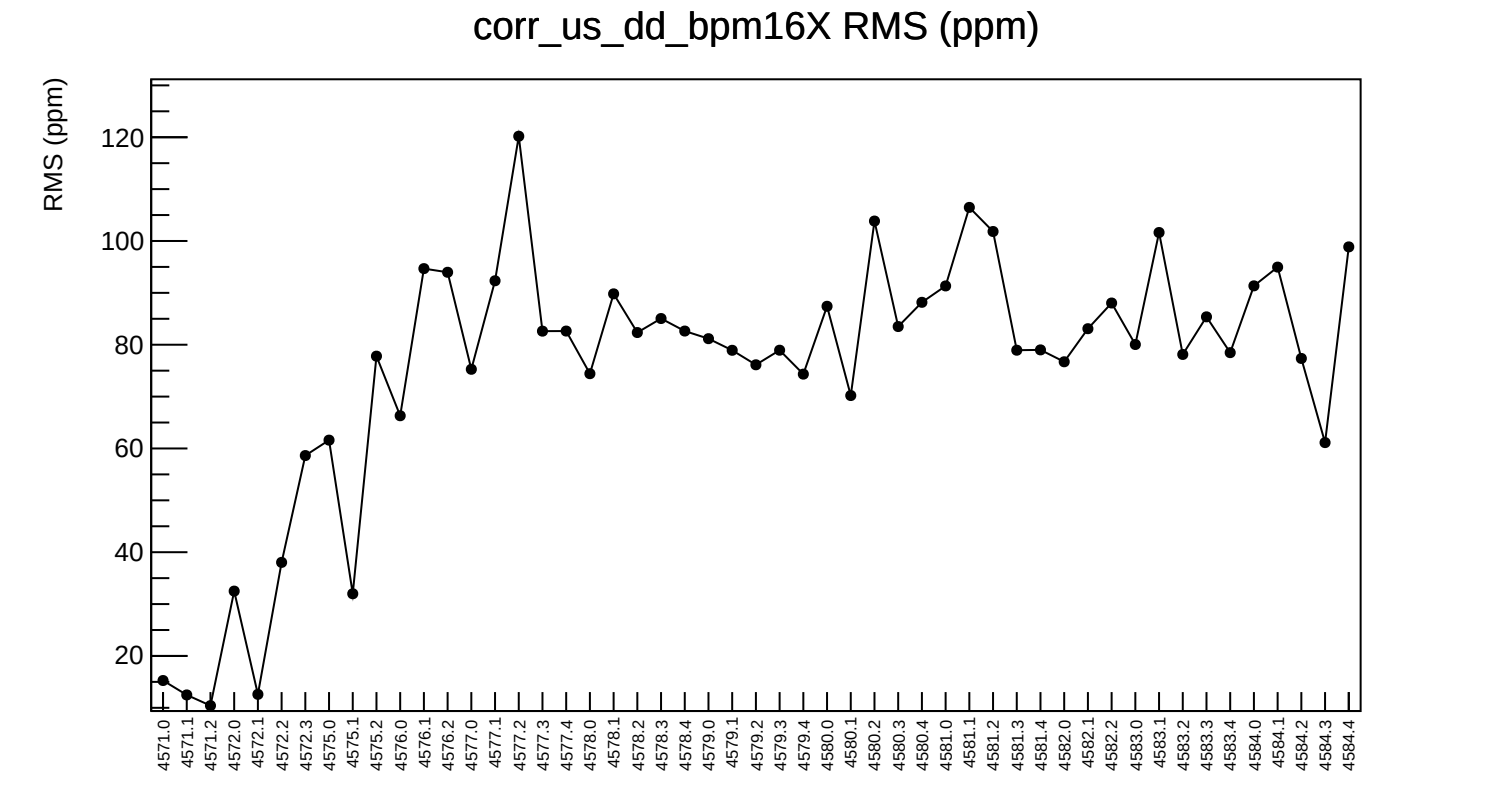

1D pull distribution
Mean 0.0008002 ± 0.1315
Std Dev 0.9394 ± 0.09301
Underflow 0
Overflow 0
χ² / ndf 2.405 / 5
Constant 11.53 ± 2.50
Mean 0.007446 ± 0.166963
Sigma 0.9371 ± 0.1907
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

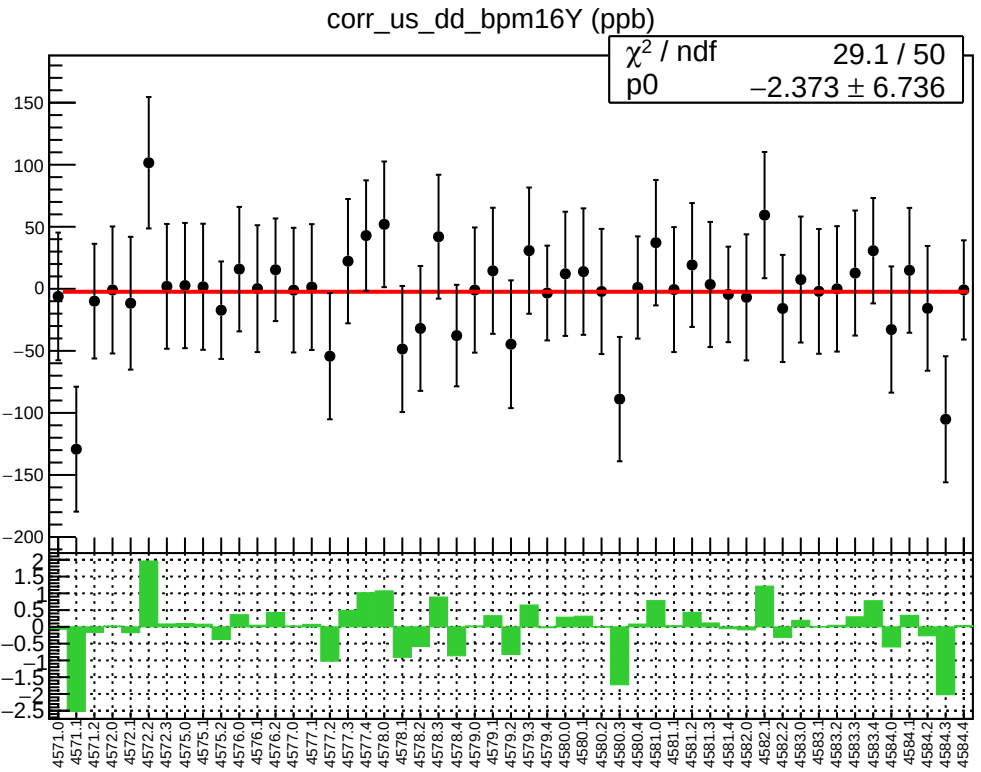

corr_us_dd_bpm1X RMS (ppm)
RMS (ppm)
260
240
220
200
180
160
140
120
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

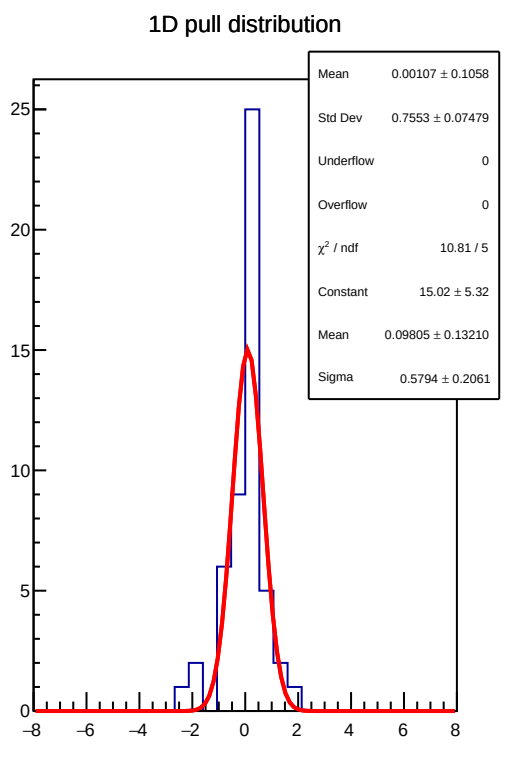

corr_us_dd_bpm1Y (ppb)
χ² / ndf 29.57 / 50
p0 11.54 ± 15.14
1D pull distribution
Mean −0.01002 ± 0.1066
Std Dev 0.7614 ± 0.07539
Underflow 0
Overflow 0
χ² / ndf 5.28 / 5
Constant 23.41± 4.37
Mean −0.2058 ± 0.0634
Sigma 0.4157 ± 0.0476

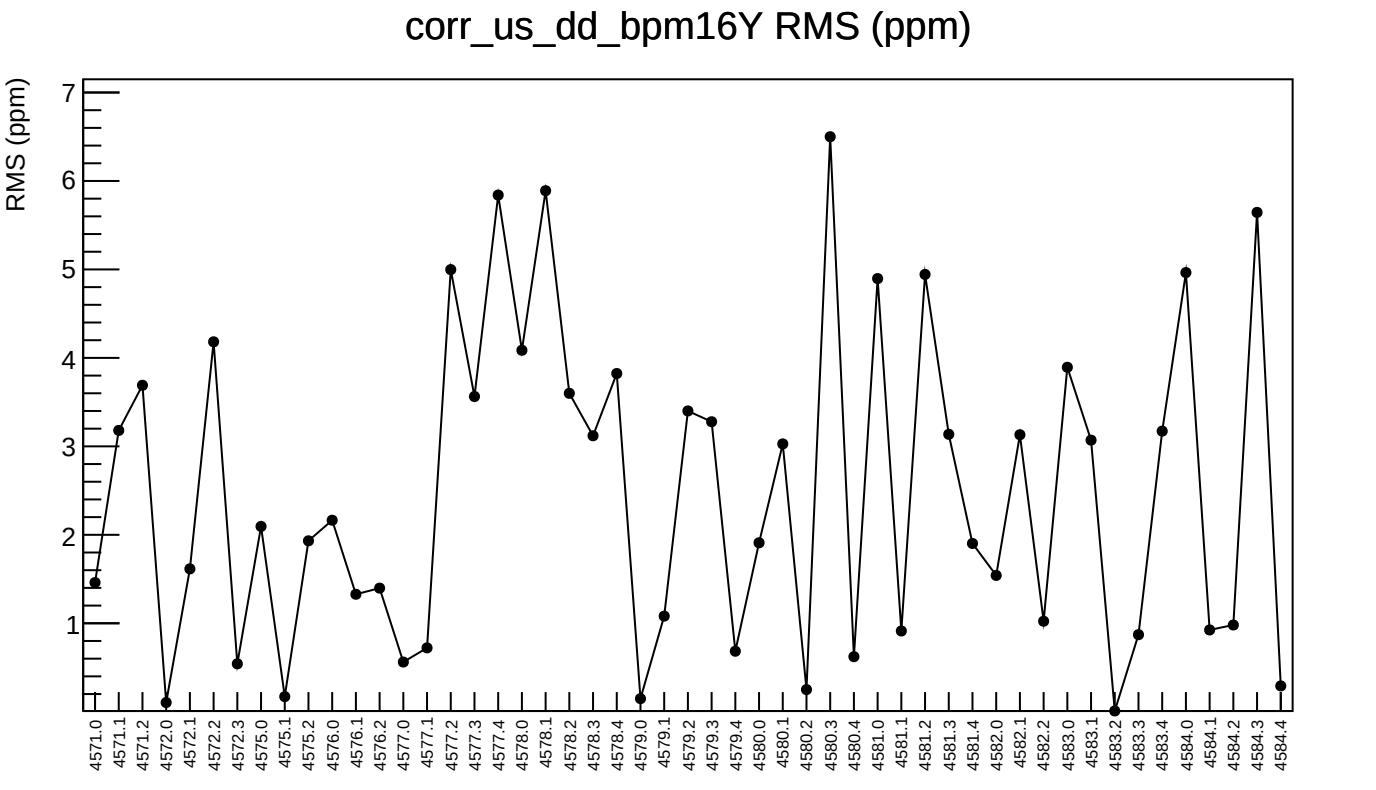

corr_us_dd_bpm1Y RMS (ppm)
RMS (ppm)
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

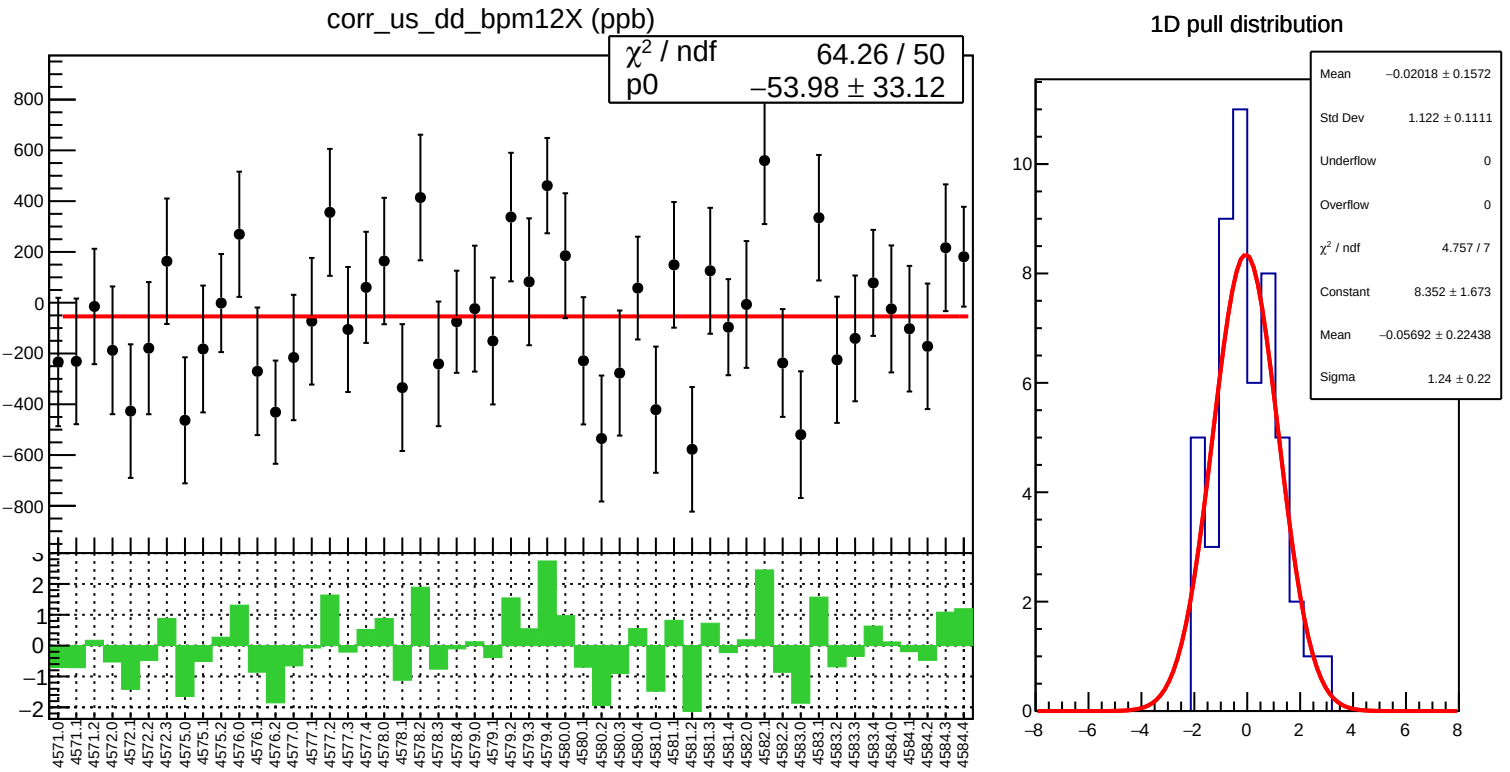

corr_us_dd_bpm16X (ppb)
χ² / ndf 31.34 / 50
p0 −20.85 ± 146.3
1D pull distribution
Mean 0.007519 ± 0.1098
Std Dev 0.7838 ± 0.07761
Underflow 0
Overflow 0
χ² / ndf 6.165 / 6
Constant 15.7 ± 2.9
Mean 0.01819 ± 0.09293
Sigma 0.6075 ± 0.0686

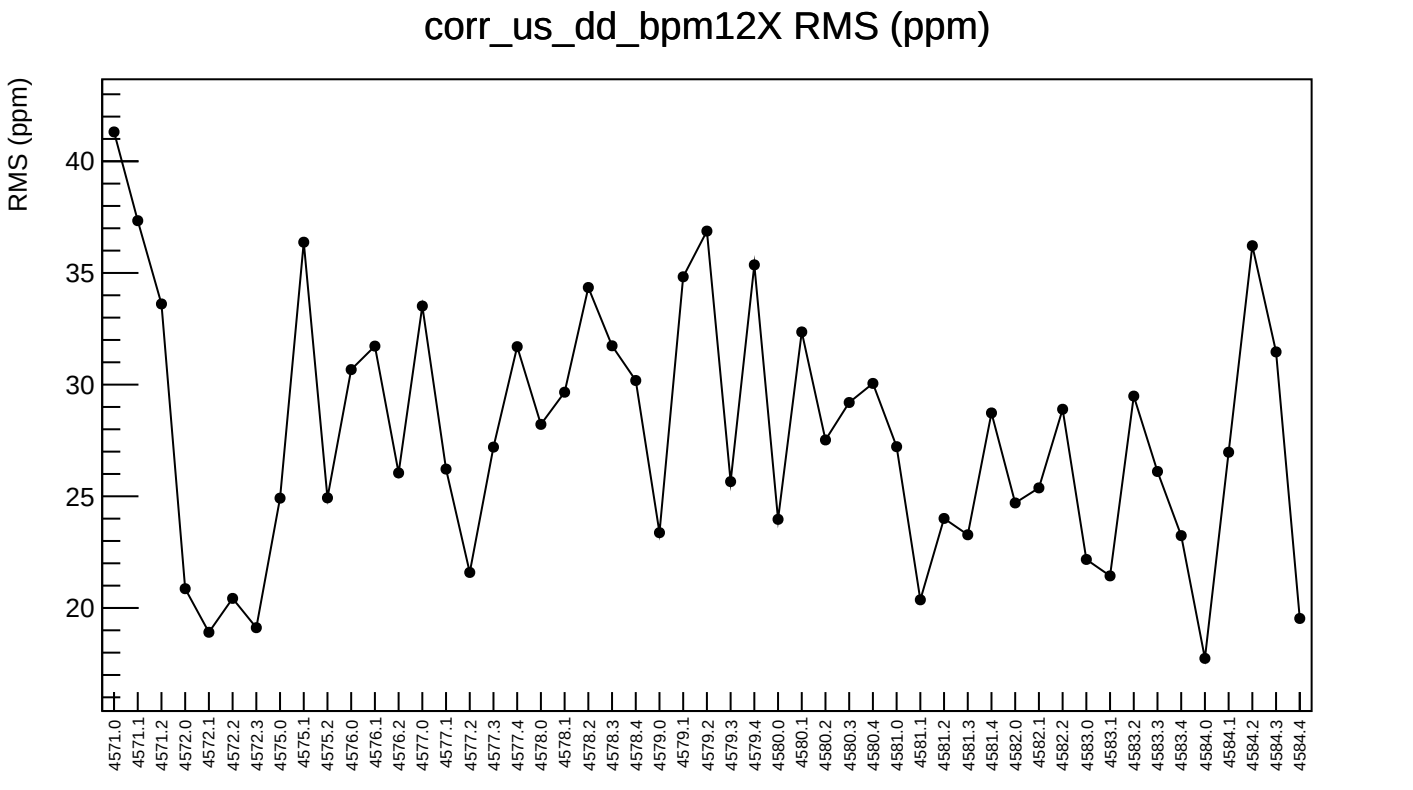

corr_us_dd_bpm16X RMS (ppm)
RMS (ppm)
120
100
80
60
40
20
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

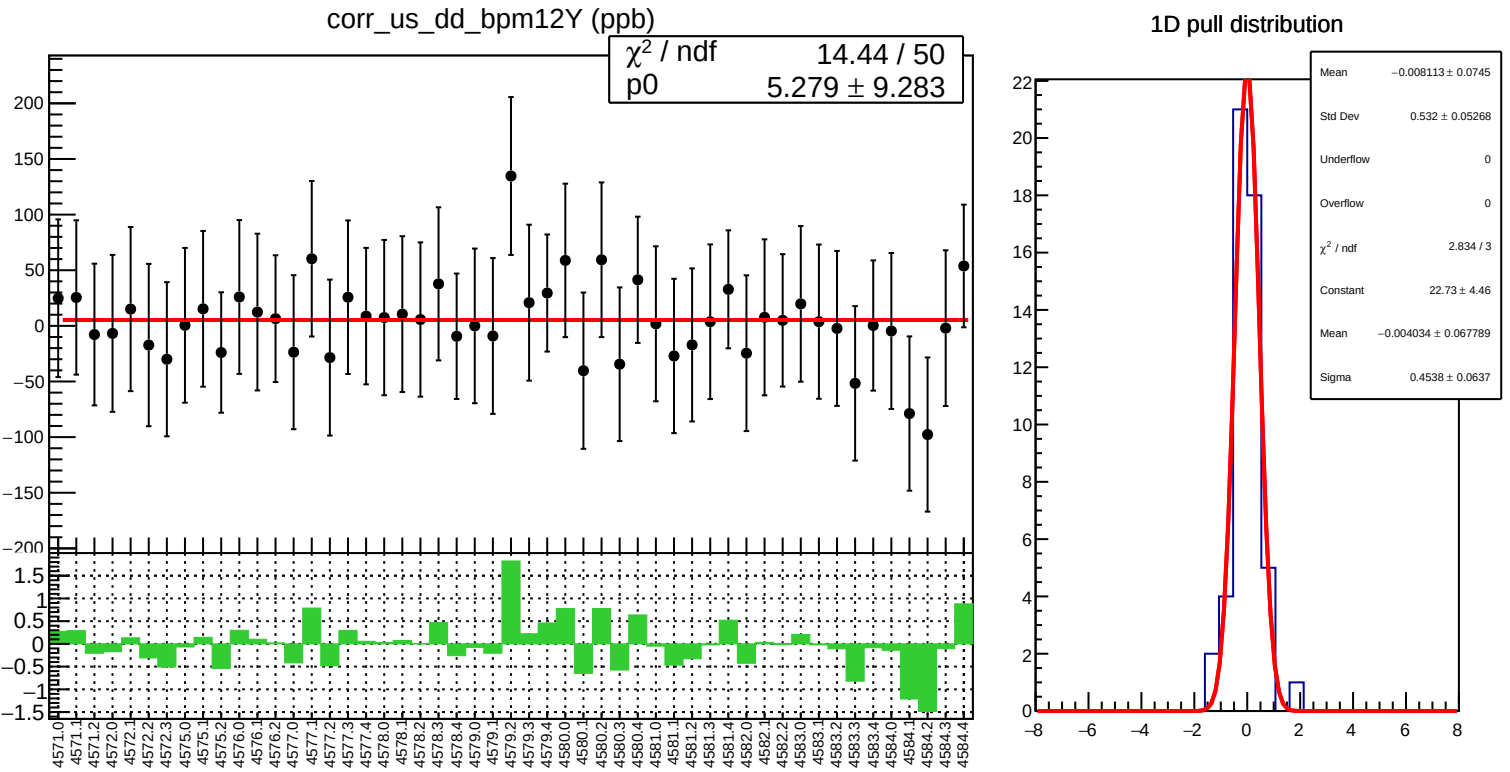

corr_us_dd_bpm16Y (ppb)
χ² / ndf 29.1 / 50
p0 −2.373 ± 6.736

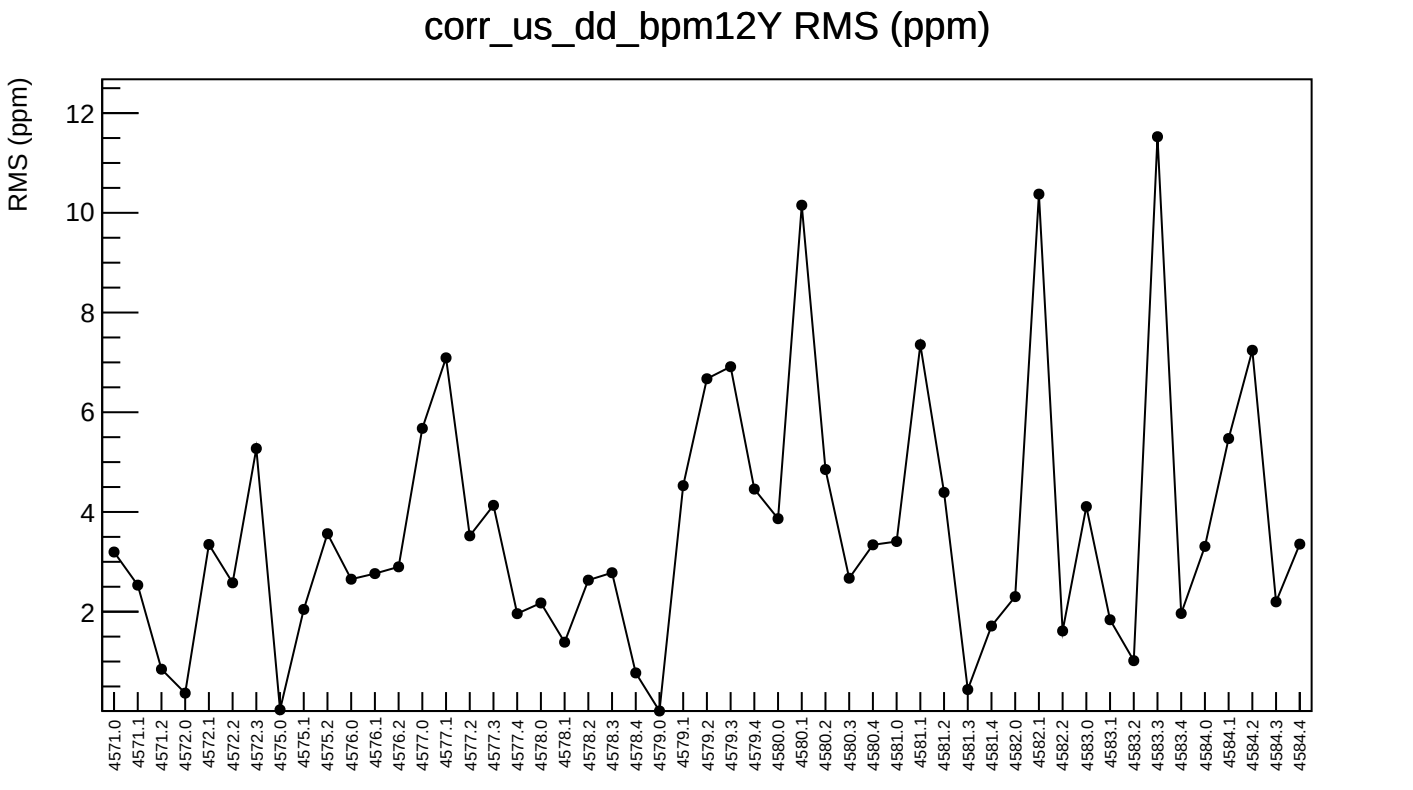

1D pull distribution
Mean 0.00107 ± 0.1058
Std Dev 0.7553 ± 0.07479
Underflow 0
Overflow 0
χ² / ndf 10.81 / 5
Constant 15.02 ± 5.32
Mean 0.09805 ± 0.13210
Sigma 0.5794 ± 0.2061

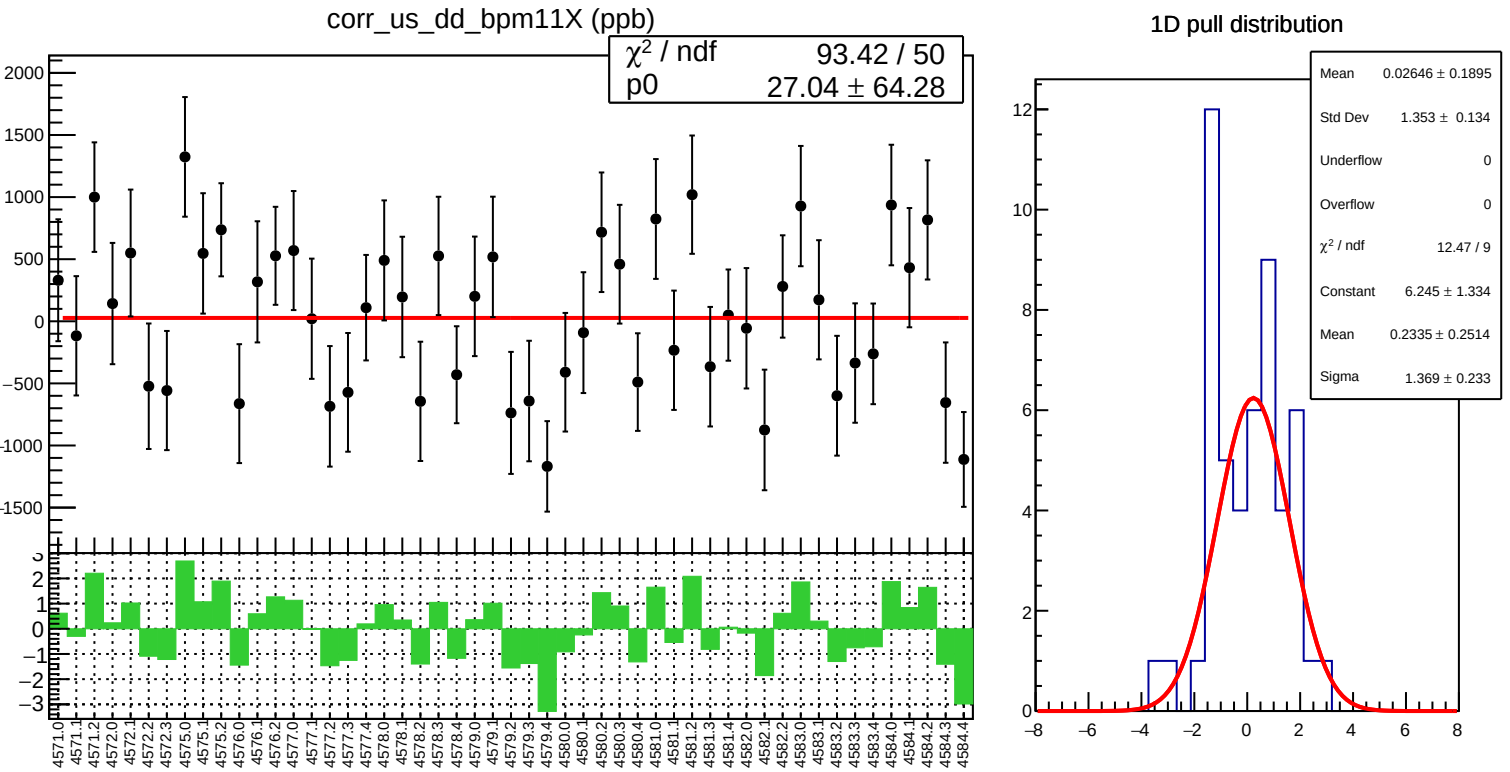

corr_us_dd_bpm16Y RMS (ppm)
RMS (ppm)
7
6
5
4
3
2
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

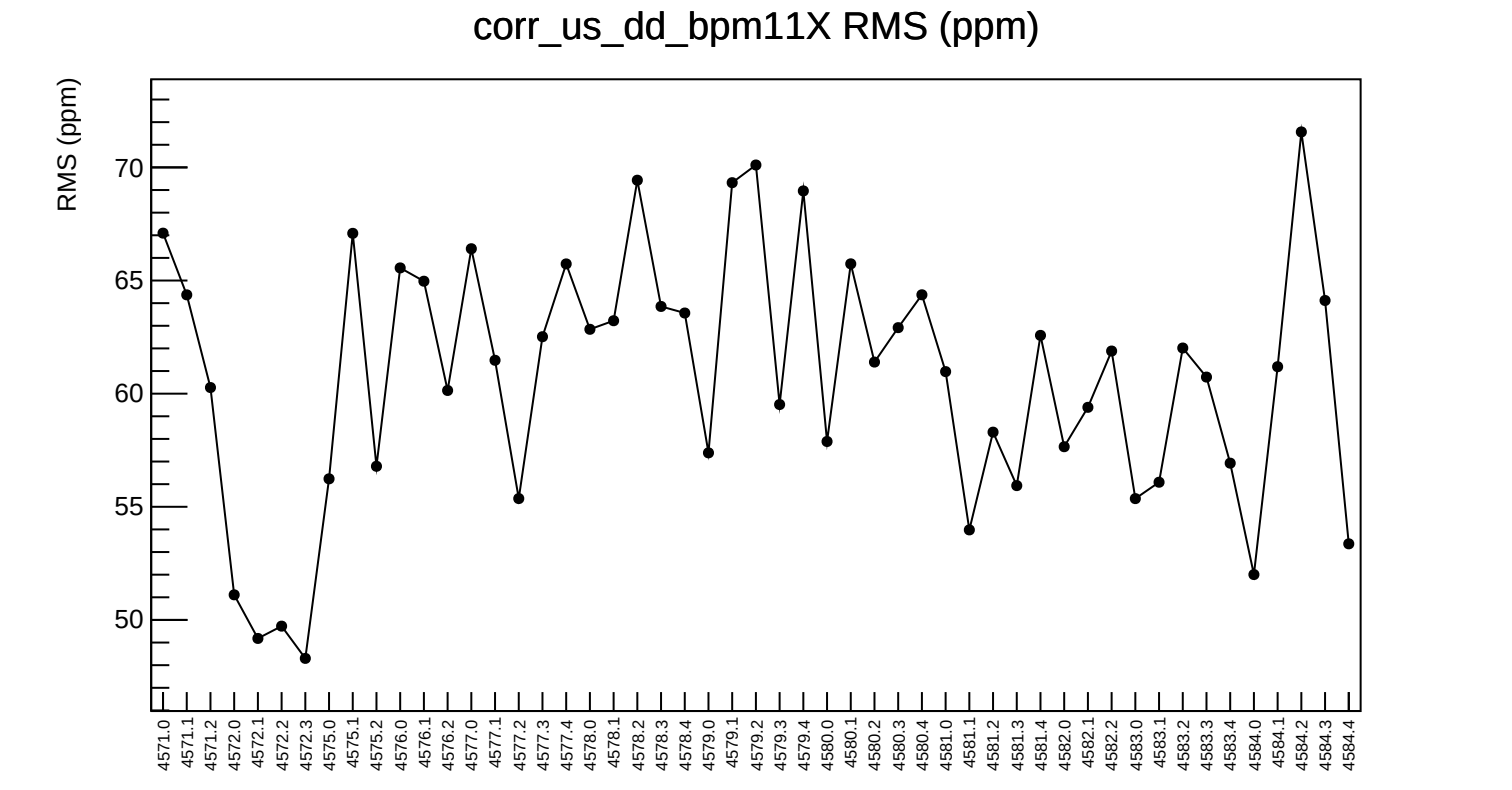

corr_us_dd_bpm12X (ppb)
χ² / ndf 64.26 / 50
p0 −53.98 ± 33.12
1D pull distribution
Mean −0.02018 ± 0.1572
Std Dev 1.122 ± 0.1111
Underflow 0
Overflow 0
χ² / ndf 4.757 / 7
Constant 8.352 ± 1.673
Mean −0.05692 ± 0.22438
Sigma 1.24 ± 0.22

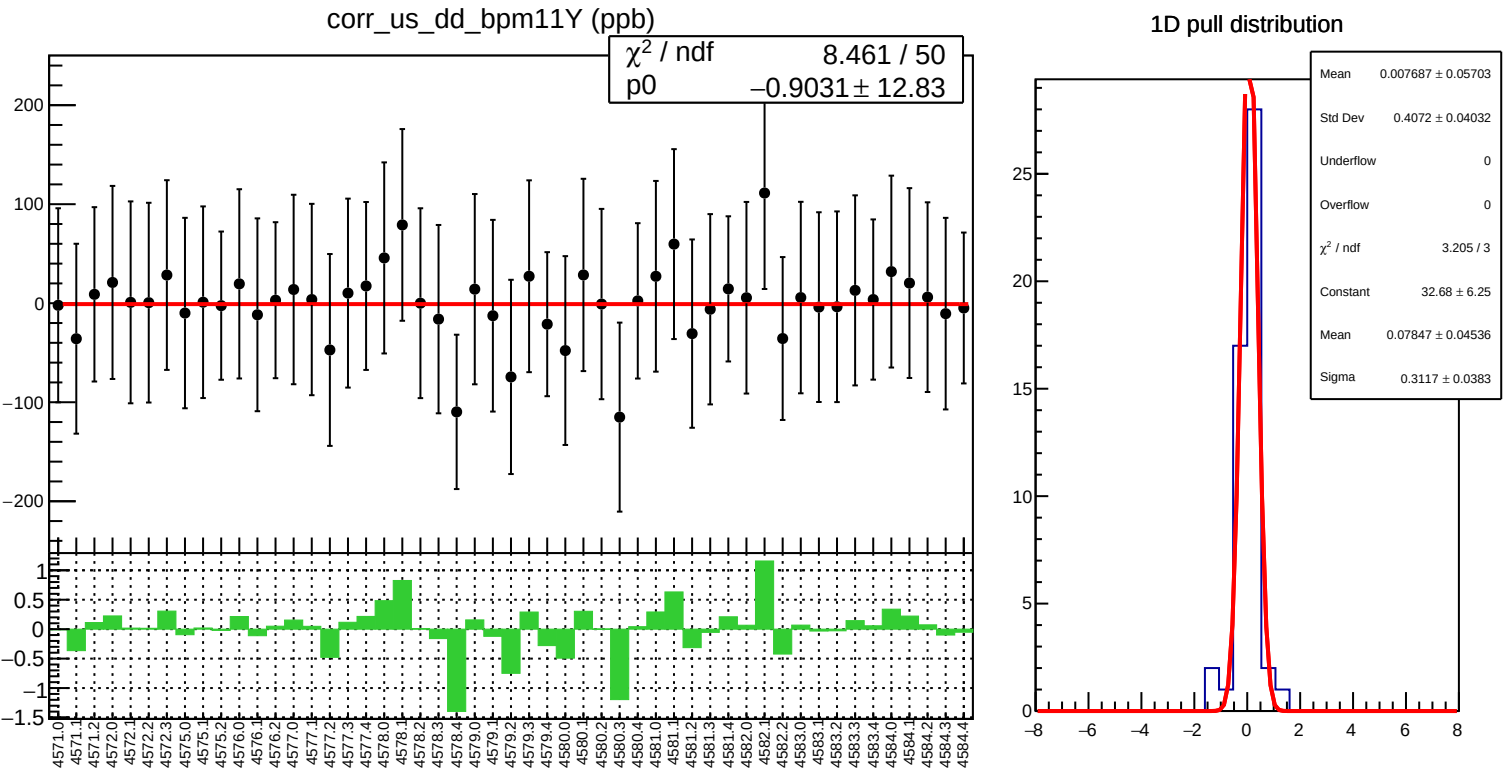

corr_us_dd_bpm12X RMS (ppm)
RMS (ppm)
40
35
30
25
20
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

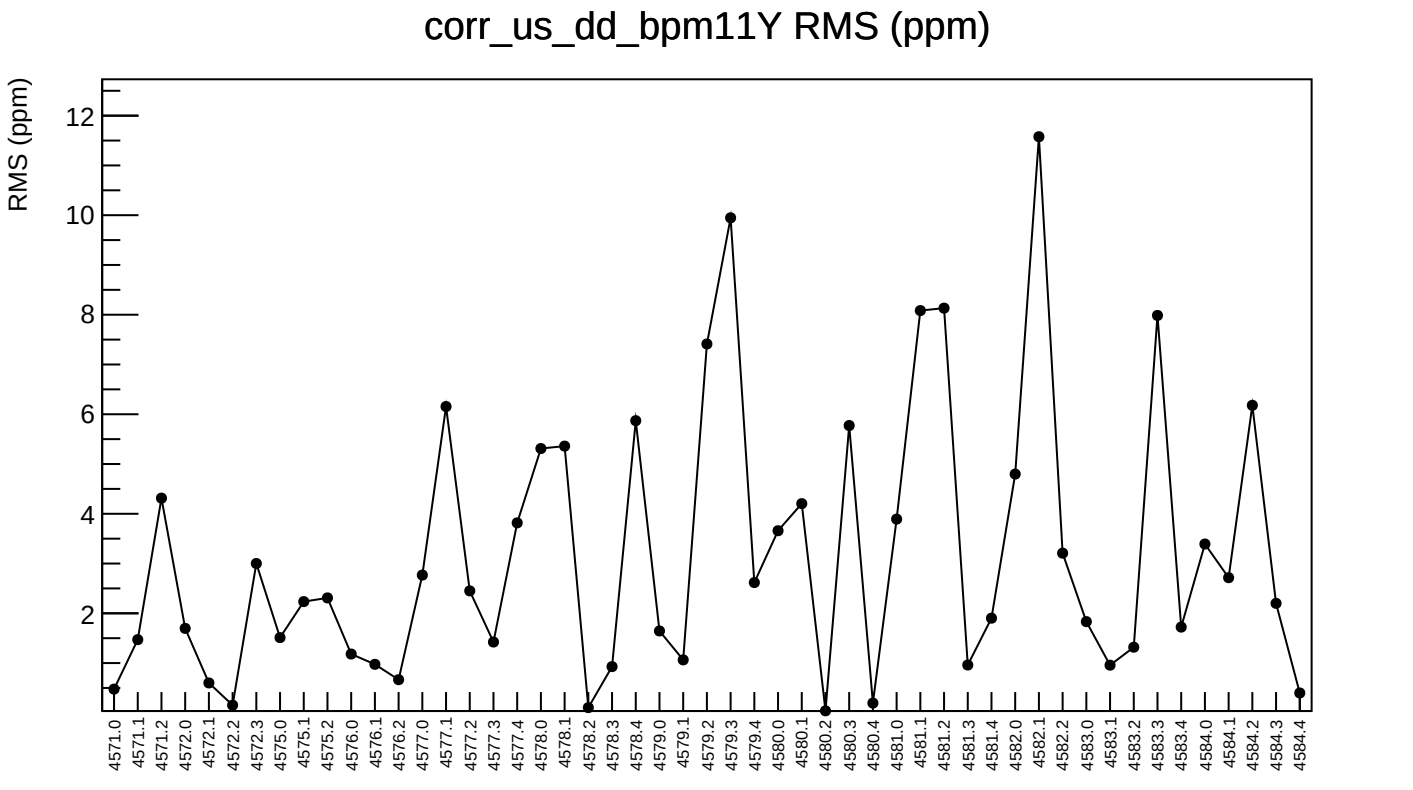

corr_us_dd_bpm12Y (ppb)
χ² / ndf 14.44 / 50
p0 5.279 ± 9.283
1D pull distribution
Mean −0.008113 ± 0.0745
Std Dev 0.532 ± 0.05268
Underflow 0
Overflow 0
χ² / ndf 2.834 / 3
Constant 22.73 ± 4.46
Mean −0.004034 ± 0.067789
Sigma 0.4538 ± 0.0637

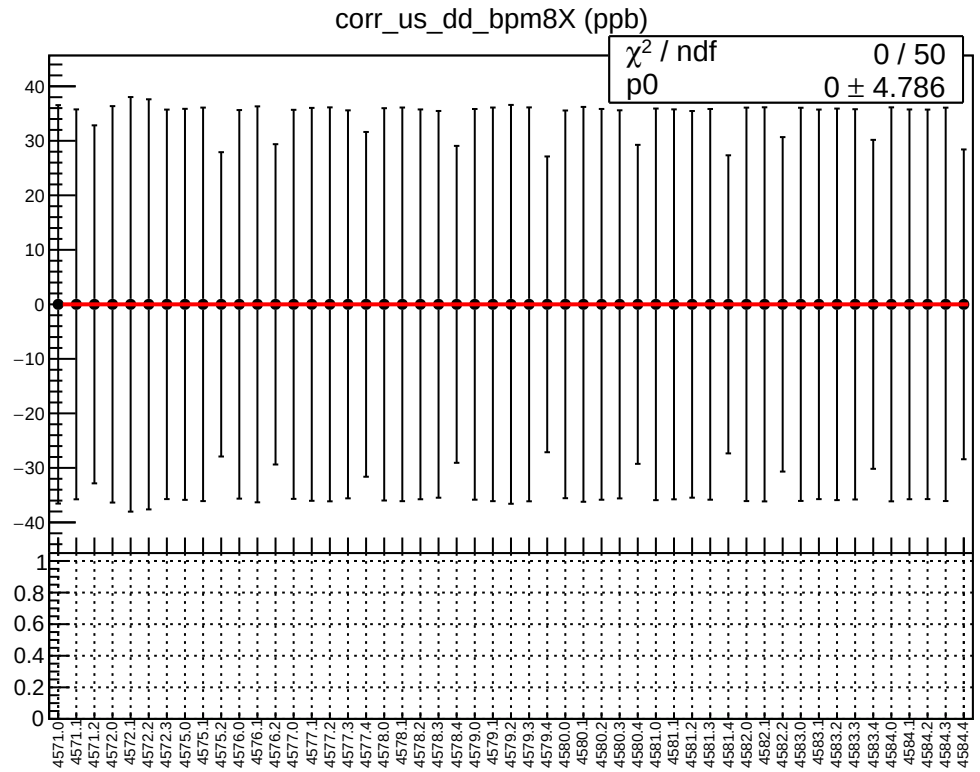

corr_us_dd_bpm12Y RMS (ppm)
RMS (ppm)
12
10
8
6
4
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

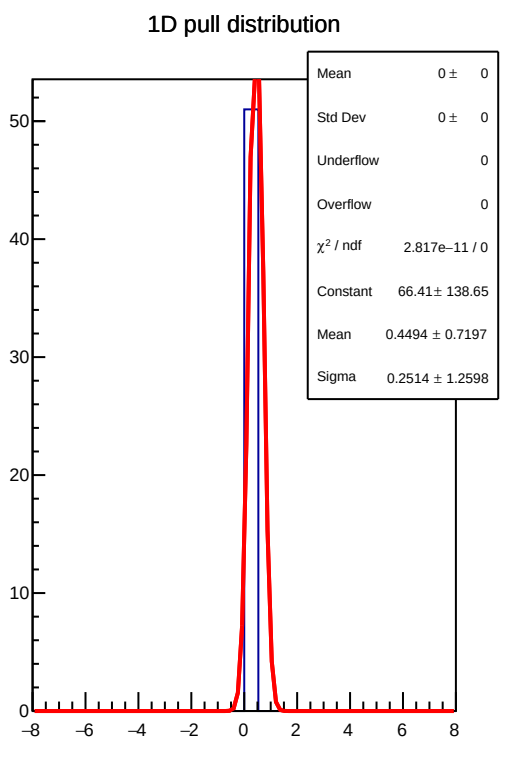

corr_us_dd_bpm11X (ppb)
χ² / ndf 93.42 / 50
p0 27.04 ± 64.28
2000
1500
1000
500
0
−500
−1000
−1500
3
2
1
0
−1
−2
−3
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean 0.02646 ± 0.1895
Std Dev 1.353 ± 0.134
Underflow 0
Overflow 0
χ² / ndf 12.47 / 9
Constant 6.245 ± 1.334
Mean 0.2335 ± 0.2514
Sigma 1.369 ± 0.233
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

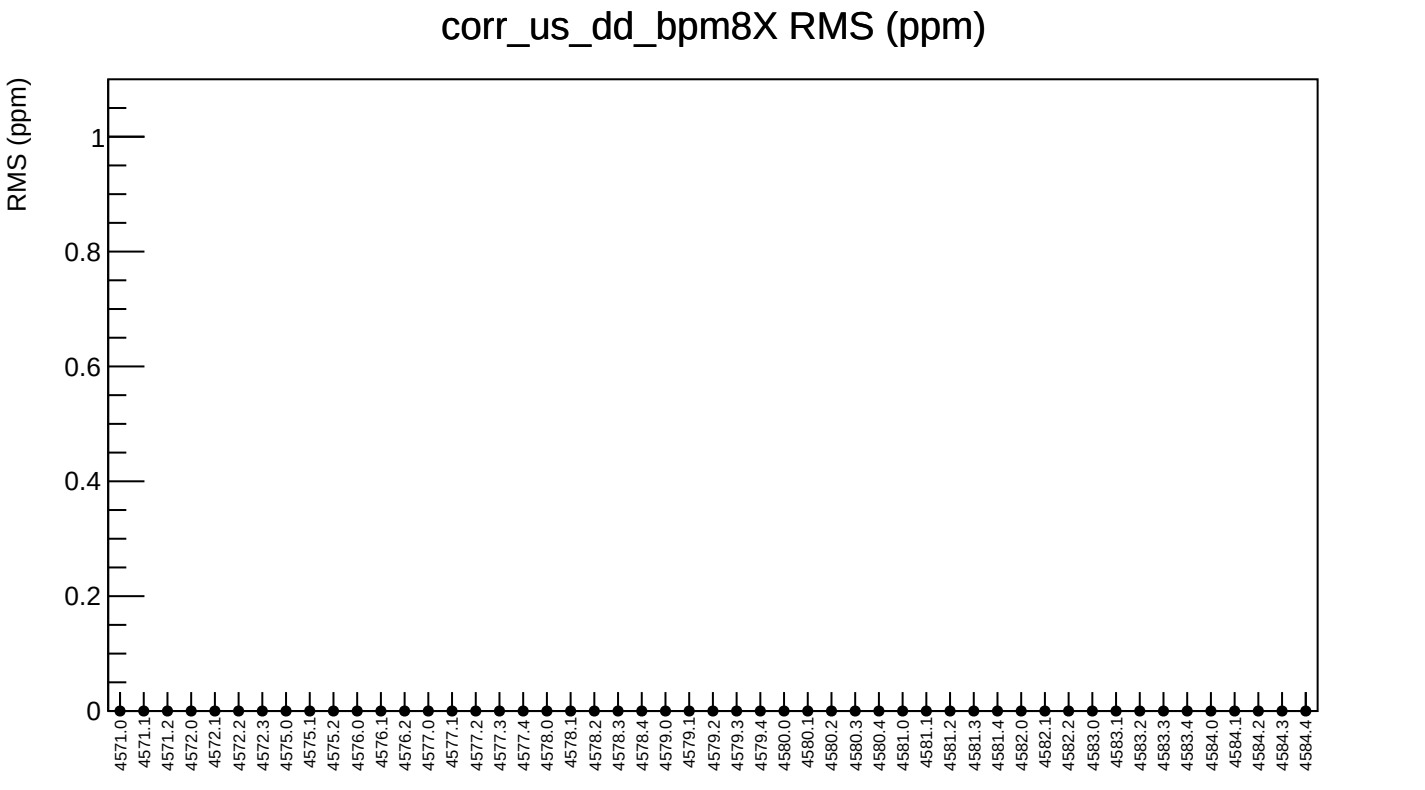

corr_us_dd_bpm11X RMS (ppm)
RMS (ppm)
70
65
60
55
50
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

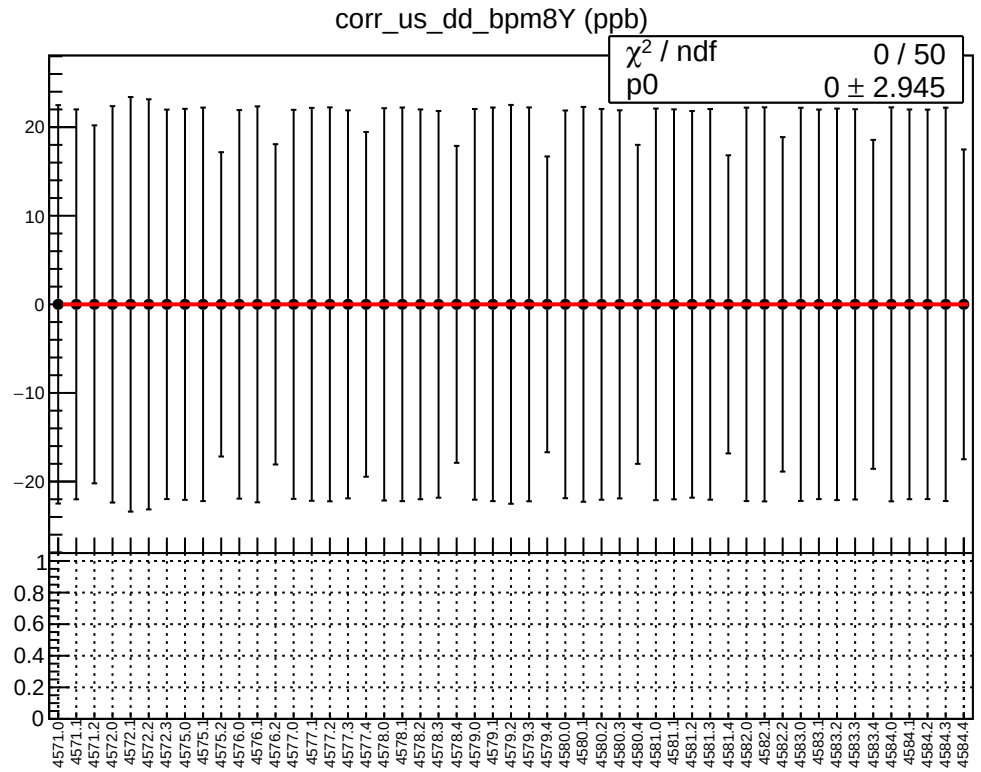

corr_us_dd_bpm11Y (ppb)
χ² / ndf 8.461 / 50
p0 −0.9031 ± 12.83
200
100
0
−100
−200
1
0.5
0
−0.5
−1
−1.5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean 0.007687 ± 0.05703
Std Dev 0.4072 ± 0.04032
Underflow 0
Overflow 0
χ² / ndf 3.205 / 3
Constant 32.68 ± 6.25
Mean 0.07847 ± 0.04536
Sigma 0.3117 ± 0.0383
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

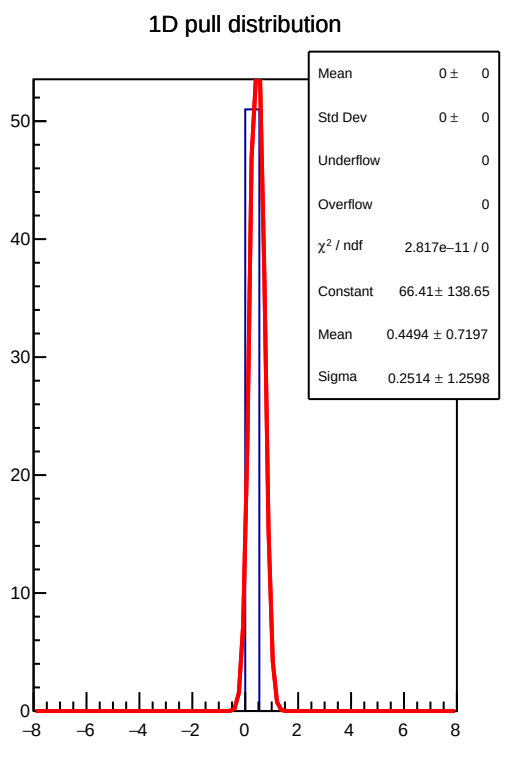

corr_us_dd_bpm11Y RMS (ppm)
RMS (ppm)
12
10
8
6
4
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

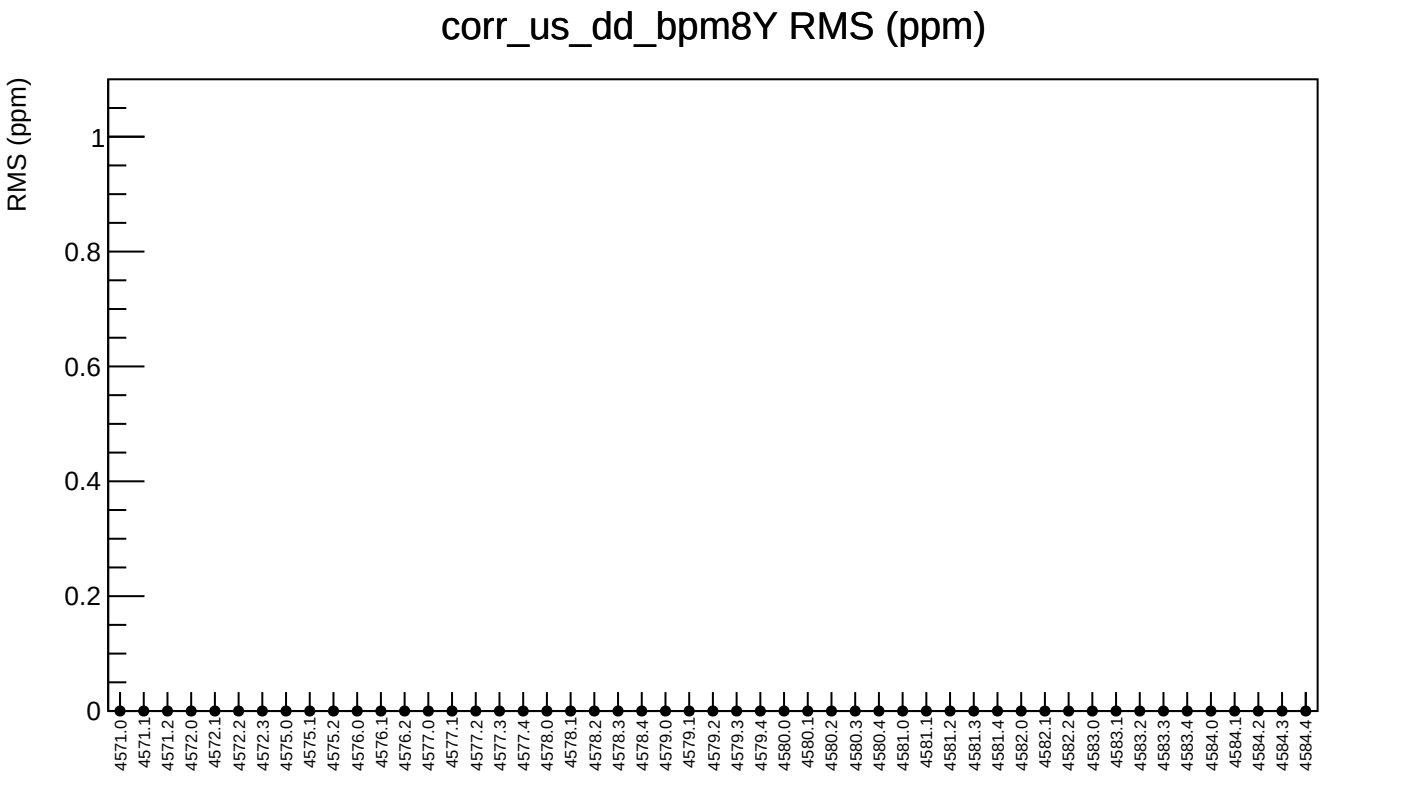

corr_us_dd_bpm8X (ppb)
χ² / ndf 0 / 50
p0 0 ± 4.786

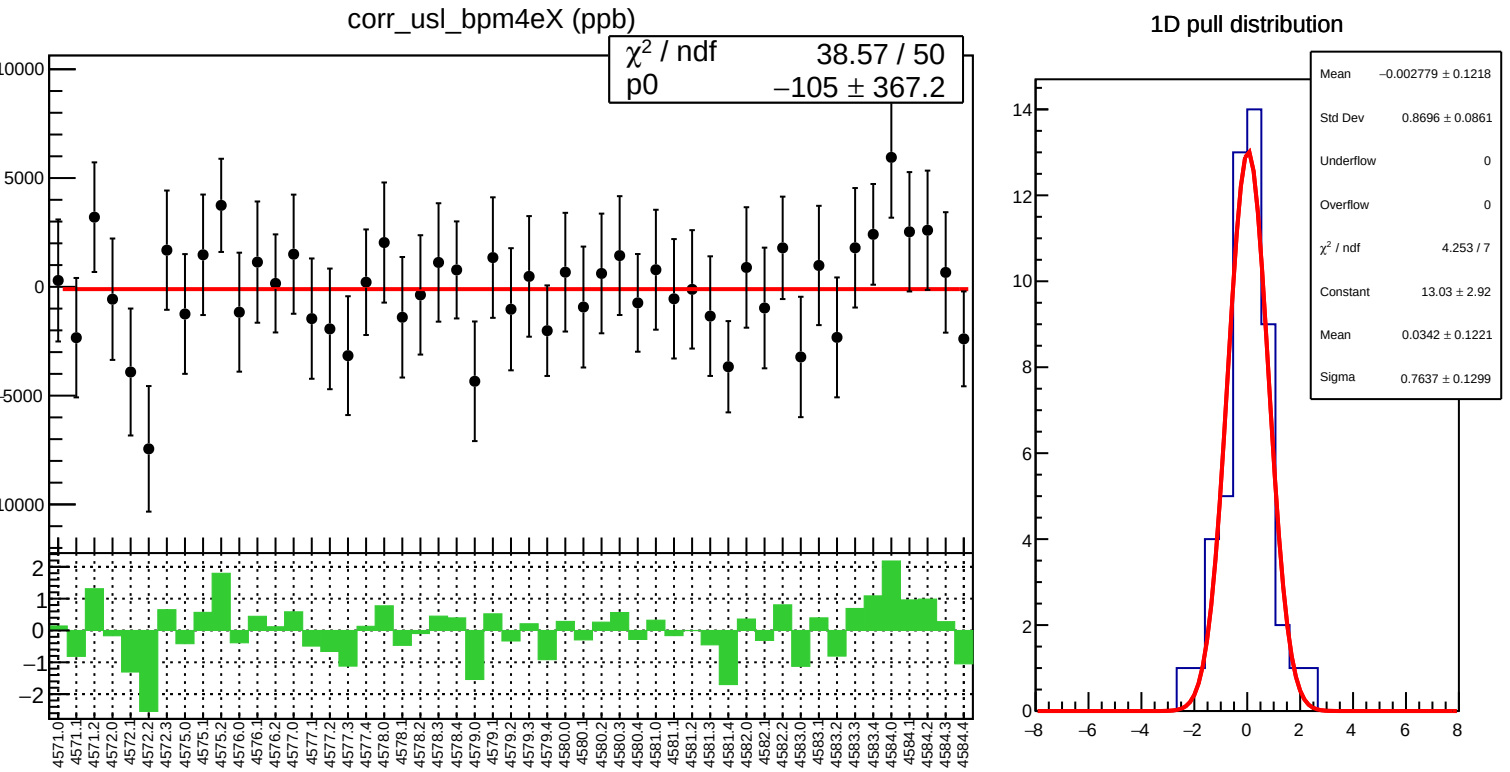

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41 ± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598

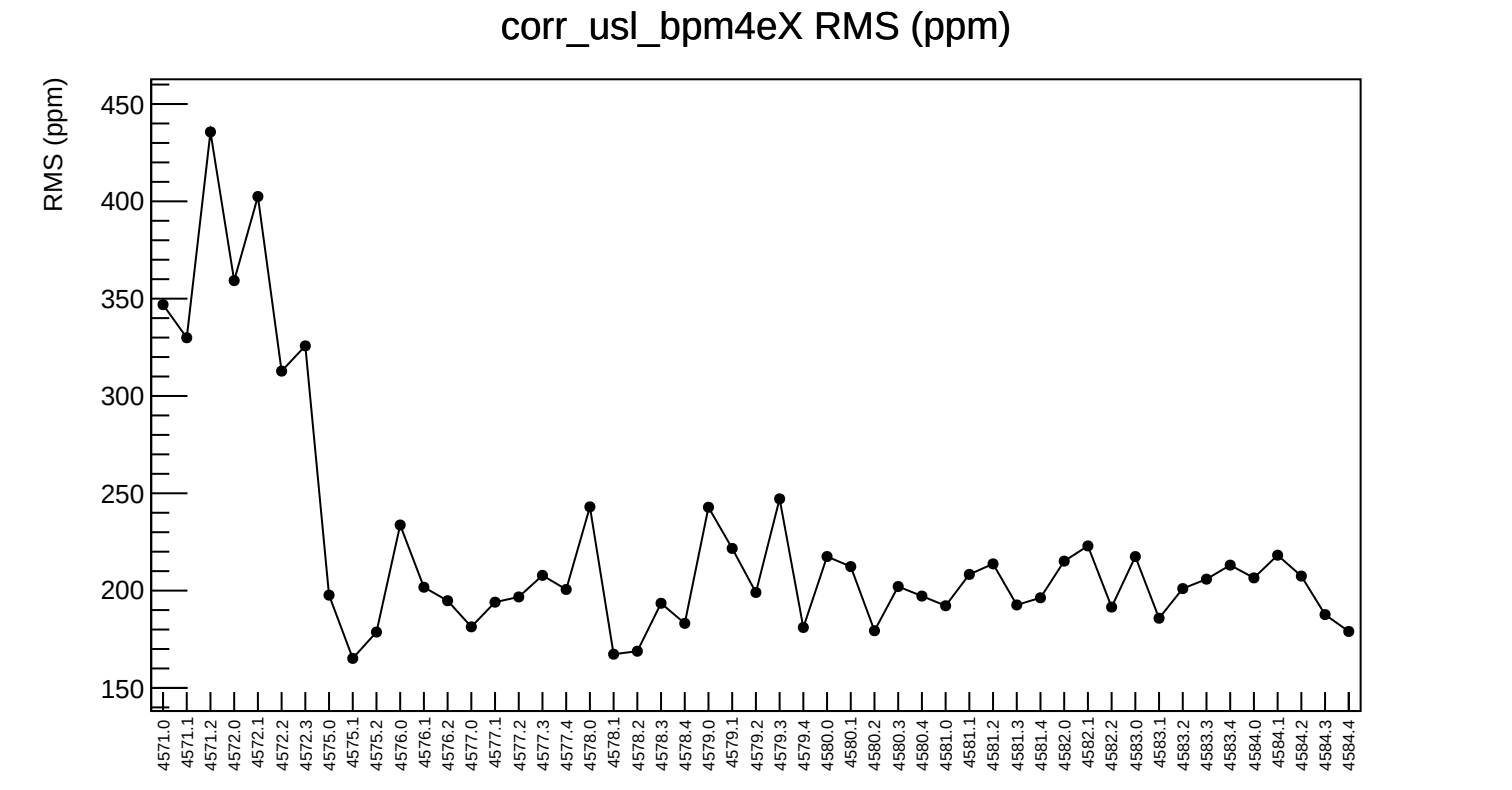

corr_us_dd_bpm8X RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

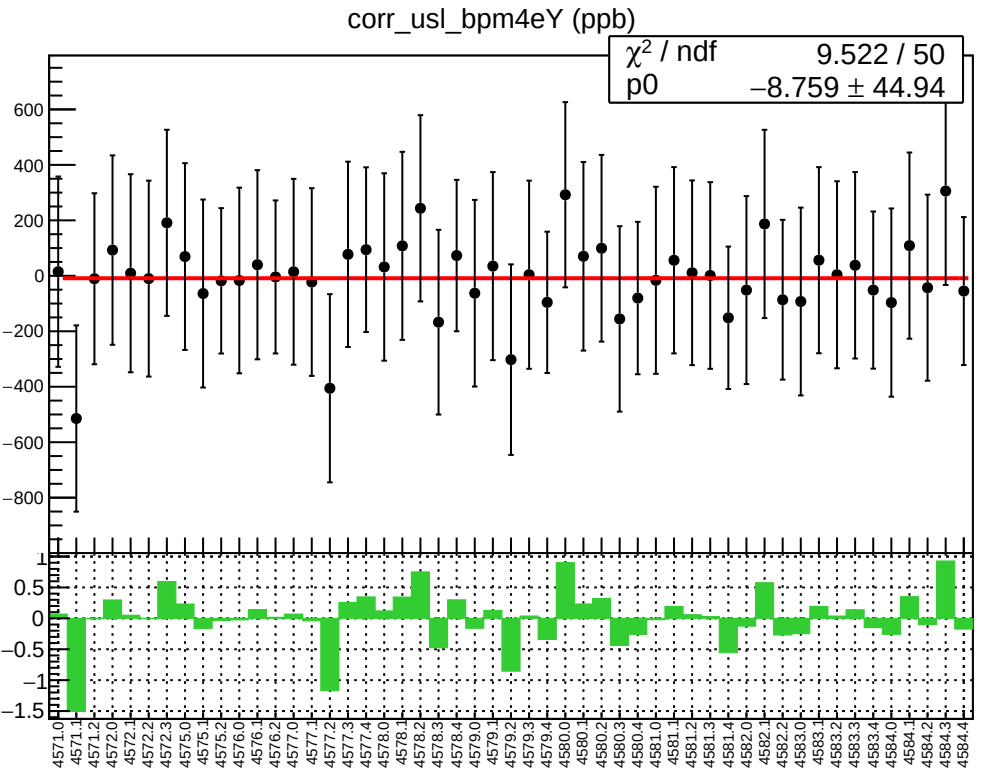

corr_us_dd_bpm8Y (ppb)
χ² / ndf 0 / 50
p0 0 ± 2.945

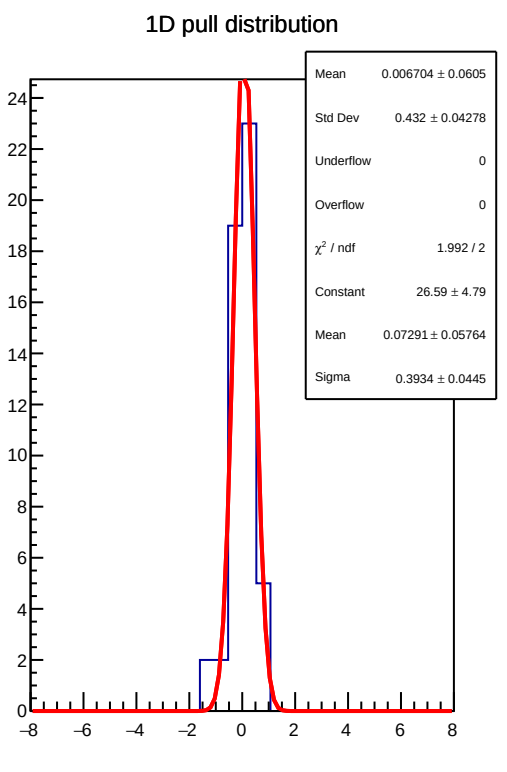

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41 ± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598

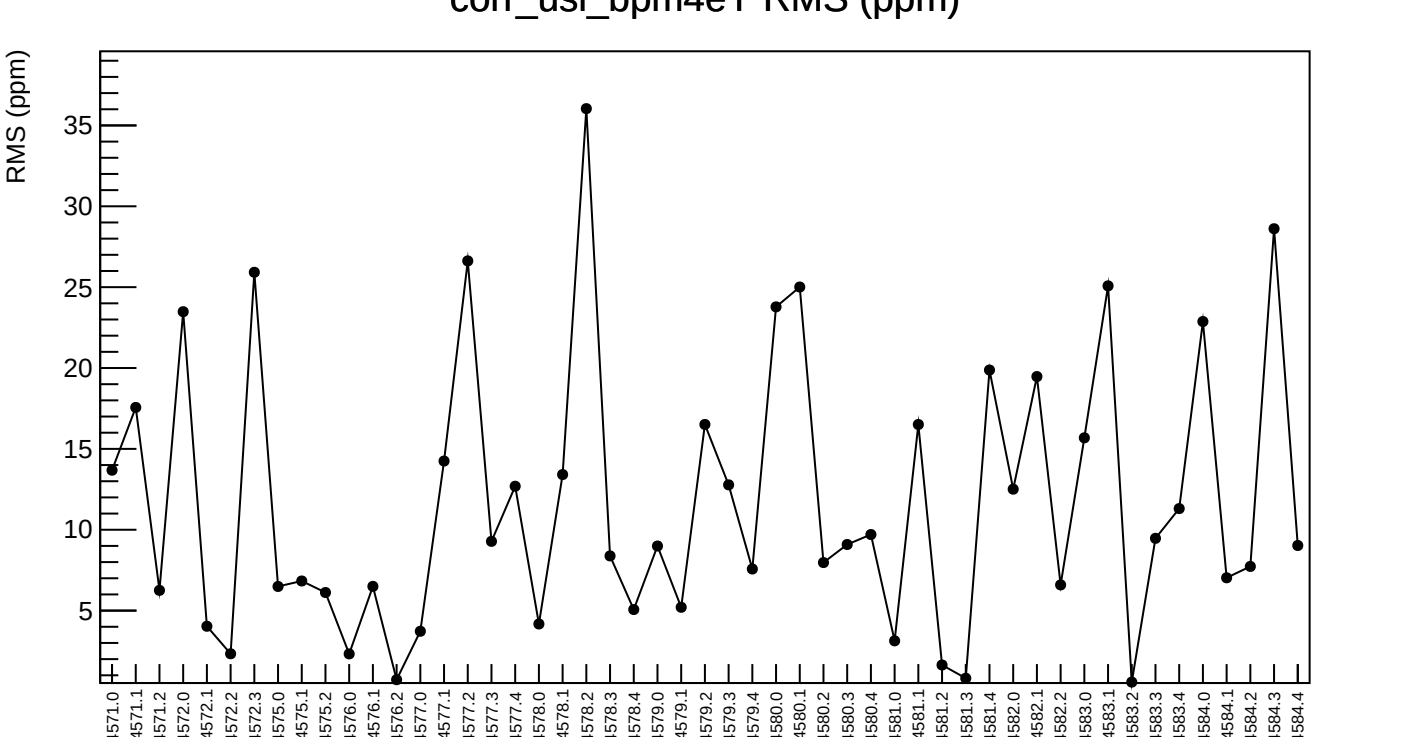

corr_us_dd_bpm8Y RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

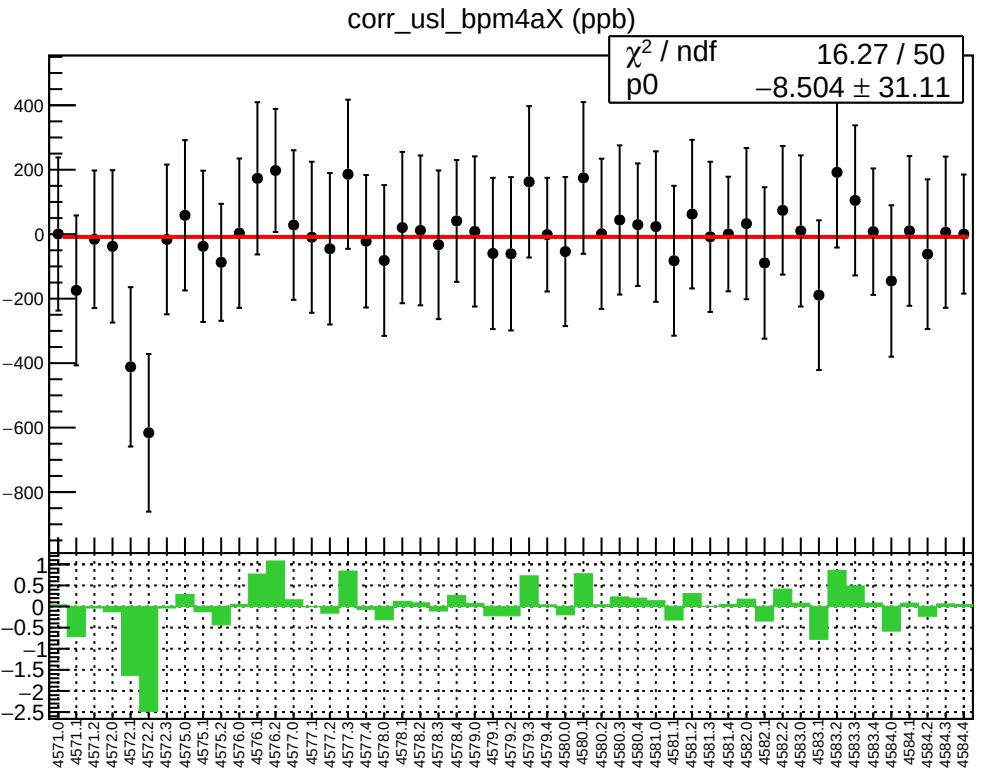

corr_usl_bpm4eX (ppb)
χ² / ndf 38.57 / 50
p0 −105 ± 367.2
10000
5000
0
−5000
−10000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean −0.002779 ± 0.1218
Std Dev 0.8696 ± 0.0861
Underflow 0
Overflow 0
χ² / ndf 4.253 / 7
Constant 13.03 ± 2.92
Mean 0.0342 ± 0.1221
Sigma 0.7637 ± 0.1299
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

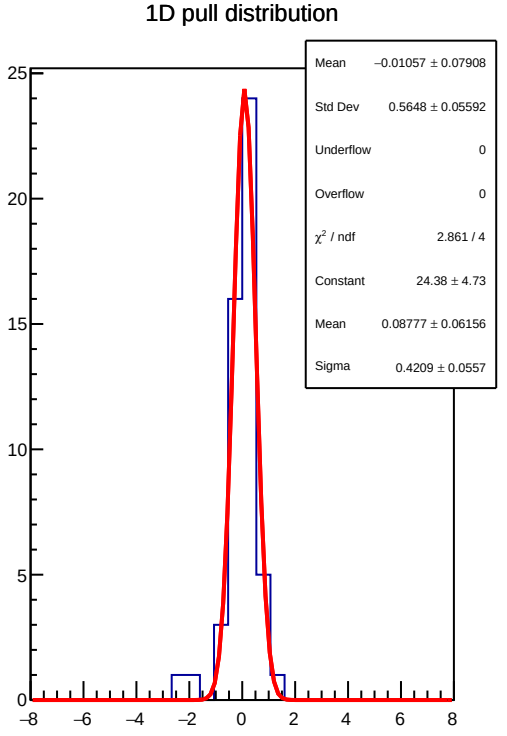

corr_usl_bpm4eX RMS (ppm)
RMS (ppm)
450
400
350
300
250
200
150
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

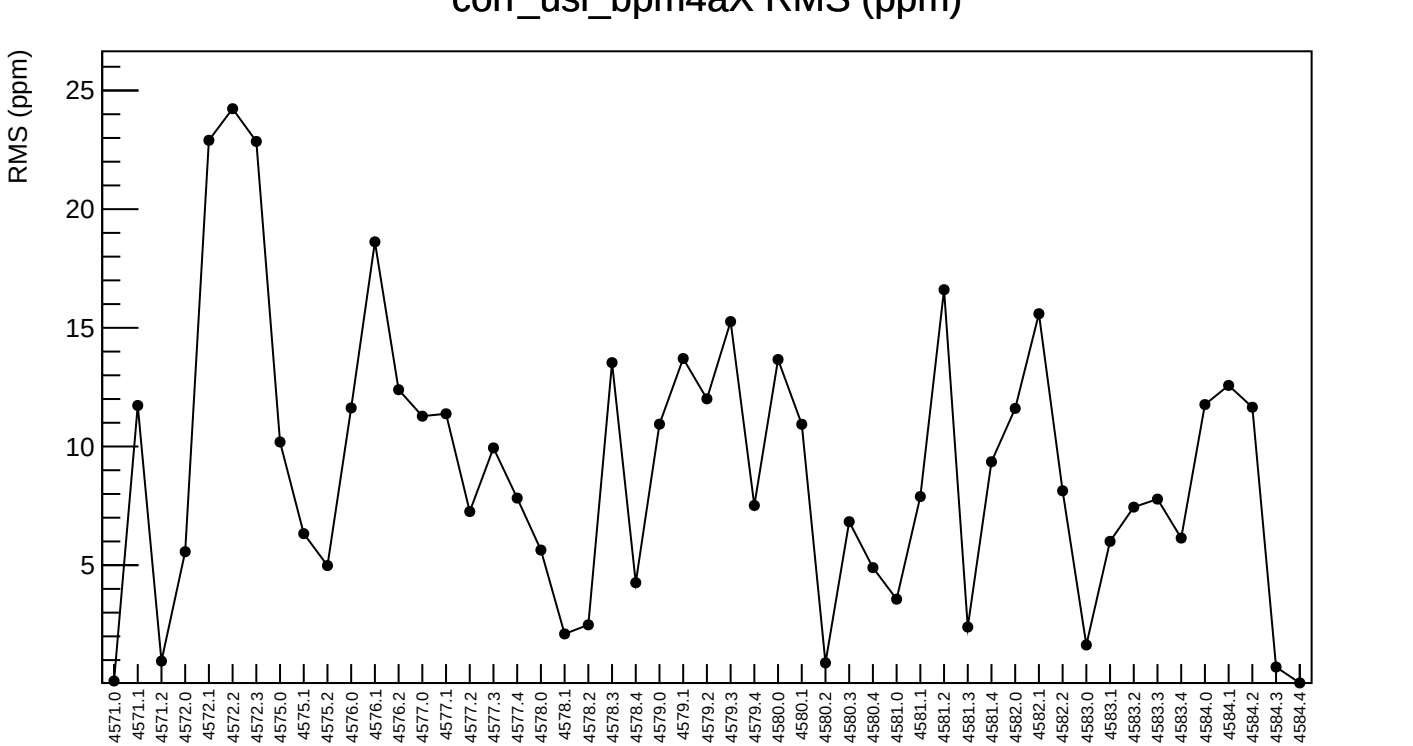

corr_usl_bpm4eY (ppb)
χ² / ndf 9.522 / 50
p0 −8.759 ± 44.94
600
400
200
0
−200
−400
−600
−800
1
0.5
0
−0.5
−1
−1.5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

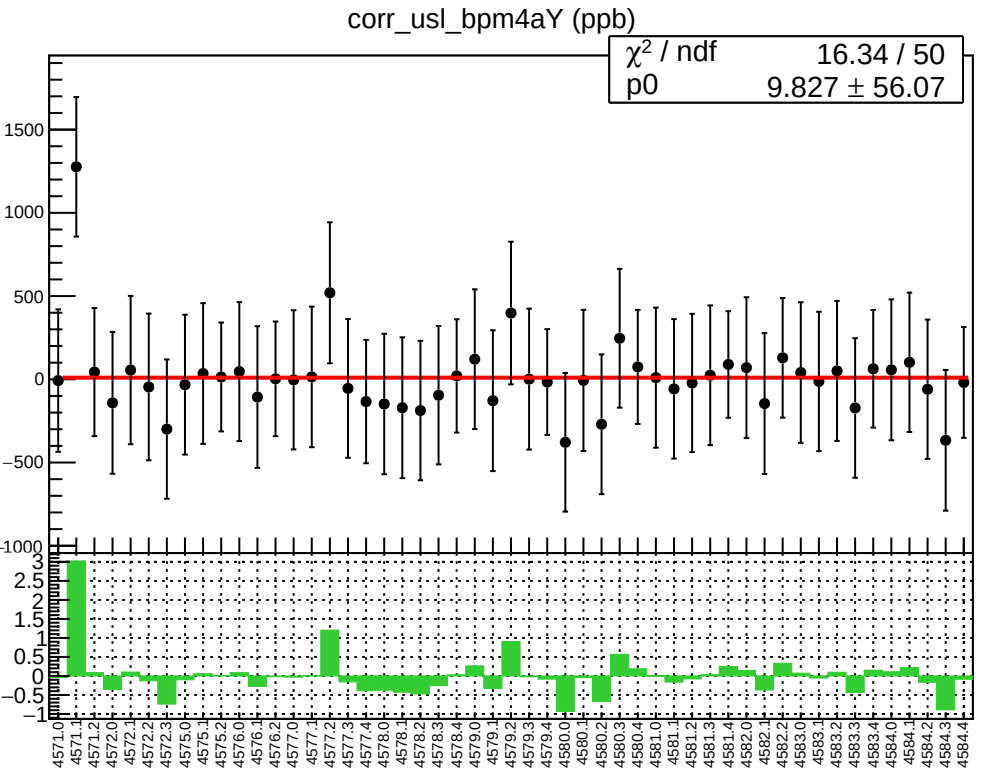

1D pull distribution
Mean 0.006704 ± 0.0605
Std Dev 0.432 ± 0.04278
Underflow 0
Overflow 0
χ² / ndf 1.992 / 2
Constant 26.59 ± 4.79
Mean 0.07291 ± 0.05764
Sigma 0.3934 ± 0.0445
24
22
20
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

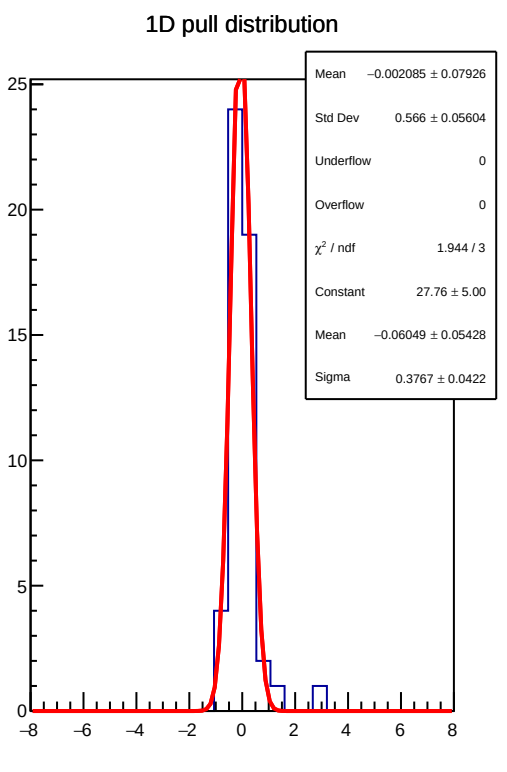

corr_usl_bpm4eY RMS (ppm)
RMS (ppm)
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

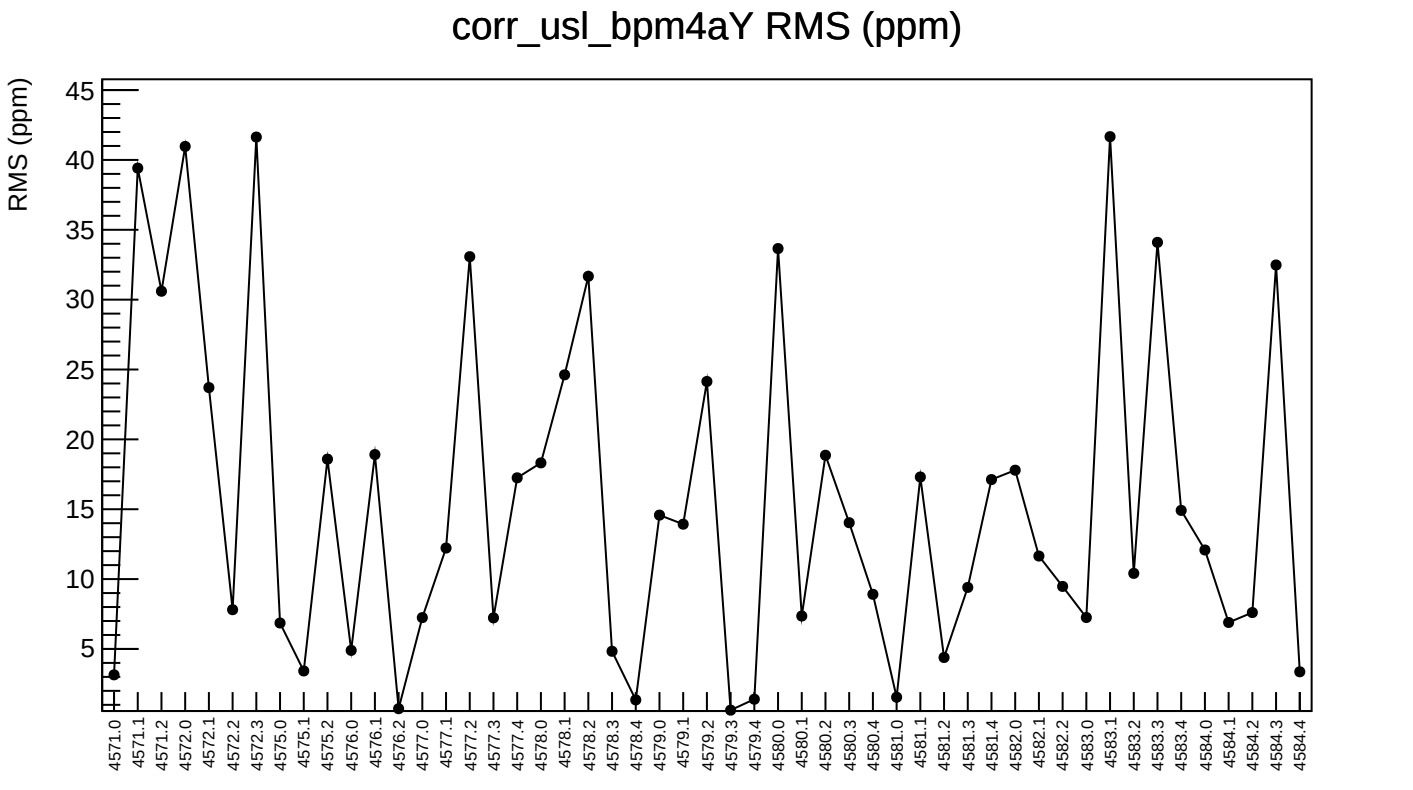

corr_usl_bpm4aX (ppb)
χ² / ndf 16.27 / 50
p0 −8.504 ± 31.11
400
200
0
−200
−400
−600
−800
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

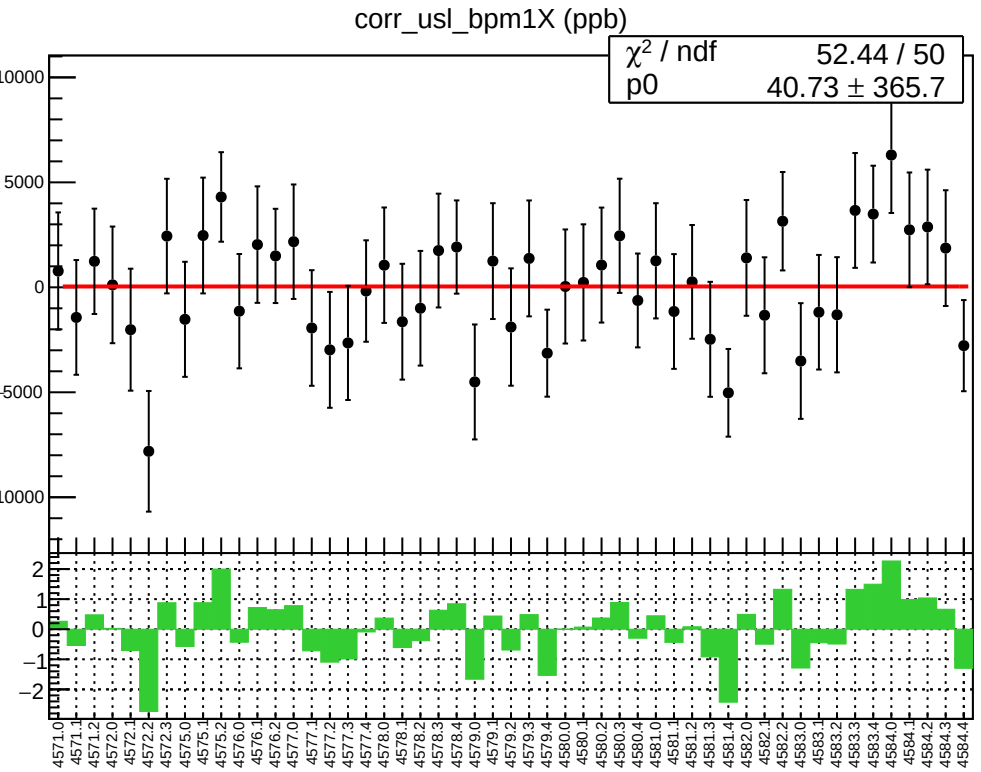

1D pull distribution
Mean −0.01057 ± 0.07908
Std Dev 0.5648 ± 0.05592
Underflow 0
Overflow 0
χ² / ndf 2.861 / 4
Constant 24.38 ± 4.73
Mean 0.08777 ± 0.06156
Sigma 0.4209 ± 0.0557
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

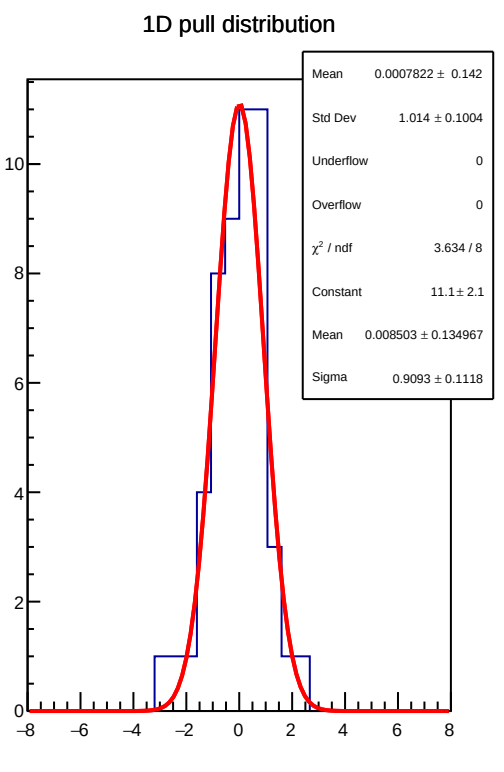

corr_usl_bpm4aX RMS (ppm)
RMS (ppm)
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

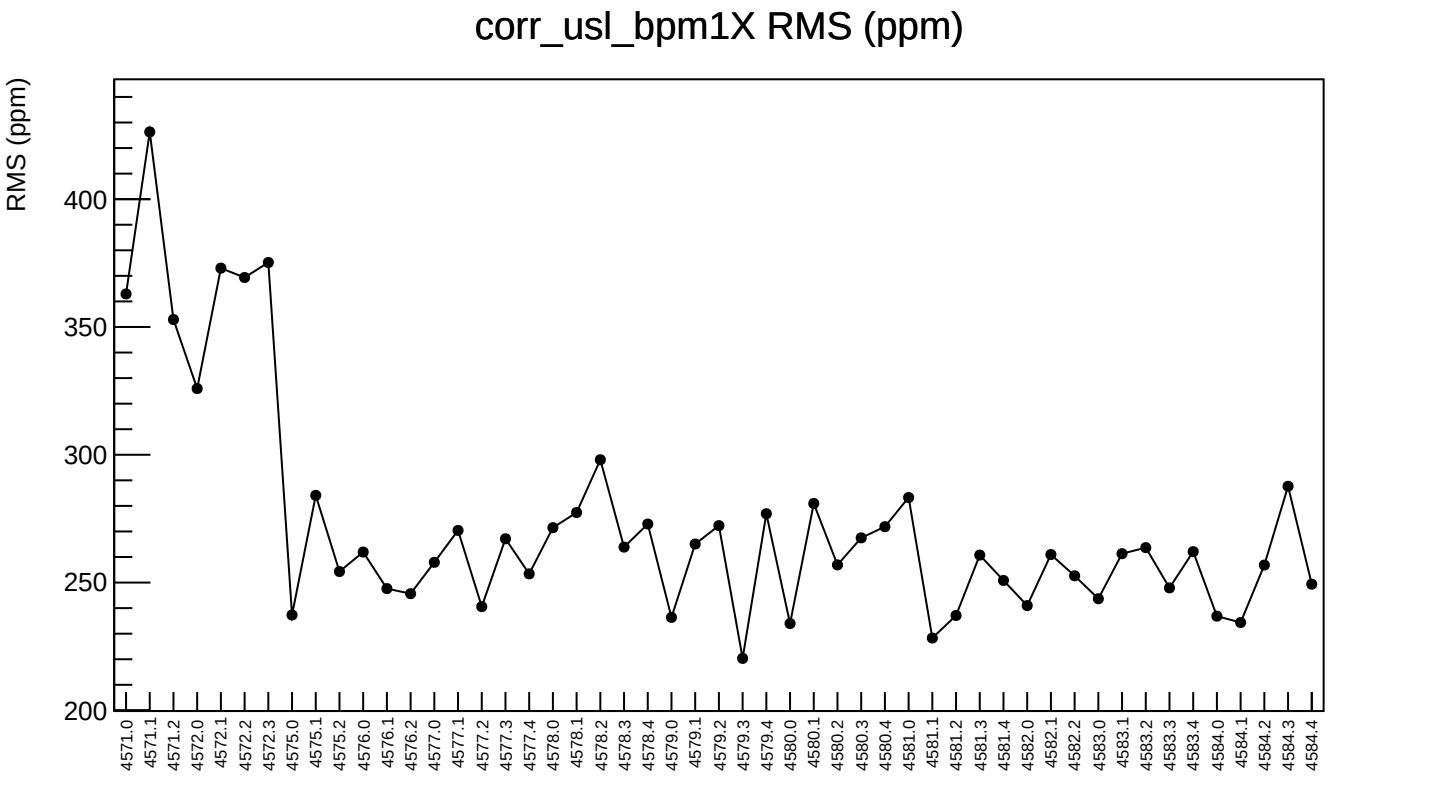

corr_usl_bpm4aY (ppb)
χ² / ndf 16.34 / 50
p0 9.827 ± 56.07

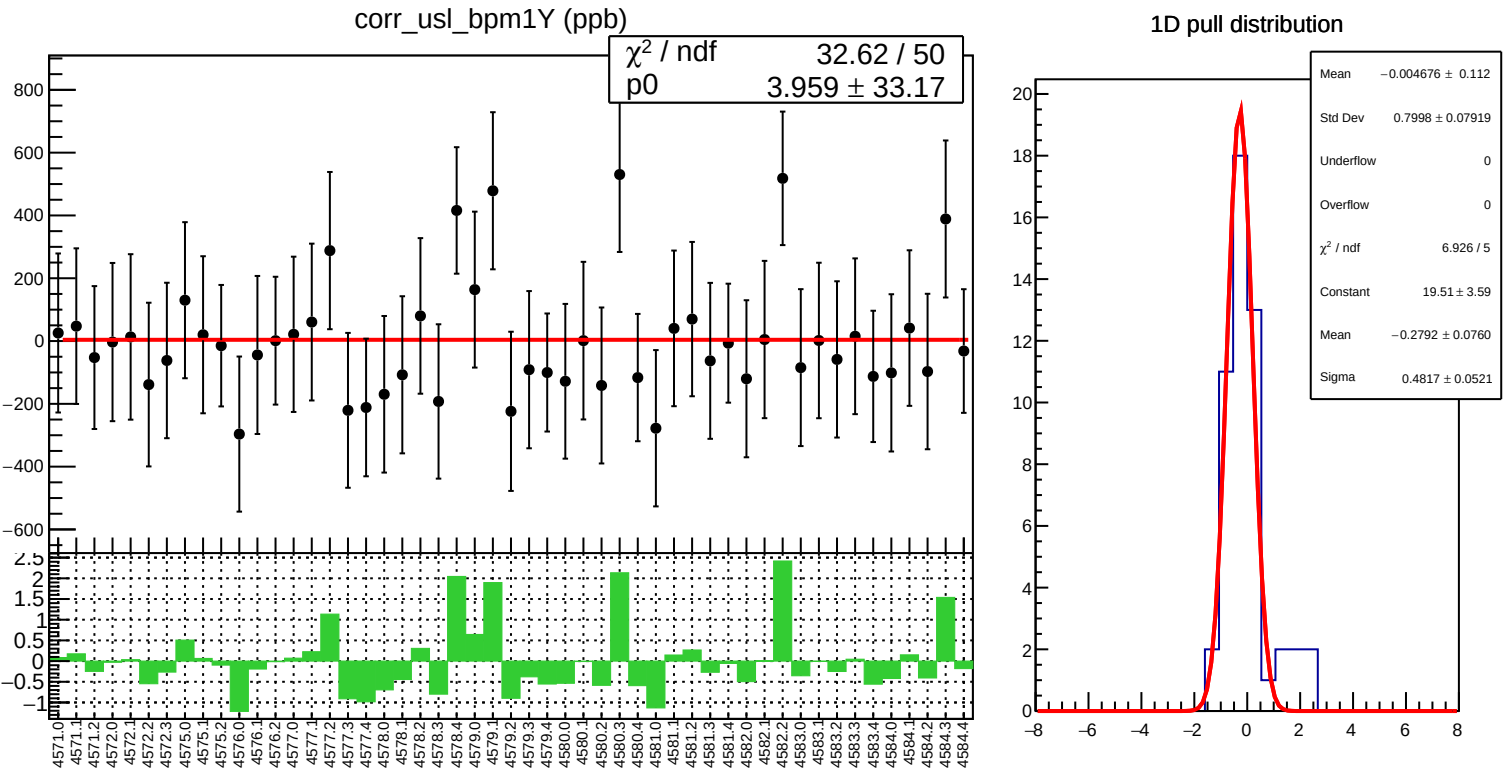

1D pull distribution
Mean −0.002085 ± 0.07926
Std Dev 0.566 ± 0.05604
Underflow 0
Overflow 0
χ² / ndf 1.944 / 3
Constant 27.76 ± 5.00
Mean −0.06049 ± 0.05428
Sigma 0.3767 ± 0.0422

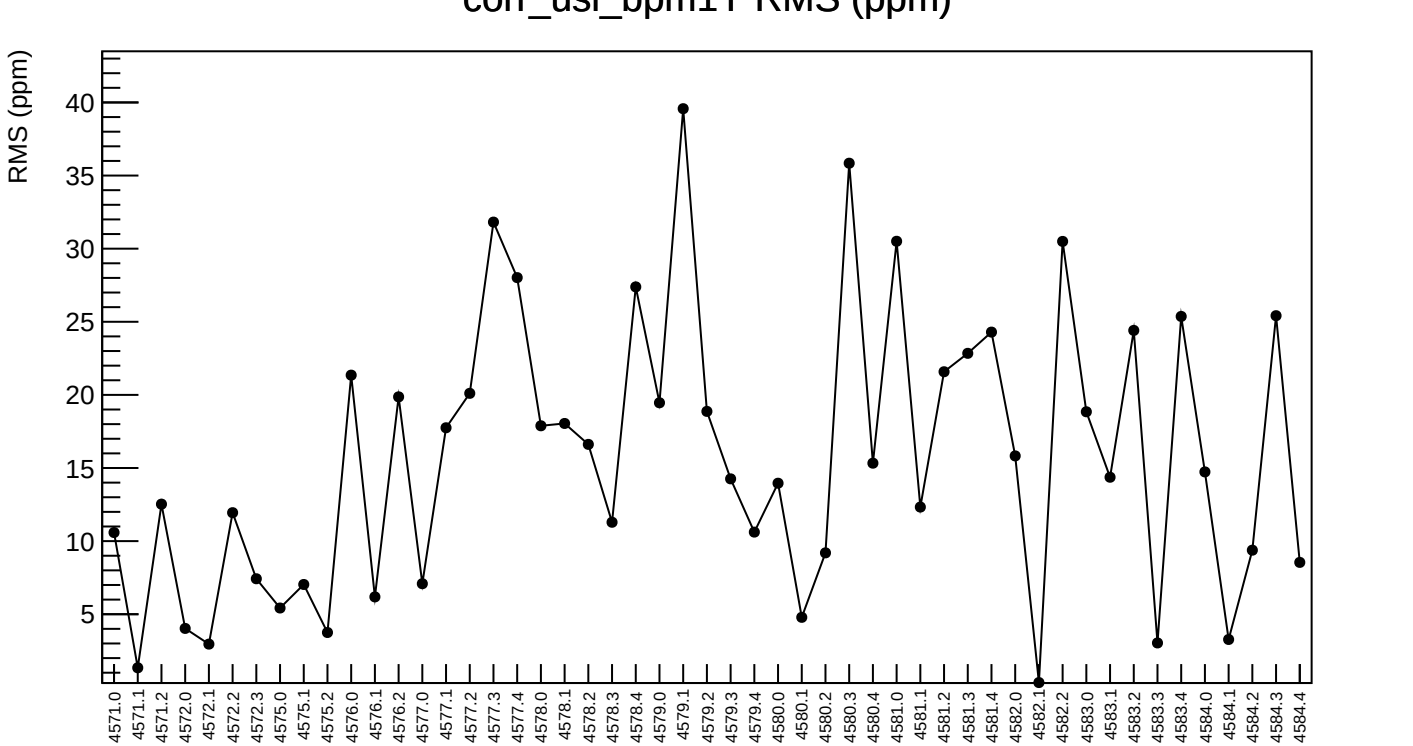

corr_usl_bpm4aY RMS (ppm)
RMS (ppm)
45
40
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

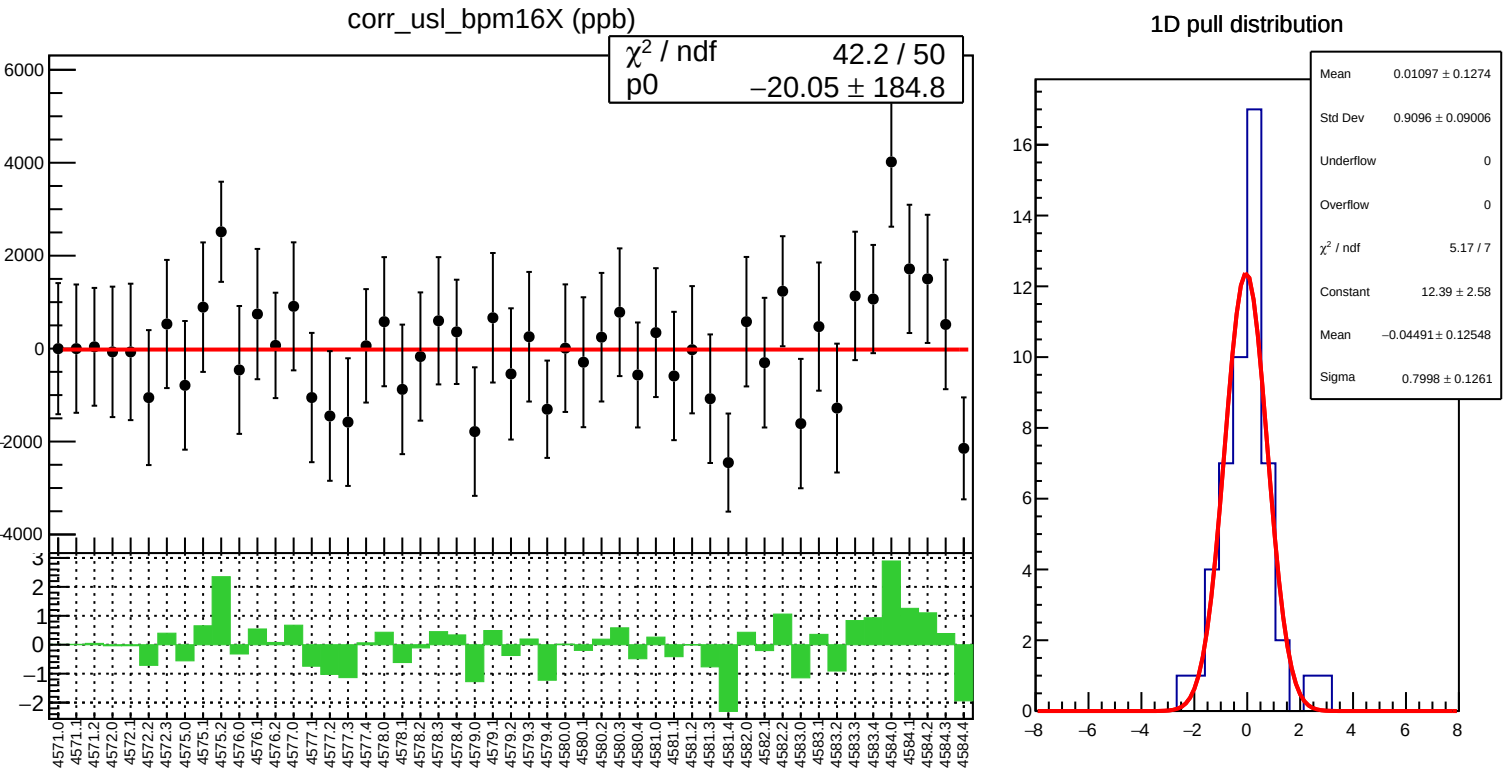

corr_usl_bpm1X (ppb)
χ² / ndf 52.44 / 50
p0 40.73 ± 365.7
10000
5000
0
-5000
-10000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

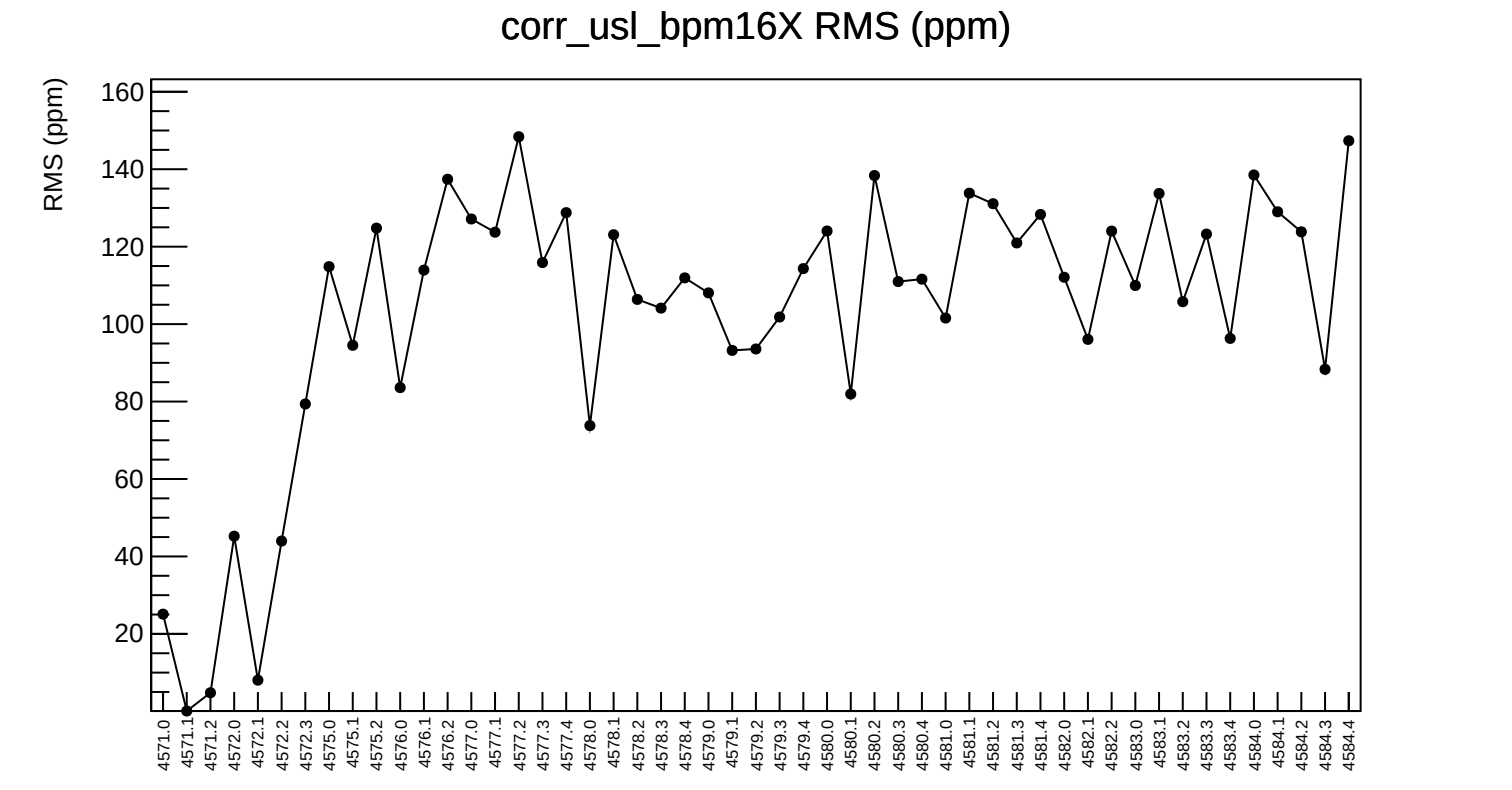

1D pull distribution
Mean 0.0007822 ± 0.142
Std Dev 1.014 ± 0.1004
Underflow 0
Overflow 0
χ² / ndf 3.634 / 8
Constant 11.1 ± 2.1
Mean 0.008503 ± 0.134967
Sigma 0.9093 ± 0.1118
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

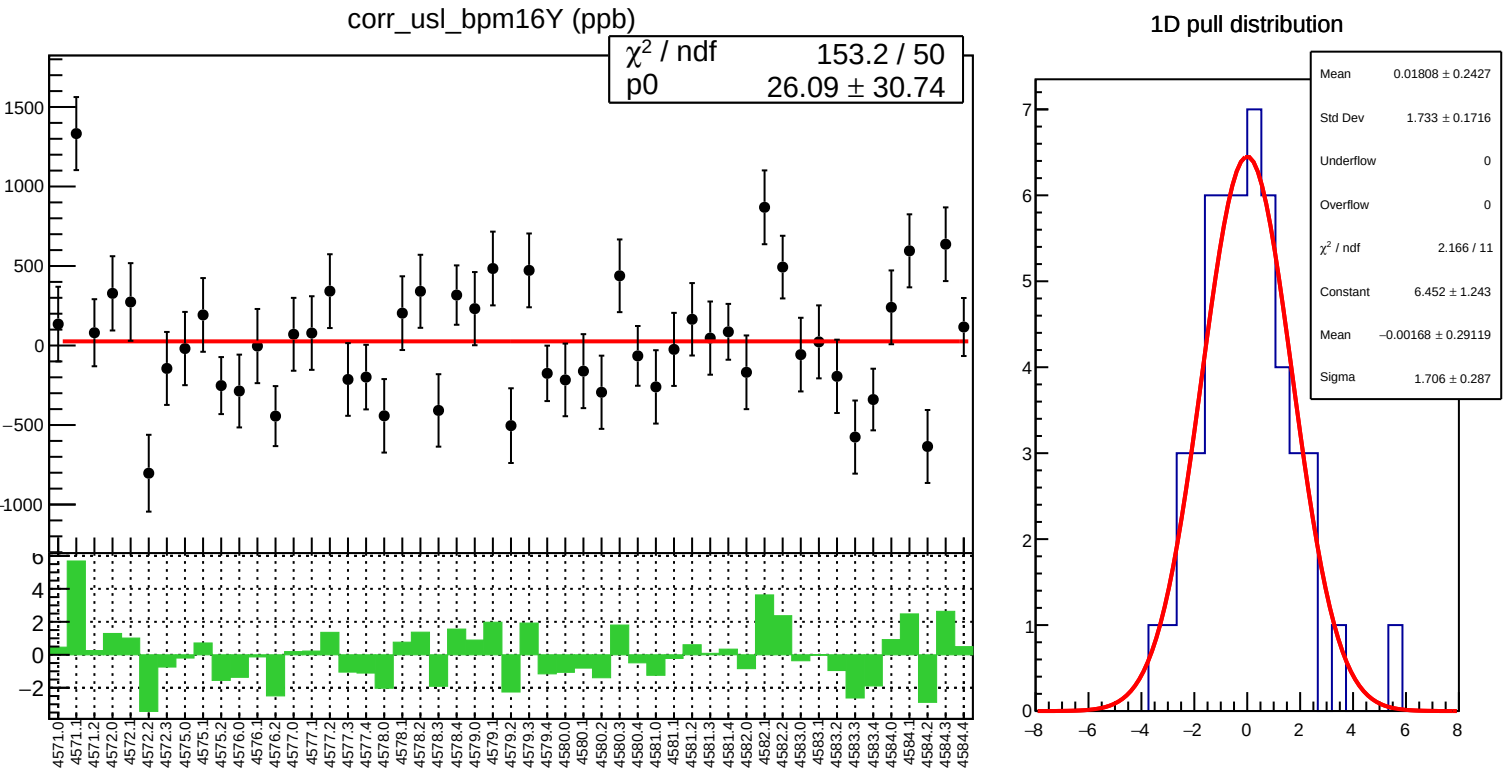

corr_usl_bpm1X RMS (ppm)
RMS (ppm)
400
350
300
250
200
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

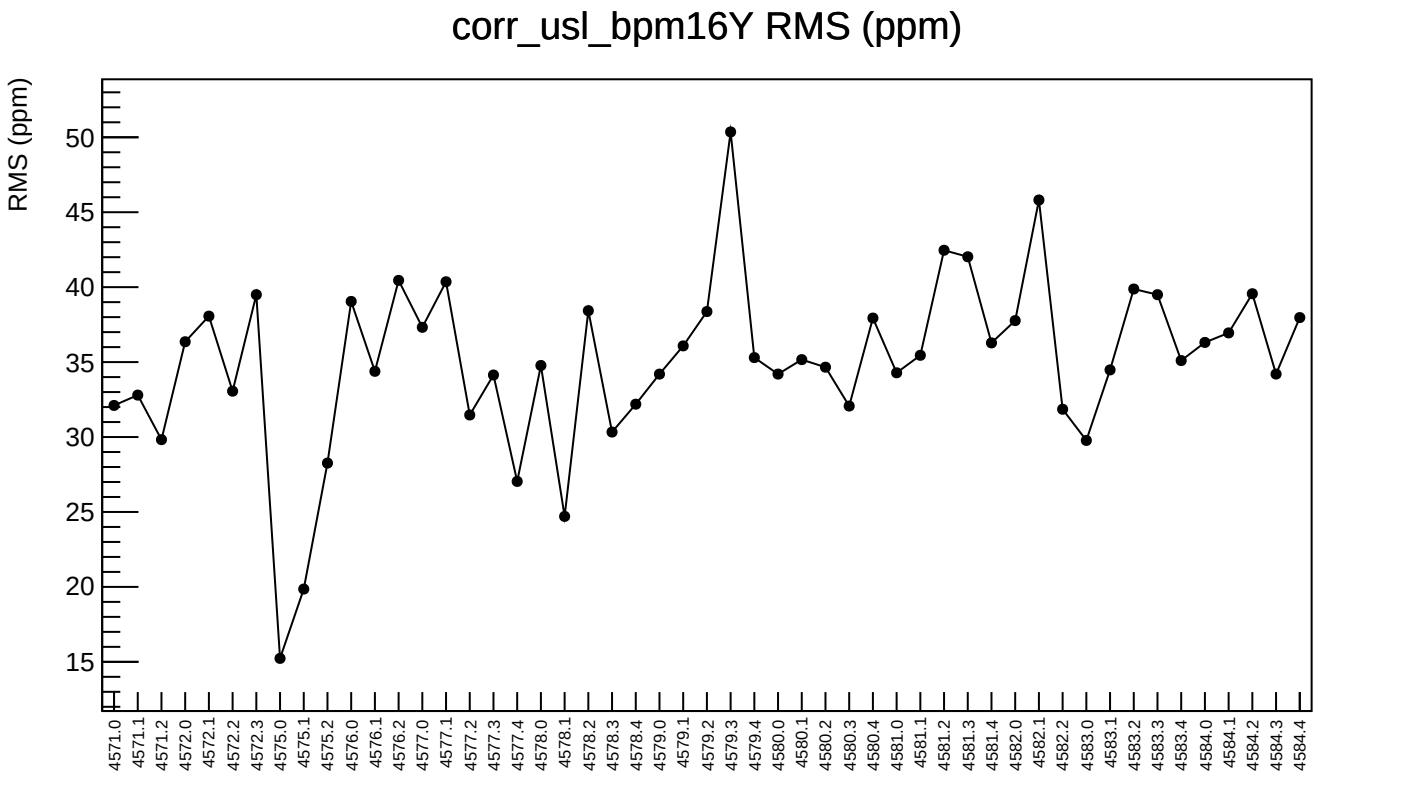

corr_usl_bpm1Y (ppb)
χ² / ndf 32.62 / 50
p0 3.959 ± 33.17
1D pull distribution
Mean −0.004676 ± 0.112
Std Dev 0.7998 ± 0.07919
Underflow 0
Overflow 0
χ² / ndf 6.926 / 5
Constant 19.51 ± 3.59
Mean −0.2792 ± 0.0760
Sigma 0.4817 ± 0.0521

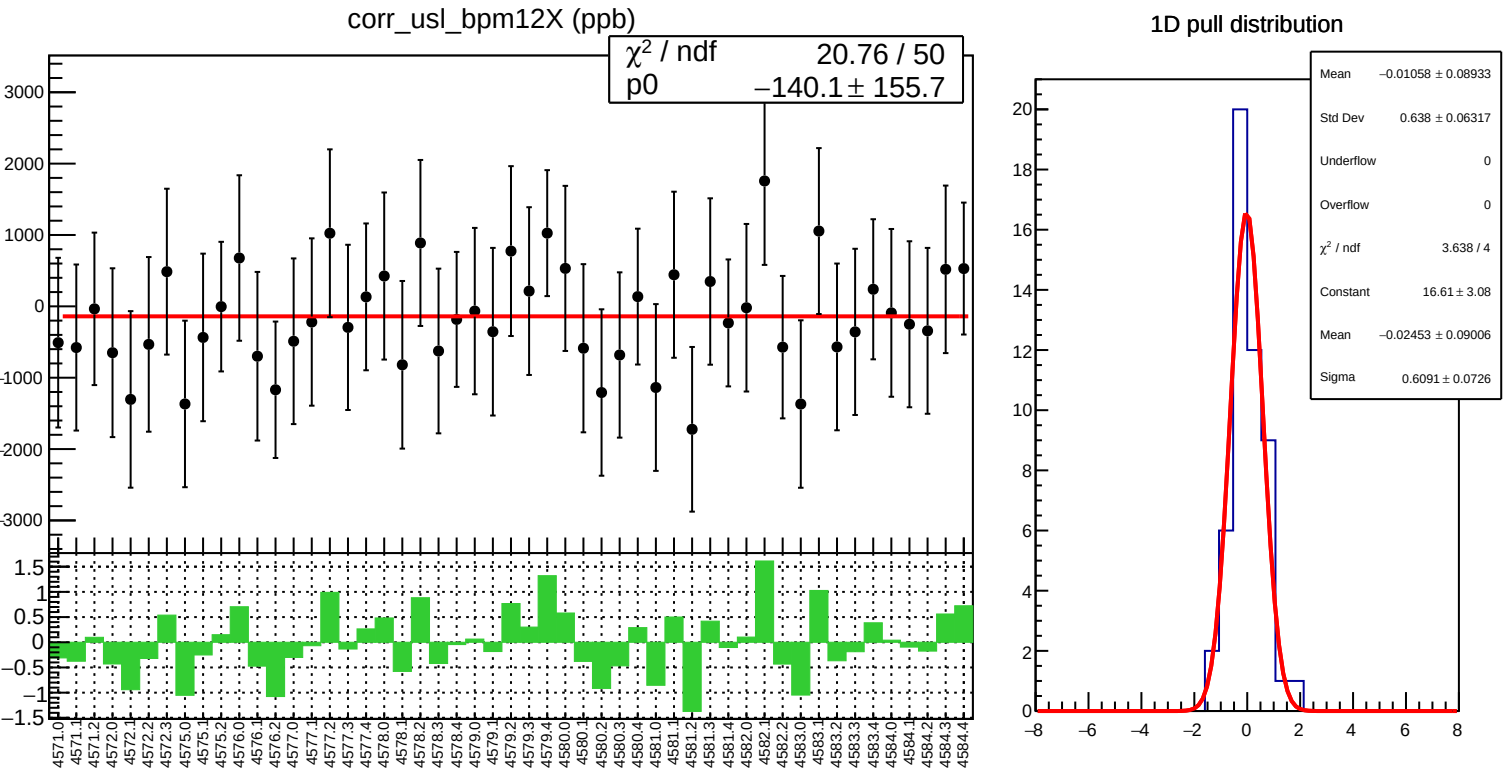

corr_usl_bpm1Y RMS (ppm)
RMS (ppm)
40
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

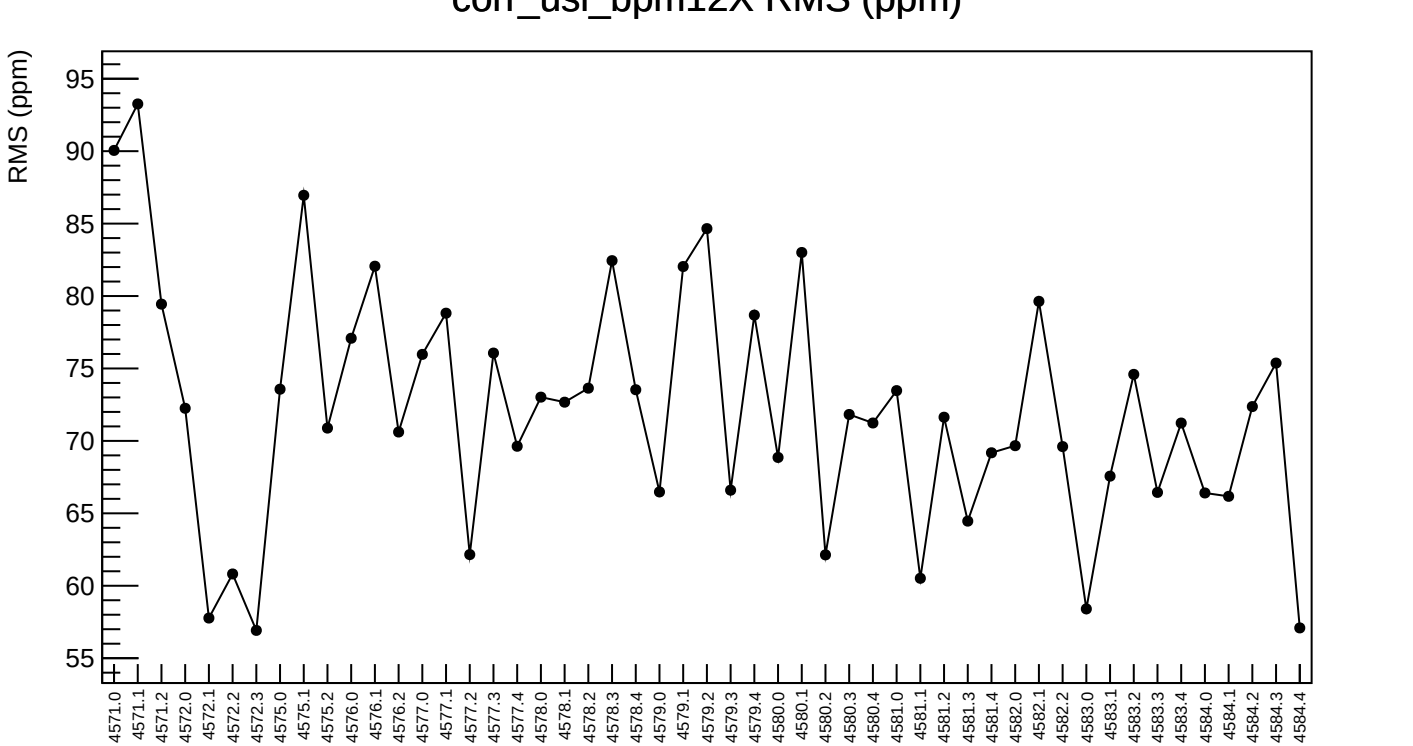

corr_usl_bpm16X (ppb)
χ² / ndf 42.2 / 50
p0 −20.05 ± 184.8
1D pull distribution
Mean 0.01097 ± 0.1274
Std Dev 0.9096 ± 0.09006
Underflow 0
Overflow 0
χ² / ndf 5.17 / 7
Constant 12.39 ± 2.58
Mean −0.04491 ± 0.12548
Sigma 0.7998 ± 0.1261

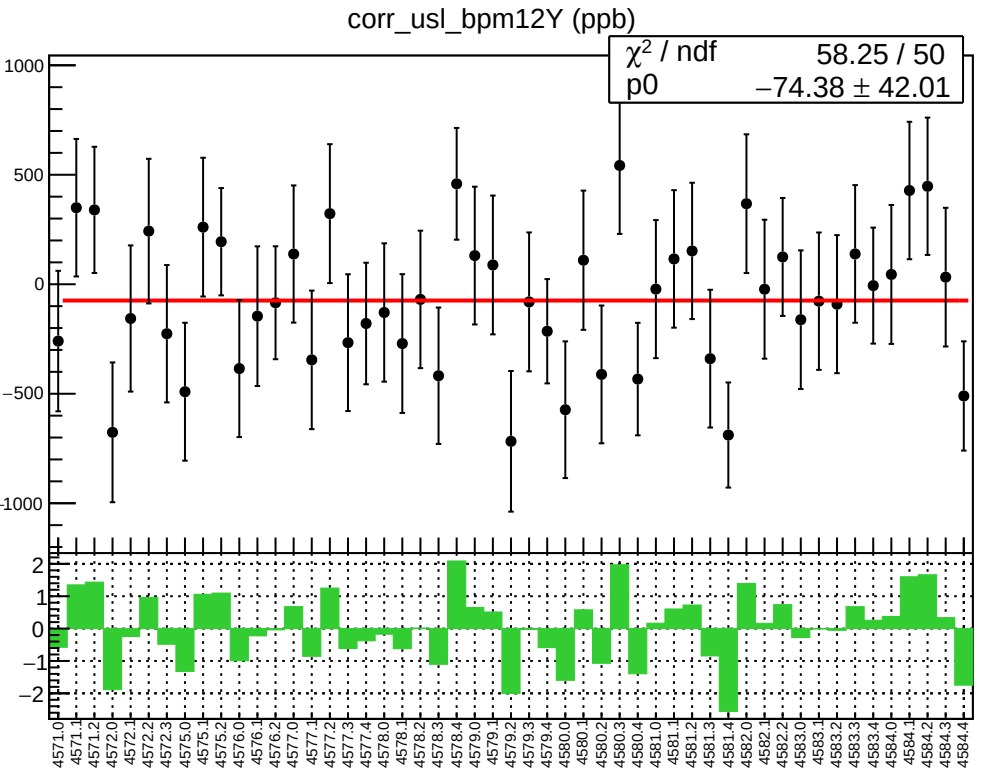

corr_usl_bpm16X RMS (ppm)
RMS (ppm)
160
140
120
100
80
60
40
20
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

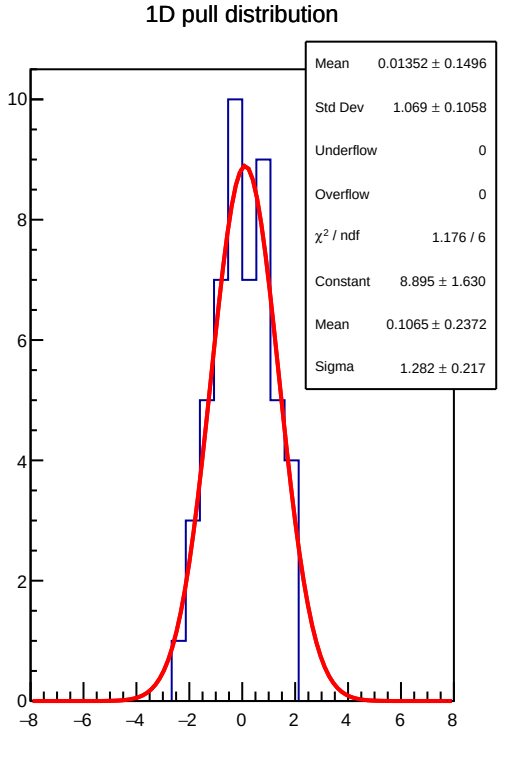

corr_usl_bpm16Y (ppb)
χ² / ndf 153.2 / 50
p0 26.09 ± 30.74
1500
1000
500
0
−500
−1000
6
4
2
0
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean 0.01808 ± 0.2427
Std Dev 1.733 ± 0.1716
Underflow 0
Overflow 0
χ² / ndf 2.166 / 11
Constant 6.452 ± 1.243
Mean −0.00168 ± 0.29119
Sigma 1.706 ± 0.287
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

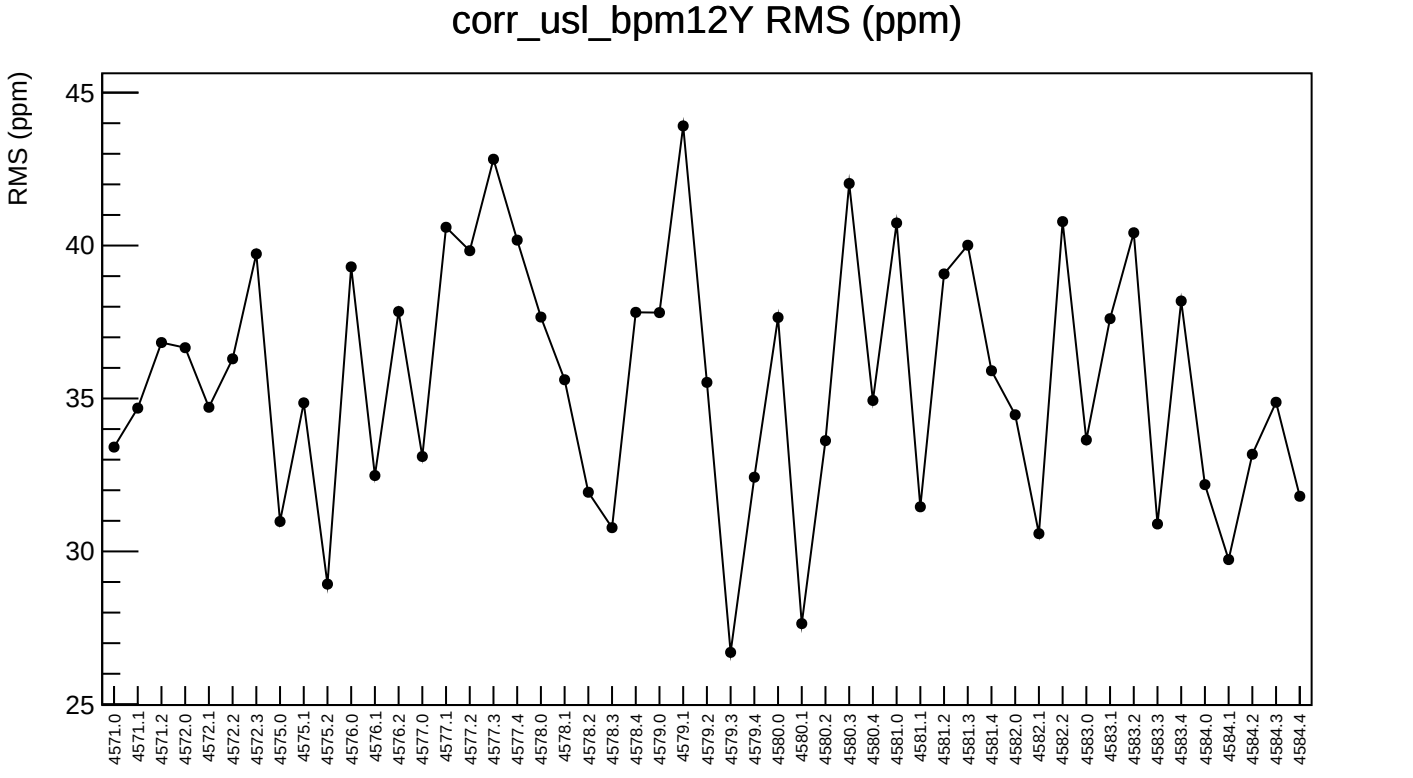

corr_usl_bpm16Y RMS (ppm)
RMS (ppm)
50
45
40
35
30
25
20
15
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

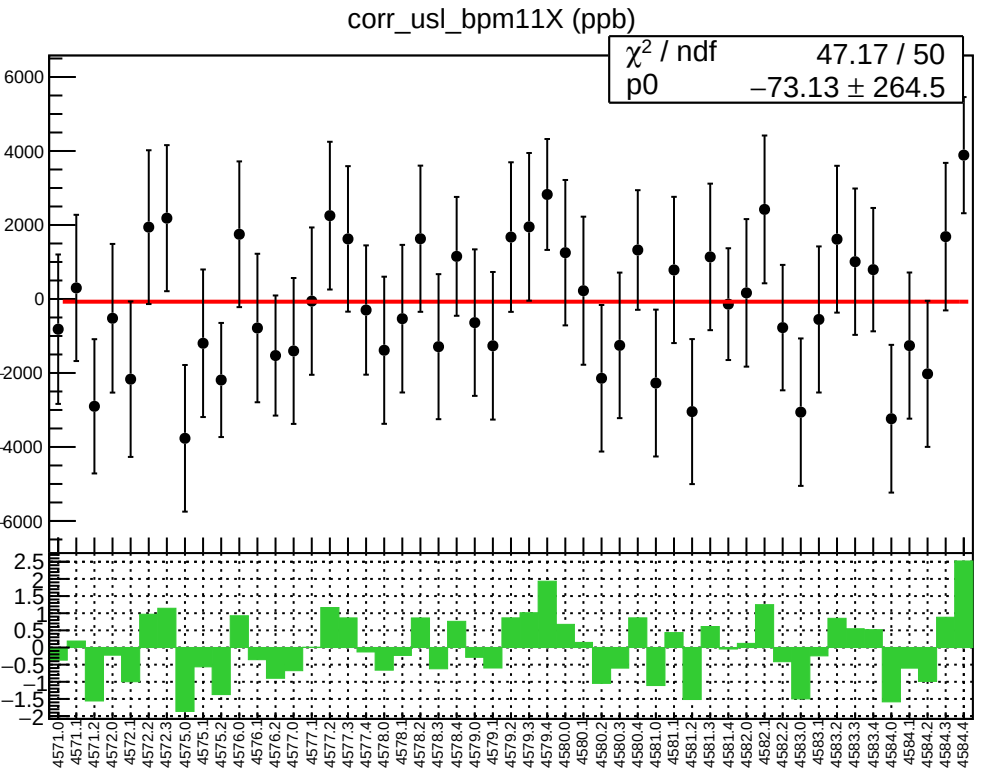

corr_usl_bpm12X (ppb)
χ² / ndf 20.76 / 50
p0 −140.1 ± 155.7
3000
2000
1000
0
-1000
-2000
-3000
1.5
1
0.5
0
−0.5
−1
−1.5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4
1D pull distribution
Mean −0.01058 ± 0.08933
Std Dev 0.638 ± 0.06317
Underflow 0
Overflow 0
χ² / ndf 3.638 / 4
Constant 16.61 ± 3.08
Mean −0.02453 ± 0.09006
Sigma 0.6091 ± 0.0726
20
18
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

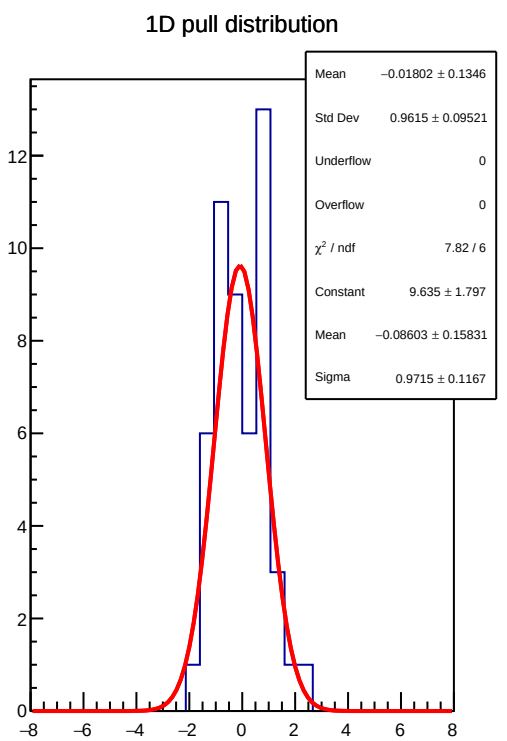

corr_usl_bpm12X RMS (ppm)
RMS (ppm)
95
90
85
80
75
70
65
60
55
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

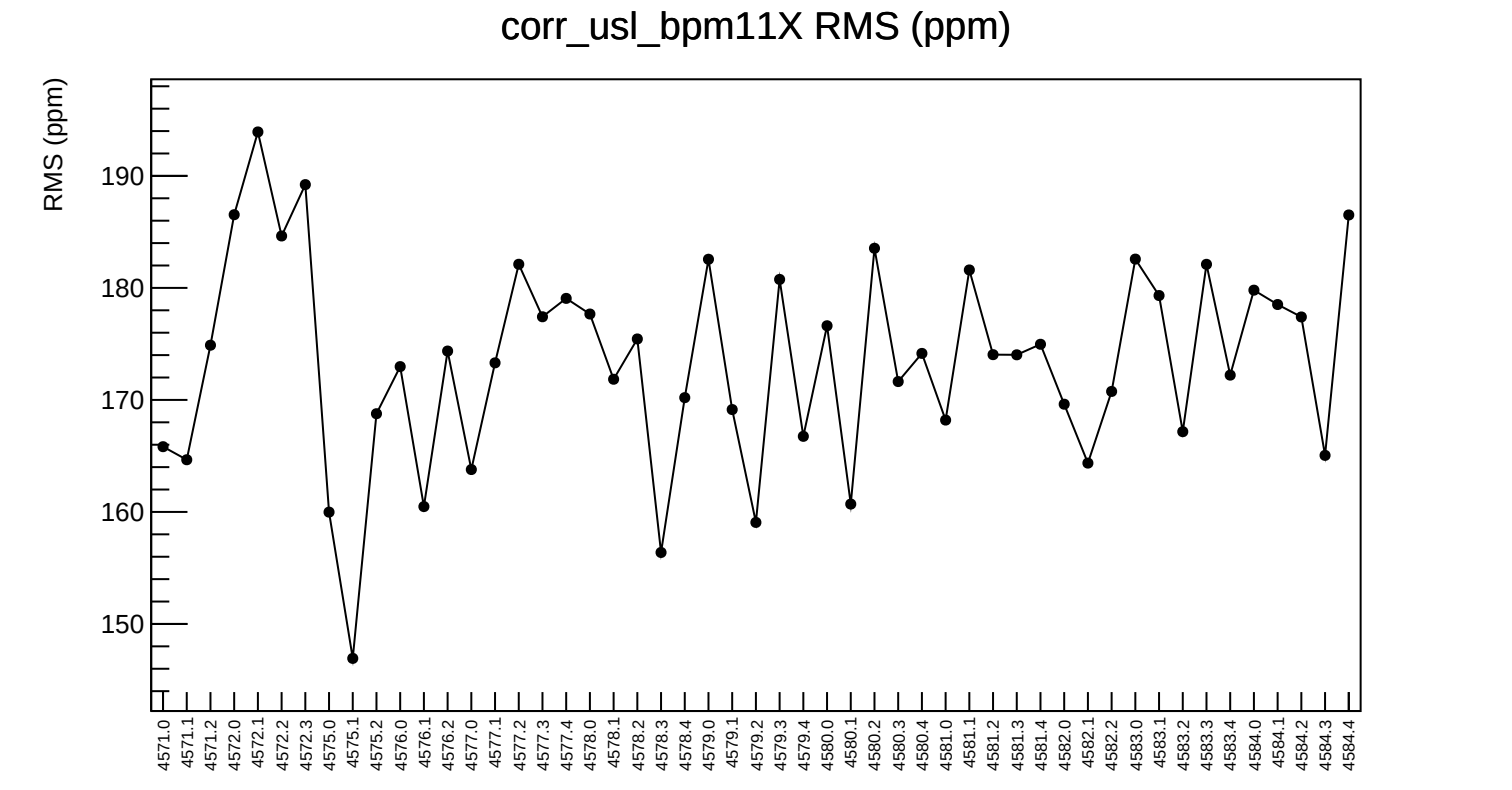

corr_usl_bpm12Y (ppb)
χ² / ndf 58.25 / 50
p0 −74.38 ± 42.01
1000
500
0
−500
−1000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

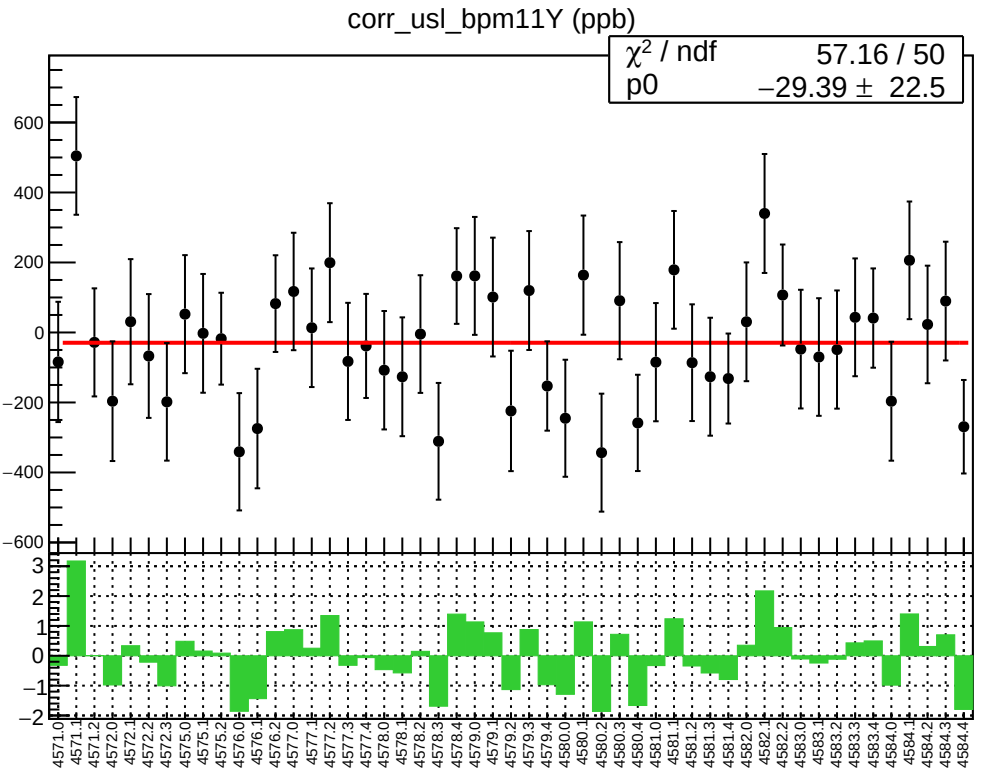

1D pull distribution
Mean 0.01352 ± 0.1496
Std Dev 1.069 ± 0.1058
Underflow 0
Overflow 0
χ² / ndf 1.176 / 6
Constant 8.895 ± 1.630
Mean 0.1065 ± 0.2372
Sigma 1.282 ± 0.217
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

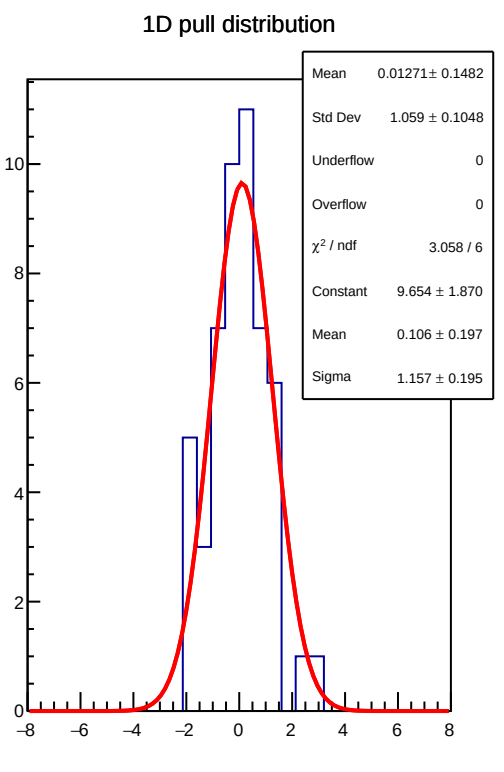

corr_usl_bpm12Y RMS (ppm)
RMS (ppm)
45
40
35
30
25
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

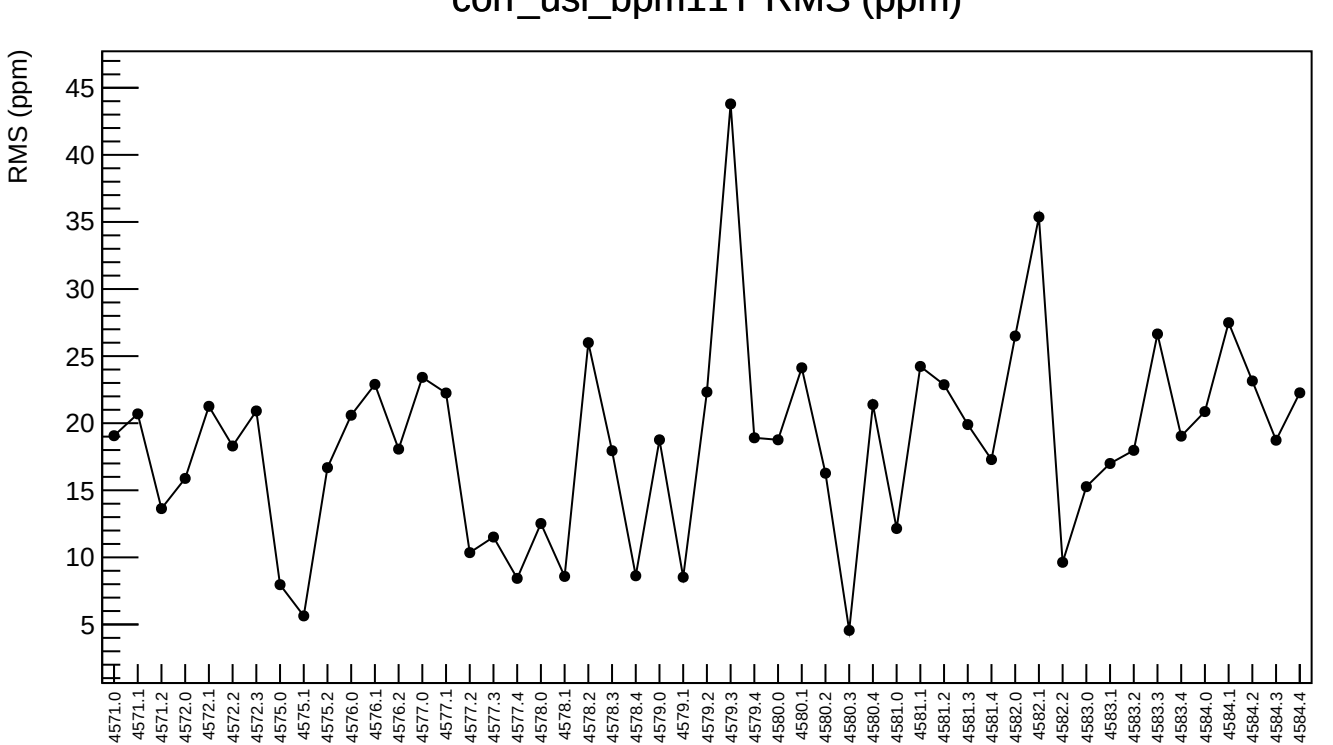

corr_usl_bpm11X (ppb)
χ² / ndf 47.17 / 50
p0 −73.13 ± 264.5

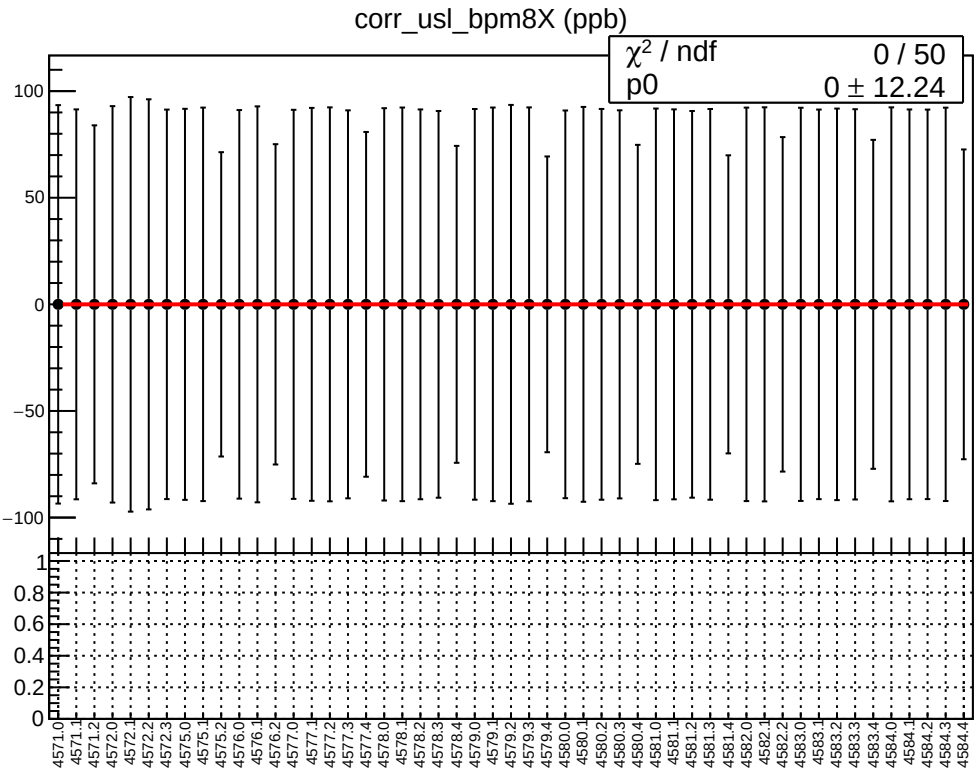

1D pull distribution
Mean −0.01802 ± 0.1346
Std Dev 0.9615 ± 0.09521
Underflow 0
Overflow 0
χ² / ndf 7.82 / 6
Constant 9.635 ± 1.797
Mean −0.08603 ± 0.15831
Sigma 0.9715 ± 0.1167

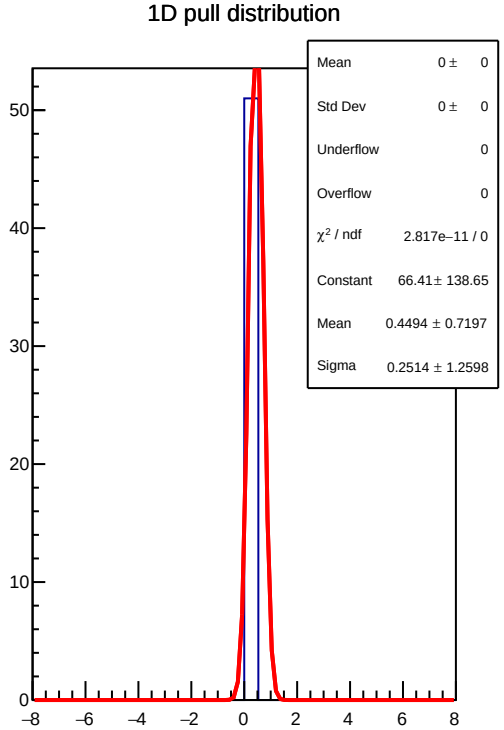

corr_usl_bpm11X RMS (ppm)
RMS (ppm)
190
180
170
160
150
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

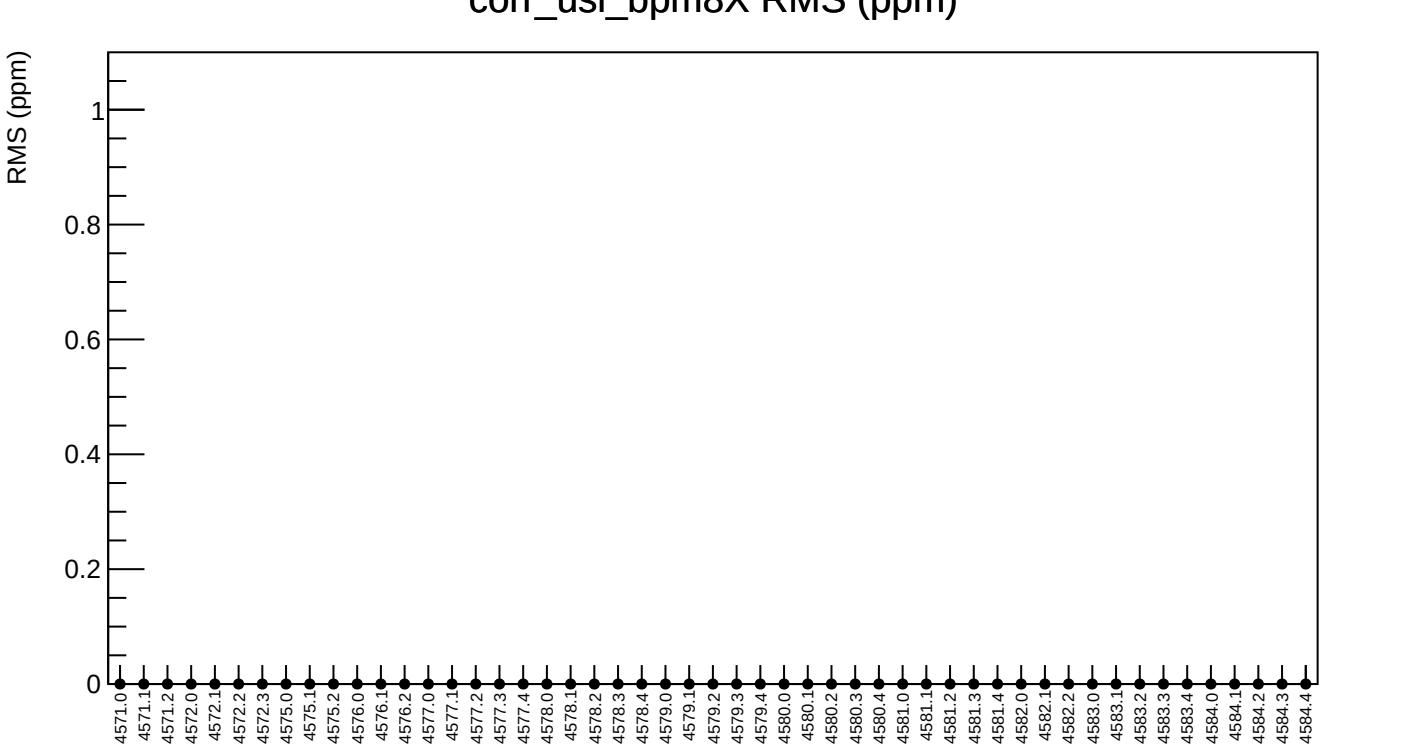

corr_usl_bpm11Y (ppb)
χ² / ndf 57.16 / 50
p0 −29.39 ± 22.5
600
400
200
0
−200
−400
−600
3
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

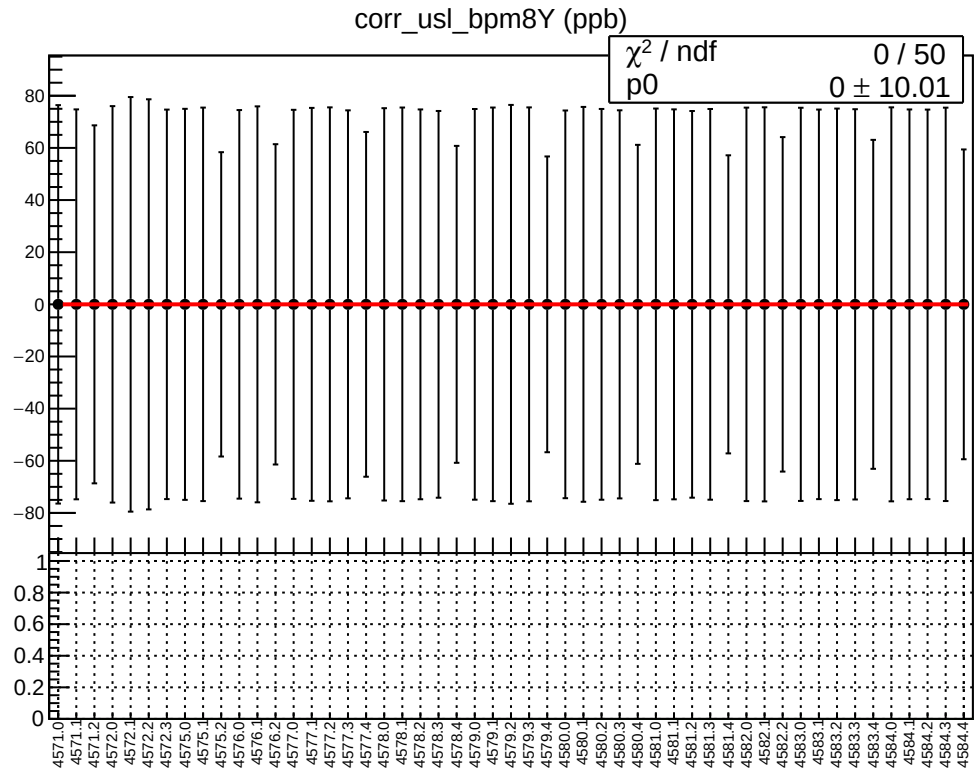

1D pull distribution
Mean 0.01271± 0.1482
Std Dev 1.059 ± 0.1048
Underflow 0
Overflow 0
χ² / ndf 3.058 / 6
Constant 9.654 ± 1.870
Mean 0.106 ± 0.197
Sigma 1.157 ± 0.195
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

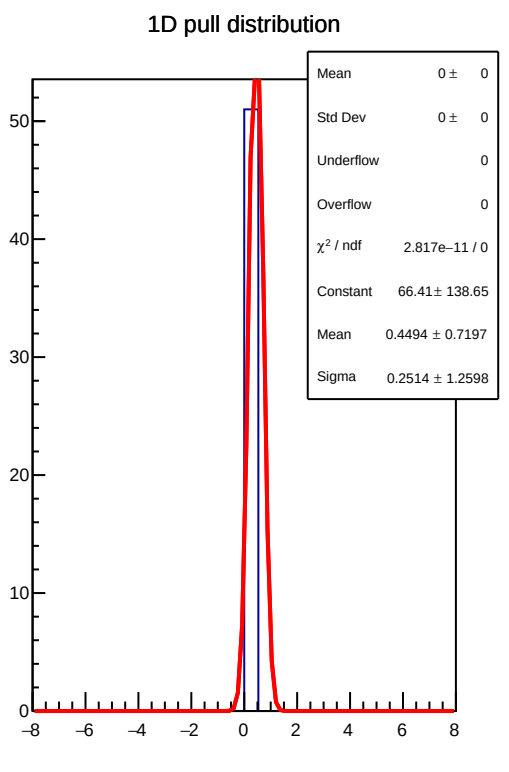

corr_usl_bpm11Y RMS (ppm)
RMS (ppm)
45
40
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

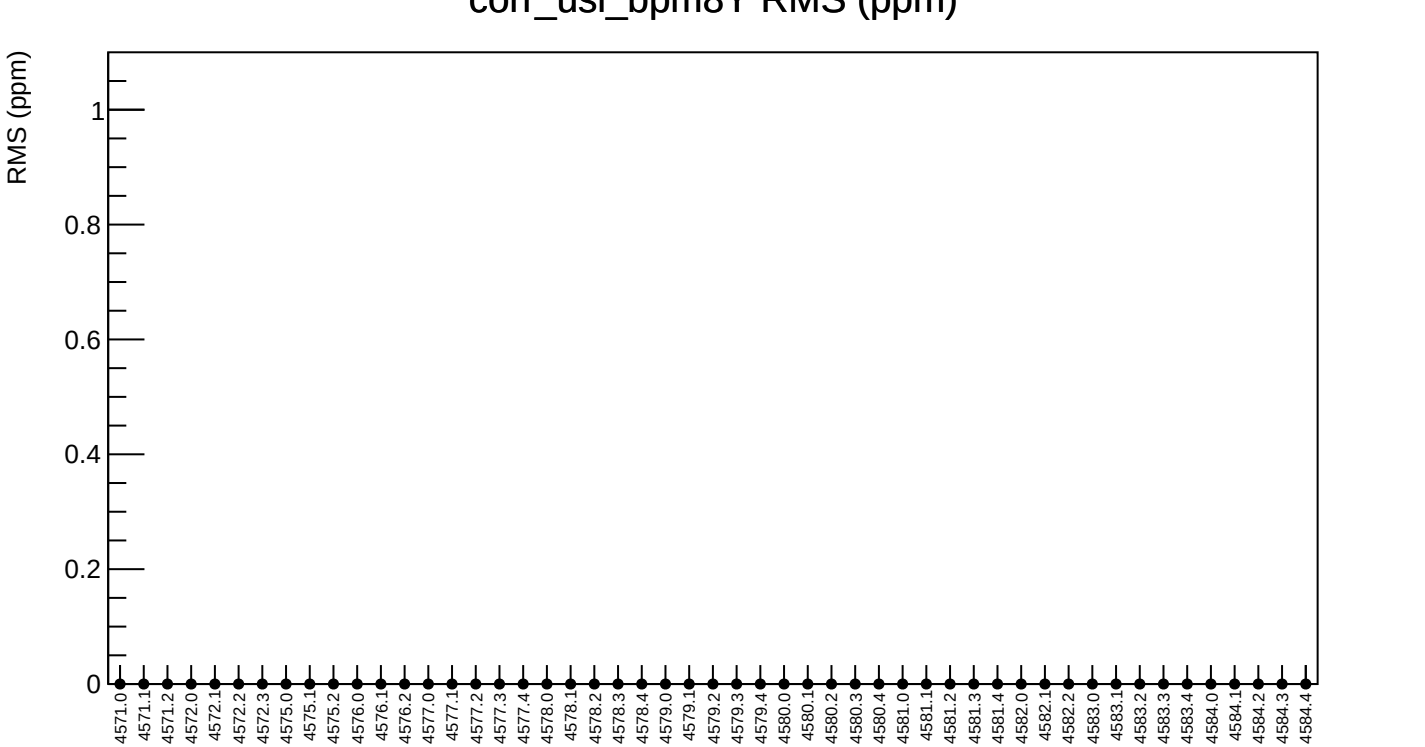

corr_usl_bpm8X (ppb)
χ² / ndf 0 / 50
p0 0 ± 12.24
100
50
0
−50
−100
1
0.8
0.6
0.4
0.2
0
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

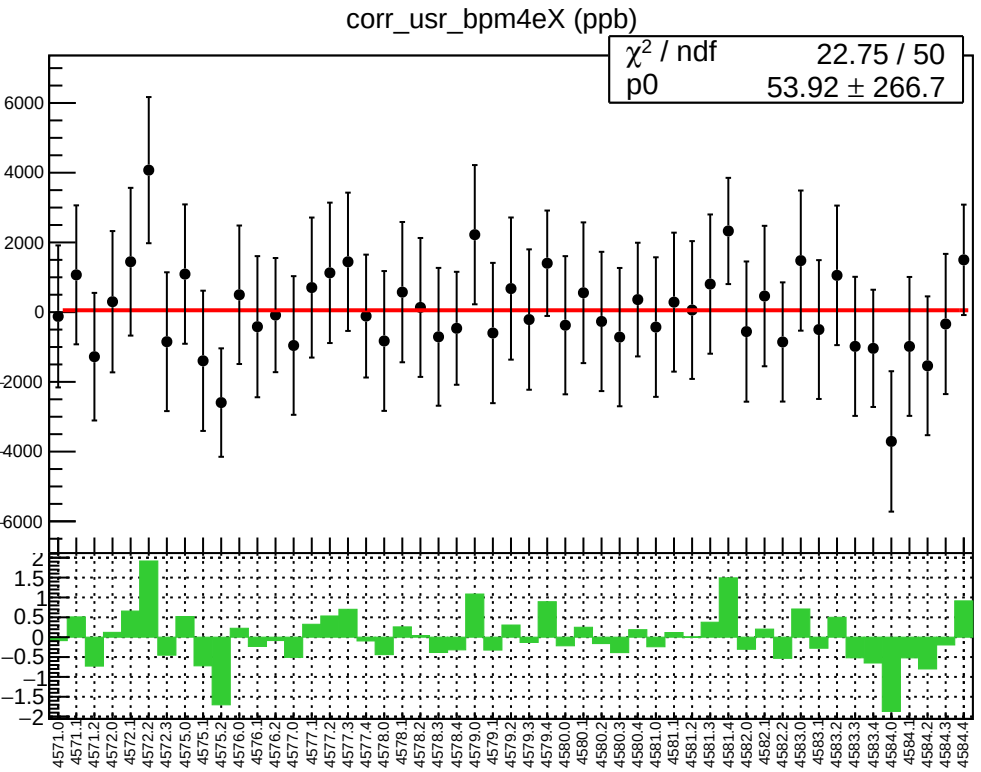

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598
50
40
30
20
10
0
−8
−6
−4
−2
0
2
4
6
8

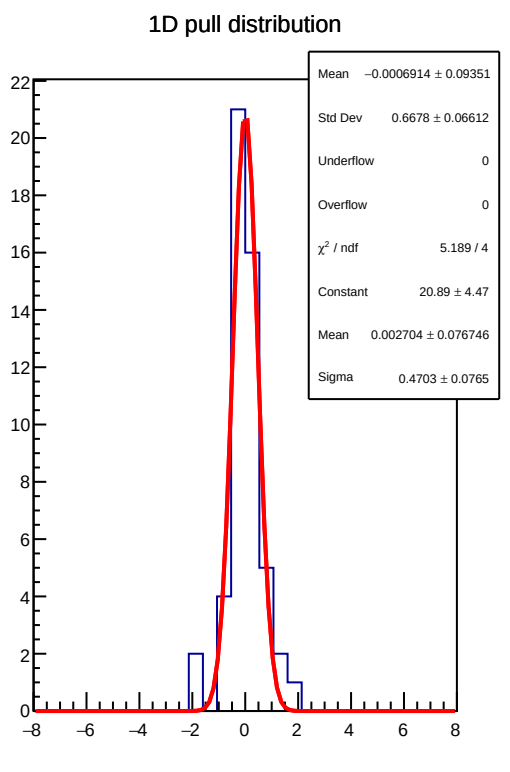

corr_usl_bpm8X RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

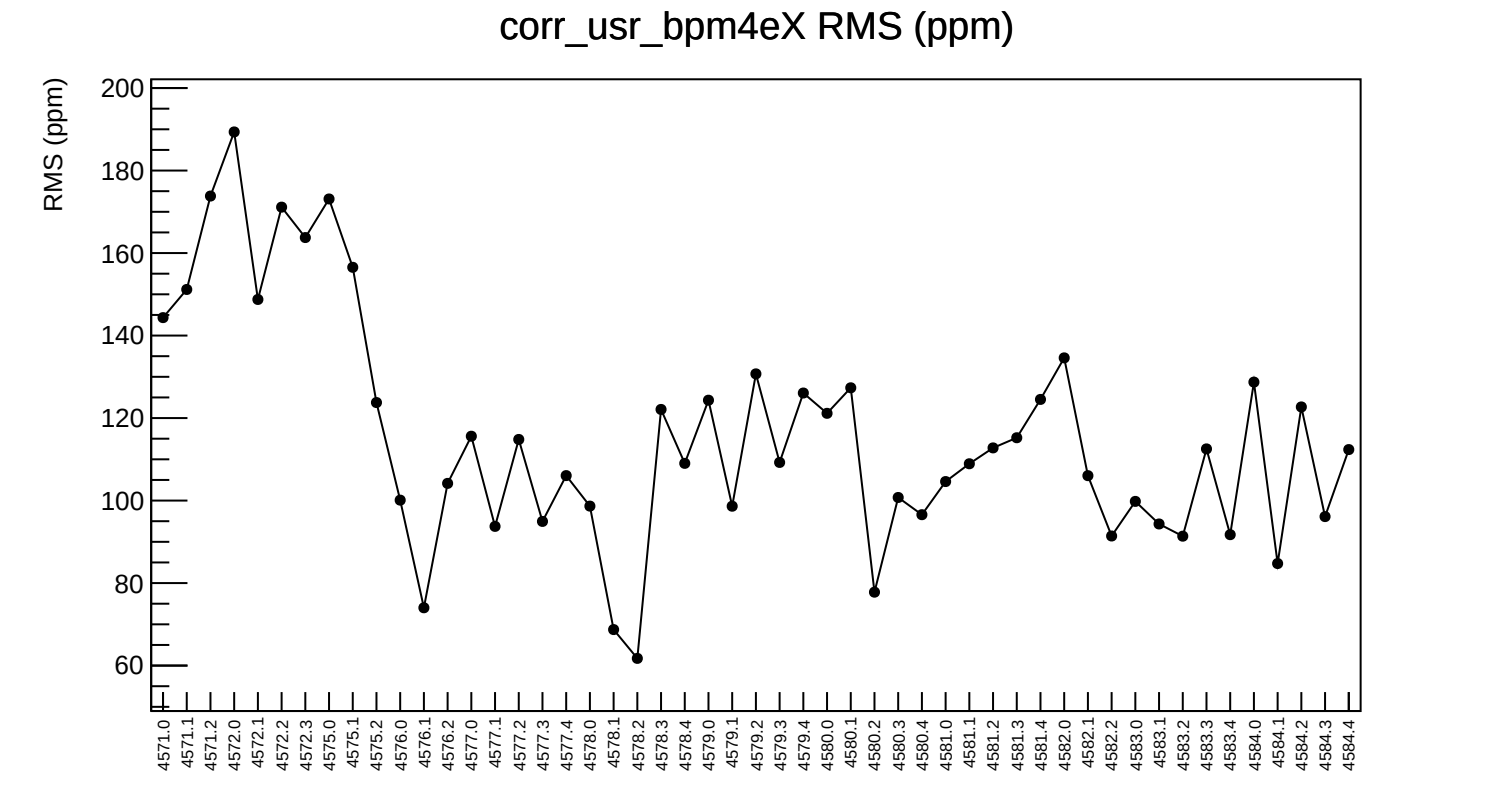

corr_usl_bpm8Y (ppb)
χ² / ndf 0 / 50
p0 0 ± 10.01

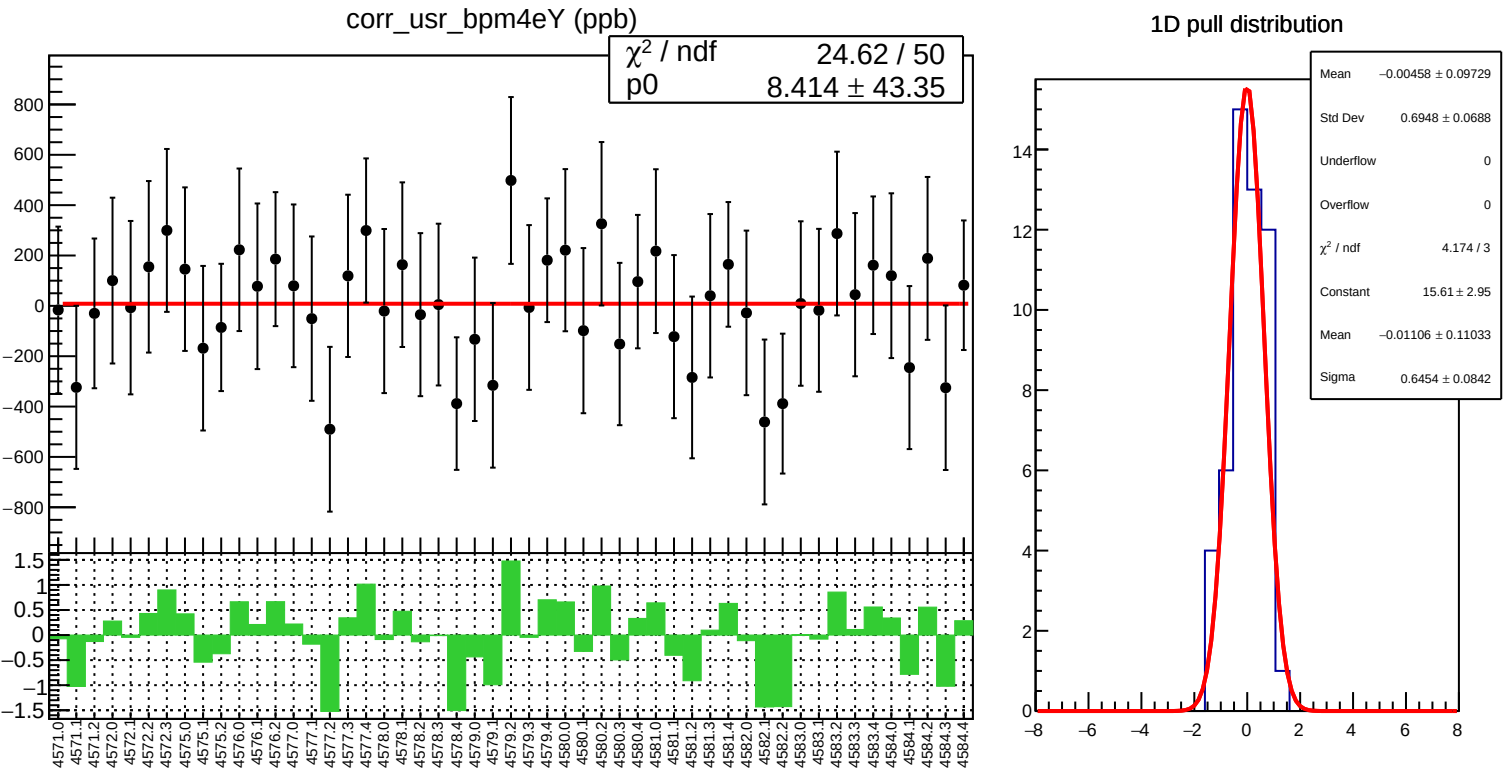

1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41 ± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598

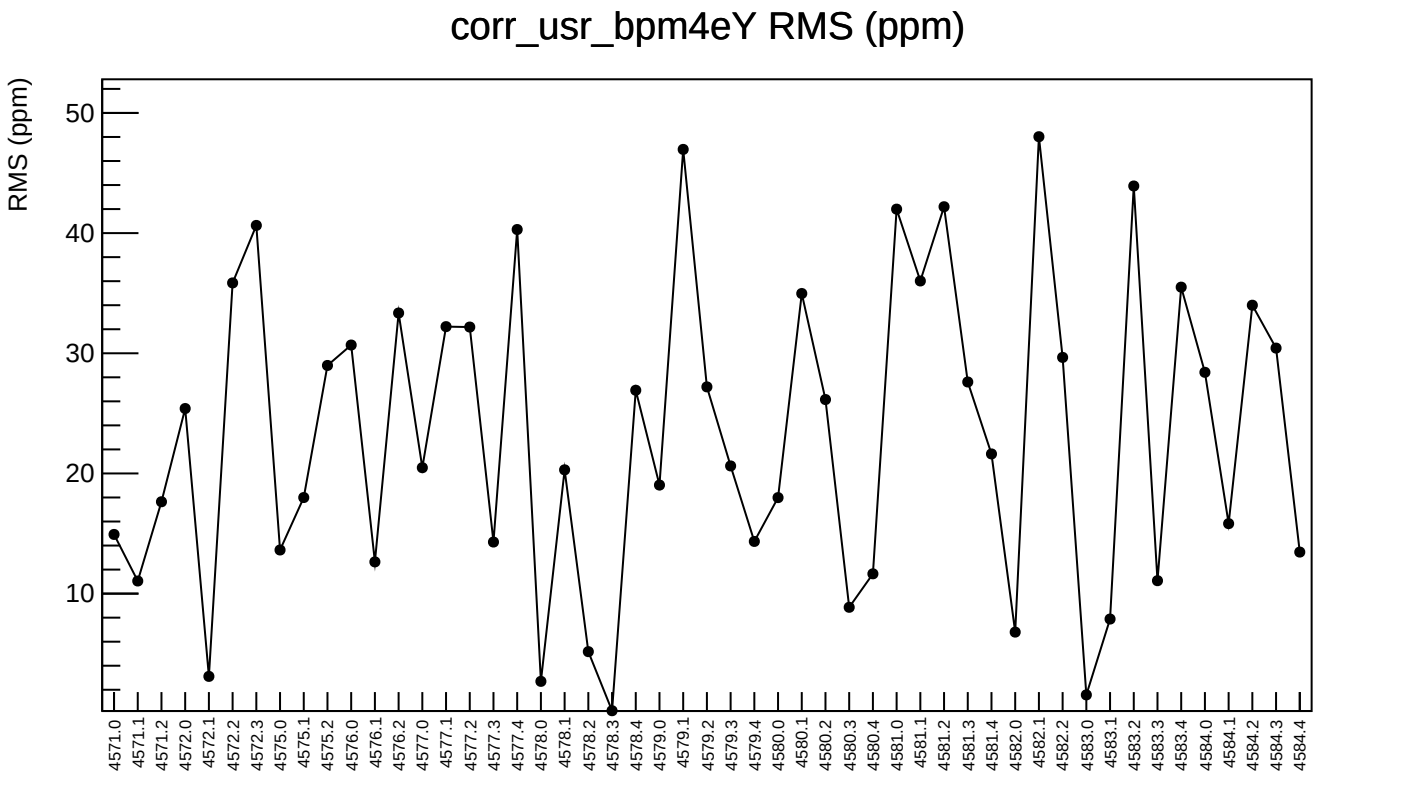

corr_usl_bpm8Y RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

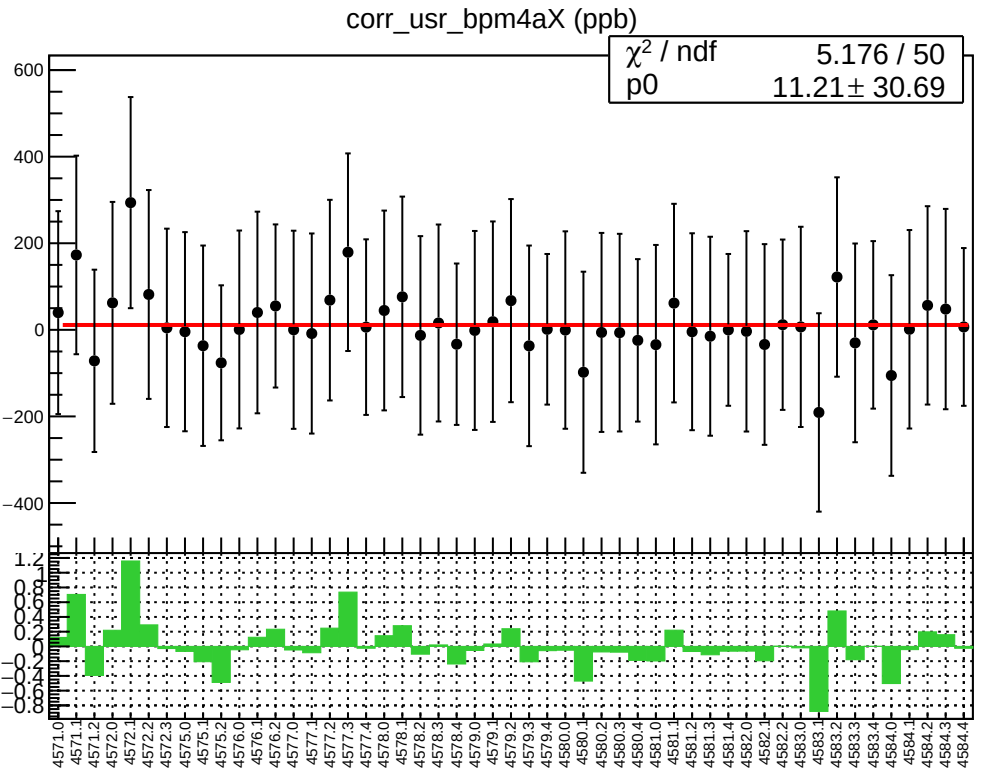

corr_usr_bpm4eX (ppb)
χ² / ndf 22.75 / 50
p0 53.92 ± 266.7

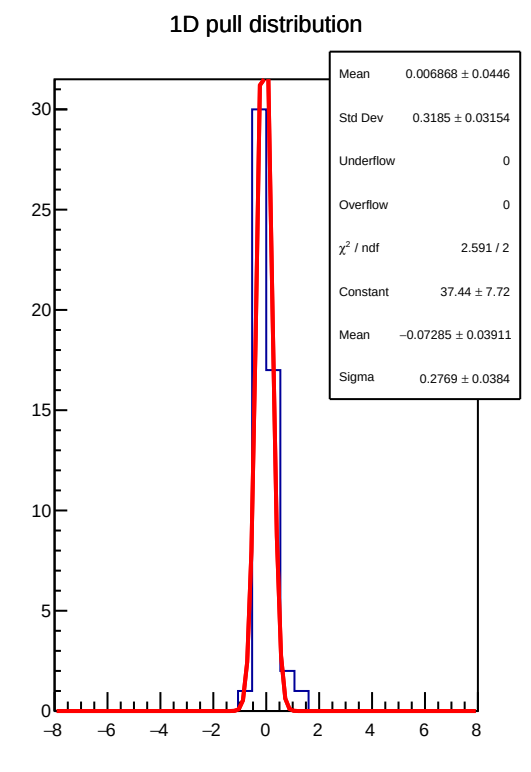

1D pull distribution
Mean −0.0006914 ± 0.09351
Std Dev 0.6678 ± 0.06612
Underflow 0
Overflow 0
χ² / ndf 5.189 / 4
Constant 20.89 ± 4.47
Mean 0.002704 ± 0.076746
Sigma 0.4703 ± 0.0765

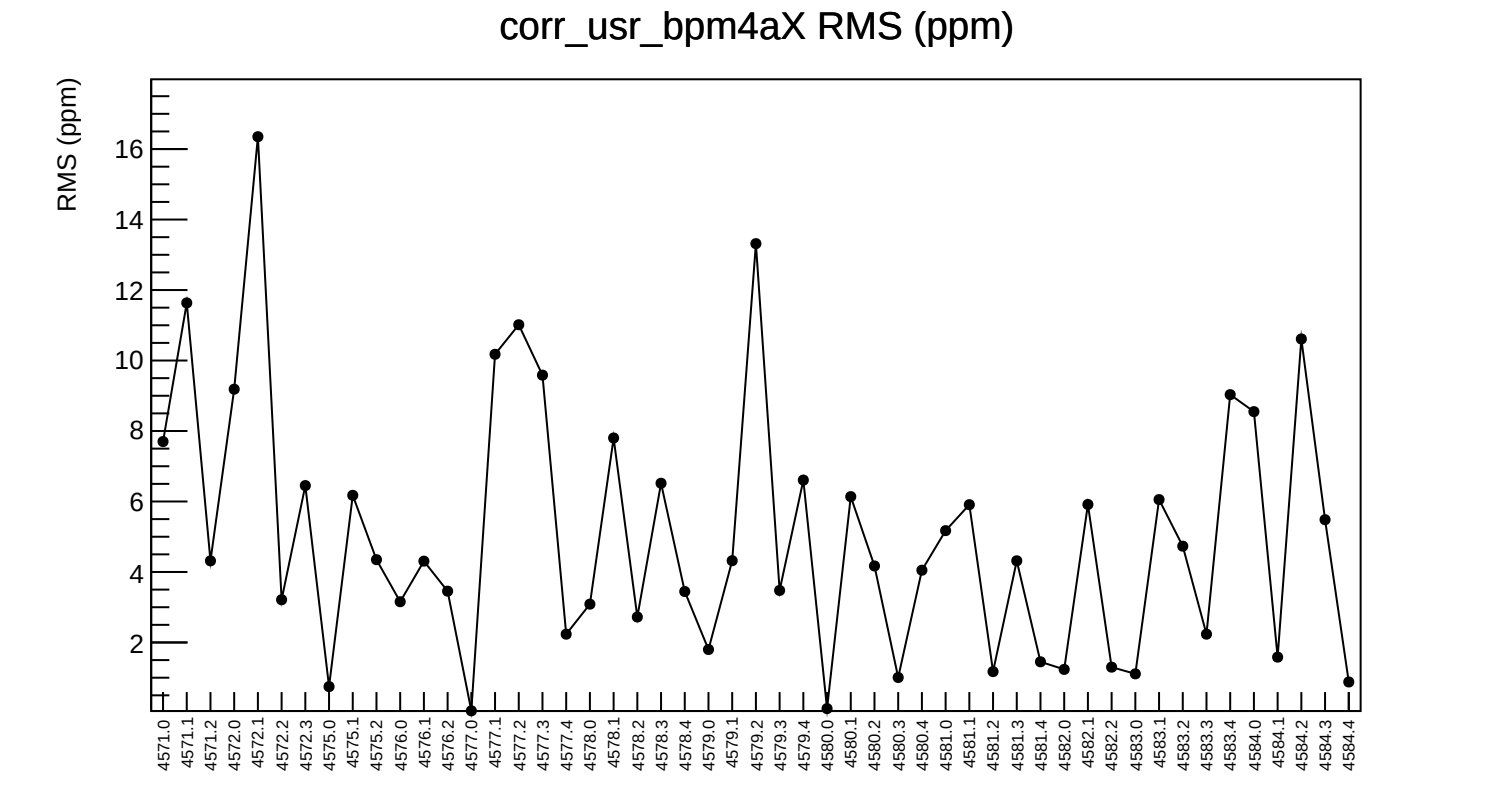

corr_usr_bpm4eX RMS (ppm)
RMS (ppm)
200
180
160
140
120
100
80
60
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

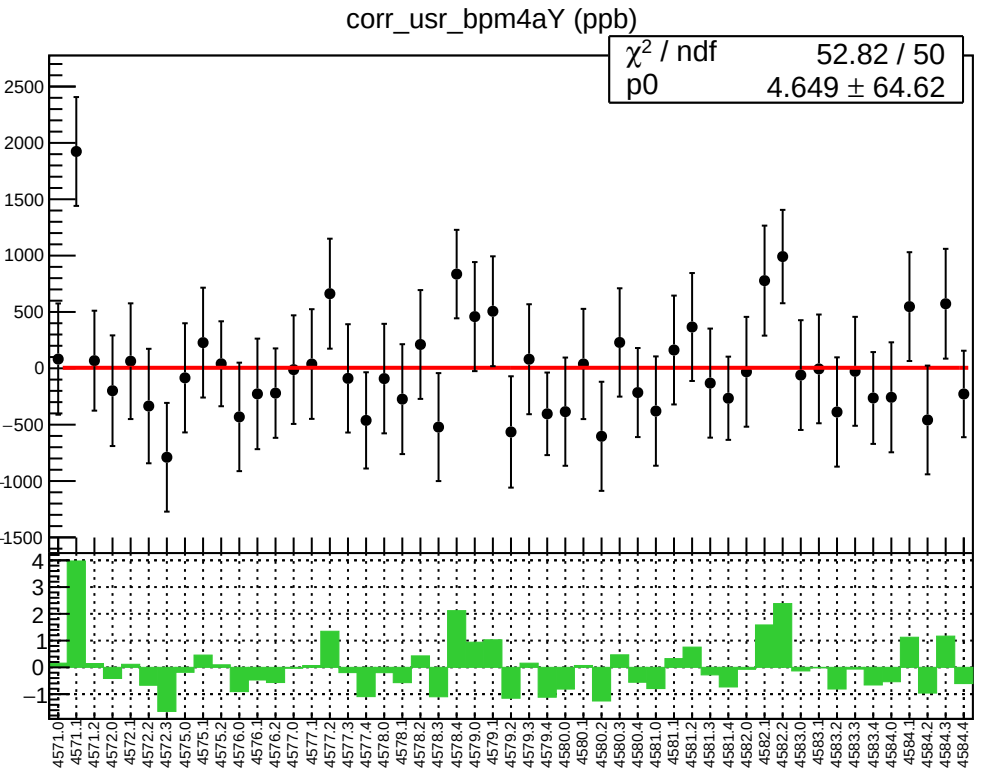

corr_usr_bpm4eY (ppb)
χ² / ndf 24.62 / 50
p0 8.414 ± 43.35
1D pull distribution
Mean −0.00458 ± 0.09729
Std Dev 0.6948 ± 0.0688
Underflow 0
Overflow 0
χ² / ndf 4.174 / 3
Constant 15.61 ± 2.95
Mean −0.01106 ± 0.11033
Sigma 0.6454 ± 0.0842

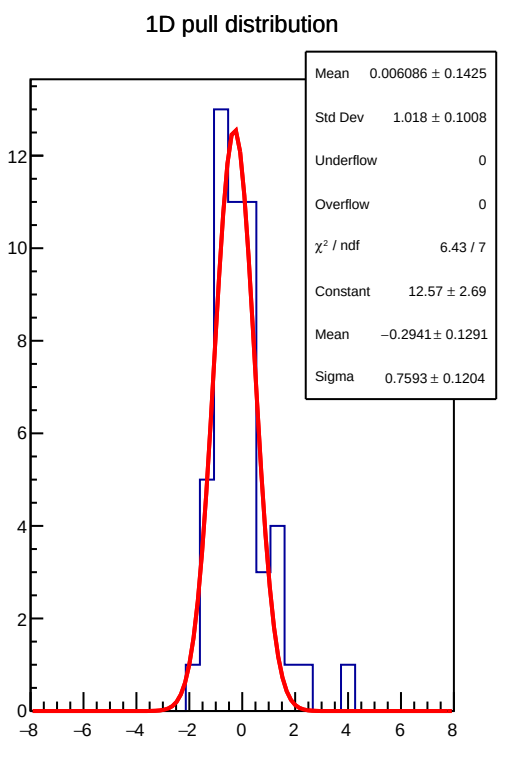

corr_usr_bpm4eY RMS (ppm)
RMS (ppm)
50
40
30
20
10
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

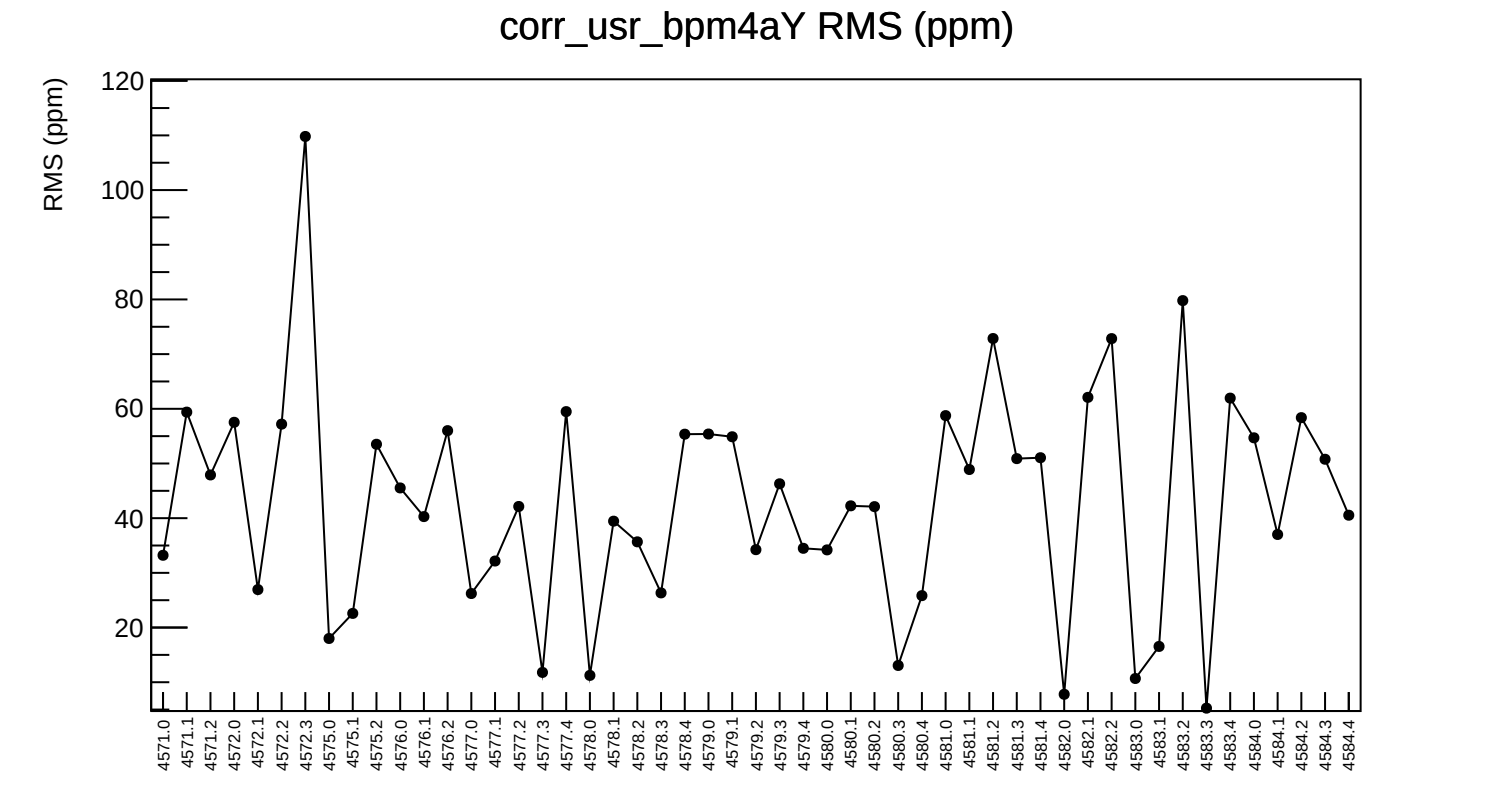

corr_usr_bpm4aX (ppb)
χ² / ndf 5.176 / 50
p0 11.21 ± 30.69
600
400
200
0
−200
−400
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

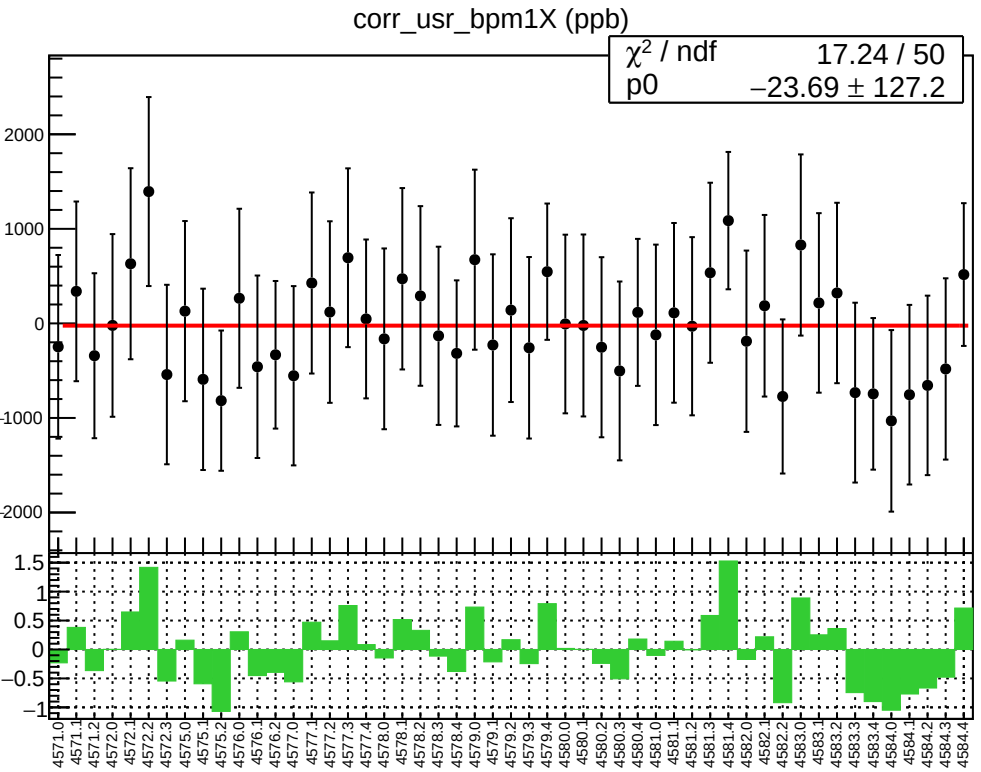

1D pull distribution
Mean 0.006868 ± 0.0446
Std Dev 0.3185 ± 0.03154
Underflow 0
Overflow 0
χ² / ndf 2.591 / 2
Constant 37.44 ± 7.72
Mean −0.07285 ± 0.03911
Sigma 0.2769 ± 0.0384
30
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

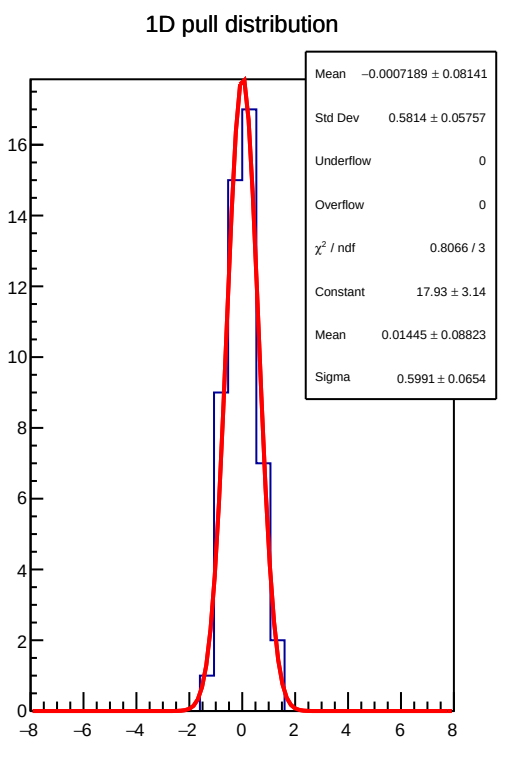

corr_usr_bpm4aX RMS (ppm)
RMS (ppm)
16
14
12
10
8
6
4
2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

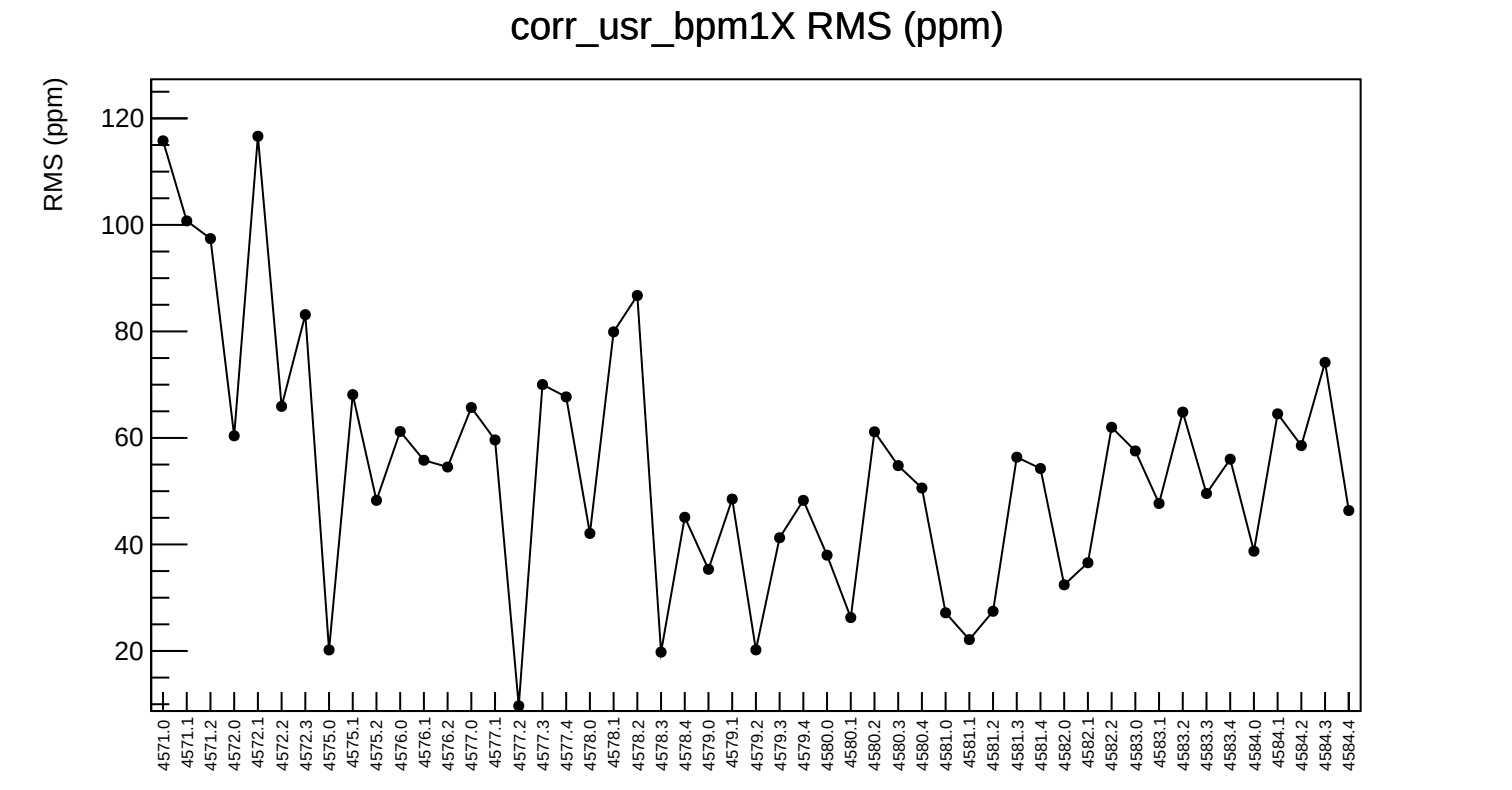

corr_usr_bpm4aY (ppb)
χ² / ndf 52.82 / 50
p0 4.649 ± 64.62
2500
2000
1500
1000
500
0
−500
−1000
−1500
4
3
2
1
0
−1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

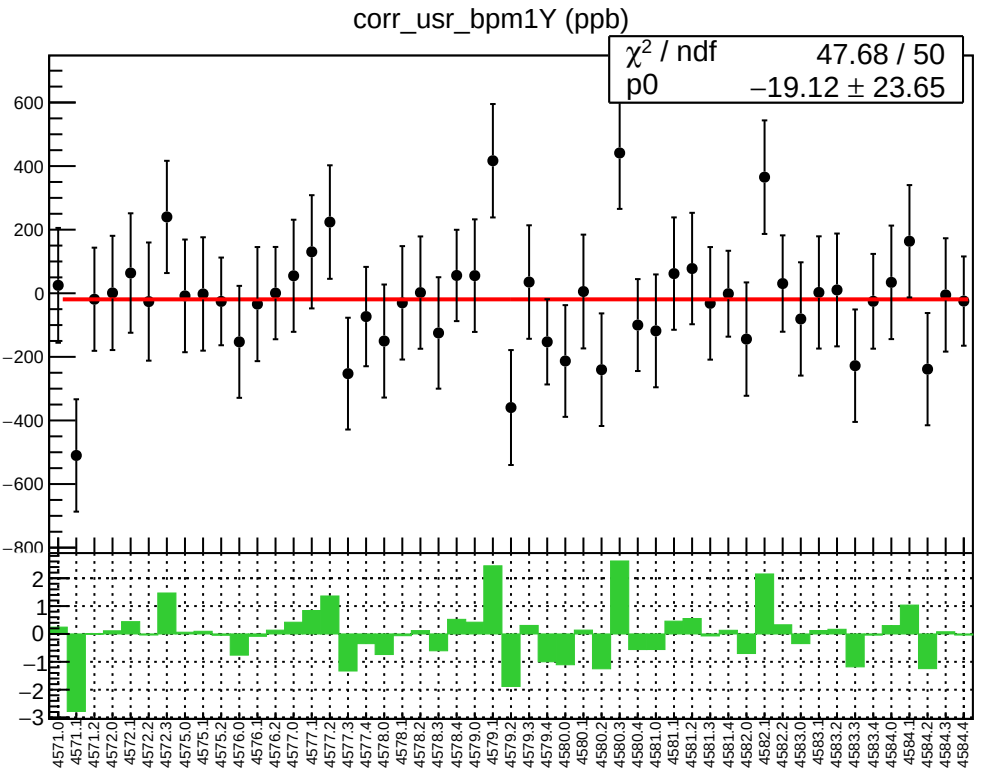

1D pull distribution
Mean 0.006086 ± 0.1425
Std Dev 1.018 ± 0.1008
Underflow 0
Overflow 0
χ² / ndf 6.43 / 7
Constant 12.57 ± 2.69
Mean −0.2941 ± 0.1291
Sigma 0.7593 ± 0.1204
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

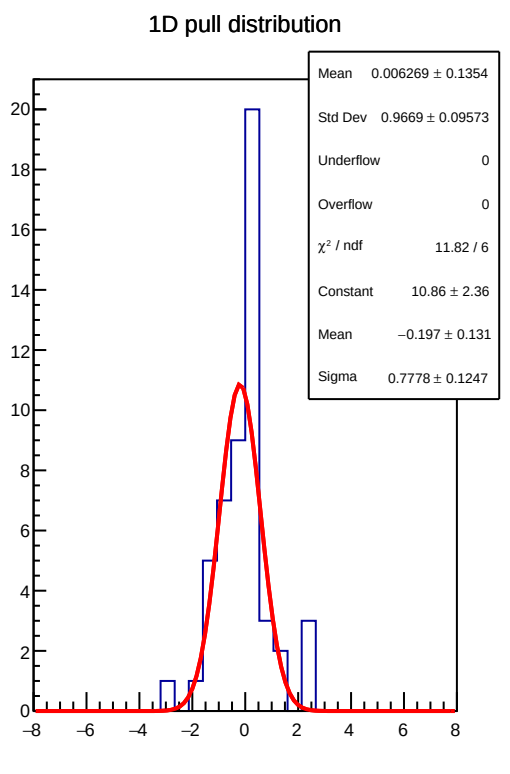

corr_usr_bpm4aY RMS (ppm)
RMS (ppm)
120
100
80
60
40
20
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

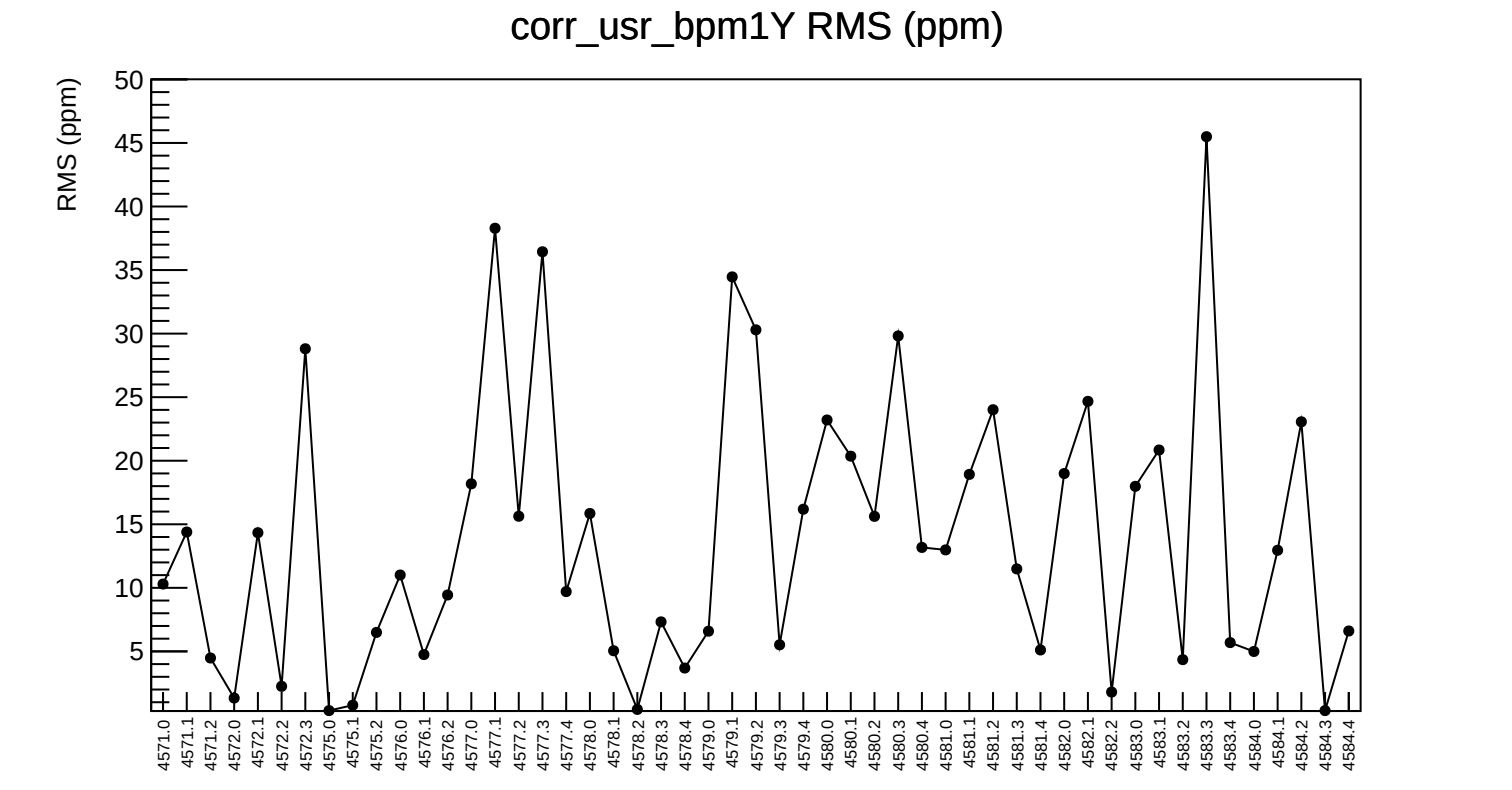

corr_usr_bpm1X (ppb)
χ² / ndf 17.24 / 50
p0 −23.69 ± 127.2
2000
1000
0
-1000
-2000
1.5
1
0.5
0
−0.5
−1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

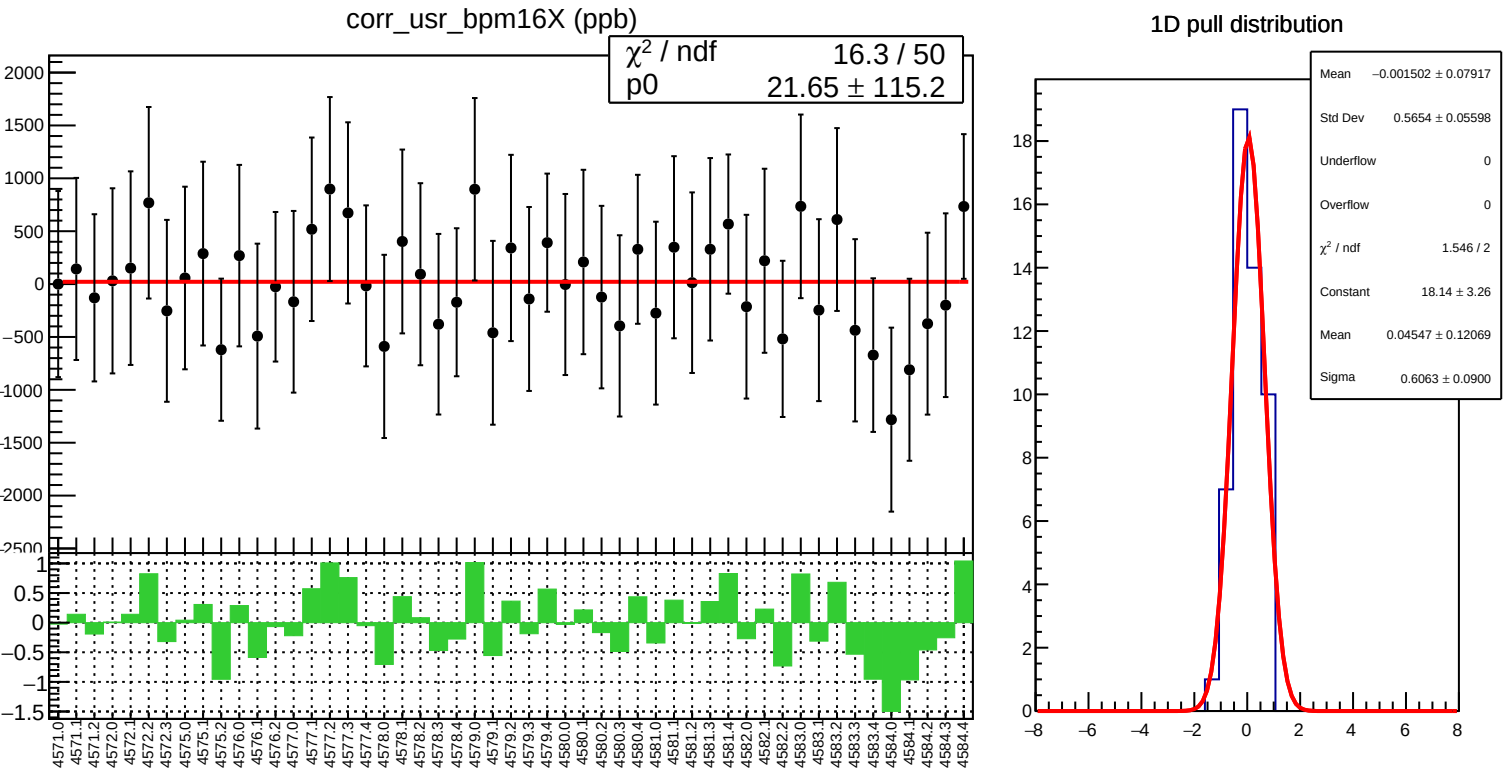

1D pull distribution
Mean −0.0007189 ± 0.08141
Std Dev 0.5814 ± 0.05757
Underflow 0
Overflow 0
χ² / ndf 0.8066 / 3
Constant 17.93 ± 3.14
Mean 0.01445 ± 0.08823
Sigma 0.5991 ± 0.0654
16
14
12
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

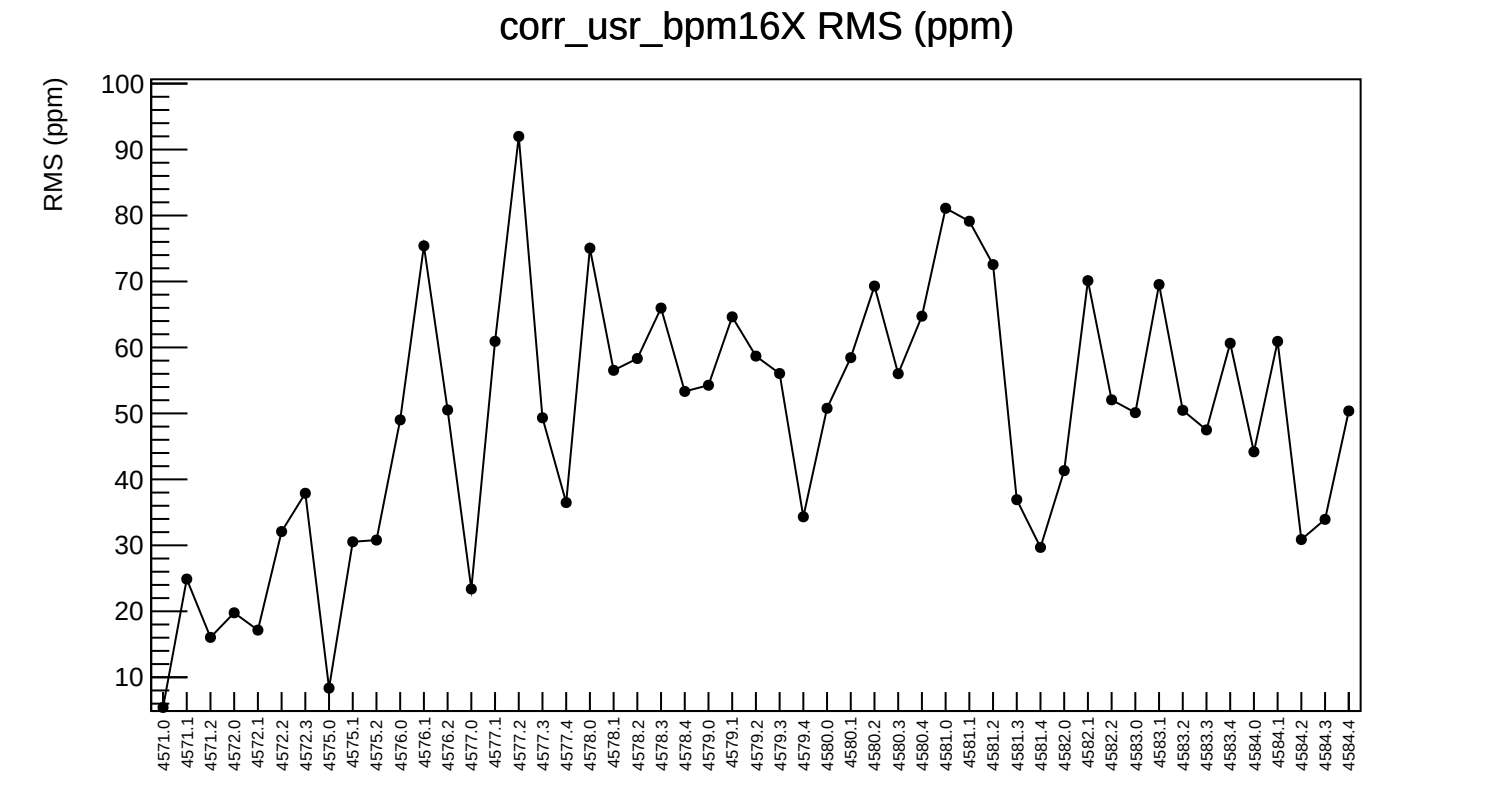

corr_usr_bpm1X RMS (ppm)
RMS (ppm)
120
100
80
60
40
20
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

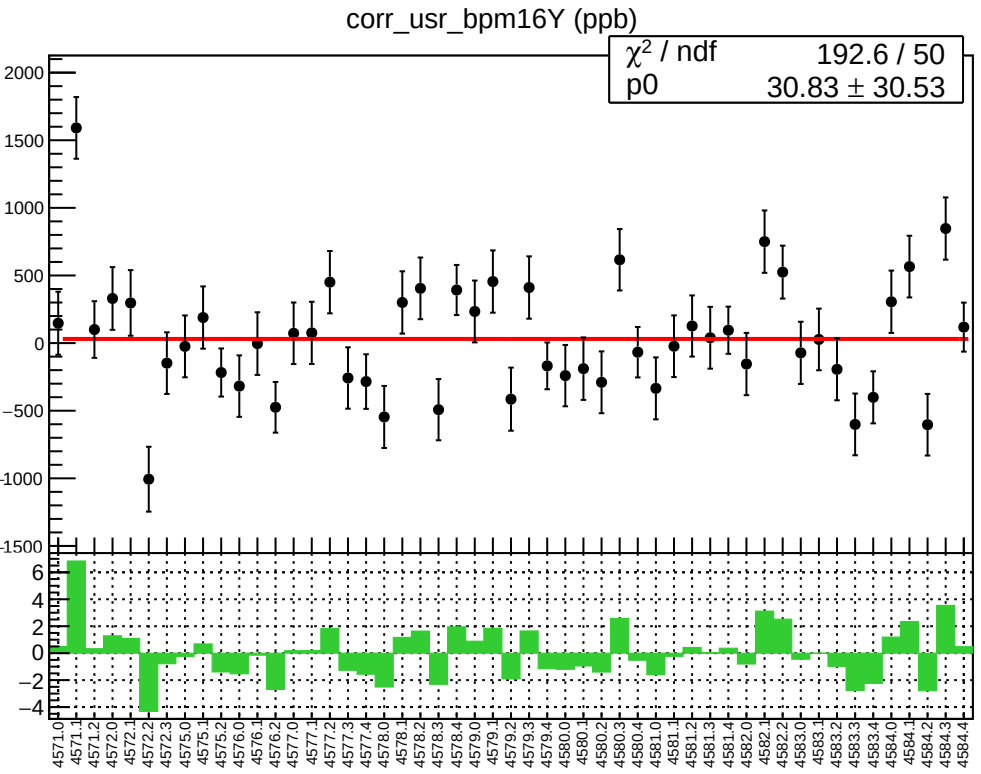

corr_usr_bpm1Y (ppb)
χ² / ndf 47.68 / 50
p0 −19.12 ± 23.65

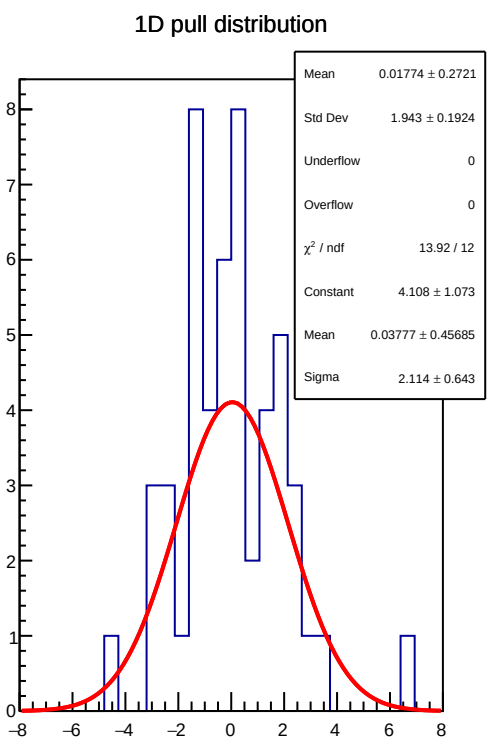

1D pull distribution
Mean 0.006269 ± 0.1354
Std Dev 0.9669 ± 0.09573
Underflow 0
Overflow 0
χ² / ndf 11.82 / 6
Constant 10.86 ± 2.36
Mean −0.197 ± 0.131
Sigma 0.7778 ± 0.1247

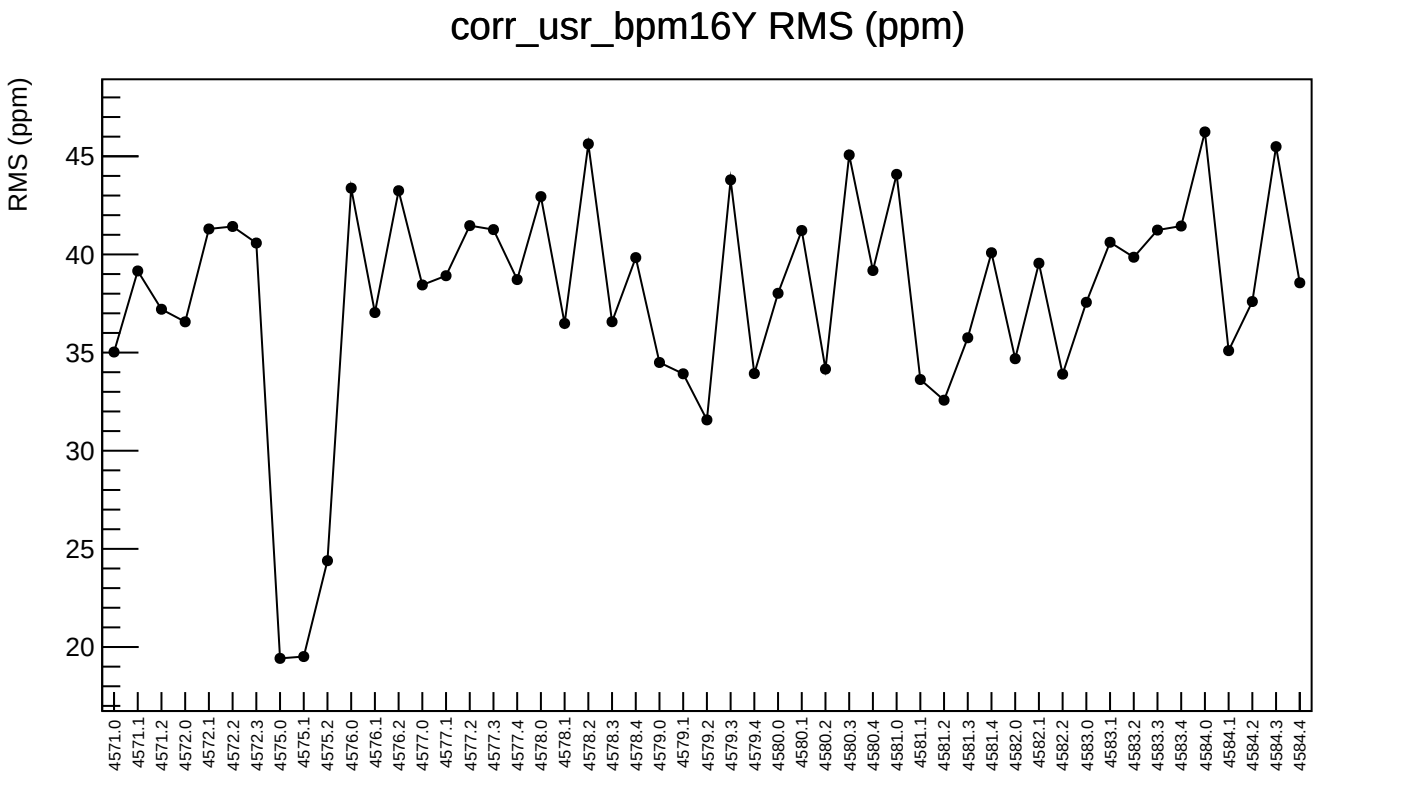

corr_usr_bpm1Y RMS (ppm)
RMS (ppm)
50
45
40
35
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

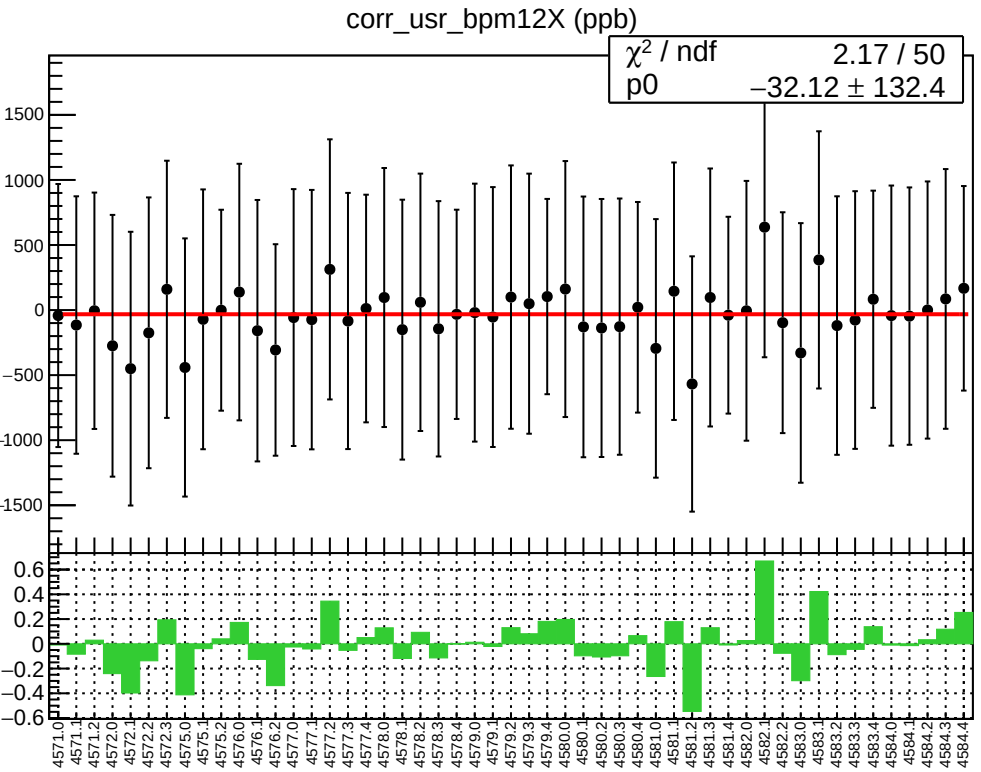

corr_usr_bpm16X (ppb)
χ² / ndf 16.3 / 50
p0 21.65 ± 115.2
1D pull distribution
Mean −0.001502 ± 0.07917
Std Dev 0.5654 ± 0.05598
Underflow 0
Overflow 0
χ² / ndf 1.546 / 2
Constant 18.14 ± 3.26
Mean 0.04547 ± 0.12069
Sigma 0.6063 ± 0.0900

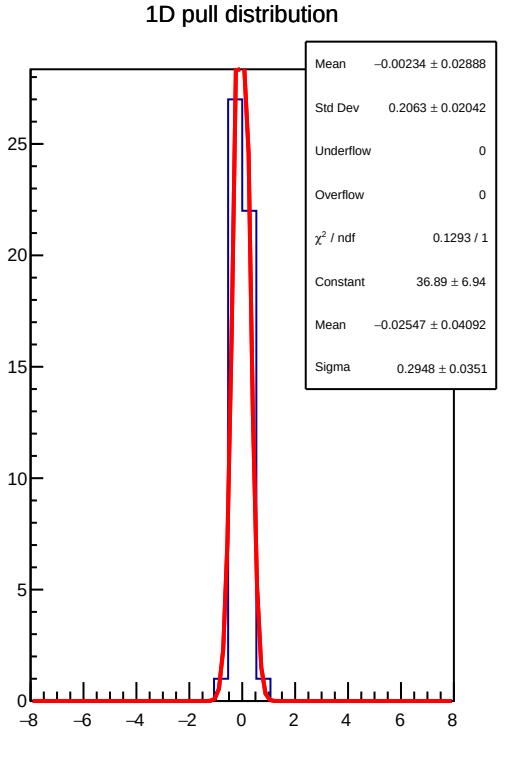

corr_usr_bpm16X RMS (ppm)
RMS (ppm)
100
90
80
70
60
50
40
30
20
10
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

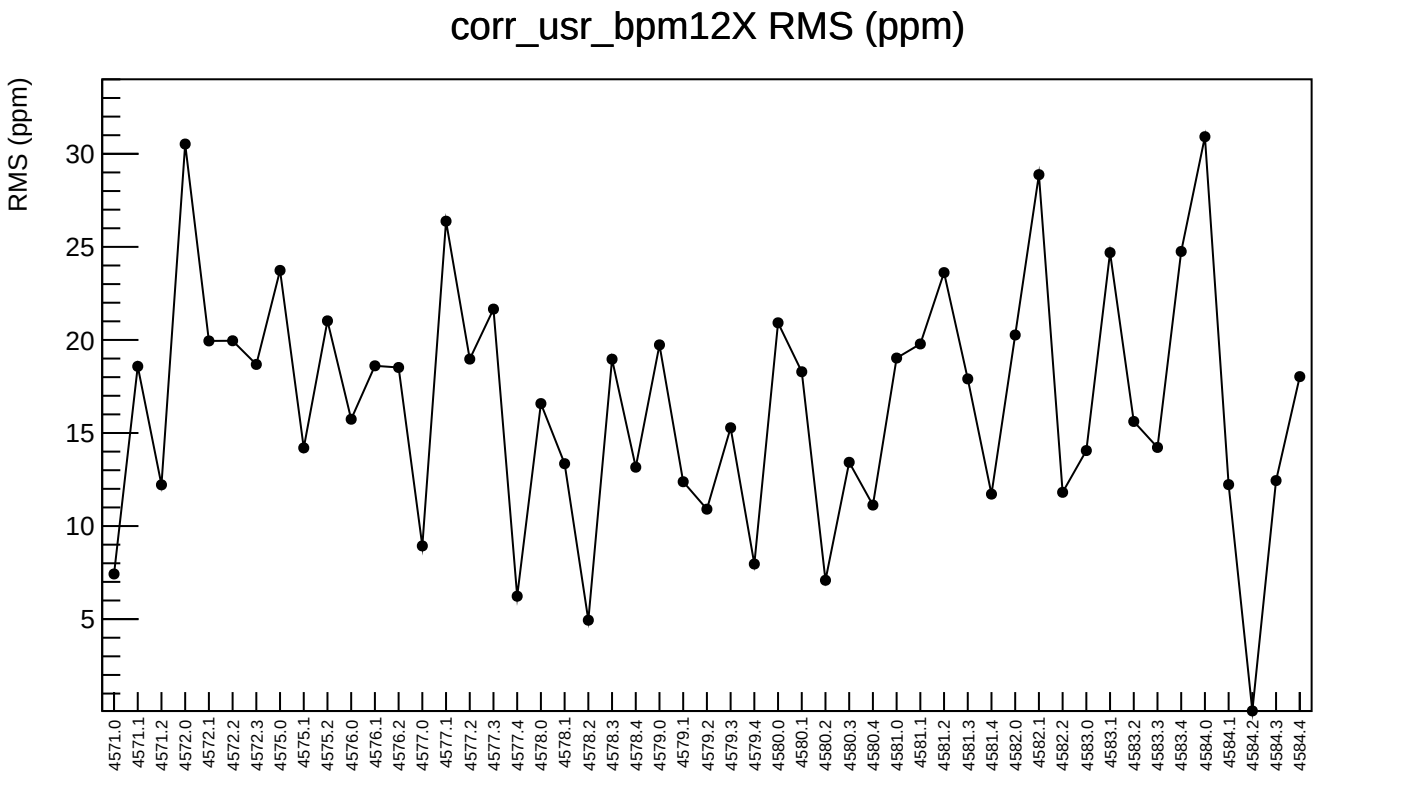

corr_usr_bpm16Y (ppb)
χ² / ndf 192.6 / 50
p0 30.83 ± 30.53
2000
1500
1000
500
0
−500
−1000
−1500
6
4
2
0
−2
−4
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

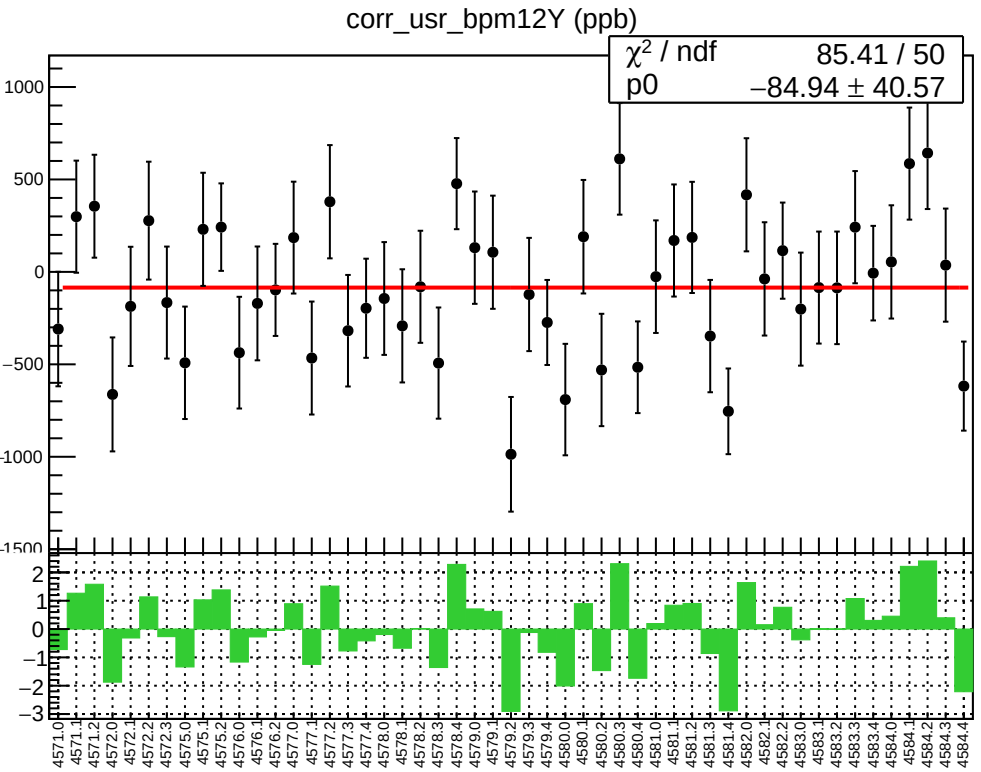

1D pull distribution
Mean 0.01774 ± 0.2721
Std Dev 1.943 ± 0.1924
Underflow 0
Overflow 0
χ² / ndf 13.92 / 12
Constant 4.108 ± 1.073
Mean 0.03777 ± 0.45685
Sigma 2.114 ± 0.643
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

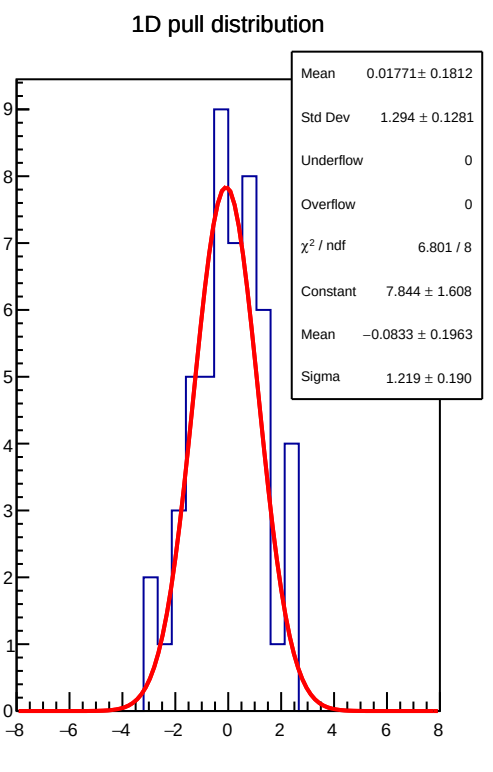

corr_usr_bpm16Y RMS (ppm)
RMS (ppm)
45
40
35
30
25
20
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

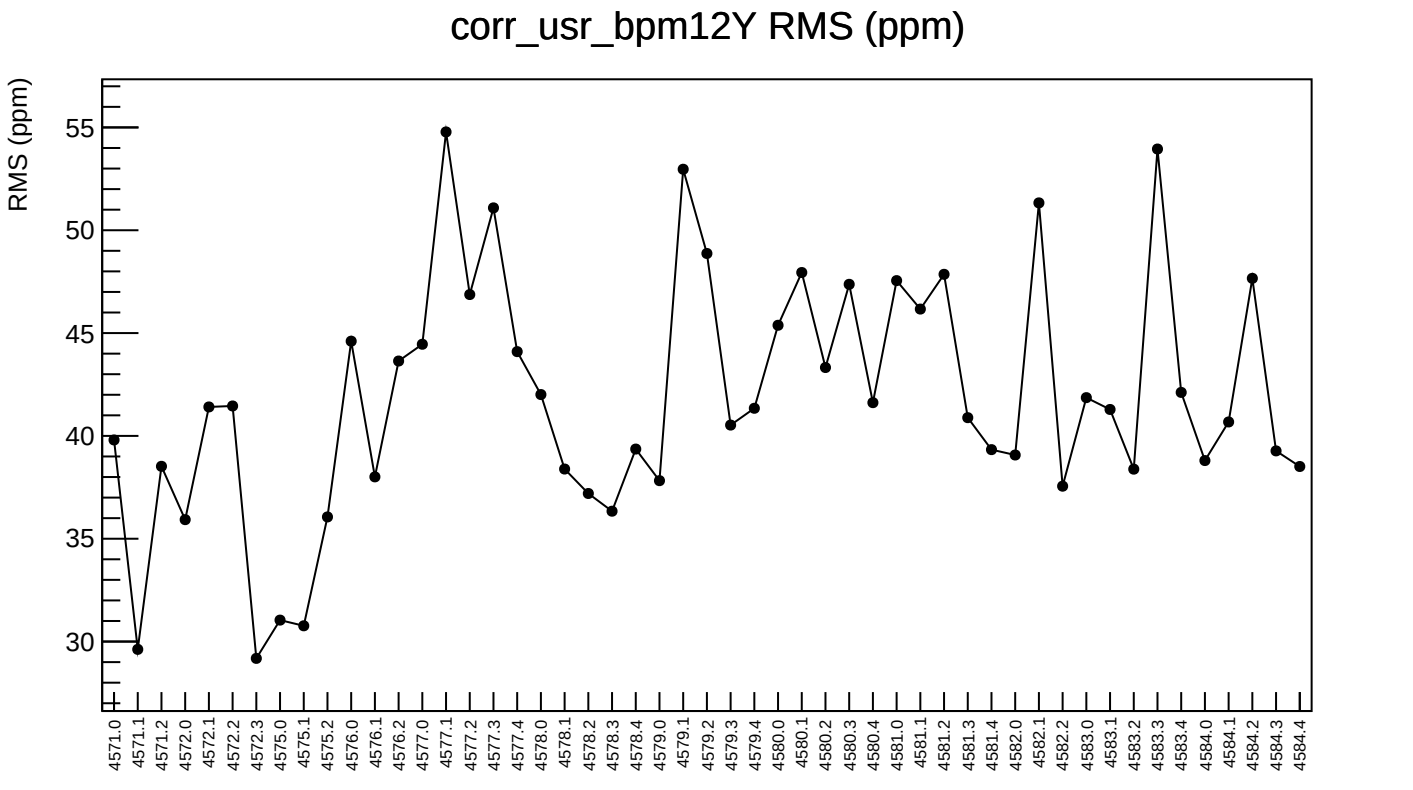

corr_usr_bpm12X (ppb)
χ² / ndf 2.17 / 50
p0 −32.12 ± 132.4
1500
1000
500
0
−500
−1000
−1500
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

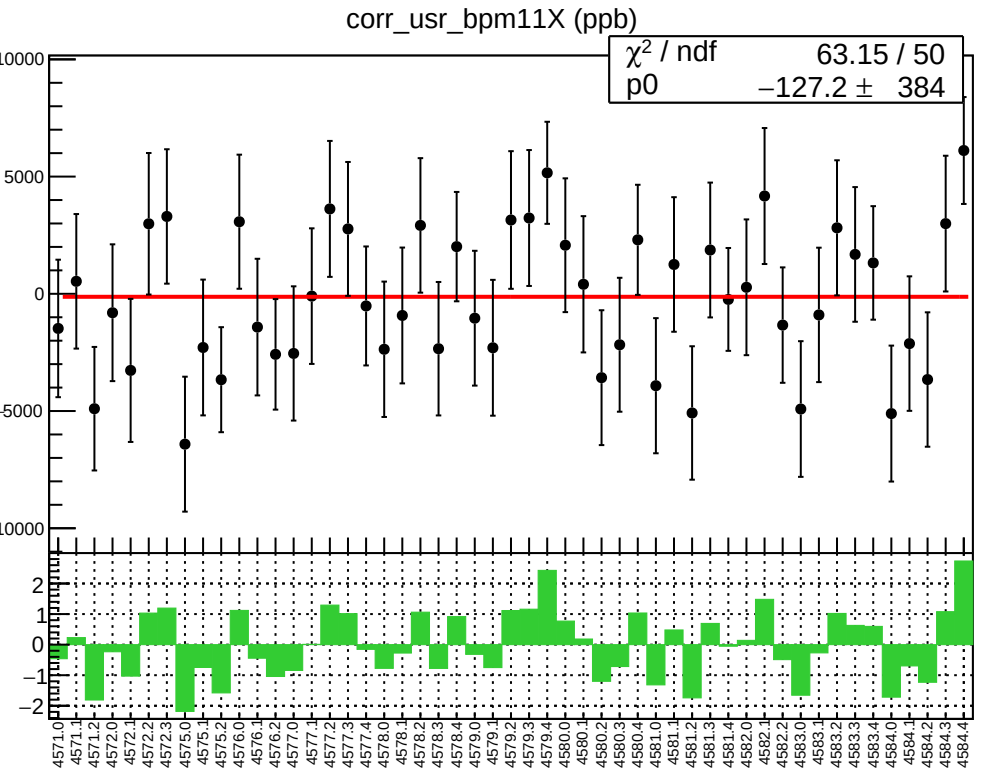

1D pull distribution
Mean −0.00234 ± 0.02888
Std Dev 0.2063 ± 0.02042
Underflow 0
Overflow 0
χ² / ndf 0.1293 / 1
Constant 36.89 ± 6.94
Mean −0.02547 ± 0.04092
Sigma 0.2948 ± 0.0351
25
20
15
10
5
0
−8
−6
−4
−2
0
2
4
6
8

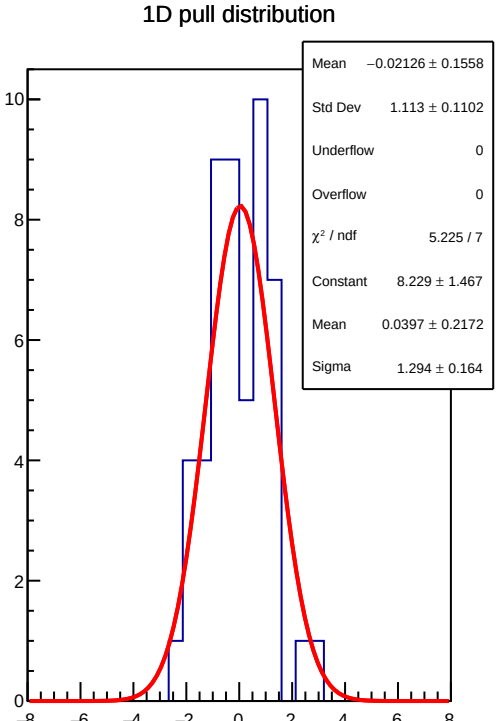

corr_usr_bpm12X RMS (ppm)
RMS (ppm)
30
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

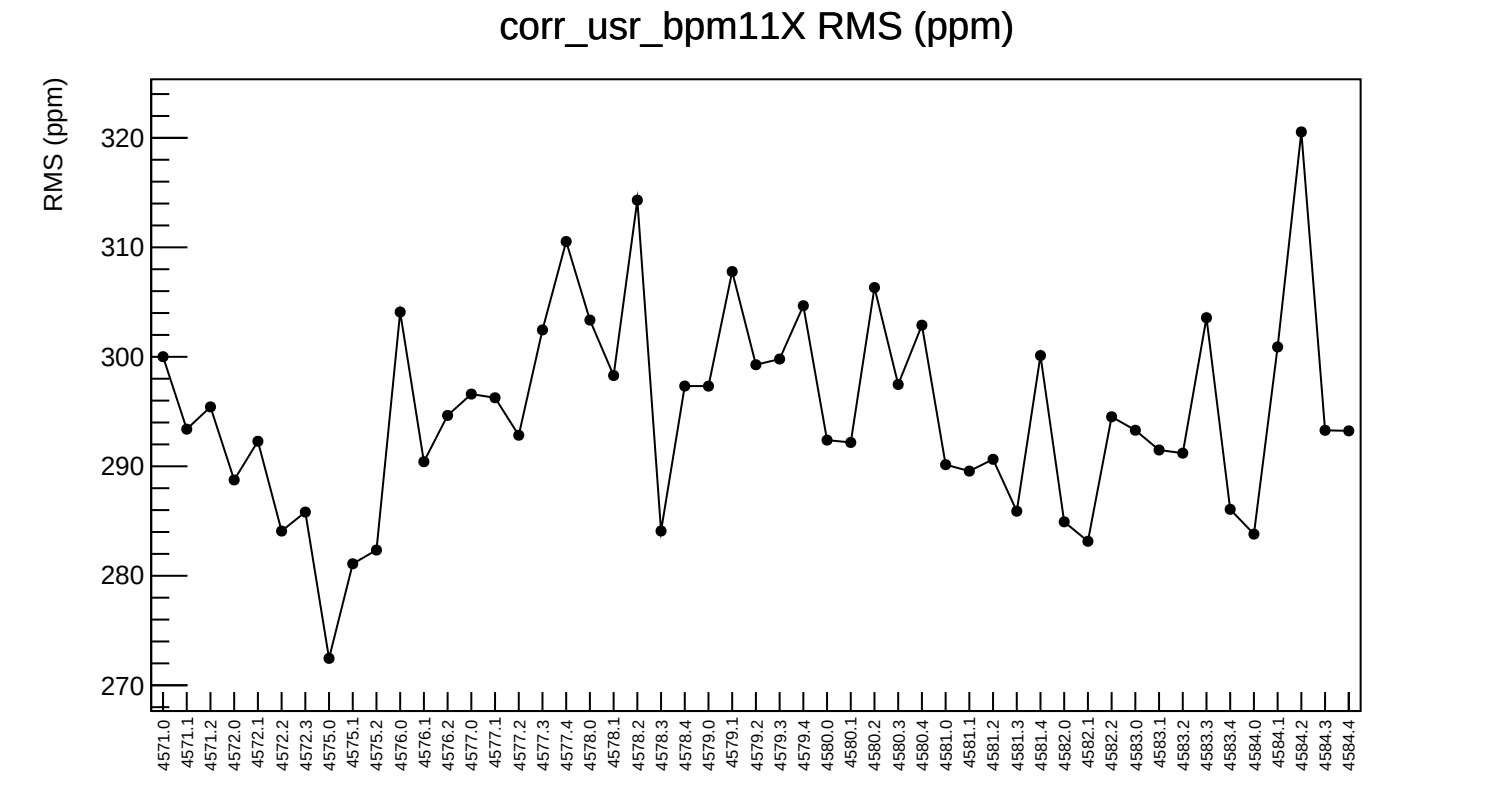

corr_usr_bpm12Y (ppb)
χ² / ndf 85.41 / 50
p0 −84.94 ± 40.57
1000
500
0
−500
−1000
−1500
2
1
0
−1
−2
−3
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

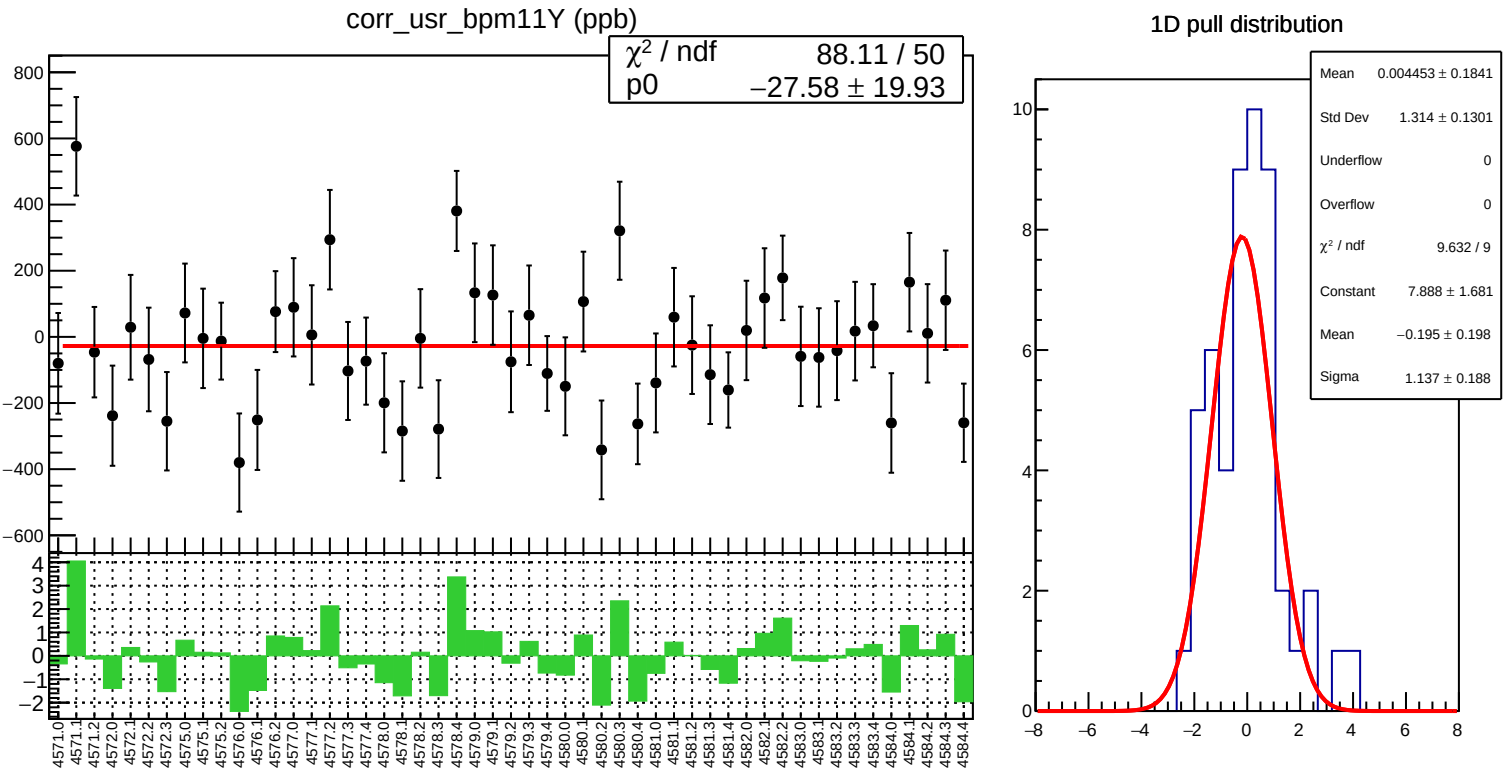

1D pull distribution
Mean 0.01771± 0.1812
Std Dev 1.294 ± 0.1281
Underflow 0
Overflow 0
χ² / ndf 6.801 / 8
Constant 7.844 ± 1.608
Mean −0.0833 ± 0.1963
Sigma 1.219 ± 0.190
9
8
7
6
5
4
3
2
1
0
−8
−6
−4
−2
0
2
4
6
8

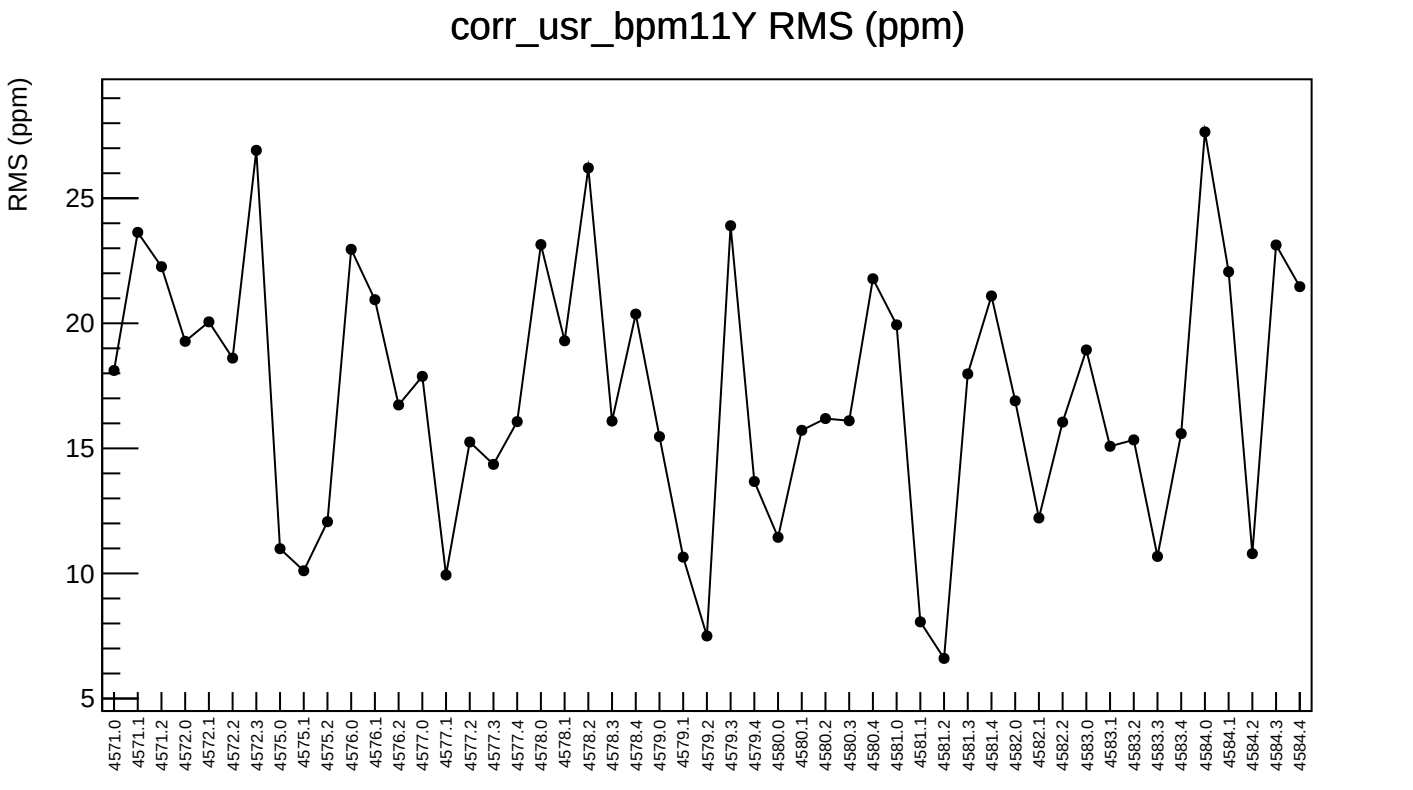

corr_usr_bpm12Y RMS (ppm)
RMS (ppm)
55
50
45
40
35
30
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

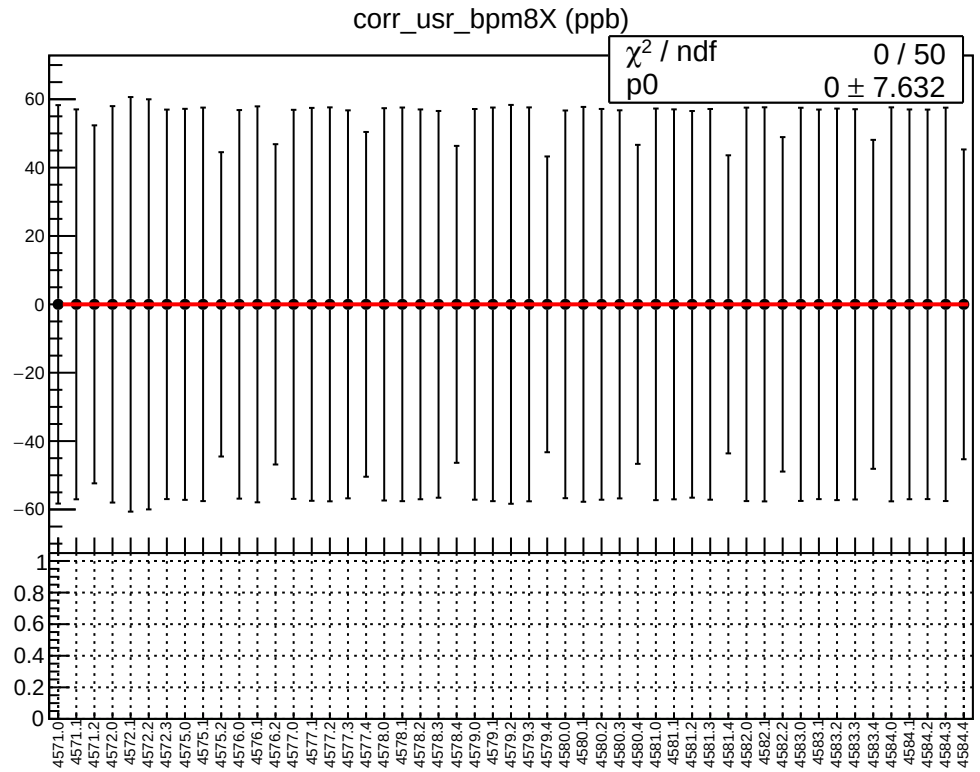

corr_usr_bpm11X (ppb)
χ² / ndf 63.15 / 50
p0 −127.2 ± 384
10000
5000
0
−5000
−10000
2
1
0
−1
−2
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

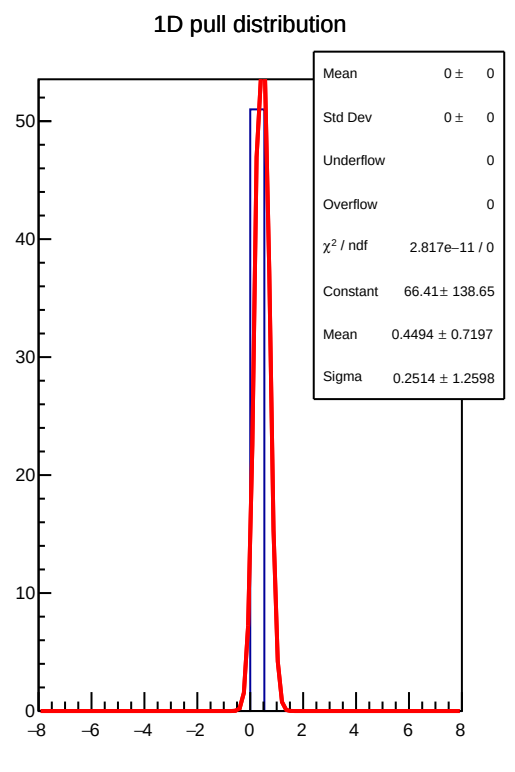

1D pull distribution
Mean −0.02126 ± 0.1558
Std Dev 1.113 ± 0.1102
Underflow 0
Overflow 0
χ² / ndf 5.225 / 7
Constant 8.229 ± 1.467
Mean 0.0397 ± 0.2172
Sigma 1.294 ± 0.164
10
8
6
4
2
0
−8
−6
−4
−2
0
2
4
6
8

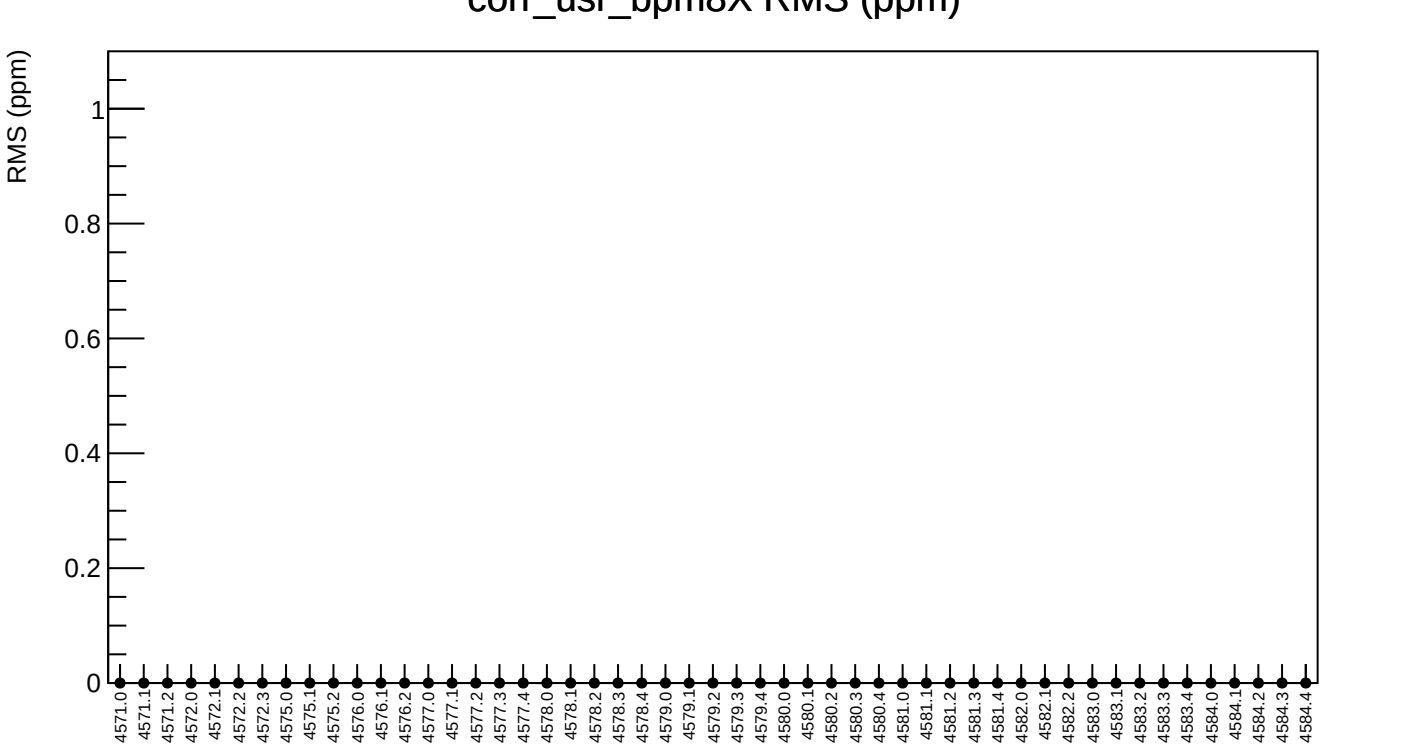

corr_usr_bpm11X RMS (ppm)
RMS (ppm)
320
310
300
290
280
270
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

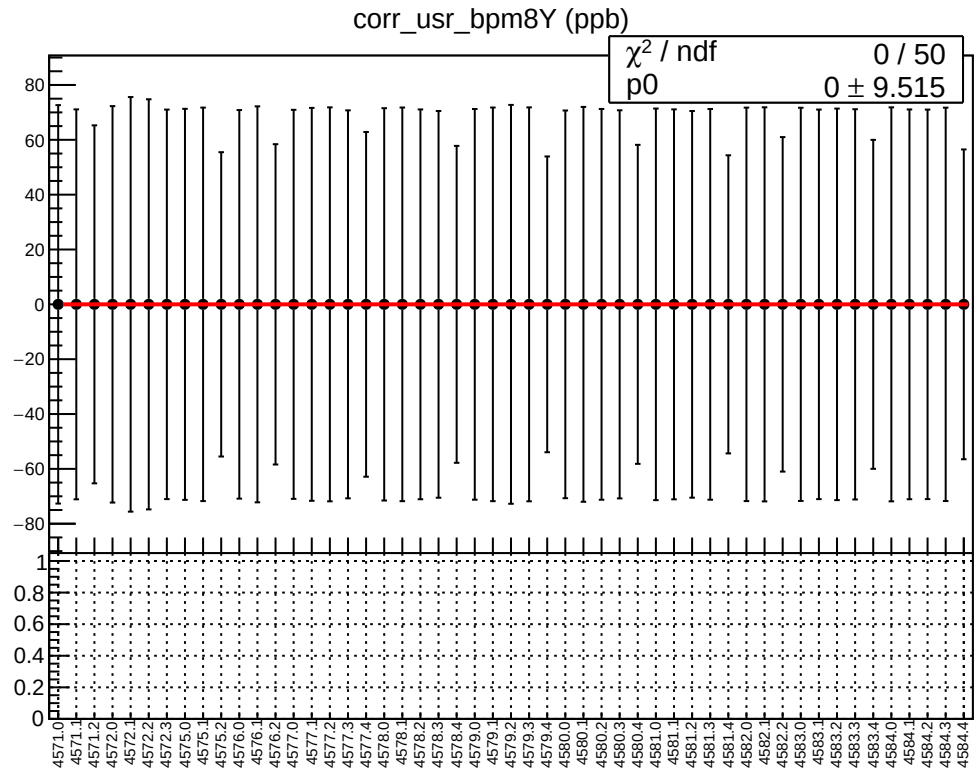

corr_usr_bpm11Y (ppb)
χ² / ndf 88.11 / 50
p0 −27.58 ± 19.93
1D pull distribution
Mean 0.004453 ± 0.1841
Std Dev 1.314 ± 0.1301
Underflow 0
Overflow 0
χ² / ndf 9.632 / 9
Constant 7.888 ± 1.681
Mean −0.195 ± 0.198
Sigma 1.137 ± 0.188

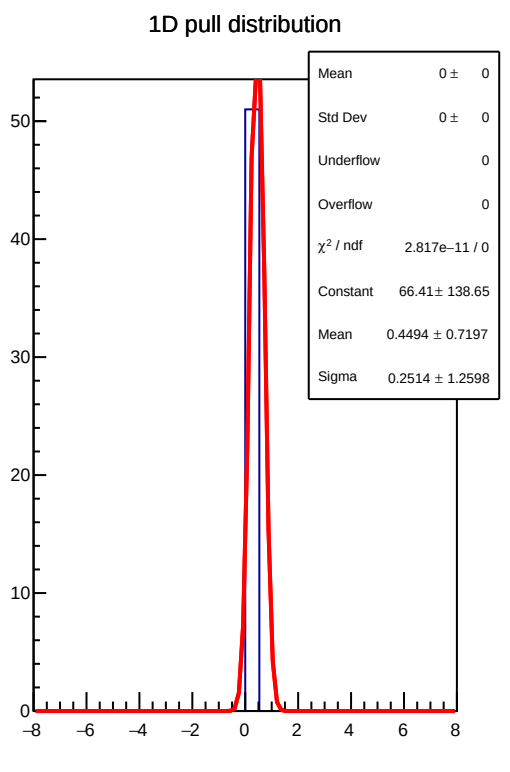

corr_usr_bpm11Y RMS (ppm)
RMS (ppm)
25
20
15
10
5
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4

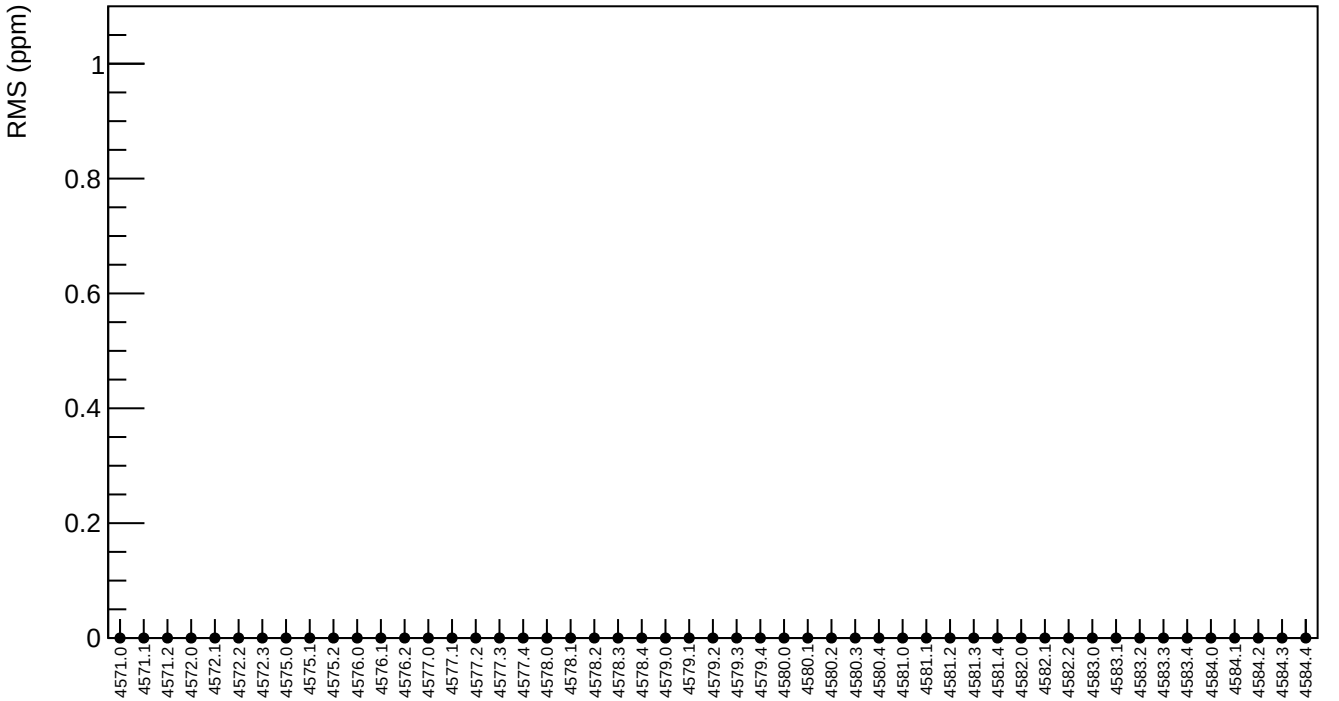

corr_usr_bpm8X (ppb)
χ² / ndf 0 / 50
p0 0 ± 7.632


1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41 ± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598


corr_usr_bpm8X RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
4578.2
4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4


corr_usr_bpm8Y (ppb)
χ² / ndf 0 / 50
p0 0 ± 9.515


1D pull distribution
Mean 0 ± 0
Std Dev 0 ± 0
Underflow 0
Overflow 0
χ² / ndf 2.817e−11 / 0
Constant 66.41 ± 138.65
Mean 0.4494 ± 0.7197
Sigma 0.2514 ± 1.2598


corr_usr_bpm8Y RMS (ppm)
RMS (ppm)
0
0.2
0.4
0.6
0.8
1
4571.0
4571.1
4571.2
4572.0
4572.1
4572.2
4572.3
4575.0
4575.1
4575.2
4576.0
4576.1
4576.2
4577.0
4577.1
4577.2
4577.3
4577.4
4578.0
4578.1
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4578.3
4578.4
4579.0
4579.1
4579.2
4579.3
4579.4
4580.0
4580.1
4580.2
4580.3
4580.4
4581.0
4581.1
4581.2
4581.3
4581.4
4582.0
4582.1
4582.2
4583.0
4583.1
4583.2
4583.3
4583.4
4584.0
4584.1
4584.2
4584.3
4584.4