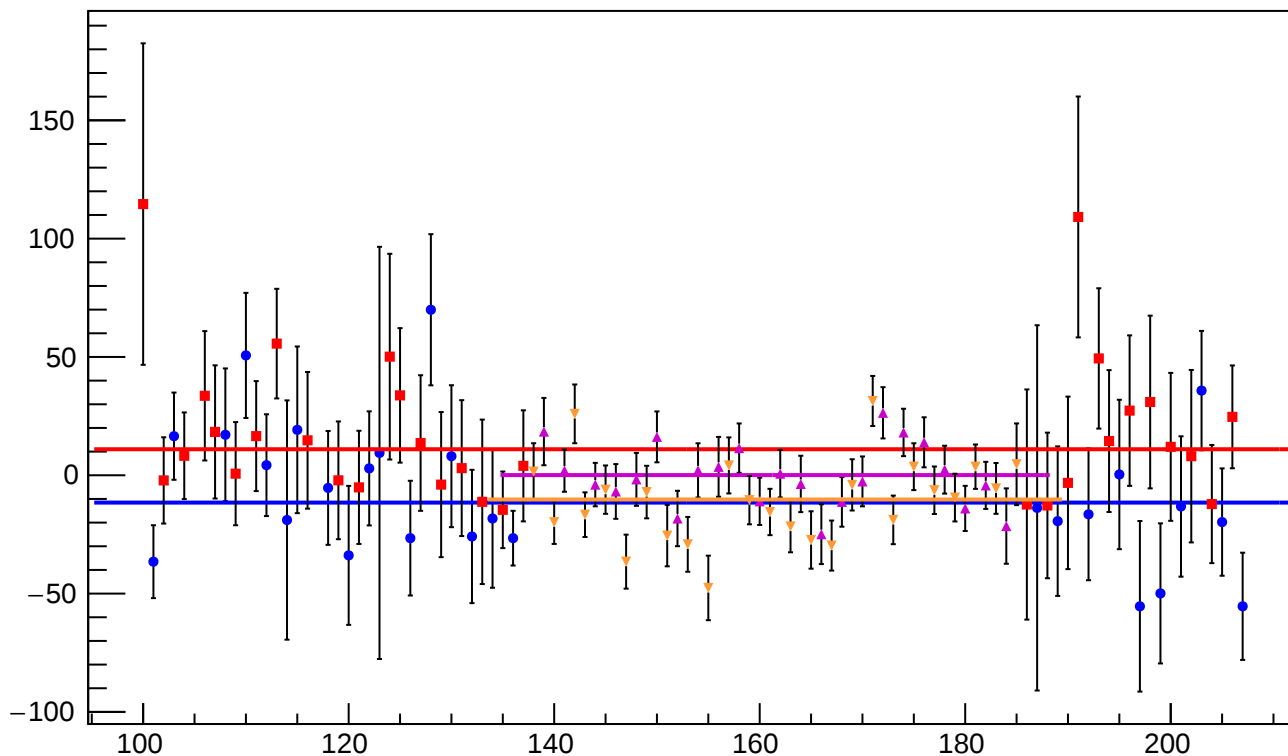


# diff\_bpm4aX\_mean vs Slug, Sign Corrected



Right In:  $-11.542 \pm 4.787$

$\chi^2/\text{NDF}$ : 34.0/26

Left Out:  $-10.238 \pm 2.170$

$\chi^2/\text{NDF}$ : 58.1/24

Right Out:  $11.003 \pm 4.821$

$\chi^2/\text{NDF}$ : 21.4/30

Left In:  $0.080 \pm 2.251$

$\chi^2/\text{NDF}$ : 29.9/22

Left:  $-5.266 \pm 1.562$

$\chi^2/\text{NDF}$ : 98.9/47

Right:  $-0.350 \pm 3.397$

$\chi^2/\text{NDF}$ : 66.4/57

In:  $-2.024 \pm 2.037$

$\chi^2/\text{NDF}$ : 68.7/49

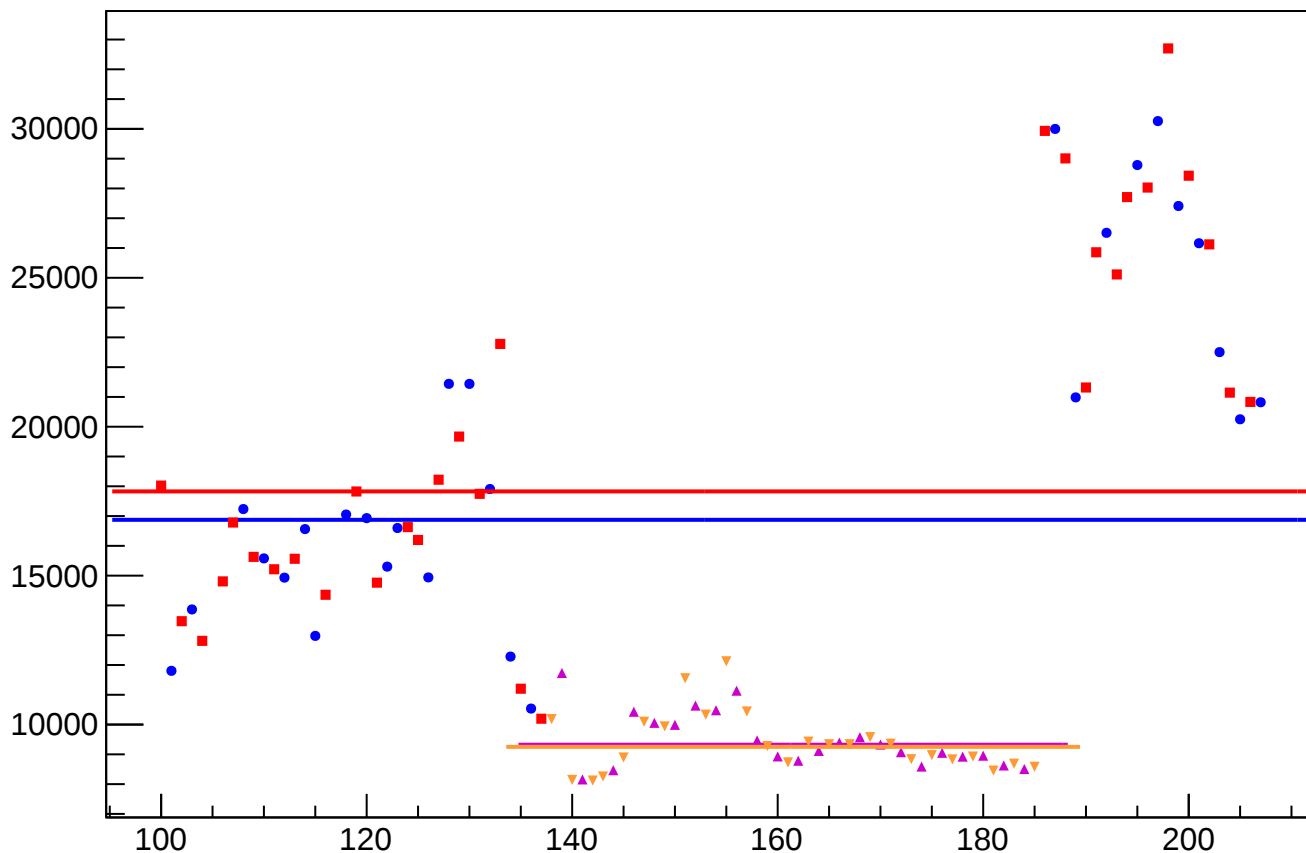
Out:  $-6.659 \pm 1.979$

$\chi^2/\text{NDF}$ : 95.6/55

All:  $-4.408 \pm 1.419$

$\chi^2/\text{NDF}$ : 167.0/105

# diff\_bpm4aX\_rms vs Slug, Sign Corrected



Right In: 16874.132 $\pm$ 3.385  $\chi^2$ /NDF: 2623216.2/26

Left Out: 9251.811 $\pm$ 1.535  $\chi^2$ /NDF:332323.3/24

Right Out: 17828.111 $\pm$ 3.409  $\chi^2$ /NDF: 2760193.5/30

Left In: 9323.983 $\pm$ 1.591  $\chi^2$ /NDF:275717.0/22

Left: 9286.587 $\pm$ 1.105  $\chi^2$ /NDF: 609106.1/47

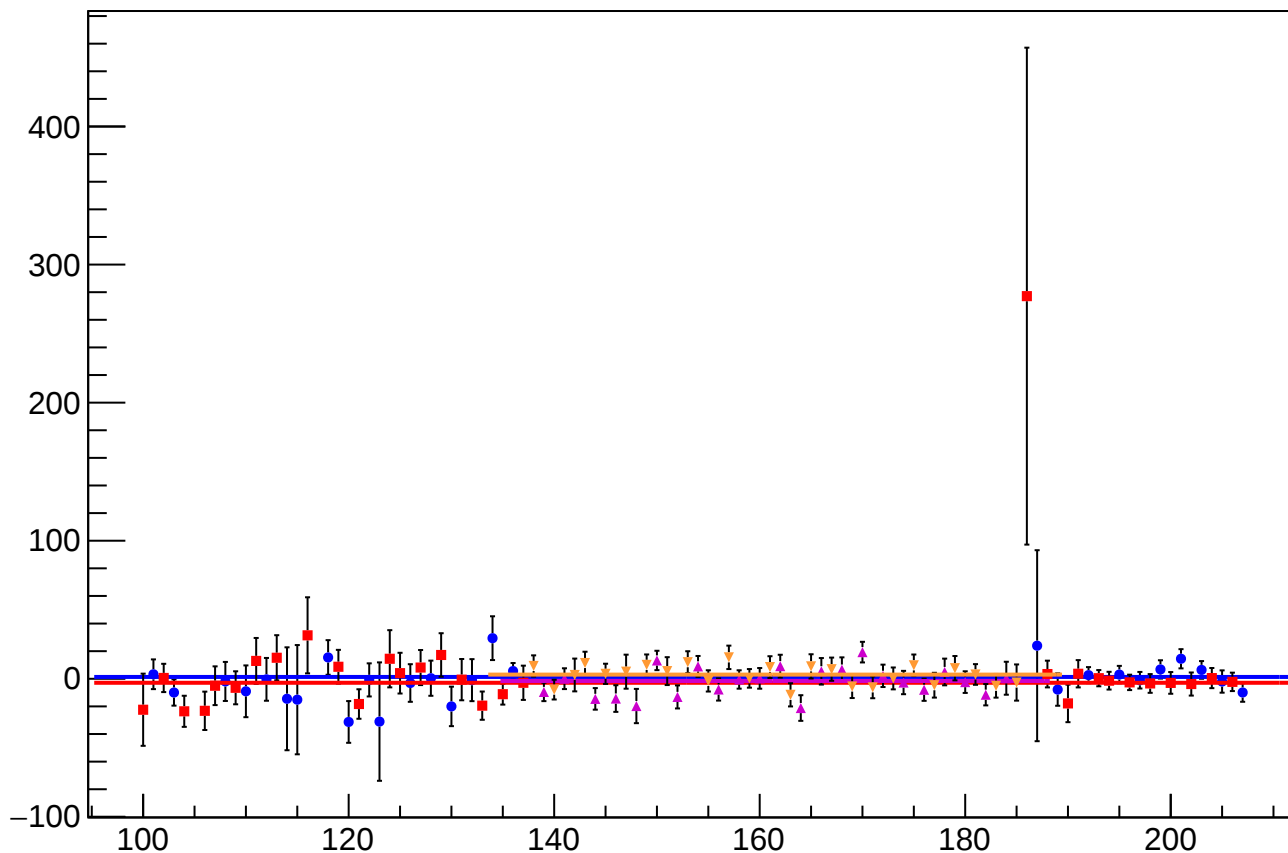
Right: 17347.723 $\pm$ 2.402  $\chi^2$ /NDF: 5422842.9/57

In: 10690.736 $\pm$ 1.440  $\chi^2$ /NDF:6973692.9/49

Out: 10696.857 $\pm$ 1.399  $\chi^2$ /NDF:8355084.1/55

All: 10693.884 $\pm$ 1.004  $\chi^2$ /NDF: 15328786.2

# diff\_bpm4aY\_mean vs Slug, Sign Corrected



Right In:  $1.333 \pm 1.823$   $\chi^2/\text{NDF}$ : 23.6/26

Left Out:  $3.027 \pm 1.661$   $\chi^2/\text{NDF}$ : 18.6/24

Right Out:  $-2.892 \pm 1.766$   $\chi^2/\text{NDF}$ : 25.2/30

Left In:  $-1.588 \pm 1.703$   $\chi^2/\text{NDF}$ : 35.5/22

Left:  $0.777 \pm 1.189$   $\chi^2/\text{NDF}$ : 57.8/47

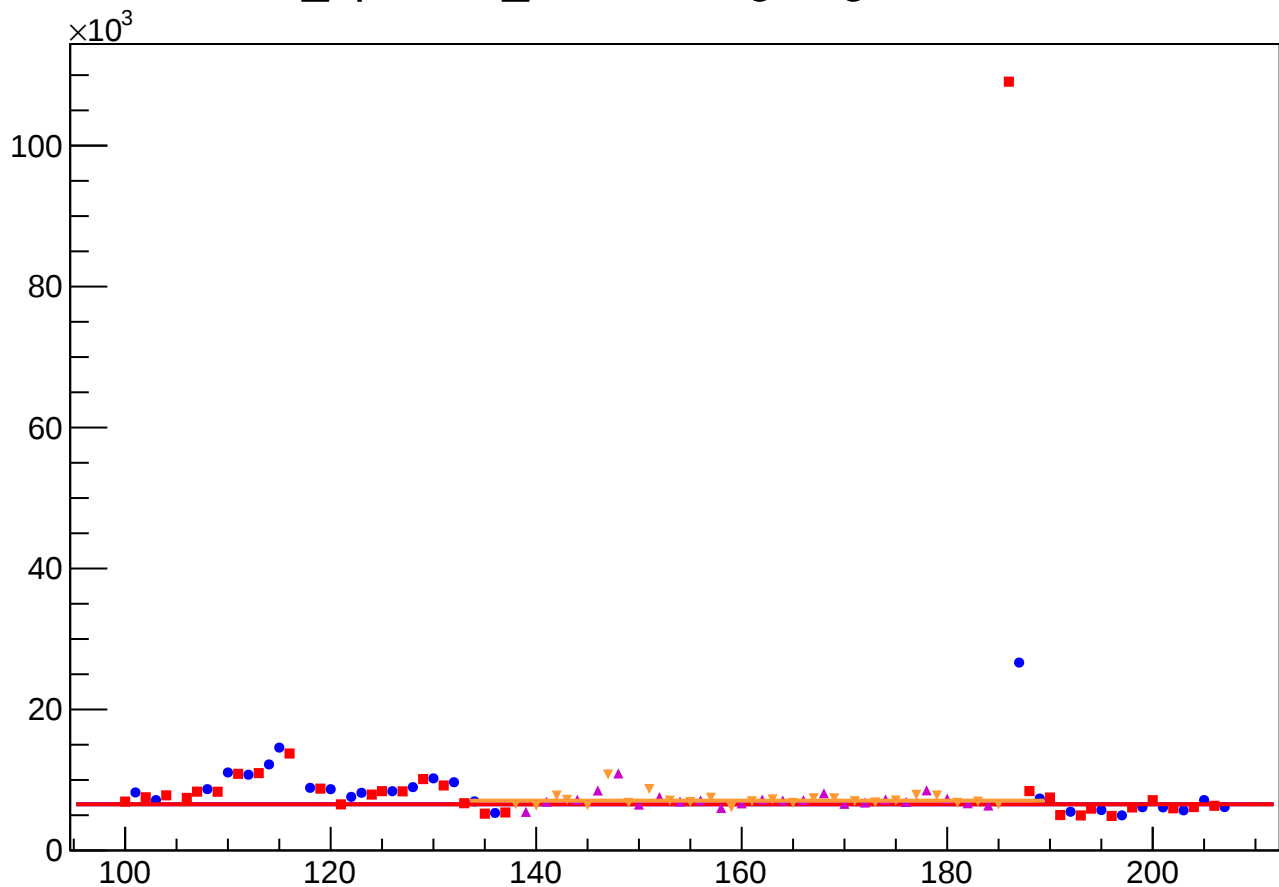
Right:  $-0.847 \pm 1.268$   $\chi^2/\text{NDF}$ : 51.6/57

In:  $-0.227 \pm 1.244$   $\chi^2/\text{NDF}$ : 60.5/49

Out:  $0.249 \pm 1.210$   $\chi^2/\text{NDF}$ : 49.8/55

All:  $0.018 \pm 0.867$   $\chi^2/\text{NDF}$ : 110.3/105

# diff\_bpm4aY\_rms vs Slug, Sign Corrected



Right In:  $6553.490 \pm 1.289$   $\chi^2/\text{NDF}: 1525476.0/26$

Left Out:  $7064.457 \pm 1.174$   $\chi^2/\text{NDF}: 386814.9/24$

Right Out:  $6552.169 \pm 1.249$   $\chi^2/\text{NDF}: 2102086.7/30$

Left In:  $7014.572 \pm 1.204$   $\chi^2/\text{NDF}: 525313.7/22$

Left:  $7040.137 \pm 0.841$   $\chi^2/\text{NDF}: 913008.5/47$

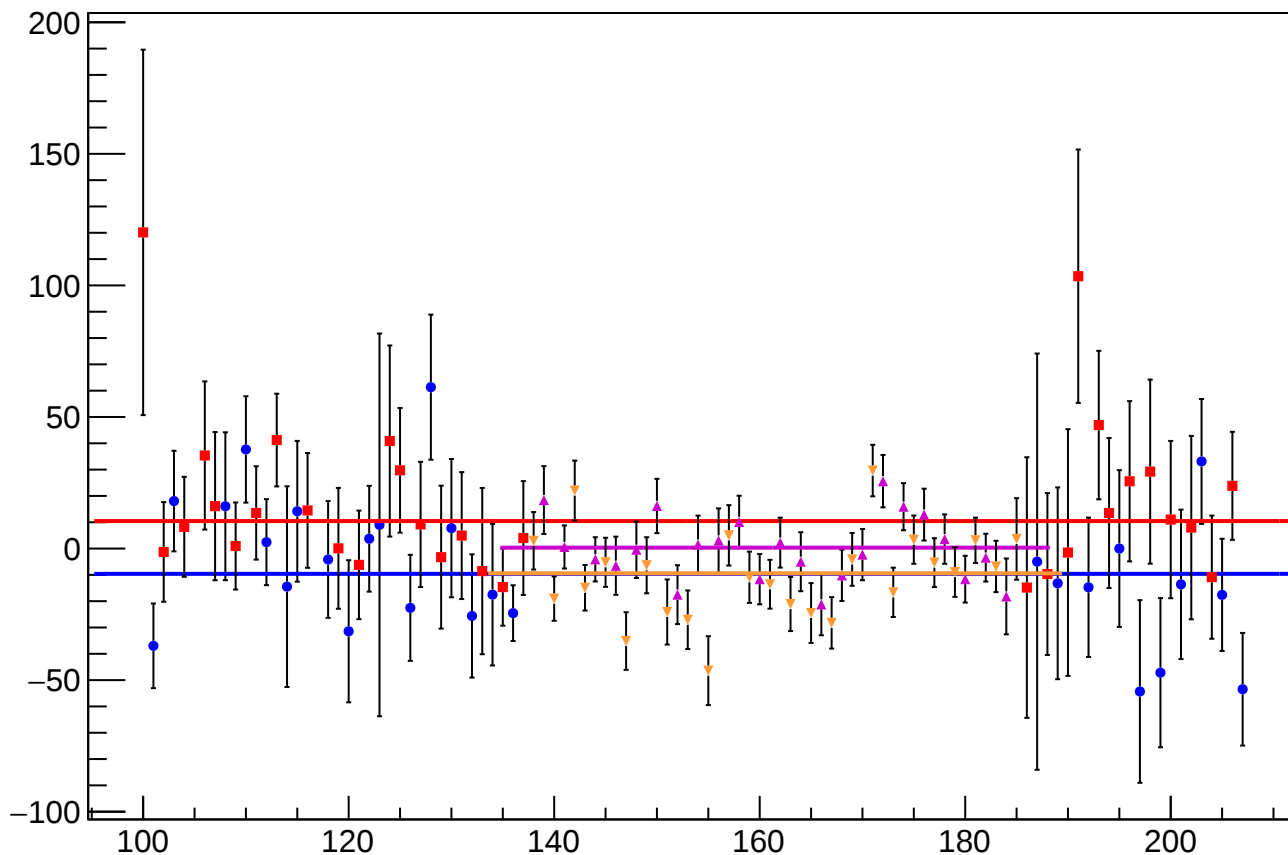
Right:  $6552.808 \pm 0.897$   $\chi^2/\text{NDF}: 3627563.2/57$

In:  $6799.757 \pm 0.880$   $\chi^2/\text{NDF}: 2119126.9/49$

Out:  $6824.040 \pm 0.855$   $\chi^2/\text{NDF}: 2578230.3/55$

All:  $6812.240 \pm 0.613$   $\chi^2/\text{NDF}: 4697748.8/100$

# diff\_bpm4eX\_mean vs Slug, Sign Corrected



Right In:  $-9.613 \pm 4.365$   $\chi^2/\text{NDF}$ : 35.0/26

Left Out:  $-9.411 \pm 2.021$   $\chi^2/\text{NDF}$ : 58.8/24

Right Out:  $10.450 \pm 4.355$   $\chi^2/\text{NDF}$ : 21.0/30

Left In:  $0.344 \pm 2.100$   $\chi^2/\text{NDF}$ : 29.9/22

Left:  $-4.722 \pm 1.456$   $\chi^2/\text{NDF}$ : 99.9/47

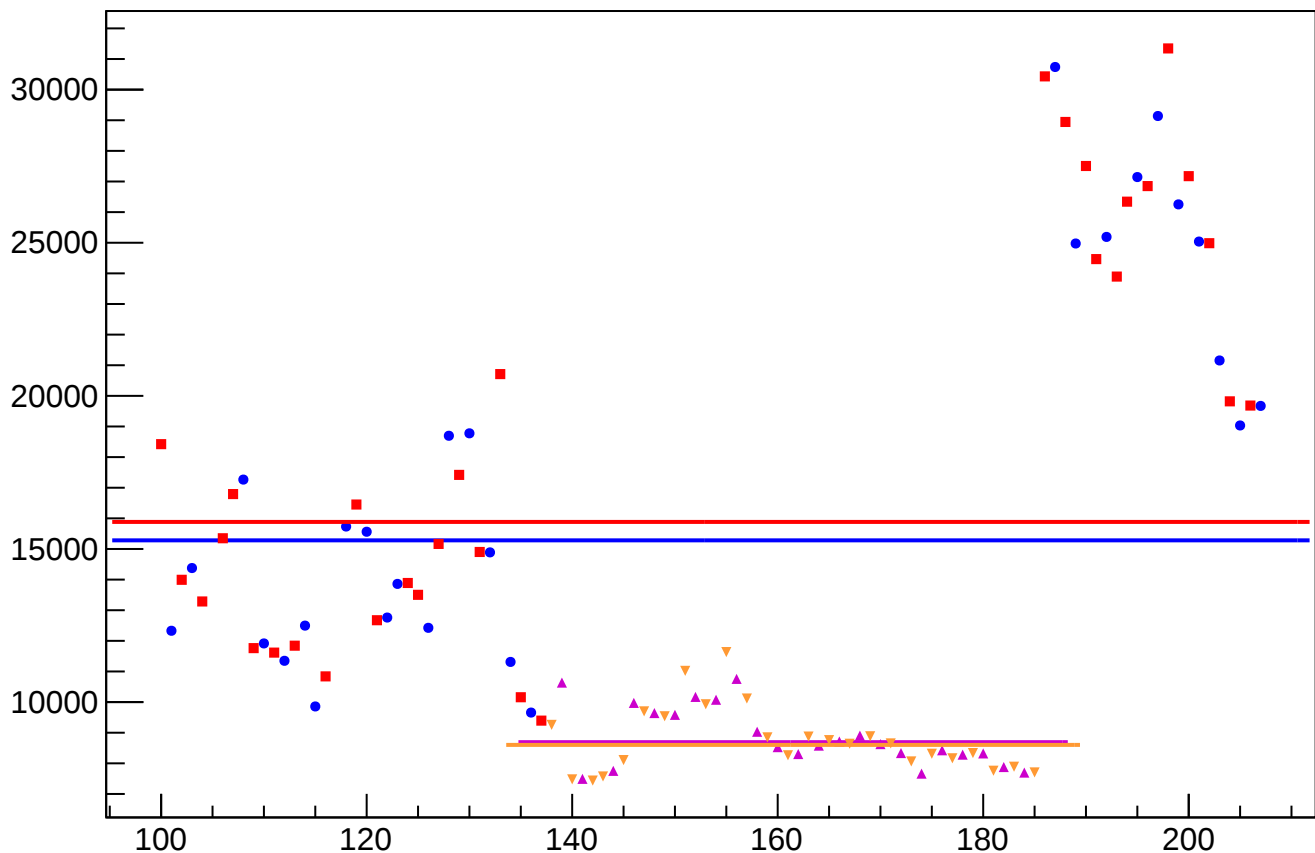
Right:  $0.441 \pm 3.083$   $\chi^2/\text{NDF}$ : 66.7/57

In:  $-1.529 \pm 1.893$   $\chi^2/\text{NDF}$ : 69.2/49

Out:  $-5.891 \pm 1.833$   $\chi^2/\text{NDF}$ : 96.9/55

All:  $-3.780 \pm 1.317$   $\chi^2/\text{NDF}$ : 168.8/105

# diff\_bpm4eX\_rms vs Slug, Sign Corrected



Right In: 15281.779 $\pm$ 3.086  $\chi^2$ /NDF: 3031991.3/26

Left Out: 8602.220 $\pm$ 1.429  $\chi^2$ /NDF:438805.2/24

Right Out: 15883.654 $\pm$ 3.079  $\chi^2$ /NDF: 3480536.7/30

Left In: 8691.203 $\pm$ 1.485  $\chi^2$ /NDF:365254.6/22

Left: 8644.996 $\pm$ 1.030  $\chi^2$ /NDF: 805923.5/47

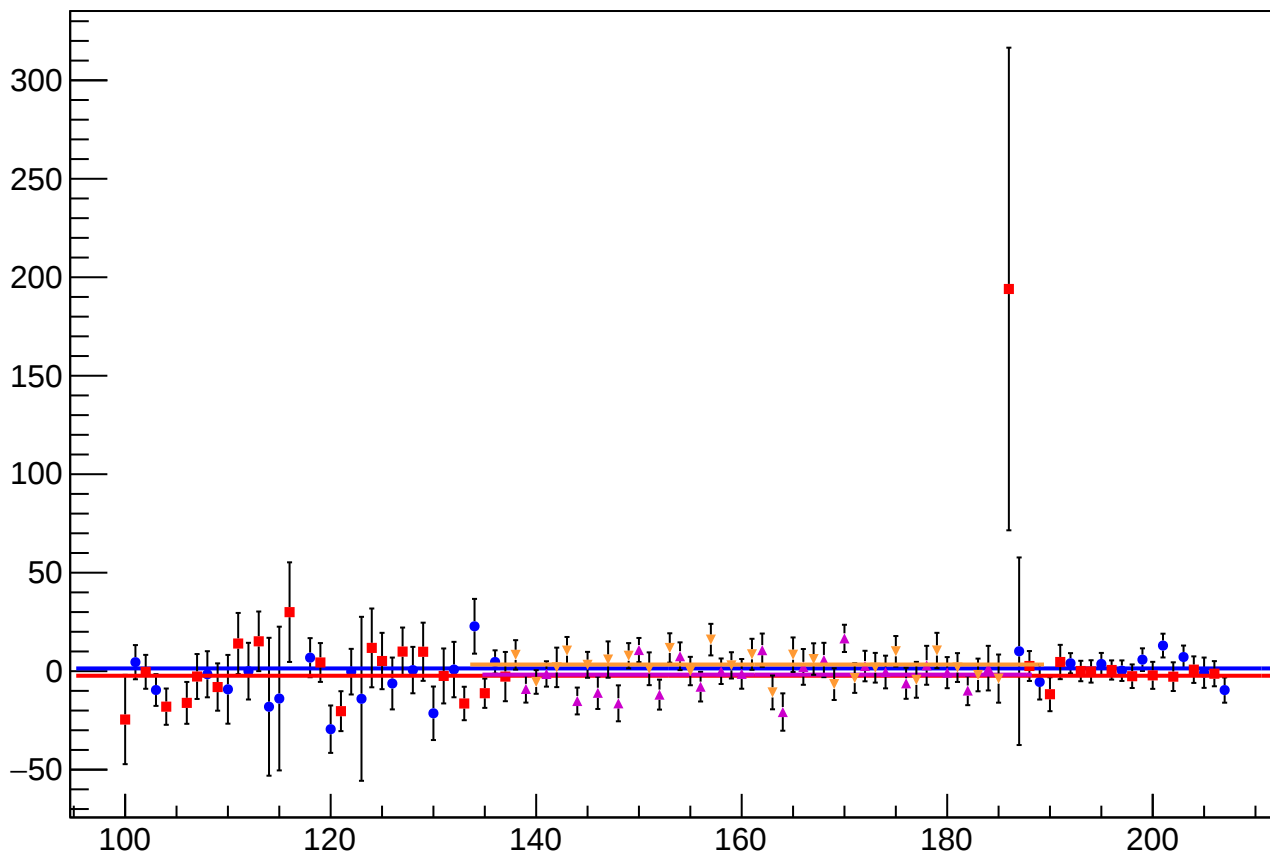
Right: 15583.411 $\pm$ 2.180  $\chi^2$ /NDF: 6531586.8/57

In: 9930.517 $\pm$ 1.338  $\chi^2$ /NDF:7099714.3/49

Out: 9892.607 $\pm$ 1.296  $\chi^2$ /NDF:8520177.6/55

All: 9910.956 $\pm$ 0.931  $\chi^2$ /NDF: 15620305.8/1

# diff\_bpm4eY\_mean vs Slug, Sign Corrected



Right In:  $1.392 \pm 1.631$   $\chi^2/\text{NDF}$ : 25.2/26

Left Out:  $3.374 \pm 1.552$   $\chi^2/\text{NDF}$ : 17.2/24

Right Out:  $-2.324 \pm 1.558$   $\chi^2/\text{NDF}$ : 25.9/30

Left In:  $-1.756 \pm 1.607$   $\chi^2/\text{NDF}$ : 33.5/22

Left:  $0.899 \pm 1.116$   $\chi^2/\text{NDF}$ : 56.0/47

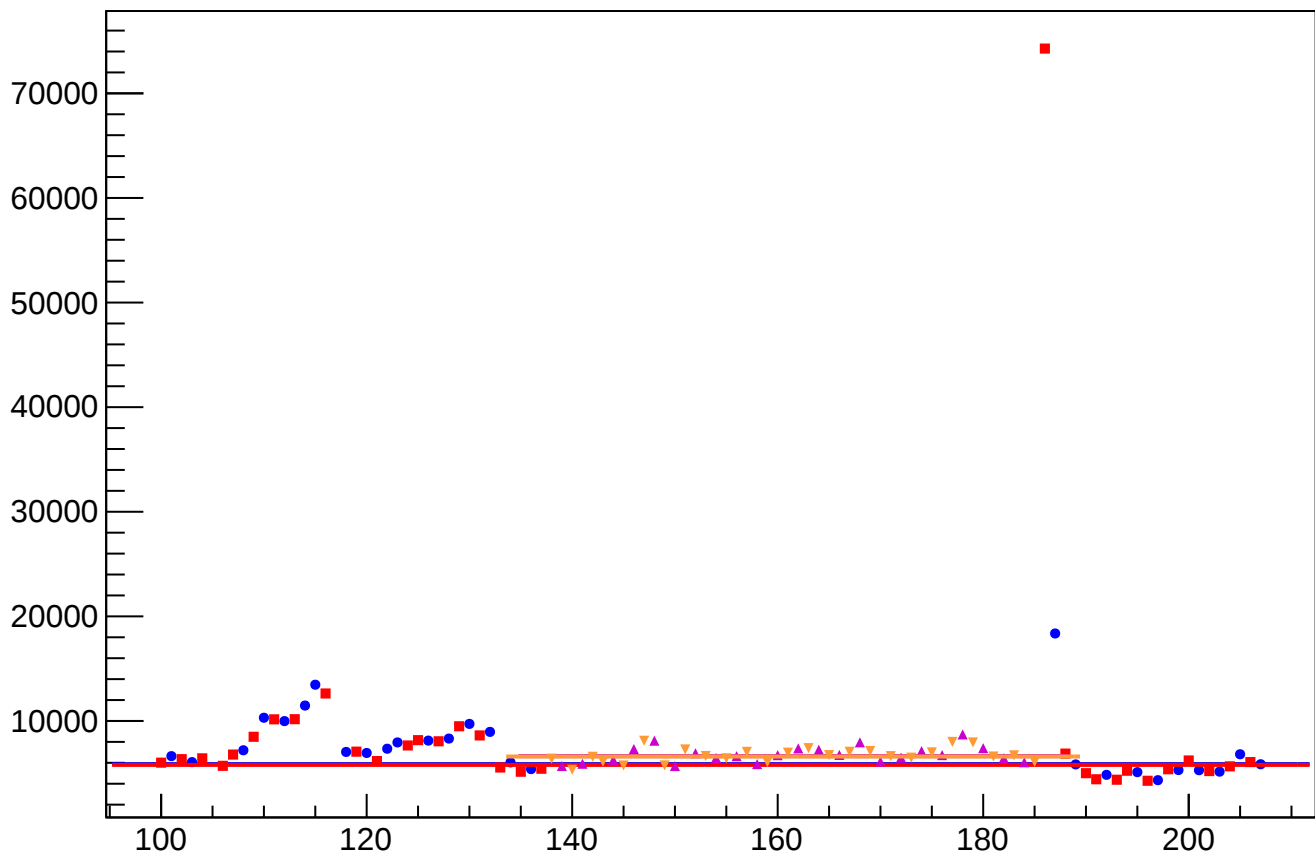
Right:  $-0.550 \pm 1.127$   $\chi^2/\text{NDF}$ : 53.8/57

In:  $-0.205 \pm 1.145$   $\chi^2/\text{NDF}$ : 60.6/49

Out:  $0.537 \pm 1.100$   $\chi^2/\text{NDF}$ : 49.8/55

All:  $0.181 \pm 0.793$   $\chi^2/\text{NDF}$ : 110.7/105

# diff\_bpm4eY\_rms vs Slug, Sign Corrected



Right In: 5874.759+/-1.153

$\chi^2/\text{NDF}$ : 1492300.9/26

Left Out: 6603.953+/-1.097

$\chi^2/\text{NDF}$ : 395247.5/24

Right Out: 5802.732+/-1.102

$\chi^2/\text{NDF}$ : 2132962.4/30

Left In: 6637.155+/-1.136

$\chi^2/\text{NDF}$ : 415547.5/22

Left: 6619.974+/-0.789  $\chi^2/\text{NDF}$ : 811236.9/47

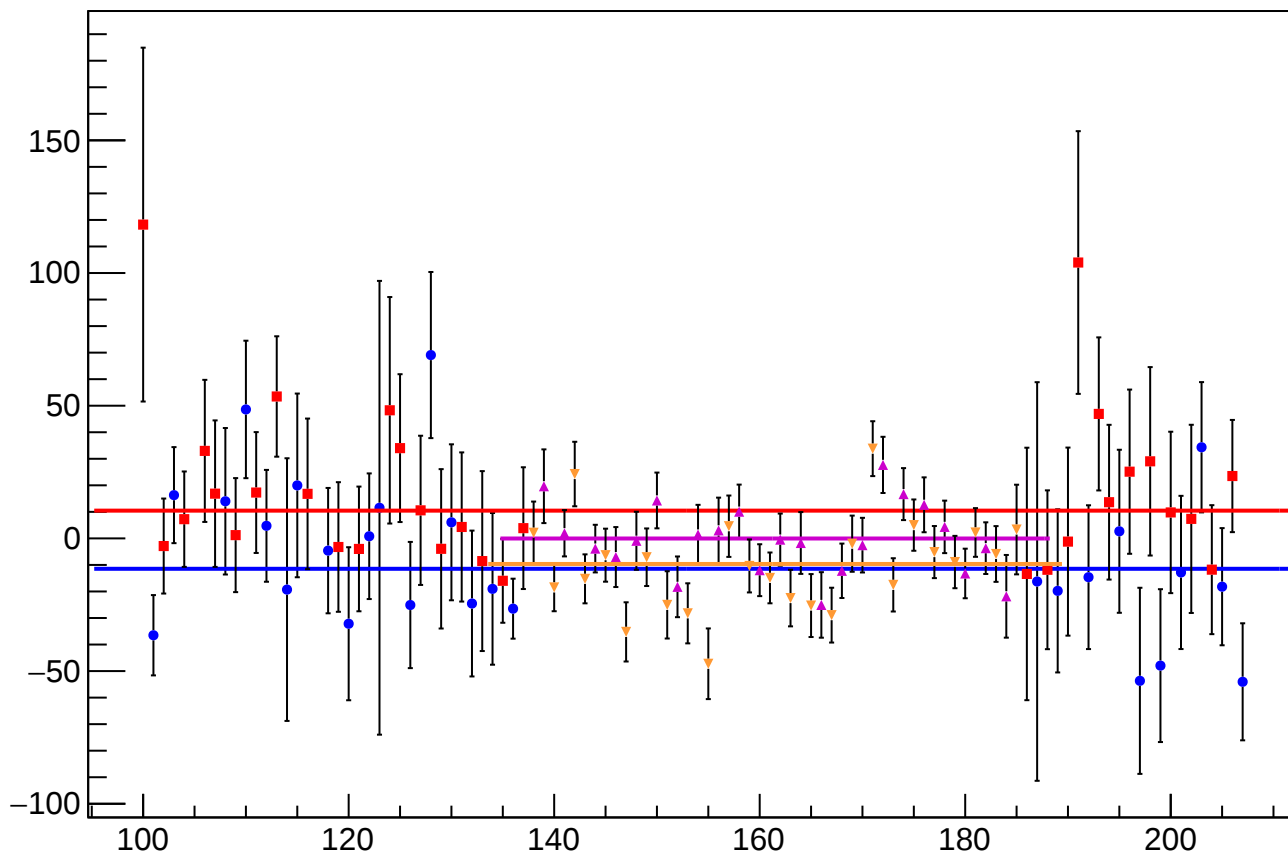
Right: 5837.111+/-0.797  $\chi^2/\text{NDF}$ : 3627302.6/57

In: 6261.550+/-0.809  $\chi^2/\text{NDF}$ : 2129623.0/49

Out: 6205.030+/-0.778  $\chi^2/\text{NDF}$ : 2793670.1/55

All: 6232.156+/-0.561  $\chi^2/\text{NDF}$ : 4925829.1/100

# diff\_bpm4acX\_mean vs Slug, Sign Corrected



Right In: -11.457 $\pm$ 4.683  $\chi^2/\text{NDF}$ : 33.7/26

Left Out: -9.640 $\pm$ 2.122  $\chi^2/\text{NDF}$ : 59.9/24

Right Out: 10.461 $\pm$ 4.717  $\chi^2/\text{NDF}$ : 21.4/30

Left In: -0.042 $\pm$ 2.200  $\chi^2/\text{NDF}$ : 30.8/22

Left: -5.015 $\pm$ 1.527  $\chi^2/\text{NDF}$ : 100.5/47

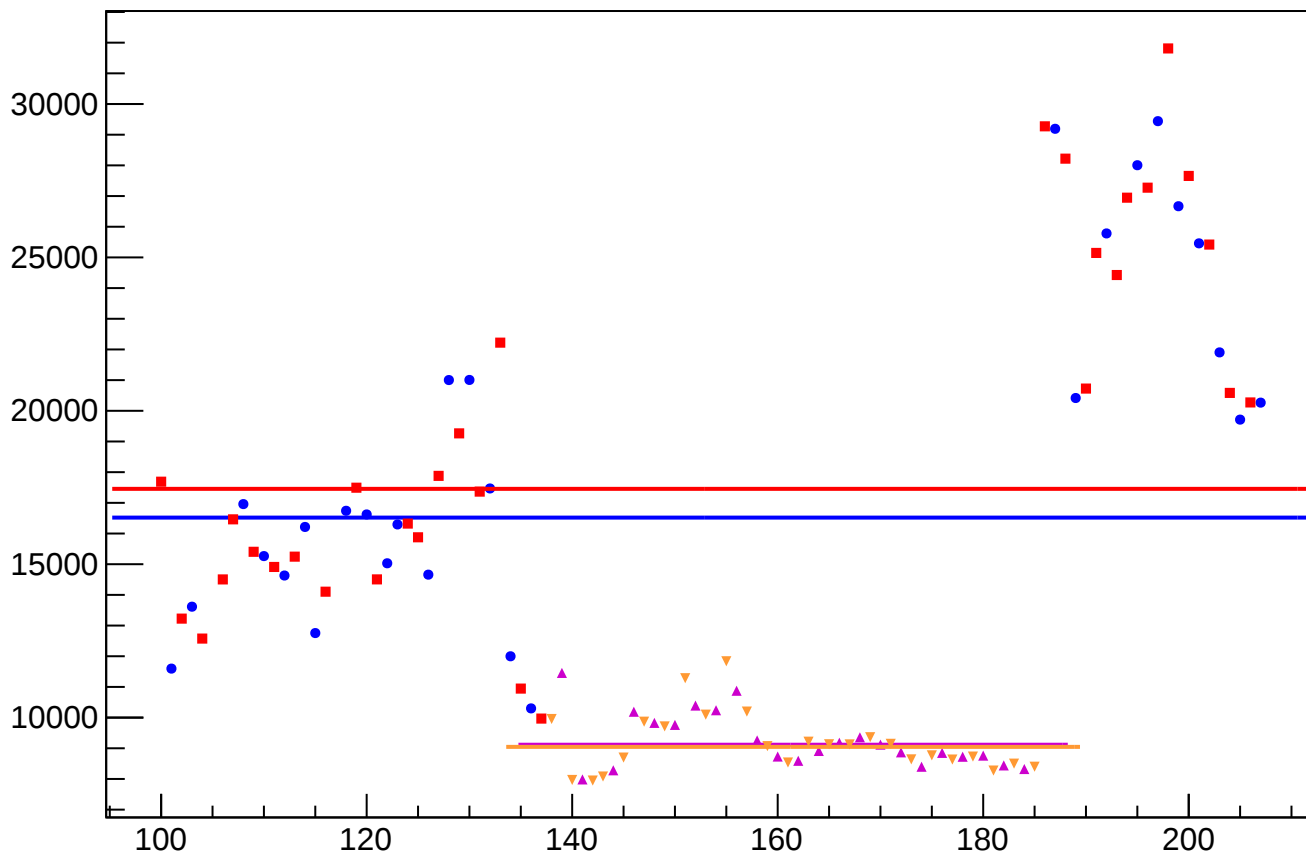
Right: -0.577 $\pm$ 3.323  $\chi^2/\text{NDF}$ : 66.0/57

In: -2.106 $\pm$ 1.991  $\chi^2/\text{NDF}$ : 69.4/49

Out: -6.257 $\pm$ 1.935  $\chi^2/\text{NDF}$ : 96.4/55

All: -4.241 $\pm$ 1.388  $\chi^2/\text{NDF}$ : 168.0/105

# diff\_bpm4acX\_rms vs Slug, Sign Corrected



Right In: 16519.136+/-3.311  $\chi^2/\text{NDF}$ : 2584508.3/26

Left Out: 9045.871+/-1.500  $\chi^2/\text{NDF}$ : 328508.5/24

Right Out: 17456.163+/-3.335  $\chi^2/\text{NDF}$ : 2713832.4/30

Left In: 9115.817+/-1.556  $\chi^2/\text{NDF}$ : 272471.8/22

Left: 9079.576+/-1.080  $\chi^2/\text{NDF}$ : 602027.6/47

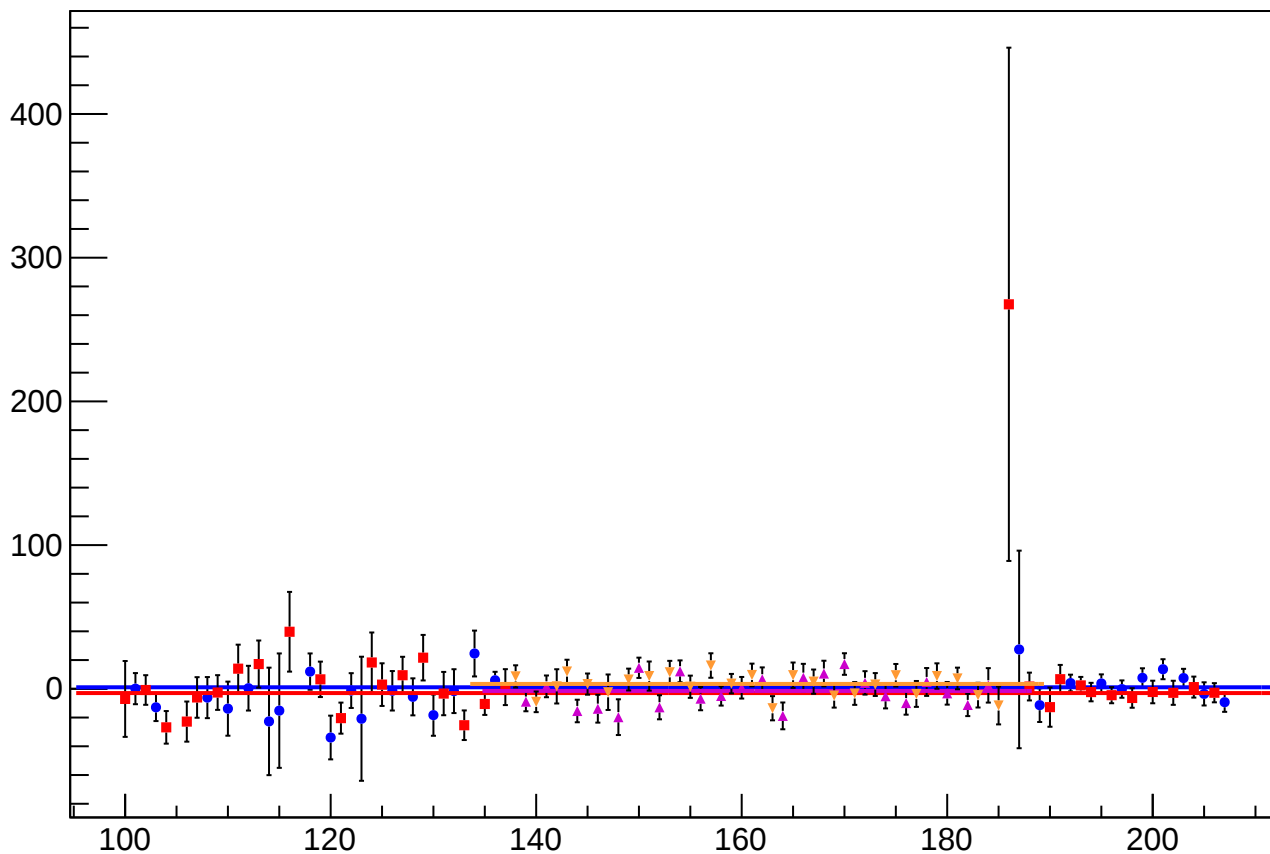
Right: 16984.261+/-2.350  $\chi^2/\text{NDF}$ : 5338095.2/57

In: 10454.663+/-1.408  $\chi^2/\text{NDF}$ : 6952280.0/49

Out: 10461.377+/-1.368  $\chi^2/\text{NDF}$ : 8331286.7/55

All: 10458.117+/-0.981  $\chi^2/\text{NDF}$ : 15283578.4/106

# diff\_bpm4acY\_mean vs Slug, Sign Corrected



Right In:  $1.059 \pm 1.829$   $\chi^2/\text{NDF}$ : 24.6/26

Left Out:  $3.387 \pm 1.668$   $\chi^2/\text{NDF}$ : 19.4/24

Right Out:  $-2.966 \pm 1.773$   $\chi^2/\text{NDF}$ : 30.5/30

Left In:  $-1.479 \pm 1.710$   $\chi^2/\text{NDF}$ : 36.7/22

Left:  $1.015 \pm 1.194$   $\chi^2/\text{NDF}$ : 60.3/47

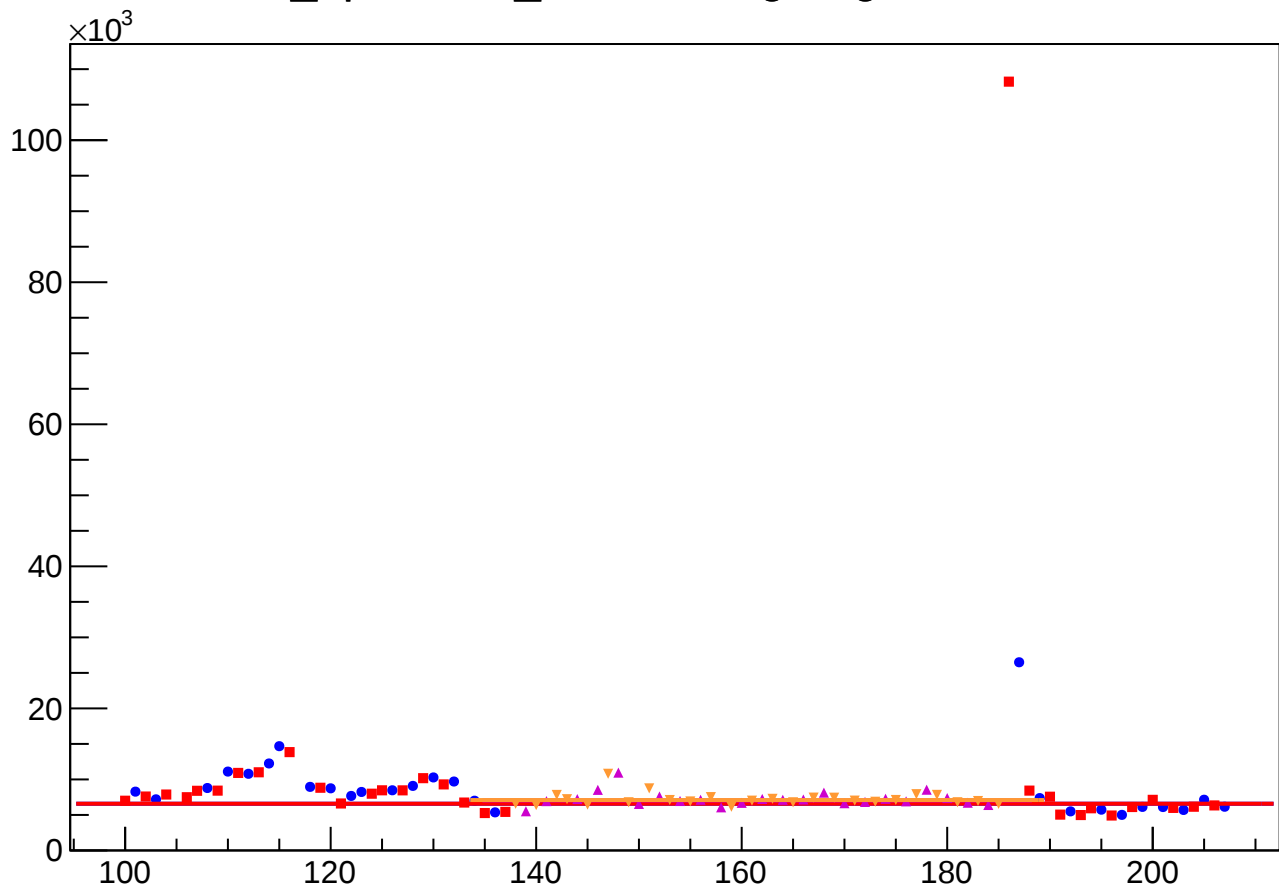
Right:  $-1.017 \pm 1.273$   $\chi^2/\text{NDF}$ : 57.6/57

In:  $-0.296 \pm 1.249$   $\chi^2/\text{NDF}$ : 62.4/49

Out:  $0.404 \pm 1.215$   $\chi^2/\text{NDF}$ : 56.7/55

All:  $0.064 \pm 0.871$   $\chi^2/\text{NDF}$ : 119.3/105

# diff\_bpm4acY\_rms vs Slug, Sign Corrected



Right In: 6576.338 $\pm$ 1.294  $\chi^2/\text{NDF}$ : 1534630.2/26

Left Out: 7096.350 $\pm$ 1.179  $\chi^2/\text{NDF}$ : 381942.1/24

Right Out: 6579.262 $\pm$ 1.254  $\chi^2/\text{NDF}$ : 2107452.5/30

Left In: 7047.269 $\pm$ 1.209  $\chi^2/\text{NDF}$ : 517433.5/22

Left: 7072.425 $\pm$ 0.844  $\chi^2/\text{NDF}$ : 900219.9/47

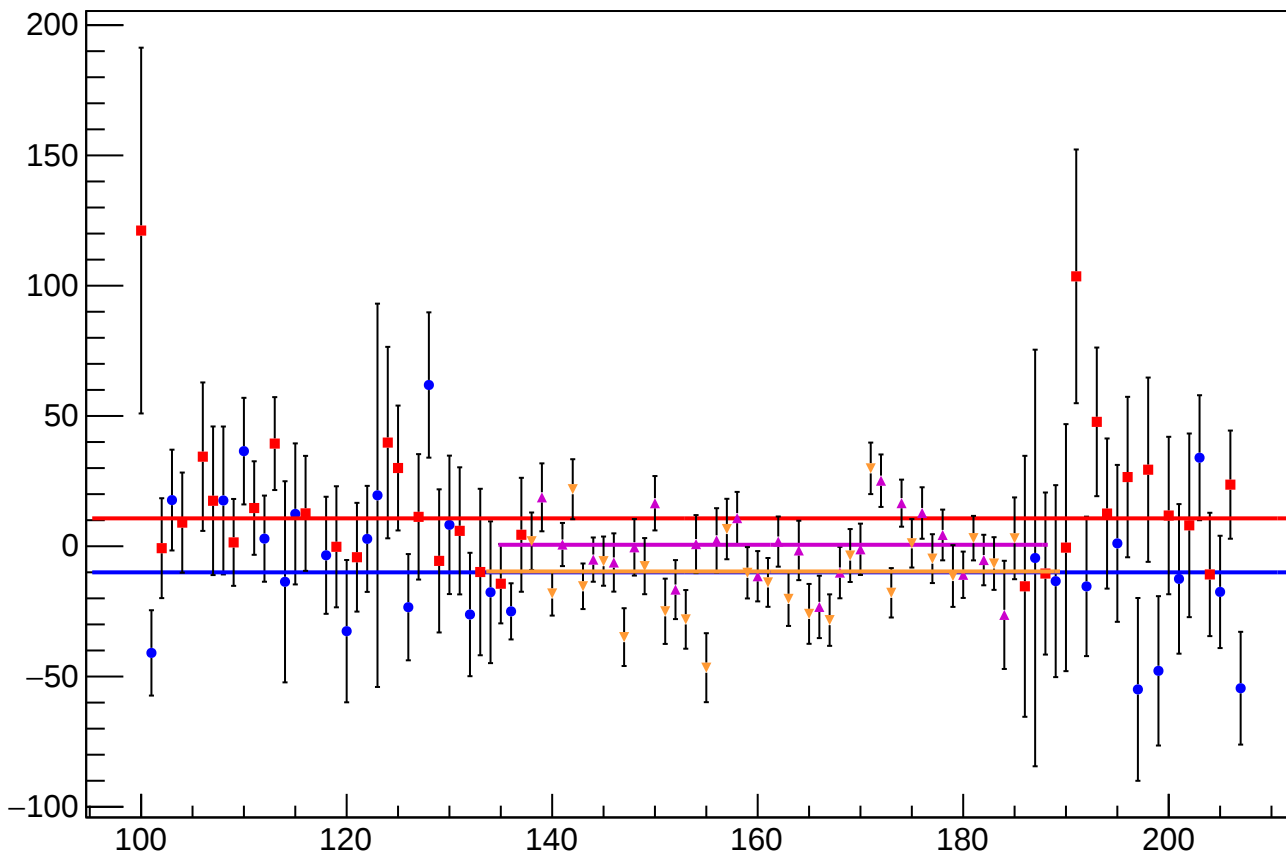
Right: 6577.845 $\pm$ 0.900  $\chi^2/\text{NDF}$ : 3642085.3/57

In: 6827.640 $\pm$ 0.883  $\chi^2/\text{NDF}$ : 2122788.3/49

Out: 6853.591 $\pm$ 0.859  $\chi^2/\text{NDF}$ : 2579647.6/55

All: 6840.979 $\pm$ 0.616  $\chi^2/\text{NDF}$ : 4702879.5/100

# diff\_bpm4ecX\_mean vs Slug, Sign Corrected



Right In:  $-10.015 \pm 4.421$   $\chi^2/\text{NDF}$ : 35.7/26

Left Out:  $-9.670 \pm 2.061$   $\chi^2/\text{NDF}$ : 57.9/24

Right Out:  $10.705 \pm 4.413$   $\chi^2/\text{NDF}$ : 20.0/30

Left In:  $0.564 \pm 2.144$   $\chi^2/\text{NDF}$ : 29.7/22

Left:  $-4.755 \pm 1.486$   $\chi^2/\text{NDF}$ : 99.5/47

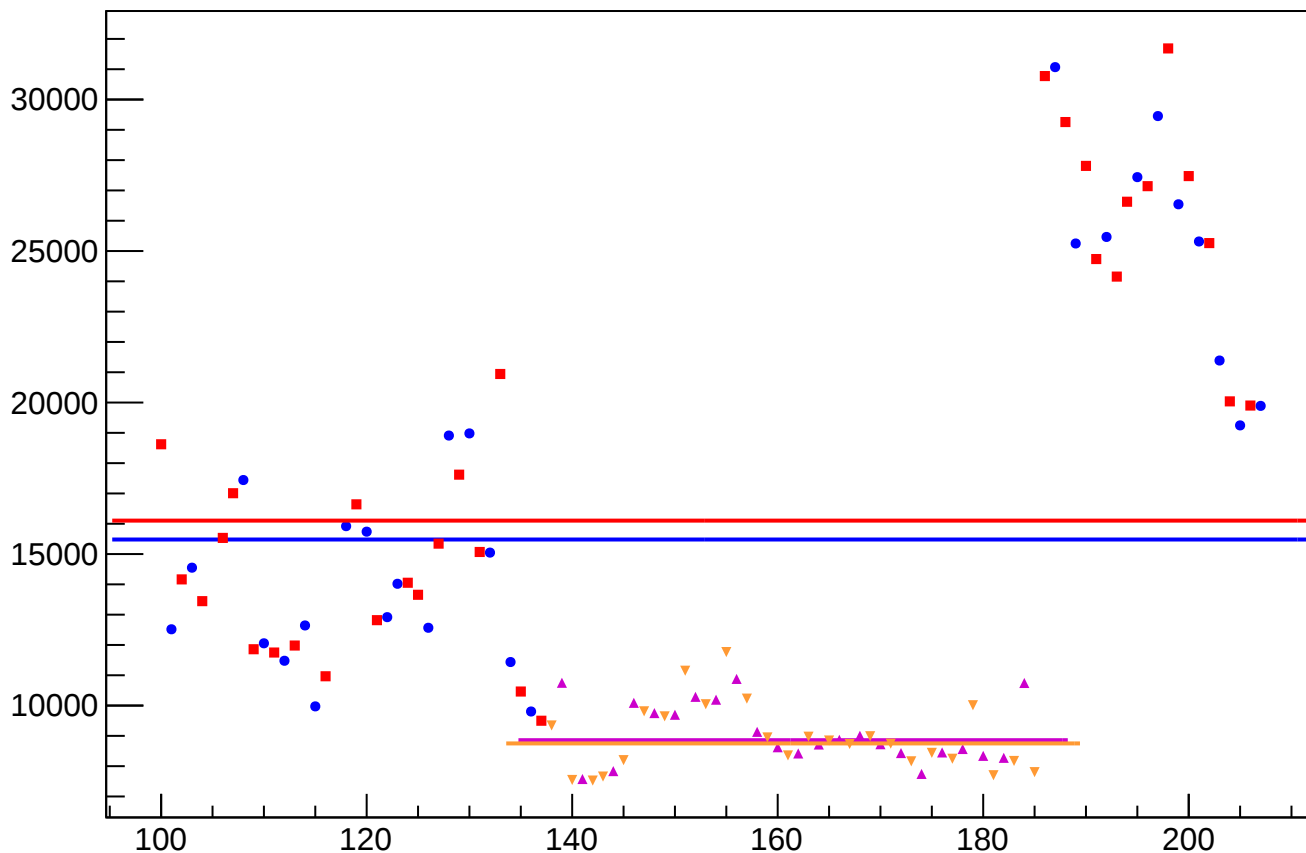
Right:  $0.363 \pm 3.123$   $\chi^2/\text{NDF}$ : 66.7/57

In:  $-1.450 \pm 1.929$   $\chi^2/\text{NDF}$ : 70.1/49

Out:  $-6.023 \pm 1.867$   $\chi^2/\text{NDF}$ : 95.5/55

All:  $-3.811 \pm 1.342$   $\chi^2/\text{NDF}$ : 168.4/105

# diff\_bpm4ecX\_rms vs Slug, Sign Corrected



Right In: 15480.015 $\pm$ 3.126  $\chi^2$ /NDF: 3011644.4/26

Left Out: 8750.420 $\pm$ 1.457  $\chi^2$ /NDF:463880.1/24

Right Out: 16103.653 $\pm$ 3.121  $\chi^2$ /NDF: 3445515.1/30

Left In: 8857.329 $\pm$ 1.516  $\chi^2$ /NDF:361778.8/22

Left: 8801.764 $\pm$ 1.050  $\chi^2$ /NDF: 828244.3/47

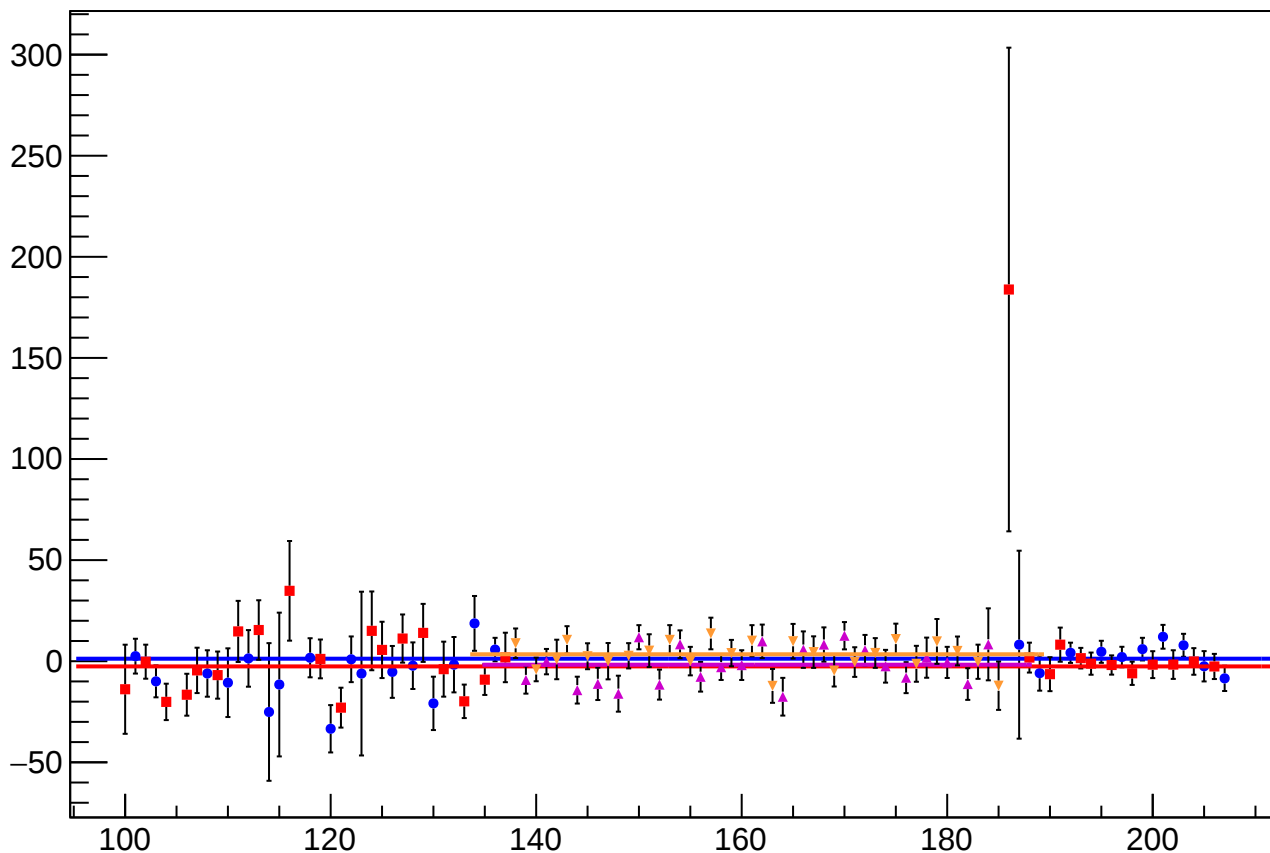
Right: 15792.366 $\pm$ 2.208  $\chi^2$ /NDF: 6477094.8/57

In: 10118.139 $\pm$ 1.364  $\chi^2$ /NDF:7007532.6/49

Out: 10066.619 $\pm$ 1.320  $\chi^2$ /NDF:8467982.5/55

All: 10091.541 $\pm$ 0.949  $\chi^2$ /NDF: 15476251.7

# diff\_bpm4ecY\_mean vs Slug, Sign Corrected



Right In:  $1.242 \pm 1.591$   $\chi^2/\text{NDF}: 27.5/26$

Left Out:  $3.433 \pm 1.526$   $\chi^2/\text{NDF}: 16.2/24$

Right Out:  $-2.567 \pm 1.519$   $\chi^2/\text{NDF}: 30.6/30$

Left In:  $-1.734 \pm 1.586$   $\chi^2/\text{NDF}: 33.6/22$

Left:  $0.949 \pm 1.099$   $\chi^2/\text{NDF}: 55.3/47$

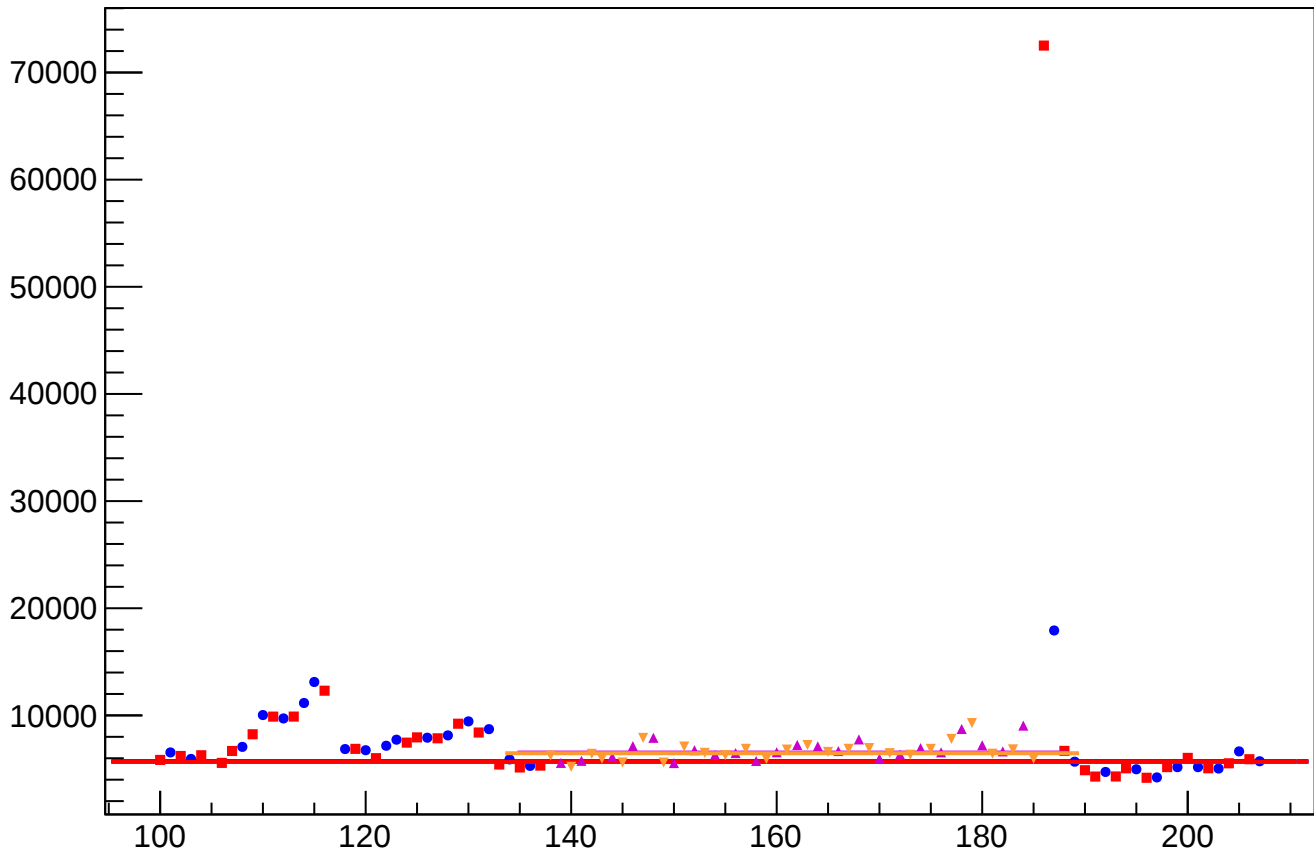
Right:  $-0.750 \pm 1.099$   $\chi^2/\text{NDF}: 61.1/57$

In:  $-0.251 \pm 1.123$   $\chi^2/\text{NDF}: 62.9/49$

Out:  $0.421 \pm 1.077$   $\chi^2/\text{NDF}: 54.6/55$

All:  $0.099 \pm 0.777$   $\chi^2/\text{NDF}: 117.6/105$

# diff\_bpm4ecY\_rms vs Slug, Sign Corrected



Right In: 5727.779+/-1.125  $\chi^2/\text{NDF}$ : 1498465.9/26

Left Out: 6468.872+/-1.079  $\chi^2/\text{NDF}$ : 487187.3/24

Right Out: 5655.105+/-1.074  $\chi^2/\text{NDF}$ : 2123595.3/30

Left In: 6530.954+/-1.121  $\chi^2/\text{NDF}$ : 464668.6/22

Left: 6498.713+/-0.777  $\chi^2/\text{NDF}$ : 953447.7/47

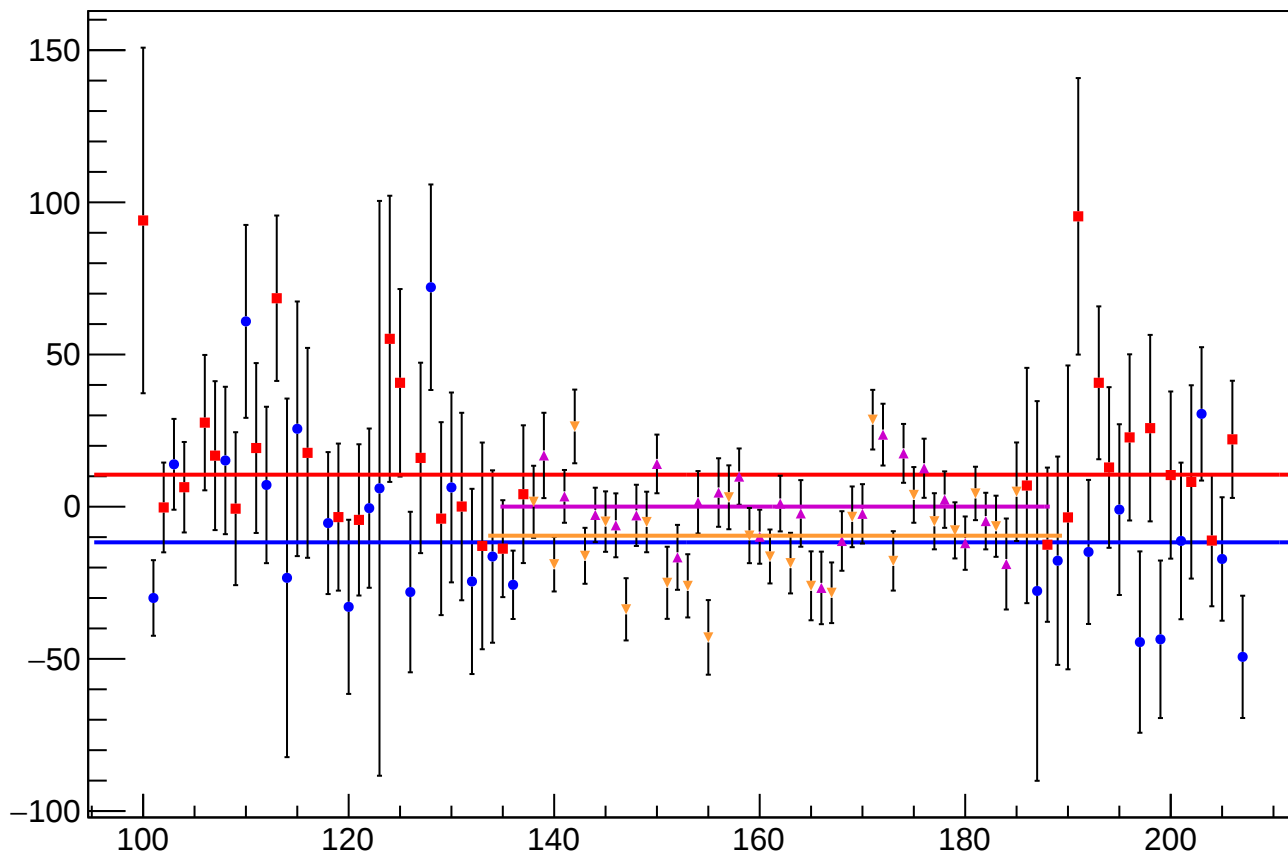
Right: 5689.772+/-0.777  $\chi^2/\text{NDF}$ : 3624244.0/57

In: 6130.623+/-0.794  $\chi^2/\text{NDF}$ : 2218842.8/49

Out: 6060.297+/-0.761  $\chi^2/\text{NDF}$ : 2896470.9/55

All: 6093.972+/-0.550  $\chi^2/\text{NDF}$ : 5119400.6/100

# diff\_bpm1X\_mean vs Slug, Sign Corrected



Right In:  $-11.709 \pm 4.492$   $\chi^2/\text{NDF}$ : 32.7/26

Left Out:  $-9.528 \pm 2.015$   $\chi^2/\text{NDF}$ : 59.6/24

Right Out:  $10.521 \pm 4.538$   $\chi^2/\text{NDF}$ : 21.8/30

Left In:  $0.027 \pm 2.080$   $\chi^2/\text{NDF}$ : 29.9/22

Left:  $-4.902 \pm 1.447$   $\chi^2/\text{NDF}$ : 100.3/47

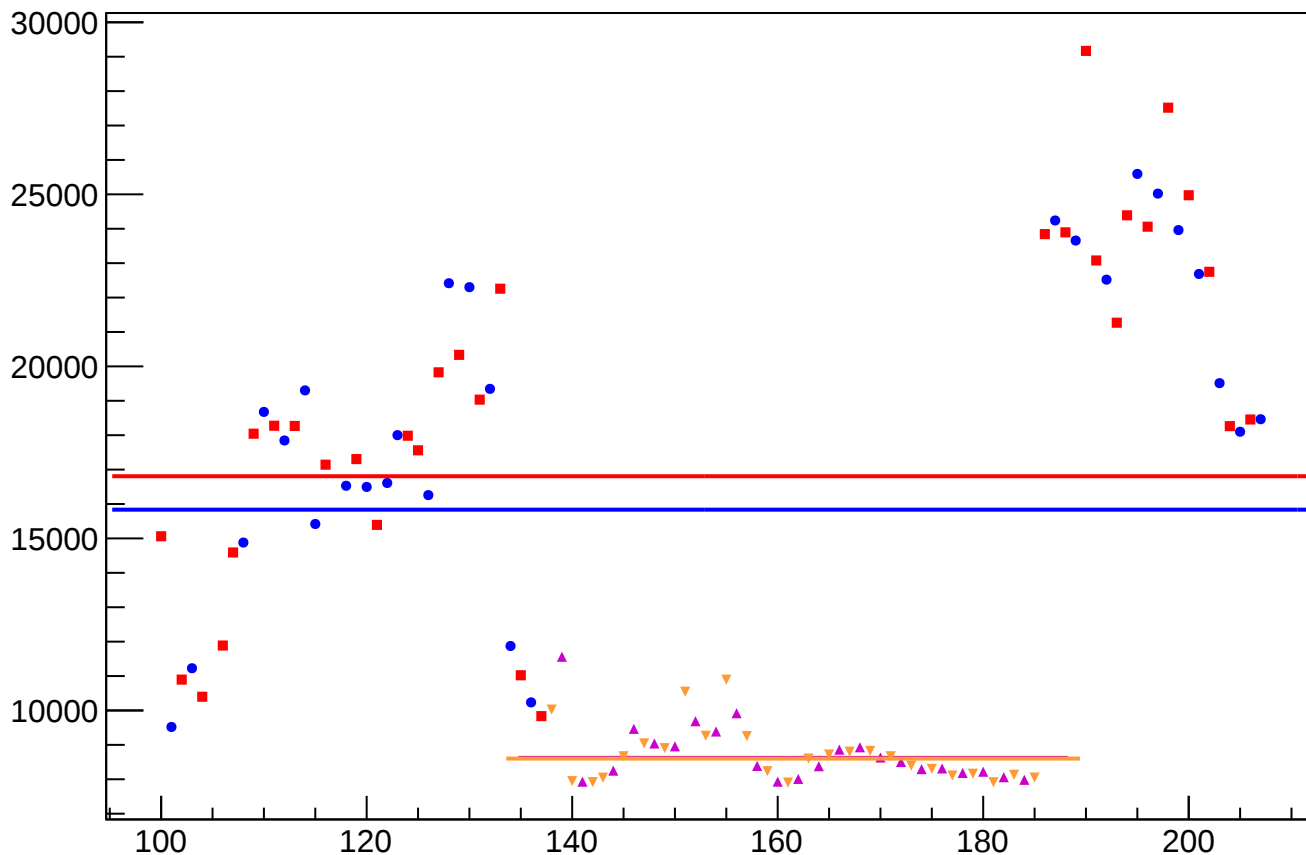
Right:  $-0.707 \pm 3.192$   $\chi^2/\text{NDF}$ : 66.6/57

In:  $-2.045 \pm 1.887$   $\chi^2/\text{NDF}$ : 68.2/49

Out:  $-6.226 \pm 1.842$   $\chi^2/\text{NDF}$ : 97.7/55

All:  $-4.187 \pm 1.318$   $\chi^2/\text{NDF}$ : 168.4/105

# diff\_bpm1X\_rms vs Slug, Sign Corrected



Right In: 15835.556+/-3.176  $\chi^2/\text{NDF}$ : 2664634.9/26

Left Out: 8601.926+/-1.425  $\chi^2/\text{NDF}$ : 248903.5/24

Right Out: 16807.548+/-3.209  $\chi^2/\text{NDF}$ : 2662542.5/30

Left In: 8621.975+/-1.471  $\chi^2/\text{NDF}$ : 230824.4/22

Left: 8611.634+/-1.023  $\chi^2/\text{NDF}$ : 479823.8/47

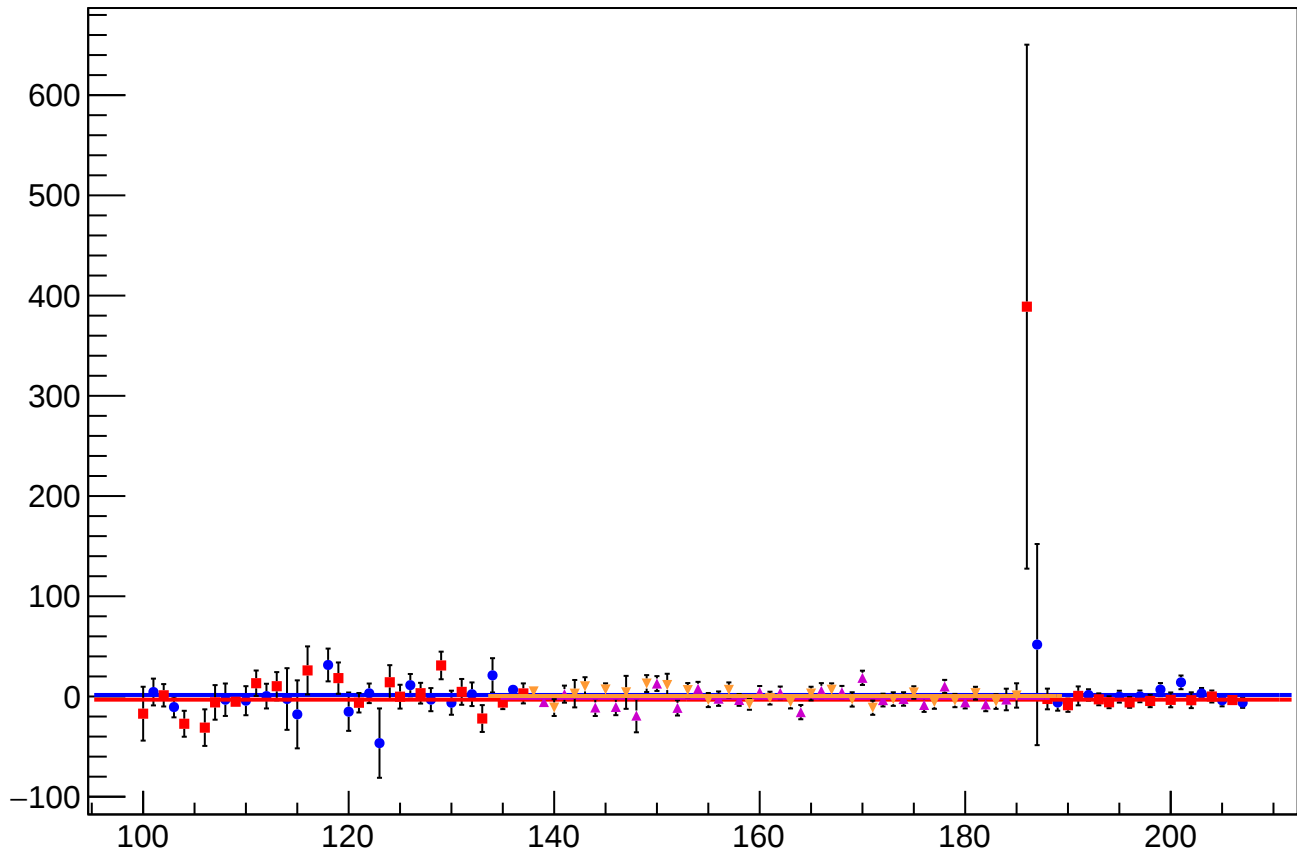
Right: 16316.596+/-2.257  $\chi^2/\text{NDF}$ : 5373528.3/57

In: 9895.575+/-1.335  $\chi^2/\text{NDF}$ : 7143106.8/49

Out: 9953.716+/-1.302  $\chi^2/\text{NDF}$ : 8374060.1/55

All: 9925.356+/-0.932  $\chi^2/\text{NDF}$ : 15518139.1/100

# diff\_bpm1Y\_mean vs Slug, Sign Corrected



Right In:  $1.524 \pm 1.628$   $\chi^2/\text{NDF}: 20.3/26$

Left Out:  $0.481 \pm 1.419$   $\chi^2/\text{NDF}: 19.6/24$

Right Out:  $-3.152 \pm 1.523$   $\chi^2/\text{NDF}: 27.0/30$

Left In:  $-1.298 \pm 1.406$   $\chi^2/\text{NDF}: 33.0/22$

Left:  $-0.417 \pm 0.999$   $\chi^2/\text{NDF}: 53.4/47$

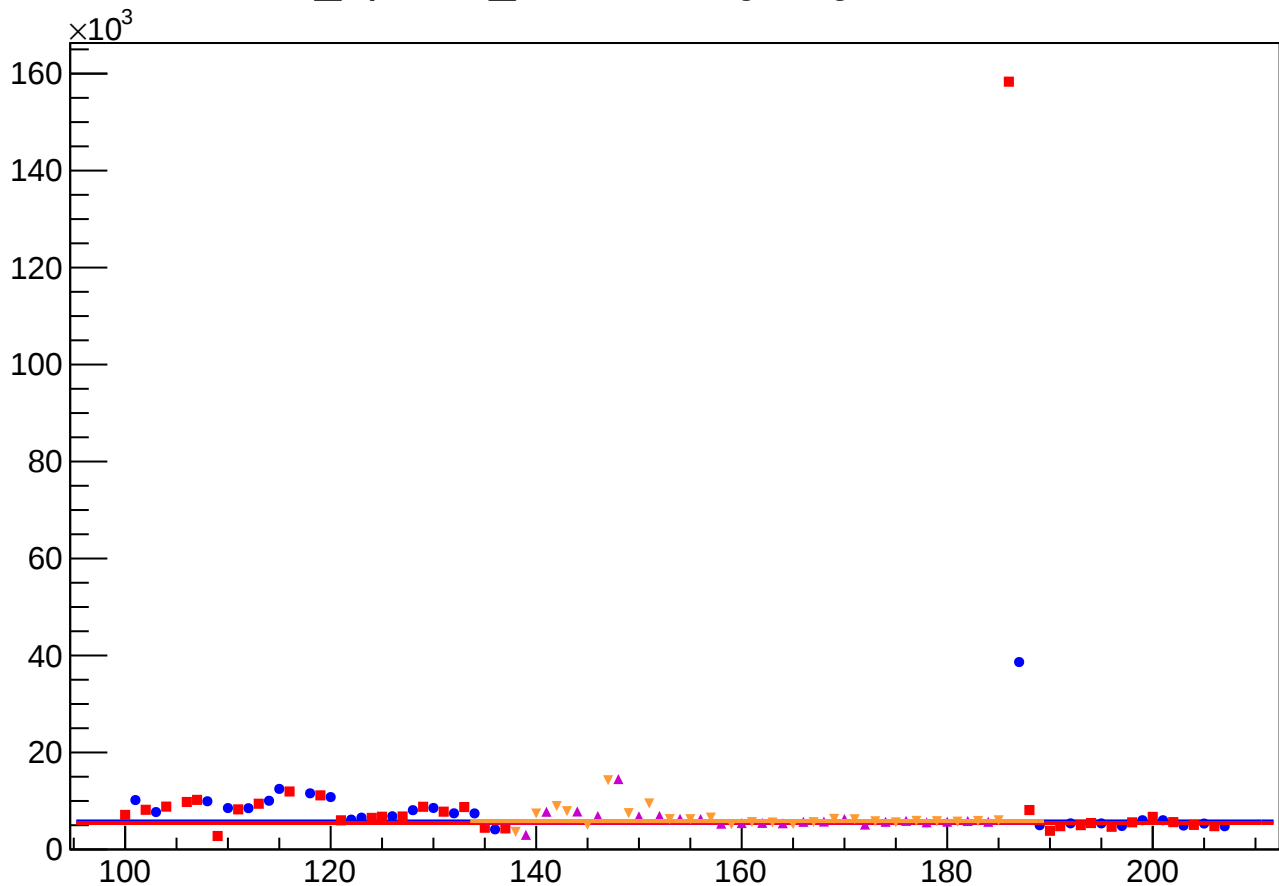
Right:  $-0.969 \pm 1.112$   $\chi^2/\text{NDF}: 51.7/57$

In:  $-0.092 \pm 1.064$   $\chi^2/\text{NDF}: 55.1/49$

Out:  $-1.207 \pm 1.038$   $\chi^2/\text{NDF}: 49.6/55$

All:  $-0.664 \pm 0.743$   $\chi^2/\text{NDF}: 105.2/105$

# diff\_bpm1Y\_rms vs Slug, Sign Corrected



Right In:  $5776.763 \pm 1.151$   $\chi^2/\text{NDF}: 2066856.4/26$

Left Out:  $5858.642 \pm 1.004$   $\chi^2/\text{NDF}: 1691344.1/24$

Right Out:  $5457.647 \pm 1.077$   $\chi^2/\text{NDF}: 3433122.2/30$

Left In:  $5596.879 \pm 0.994$   $\chi^2/\text{NDF}: 2089750.1/22$

Left:  $5726.555 \pm 0.706$   $\chi^2/\text{NDF}: 3815425.5/47$

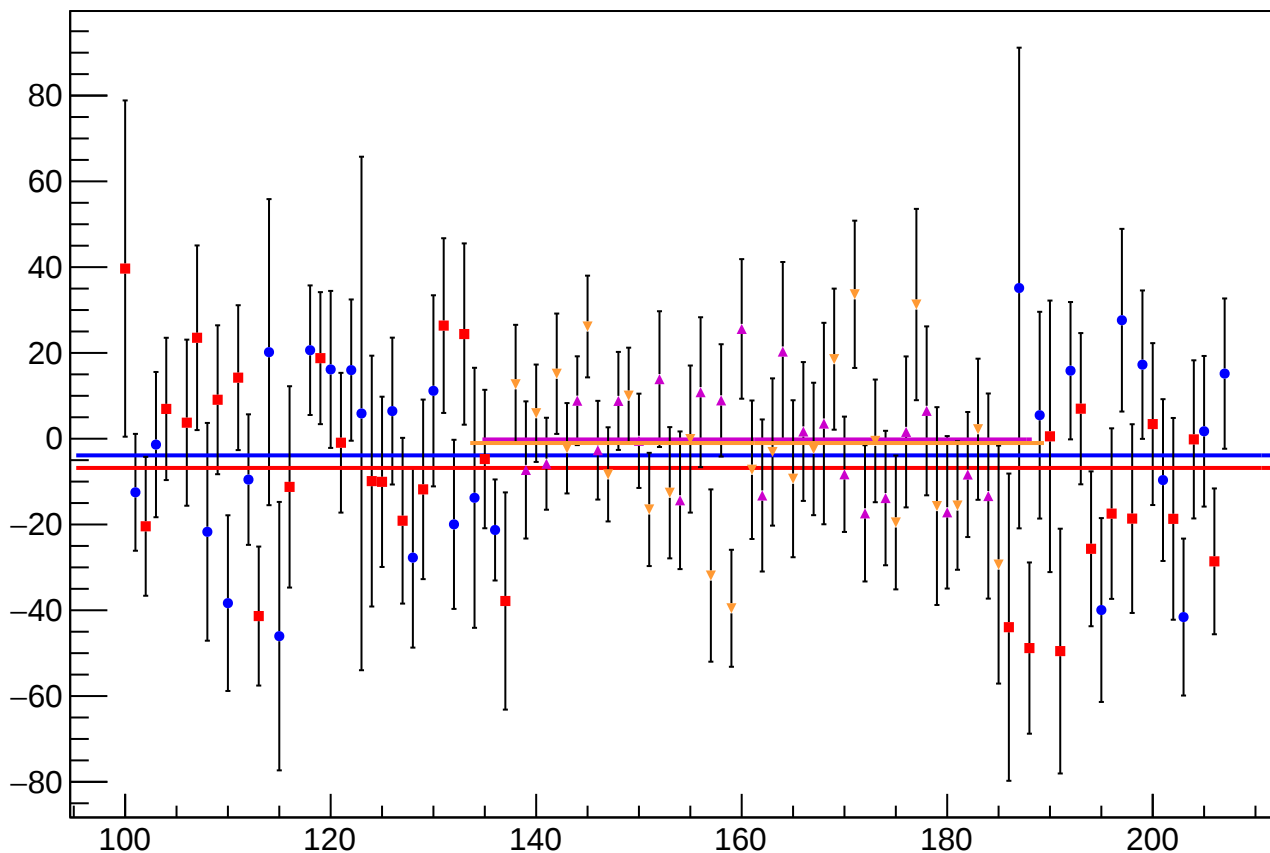
Right:  $5606.606 \pm 0.787$   $\chi^2/\text{NDF}: 5540948.9/57$

In:  $5673.738 \pm 0.753$   $\chi^2/\text{NDF}: 4170589.7/49$

Out:  $5672.310 \pm 0.734$   $\chi^2/\text{NDF}: 5198657.0/55$

All:  $5673.006 \pm 0.526$   $\chi^2/\text{NDF}: 9369248.6/10$

# diff\_bpm11X\_mean vs Slug, Sign Corrected



Right In:  $-3.886 \pm 3.656$   $\chi^2/\text{NDF}$ : 30.8/26

Left Out:  $-1.007 \pm 2.942$   $\chi^2/\text{NDF}$ : 33.5/24

Right Out:  $-6.817 \pm 3.547$   $\chi^2/\text{NDF}$ : 34.2/30

Left In:  $-0.172 \pm 3.067$   $\chi^2/\text{NDF}$ : 12.4/22

Left:  $-0.607 \pm 2.123$   $\chi^2/\text{NDF}$ : 45.9/47

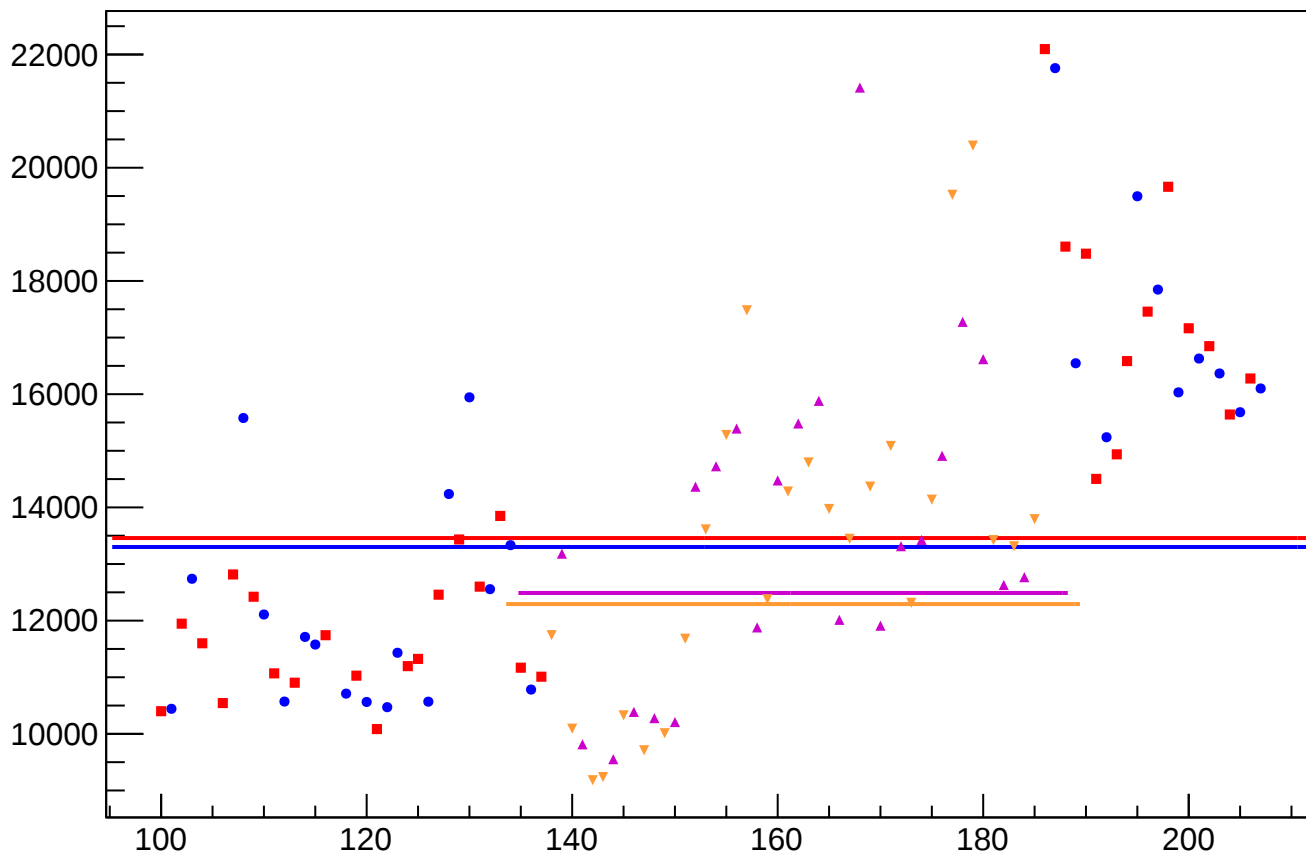
Right:  $-5.396 \pm 2.546$   $\chi^2/\text{NDF}$ : 65.4/57

In:  $-1.706 \pm 2.350$   $\chi^2/\text{NDF}$ : 43.8/49

Out:  $-3.375 \pm 2.264$   $\chi^2/\text{NDF}$ : 69.3/55

All:  $-2.572 \pm 1.630$   $\chi^2/\text{NDF}$ : 113.3/105

# diff\_bpm11X\_rms vs Slug, Sign Corrected



Right In: 13300.683+/-2.585

$\chi^2/\text{NDF}$ : 1154993.9/26

Left: 12386.599+/-1.501

$\chi^2/\text{NDF}$ : 2861298.1/47

Left Out: 12292.583+/-2.080

$\chi^2/\text{NDF}$ : 1502548.3/24

Right: 13382.132+/-1.800

$\chi^2/\text{NDF}$ : 2423784.5/57

Right Out: 13458.770+/-2.508

$\chi^2/\text{NDF}$ : 1266864.3/30

In: 12824.166+/-1.662

$\chi^2/\text{NDF}$ : 2567356.1/49

Out: 12767.853+/-1.601

$\chi^2/\text{NDF}$ : 2897522.8/55

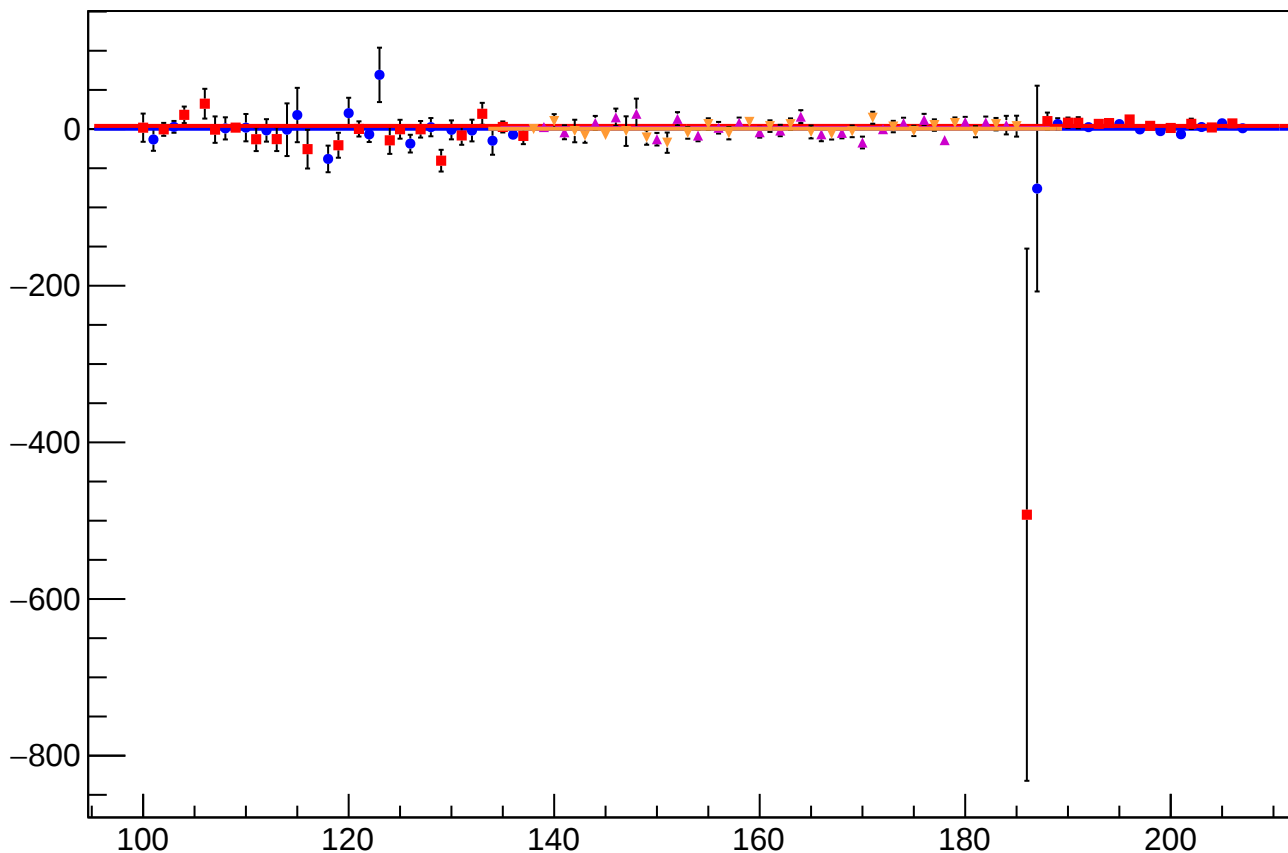
Left In: 12488.821+/-2.169

$\chi^2/\text{NDF}$ : 1354485.4/22

All: 12794.964+/-1.153

$\chi^2/\text{NDF}$ : 5465474.4/100

# diff\_bpm11Y\_mean vs Slug, Sign Corrected



Right In: 0.416 $\pm$ 1.403  $\chi^2$ /NDF: 26.0/26

Left Out: 0.410 $\pm$ 1.435  $\chi^2$ /NDF:19.3/24

Right Out: 4.047 $\pm$ 1.346  $\chi^2$ /NDF: 34.3/30

Left In: 1.278 $\pm$ 1.386  $\chi^2$ /NDF:34.0/22

Left: 0.859 $\pm$ 0.997  $\chi^2$ /NDF: 53.5/47

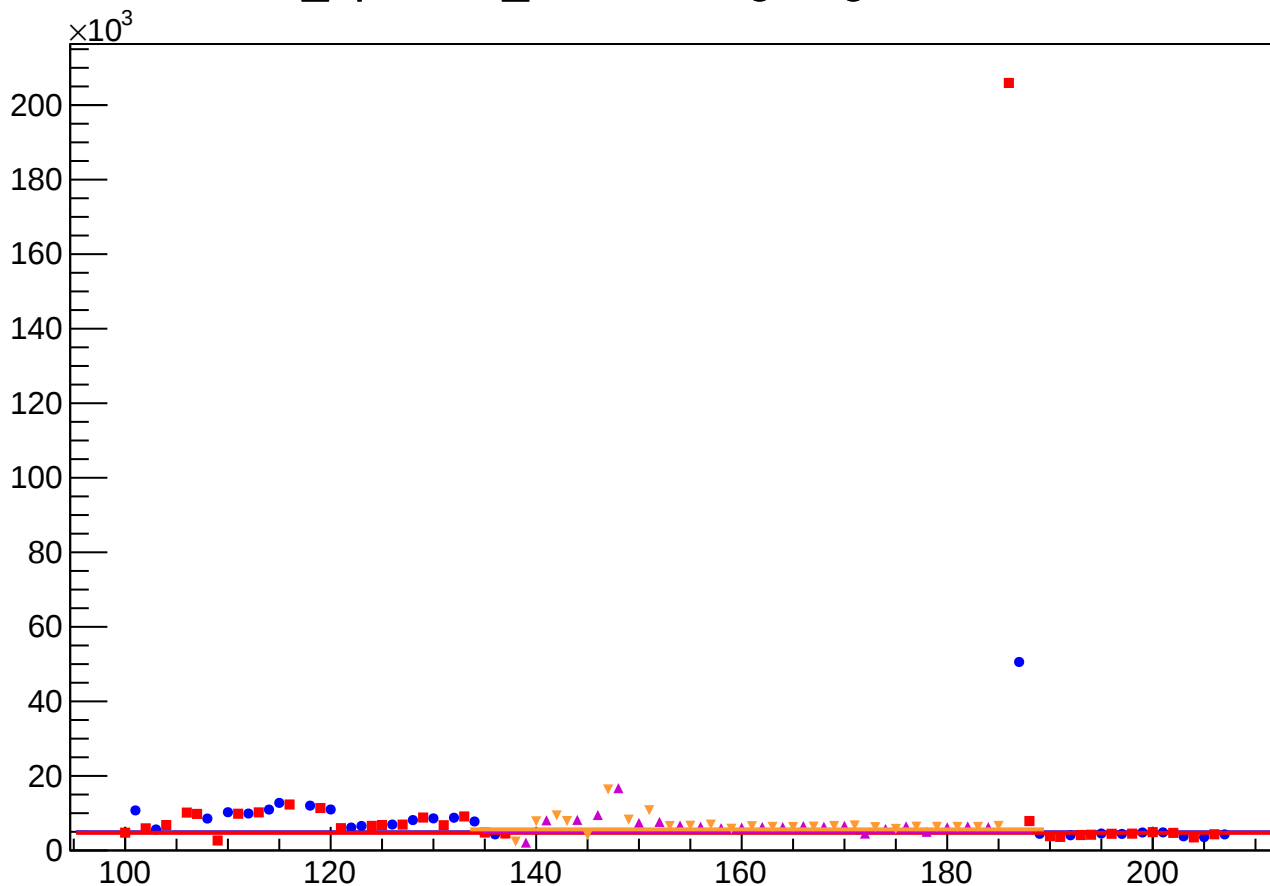
Right: 2.307 $\pm$ 0.971  $\chi^2$ /NDF: 63.8/57

In: 0.853 $\pm$ 0.986  $\chi^2$ /NDF:60.2/49

Out: 2.345 $\pm$ 0.982  $\chi^2$ /NDF:57.0/55

All: 1.602 $\pm$ 0.696  $\chi^2$ /NDF: 118.3/105

# diff\_bpm11Y\_rms vs Slug, Sign Corrected



Right In: 4866.220 $\pm$ 0.992  $\chi^2/\text{NDF}$ : 3037685.1/26

Left Out: 5655.639 $\pm$ 1.014  $\chi^2/\text{NDF}$ : 4124124.3/24

Right Out: 4742.883 $\pm$ 0.952  $\chi^2/\text{NDF}$ : 3720811.6/30

Left In: 5180.743 $\pm$ 0.980  $\chi^2/\text{NDF}$ : 5350053.6/22

Left: 5409.966 $\pm$ 0.705  $\chi^2/\text{NDF}$ : 9587556.1/47

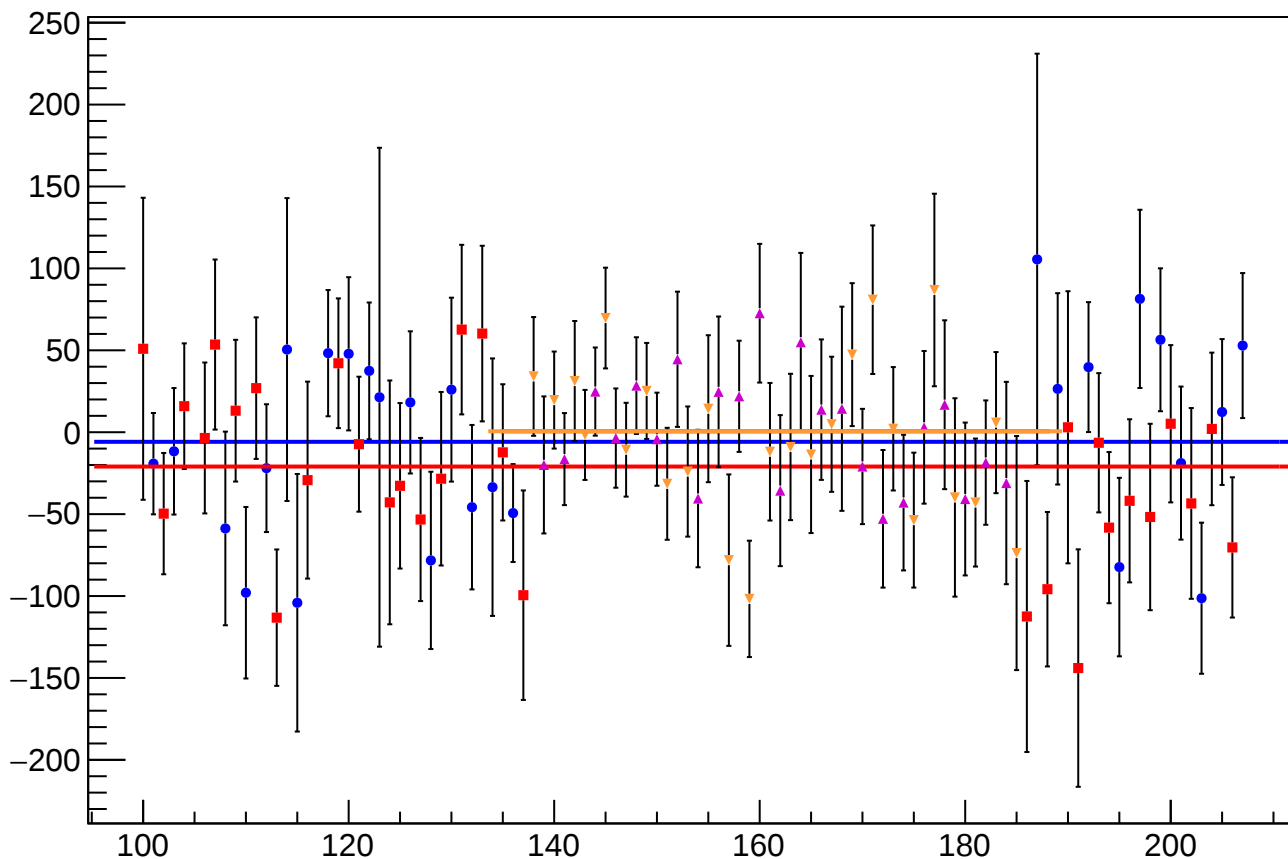
Right: 4801.982 $\pm$ 0.687  $\chi^2/\text{NDF}$ : 6766544.8/57

In: 5025.449 $\pm$ 0.697  $\chi^2/\text{NDF}$ : 8438611.1/49

Out: 5170.167 $\pm$ 0.694  $\chi^2/\text{NDF}$ : 8275553.8/55

All: 5098.133 $\pm$ 0.492  $\chi^2/\text{NDF}$ : 16735805.5/101

# diff\_bpm12X\_mean vs Slug, Sign Corrected



Right In:  $-5.857 \pm 9.107$   $\chi^2/\text{NDF}$ : 31.2/26

Left Out:  $0.580 \pm 7.691$   $\chi^2/\text{NDF}$ : 31.0/24

Right Out:  $-20.954 \pm 8.839$   $\chi^2/\text{NDF}$ : 30.8/30

Left In:  $0.565 \pm 8.015$   $\chi^2/\text{NDF}$ : 14.3/22

Left:  $0.572 \pm 5.549$   $\chi^2/\text{NDF}$ : 45.3/47

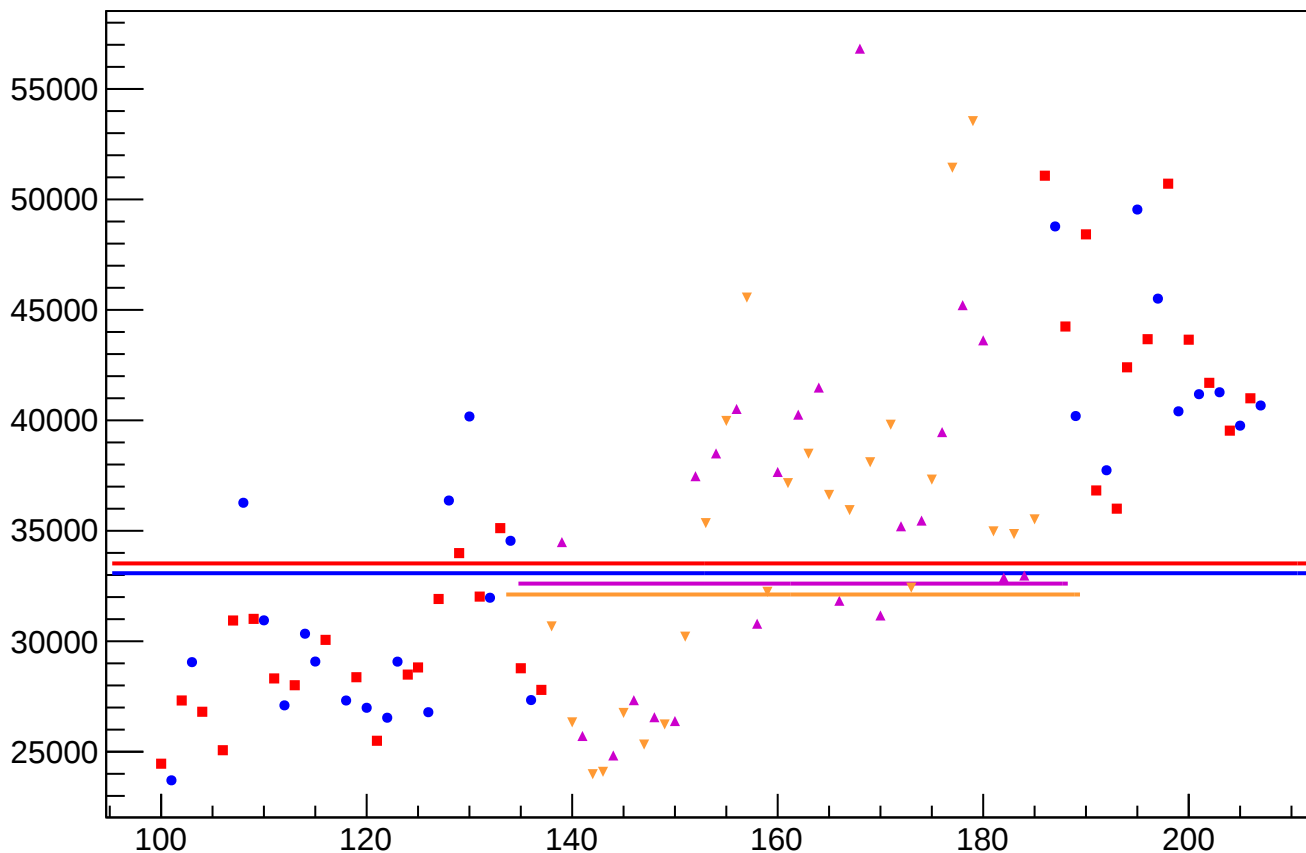
Right:  $-13.631 \pm 6.343$   $\chi^2/\text{NDF}$ : 63.4/57

In:  $-2.238 \pm 6.017$   $\chi^2/\text{NDF}$ : 45.7/49

Out:  $-8.699 \pm 5.802$   $\chi^2/\text{NDF}$ : 65.1/55

All:  $-5.586 \pm 4.176$   $\chi^2/\text{NDF}$ : 111.5/105

# diff\_bpm12X\_rms vs Slug, Sign Corrected



Right In: 33080.312+/-6.440

$\chi^2/\text{NDF}$ : 1213779.3/26

Left Out: 32117.184+/-5.438

$\chi^2/\text{NDF}$ : 1536740.0/24

Right Out: 33523.558+/-6.250

$\chi^2/\text{NDF}$ : 1302018.7/30

Left In: 32610.108+/-5.667

$\chi^2/\text{NDF}$ : 1398475.8/22

Left: 32353.483+/-3.924

$\chi^2/\text{NDF}$ : 2939154.5/47

Right: 33308.572+/-4.485

$\chi^2/\text{NDF}$ : 2518237.6/57

In: 32815.317+/-4.254

$\chi^2/\text{NDF}$ : 2615259.5/49

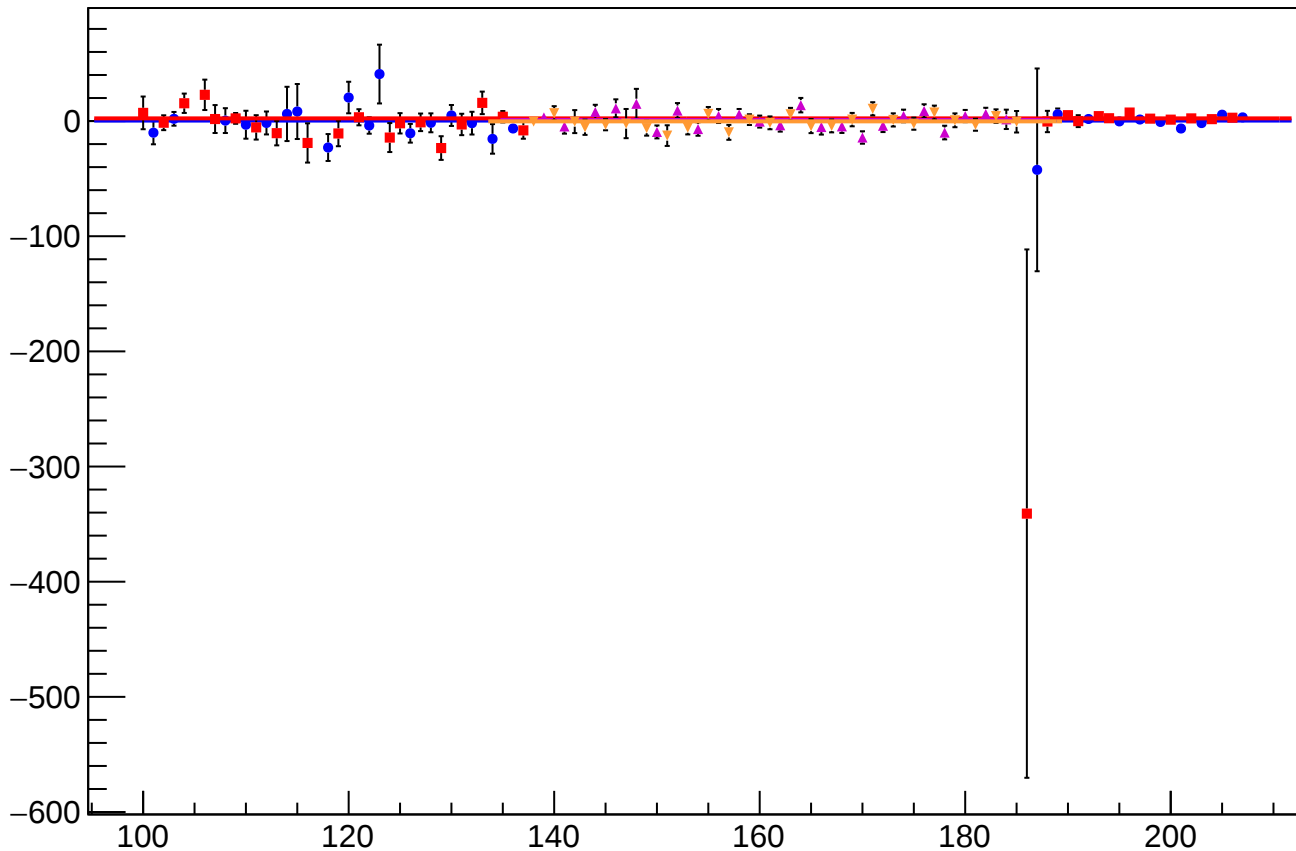
Out: 32723.152+/-4.102

$\chi^2/\text{NDF}$ : 2867576.7/55

All: 32767.560+/-2.953

$\chi^2/\text{NDF}$ : 5483079.4/100

# diff\_bpm12Y\_mean vs Slug, Sign Corrected



Right In:  $0.426 \pm 0.872$   $\chi^2/\text{NDF}$ : 31.7/26

Left Out:  $-0.255 \pm 1.173$   $\chi^2/\text{NDF}$ : 18.0/24

Right Out:  $2.324 \pm 0.886$   $\chi^2/\text{NDF}$ : 29.2/30

Left In:  $0.925 \pm 1.154$   $\chi^2/\text{NDF}$ : 36.1/22

Left:  $0.345 \pm 0.822$   $\chi^2/\text{NDF}$ : 54.7/47

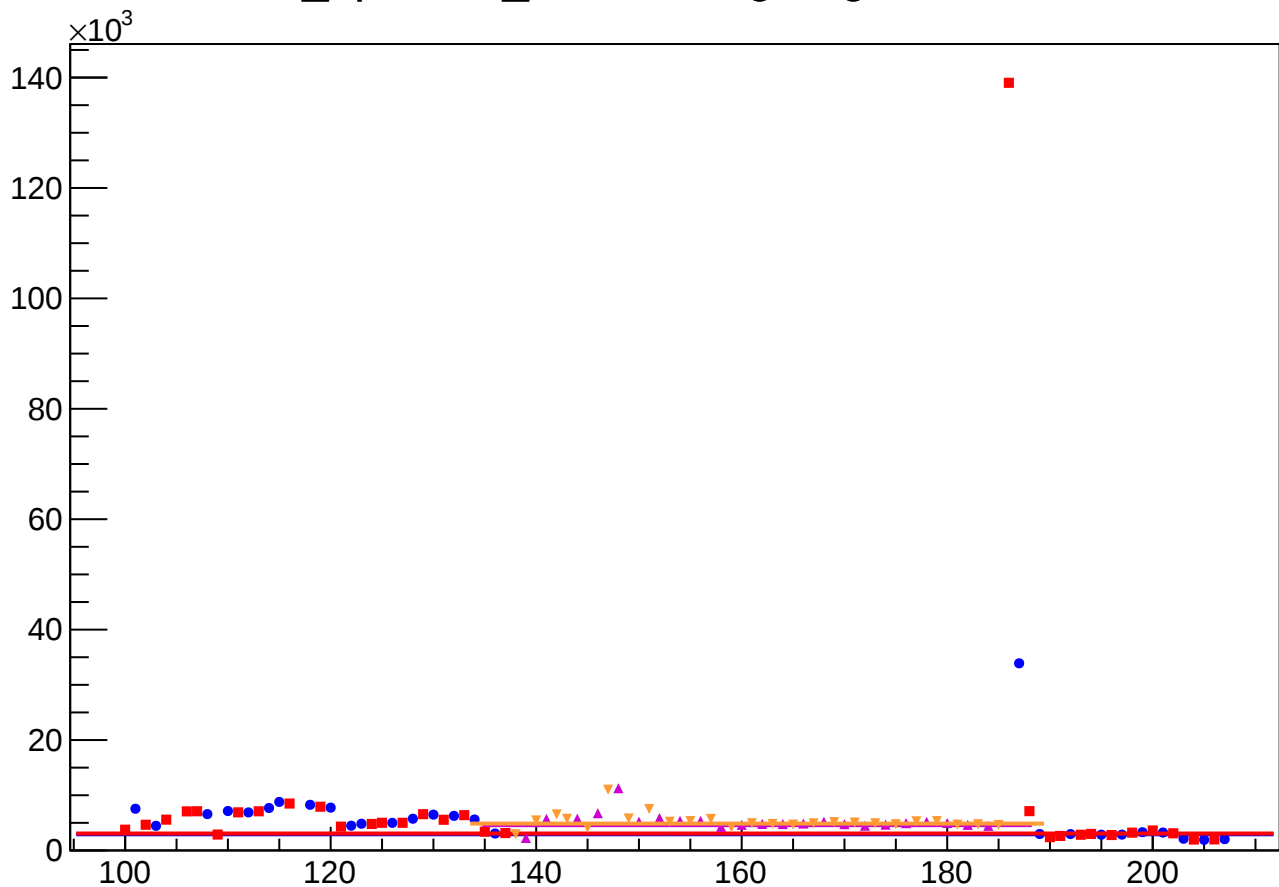
Right:  $1.360 \pm 0.622$   $\chi^2/\text{NDF}$ : 63.2/57

In:  $0.607 \pm 0.696$   $\chi^2/\text{NDF}$ : 67.9/49

Out:  $1.386 \pm 0.707$   $\chi^2/\text{NDF}$ : 50.3/55

All:  $0.991 \pm 0.496$   $\chi^2/\text{NDF}$ : 118.9/105

# diff\_bpm12Y\_rms vs Slug, Sign Corrected



Right In:  $2928.562 \pm 0.617$   $\chi^2/\text{NDF}: 4575226.7/26$

Left Out:  $4866.528 \pm 0.829$   $\chi^2/\text{NDF}: 1511486.2/24$

Right Out:  $3069.689 \pm 0.627$   $\chi^2/\text{NDF}: 4971401.6/30$

Left In:  $4582.193 \pm 0.816$   $\chi^2/\text{NDF}: 2478681.0/22$

Left:  $4722.017 \pm 0.582$   $\chi^2/\text{NDF}: 4049906.1/47$

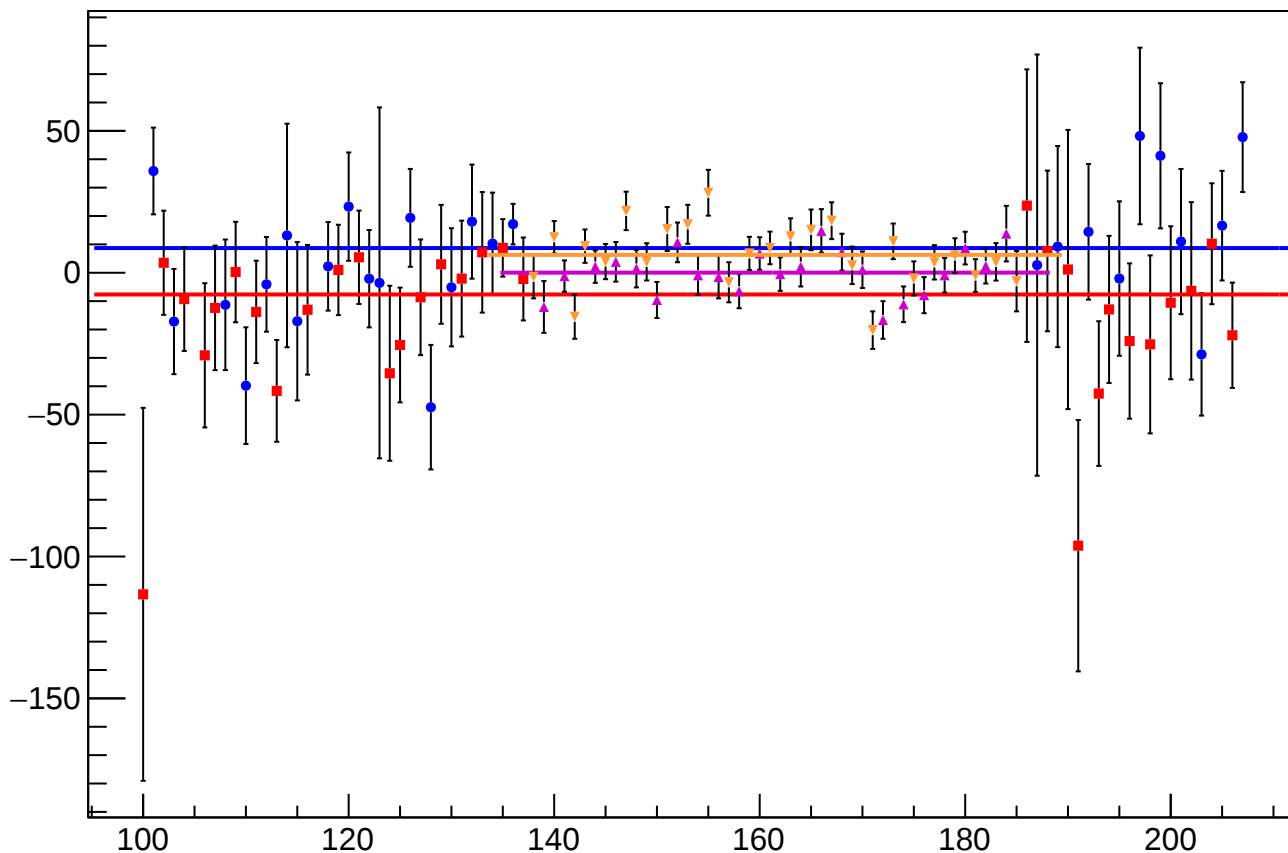
Right:  $2998.001 \pm 0.440$   $\chi^2/\text{NDF}: 9572383.2/57$

In:  $3530.097 \pm 0.492$   $\chi^2/\text{NDF}: 9668109.0/49$

Out:  $3722.864 \pm 0.500$   $\chi^2/\text{NDF}: 9470570.8/55$

All:  $3624.925 \pm 0.351$   $\chi^2/\text{NDF}: 19214187.9/1$

# diff\_bpm16X\_mean vs Slug, Sign Corrected



Right In:  $8.700 \pm 3.628$   $\chi^2/\text{NDF}$ : 33.8/26

Left Out:  $6.302 \pm 1.313$   $\chi^2/\text{NDF}$ : 56.7/24

Right Out:  $-7.658 \pm 3.741$   $\chi^2/\text{NDF}$ : 22.4/30

Left In:  $0.044 \pm 1.358$   $\chi^2/\text{NDF}$ : 30.0/22

Left:  $3.279 \pm 0.944$   $\chi^2/\text{NDF}$ : 97.7/47

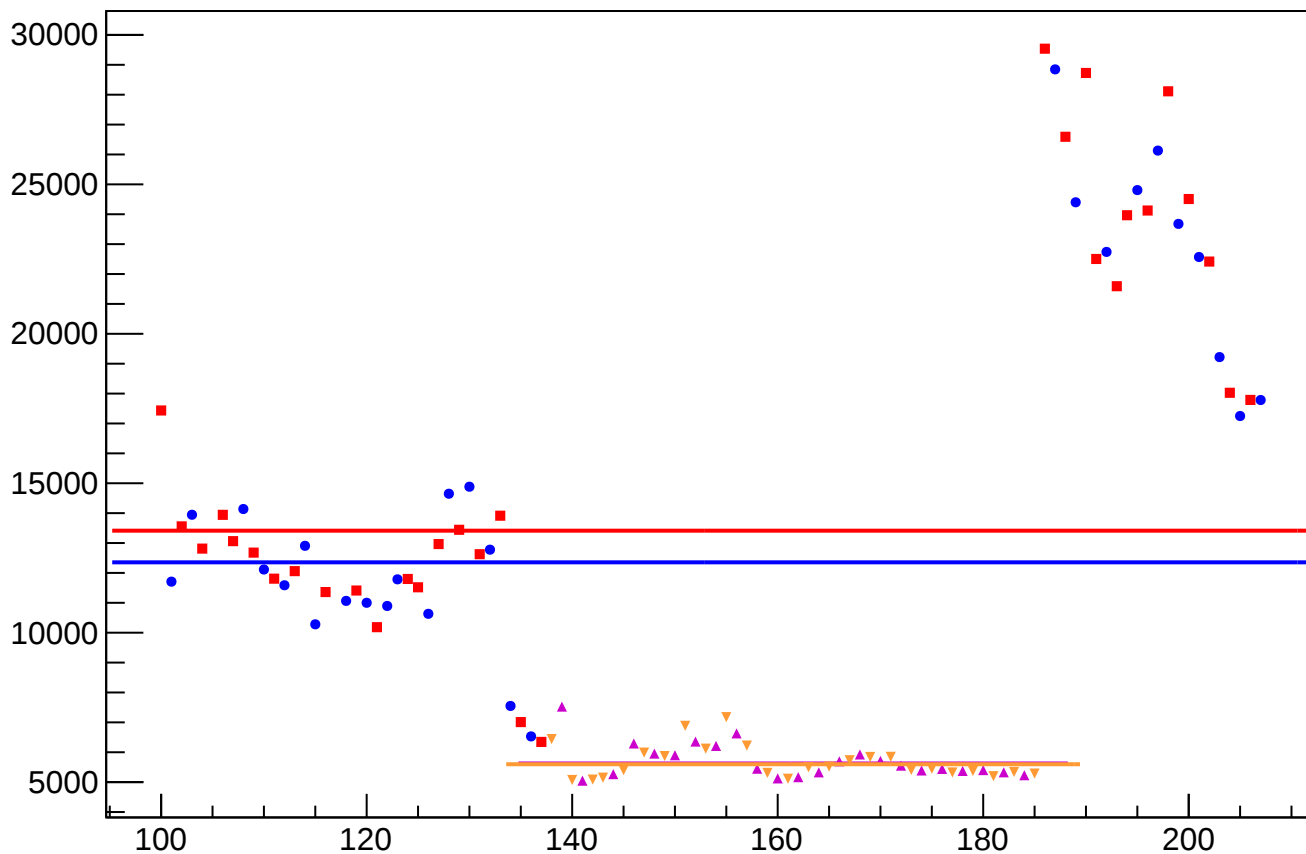
Right:  $0.772 \pm 2.604$   $\chi^2/\text{NDF}$ : 66.1/57

In:  $1.108 \pm 1.272$   $\chi^2/\text{NDF}$ : 68.8/49

Out:  $4.772 \pm 1.239$   $\chi^2/\text{NDF}$ : 91.5/55

All:  $2.988 \pm 0.887$   $\chi^2/\text{NDF}$ : 164.6/105

# diff\_bpm16X\_rms vs Slug, Sign Corrected



Right In: 12354.108 $\pm$ 2.565  $\chi^2$ /NDF: 4341670.5/26

Left Out: 5598.786 $\pm$ 0.928  $\chi^2$ /NDF: 283253.4/24

Right Out: 13413.392 $\pm$ 2.645  $\chi^2$ /NDF: 4392309.4/30

Left In: 5625.163 $\pm$ 0.960  $\chi^2$ /NDF: 272563.5/22

Left: 5611.528 $\pm$ 0.667  $\chi^2$ /NDF: 556207.1/47

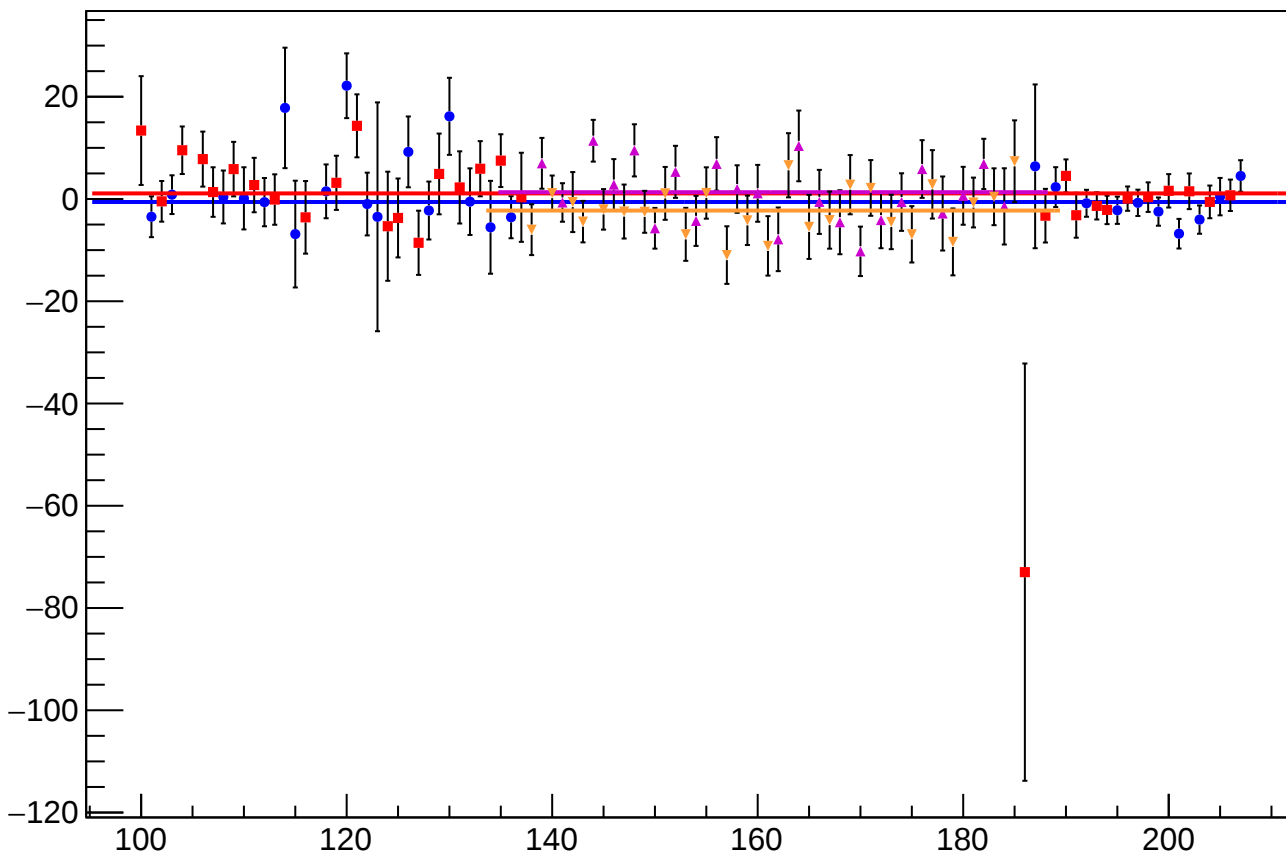
Right: 12867.521 $\pm$ 1.842  $\chi^2$ /NDF: 8816618.7/57

In: 6451.815 $\pm$ 0.899  $\chi^2$ /NDF: 10649158.2/49

Out: 6455.371 $\pm$ 0.876  $\chi^2$ /NDF: 12446500.7/55

All: 6453.640 $\pm$ 0.627  $\chi^2$ /NDF: 23095667.0/102

# diff\_bpm16Y\_mean vs Slug, Sign Corrected



Right In: -0.589 $\pm$ 0.796  $\chi^2/\text{NDF}$ : 35.0/26

Left Out: -2.262 $\pm$ 1.030  $\chi^2/\text{NDF}$ : 15.5/24

Right Out: 1.092 $\pm$ 0.769  $\chi^2/\text{NDF}$ : 27.0/30

Left In: 1.328 $\pm$ 1.082  $\chi^2/\text{NDF}$ : 30.6/22

Left: -0.555 $\pm$ 0.746  $\chi^2/\text{NDF}$ : 51.9/47

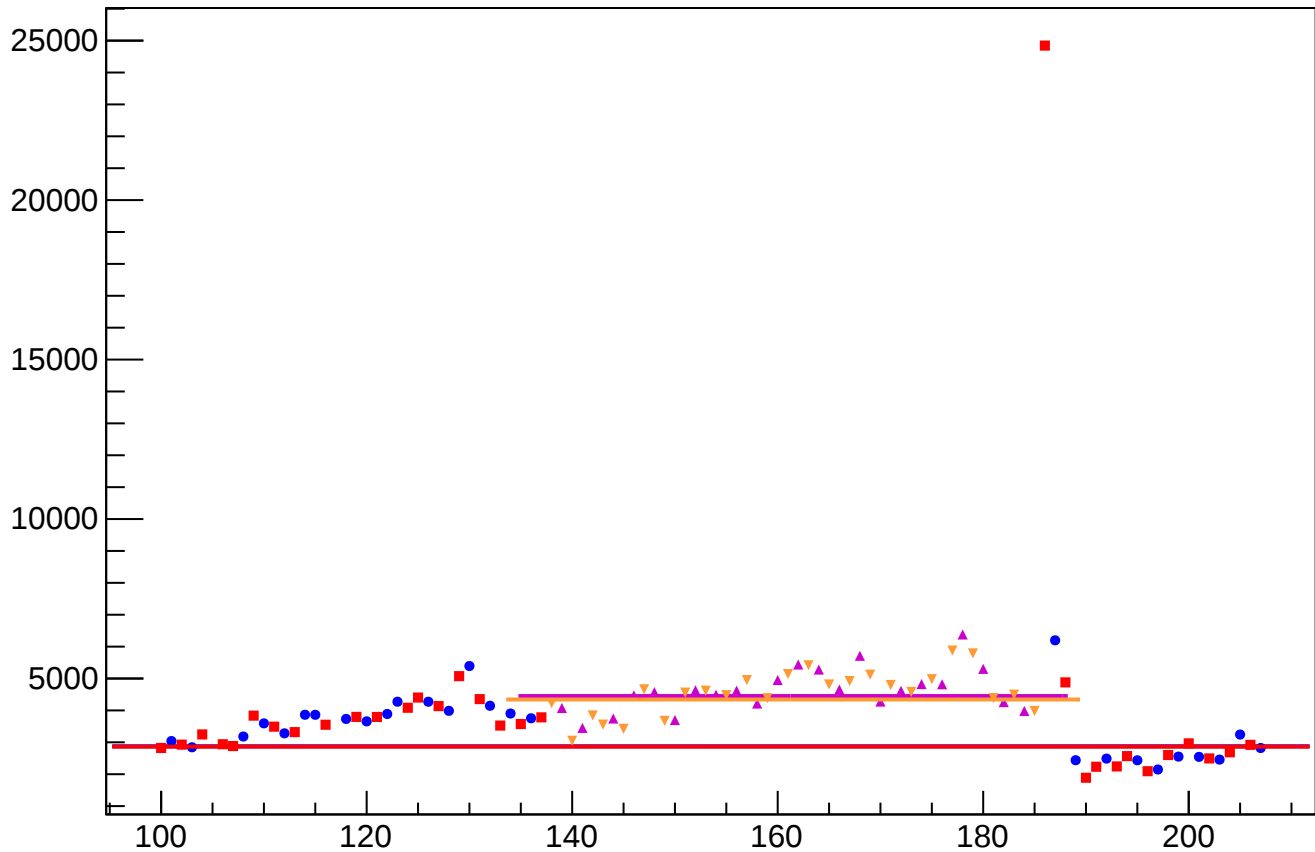
Right: 0.281 $\pm$ 0.553  $\chi^2/\text{NDF}$ : 64.3/57

In: 0.084 $\pm$ 0.641  $\chi^2/\text{NDF}$ : 67.6/49

Out: -0.107 $\pm$ 0.616  $\chi^2/\text{NDF}$ : 49.3/55

All: -0.015 $\pm$ 0.444  $\chi^2/\text{NDF}$ : 117.0/105

# diff\_bpm16Y\_rms vs Slug, Sign Corrected



Right In:  $2874.525 \pm 0.563$   $\chi^2/\text{NDF}: 1293048.1/26$

Left Out:  $4342.635 \pm 0.728$   $\chi^2/\text{NDF}: 993035.5/24$

Right Out:  $2864.548 \pm 0.543$   $\chi^2/\text{NDF}: 2264234.5/30$

Left In:  $4450.007 \pm 0.765$   $\chi^2/\text{NDF}: 693229.8/22$

Left:  $4393.686 \pm 0.528$   $\chi^2/\text{NDF}: 1696596.0/47$

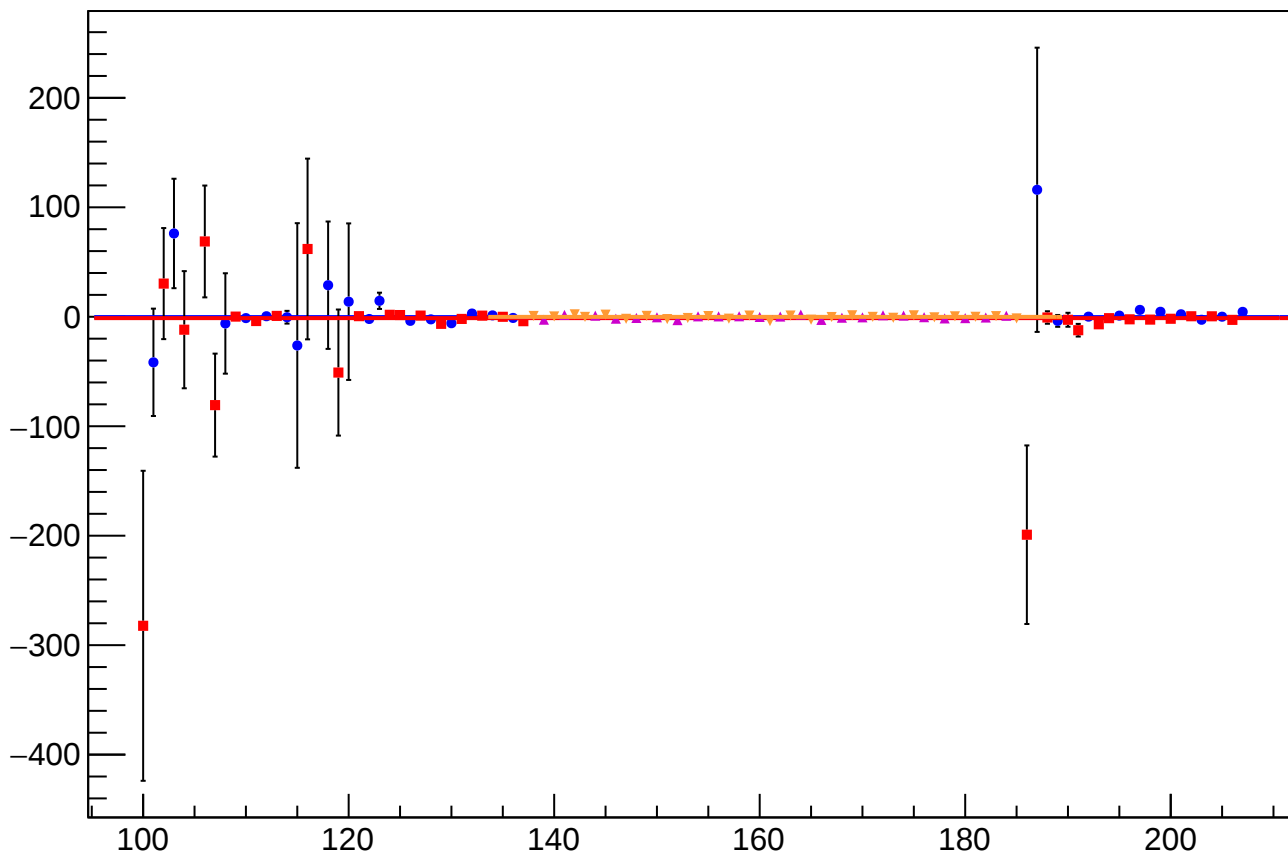
Right:  $2869.360 \pm 0.391$   $\chi^2/\text{NDF}: 3557445.2/57$

In:  $3428.035 \pm 0.453$   $\chi^2/\text{NDF}: 4736833.9/49$

Out:  $3393.070 \pm 0.436$   $\chi^2/\text{NDF}: 5902471.6/55$

All:  $3409.849 \pm 0.314$   $\chi^2/\text{NDF}: 10642397.6/100$

# diff\_bpm1p02bX\_mean vs Slug, Sign Corrected



Right In:  $-0.294 \pm 0.603$   $\chi^2/\text{NDF}$ : 31.5/26

Left Out:  $-0.092 \pm 0.249$   $\chi^2/\text{NDF}$ : 34.4/24

Right Out:  $-1.236 \pm 0.590$   $\chi^2/\text{NDF}$ : 35.5/30

Left In:  $-0.259 \pm 0.257$   $\chi^2/\text{NDF}$ : 27.2/22

Left:  $-0.173 \pm 0.179$   $\chi^2/\text{NDF}$ : 61.9/47

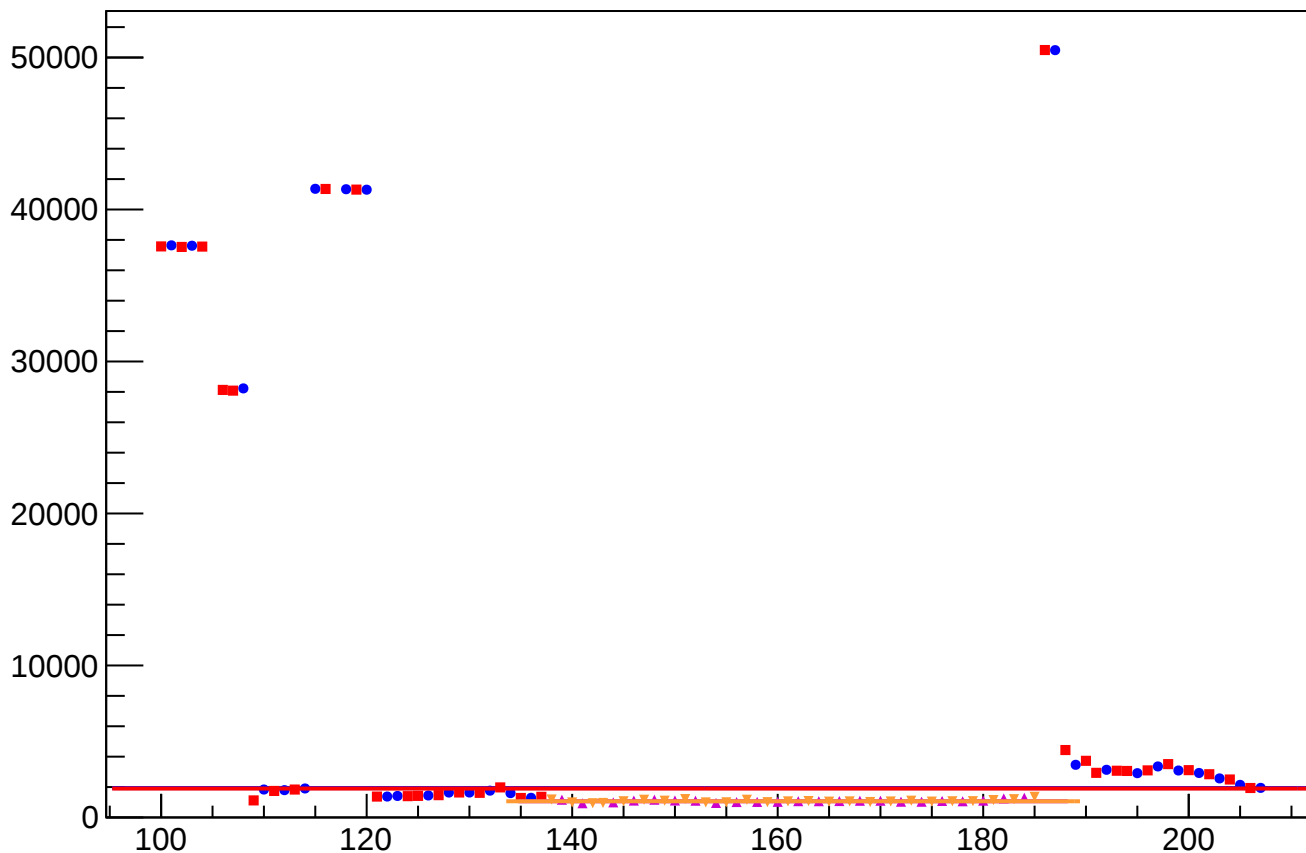
Right:  $-0.775 \pm 0.422$   $\chi^2/\text{NDF}$ : 68.3/57

In:  $-0.265 \pm 0.236$   $\chi^2/\text{NDF}$ : 58.8/49

Out:  $-0.265 \pm 0.229$   $\chi^2/\text{NDF}$ : 73.1/55

All:  $-0.265 \pm 0.165$   $\chi^2/\text{NDF}$ : 131.9/105

# diff\_bpm1p02bX\_rms vs Slug, Sign Corrected



Right In: 1931.885 $\pm$ 0.426  $\chi^2$ /NDF: 6919899.7/26

Left Out: 1064.701 $\pm$ 0.176  $\chi^2$ /NDF: 186511.5/24

Right Out: 1901.895 $\pm$ 0.417  $\chi^2$ /NDF: 8340255.7/30

Left In: 1066.255 $\pm$ 0.182  $\chi^2$ /NDF: 164232.1/22

Left: 1065.454 $\pm$ 0.126  $\chi^2$ /NDF: 350781.3/47

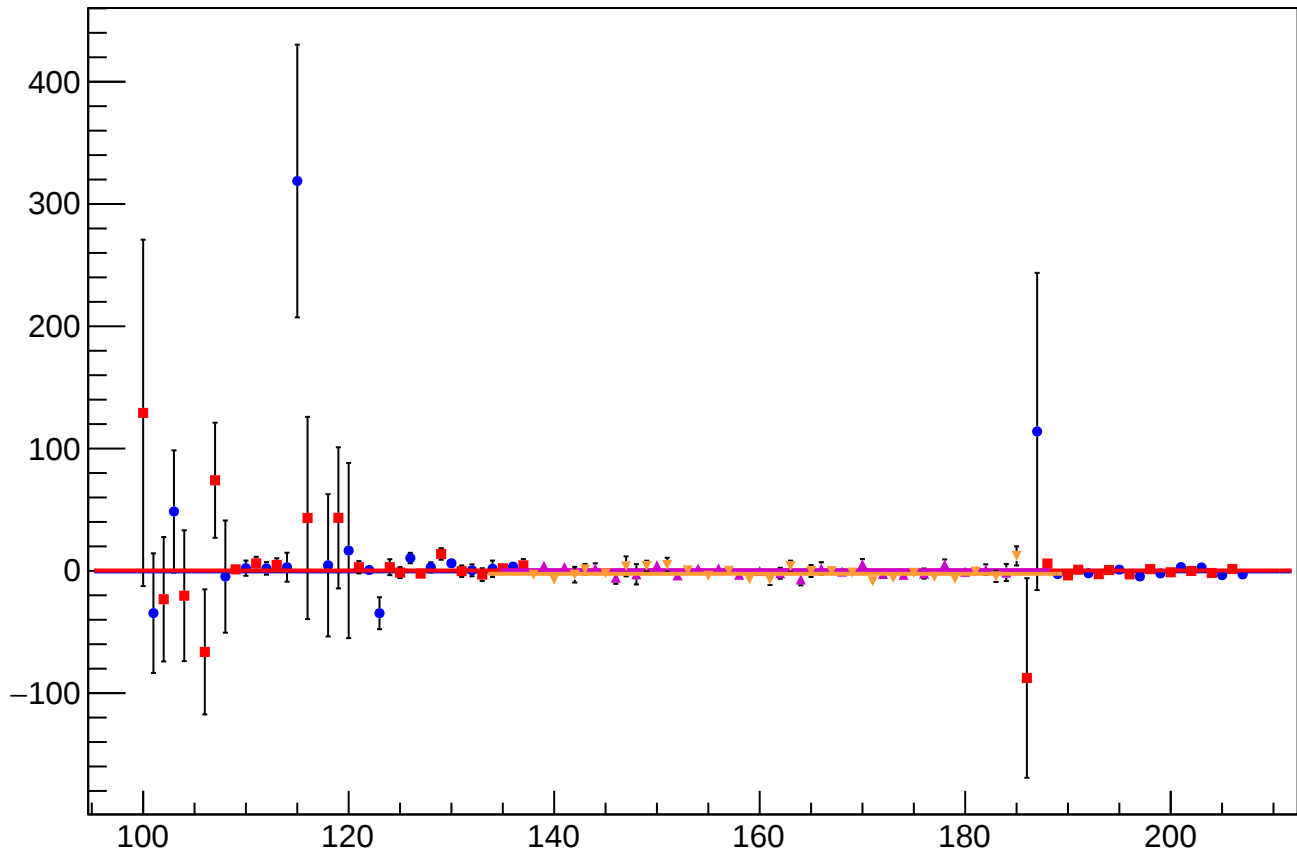
Right: 1916.569 $\pm$ 0.298  $\chi^2$ /NDF: 15262685.2/57

In: 1199.443 $\pm$ 0.167  $\chi^2$ /NDF: 10576186.5/49

Out: 1191.366 $\pm$ 0.162  $\chi^2$ /NDF: 11946244.0/55

All: 1195.284 $\pm$ 0.116  $\chi^2$ /NDF: 22523633.0/100

# diff\_bpm1p02bY\_mean vs Slug, Sign Corrected



Right In:  $-0.447 \pm 0.581$   $\chi^2/\text{NDF}: 48.5/26$

Left Out:  $-2.422 \pm 0.811$   $\chi^2/\text{NDF}: 21.2/24$

Right Out:  $0.297 \pm 0.594$   $\chi^2/\text{NDF}: 30.3/30$

Left In:  $0.468 \pm 0.843$   $\chi^2/\text{NDF}: 15.5/22$

Left:  $-1.033 \pm 0.584$   $\chi^2/\text{NDF}: 42.8/47$

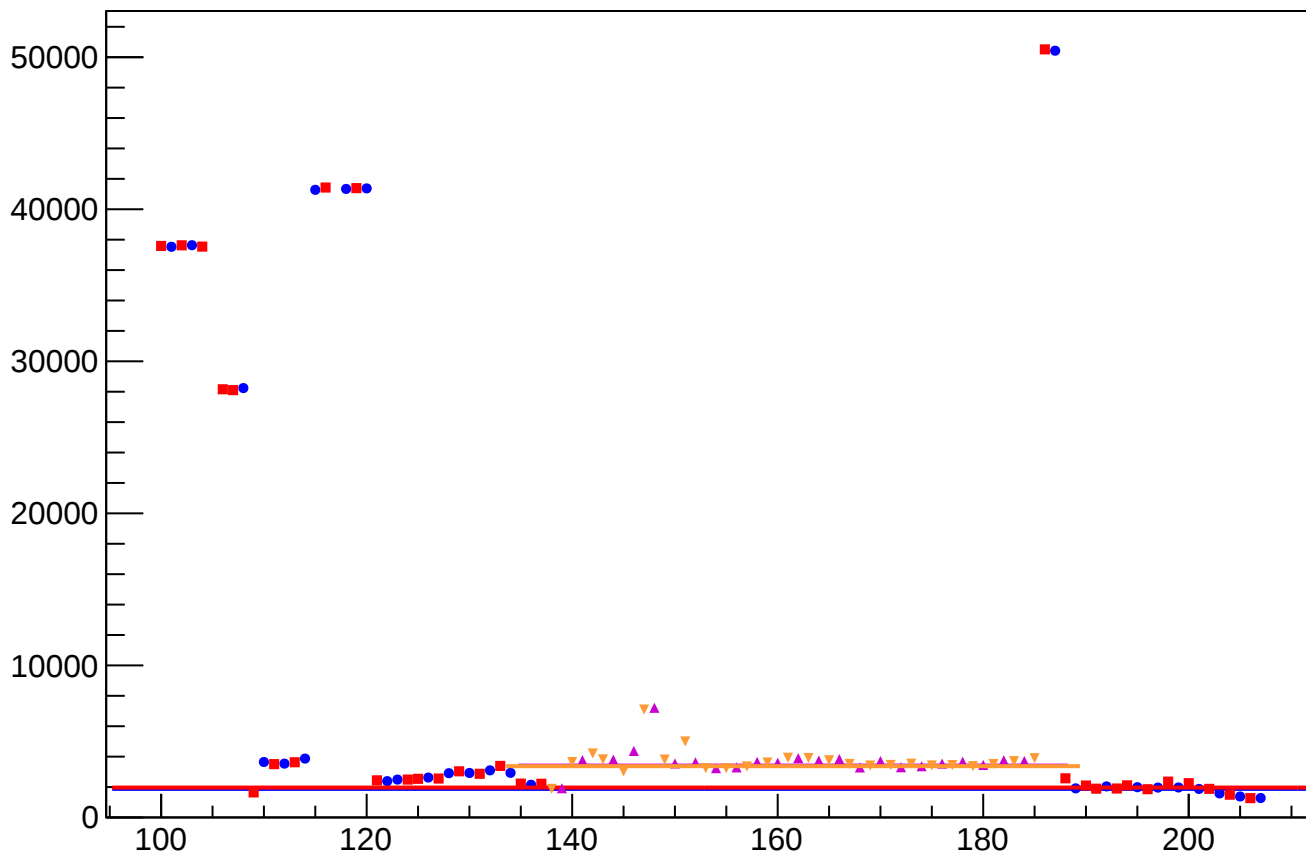
Right:  $-0.084 \pm 0.416$   $\chi^2/\text{NDF}: 79.6/57$

In:  $-0.152 \pm 0.479$   $\chi^2/\text{NDF}: 64.8/49$

Out:  $-0.654 \pm 0.479$   $\chi^2/\text{NDF}: 58.8/55$

All:  $-0.403 \pm 0.339$   $\chi^2/\text{NDF}: 124.2/105$

# diff\_bpm1p02bY\_rms vs Slug, Sign Corrected



Right In:  $1879.062 \pm 0.411$   $\chi^2/\text{NDF}: 6451588.6/26$

Left Out:  $3372.958 \pm 0.573$   $\chi^2/\text{NDF}: 1656864.7/24$

Right Out:  $1966.615 \pm 0.420$   $\chi^2/\text{NDF}: 6906874.9/30$

Left In:  $3411.924 \pm 0.596$   $\chi^2/\text{NDF}: 1434523.7/22$

Left:  $3391.680 \pm 0.413$   $\chi^2/\text{NDF}: 3093609.1/47$

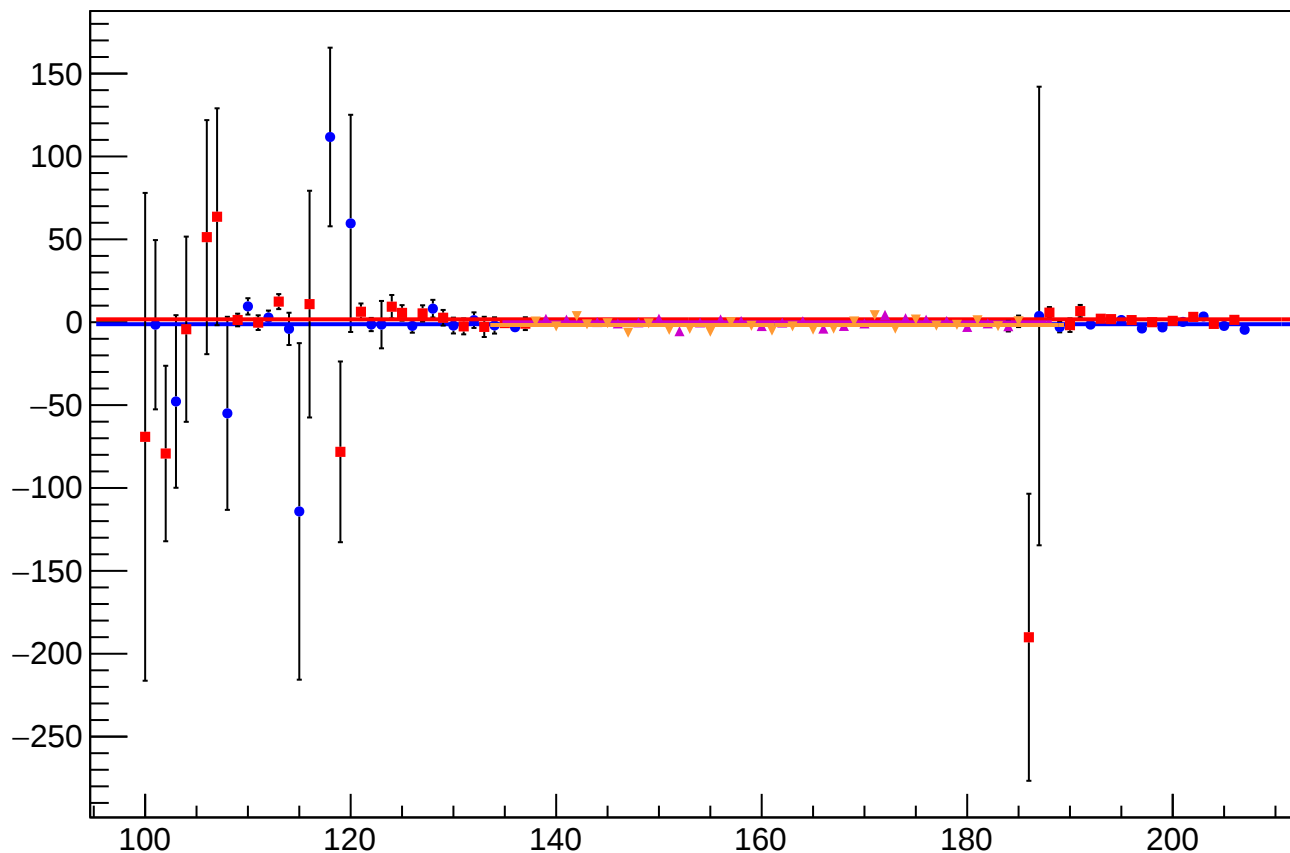
Right:  $1921.869 \pm 0.294$   $\chi^2/\text{NDF}: 13380633.5/57$

In:  $2373.349 \pm 0.338$   $\chi^2/\text{NDF}: 12368060.0/49$

Out:  $2458.520 \pm 0.339$   $\chi^2/\text{NDF}: 12478662.2/55$

All:  $2415.868 \pm 0.239$   $\chi^2/\text{NDF}: 24878339.2/100$

# diff\_bpm1p03aX\_mean vs Slug, Sign Corrected



Right In:  $-1.196 \pm 0.650$   $\chi^2/\text{NDF}$ : 28.7/26

Left Out:  $-1.672 \pm 0.388$   $\chi^2/\text{NDF}$ : 45.7/24

Right Out:  $1.748 \pm 0.650$   $\chi^2/\text{NDF}$ : 28.8/30

Left In:  $-0.072 \pm 0.401$   $\chi^2/\text{NDF}$ : 28.2/22

Left:  $-0.898 \pm 0.279$   $\chi^2/\text{NDF}$ : 82.1/47

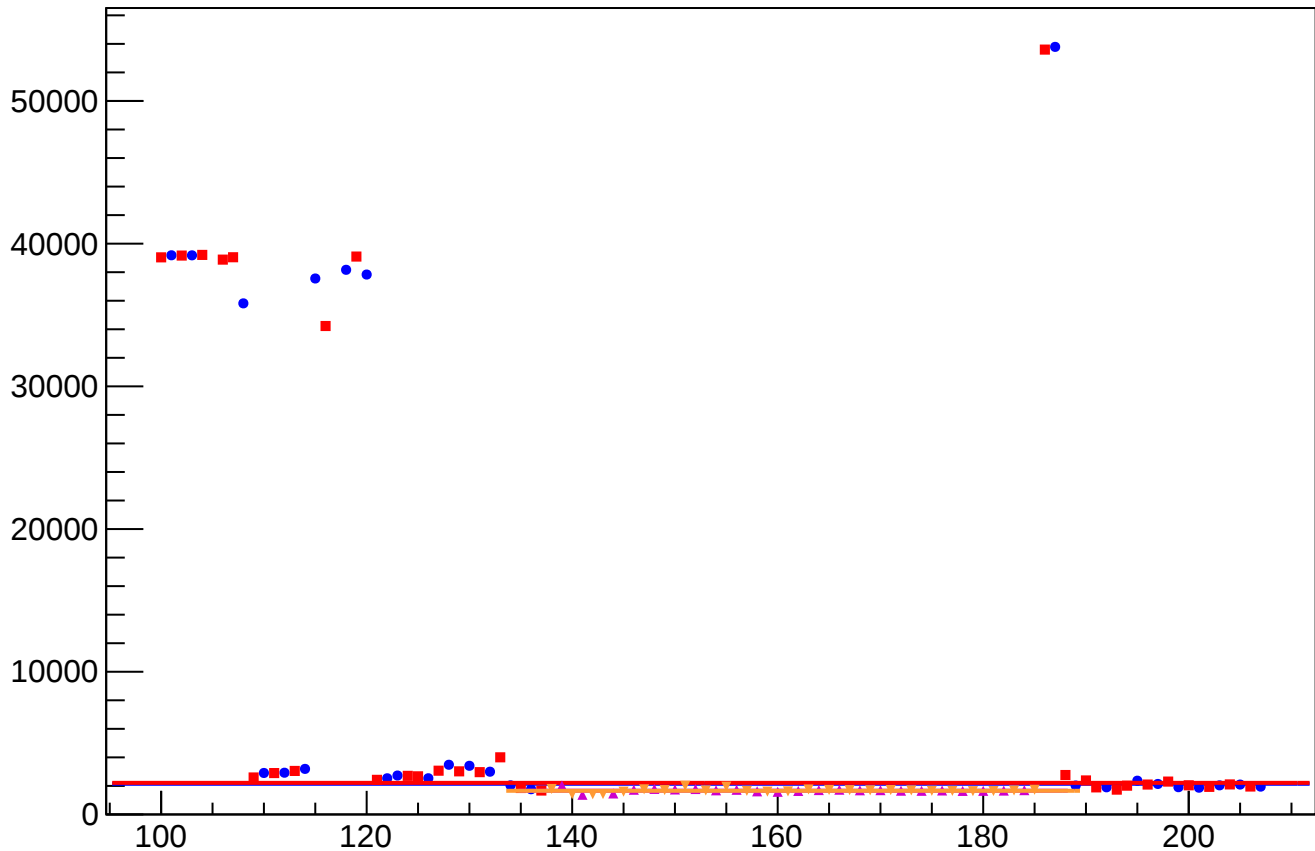
Right:  $0.277 \pm 0.460$   $\chi^2/\text{NDF}$ : 67.7/57

In:  $-0.381 \pm 0.341$   $\chi^2/\text{NDF}$ : 59.1/49

Out:  $-0.774 \pm 0.333$   $\chi^2/\text{NDF}$ : 94.9/55

All:  $-0.582 \pm 0.238$   $\chi^2/\text{NDF}$ : 154.6/105

# diff\_bpm1p03aX\_rms vs Slug, Sign Corrected



Right In: 2149.598 $\pm$ 0.460  $\chi^2$ /NDF: 5458489.3/26

Left Out: 1657.770 $\pm$ 0.274  $\chi^2$ /NDF:223465.3/24

Right Out: 2214.228 $\pm$ 0.460  $\chi^2$ /NDF: 6062595.1/30

Left In: 1663.620 $\pm$ 0.284  $\chi^2$ /NDF:178858.2/22

Left: 1660.599 $\pm$ 0.197  $\chi^2$ /NDF: 402543.2/47

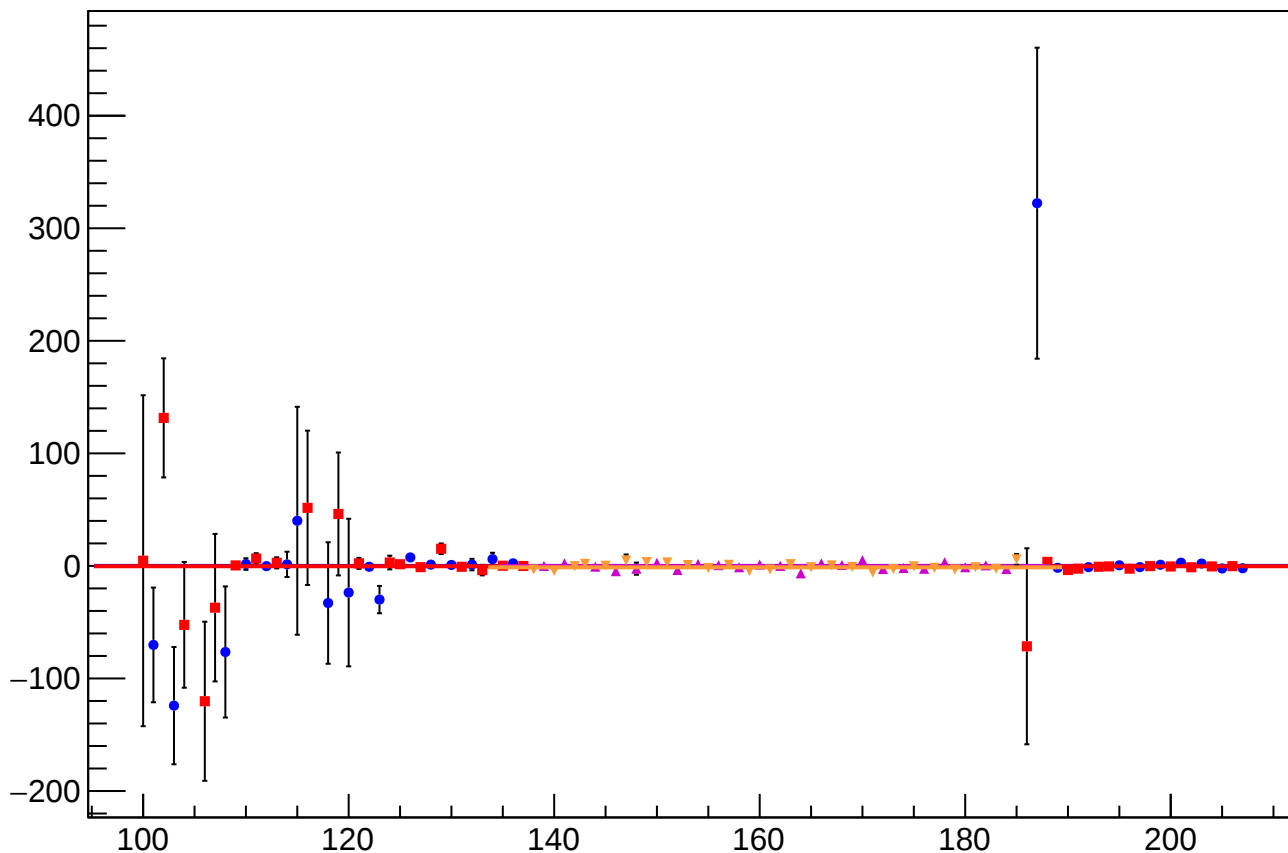
Right: 2181.922 $\pm$ 0.325  $\chi^2$ /NDF: 11530965.3/57

In: 1797.535 $\pm$ 0.241  $\chi^2$ /NDF:6446588.4/49

Out: 1803.967 $\pm$ 0.236  $\chi^2$ /NDF:7366422.5/55

All: 1800.828 $\pm$ 0.169  $\chi^2$ /NDF: 13813374.5/102

# diff\_bpm1p03aY\_mean vs Slug, Sign Corrected



Right In:  $0.005 \pm 0.495$   $\chi^2/\text{NDF}$ : 39.8/26

Left Out:  $-1.251 \pm 0.535$   $\chi^2/\text{NDF}$ : 21.7/24

Right Out:  $-0.297 \pm 0.499$   $\chi^2/\text{NDF}$ : 33.0/30

Left In:  $-0.098 \pm 0.541$   $\chi^2/\text{NDF}$ : 19.3/22

Left:  $-0.681 \pm 0.380$   $\chi^2/\text{NDF}$ : 43.3/47

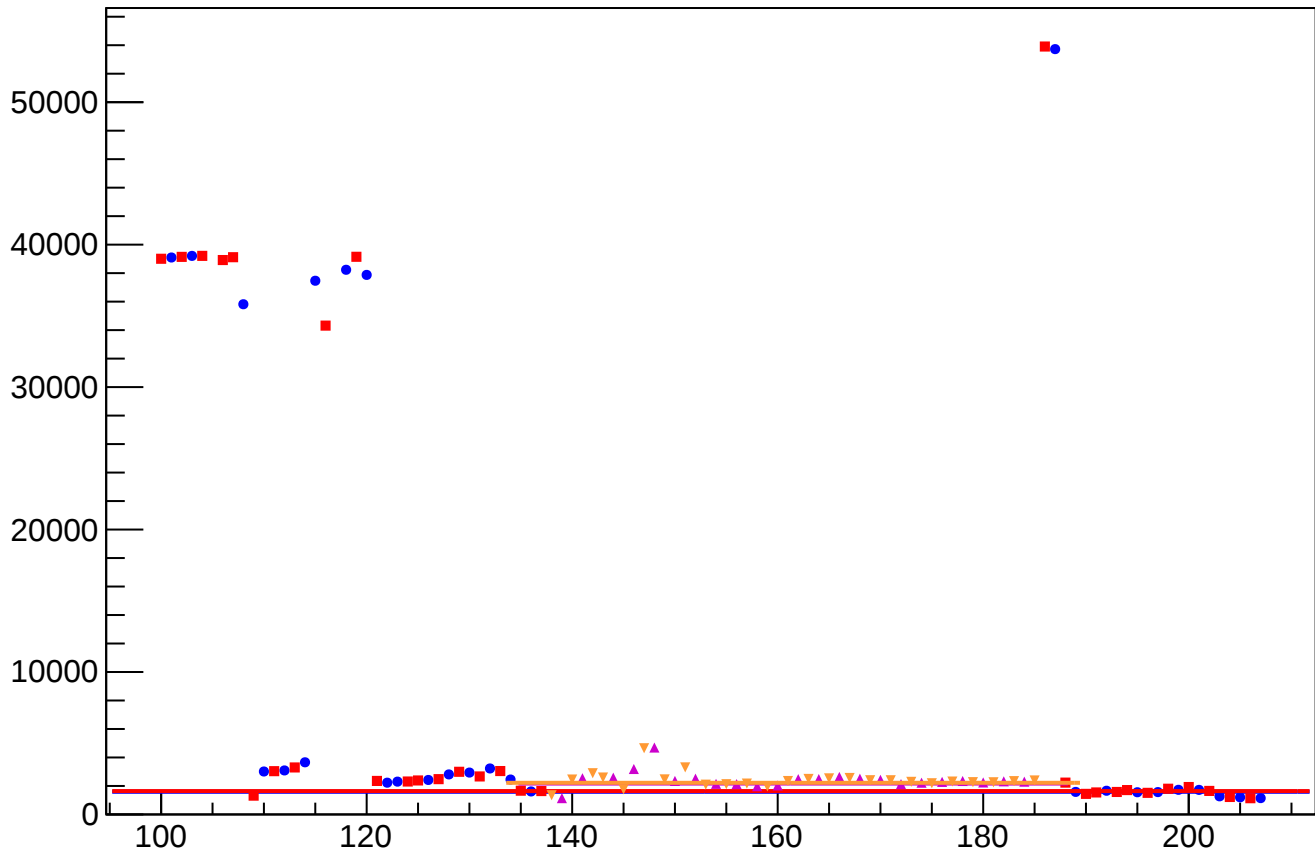
Right:  $-0.145 \pm 0.352$   $\chi^2/\text{NDF}$ : 73.0/57

In:  $-0.042 \pm 0.365$   $\chi^2/\text{NDF}$ : 59.1/49

Out:  $-0.741 \pm 0.365$   $\chi^2/\text{NDF}$ : 56.4/55

All:  $-0.392 \pm 0.258$   $\chi^2/\text{NDF}$ : 117.3/105

# diff\_bpm1p03aY\_rms vs Slug, Sign Corrected



Right In: 1591.388+/-0.350  $\chi^2/\text{NDF}$ : 6688668.6/26

Left Out: 2222.081+/-0.378  $\chi^2/\text{NDF}$ : 1422440.9/24

Right Out: 1641.353+/-0.353  $\chi^2/\text{NDF}$ : 7170924.2/30

Left In: 2169.443+/-0.383  $\chi^2/\text{NDF}$ : 1974869.8/22

Left: 2196.064+/-0.269  $\chi^2/\text{NDF}$ : 3406878.6/47

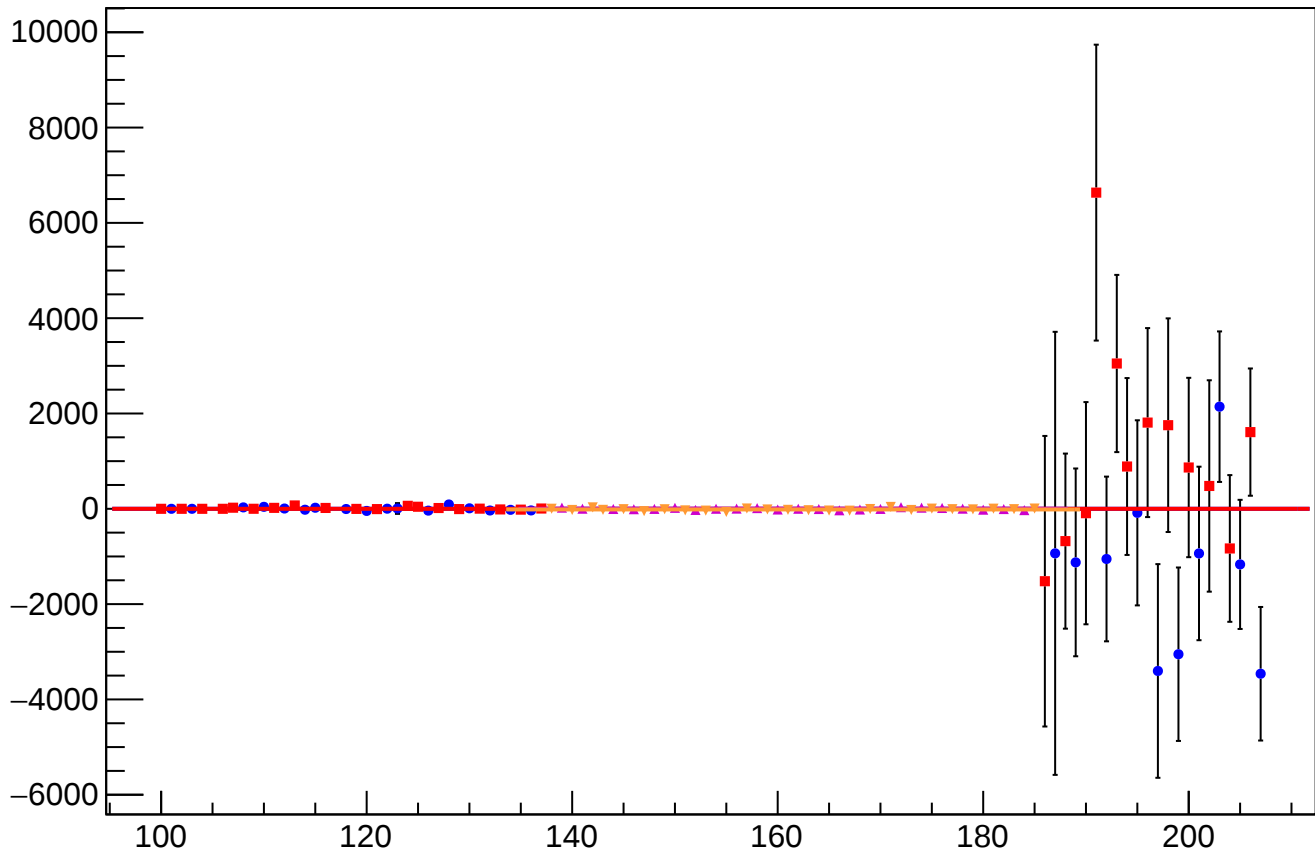
Right: 1616.185+/-0.249  $\chi^2/\text{NDF}$ : 13869693.0/57

In: 1854.866+/-0.258  $\chi^2/\text{NDF}$ : 9905133.5/49

Out: 1911.502+/-0.258  $\chi^2/\text{NDF}$ : 9853451.7/55

All: 1883.220+/-0.183  $\chi^2/\text{NDF}$ : 19782641.6/100

# diff\_cav4bX\_mean vs Slug, Sign Corrected



Right In:  $0.013 \pm 0.017$   $\chi^2/\text{NDF}: 31.4/26$

Left Out:  $-13.484 \pm 2.800$   $\chi^2/\text{NDF}: 58.7/24$

Right Out:  $-0.003 \pm 0.016$   $\chi^2/\text{NDF}: 26.8/30$

Left In:  $0.459 \pm 2.917$   $\chi^2/\text{NDF}: 29.0/22$

Left:  $-6.796 \pm 2.020$   $\chi^2/\text{NDF}: 99.5/47$

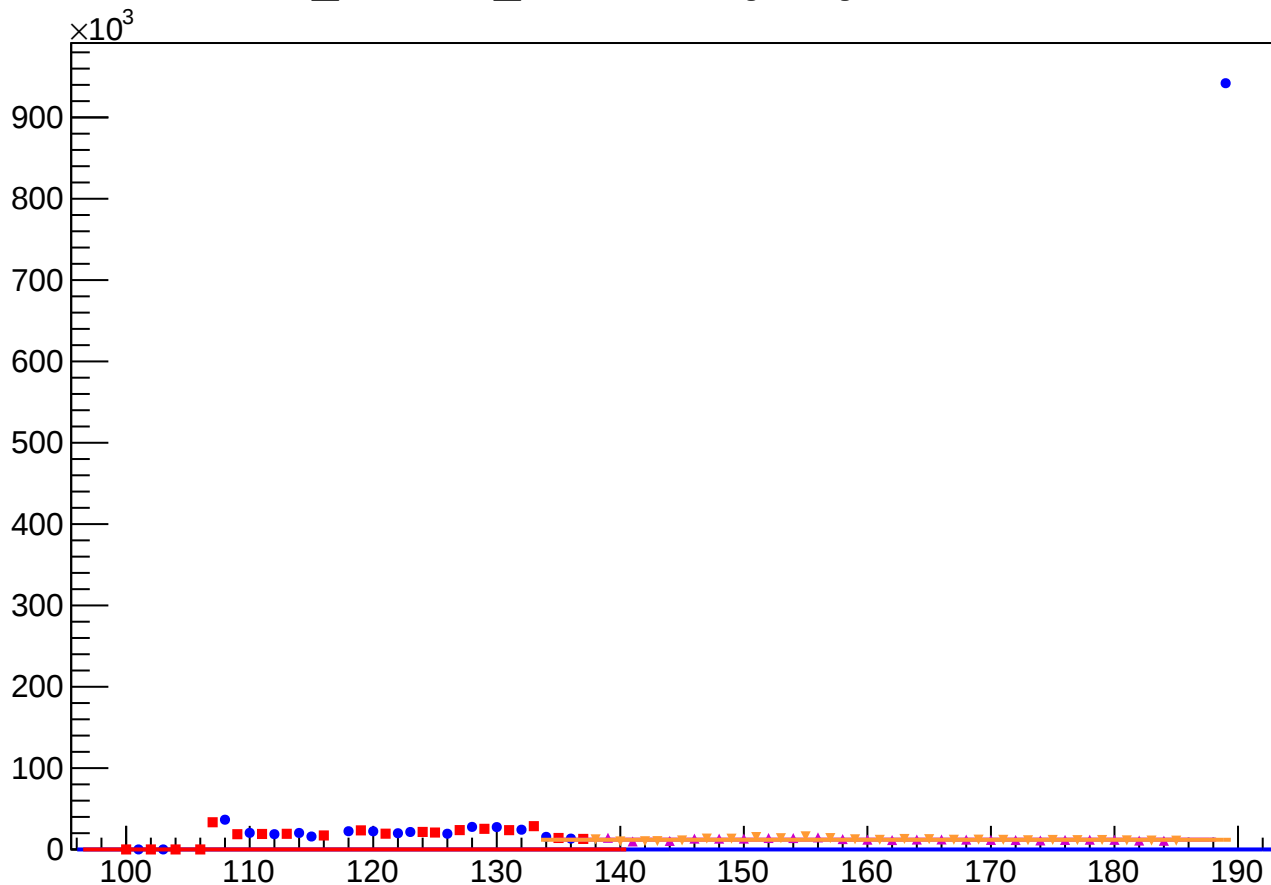
Right:  $0.004 \pm 0.012$   $\chi^2/\text{NDF}: 58.7/57$

In:  $0.013 \pm 0.017$   $\chi^2/\text{NDF}: 60.4/49$

Out:  $-0.004 \pm 0.016$   $\chi^2/\text{NDF}: 108.7/55$

All:  $0.004 \pm 0.012$   $\chi^2/\text{NDF}: 169.6/105$

# diff\_cav4bX\_rms vs Slug, Sign Corrected



Right In: 18.641 $\pm$ 0.012     $\chi^2$ /NDF: 11125273.3/17

Left Out: 11910.325 $\pm$ 1.980     $\chi^2$ /NDF: 476504.3/24

Right Out: 18.311 $\pm$ 0.011     $\chi^2$ /NDF: 11063399.8/18

Left In: 12064.761 $\pm$ 2.062     $\chi^2$ /NDF: 368452.5/22

Left: 11984.403 $\pm$ 1.428     $\chi^2$ /NDF: 847874.4/47

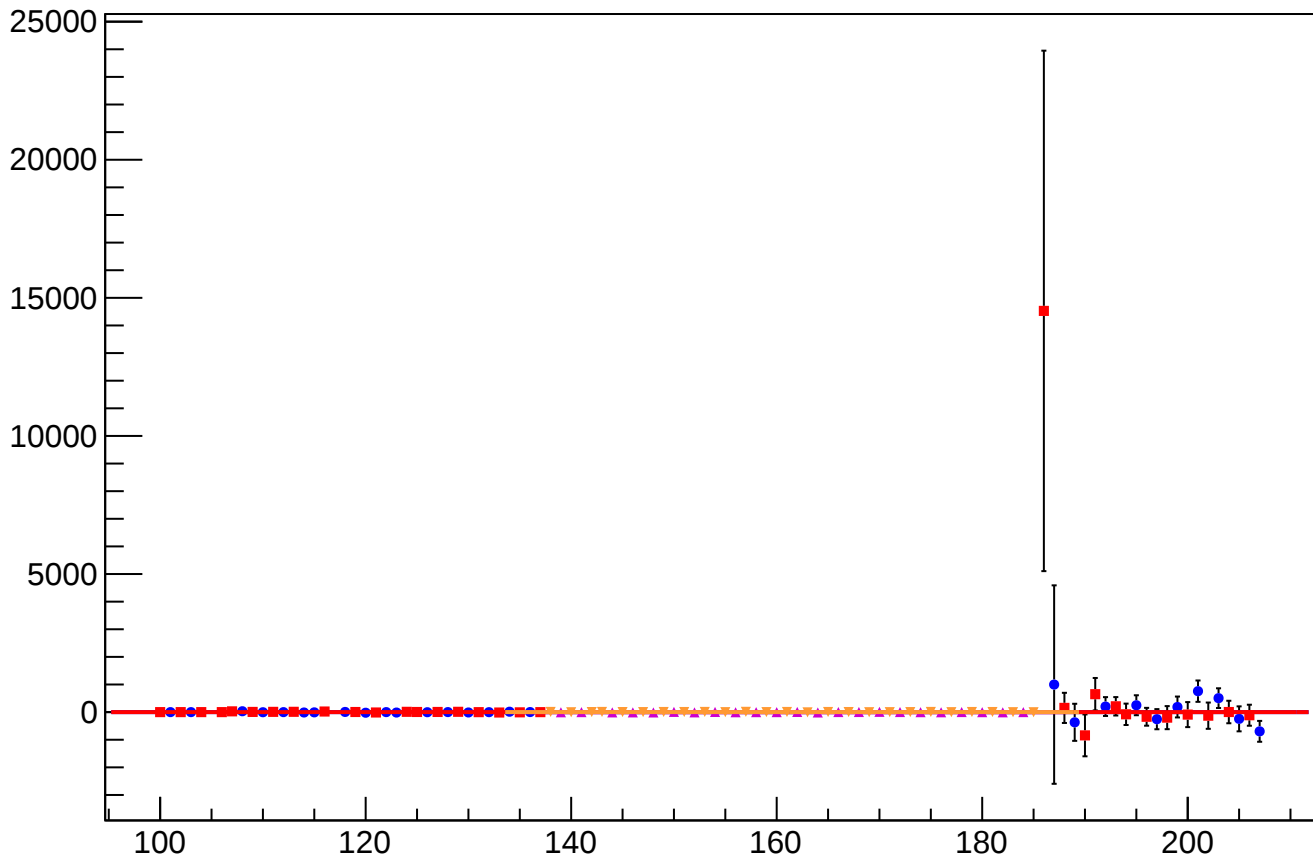
Right: 18.464 $\pm$ 0.008     $\chi^2$ /NDF: 22189063.4/36

In: 19.067 $\pm$ 0.012     $\chi^2$ /NDF: 45607591.7/40

Out: 18.703 $\pm$ 0.011     $\chi^2$ /NDF: 47605245.6/43

All: 18.871 $\pm$ 0.008     $\chi^2$ /NDF: 93213311.5/84

# diff\_cav4bY\_mean vs Slug, Sign Corrected



Right In:  $0.001 \pm 0.009$   $\chi^2/\text{NDF}$ : 24.4/26

Left Out:  $1.649 \pm 1.022$   $\chi^2/\text{NDF}$ : 18.4/24

Right Out:  $-0.014 \pm 0.009$   $\chi^2/\text{NDF}$ : 24.8/30

Left In:  $-0.939 \pm 1.049$   $\chi^2/\text{NDF}$ : 35.6/22

Left:  $0.388 \pm 0.732$   $\chi^2/\text{NDF}$ : 57.1/47

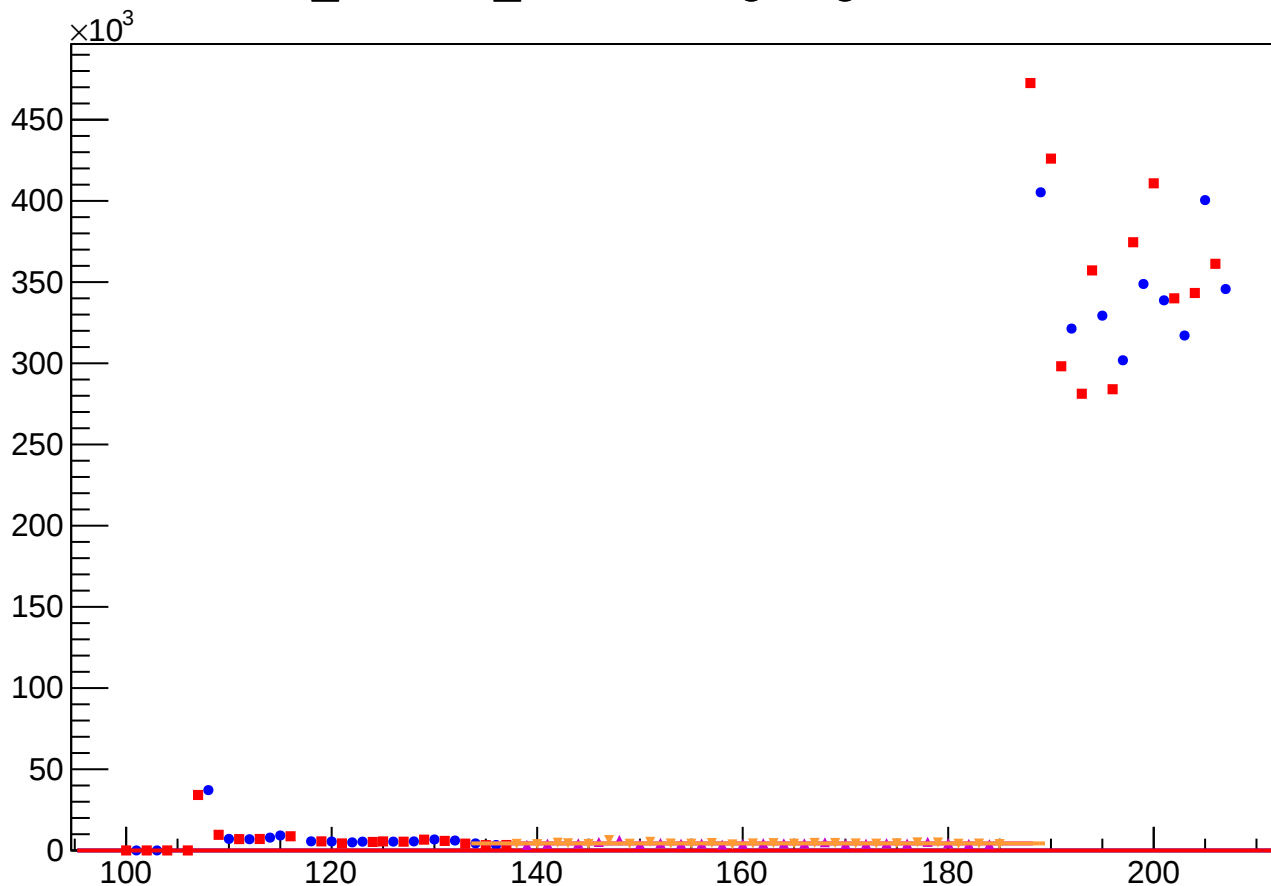
Right:  $-0.007 \pm 0.006$   $\chi^2/\text{NDF}$ : 50.6/57

In:  $0.001 \pm 0.009$   $\chi^2/\text{NDF}$ : 60.8/49

Out:  $-0.014 \pm 0.009$   $\chi^2/\text{NDF}$ : 45.8/55

All:  $-0.007 \pm 0.006$   $\chi^2/\text{NDF}$ : 108.0/105

# diff\_cav4bY\_rms vs Slug, Sign Corrected



Right In: 9.940 $\pm$ 0.007     $\chi^2$ /NDF: 24645342.9/25

Left Out: 4349.005 $\pm$ 0.723     $\chi^2$ /NDF:383895.7/24

Right Out: 9.856 $\pm$ 0.006     $\chi^2$ /NDF: 25906547.0/29

Left In: 4321.572 $\pm$ 0.741     $\chi^2$ /NDF:514603.2/22

Left: 4335.639 $\pm$ 0.518     $\chi^2$ /NDF: 899200.9/47

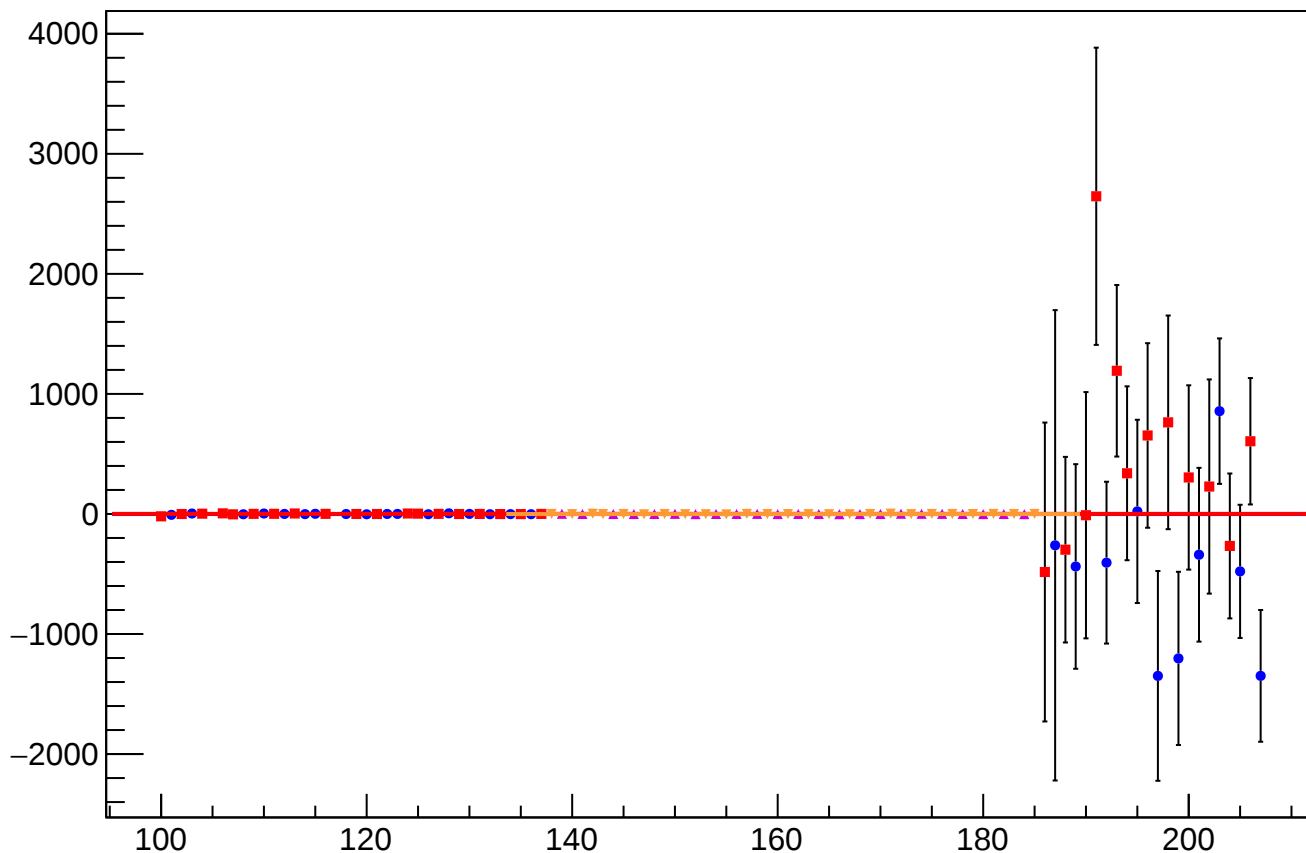
Right: 9.895 $\pm$ 0.004     $\chi^2$ /NDF: 50551980.0/55

In: 10.272 $\pm$ 0.007     $\chi^2$ /NDF:58977065.4/48

Out: 10.166 $\pm$ 0.006     $\chi^2$ /NDF:62335696.1/54

All: 10.216 $\pm$ 0.004     $\chi^2$ /NDF: 121312902.4/102

# diff\_cav4cX\_mean vs Slug, Sign Corrected



Right In:  $-0.716 \pm 0.483$   $\chi^2/\text{NDF}$ : 37.5/26

Left Out:  $-0.775 \pm 0.165$   $\chi^2/\text{NDF}$ : 58.5/24

Right Out:  $0.640 \pm 0.501$   $\chi^2/\text{NDF}$ : 24.1/30

Left In:  $0.018 \pm 0.171$   $\chi^2/\text{NDF}$ : 29.4/22

Left:  $-0.393 \pm 0.119$   $\chi^2/\text{NDF}$ : 99.1/47

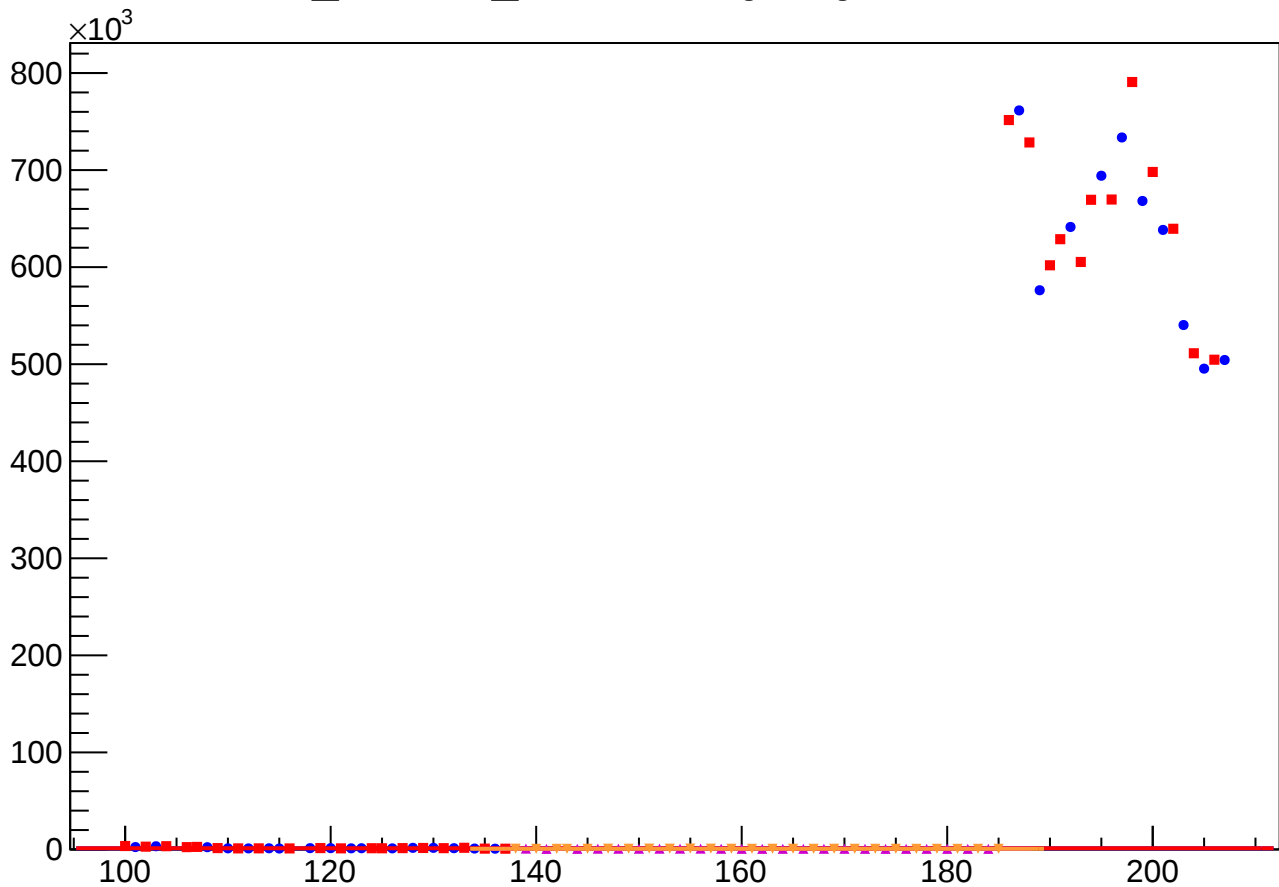
Right:  $-0.063 \pm 0.348$   $\chi^2/\text{NDF}$ : 65.4/57

In:  $-0.063 \pm 0.161$   $\chi^2/\text{NDF}$ : 69.0/49

Out:  $-0.637 \pm 0.156$   $\chi^2/\text{NDF}$ : 89.8/55

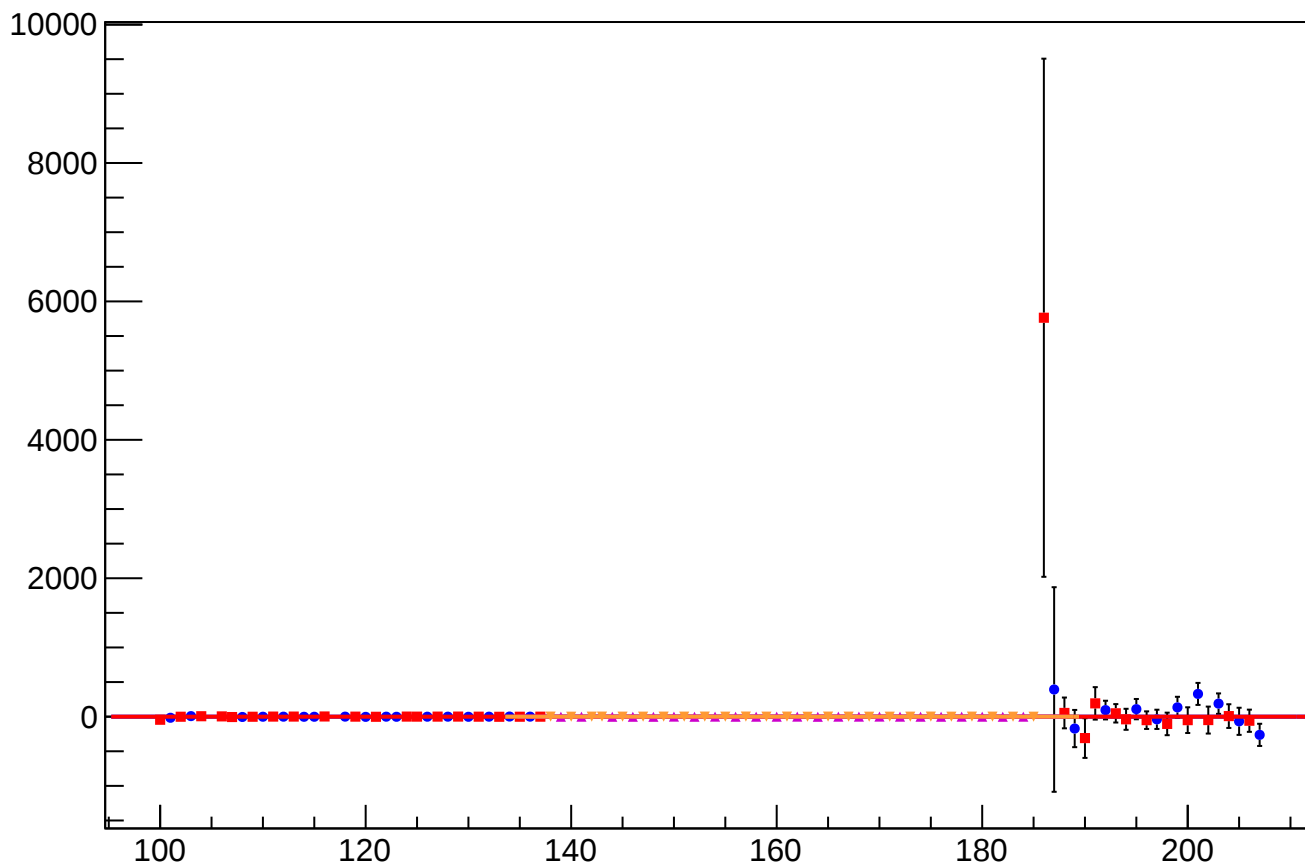
All:  $-0.359 \pm 0.112$   $\chi^2/\text{NDF}$ : 165.4/105

# diff\_cav4cX\_rms vs Slug, Sign Corrected



|                                 |                              |                             |                              |
|---------------------------------|------------------------------|-----------------------------|------------------------------|
| Right In: 1169.871 $\pm$ 0.342  | $\chi^2$ /NDF: 15753589.4/26 | Left: 703.867 $\pm$ 0.084   | $\chi^2$ /NDF: 726141.0/47   |
| Left Out: 700.984 $\pm$ 0.116   | $\chi^2$ /NDF: 392855.4/24   | Right: 1208.940 $\pm$ 0.246 | $\chi^2$ /NDF: 33179505.5/57 |
| Right Out: 1251.034 $\pm$ 0.355 | $\chi^2$ /NDF: 17398745.4/30 | In: 758.388 $\pm$ 0.114     | $\chi^2$ /NDF: 17717742.2/49 |
| Left In: 706.971 $\pm$ 0.121    | $\chi^2$ /NDF: 332011.4/22   | Out: 754.466 $\pm$ 0.111    | $\chi^2$ /NDF: 19963841.2/55 |
|                                 |                              | All: 756.370 $\pm$ 0.079    | $\chi^2$ /NDF: 37682194.1/10 |

# diff\_cav4cY\_mean vs Slug, Sign Corrected



Right In:  $-0.058 \pm 0.269$   $\chi^2/\text{NDF}$ : 30.2/26

Left Out:  $0.233 \pm 0.123$   $\chi^2/\text{NDF}$ : 18.0/24

Right Out:  $-0.280 \pm 0.264$   $\chi^2/\text{NDF}$ : 25.8/30

Left In:  $-0.126 \pm 0.126$   $\chi^2/\text{NDF}$ : 35.0/22

Left:  $0.059 \pm 0.088$   $\chi^2/\text{NDF}$ : 57.1/47

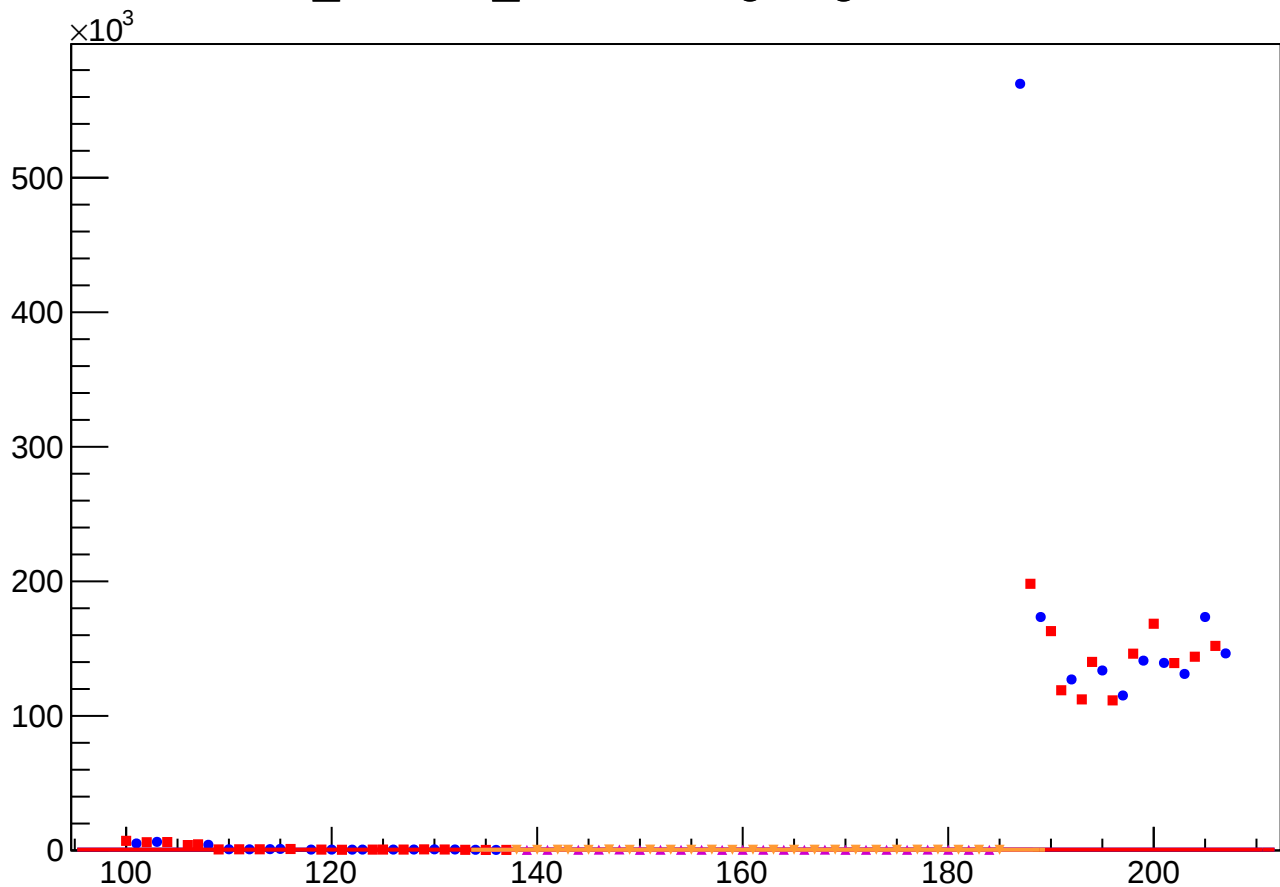
Right:  $-0.171 \pm 0.189$   $\chi^2/\text{NDF}$ : 56.4/57

In:  $-0.113 \pm 0.114$   $\chi^2/\text{NDF}$ : 65.2/49

Out:  $0.142 \pm 0.111$   $\chi^2/\text{NDF}$ : 46.9/55

All:  $0.018 \pm 0.080$   $\chi^2/\text{NDF}$ : 114.7/105

# diff\_cav4cY\_rms vs Slug, Sign Corrected



Right In: 612.957+/-0.190  $\chi^2/\text{NDF}$ : 17006073.3/26

Left Out: 522.220+/-0.087  $\chi^2/\text{NDF}$ :330405.3/24

Right Out: 602.466+/-0.187  $\chi^2/\text{NDF}$ : 18340943.0/29

Left In: 520.700+/-0.089  $\chi^2/\text{NDF}$ :427720.5/22

Left: 521.481+/-0.062  $\chi^2/\text{NDF}$ : 758275.0/47

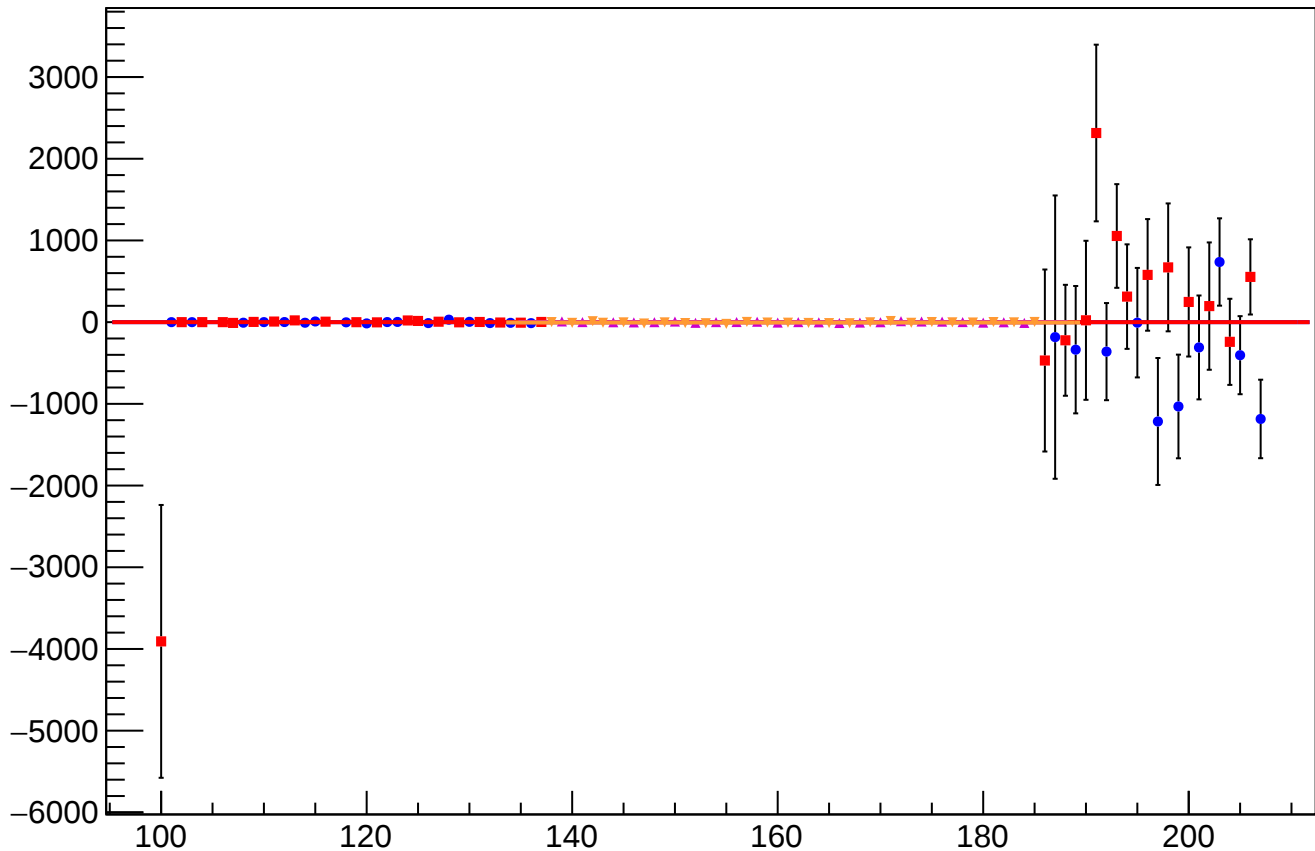
Right: 607.622+/-0.133  $\chi^2/\text{NDF}$ : 35348563.2/56

In: 537.331+/-0.081  $\chi^2/\text{NDF}$ :17626640.4/49

Out: 536.420+/-0.079  $\chi^2/\text{NDF}$ :18822960.5/54

All: 536.863+/-0.056  $\chi^2/\text{NDF}$ : 36449666.3/10

# diff\_cav4dX\_mean vs Slug, Sign Corrected



Right In:  $-0.022 \pm 0.021$   $\chi^2/\text{NDF}$ : 30.6/26

Left Out:  $-4.480 \pm 0.957$   $\chi^2/\text{NDF}$ : 58.4/24

Right Out:  $0.027 \pm 0.020$   $\chi^2/\text{NDF}$ : 28.6/30

Left In:  $0.183 \pm 0.994$   $\chi^2/\text{NDF}$ : 29.5/22

Left:  $-2.236 \pm 0.689$   $\chi^2/\text{NDF}$ : 99.3/47

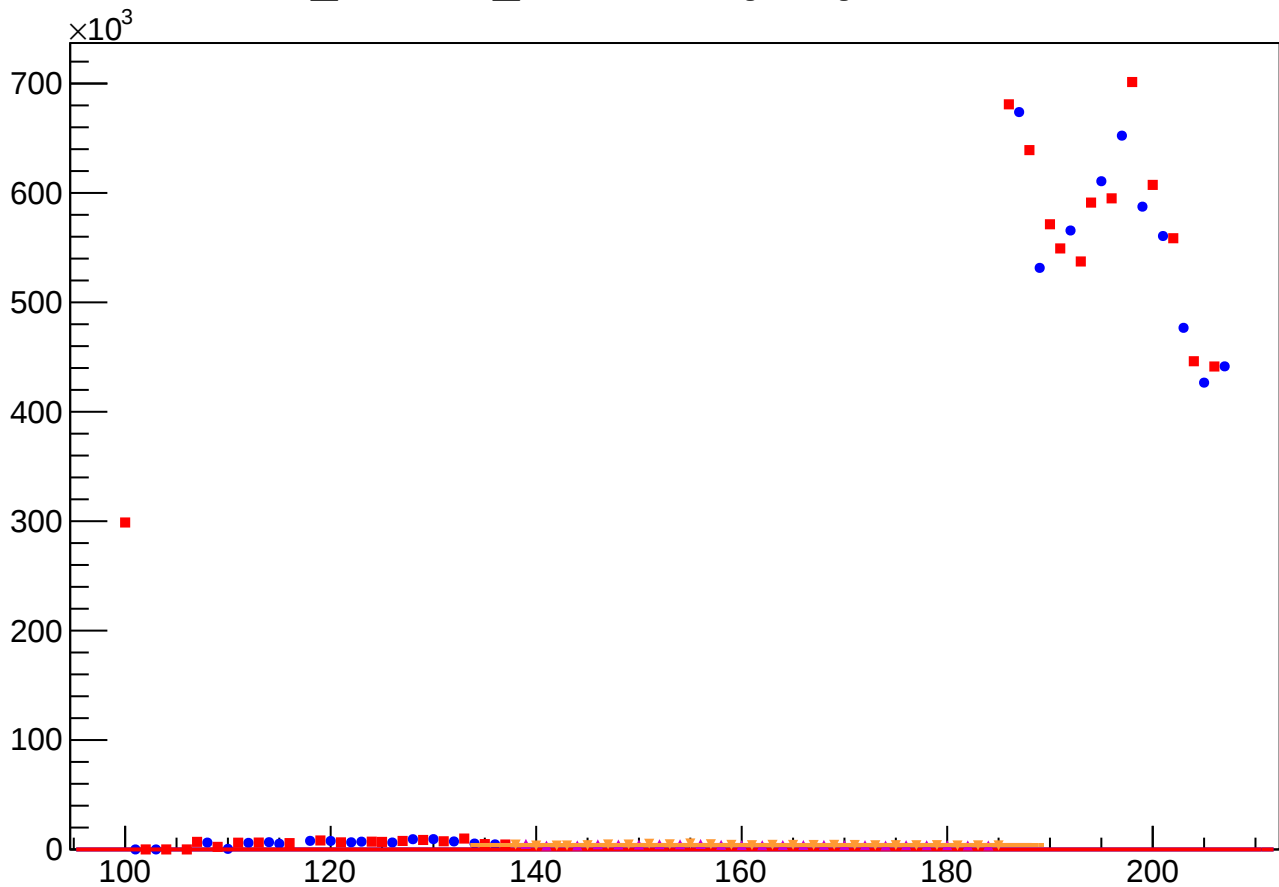
Right:  $0.004 \pm 0.014$   $\chi^2/\text{NDF}$ : 62.0/57

In:  $-0.022 \pm 0.021$   $\chi^2/\text{NDF}$ : 60.1/49

Out:  $0.025 \pm 0.020$   $\chi^2/\text{NDF}$ : 109.2/55

All:  $0.003 \pm 0.014$   $\chi^2/\text{NDF}$ : 171.9/105

# diff\_cav4dX\_rms vs Slug, Sign Corrected



Right In: 17.345+/-0.015  $\chi^2/\text{NDF}$ : 24716948.8/26

Left Out: 4075.147+/-0.677  $\chi^2/\text{NDF}$ : 417511.0/24

Right Out: 17.273+/-0.014  $\chi^2/\text{NDF}$ : 26690919.6/30

Left In: 4113.993+/-0.703  $\chi^2/\text{NDF}$ : 349160.6/22

Left: 4093.835+/-0.488  $\chi^2/\text{NDF}$ : 768256.5/47

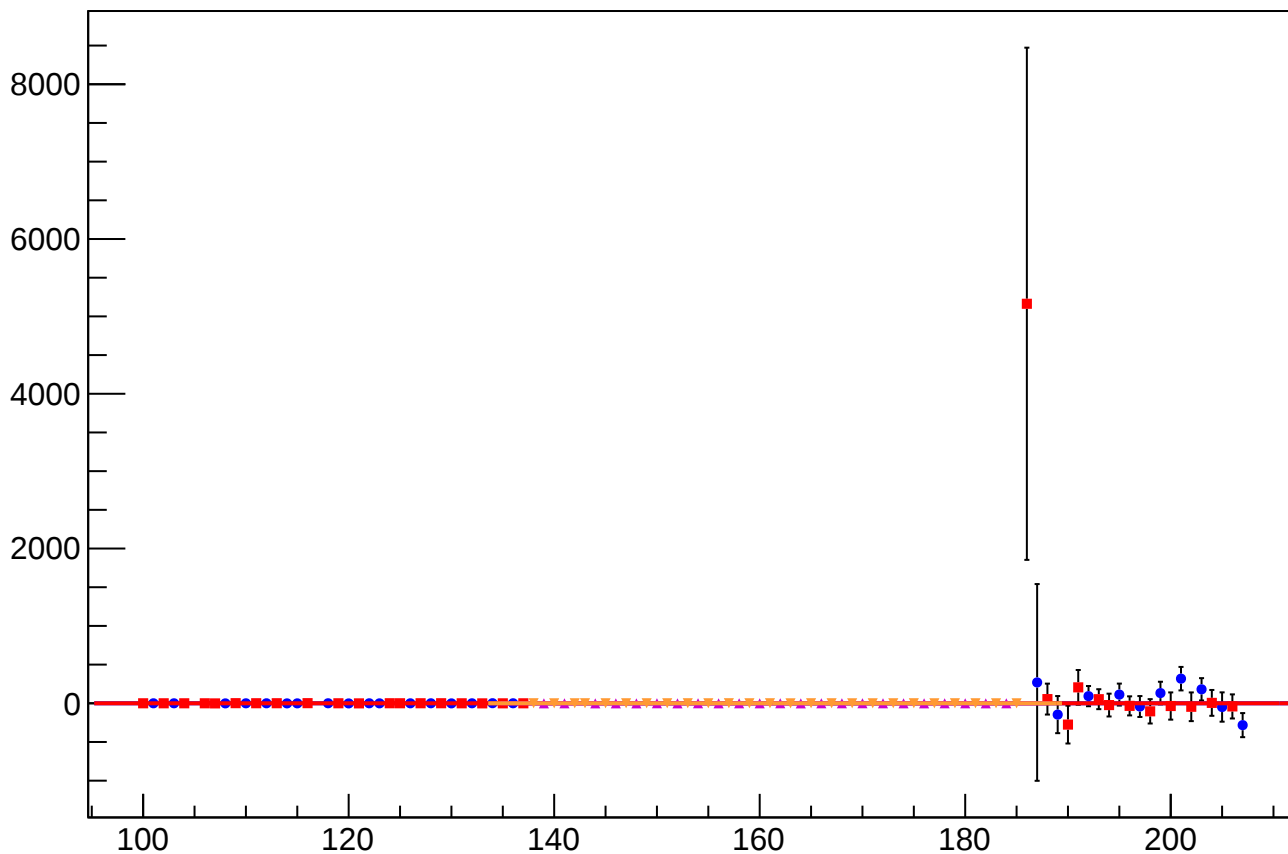
Right: 17.307+/-0.010  $\chi^2/\text{NDF}$ : 51407881.1/57

In: 19.137+/-0.015  $\chi^2/\text{NDF}$ : 59019389.3/49

Out: 19.005+/-0.014  $\chi^2/\text{NDF}$ : 63043879.9/55

All: 19.068+/-0.010  $\chi^2/\text{NDF}$ : 122063311.6/10

# diff\_cav4dY\_mean vs Slug, Sign Corrected



Right In:  $0.000 \pm 0.002$   $\chi^2/\text{NDF}$ : 25.4/26

Left Out:  $0.148 \pm 0.076$   $\chi^2/\text{NDF}$ : 17.3/24

Right Out:  $-0.001 \pm 0.002$   $\chi^2/\text{NDF}$ : 23.7/30

Left In:  $-0.080 \pm 0.079$   $\chi^2/\text{NDF}$ : 34.6/22

Left:  $0.038 \pm 0.055$   $\chi^2/\text{NDF}$ : 56.3/47

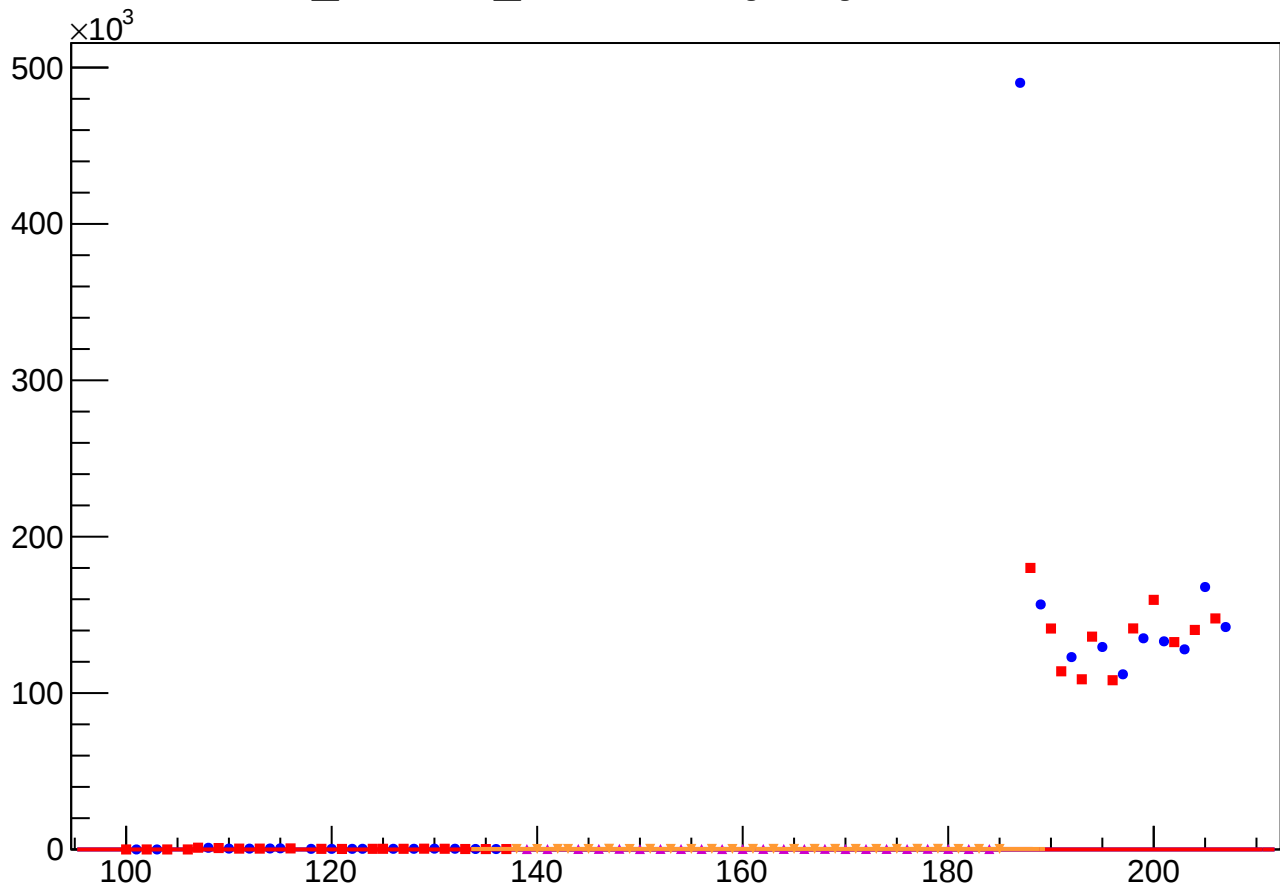
Right:  $-0.000 \pm 0.001$   $\chi^2/\text{NDF}$ : 49.2/57

In:  $0.000 \pm 0.002$   $\chi^2/\text{NDF}$ : 61.1/49

Out:  $-0.001 \pm 0.002$   $\chi^2/\text{NDF}$ : 44.8/55

All:  $-0.000 \pm 0.001$   $\chi^2/\text{NDF}$ : 105.9/105

# diff\_cav4dY\_rms vs Slug, Sign Corrected



Right In: 1.699 $\pm$ 0.001  $\chi^2$ /NDF: 25024607.6/26

Left Out: 325.326 $\pm$ 0.054  $\chi^2$ /NDF:347705.2/24

Right Out: 1.728 $\pm$ 0.001  $\chi^2$ /NDF: 25670134.1/29

Left In: 325.626 $\pm$ 0.056  $\chi^2$ /NDF:413350.0/22

Left: 325.471 $\pm$ 0.039  $\chi^2$ /NDF: 761070.2/47

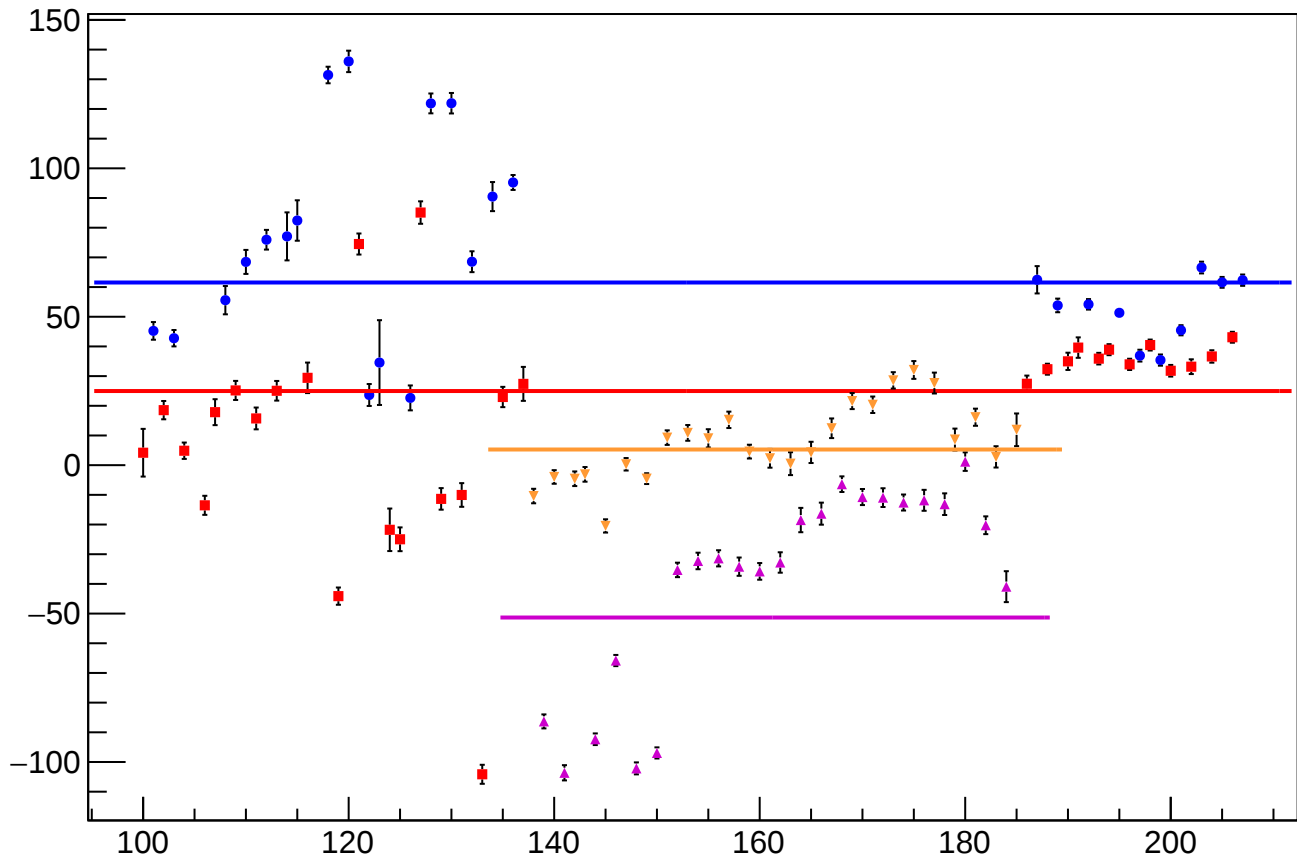
Right: 1.714 $\pm$ 0.001  $\chi^2$ /NDF: 50694958.6/56

In: 1.913 $\pm$ 0.001  $\chi^2$ /NDF:59166723.5/49

Out: 1.937 $\pm$ 0.001  $\chi^2$ /NDF:61877624.5/54

All: 1.925 $\pm$ 0.001  $\chi^2$ /NDF: 121044494.3/104

# diff\_bpm0i01X\_mean vs Slug, Sign Corrected



Right In:  $61.538 \pm 0.507$   $\chi^2/\text{NDF}$ : 2714.6/26

Left Out:  $5.276 \pm 0.544$   $\chi^2/\text{NDF}$ : 556.2/24

Right Out:  $24.974 \pm 0.494$   $\chi^2/\text{NDF}$ : 3610.7/30

Left In:  $-51.328 \pm 0.558$   $\chi^2/\text{NDF}$ : 4257.8/22

Left:  $-22.298 \pm 0.390$   $\chi^2/\text{NDF}$ : 10084.6/47

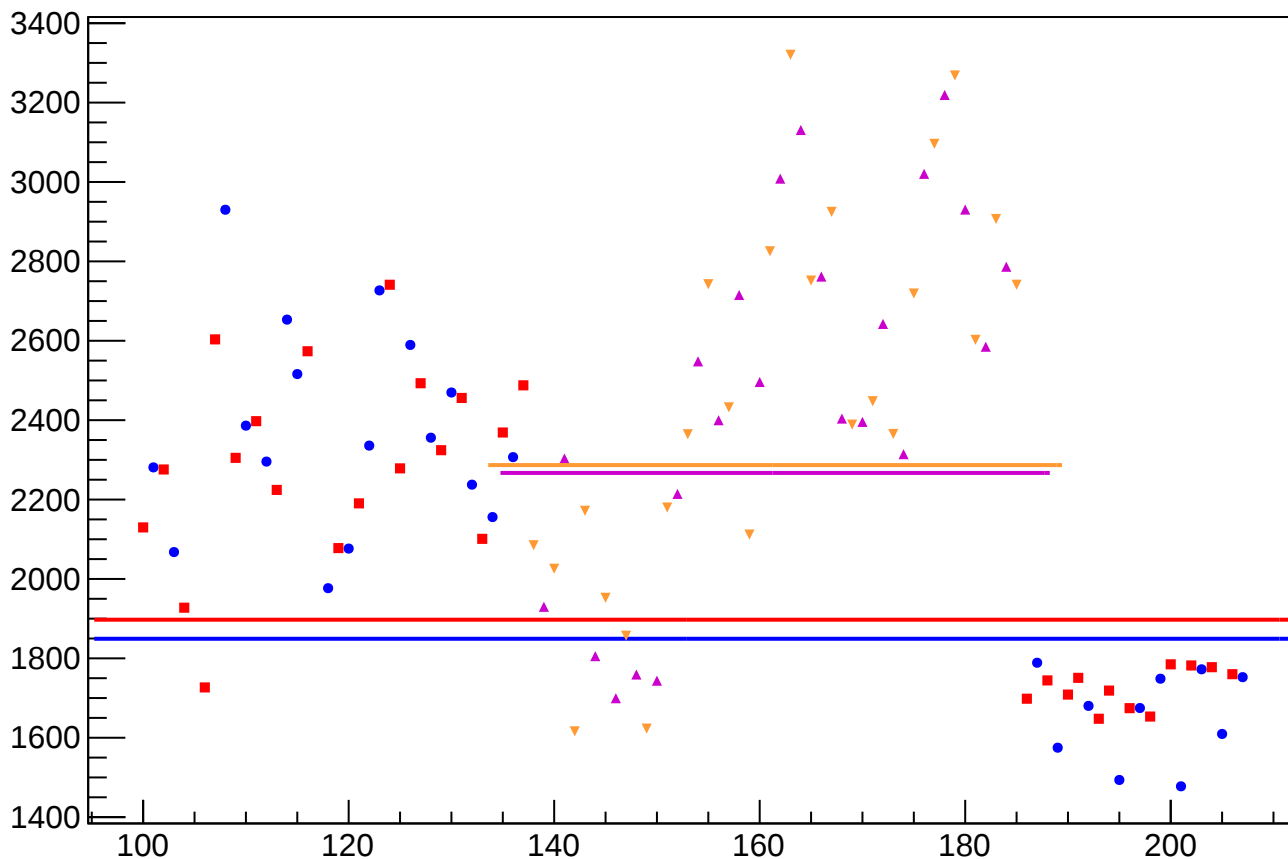
Right:  $42.777 \pm 0.354$   $\chi^2/\text{NDF}$ : 8994.7/57

In:  $10.542 \pm 0.375$   $\chi^2/\text{NDF}$ : 29371.1/49

Out:  $16.078 \pm 0.366$   $\chi^2/\text{NDF}$ : 4885.4/55

All:  $13.382 \pm 0.262$   $\chi^2/\text{NDF}$ : 34368.2/105

# diff\_bpm0i01X\_rms vs Slug, Sign Corrected



Right In: 1849.343 $\pm$ 0.358  $\chi^2/\text{NDF}$ : 889626.1/26

Left Out: 2286.871 $\pm$ 0.385  $\chi^2/\text{NDF}$ : 1360490.8/24

Right Out: 1897.355 $\pm$ 0.349  $\chi^2/\text{NDF}$ : 642840.0/30

Left In: 2267.097 $\pm$ 0.395  $\chi^2/\text{NDF}$ : 1313364.4/22

Left: 2277.239 $\pm$ 0.276  $\chi^2/\text{NDF}$ : 2675141.7/47

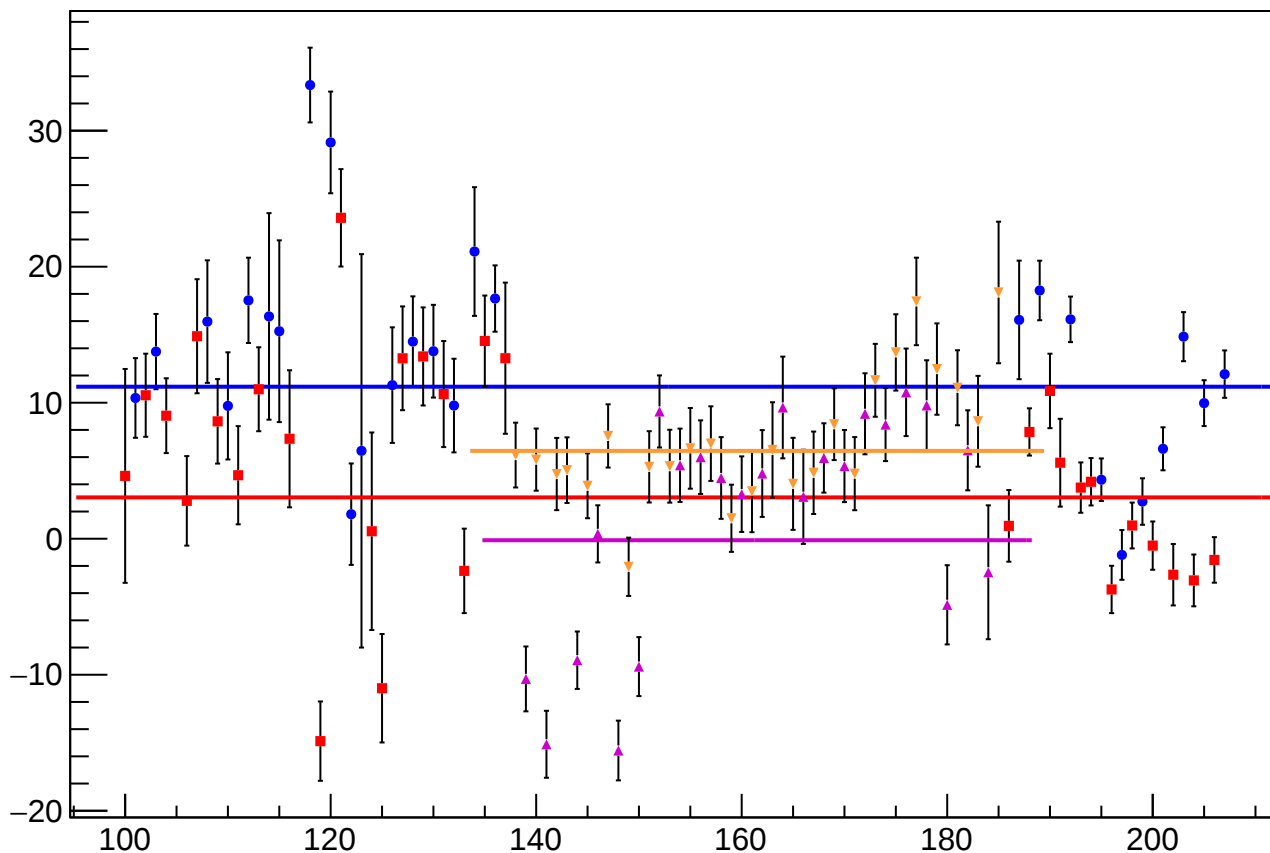
Right: 1873.978 $\pm$ 0.250  $\chi^2/\text{NDF}$ : 1541671.3/57

In: 2038.097 $\pm$ 0.265  $\chi^2/\text{NDF}$ : 2816708.6/49

Out: 2073.257 $\pm$ 0.259  $\chi^2/\text{NDF}$ : 2565293.2/55

All: 2056.134 $\pm$ 0.185  $\chi^2/\text{NDF}$ : 5391006.3/100

# diff\_bpm0i01Y\_mean vs Slug, Sign Corrected



Right In:  $11.177 \pm 0.478$   $\chi^2/\text{NDF}: 238.0/26$

Left Out:  $6.458 \pm 0.548$   $\chi^2/\text{NDF}: 58.7/24$

Right Out:  $3.038 \pm 0.466$   $\chi^2/\text{NDF}: 212.9/30$

Left In:  $-0.110 \pm 0.565$   $\chi^2/\text{NDF}: 234.6/22$

Left:  $3.278 \pm 0.393$   $\chi^2/\text{NDF}: 363.0/47$

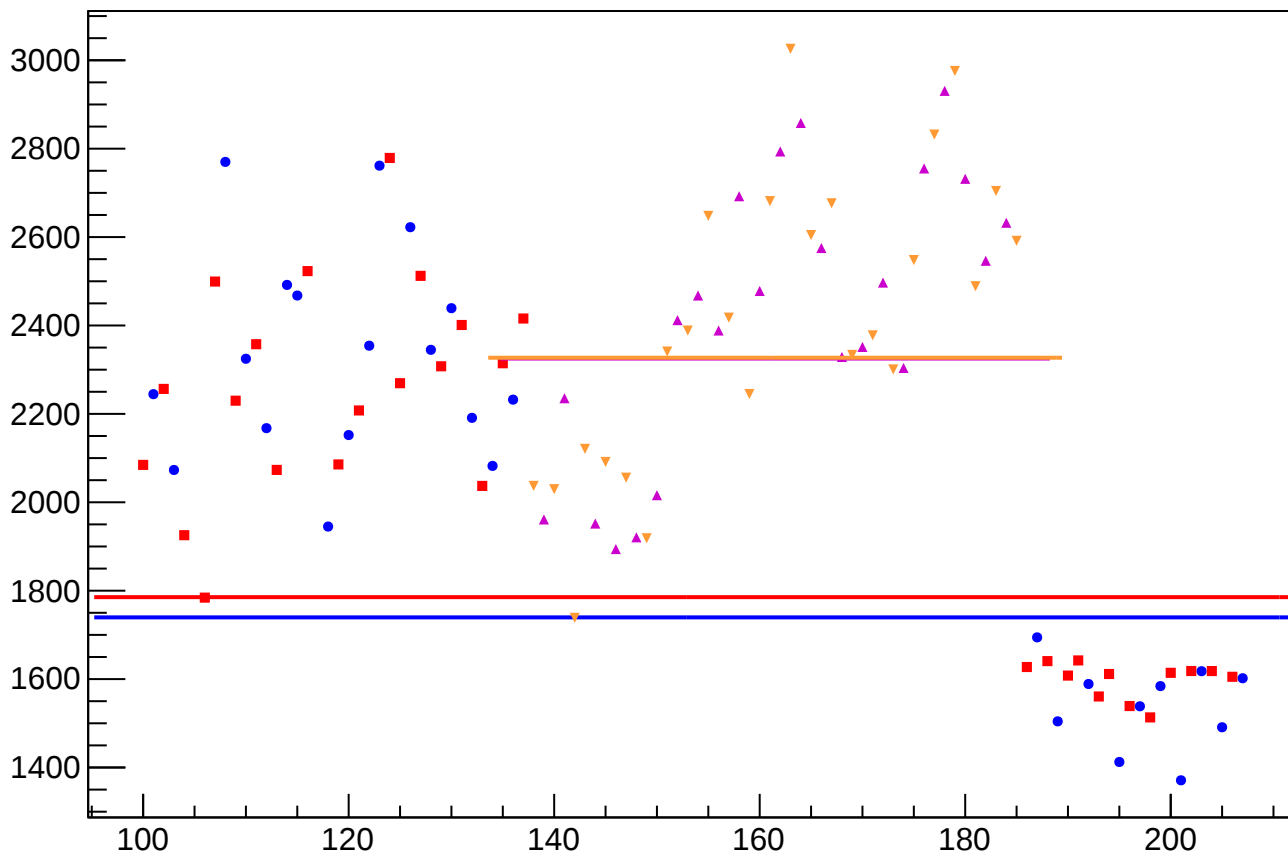
Right:  $7.002 \pm 0.334$   $\chi^2/\text{NDF}: 599.2/57$

In:  $6.464 \pm 0.365$   $\chi^2/\text{NDF}: 704.9/49$

Out:  $4.476 \pm 0.355$   $\chi^2/\text{NDF}: 294.2/55$

All:  $5.442 \pm 0.255$   $\chi^2/\text{NDF}: 1014.3/105$

# diff\_bpm0i01Y\_rms vs Slug, Sign Corrected



Right In: 1739.625 $\pm$ 0.338  $\chi^2/\text{NDF}$ : 1122512.9/26

Left Out: 2327.044 $\pm$ 0.387  $\chi^2/\text{NDF}$ : 646706.7/24

Right Out: 1785.385 $\pm$ 0.330  $\chi^2/\text{NDF}$ : 877767.6/30

Left In: 2325.175 $\pm$ 0.400  $\chi^2/\text{NDF}$ : 610729.2/22

Left: 2326.139 $\pm$ 0.278  $\chi^2/\text{NDF}$ : 1257447.2/47

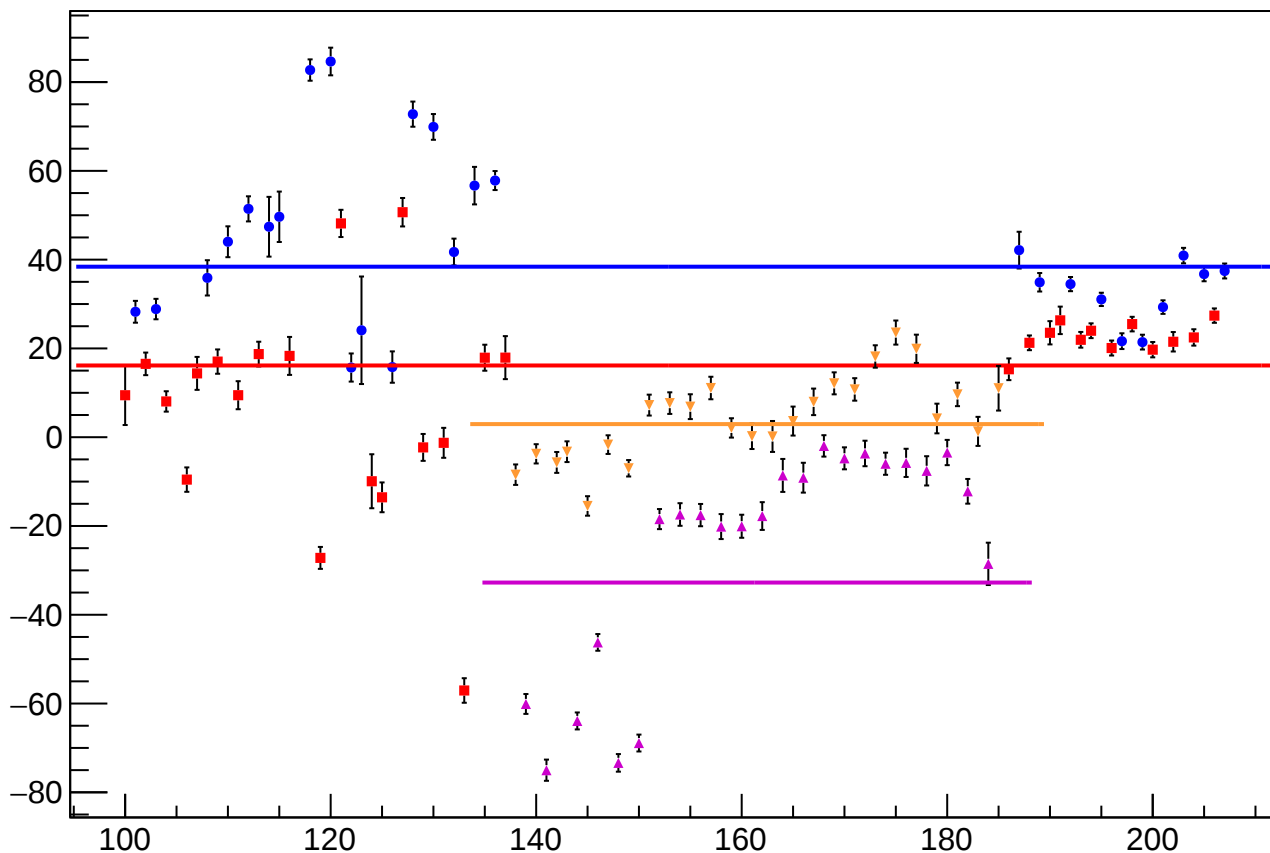
Right: 1763.096 $\pm$ 0.236  $\chi^2/\text{NDF}$ : 2009662.6/57

In: 1984.105 $\pm$ 0.258  $\chi^2/\text{NDF}$ : 2983793.4/49

Out: 2013.069 $\pm$ 0.251  $\chi^2/\text{NDF}$ : 2658931.4/55

All: 1998.996 $\pm$ 0.180  $\chi^2/\text{NDF}$ : 5649193.6/100

# diff\_bpm0i01aX\_mean vs Slug, Sign Corrected



Right In: 38.412 $\pm$ 0.444  $\chi^2/\text{NDF}$ : 1350.3/26

Left Out: 2.952 $\pm$ 0.512  $\chi^2/\text{NDF}$ :337.8/24

Right Out: 16.158 $\pm$ 0.432  $\chi^2/\text{NDF}$ : 1670.2/30

Left In: -32.745 $\pm$ 0.526  $\chi^2/\text{NDF}$ :2632.5/22

Left: -14.409 $\pm$ 0.367  $\chi^2/\text{NDF}$ : 5335.1/47

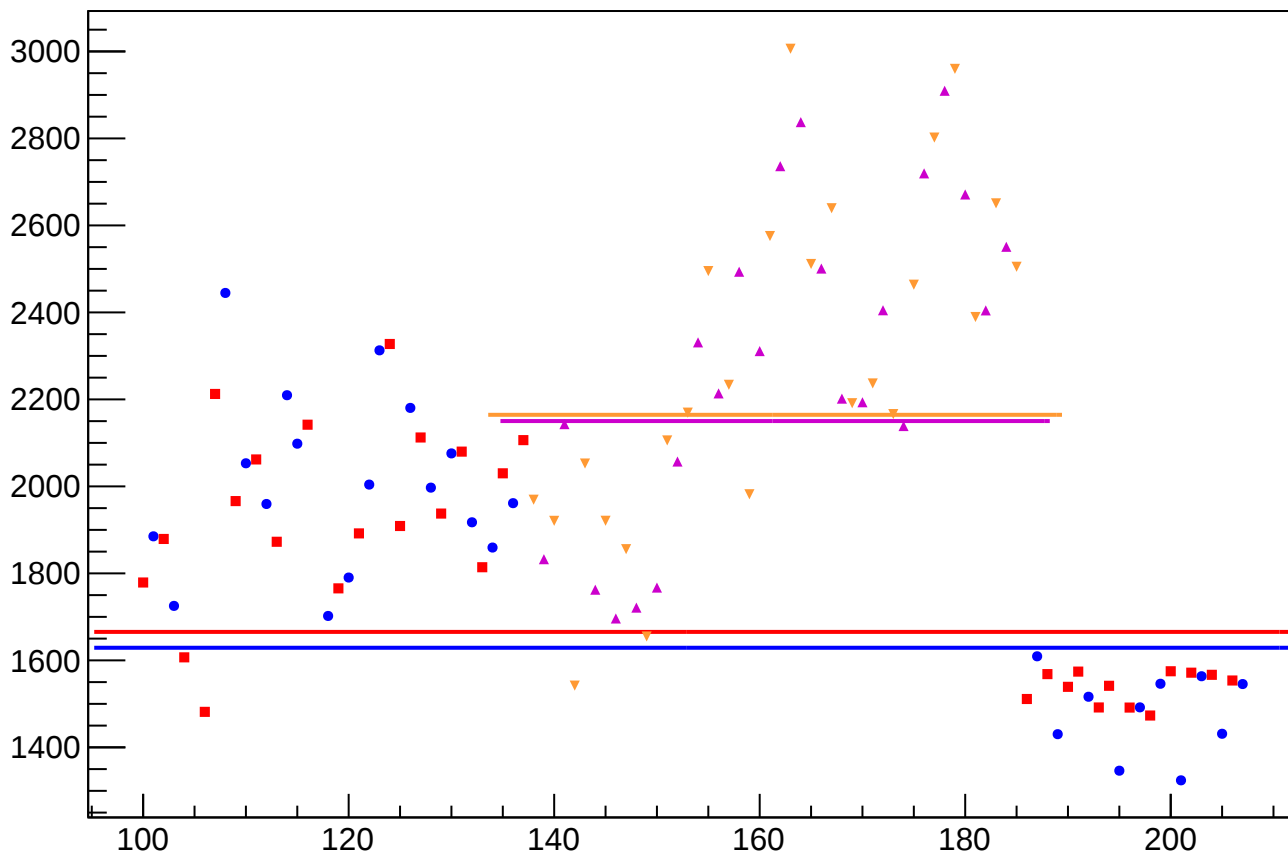
Right: 26.973 $\pm$ 0.310  $\chi^2/\text{NDF}$ : 4309.5/57

In: 8.783 $\pm$ 0.339  $\chi^2/\text{NDF}$ :14658.3/49

Out: 10.664 $\pm$ 0.330  $\chi^2/\text{NDF}$ :2396.6/55

All: 9.749 $\pm$ 0.237  $\chi^2/\text{NDF}$ : 17070.7/105

# diff\_bpm0i01aX\_rms vs Slug, Sign Corrected



Right In:  $1628.992 \pm 0.314$   $\chi^2/\text{NDF}: 672492.6/26$

Left Out:  $2164.573 \pm 0.362$   $\chi^2/\text{NDF}: 965603.5/24$

Right Out:  $1665.449 \pm 0.306$   $\chi^2/\text{NDF}: 471283.7/30$

Left In:  $2150.190 \pm 0.372$   $\chi^2/\text{NDF}: 911849.7/22$

Left:  $2157.578 \pm 0.259$   $\chi^2/\text{NDF}: 1878220.9/47$

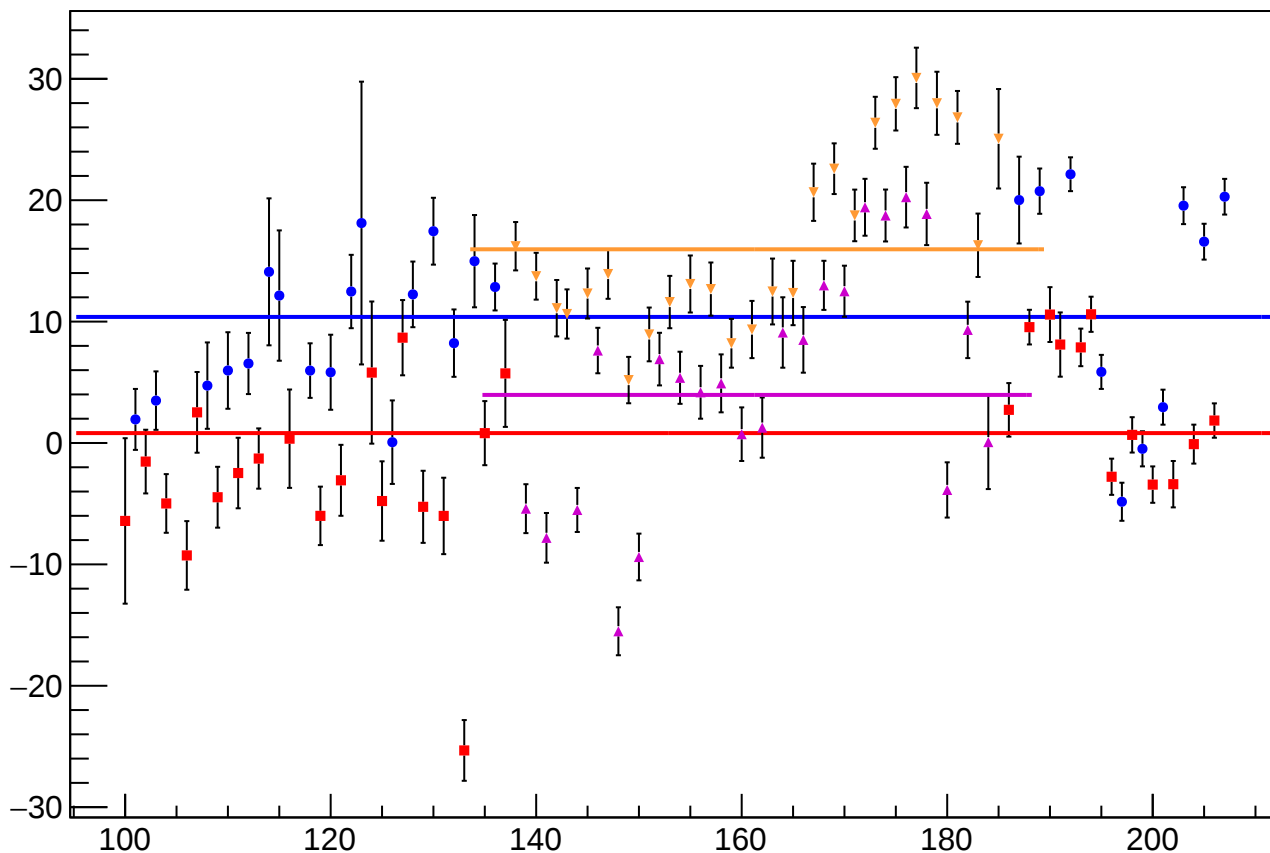
Right:  $1647.733 \pm 0.219$   $\chi^2/\text{NDF}: 1150695.1/57$

In:  $1846.016 \pm 0.240$   $\chi^2/\text{NDF}: 2729810.4/49$

Out:  $1873.103 \pm 0.233$   $\chi^2/\text{NDF}: 2547134.4/55$

All:  $1859.935 \pm 0.167$   $\chi^2/\text{NDF}: 5283487.4/10$

# diff\_bpm0i01aY\_mean vs Slug, Sign Corrected



Right In: 10.385 $\pm$ 0.406  $\chi^2/\text{NDF}$ : 449.8/26

Left Out: 15.956 $\pm$ 0.447  $\chi^2/\text{NDF}$ : 245.2/24

Right Out: 0.815 $\pm$ 0.389  $\chi^2/\text{NDF}$ : 316.8/30

Left In: 3.960 $\pm$ 0.463  $\chi^2/\text{NDF}$ : 464.9/22

Left: 10.161 $\pm$ 0.322  $\chi^2/\text{NDF}$ : 1057.3/47

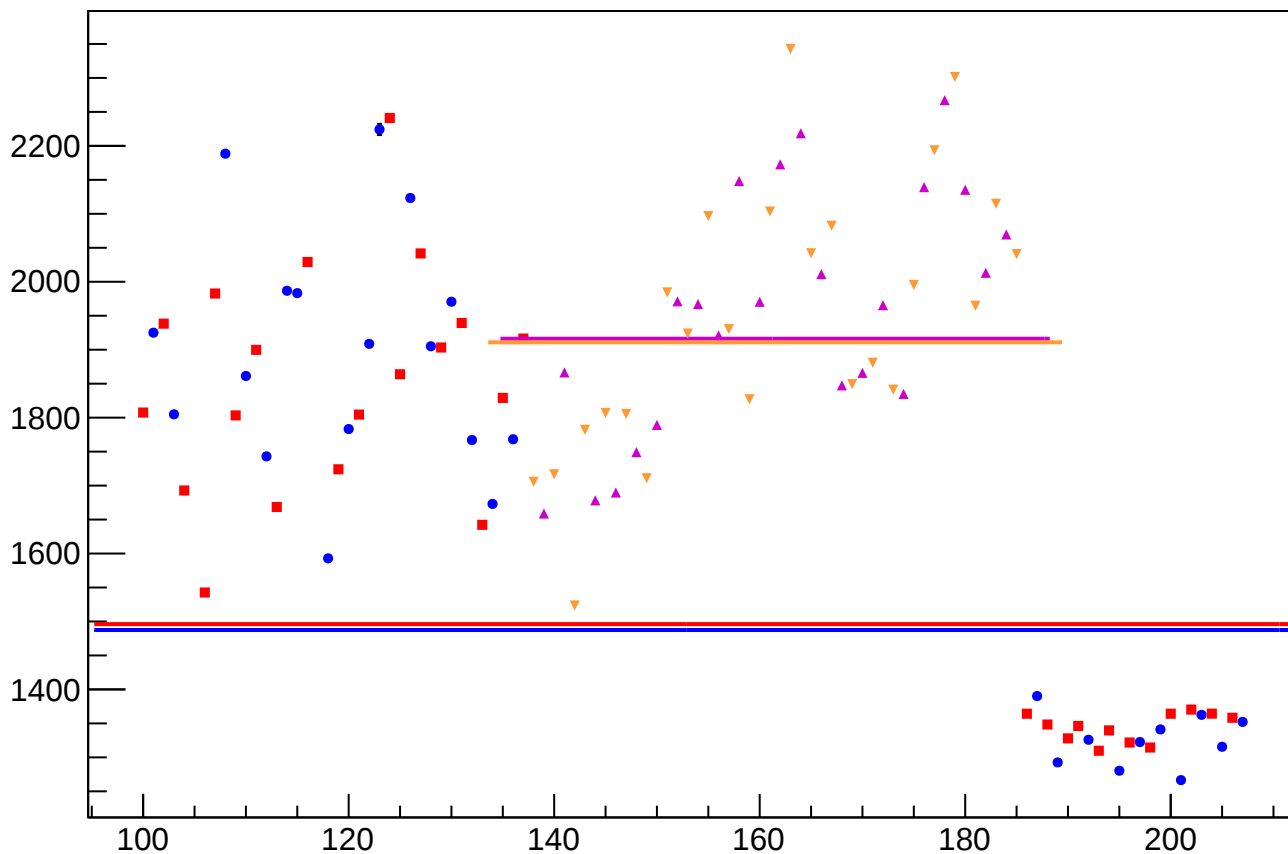
Right: 5.404 $\pm$ 0.281  $\chi^2/\text{NDF}$ : 1056.4/57

In: 7.594 $\pm$ 0.305  $\chi^2/\text{NDF}$ : 1023.7/49

Out: 7.339 $\pm$ 0.294  $\chi^2/\text{NDF}$ : 1213.8/55

All: 7.462 $\pm$ 0.212  $\chi^2/\text{NDF}$ : 2237.9/105

# diff\_bpm0i01aY\_rms vs Slug, Sign Corrected



Right In: 1487.439+/-0.287  $\chi^2/\text{NDF}$ : 807935.2/26

Left Out: 1910.859+/-0.316  $\chi^2/\text{NDF}$ : 328970.6/24

Right Out: 1496.105+/-0.275  $\chi^2/\text{NDF}$ : 737888.7/30

Left In: 1916.159+/-0.327  $\chi^2/\text{NDF}$ : 274285.3/22

Left: 1913.419+/-0.227  $\chi^2/\text{NDF}$ : 603391.5/47

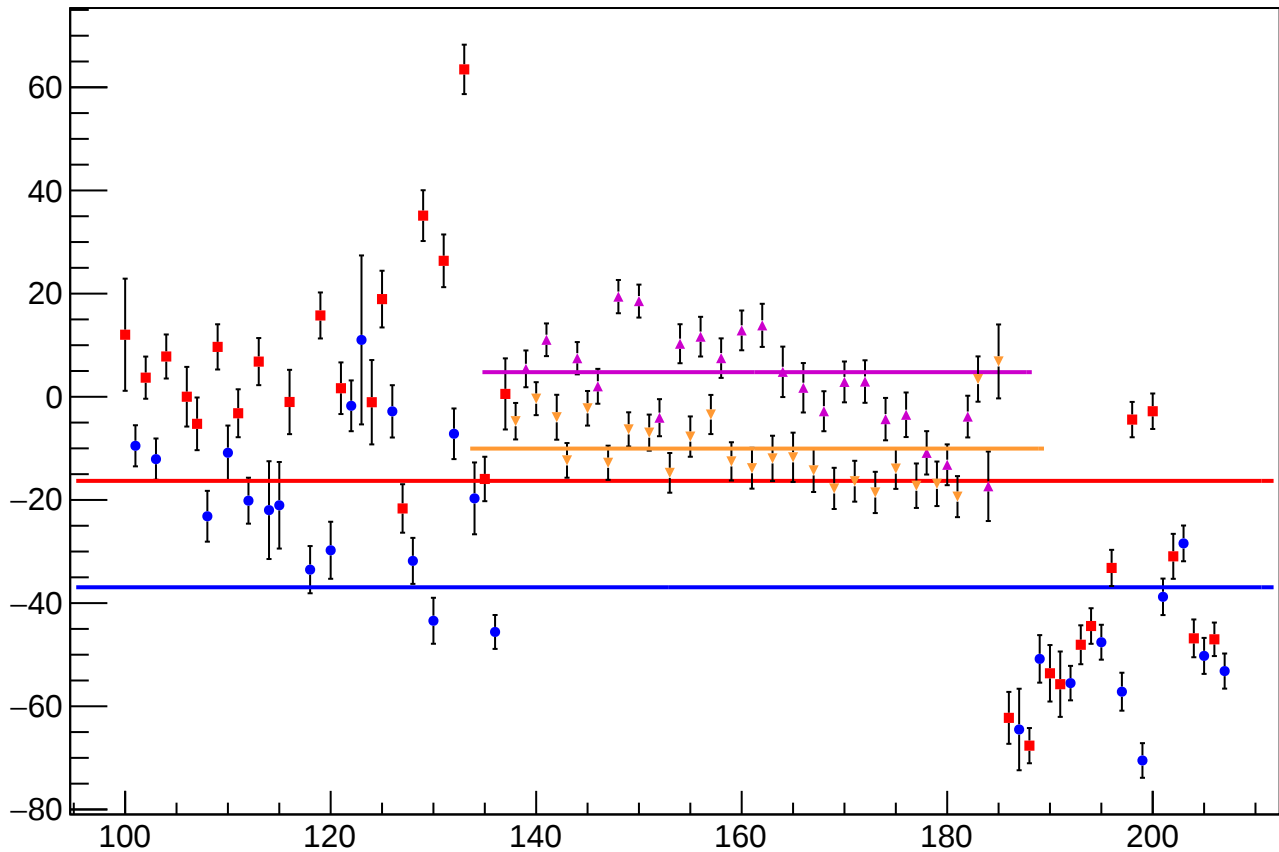
Right: 1491.949+/-0.199  $\chi^2/\text{NDF}$ : 1546299.1/57

In: 1673.665+/-0.216  $\chi^2/\text{NDF}$ : 2052880.5/49

Out: 1674.821+/-0.208  $\chi^2/\text{NDF}$ : 2044991.2/55

All: 1674.265+/-0.150  $\chi^2/\text{NDF}$ : 4097886.7/10

# diff\_bpm0l01X\_mean vs Slug, Sign Corrected



Right In: -36.928 $\pm$ 0.835  $\chi^2/\text{NDF}$ : 534.9/26

Left Out: -10.042 $\pm$ 0.776  $\chi^2/\text{NDF}$ : 67.1/24

Right Out: -16.302 $\pm$ 0.802  $\chi^2/\text{NDF}$ : 1475.4/30

Left In: 4.774 $\pm$ 0.800  $\chi^2/\text{NDF}$ : 128.5/22

Left: -2.861 $\pm$ 0.557  $\chi^2/\text{NDF}$ : 372.2/47

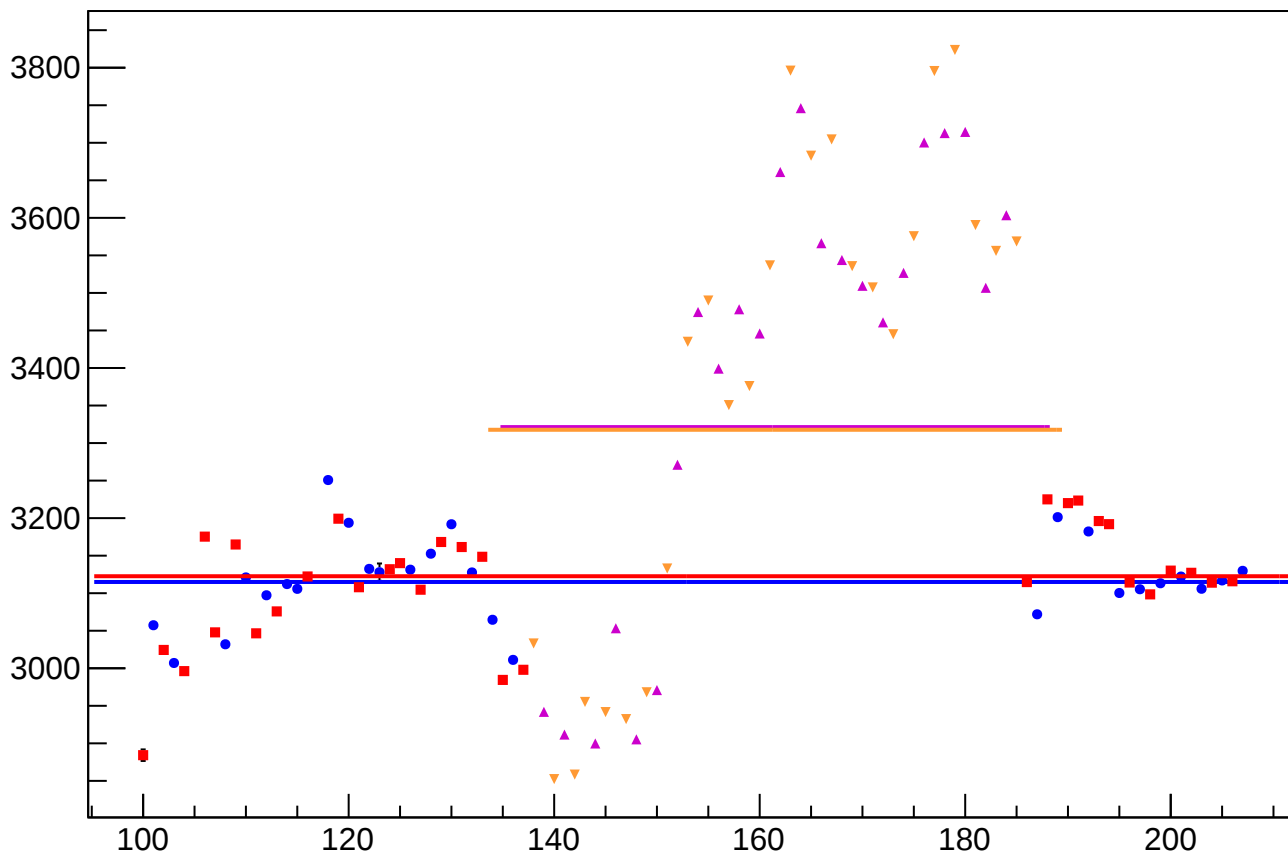
Right: -26.189 $\pm$ 0.578  $\chi^2/\text{NDF}$ : 2327.6/57

In: -15.185 $\pm$ 0.578  $\chi^2/\text{NDF}$ : 1962.4/49

Out: -13.071 $\pm$ 0.558  $\chi^2/\text{NDF}$ : 1574.0/55

All: -14.090 $\pm$ 0.401  $\chi^2/\text{NDF}$ : 3543.3/105

# diff\_bpm0l01X\_rms vs Slug, Sign Corrected



Right In: 3114.957 $\pm$ 0.591  $\chi^2$ /NDF: 9231.3/26

Left Out: 3317.699 $\pm$ 0.549  $\chi^2$ /NDF:336877.2/24

Right Out: 3122.607 $\pm$ 0.567  $\chi^2$ /NDF: 13766.8/30

Left In: 3321.275 $\pm$ 0.566  $\chi^2$ /NDF:284334.2/22

Left: 3319.432 $\pm$ 0.394  $\chi^2$ /NDF: 621232.0/47

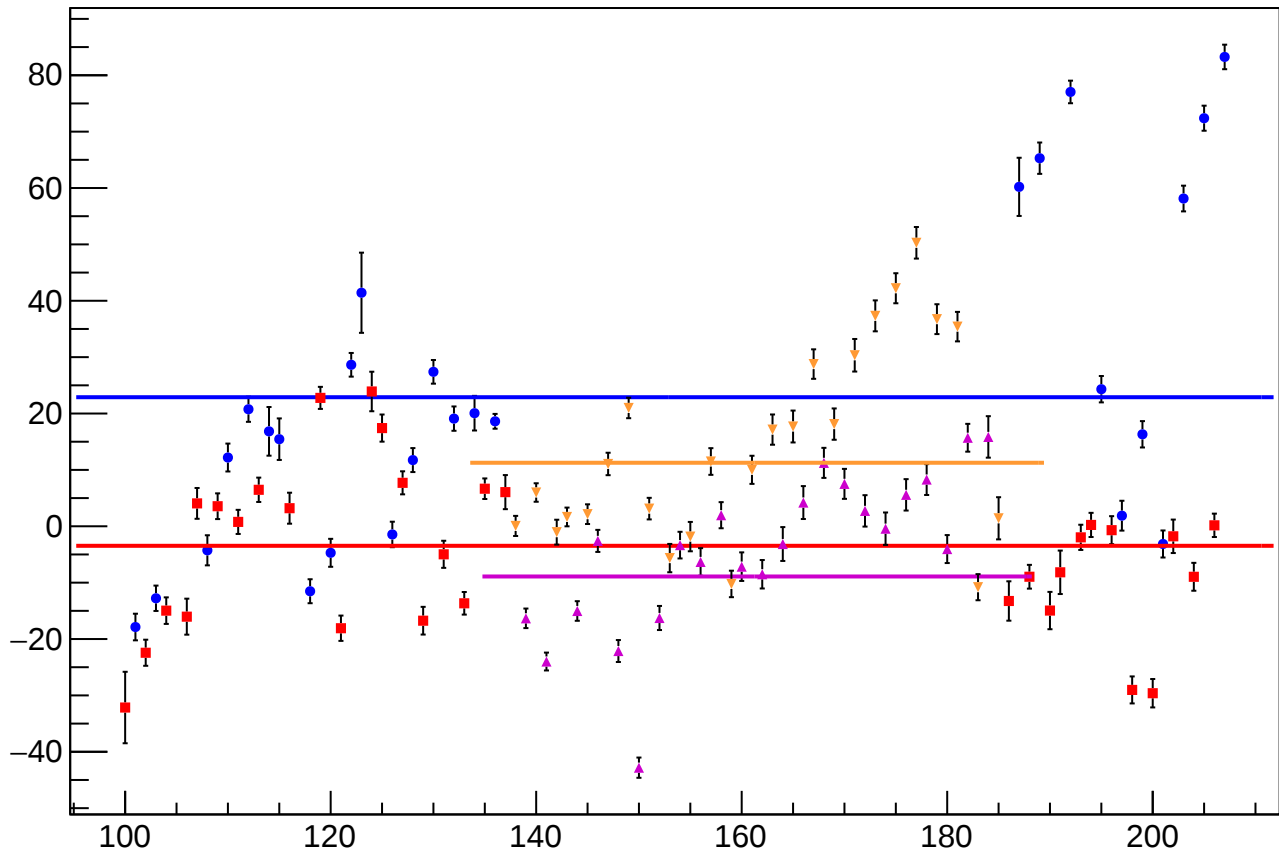
Right: 3118.940 $\pm$ 0.409  $\chi^2$ /NDF: 23085.4/57

In: 3222.530 $\pm$ 0.409  $\chi^2$ /NDF:357155.1/49

Out: 3223.284 $\pm$ 0.394  $\chi^2$ /NDF:411767.0/55

All: 3222.921 $\pm$ 0.284  $\chi^2$ /NDF: 768923.9/105

# diff\_bpm0l01Y\_mean vs Slug, Sign Corrected



Right In:  $22.893 \pm 0.452$   $\chi^2/\text{NDF}: 3950.4/26$

Left Out:  $11.268 \pm 0.454$   $\chi^2/\text{NDF}: 1141.8/24$

Right Out:  $-3.463 \pm 0.438$   $\chi^2/\text{NDF}: 922.6/30$

Left In:  $-8.905 \pm 0.478$   $\chi^2/\text{NDF}: 936.3/22$

Left:  $1.682 \pm 0.329$   $\chi^2/\text{NDF}: 3014.7/47$

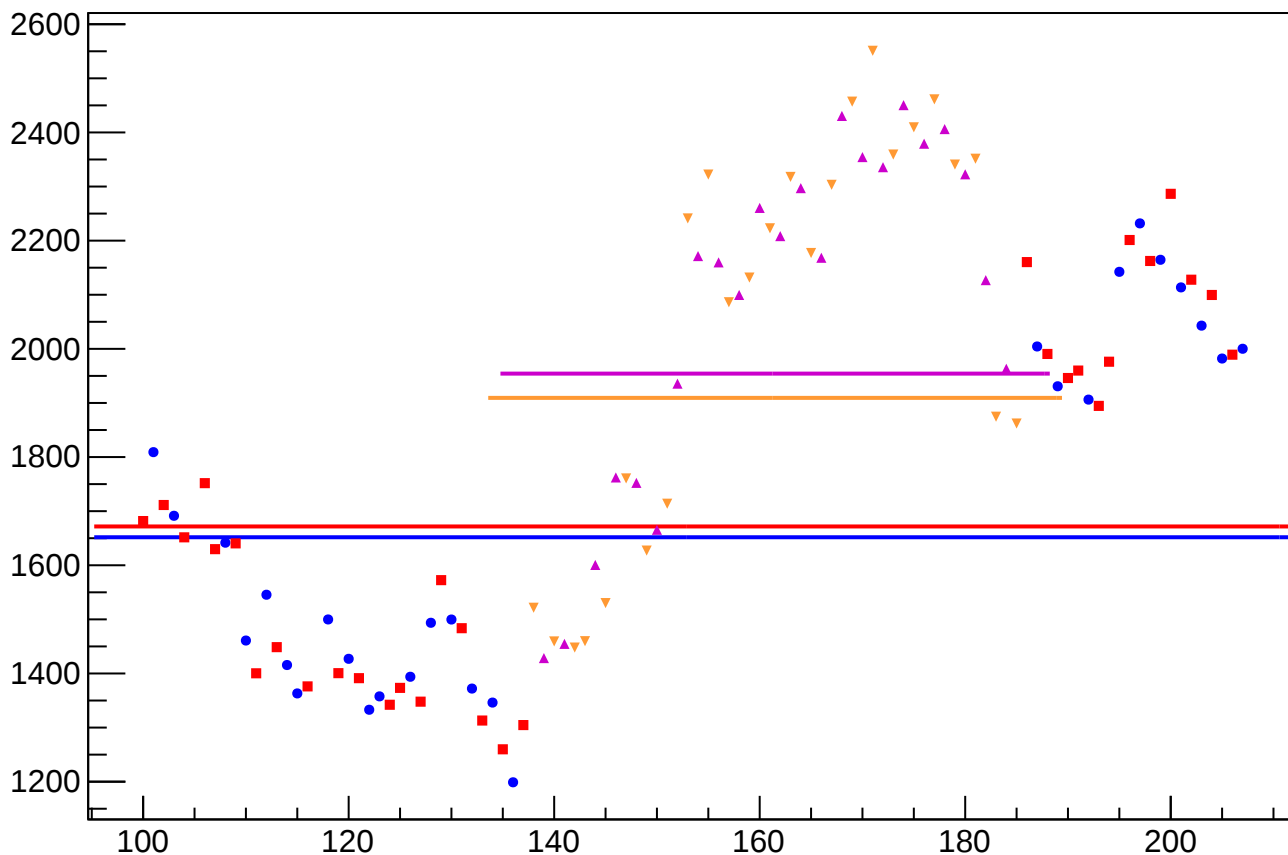
Right:  $9.284 \pm 0.315$   $\chi^2/\text{NDF}: 6626.5/57$

In:  $7.856 \pm 0.328$   $\chi^2/\text{NDF}: 7224.1/49$

Out:  $3.628 \pm 0.315$   $\chi^2/\text{NDF}: 2609.6/55$

All:  $5.656 \pm 0.227$   $\chi^2/\text{NDF}: 9919.9/105$

# diff\_bpm0l01Y\_rms vs Slug, Sign Corrected



Right In: 1651.778 $\pm$ 0.320  $\chi^2/\text{NDF}$ : 1029721.4/26

Left Out: 1909.387 $\pm$ 0.321  $\chi^2/\text{NDF}$ : 1398498.0/24

Right Out: 1671.730 $\pm$ 0.310  $\chi^2/\text{NDF}$ : 1076719.5/30

Left In: 1954.236 $\pm$ 0.338  $\chi^2/\text{NDF}$ : 1044826.7/22

Left: 1930.697 $\pm$ 0.233  $\chi^2/\text{NDF}$ : 2452584.2/47

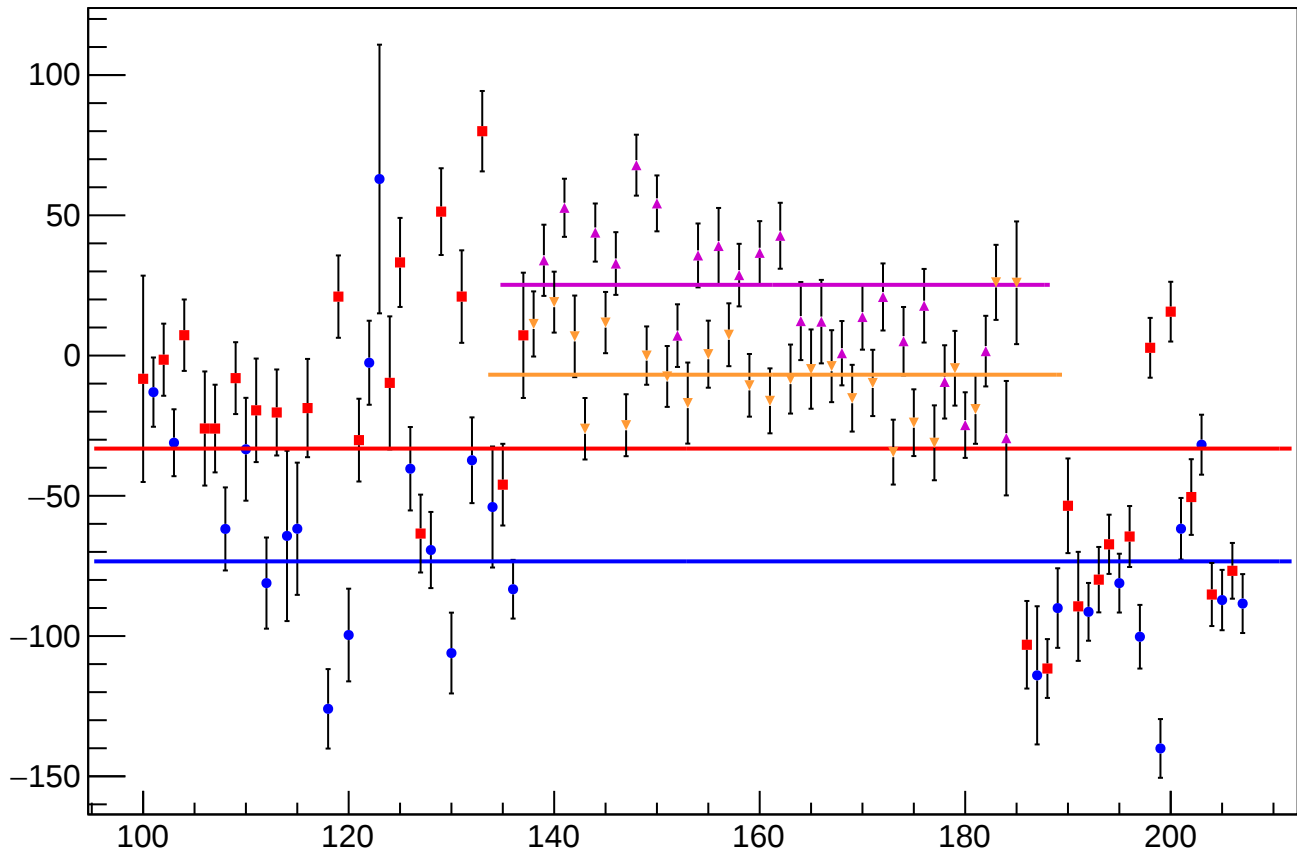
Right: 1662.081 $\pm$ 0.222  $\chi^2/\text{NDF}$ : 2108450.5/57

In: 1794.807 $\pm$ 0.232  $\chi^2/\text{NDF}$ : 2497486.7/49

Out: 1786.127 $\pm$ 0.223  $\chi^2/\text{NDF}$ : 2759007.5/55

All: 1790.290 $\pm$ 0.161  $\chi^2/\text{NDF}$ : 5257221.4/100

# diff\_bpm0l02X\_mean vs Slug, Sign Corrected



Right In:  $-73.374 \pm 2.596$   $\chi^2/\text{NDF}$ : 180.4/26

Left Out:  $-6.825 \pm 2.423$   $\chi^2/\text{NDF}$ : 42.3/24

Right Out:  $-33.164 \pm 2.493$   $\chi^2/\text{NDF}$ : 361.8/30

Left In:  $25.215 \pm 2.487$   $\chi^2/\text{NDF}$ : 89.3/22

Left:  $8.777 \pm 1.735$   $\chi^2/\text{NDF}$ : 216.8/47

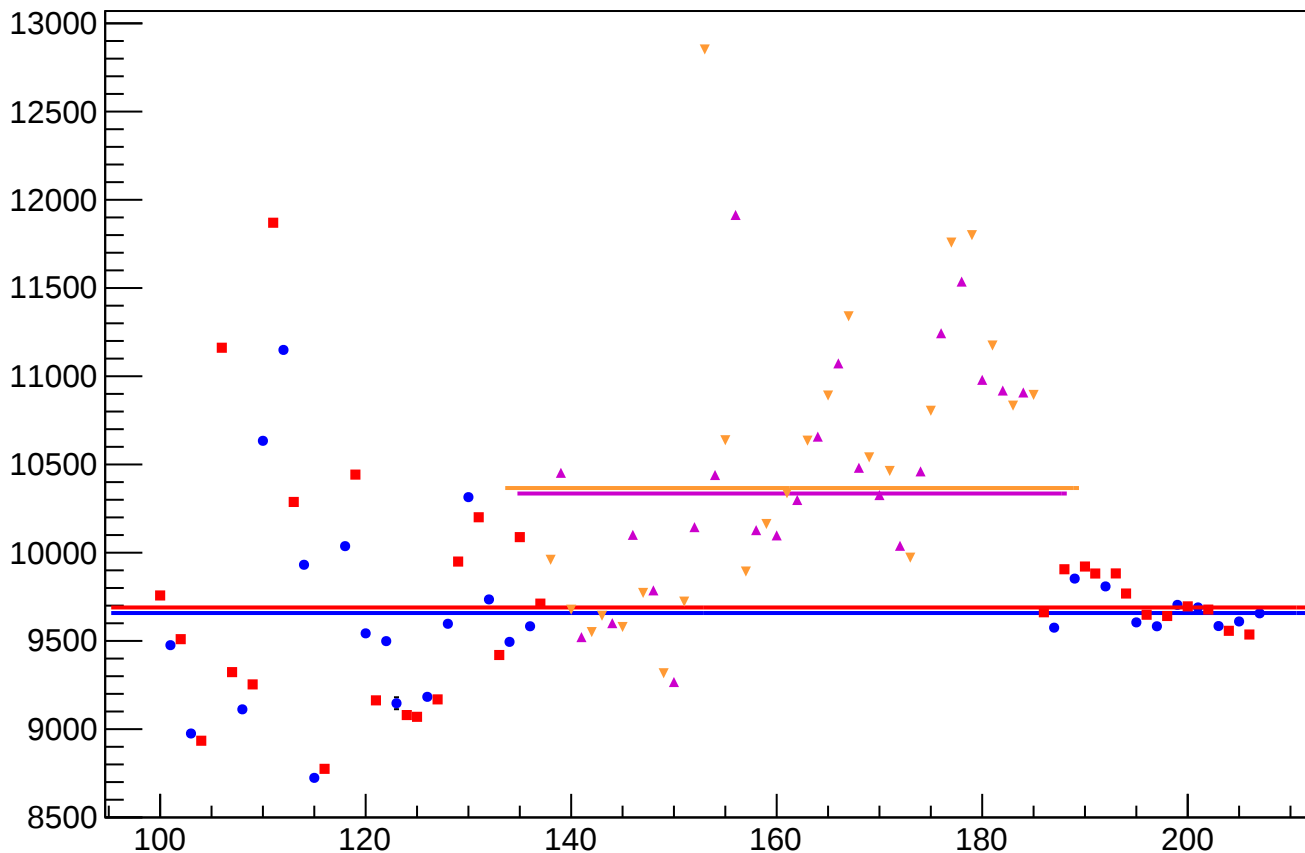
Right:  $-52.459 \pm 1.798$   $\chi^2/\text{NDF}$ : 667.1/57

In:  $-21.967 \pm 1.796$   $\chi^2/\text{NDF}$ : 1022.0/49

Out:  $-19.616 \pm 1.737$   $\chi^2/\text{NDF}$ : 461.6/55

All:  $-20.753 \pm 1.249$   $\chi^2/\text{NDF}$ : 1484.4/105

# diff\_bpm0l02X\_rms vs Slug, Sign Corrected



Right In: 9658.082 $\pm$ 1.835  $\chi^2$ /NDF: 45174.4/26

Left Out: 10366.534 $\pm$ 1.713  $\chi^2$ /NDF: 211402.8/24

Right Out: 9689.624 $\pm$ 1.763  $\chi^2$ /NDF: 80341.1/30

Left In: 10335.399 $\pm$ 1.758  $\chi^2$ /NDF: 127173.0/22

Left: 10351.373 $\pm$ 1.227  $\chi^2$ /NDF: 338736.7/47

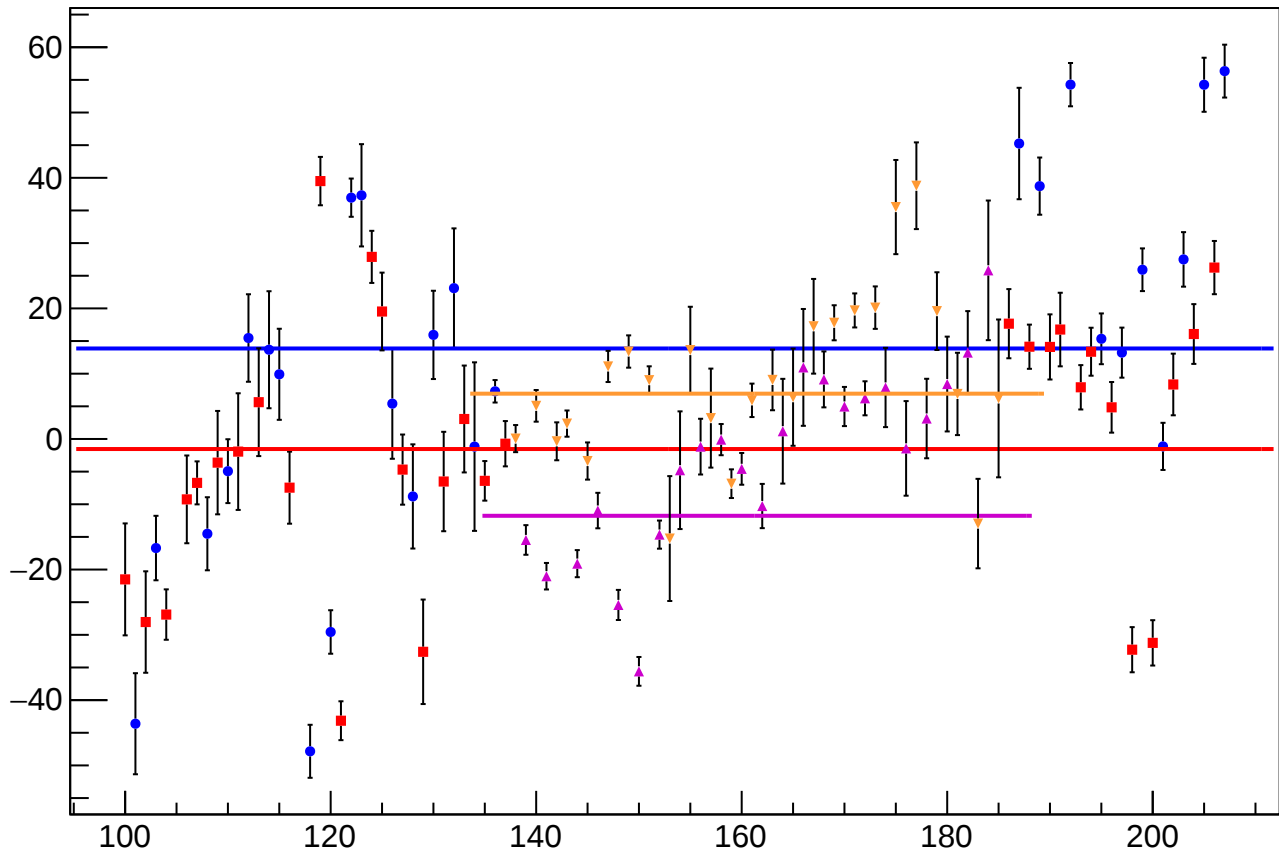
Right: 9674.488 $\pm$ 1.271  $\chi^2$ /NDF: 125669.1/57

In: 10011.252 $\pm$ 1.270  $\chi^2$ /NDF: 243362.8/49

Out: 10037.787 $\pm$ 1.229  $\chi^2$ /NDF: 367581.2/55

All: 10024.956 $\pm$ 0.883  $\chi^2$ /NDF: 611169.6/100

# diff\_bpm0l02Y\_mean vs Slug, Sign Corrected



Right In:  $13.860 \pm 0.812$   $\chi^2/\text{NDF}: 1073.8/26$

Left Out:  $6.939 \pm 0.639$   $\chi^2/\text{NDF}: 203.8/24$

Right Out:  $-1.540 \pm 0.796$   $\chi^2/\text{NDF}: 769.5/30$

Left In:  $-11.766 \pm 0.648$   $\chi^2/\text{NDF}: 395.1/22$

Left:  $-2.274 \pm 0.455$   $\chi^2/\text{NDF}: 1021.3/47$

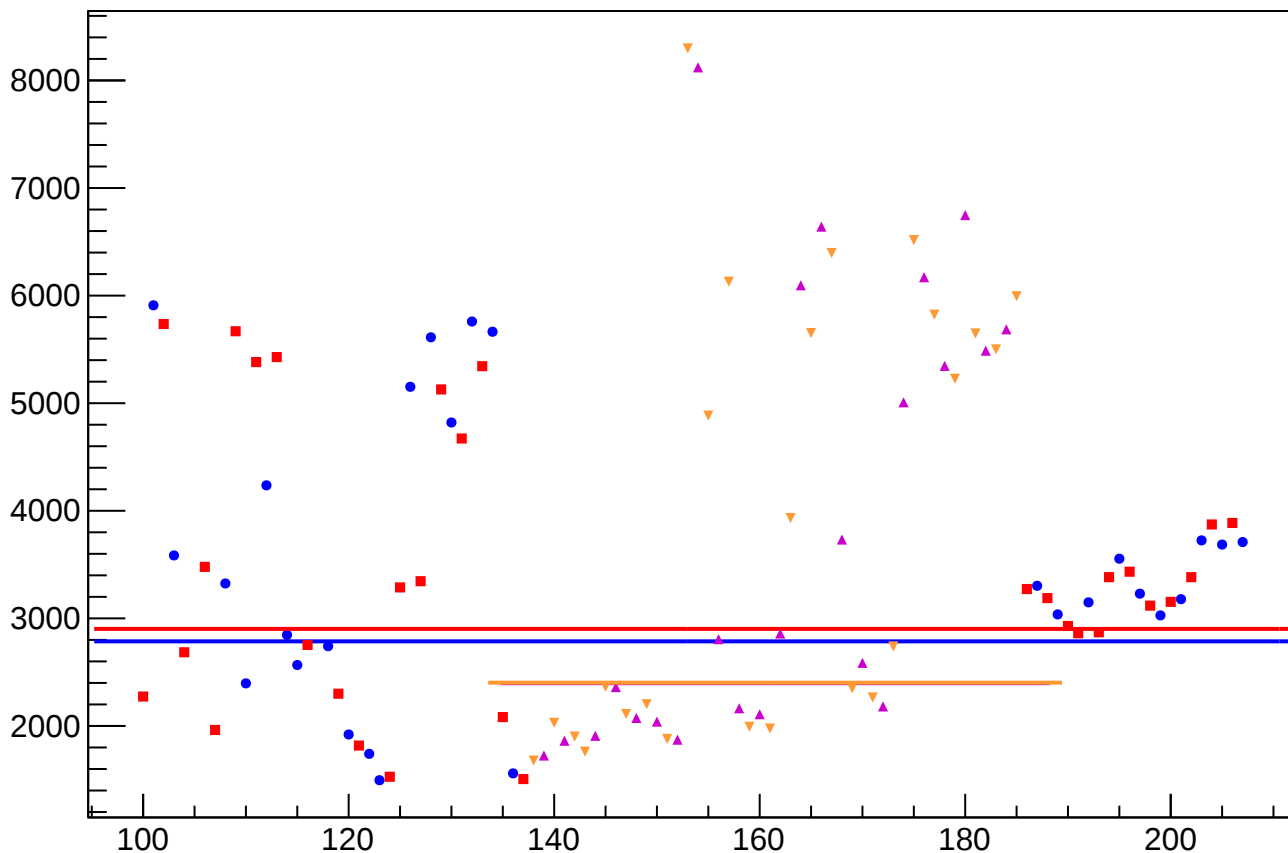
Right:  $6.000 \pm 0.568$   $\chi^2/\text{NDF}: 2026.8/57$

In:  $-1.792 \pm 0.507$   $\chi^2/\text{NDF}: 2076.9/49$

Out:  $3.615 \pm 0.498$   $\chi^2/\text{NDF}: 1042.4/55$

All:  $0.958 \pm 0.355$   $\chi^2/\text{NDF}: 3177.2/105$

# diff\_bpm0l02Y\_rms vs Slug, Sign Corrected



Right In:  $2786.387 \pm 0.574$   $\chi^2/\text{NDF}: 3343122.8/26$

Left Out:  $2402.359 \pm 0.452$   $\chi^2/\text{NDF}: 6345982.8/24$

Right Out:  $2902.181 \pm 0.563$   $\chi^2/\text{NDF}: 2877857.4/30$

Left In:  $2397.701 \pm 0.458$   $\chi^2/\text{NDF}: 5398920.1/22$

Left:  $2400.065 \pm 0.322$   $\chi^2/\text{NDF}: 11744955.3/47$

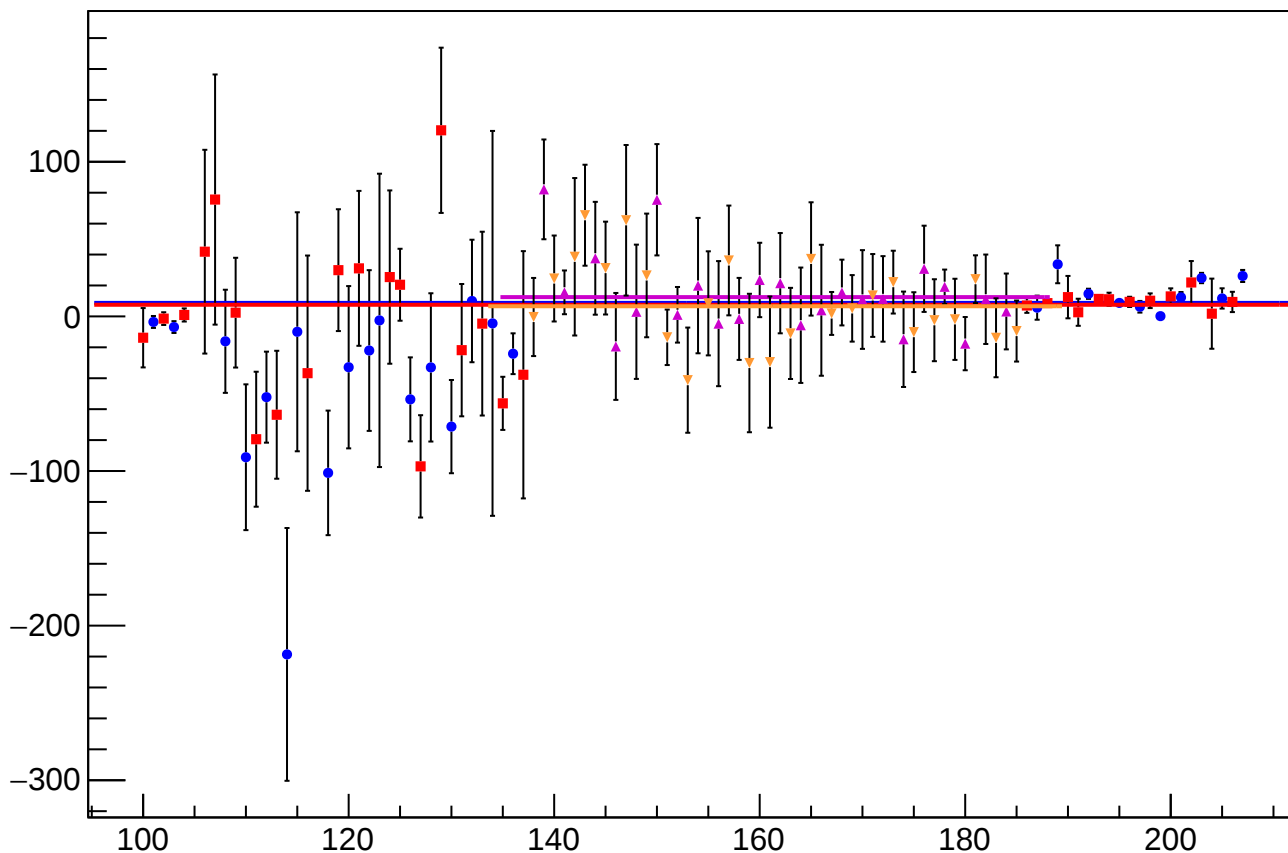
Right:  $2845.482 \pm 0.402$   $\chi^2/\text{NDF}: 6241726.5/57$

In:  $2548.982 \pm 0.358$   $\chi^2/\text{NDF}: 9021807.1/49$

Out:  $2598.272 \pm 0.352$   $\chi^2/\text{NDF}: 9703845.2/55$

All:  $2574.050 \pm 0.251$   $\chi^2/\text{NDF}: 18735277.1/1$

# diff\_bpm0l03X\_mean vs Slug, Sign Corrected



Right In: 8.735 $\pm$ 1.118     $\chi^2$ /NDF: 131.7/26

Left Out: 6.560 $\pm$ 5.077     $\chi^2$ /NDF:16.8/24

Right Out: 7.523 $\pm$ 1.217     $\chi^2$ /NDF: 52.5/30

Left In: 12.469 $\pm$ 5.025     $\chi^2$ /NDF:15.4/22

Left: 9.545 $\pm$ 3.572     $\chi^2$ /NDF: 32.8/47

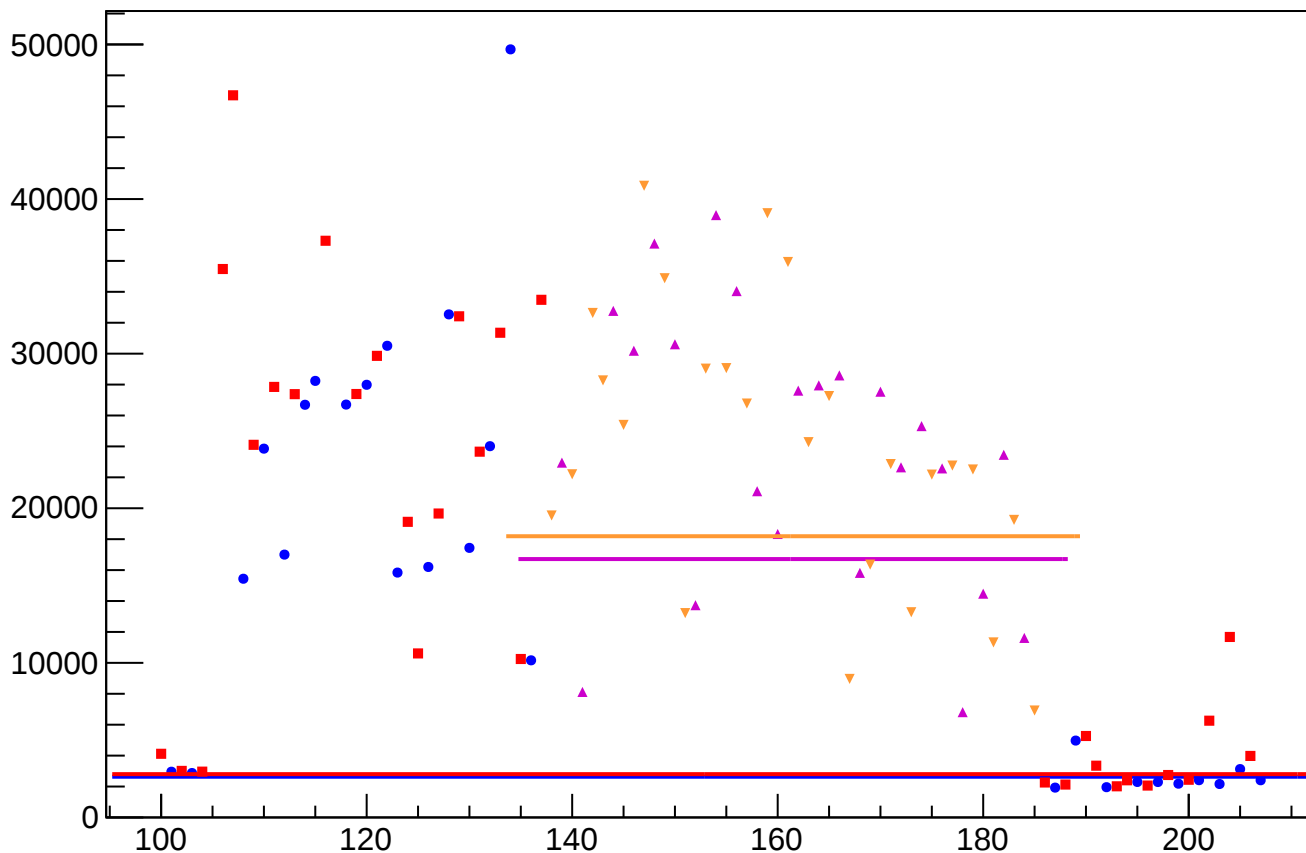
Right: 8.180 $\pm$ 0.823     $\chi^2$ /NDF: 184.7/57

In: 8.911 $\pm$ 1.092     $\chi^2$ /NDF:147.6/49

Out: 7.471 $\pm$ 1.183     $\chi^2$ /NDF:69.3/55

All: 8.249 $\pm$ 0.802     $\chi^2$ /NDF: 217.7/105

# diff\_bpm0l03X\_rms vs Slug, Sign Corrected



Right In:  $2635.046 \pm 0.791$   $\chi^2/\text{NDF}: 6986387.4/26$

Left Out:  $18190.387 \pm 3.590$   $\chi^2/\text{NDF}: 5261328.5/24$

Right Out:  $2801.746 \pm 0.861$   $\chi^2/\text{NDF}: 9054611.8/30$

Left In:  $16713.653 \pm 3.553$   $\chi^2/\text{NDF}: 6194178.8/22$

Left:  $17444.397 \pm 2.526$   $\chi^2/\text{NDF}: 11540970.2/47$

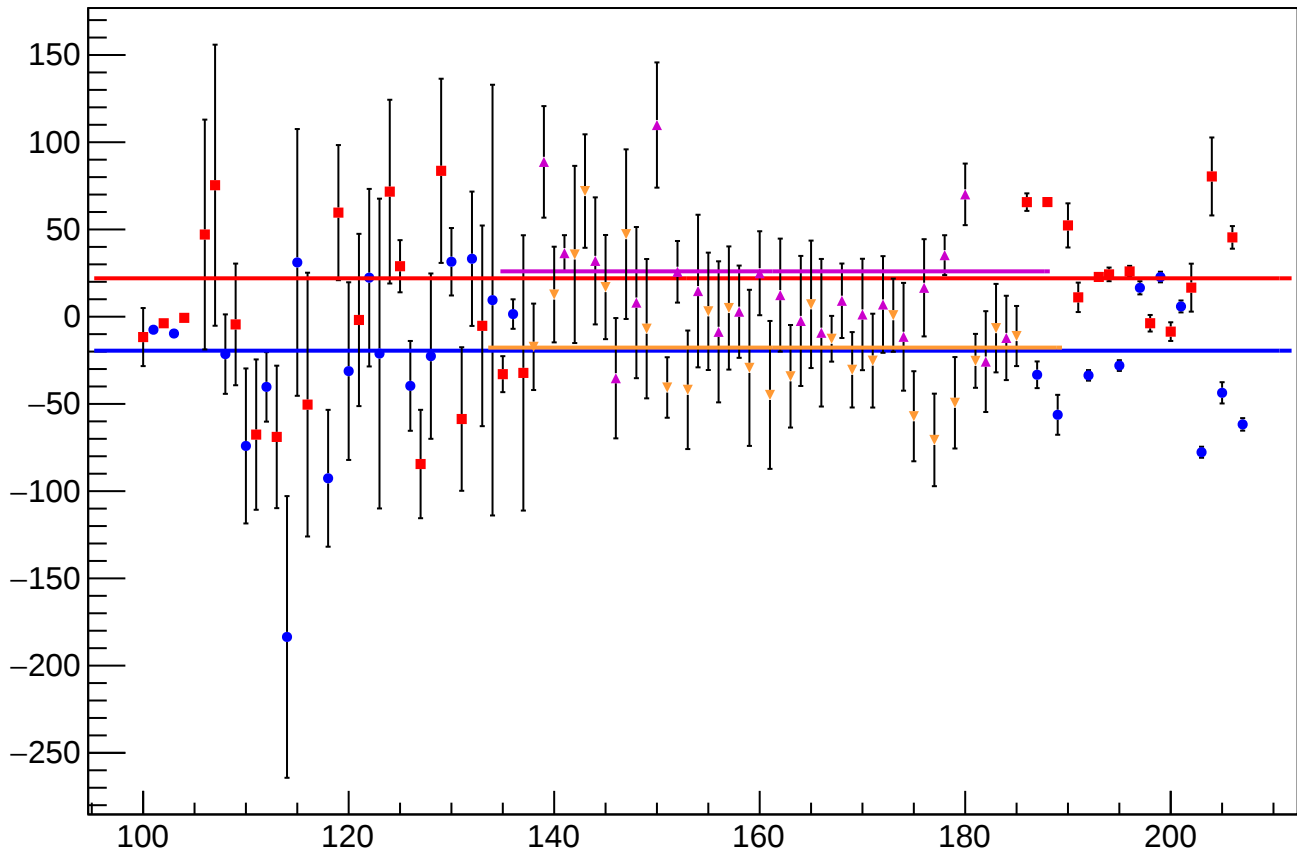
Right:  $2711.359 \pm 0.582$   $\chi^2/\text{NDF}: 16061346.8/57$

In:  $3299.257 \pm 0.772$   $\chi^2/\text{NDF}: 28137432.9/49$

Out:  $3637.754 \pm 0.837$   $\chi^2/\text{NDF}: 31689308.1/55$

All:  $3454.851 \pm 0.567$   $\chi^2/\text{NDF}: 59915152.3/100$

# diff\_bpm0l03Y\_mean vs Slug, Sign Corrected



Right In:  $-19.481 \pm 0.988$   $\chi^2/\text{NDF}$ : 936.5/26

Left Out:  $-17.717 \pm 4.974$   $\chi^2/\text{NDF}$ : 27.2/24

Right Out:  $22.005 \pm 1.071$   $\chi^2/\text{NDF}$ : 638.8/30

Left In:  $25.991 \pm 4.789$   $\chi^2/\text{NDF}$ : 32.6/22

Left:  $4.967 \pm 3.450$   $\chi^2/\text{NDF}$ : 99.8/47

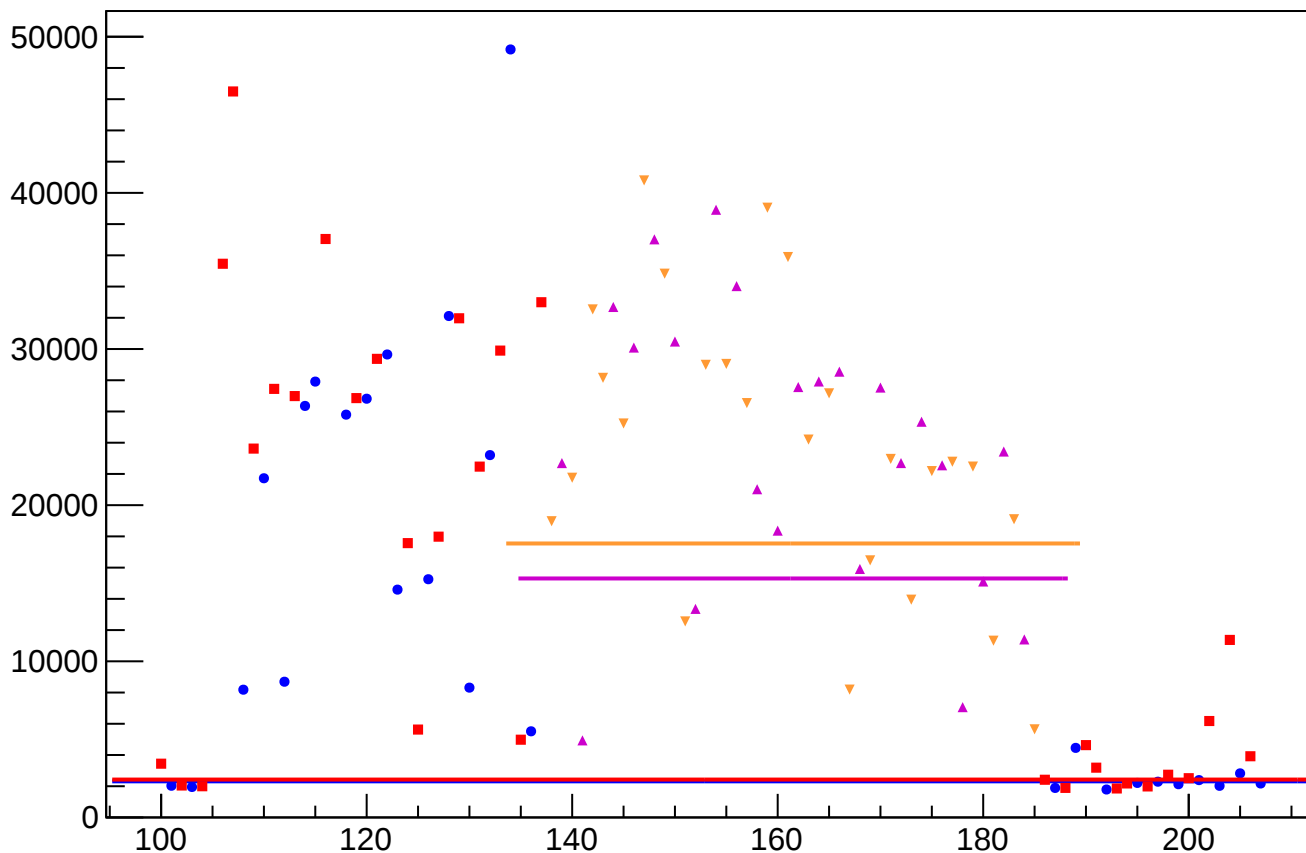
Right:  $-0.390 \pm 0.726$   $\chi^2/\text{NDF}$ : 2385.9/57

In:  $-17.623 \pm 0.968$   $\chi^2/\text{NDF}$ : 1055.6/49

Out:  $20.246 \pm 1.047$   $\chi^2/\text{NDF}$ : 726.9/55

All:  $-0.163 \pm 0.711$   $\chi^2/\text{NDF}$ : 2488.1/105

# diff\_bpm0l03Y\_rms vs Slug, Sign Corrected



Right In: 2313.328+/-0.699  $\chi^2/\text{NDF}$ : 5812315.6/26

Left Out: 17546.173+/-3.517  $\chi^2/\text{NDF}$ : 5902620.4/24

Right Out: 2426.685+/-0.757  $\chi^2/\text{NDF}$ : 8747159.2/30

Left In: 15305.311+/-3.386  $\chi^2/\text{NDF}$ : 7721177.0/22

Left: 16383.216+/-2.439  $\chi^2/\text{NDF}$ : 13834445.4/47

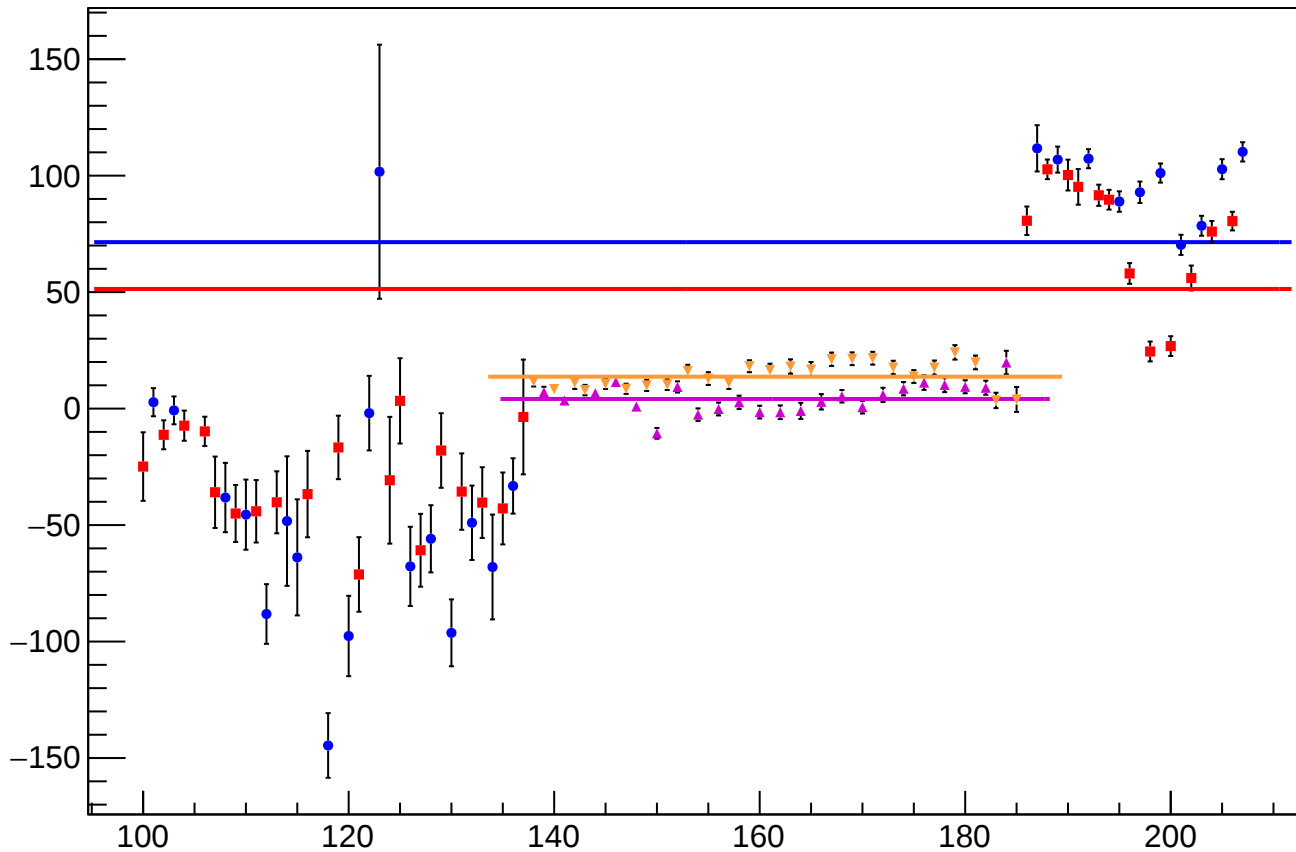
Right: 2365.492+/-0.514  $\chi^2/\text{NDF}$ : 14571579.3/57

In: 2844.205+/-0.685  $\chi^2/\text{NDF}$ : 27652168.0/49

Out: 3096.035+/-0.740  $\chi^2/\text{NDF}$ : 32309656.1/55

All: 2960.314+/-0.503  $\chi^2/\text{NDF}$ : 60024228.6/101

# diff\_bpm0l04X\_mean vs Slug, Sign Corrected



Right In: 71.457 $\pm$ 1.299  $\chi^2$ /NDF: 1773.9/26

Left Out: 13.710 $\pm$ 0.535  $\chi^2$ /NDF:89.9/24

Right Out: 51.366 $\pm$ 1.219  $\chi^2$ /NDF: 1372.3/30

Left In: 4.141 $\pm$ 0.555  $\chi^2$ /NDF:111.7/22

Left: 9.097 $\pm$ 0.385  $\chi^2$ /NDF: 355.6/47

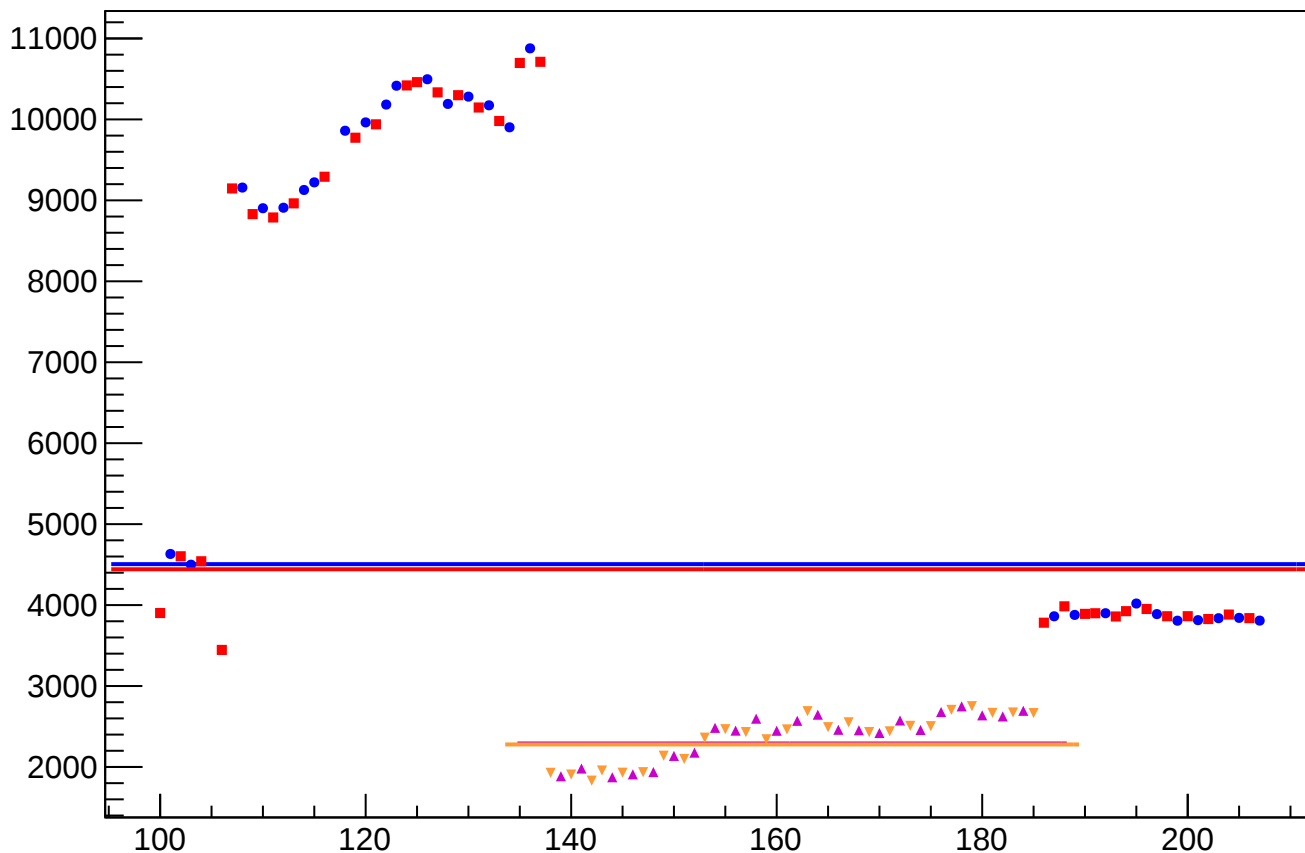
Right: 60.776 $\pm$ 0.889  $\chi^2$ /NDF: 3273.5/57

In: 14.530 $\pm$ 0.510  $\chi^2$ /NDF:4157.8/49

Out: 19.797 $\pm$ 0.490  $\chi^2$ /NDF:2262.3/55

All: 17.270 $\pm$ 0.353  $\chi^2$ /NDF: 6475.6/105

# diff\_bpm0l04X\_rms vs Slug, Sign Corrected



Right In: 4505.720+/-0.918  $\chi^2/\text{NDF}$ : 3729514.4/26

Left Out: 2278.115+/-0.378  $\chi^2/\text{NDF}$ : 607109.4/24

Right Out: 4442.482+/-0.862  $\chi^2/\text{NDF}$ : 3784403.4/30

Left In: 2290.461+/-0.392  $\chi^2/\text{NDF}$ : 590272.1/22

Left: 2284.067+/-0.272  $\chi^2/\text{NDF}$ : 1197894.4/47

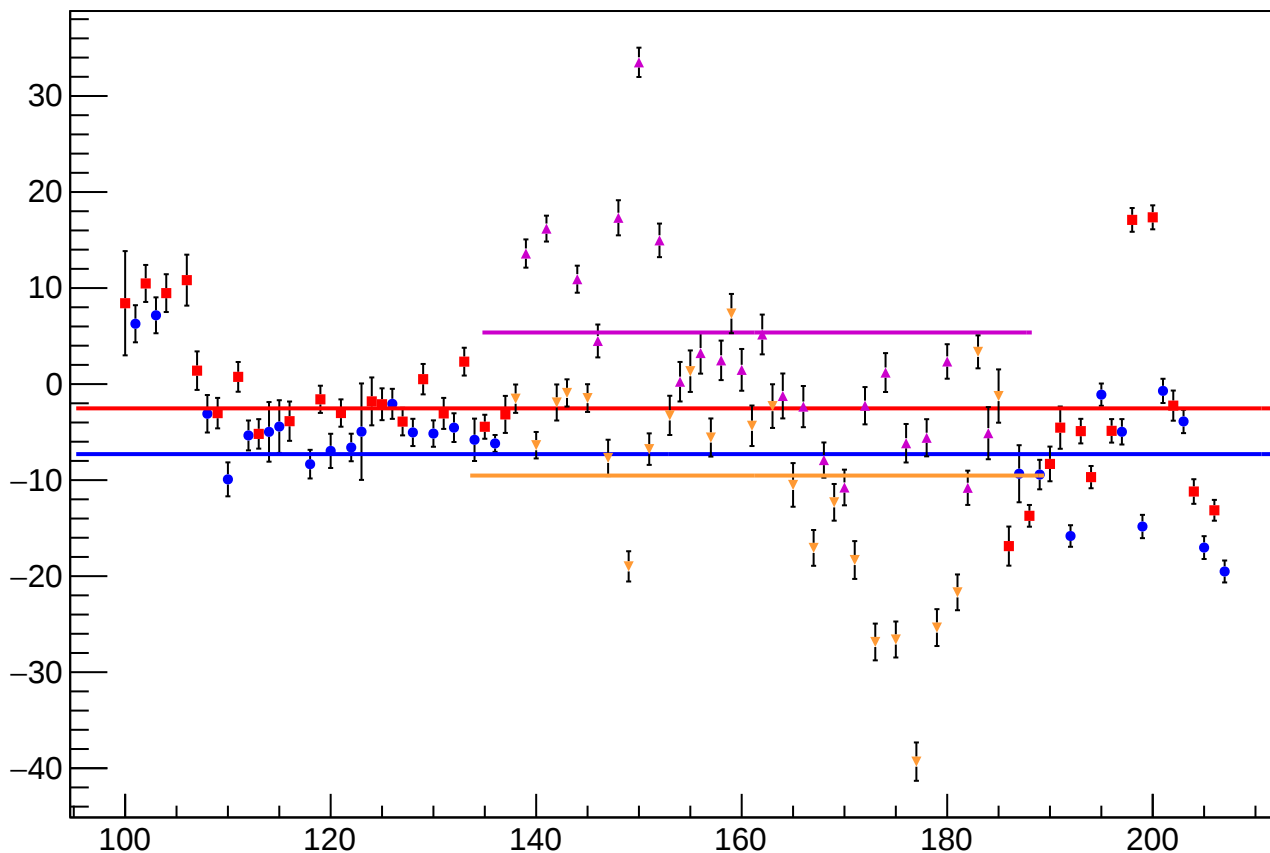
Right: 4472.100+/-0.628  $\chi^2/\text{NDF}$ : 7516439.2/57

In: 2632.376+/-0.361  $\chi^2/\text{NDF}$ : 9241287.4/49

Out: 2627.998+/-0.347  $\chi^2/\text{NDF}$ : 9678030.7/55

All: 2630.099+/-0.250  $\chi^2/\text{NDF}$ : 18919394.7/112

# diff\_bpm0l04Y\_mean vs Slug, Sign Corrected



Right In: -7.292 $\pm$ 0.282  $\chi^2/\text{NDF}$ : 488.5/26

Left Out: -9.524 $\pm$ 0.365  $\chi^2/\text{NDF}$ :884.1/24

Right Out: -2.528 $\pm$ 0.274  $\chi^2/\text{NDF}$ : 993.8/30

Left In: 5.372 $\pm$ 0.383  $\chi^2/\text{NDF}$ :869.8/22

Left: -2.437 $\pm$ 0.264  $\chi^2/\text{NDF}$ : 2547.3/47

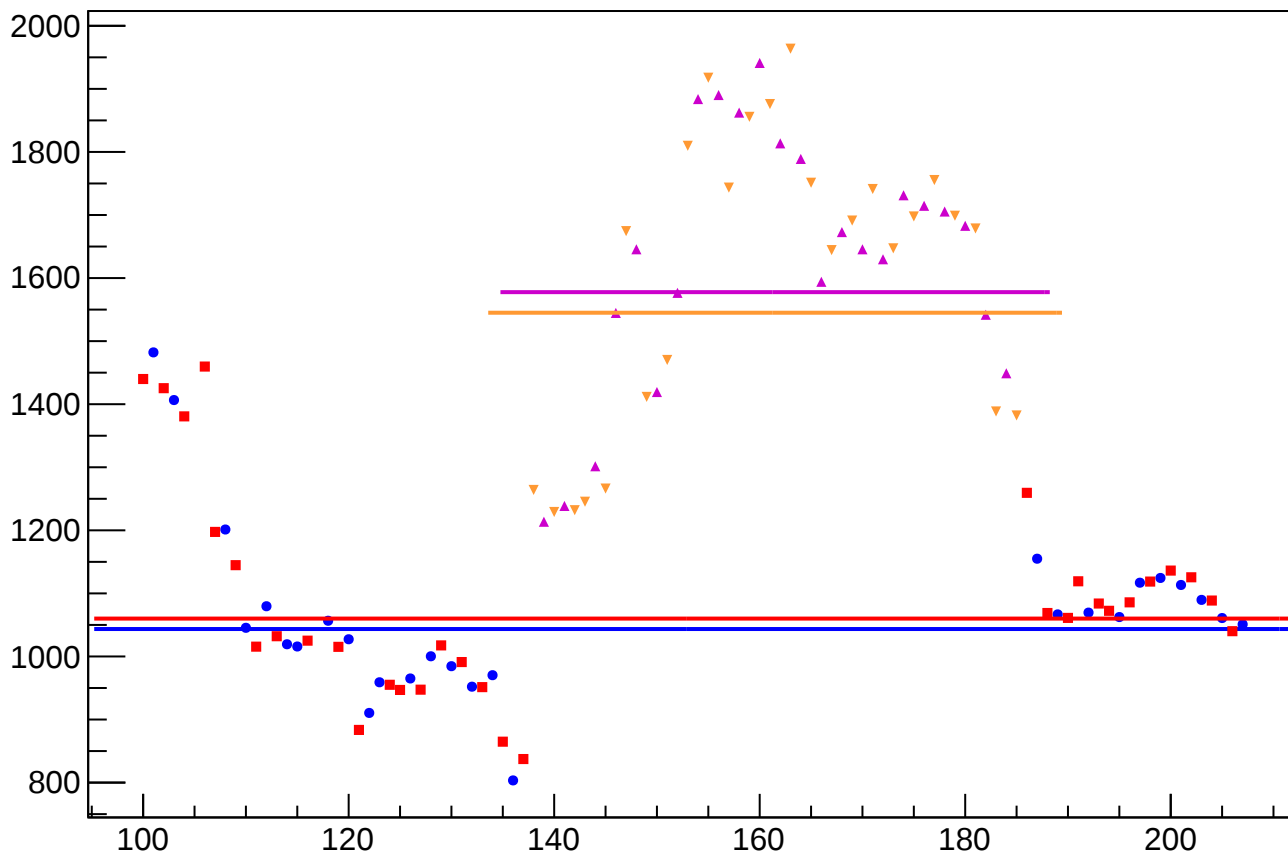
Right: -4.841 $\pm$ 0.197  $\chi^2/\text{NDF}$ : 1629.0/57

In: -2.836 $\pm$ 0.227  $\chi^2/\text{NDF}$ :2067.3/49

Out: -5.052 $\pm$ 0.219  $\chi^2/\text{NDF}$ :2113.1/55

All: -3.984 $\pm$ 0.158  $\chi^2/\text{NDF}$ : 4229.7/105

# diff\_bpm0l04Y\_rms vs Slug, Sign Corrected



Right In: 1043.508 $\pm$ 0.199  $\chi^2/\text{NDF}$ : 410365.9/26

Left Out: 1545.053 $\pm$ 0.258  $\chi^2/\text{NDF}$ : 842722.3/24

Right Out: 1060.065 $\pm$ 0.194  $\chi^2/\text{NDF}$ : 387613.2/30

Left In: 1577.685 $\pm$ 0.271  $\chi^2/\text{NDF}$ : 625406.2/22

Left: 1560.578 $\pm$ 0.187  $\chi^2/\text{NDF}$ : 1475743.3/47

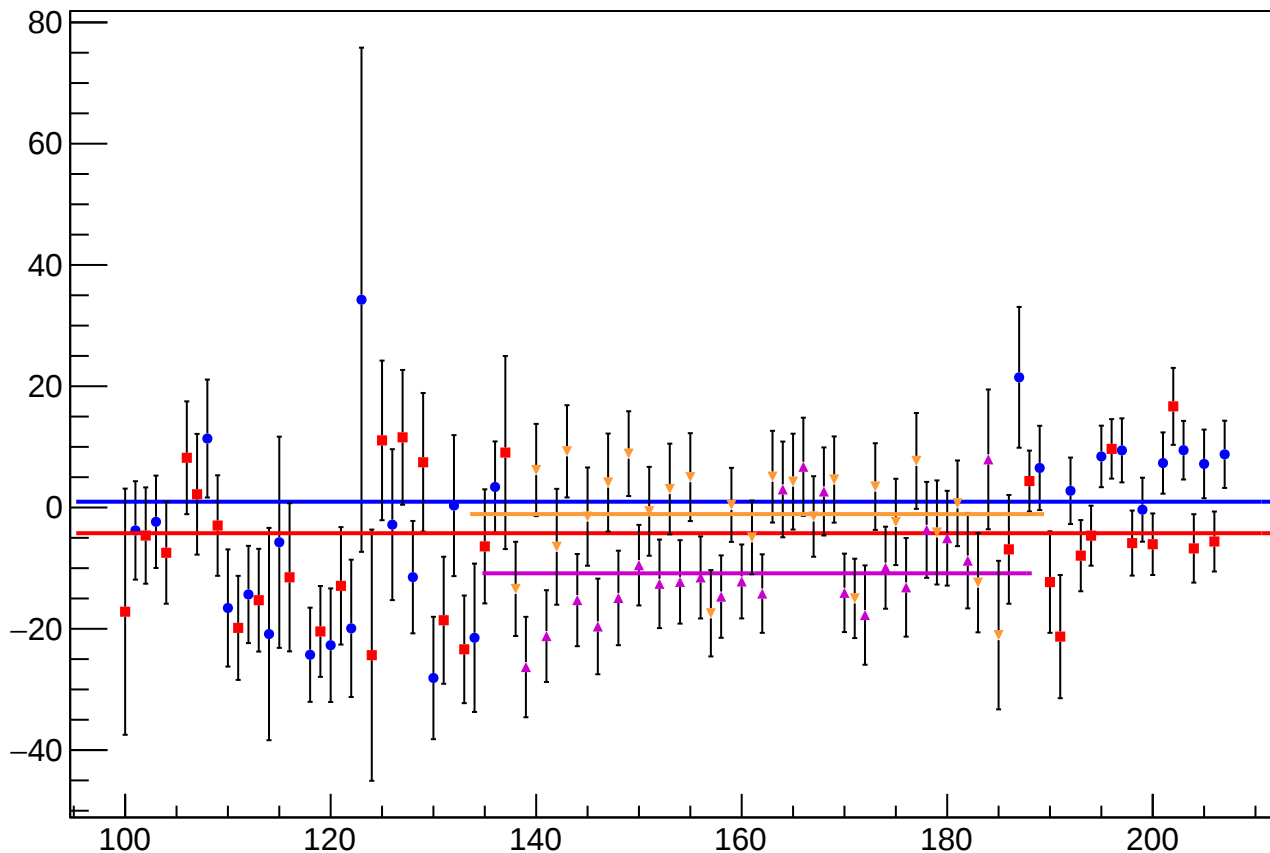
Right: 1052.027 $\pm$ 0.139  $\chi^2/\text{NDF}$ : 801524.3/57

In: 1231.439 $\pm$ 0.161  $\chi^2/\text{NDF}$ : 3558820.2/49

Out: 1235.009 $\pm$ 0.155  $\chi^2/\text{NDF}$ : 3490465.8/55

All: 1233.288 $\pm$ 0.111  $\chi^2/\text{NDF}$ : 7049542.1/10

# diff\_bpm0l05X\_mean vs Slug, Sign Corrected



Right In:  $0.958 \pm 1.429$   $\chi^2/\text{NDF}: 61.5/26$

Left Out:  $-1.083 \pm 1.487$   $\chi^2/\text{NDF}: 27.5/24$

Right Out:  $-4.236 \pm 1.348$   $\chi^2/\text{NDF}: 52.8/30$

Left In:  $-10.851 \pm 1.542$   $\chi^2/\text{NDF}: 24.4/22$

Left:  $-5.792 \pm 1.070$   $\chi^2/\text{NDF}: 72.7/47$

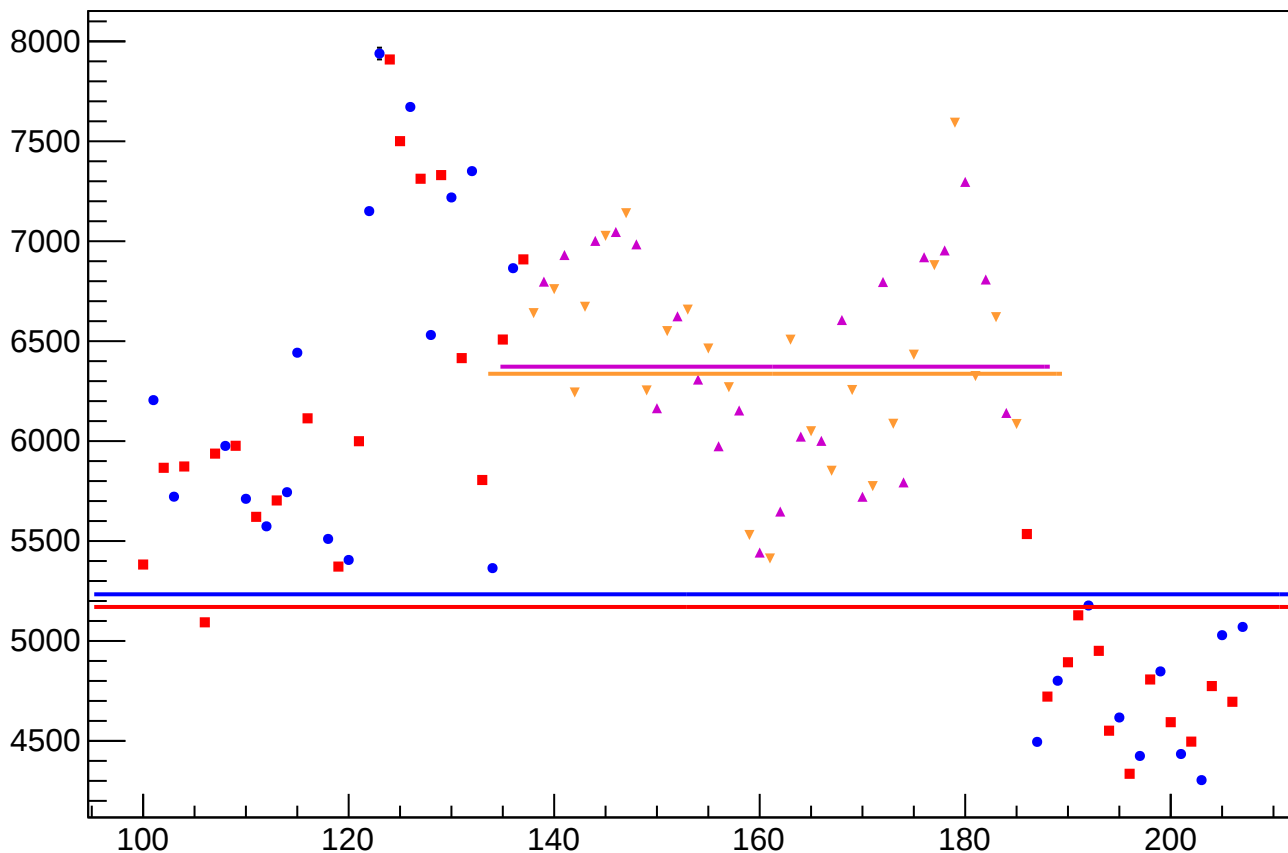
Right:  $-1.791 \pm 0.980$   $\chi^2/\text{NDF}: 121.4/57$

In:  $-4.499 \pm 1.048$   $\chi^2/\text{NDF}: 117.5/49$

Out:  $-2.814 \pm 0.999$   $\chi^2/\text{NDF}: 82.8/55$

All:  $-3.616 \pm 0.723$   $\chi^2/\text{NDF}: 201.6/105$

# diff\_bpm0l05X\_rms vs Slug, Sign Corrected



Right In: 5233.506 $\pm$ 1.010  $\chi^2/\text{NDF}$ : 723374.8/26

Left Out: 6336.876 $\pm$ 1.052  $\chi^2/\text{NDF}$ : 222912.5/24

Right Out: 5170.157 $\pm$ 0.953  $\chi^2/\text{NDF}$ : 647669.0/30

Left In: 6372.349 $\pm$ 1.090  $\chi^2/\text{NDF}$ : 247257.0/22

Left: 6353.974 $\pm$ 0.757  $\chi^2/\text{NDF}$ : 470718.0/47

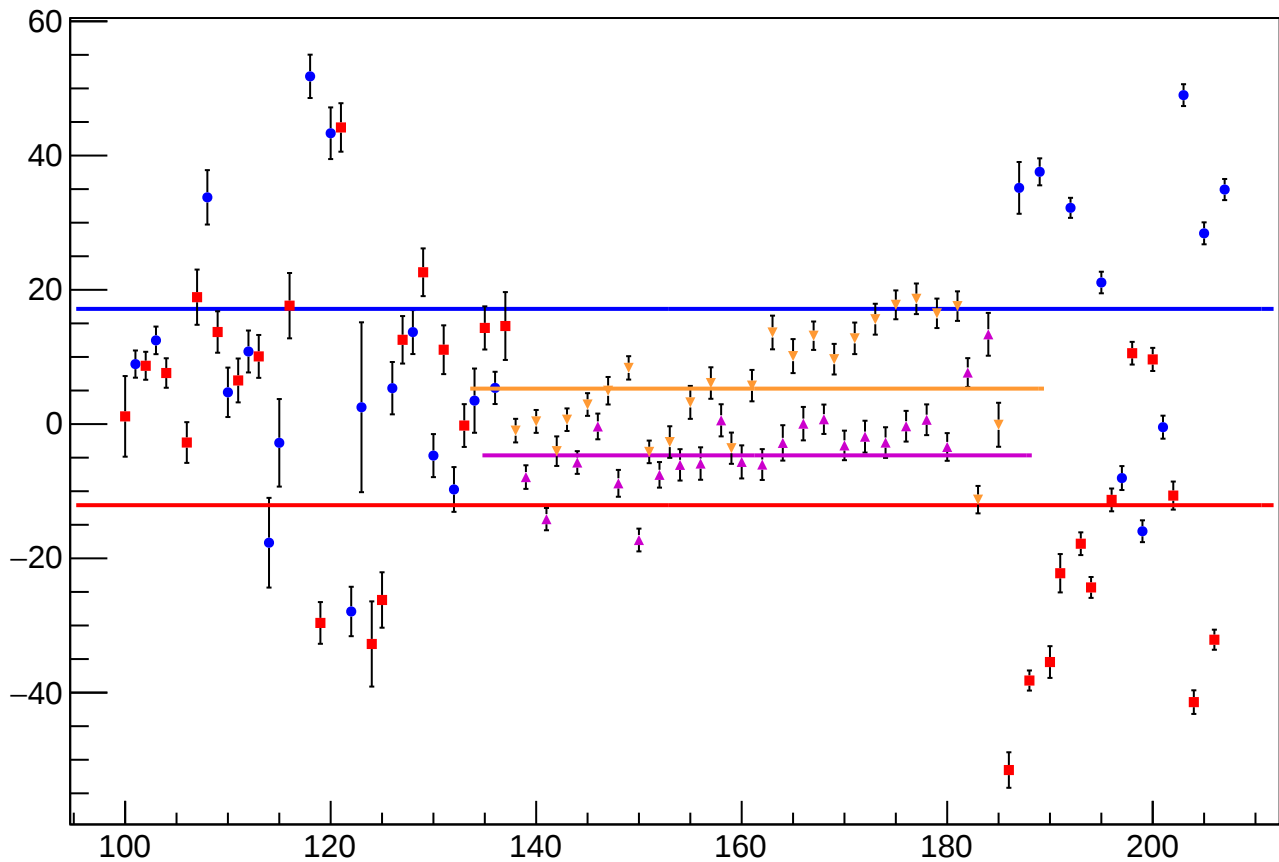
Right: 5199.982 $\pm$ 0.693  $\chi^2/\text{NDF}$ : 1373124.1/57

In: 5759.777 $\pm$ 0.741  $\chi^2/\text{NDF}$ : 1557698.8/49

Out: 5696.294 $\pm$ 0.706  $\chi^2/\text{NDF}$ : 1546445.4/55

All: 5726.507 $\pm$ 0.511  $\chi^2/\text{NDF}$ : 3107990.4/100

# diff\_bpm0l05Y\_mean vs Slug, Sign Corrected



Right In: 17.160 $\pm$ 0.451  $\chi^2/\text{NDF}$ : 2067.9/26

Left Out: 5.284 $\pm$ 0.421  $\chi^2/\text{NDF}$ : 366.1/24

Right Out: -12.079 $\pm$ 0.431  $\chi^2/\text{NDF}$ : 2535.6/30

Left In: -4.657 $\pm$ 0.443  $\chi^2/\text{NDF}$ : 196.5/22

Left: 0.574 $\pm$ 0.305  $\chi^2/\text{NDF}$ : 827.2/47

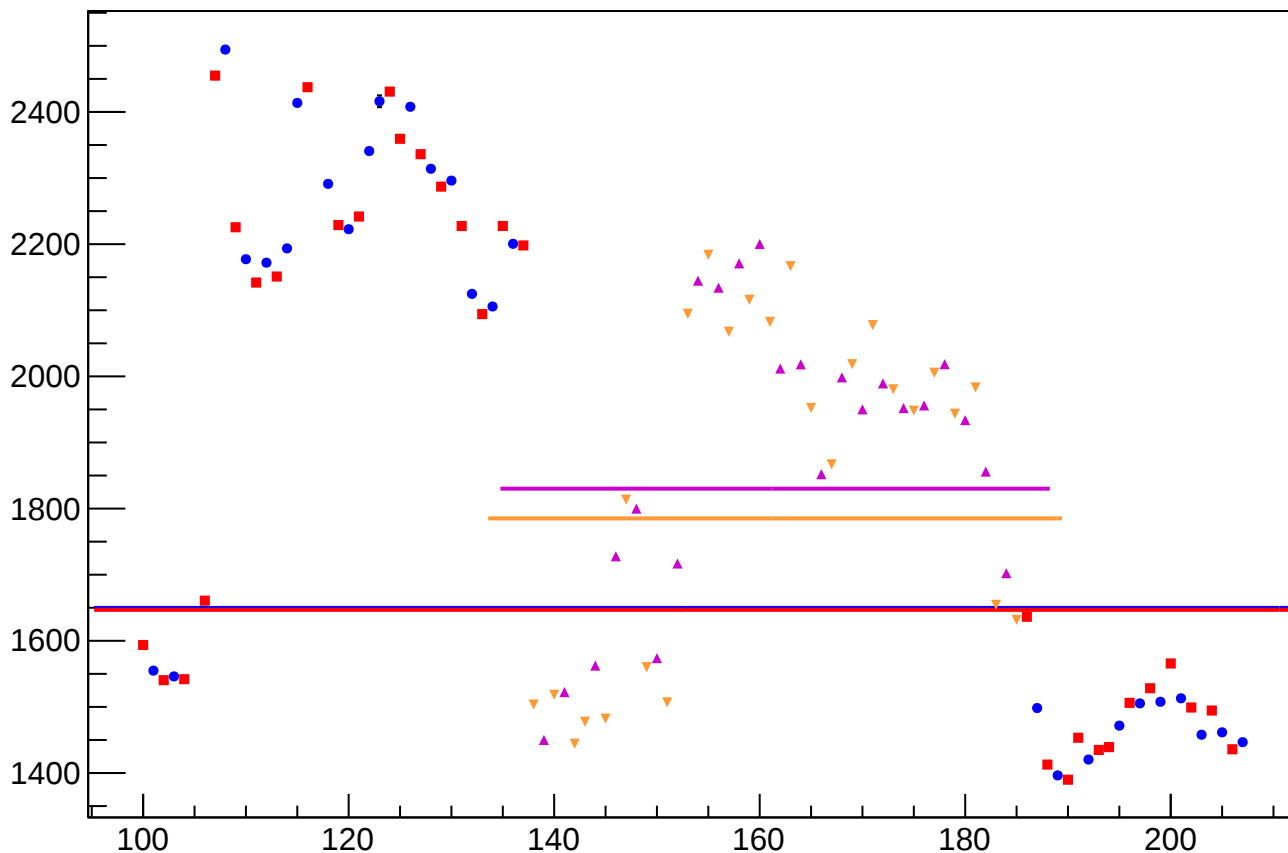
Right: 1.859 $\pm$ 0.312  $\chi^2/\text{NDF}$ : 6800.1/57

In: 6.057 $\pm$ 0.316  $\chi^2/\text{NDF}$ : 3453.8/49

Out: -3.193 $\pm$ 0.301  $\chi^2/\text{NDF}$ : 3733.3/55

All: 1.203 $\pm$ 0.218  $\chi^2/\text{NDF}$ : 7636.0/105

# diff\_bpm0l05Y\_rms vs Slug, Sign Corrected



Right In: 1649.747 $\pm$ 0.319  $\chi^2/\text{NDF}$ : 1073688.8/26

Left Out: 1785.179 $\pm$ 0.297  $\chi^2/\text{NDF}$ : 750628.1/24

Right Out: 1646.840 $\pm$ 0.305  $\chi^2/\text{NDF}$ : 1082353.5/30

Left In: 1830.160 $\pm$ 0.313  $\chi^2/\text{NDF}$ : 508391.9/22

Left: 1806.491 $\pm$ 0.216  $\chi^2/\text{NDF}$ : 1269853.4/47

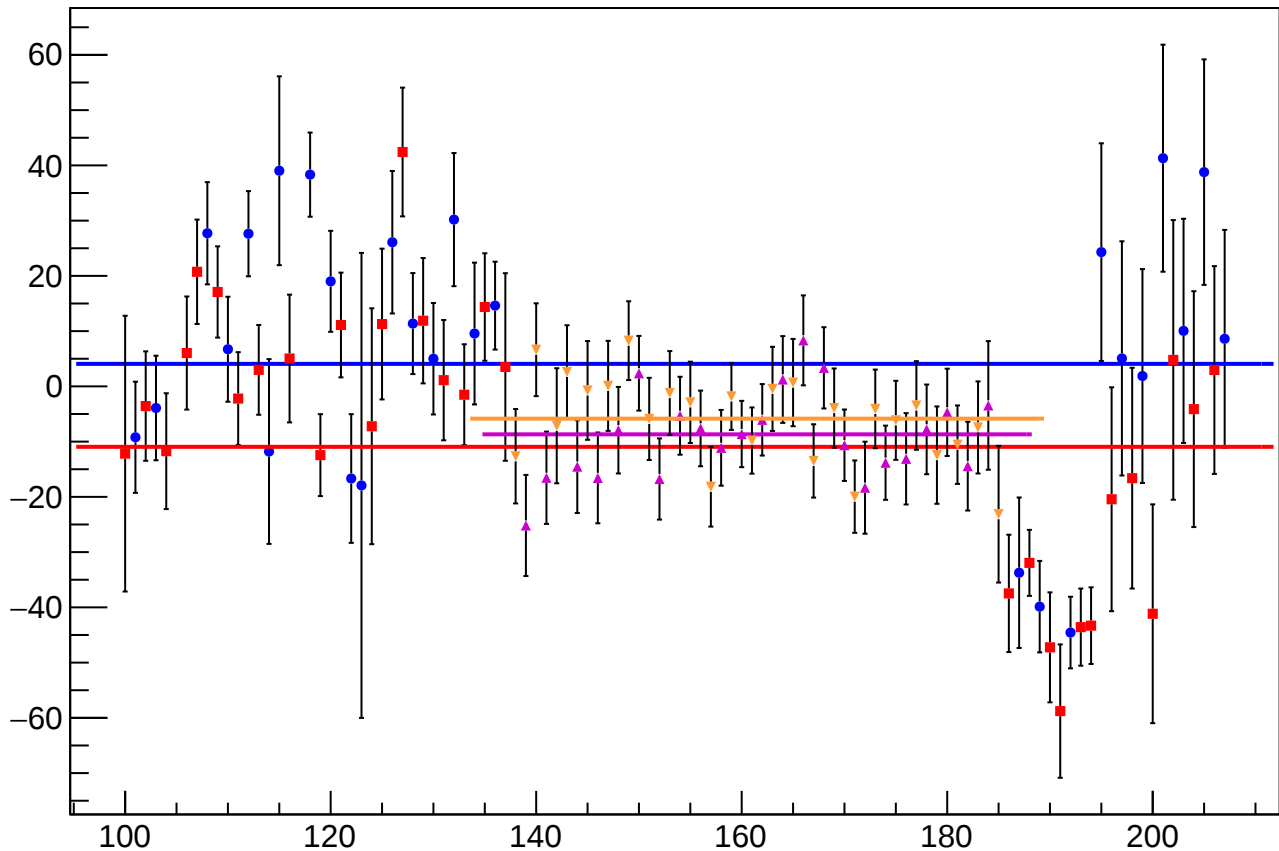
Right: 1648.226 $\pm$ 0.220  $\chi^2/\text{NDF}$ : 2156085.7/57

In: 1741.560 $\pm$ 0.224  $\chi^2/\text{NDF}$ : 1744734.9/49

Out: 1717.641 $\pm$ 0.213  $\chi^2/\text{NDF}$ : 1938568.6/55

All: 1729.008 $\pm$ 0.154  $\chi^2/\text{NDF}$ : 3689306.6/100

# diff\_bpm0l06X\_mean vs Slug, Sign Corrected



Right In: 4.074 $\pm$ 2.121  $\chi^2/\text{NDF}$ : 159.6/26

Left Out: -5.840 $\pm$ 1.518  $\chi^2/\text{NDF}$ : 23.3/24

Right Out: -10.942 $\pm$ 1.861  $\chi^2/\text{NDF}$ : 169.8/30

Left In: -8.683 $\pm$ 1.571  $\chi^2/\text{NDF}$ : 21.9/22

Left: -7.214 $\pm$ 1.092  $\chi^2/\text{NDF}$ : 47.0/47

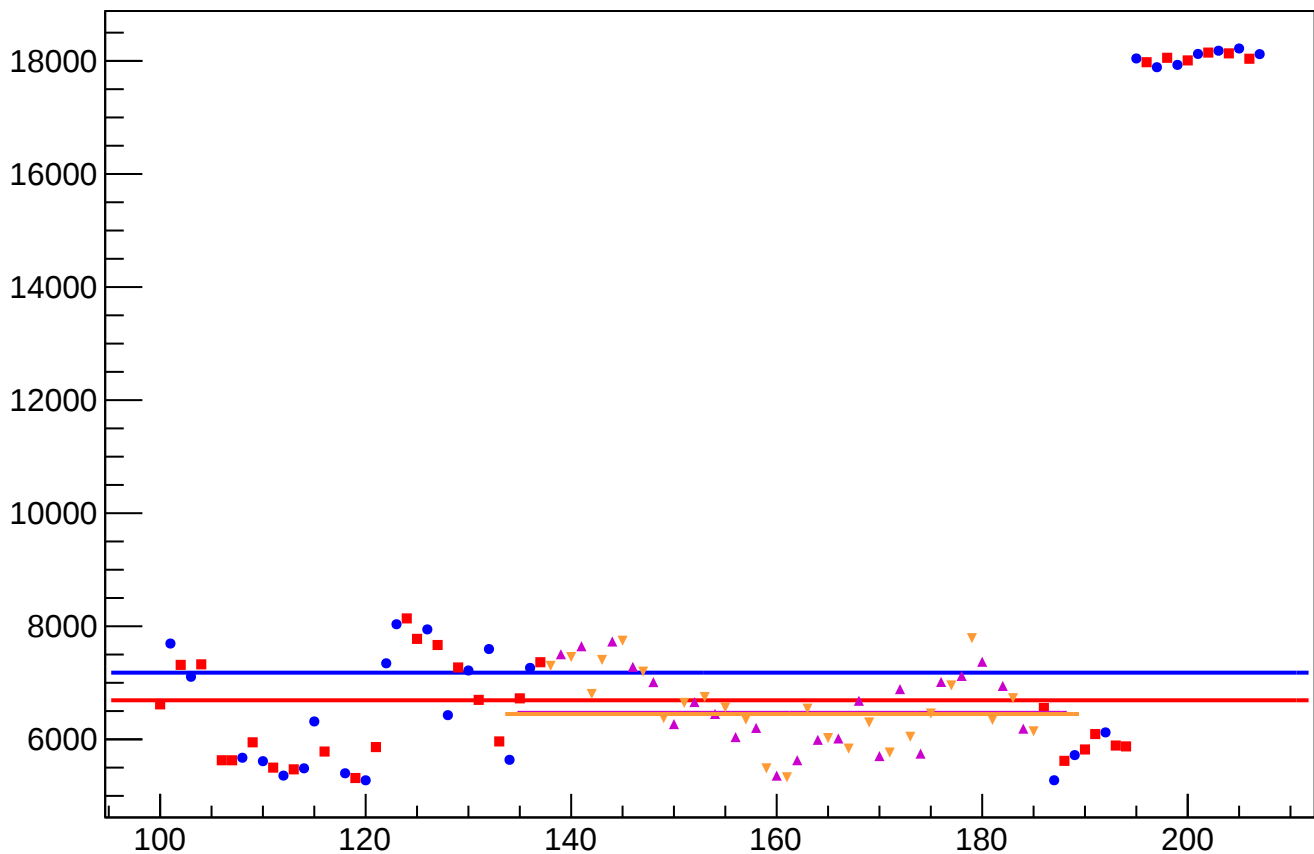
Right: -4.410 $\pm$ 1.399  $\chi^2/\text{NDF}$ : 357.7/57

In: -4.164 $\pm$ 1.262  $\chi^2/\text{NDF}$ : 204.9/49

Out: -7.879 $\pm$ 1.176  $\chi^2/\text{NDF}$ : 197.7/55

All: -6.152 $\pm$ 0.861  $\chi^2/\text{NDF}$ : 407.2/105

# diff\_bpm0l06X\_rms vs Slug, Sign Corrected



Right In: 7179.391 $\pm$ 1.500  $\chi^2/\text{NDF}$ : 4746083.6/26

Left Out: 6447.712 $\pm$ 1.074  $\chi^2/\text{NDF}$ : 371671.1/24

Right Out: 6690.737 $\pm$ 1.316  $\chi^2/\text{NDF}$ : 4089814.0/30

Left In: 6468.902 $\pm$ 1.111  $\chi^2/\text{NDF}$ : 383325.4/22

Left: 6457.948 $\pm$ 0.772  $\chi^2/\text{NDF}$ : 755184.7/47

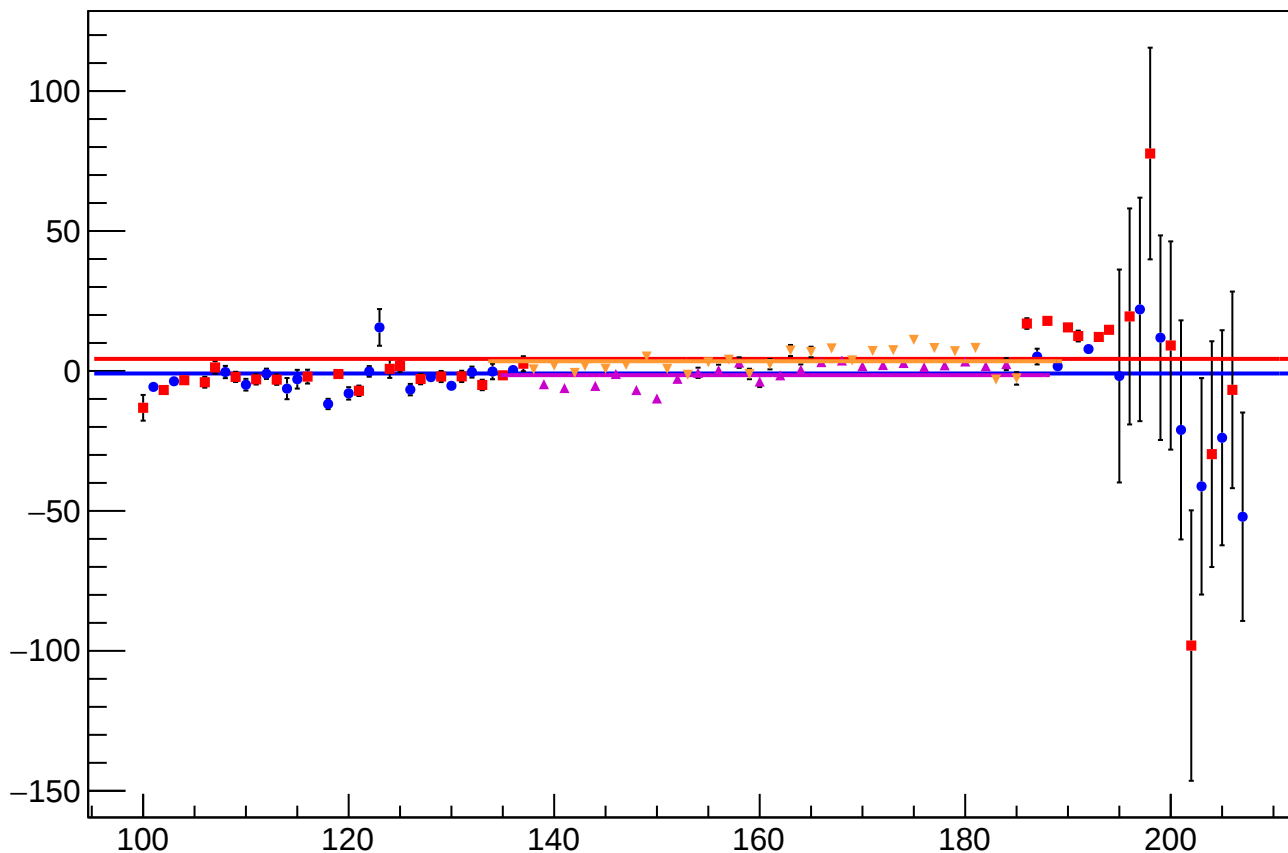
Right: 6903.308 $\pm$ 0.989  $\chi^2/\text{NDF}$ : 8895894.5/57

In: 6720.566 $\pm$ 0.892  $\chi^2/\text{NDF}$ : 5274383.6/49

Out: 6544.841 $\pm$ 0.832  $\chi^2/\text{NDF}$ : 4481964.5/55

All: 6626.533 $\pm$ 0.609  $\chi^2/\text{NDF}$ : 9777094.3/10

# diff\_bpm0l06Y\_mean vs Slug, Sign Corrected



Right In:  $-0.902 \pm 0.406$   $\chi^2/\text{NDF}$ : 175.4/26

Left Out:  $3.470 \pm 0.276$   $\chi^2/\text{NDF}$ : 176.0/24

Right Out:  $4.313 \pm 0.355$   $\chi^2/\text{NDF}$ : 671.3/30

Left In:  $-1.502 \pm 0.291$   $\chi^2/\text{NDF}$ : 202.7/22

Left:  $1.109 \pm 0.200$   $\chi^2/\text{NDF}$ : 532.4/47

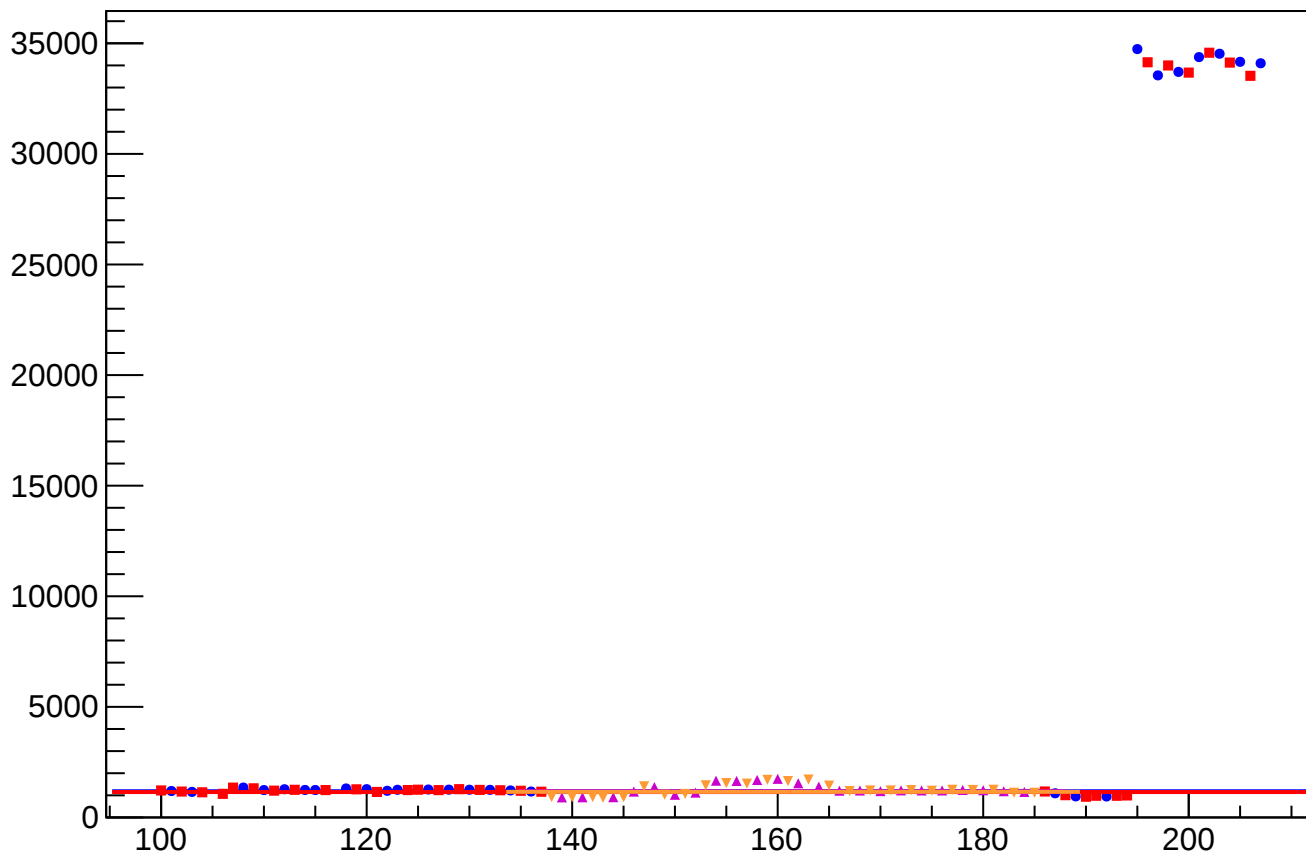
Right:  $2.055 \pm 0.267$   $\chi^2/\text{NDF}$ : 940.3/57

In:  $-1.299 \pm 0.236$   $\chi^2/\text{NDF}$ : 379.5/49

Out:  $3.789 \pm 0.218$   $\chi^2/\text{NDF}$ : 850.8/55

All:  $1.450 \pm 0.160$   $\chi^2/\text{NDF}$ : 1480.8/105

# diff\_bpm0l06Y\_rms vs Slug, Sign Corrected



Right In: 1185.032 $\pm$ 0.287  $\chi^2$ /NDF: 10634274.2/26

Left Out: 1158.894 $\pm$ 0.195  $\chi^2$ /NDF: 1410423.6/24

Right Out: 1148.790 $\pm$ 0.251  $\chi^2$ /NDF: 8740316.5/30

Left In: 1184.966 $\pm$ 0.206  $\chi^2$ /NDF: 1190431.5/22

Left: 1171.274 $\pm$ 0.142  $\chi^2$ /NDF: 2609306.9/47

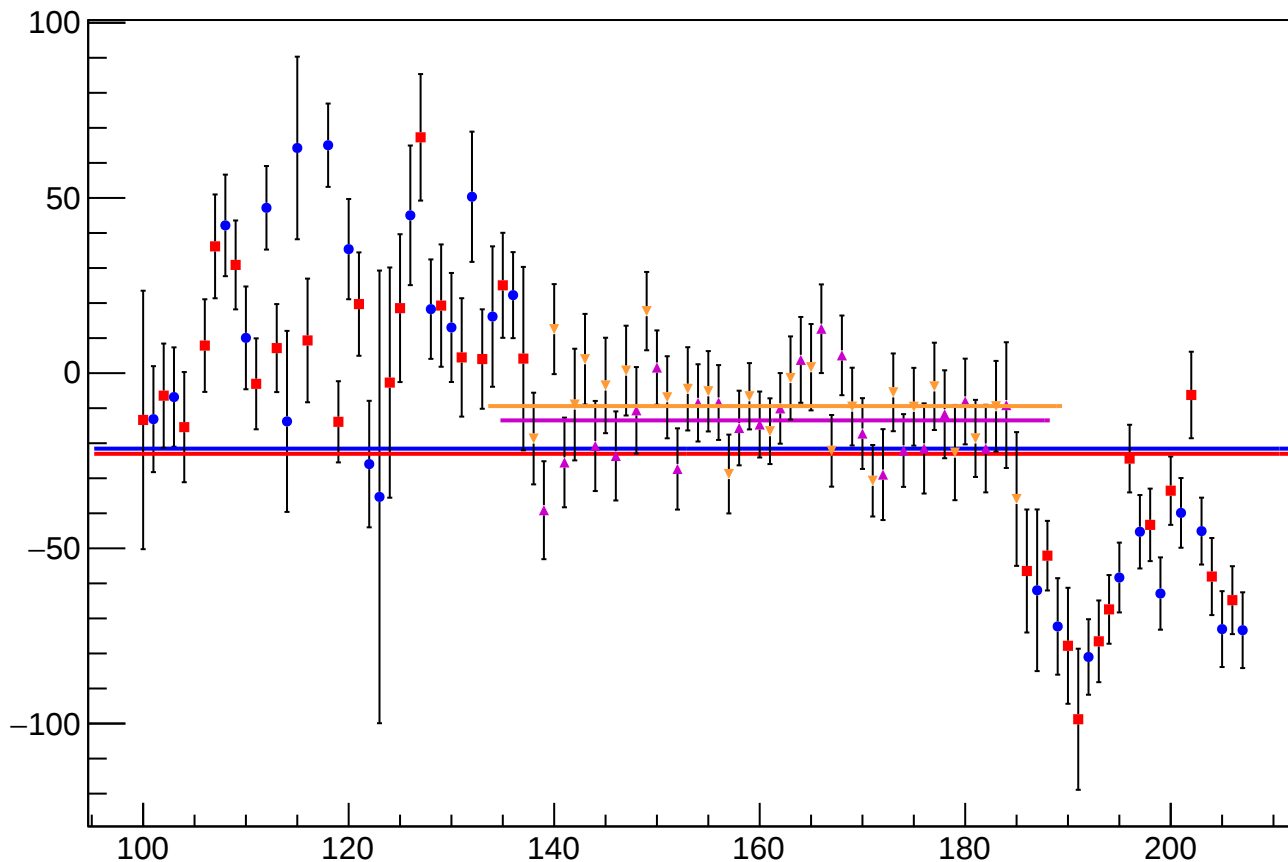
Right: 1164.486 $\pm$ 0.189  $\chi^2$ /NDF: 19383641.3/57

In: 1184.988 $\pm$ 0.167  $\chi^2$ /NDF: 11824705.8/49

Out: 1155.075 $\pm$ 0.154  $\chi^2$ /NDF: 10151750.4/55

All: 1168.830 $\pm$ 0.113  $\chi^2$ /NDF: 21993775.7/102

# diff\_bpm0l07X\_mean vs Slug, Sign Corrected



Right In: -21.546 +/- 2.580  $\chi^2/\text{NDF}$ : 330.7/26

Left Out: -9.398 +/- 2.358  $\chi^2/\text{NDF}$ : 26.3/24

Right Out: -23.017 +/- 2.422  $\chi^2/\text{NDF}$ : 228.8/30

Left In: -13.485 +/- 2.443  $\chi^2/\text{NDF}$ : 21.6/22

Left: -11.369 +/- 1.697  $\chi^2/\text{NDF}$ : 49.3/47

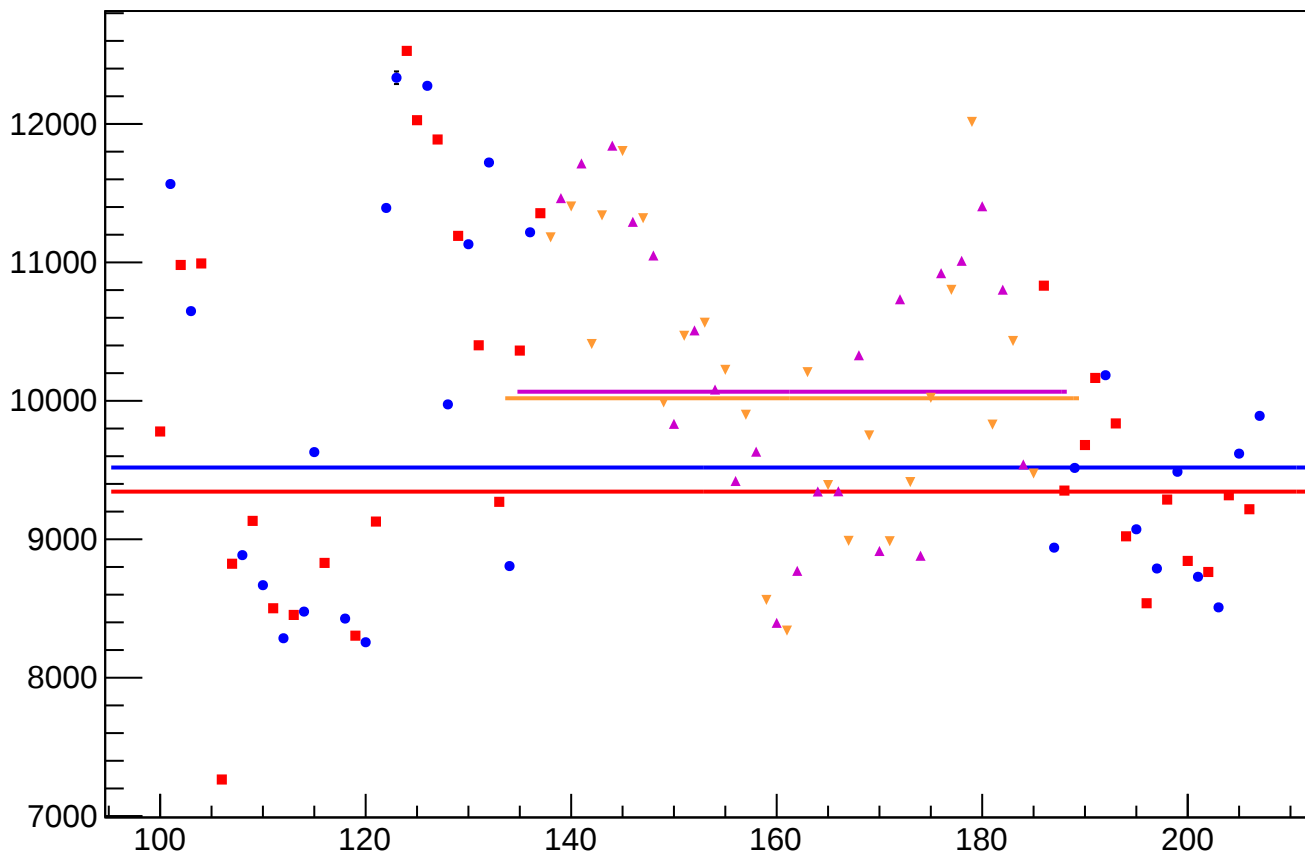
Right: -22.328 +/- 1.766  $\chi^2/\text{NDF}$ : 559.8/57

In: -17.295 +/- 1.774  $\chi^2/\text{NDF}$ : 357.5/49

Out: -16.028 +/- 1.690  $\chi^2/\text{NDF}$ : 271.4/55

All: -16.631 +/- 1.223  $\chi^2/\text{NDF}$ : 629.1/105

# diff\_bpm0l07X\_rms vs Slug, Sign Corrected



Right In:  $9518.442 \pm 1.825$   $\chi^2/\text{NDF}$ : 333390.6/26

Left Out:  $10018.563 \pm 1.668$   $\chi^2/\text{NDF}$ : 344534.6/24

Right Out:  $9344.290 \pm 1.712$   $\chi^2/\text{NDF}$ : 326263.8/30

Left In:  $10065.909 \pm 1.727$   $\chi^2/\text{NDF}$ : 357868.9/22

Left:  $10041.404 \pm 1.200$   $\chi^2/\text{NDF}$ : 702792.3/47

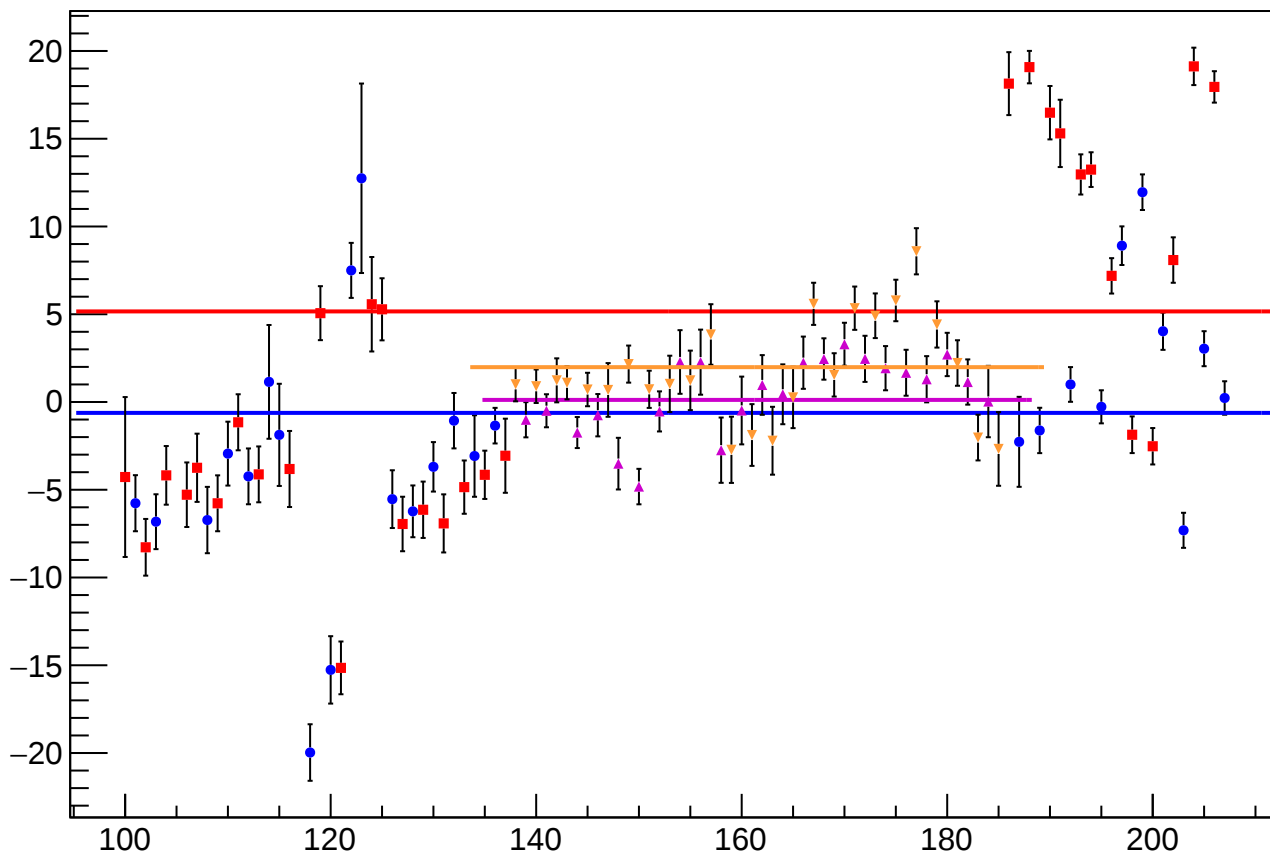
Right:  $9425.844 \pm 1.249$   $\chi^2/\text{NDF}$ : 664498.7/57

In:  $9807.145 \pm 1.254$   $\chi^2/\text{NDF}$ : 738739.3/49

Out:  $9690.316 \pm 1.195$   $\chi^2/\text{NDF}$ : 750378.1/55

All:  $9745.885 \pm 0.865$   $\chi^2/\text{NDF}$ : 1493666.1/10

# diff\_bpm0l07Y\_mean vs Slug, Sign Corrected



Right In: -0.620 $\pm$ 0.261  $\chi^2/\text{NDF}$ : 619.9/26

Left Out: 1.985 $\pm$ 0.255  $\chi^2/\text{NDF}$ :101.2/24

Right Out: 5.161 $\pm$ 0.250  $\chi^2/\text{NDF}$ : 1683.6/30

Left In: 0.120 $\pm$ 0.269  $\chi^2/\text{NDF}$ :67.6/22

Left: 1.102 $\pm$ 0.185  $\chi^2/\text{NDF}$ : 194.2/47

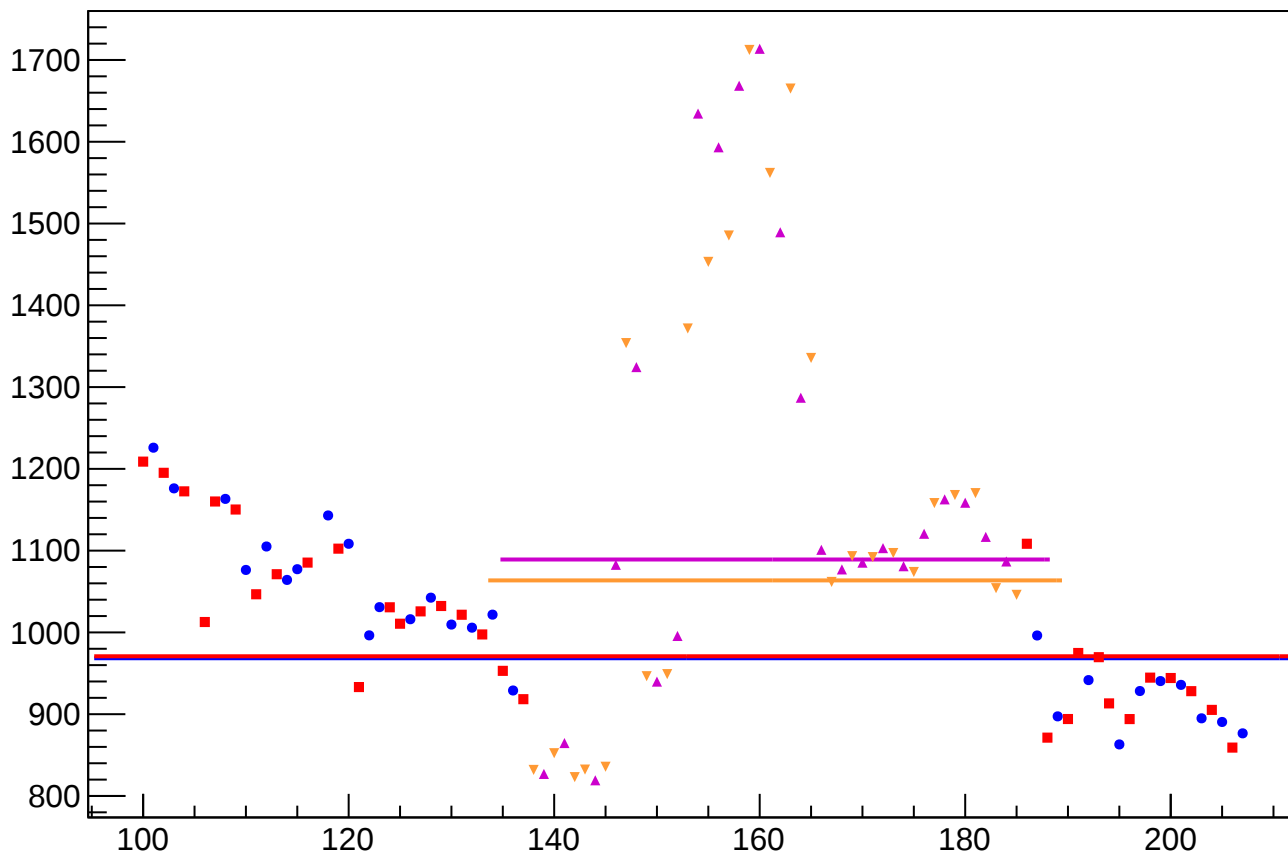
Right: 2.390 $\pm$ 0.181  $\chi^2/\text{NDF}$ : 2559.0/57

In: -0.261 $\pm$ 0.187  $\chi^2/\text{NDF}$ :691.4/49

Out: 3.601 $\pm$ 0.179  $\chi^2/\text{NDF}$ :1863.9/55

All: 1.761 $\pm$ 0.129  $\chi^2/\text{NDF}$ : 2778.0/105

# diff\_bpm0l07Y\_rms vs Slug, Sign Corrected



Right In: 968.421 $\pm$ 0.185  $\chi^2/\text{NDF}$ : 263981.8/26

Left Out: 1063.600 $\pm$ 0.180  $\chi^2/\text{NDF}$ :1617376.3/24

Right Out: 970.822 $\pm$ 0.177  $\chi^2/\text{NDF}$ : 265900.1/30

Left In: 1089.154 $\pm$ 0.190  $\chi^2/\text{NDF}$ :1430478.5/22

Left: 1075.700 $\pm$ 0.131  $\chi^2/\text{NDF}$ : 3057378.7/47

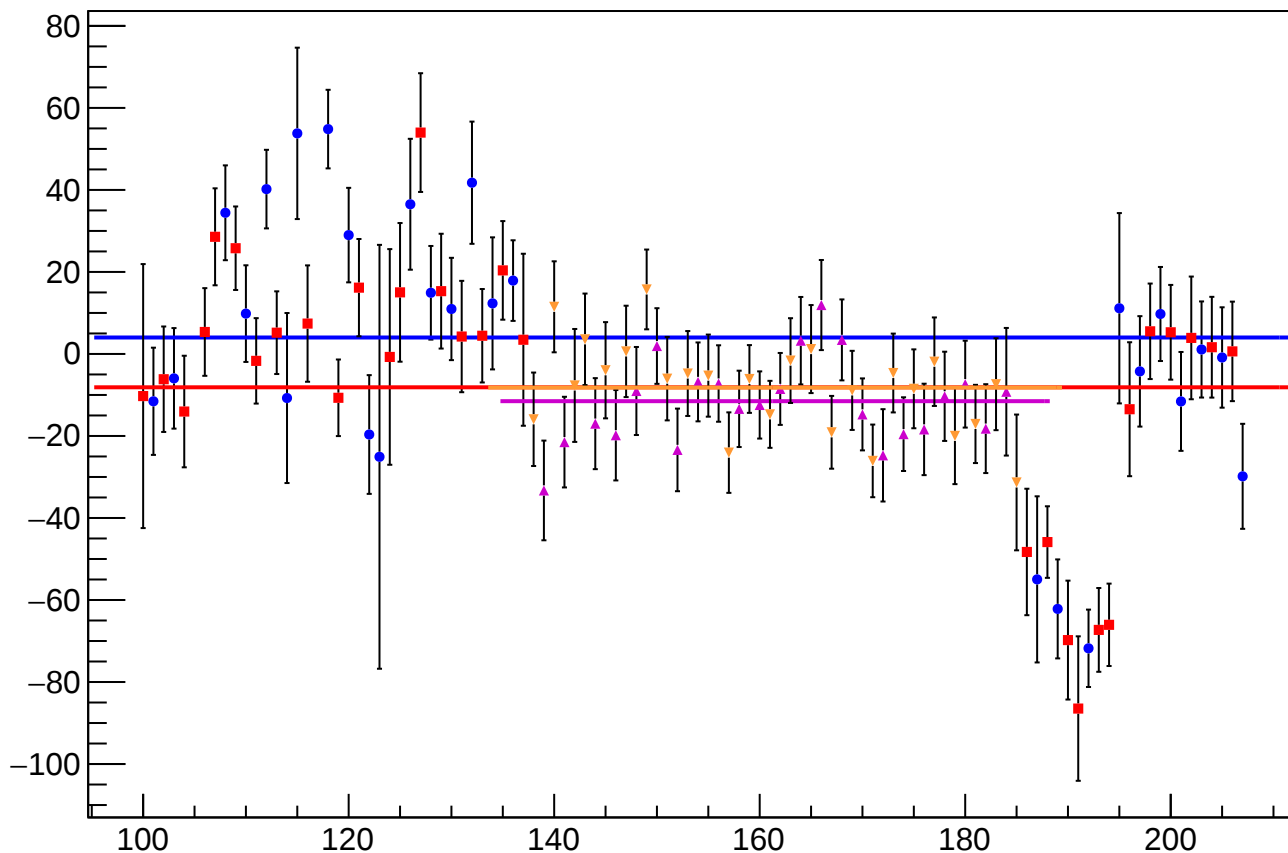
Right: 969.671 $\pm$ 0.128  $\chi^2/\text{NDF}$ : 529970.1/57

In: 1027.042 $\pm$ 0.132  $\chi^2/\text{NDF}$ :1902201.7/49

Out: 1016.404 $\pm$ 0.126  $\chi^2/\text{NDF}$ :2018156.6/55

All: 1021.472 $\pm$ 0.091  $\chi^2/\text{NDF}$ : 3923738.9/10

# diff\_bpm0l08X\_mean vs Slug, Sign Corrected



Right In: 4.013 $\pm$ 2.459  $\chi^2/\text{NDF}$ : 192.2/26

Left Out: -8.195 $\pm$ 2.049  $\chi^2/\text{NDF}$ :26.2/24

Right Out: -8.132 $\pm$ 2.242  $\chi^2/\text{NDF}$ : 196.0/30

Left In: -11.515 $\pm$ 2.122  $\chi^2/\text{NDF}$ :21.0/22

Left: -9.796 $\pm$ 1.474  $\chi^2/\text{NDF}$ : 48.5/47

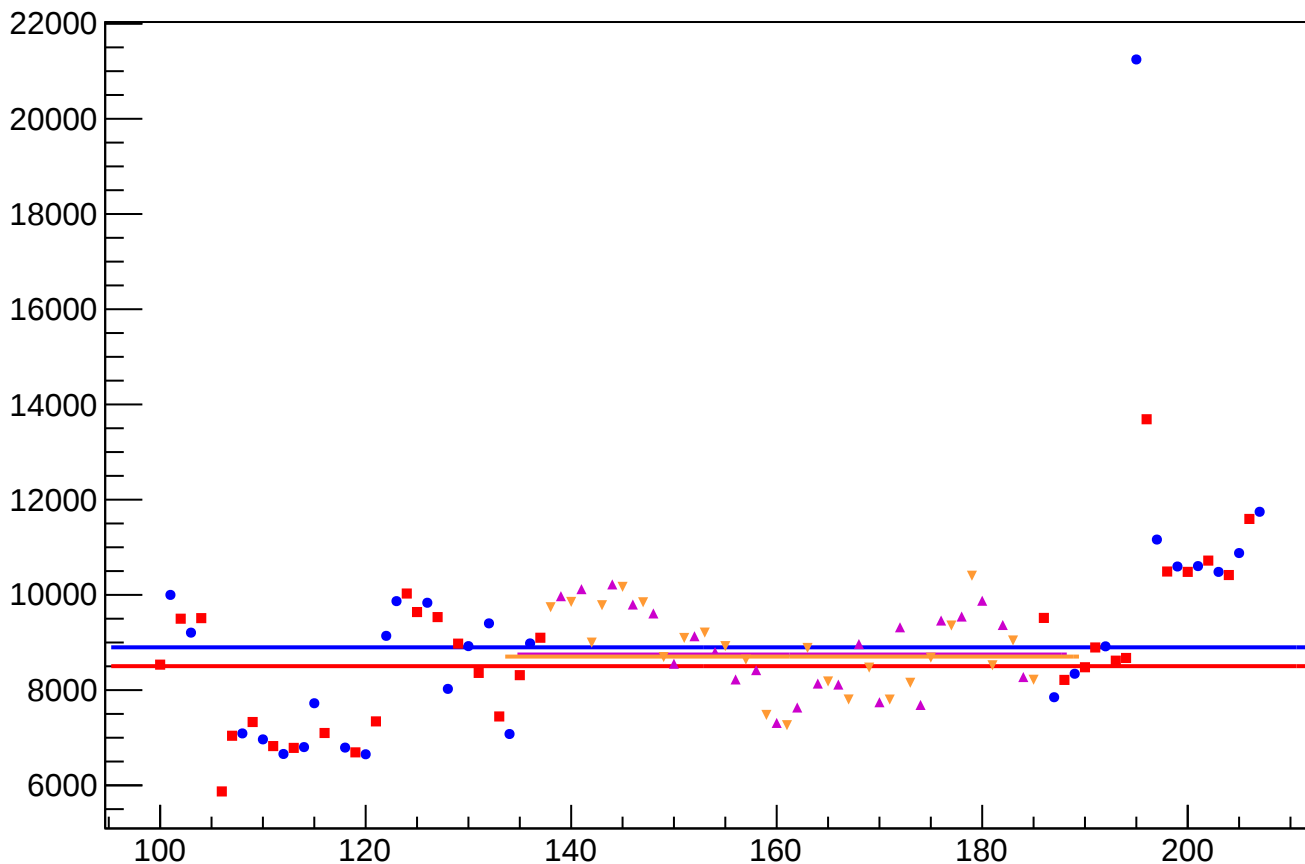
Right: -2.619 $\pm$ 1.656  $\chi^2/\text{NDF}$ : 401.6/57

In: -4.885 $\pm$ 1.607  $\chi^2/\text{NDF}$ :236.1/49

Out: -8.166 $\pm$ 1.512  $\chi^2/\text{NDF}$ :222.2/55

All: -6.625 $\pm$ 1.101  $\chi^2/\text{NDF}$ : 460.5/105

# diff\_bpm0l08X\_rms vs Slug, Sign Corrected



Right In: 8898.804+/-1.738     $\chi^2/\text{NDF}$ : 1378595.2/26

Left Out: 8704.193+/-1.449     $\chi^2/\text{NDF}$ : 332364.3/24

Right Out: 8503.075+/-1.585     $\chi^2/\text{NDF}$ : 1026619.2/30

Left In: 8747.415+/-1.501     $\chi^2/\text{NDF}$ : 347110.4/22

Left: 8725.041+/-1.042     $\chi^2/\text{NDF}$ : 679904.0/47

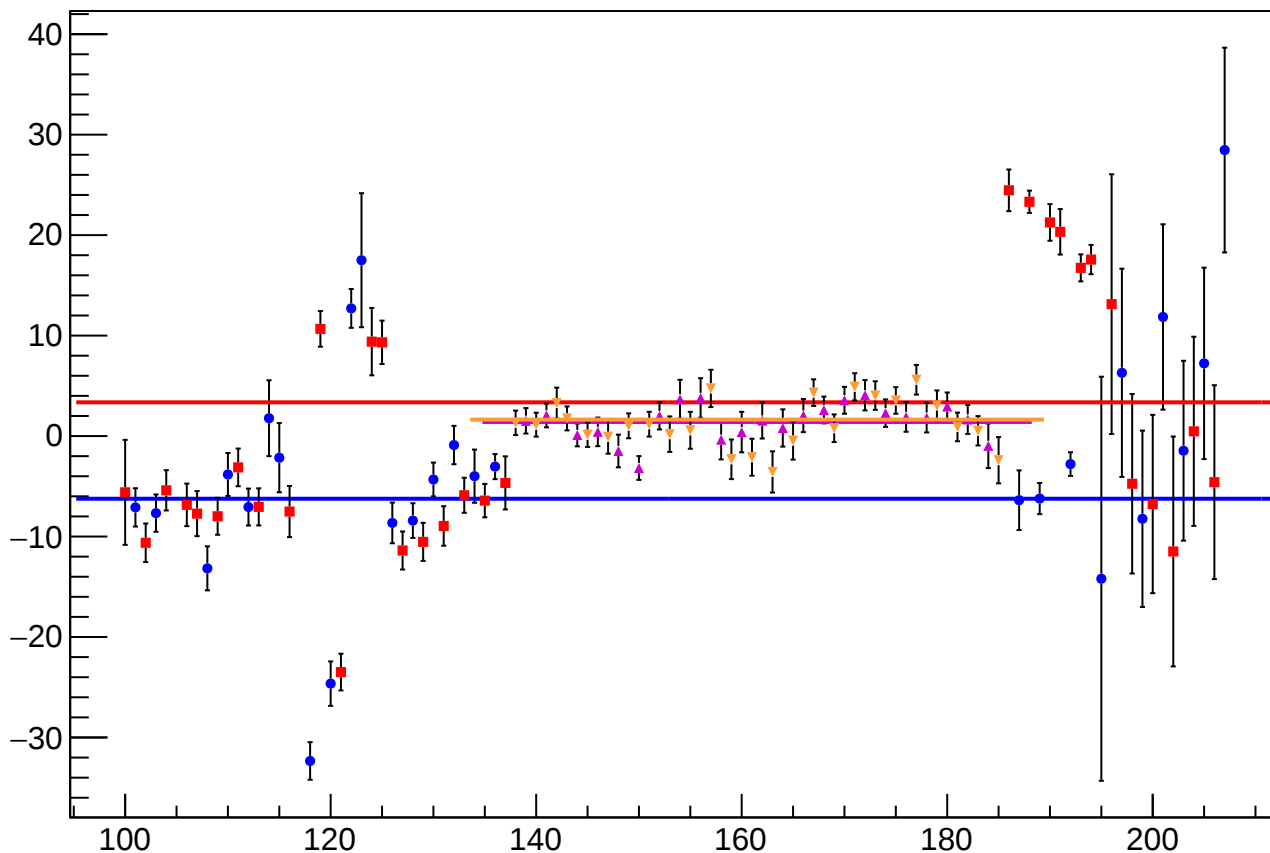
Right: 8682.715+/-1.171     $\chi^2/\text{NDF}$ : 2433509.3/57

In: 8812.059+/-1.136     $\chi^2/\text{NDF}$ : 1730050.9/49

Out: 8612.662+/-1.069     $\chi^2/\text{NDF}$ : 1367755.8/55

All: 8706.337+/-0.779     $\chi^2/\text{NDF}$ : 3114142.1/100

# diff\_bpm0l08Y\_mean vs Slug, Sign Corrected



Right In: -6.238 $\pm$ 0.425  $\chi^2/\text{NDF}$ : 437.9/26

Left Out: 1.639 $\pm$ 0.294  $\chi^2/\text{NDF}$ :51.3/24

Right Out: 3.359 $\pm$ 0.373  $\chi^2/\text{NDF}$ : 1471.0/30

Left In: 1.404 $\pm$ 0.309  $\chi^2/\text{NDF}$ :34.1/22

Left: 1.528 $\pm$ 0.213  $\chi^2/\text{NDF}$ : 85.8/47

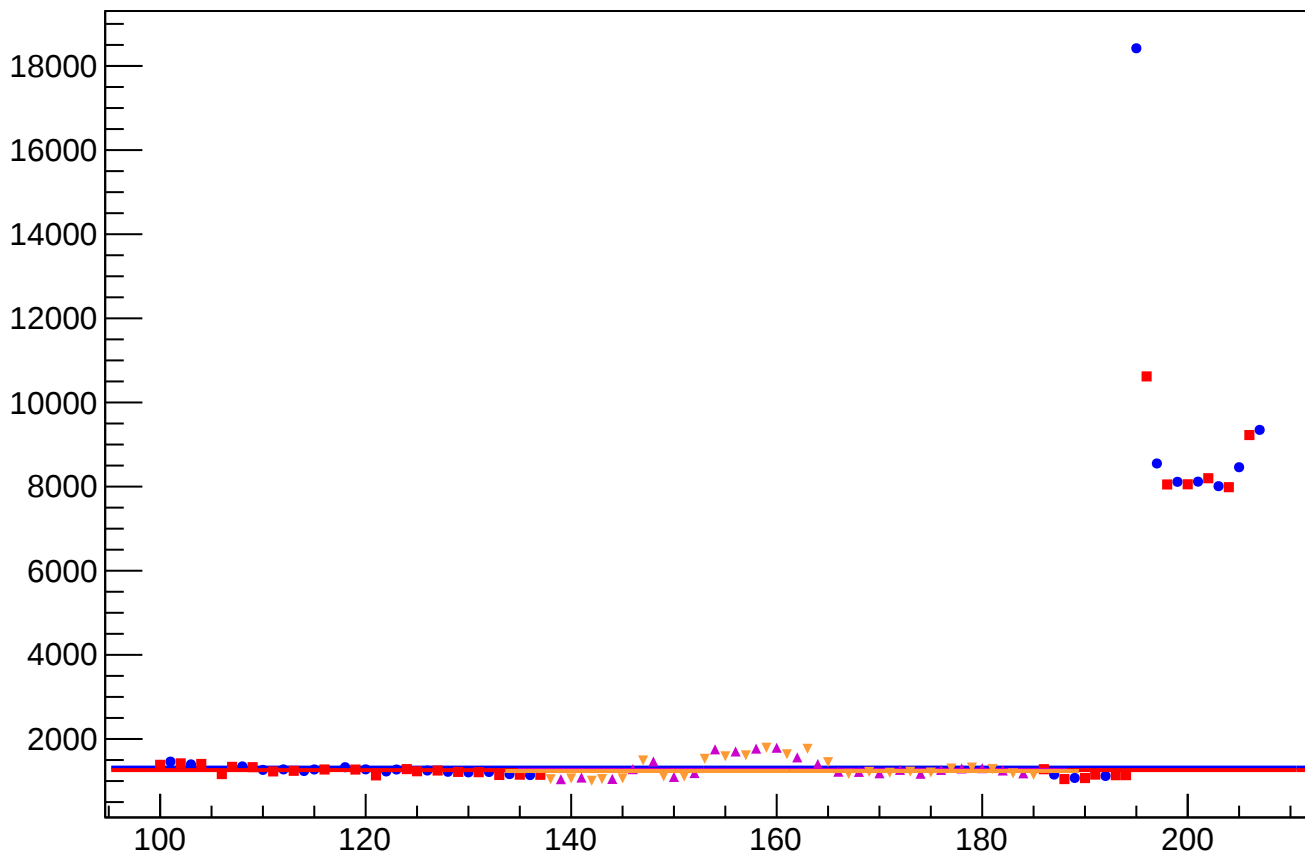
Right: -0.812 $\pm$ 0.280  $\chi^2/\text{NDF}$ : 2197.3/57

In: -1.239 $\pm$ 0.250  $\chi^2/\text{NDF}$ :683.6/49

Out: 2.298 $\pm$ 0.231  $\chi^2/\text{NDF}$ :1535.5/55

All: 0.671 $\pm$ 0.169  $\chi^2/\text{NDF}$ : 2327.3/105

# diff\_bpm0l08Y\_rms vs Slug, Sign Corrected



Right In: 1319.530+/-0.300  $\chi^2/\text{NDF}$ : 8396378.9/26

Left Out: 1238.437+/-0.208  $\chi^2/\text{NDF}$ :965173.0/24

Right Out: 1260.414+/-0.263  $\chi^2/\text{NDF}$ : 6696361.7/30

Left In: 1265.673+/-0.218  $\chi^2/\text{NDF}$ :845157.0/22

Left: 1251.361+/-0.151  $\chi^2/\text{NDF}$ : 1818496.6/47

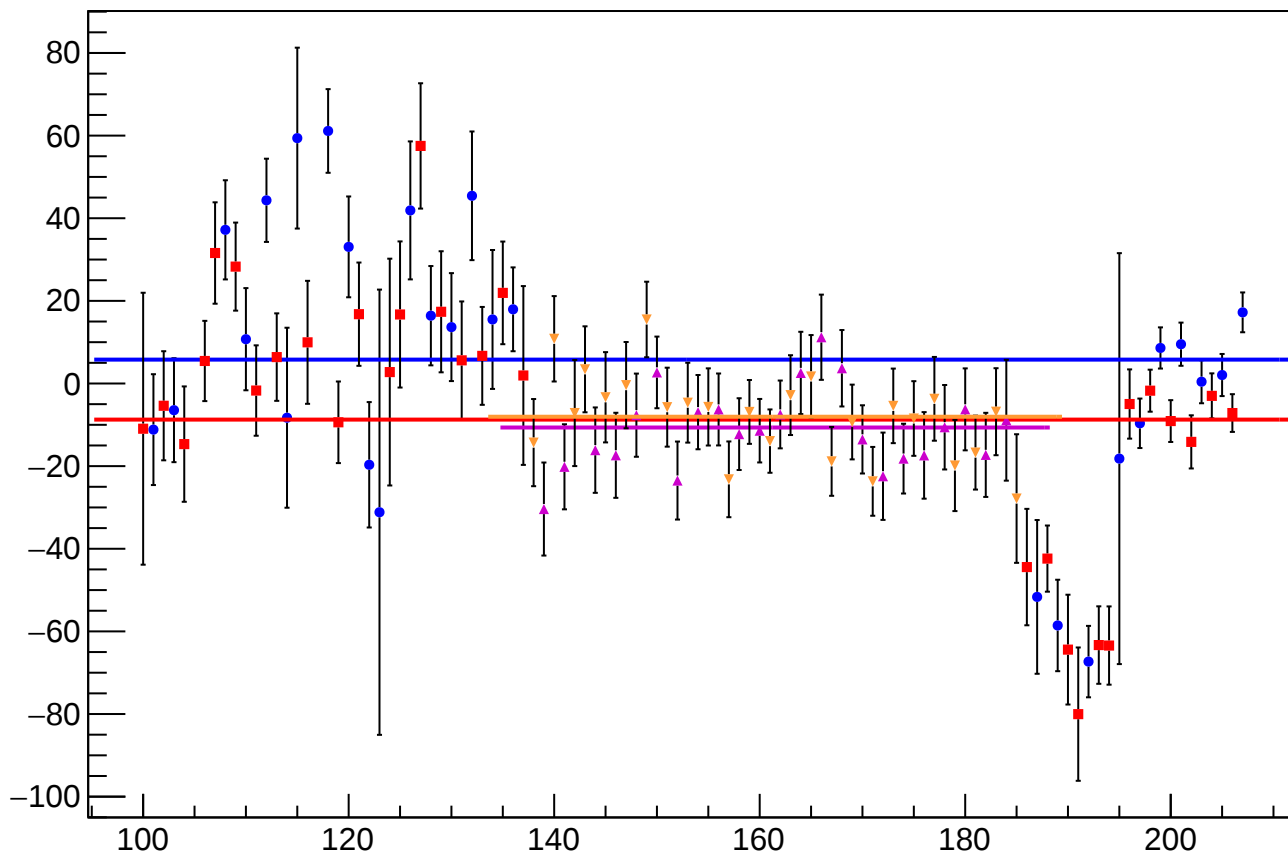
Right: 1286.110+/-0.198  $\chi^2/\text{NDF}$ : 15114620.5/57

In: 1284.298+/-0.177  $\chi^2/\text{NDF}$ :9262549.7/49

Out: 1246.855+/-0.163  $\chi^2/\text{NDF}$ :7665826.8/55

All: 1264.076+/-0.120  $\chi^2/\text{NDF}$ : 16952624.7/131

# diff\_bpm0l09X\_mean vs Slug, Sign Corrected



Right In:  $5.781 \pm 1.709$   $\chi^2/\text{NDF}$ : 212.6/26

Left Out:  $-8.042 \pm 1.918$   $\chi^2/\text{NDF}$ : 26.3/24

Right Out:  $-8.738 \pm 1.665$   $\chi^2/\text{NDF}$ : 199.4/30

Left In:  $-10.653 \pm 1.988$   $\chi^2/\text{NDF}$ : 21.4/22

Left:  $-9.301 \pm 1.380$   $\chi^2/\text{NDF}$ : 48.6/47

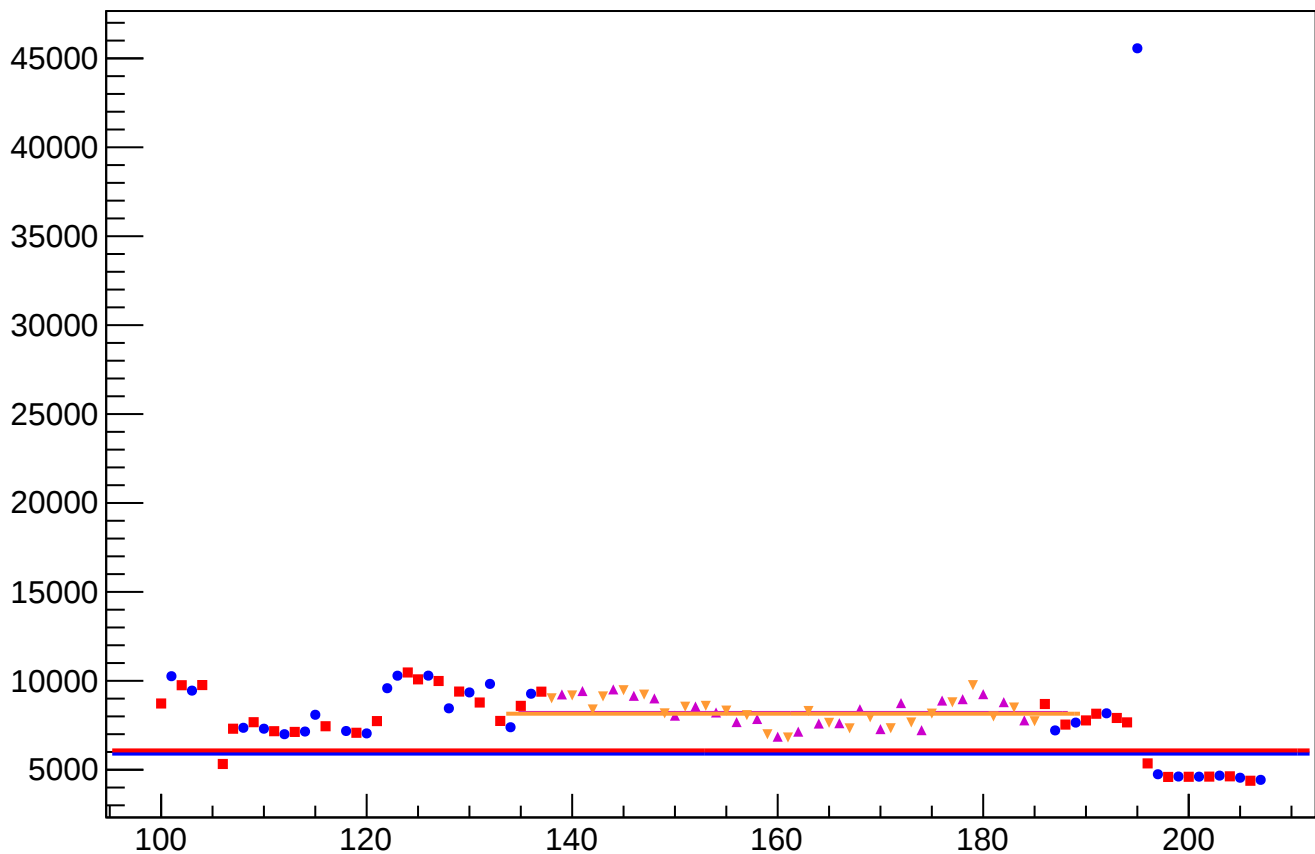
Right:  $-1.671 \pm 1.193$   $\chi^2/\text{NDF}$ : 449.0/57

In:  $-1.206 \pm 1.296$   $\chi^2/\text{NDF}$ : 273.3/49

Out:  $-8.439 \pm 1.257$   $\chi^2/\text{NDF}$ : 225.8/55

All:  $-4.932 \pm 0.902$   $\chi^2/\text{NDF}$ : 515.1/105

# diff\_bpm0l09X\_rms vs Slug, Sign Corrected



Right In: 5908.288+/-1.209  $\chi^2/\text{NDF}$ : 3624622.0/26

Left Out: 8151.489+/-1.356  $\chi^2/\text{NDF}$ : 321803.3/24

Right Out: 6087.231+/-1.177  $\chi^2/\text{NDF}$ : 2334679.2/30

Left In: 8193.636+/-1.405  $\chi^2/\text{NDF}$ : 338377.6/22

Left: 8171.814+/-0.976  $\chi^2/\text{NDF}$ : 660646.6/47

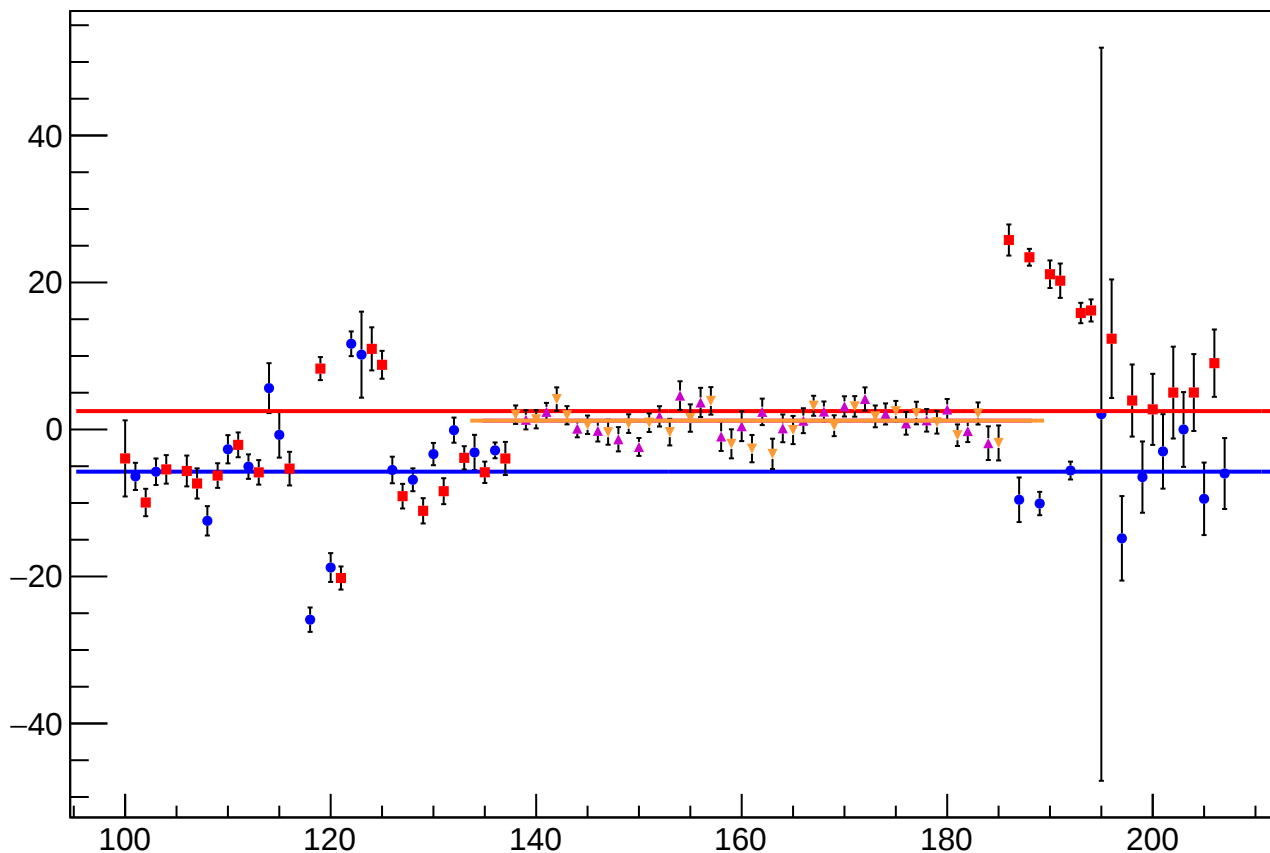
Right: 6000.128+/-0.843  $\chi^2/\text{NDF}$ : 5970551.9/57

In: 6879.867+/-0.916  $\chi^2/\text{NDF}$ : 5483046.7/49

Out: 6973.981+/-0.889  $\chi^2/\text{NDF}$ : 3977752.7/55

All: 6928.352+/-0.638  $\chi^2/\text{NDF}$ : 9466233.5/100

# diff\_bpm0l09Y\_mean vs Slug, Sign Corrected



Right In: -5.739 $\pm$ 0.388  $\chi^2/\text{NDF}$ : 370.5/26

Left Out: 1.203 $\pm$ 0.302  $\chi^2/\text{NDF}$ : 29.9/24

Right Out: 2.500 $\pm$ 0.349  $\chi^2/\text{NDF}$ : 1410.6/30

Left In: 1.198 $\pm$ 0.318  $\chi^2/\text{NDF}$ : 31.2/22

Left: 1.201 $\pm$ 0.219  $\chi^2/\text{NDF}$ : 61.1/47

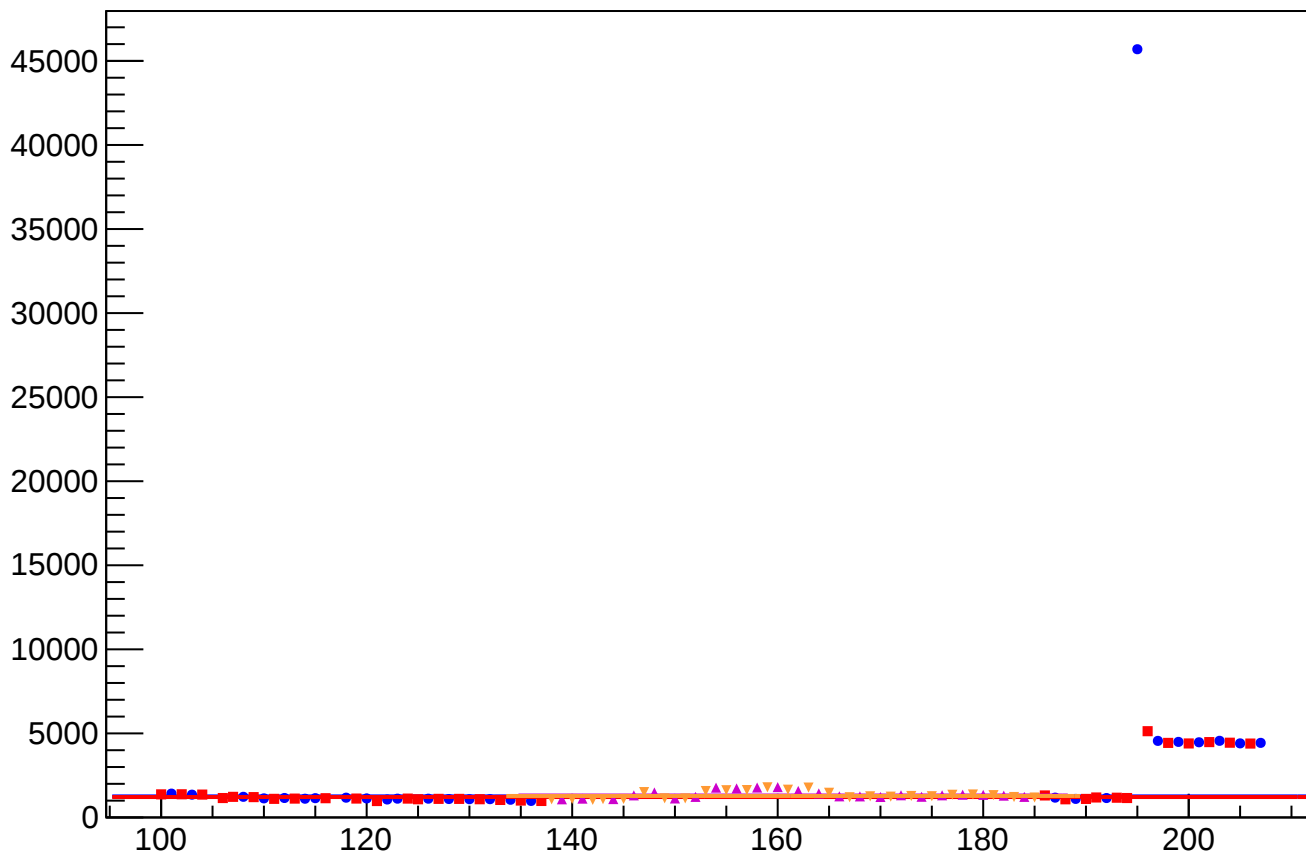
Right: -1.179 $\pm$ 0.259  $\chi^2/\text{NDF}$ : 2030.5/57

In: -1.590 $\pm$ 0.246  $\chi^2/\text{NDF}$ : 592.7/49

Out: 1.760 $\pm$ 0.228  $\chi^2/\text{NDF}$ : 1448.4/55

All: 0.209 $\pm$ 0.167  $\chi^2/\text{NDF}$ : 2140.7/105

# diff\_bpm0l09Y\_rms vs Slug, Sign Corrected



Right In: 1251.956 $\pm$ 0.274  $\chi^2/\text{NDF}$ : 6808293.5/26

Left Out: 1277.916 $\pm$ 0.214  $\chi^2/\text{NDF}$ : 878127.9/24

Right Out: 1214.699 $\pm$ 0.246  $\chi^2/\text{NDF}$ : 4745596.1/30

Left In: 1305.541 $\pm$ 0.225  $\chi^2/\text{NDF}$ : 760450.8/22

Left: 1291.030 $\pm$ 0.155  $\chi^2/\text{NDF}$ : 1646499.4/47

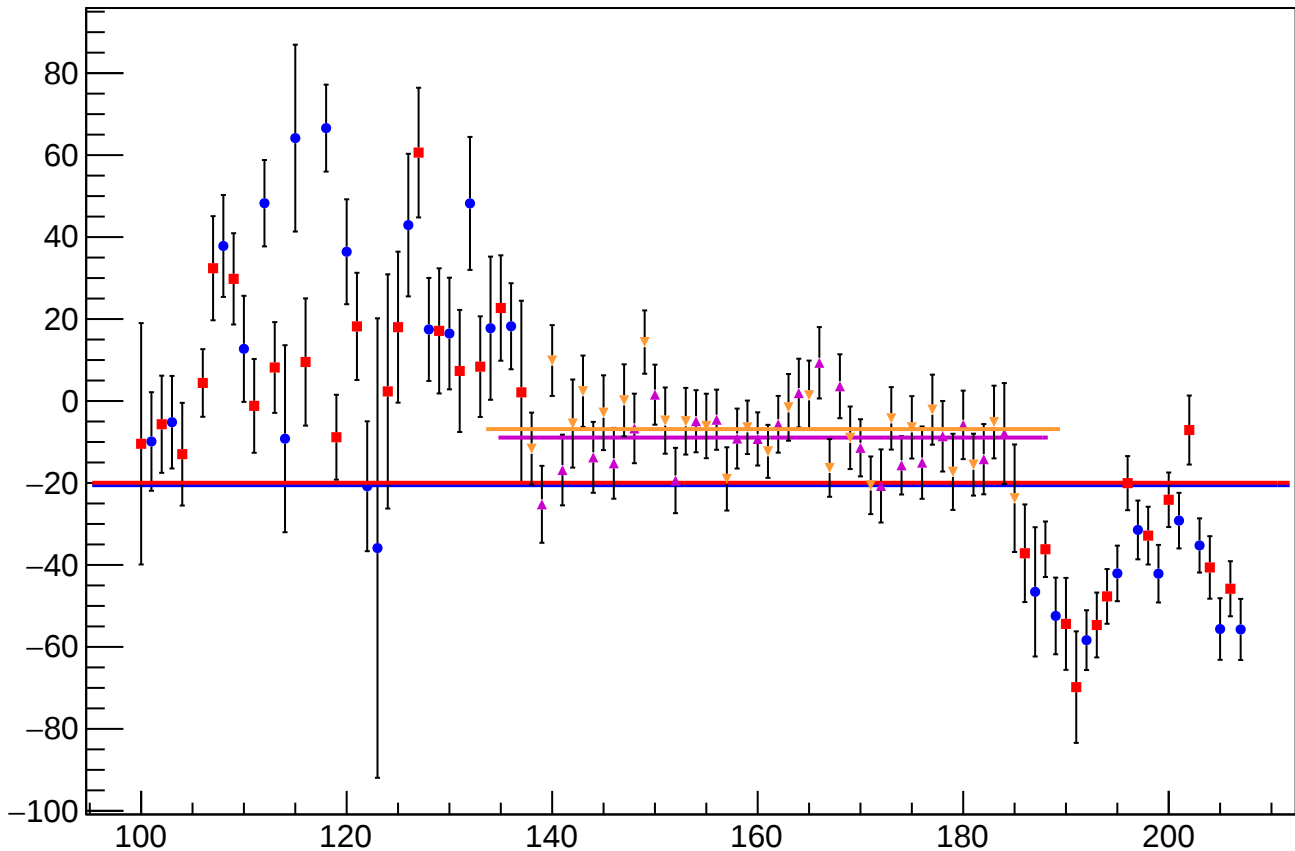
Right: 1231.333 $\pm$ 0.183  $\chi^2/\text{NDF}$ : 11564092.8/57

In: 1284.003 $\pm$ 0.174  $\chi^2/\text{NDF}$ : 7591548.1/49

Out: 1250.762 $\pm$ 0.162  $\chi^2/\text{NDF}$ : 5661257.8/55

All: 1266.151 $\pm$ 0.118  $\chi^2/\text{NDF}$ : 13272412.5/100

# diff\_bpm0l10X\_mean vs Slug, Sign Corrected



Right In:  $-20.535 \pm 1.937$   $\chi^2/\text{NDF}$ : 355.3/26

Left Out:  $-6.854 \pm 1.616$   $\chi^2/\text{NDF}$ : 28.7/24

Right Out:  $-19.950 \pm 1.796$   $\chi^2/\text{NDF}$ : 222.6/30

Left In:  $-8.923 \pm 1.674$   $\chi^2/\text{NDF}$ : 21.8/22

Left:  $-7.852 \pm 1.163$   $\chi^2/\text{NDF}$ : 51.3/47

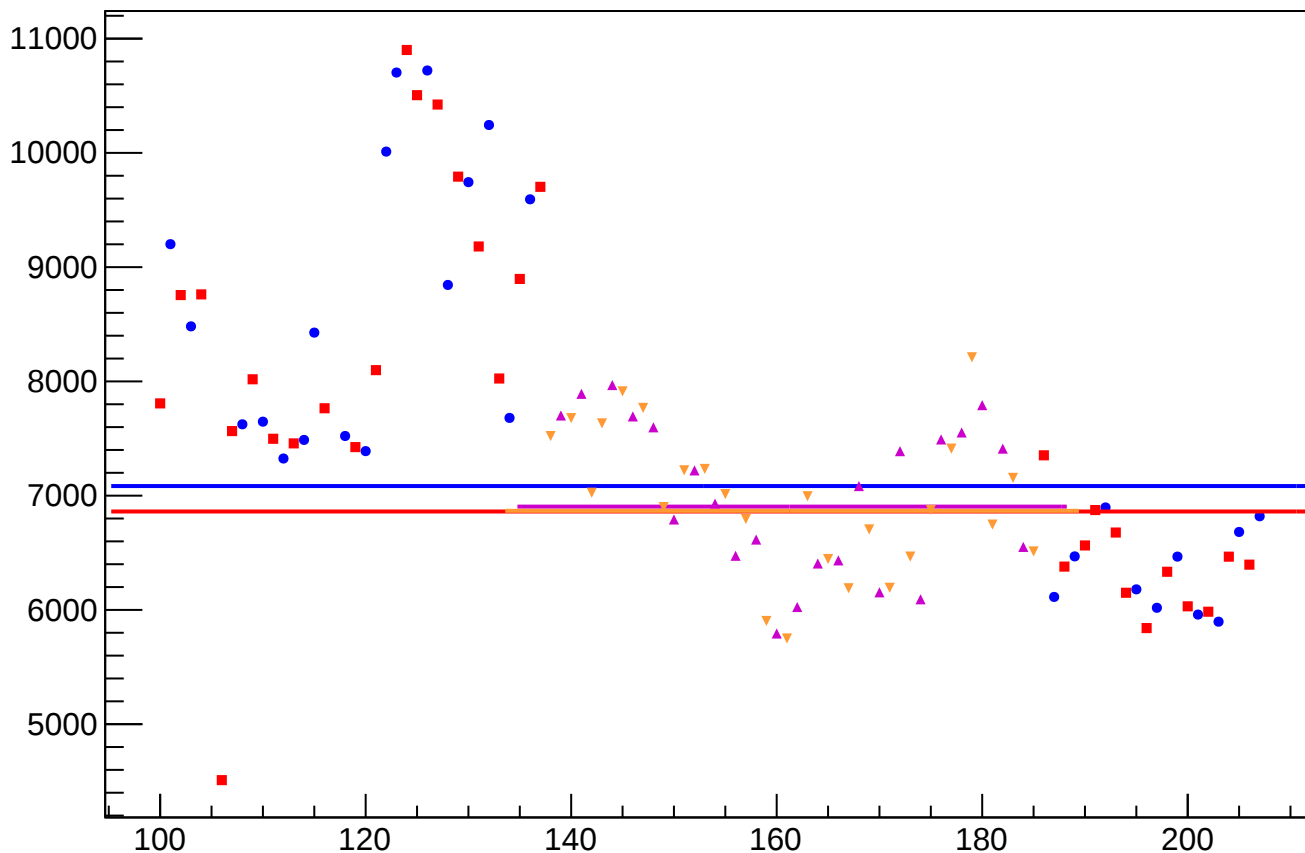
Right:  $-20.221 \pm 1.317$   $\chi^2/\text{NDF}$ : 578.0/57

In:  $-13.889 \pm 1.267$   $\chi^2/\text{NDF}$ : 397.7/49

Out:  $-12.711 \pm 1.201$   $\chi^2/\text{NDF}$ : 280.7/55

All:  $-13.269 \pm 0.872$   $\chi^2/\text{NDF}$ : 678.8/105

# diff\_bpm0l10X\_rms vs Slug, Sign Corrected



Right In: 7084.025+/-1.370  $\chi^2/\text{NDF}$ : 825767.0/26

Left Out: 6867.371+/-1.142  $\chi^2/\text{NDF}$ : 306895.0/24

Right Out: 6861.368+/-1.270  $\chi^2/\text{NDF}$ : 939437.1/30

Left In: 6904.117+/-1.184  $\chi^2/\text{NDF}$ : 325912.6/22

Left: 6885.088+/-0.822  $\chi^2/\text{NDF}$ : 633306.5/47

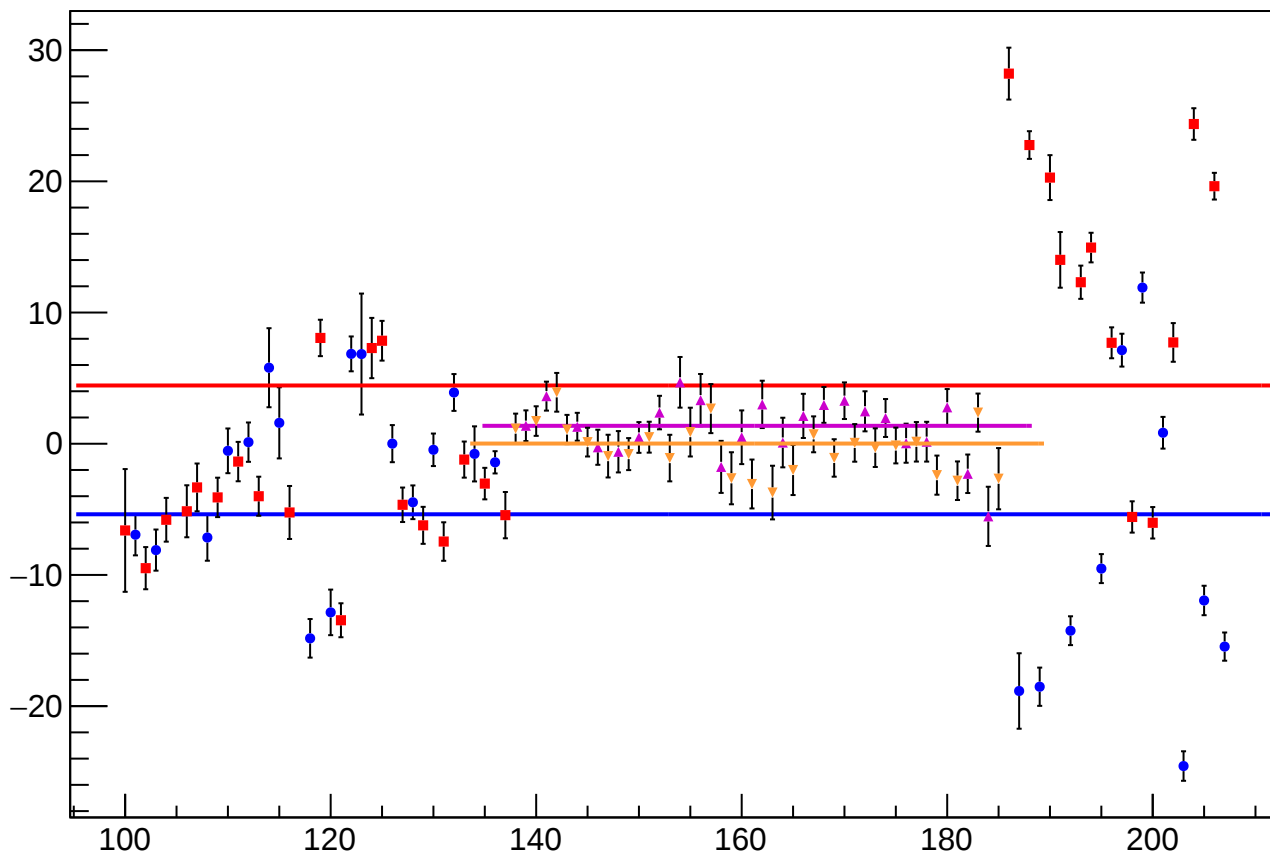
Right: 6964.299+/-0.931  $\chi^2/\text{NDF}$ : 1779414.0/57

In: 6981.053+/-0.896  $\chi^2/\text{NDF}$ : 1161554.6/49

Out: 6864.687+/-0.849  $\chi^2/\text{NDF}$ : 1246344.4/55

All: 6919.780+/-0.616  $\chi^2/\text{NDF}$ : 2416786.8/100

# diff\_bpm0l10Y\_mean vs Slug, Sign Corrected



Right In: -5.377 $\pm$ 0.265  $\chi^2/\text{NDF}$ : 1247.8/26

Left Out: 0.014 $\pm$ 0.290  $\chi^2/\text{NDF}$ :35.0/24

Right Out: 4.440 $\pm$ 0.257  $\chi^2/\text{NDF}$ : 2058.2/30

Left In: 1.365 $\pm$ 0.306  $\chi^2/\text{NDF}$ :38.5/22

Left: 0.654 $\pm$ 0.210  $\chi^2/\text{NDF}$ : 83.8/47

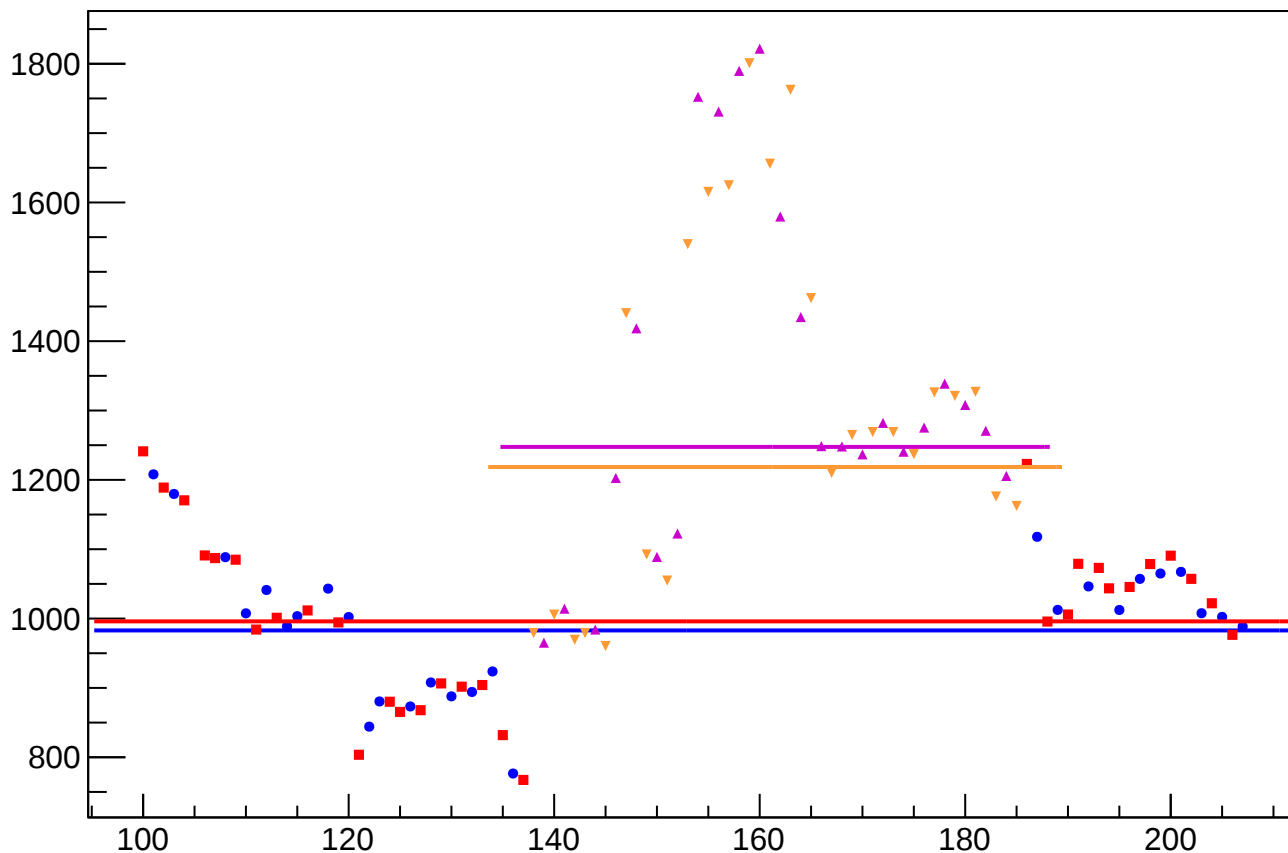
Right: -0.318 $\pm$ 0.185  $\chi^2/\text{NDF}$ : 4012.4/57

In: -2.480 $\pm$ 0.200  $\chi^2/\text{NDF}$ :1564.1/49

Out: 2.491 $\pm$ 0.192  $\chi^2/\text{NDF}$ :2223.7/55

All: 0.105 $\pm$ 0.139  $\chi^2/\text{NDF}$ : 4108.3/105

# diff\_bpm0l10Y\_rms vs Slug, Sign Corrected



Right In: 982.883 $\pm$ 0.187  $\chi^2/\text{NDF}$ : 310179.4/26

Left Out: 1218.543 $\pm$ 0.205  $\chi^2/\text{NDF}$ : 1265847.5/24

Right Out: 995.956 $\pm$ 0.182  $\chi^2/\text{NDF}$ : 323549.6/30

Left In: 1247.538 $\pm$ 0.216  $\chi^2/\text{NDF}$ : 1073390.3/22

Left: 1232.283 $\pm$ 0.149  $\chi^2/\text{NDF}$ : 2348717.2/47

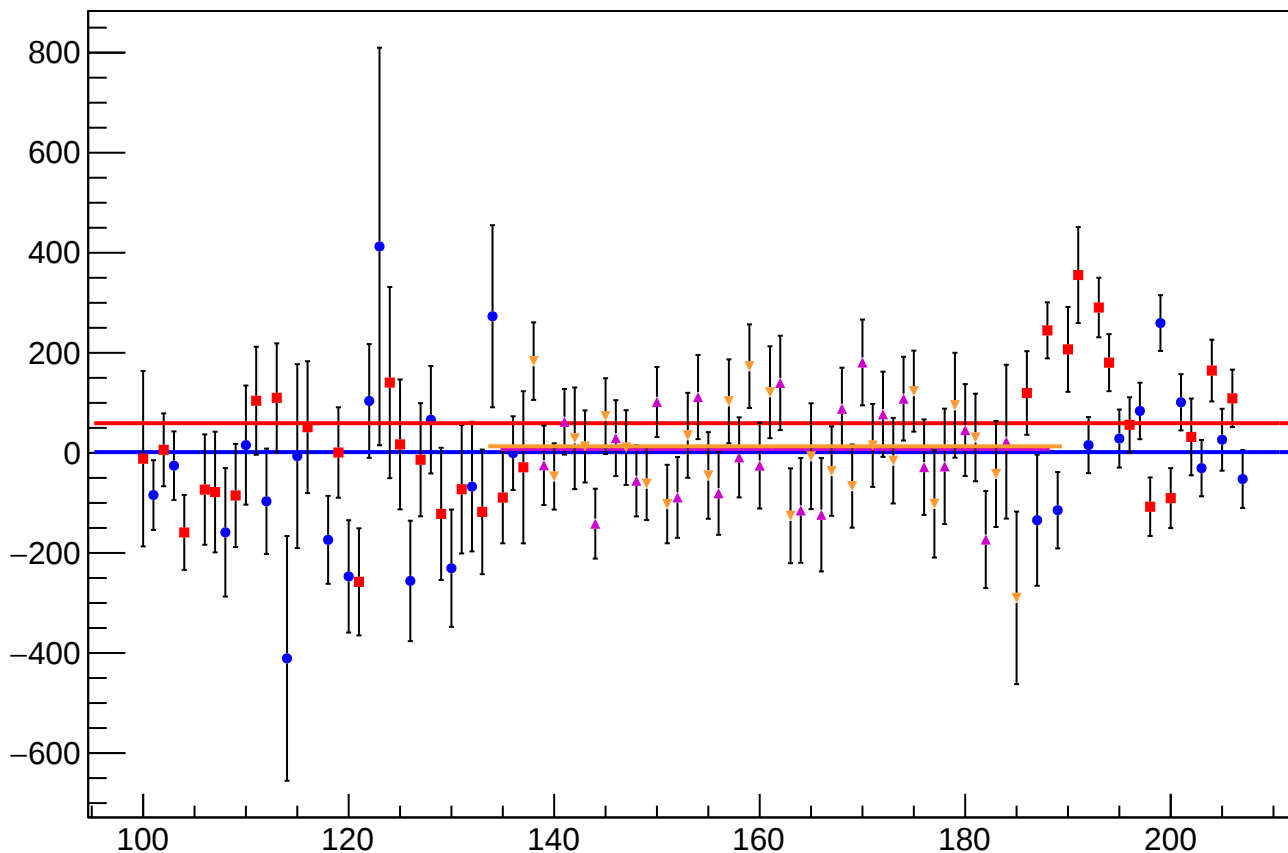
Right: 989.620 $\pm$ 0.131  $\chi^2/\text{NDF}$ : 636234.3/57

In: 1096.591 $\pm$ 0.142  $\chi^2/\text{NDF}$ : 2239646.1/49

Out: 1093.958 $\pm$ 0.136  $\chi^2/\text{NDF}$ : 2249214.6/55

All: 1095.222 $\pm$ 0.098  $\chi^2/\text{NDF}$ : 4489040.6/10

# diff\_bpm0r03X\_mean vs Slug, Sign Corrected



Right In: 1.548 $\pm$ 15.510  $\chi^2/\text{NDF}$ : 60.8/26

Left Out: 13.207 $\pm$ 17.146  $\chi^2/\text{NDF}$ : 26.8/24

Right Out: 59.321 $\pm$ 14.859  $\chi^2/\text{NDF}$ : 94.0/30

Left In: 7.618 $\pm$ 17.672  $\chi^2/\text{NDF}$ : 28.1/22

Left: 10.497 $\pm$ 12.306  $\chi^2/\text{NDF}$ : 55.0/47

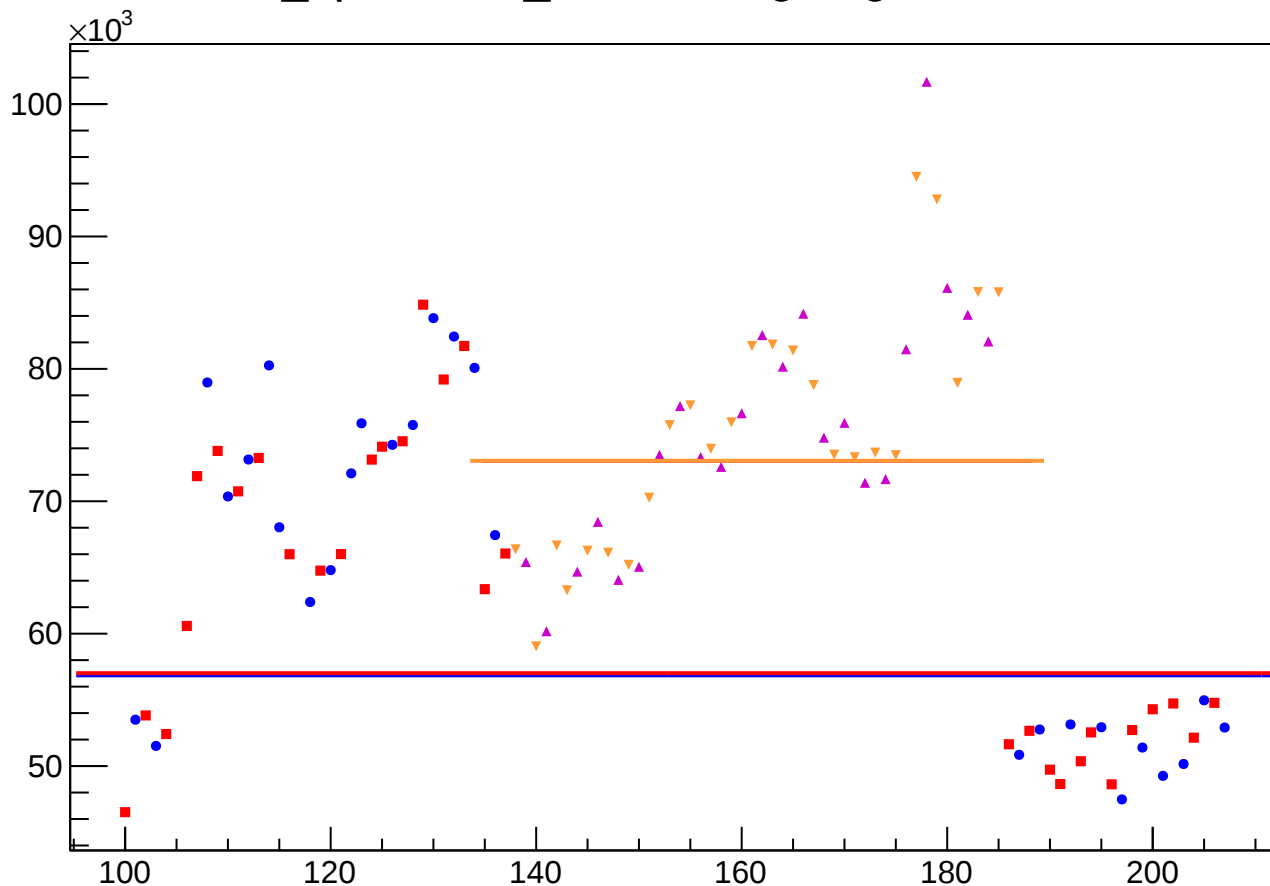
Right: 31.672 $\pm$ 10.730  $\chi^2/\text{NDF}$ : 162.1/57

In: 4.189 $\pm$ 11.657  $\chi^2/\text{NDF}$ : 89.0/49

Out: 39.542 $\pm$ 11.229  $\chi^2/\text{NDF}$ : 124.9/55

All: 22.526 $\pm$ 8.087  $\chi^2/\text{NDF}$ : 218.7/105

# diff\_bpm0r03X\_rms vs Slug, Sign Corrected



Right In:  $56852.487 \pm 10.967$

$\chi^2/\text{NDF}: 773977.0/26$

Left:  $73050.085 \pm 8.701$

$\chi^2/\text{NDF}: 936576.6/47$

Left Out:  $73054.401 \pm 12.124$

$\chi^2/\text{NDF}: 473050.9/24$

Right:  $56935.914 \pm 7.587$

$\chi^2/\text{NDF}: 1500830.7/57$

Right Out:  $57012.488 \pm 10.507$

$\chi^2/\text{NDF}: 726742.7/30$

In:  $63898.466 \pm 8.243$

$\chi^2/\text{NDF}: 2186109.6/49$

Out:  $63892.901 \pm 7.940$

$\chi^2/\text{NDF}: 2199608.1/55$

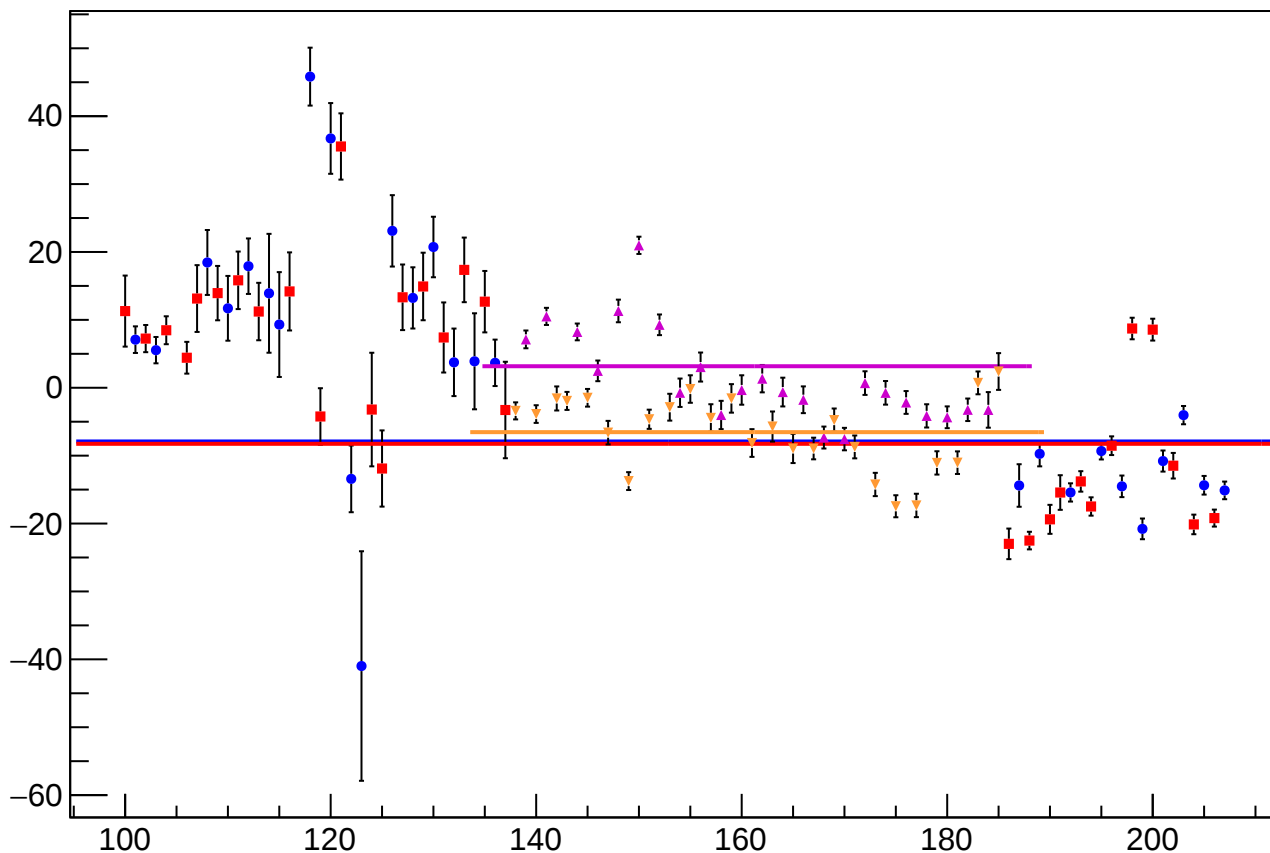
Left In:  $73045.500 \pm 12.496$

$\chi^2/\text{NDF}: 463525.5/22$

All:  $63895.579 \pm 5.719$

$\chi^2/\text{NDF}: 4385717.9/13$

# diff\_bpm0r03Y\_mean vs Slug, Sign Corrected



Right In:  $-7.912 \pm 0.421$   $\chi^2/\text{NDF}$ : 750.9/26

Left Out:  $-6.537 \pm 0.332$   $\chi^2/\text{NDF}$ : 252.7/24

Right Out:  $-8.255 \pm 0.402$   $\chi^2/\text{NDF}$ : 1101.9/30

Left In:  $3.171 \pm 0.346$   $\chi^2/\text{NDF}$ : 487.3/22

Left:  $-1.892 \pm 0.240$   $\chi^2/\text{NDF}$ : 1149.5/47

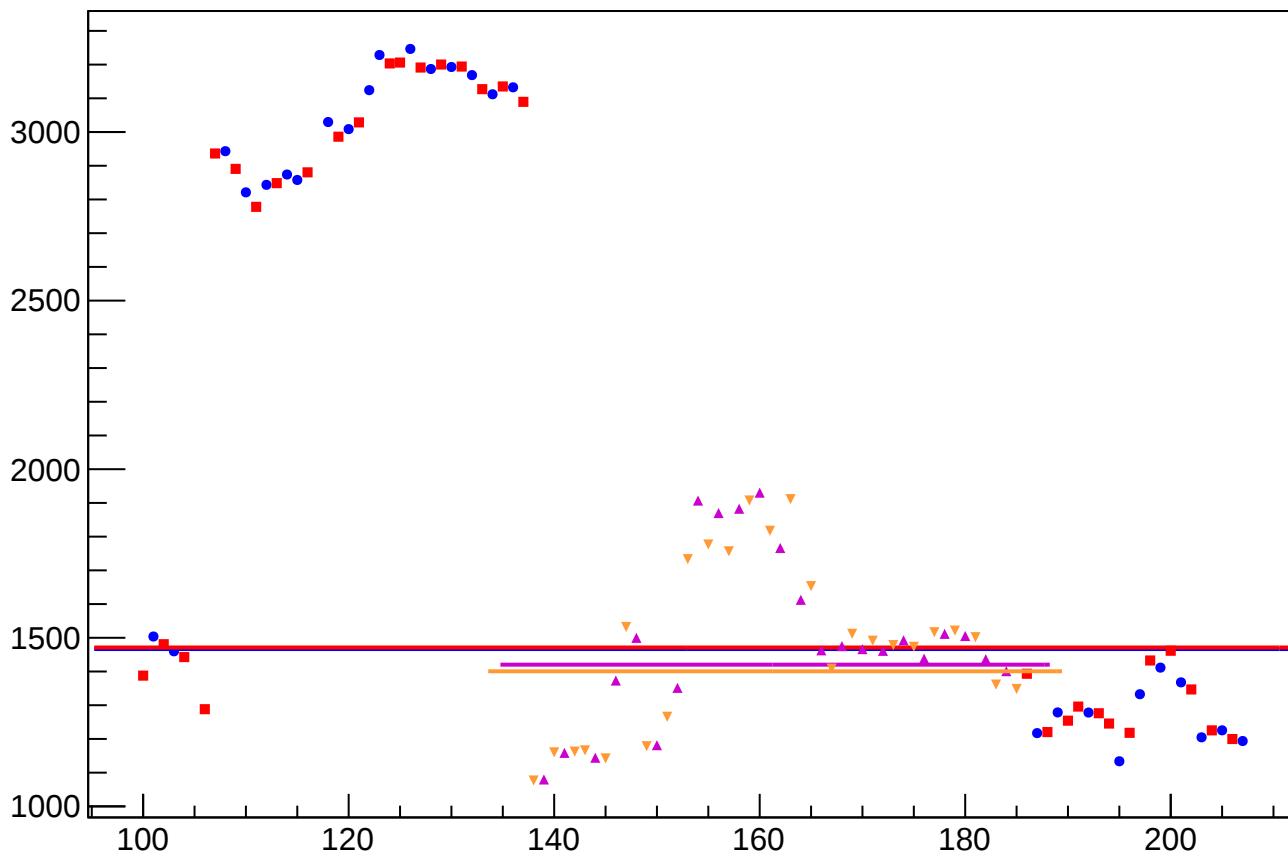
Right:  $-8.092 \pm 0.291$   $\chi^2/\text{NDF}$ : 1853.2/57

In:  $-1.303 \pm 0.268$   $\chi^2/\text{NDF}$ : 1651.3/49

Out:  $-7.234 \pm 0.256$   $\chi^2/\text{NDF}$ : 1365.5/55

All:  $-4.401 \pm 0.185$   $\chi^2/\text{NDF}$ : 3273.5/105

# diff\_bpm0r03Y\_rms vs Slug, Sign Corrected



Right In: 1466.617 $\pm$ 0.298  $\chi^2/\text{NDF}$ : 3494640.3/26

Left Out: 1400.637 $\pm$ 0.235  $\chi^2/\text{NDF}$ :1037921.6/24

Right Out: 1471.225 $\pm$ 0.284  $\chi^2/\text{NDF}$ : 3470955.1/30

Left In: 1420.285 $\pm$ 0.245  $\chi^2/\text{NDF}$ :905186.2/22

Left: 1410.037 $\pm$ 0.169  $\chi^2/\text{NDF}$ : 1946462.8/47

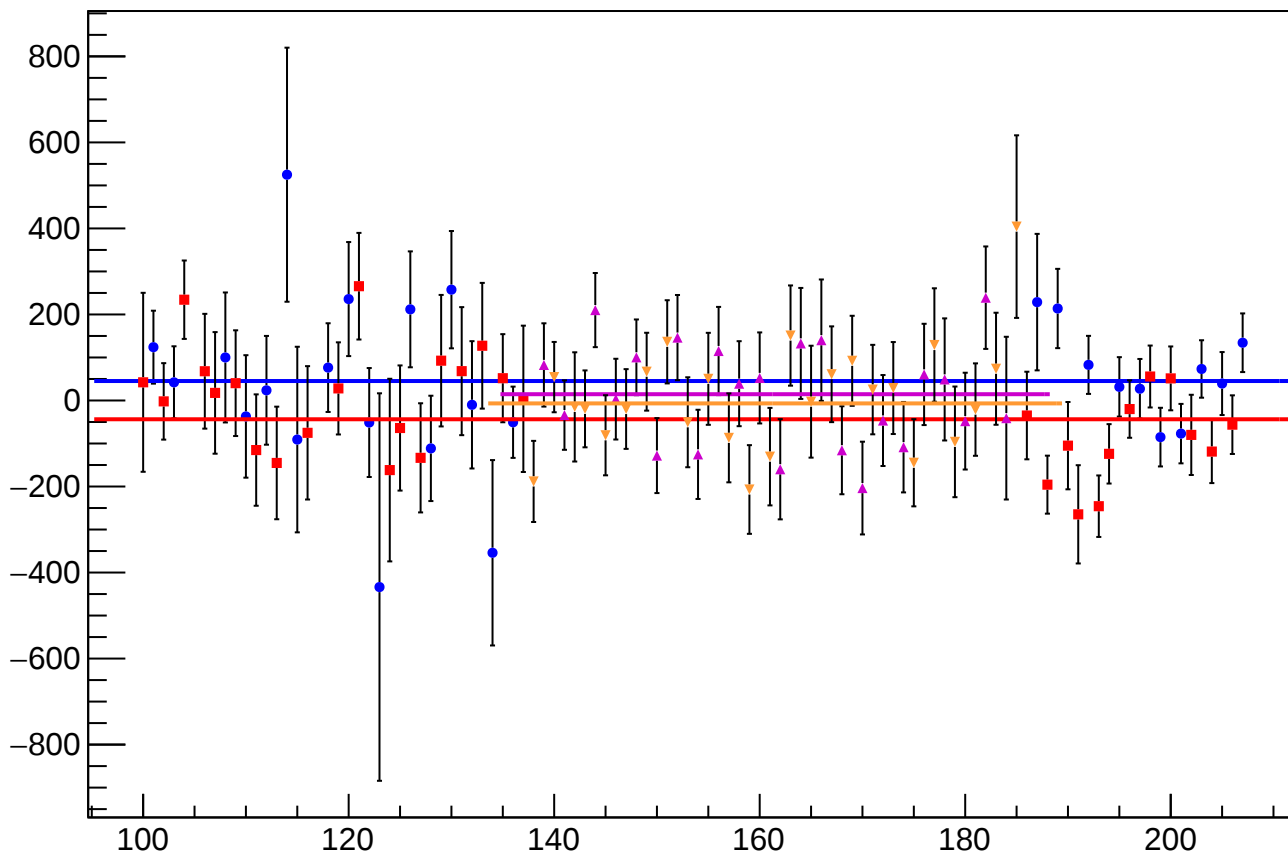
Right: 1469.029 $\pm$ 0.206  $\chi^2/\text{NDF}$ : 6965720.7/57

In: 1438.987 $\pm$ 0.189  $\chi^2/\text{NDF}$ :4414264.6/49

Out: 1429.265 $\pm$ 0.181  $\chi^2/\text{NDF}$ :4545585.1/55

All: 1433.909 $\pm$ 0.131  $\chi^2/\text{NDF}$ : 8961229.2/100

# diff\_bpm0r05X\_mean vs Slug, Sign Corrected



Right In: 45.244 $\pm$ 18.497  $\chi^2$ /NDF: 32.5/26

Left Out: -6.789 $\pm$ 21.213  $\chi^2$ /NDF:24.7/24

Right Out: -43.670 $\pm$ 17.785  $\chi^2$ /NDF: 46.6/30

Left In: 14.611 $\pm$ 21.846  $\chi^2$ /NDF:29.8/22

Left: 3.596 $\pm$ 15.219  $\chi^2$ /NDF: 55.0/47

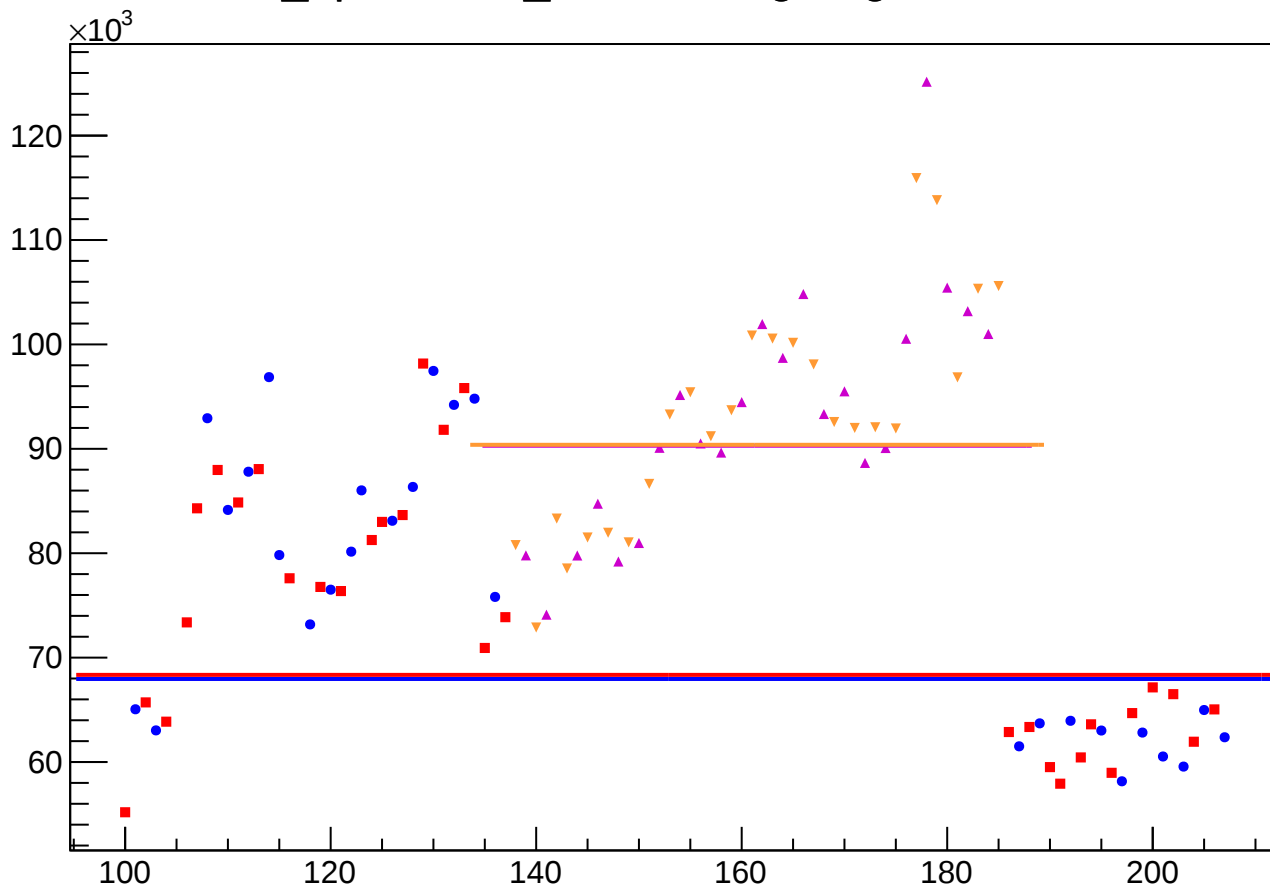
Right: -0.958 $\pm$ 12.820  $\chi^2$ /NDF: 91.2/57

In: 32.453 $\pm$ 14.117  $\chi^2$ /NDF:63.5/49

Out: -28.447 $\pm$ 13.629  $\chi^2$ /NDF:73.1/55

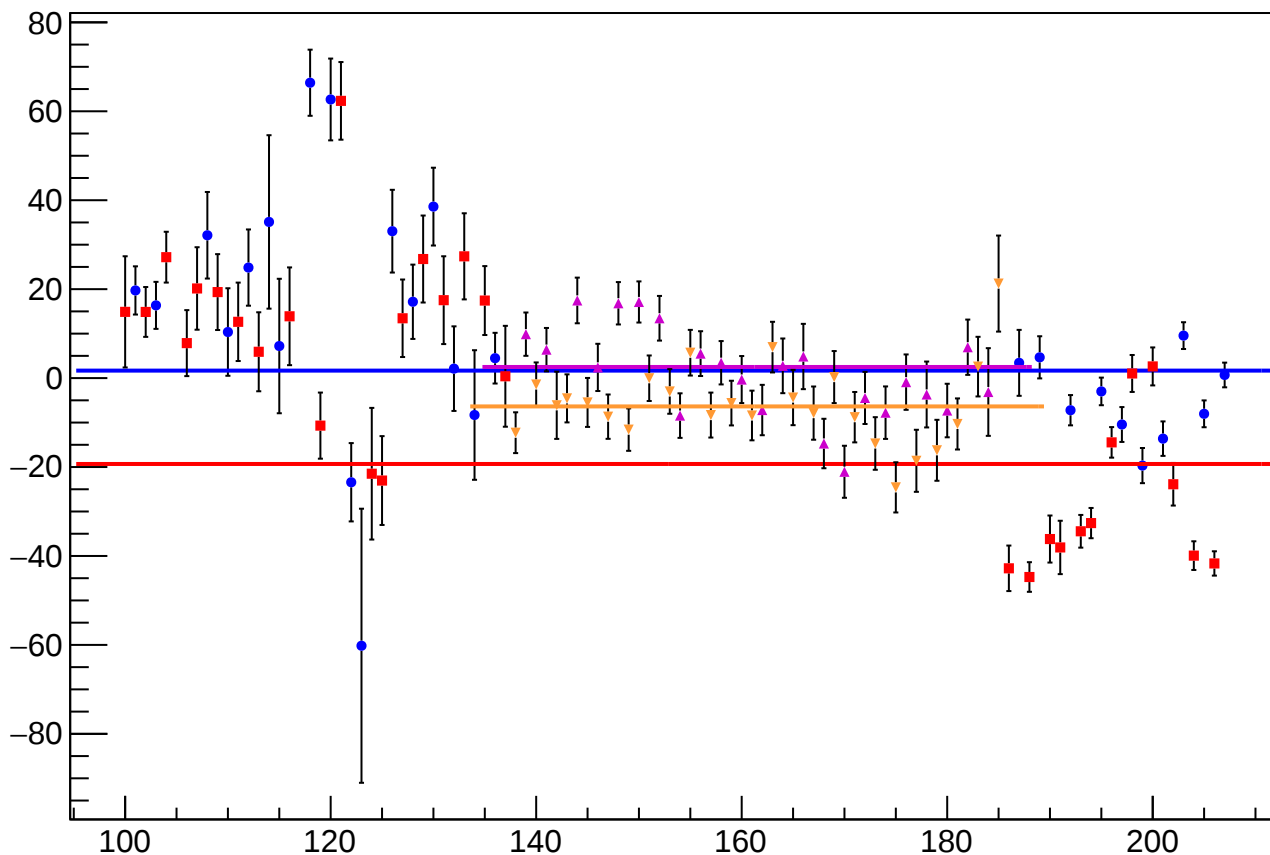
All: 0.932 $\pm$ 9.805  $\chi^2$ /NDF: 146.2/105

# diff\_bpm0r05X\_rms vs Slug, Sign Corrected



|                                   |                                   |                              |                                     |
|-----------------------------------|-----------------------------------|------------------------------|-------------------------------------|
| Right In: 67955.535 $\pm$ 13.080  | $\chi^2/\text{NDF}$ : 623240.0/26 | Left: 90340.563 $\pm$ 10.761 | $\chi^2/\text{NDF}$ : 923003.7/47   |
| Left Out: 90384.853 $\pm$ 15.000  | $\chi^2/\text{NDF}$ : 461648.2/24 | Right: 68159.571 $\pm$ 9.065 | $\chi^2/\text{NDF}$ : 1228460.1/57  |
| Right Out: 68348.197 $\pm$ 12.576 | $\chi^2/\text{NDF}$ : 604751.8/30 | In: 77283.085 $\pm$ 9.982    | $\chi^2/\text{NDF}$ : 2302503.1/49  |
| Left In: 90293.591 $\pm$ 15.448   | $\chi^2/\text{NDF}$ : 461337.5/22 | Out: 77444.339 $\pm$ 9.637   | $\chi^2/\text{NDF}$ : 2333811.7/55  |
|                                   |                                   | All: 77366.547 $\pm$ 6.933   | $\chi^2/\text{NDF}$ : 4636449.9/100 |

# diff\_bpm0r05Y\_mean vs Slug, Sign Corrected



Right In: 1.683 $\pm$ 0.981  $\chi^2/\text{NDF}$ : 286.1/26

Left Out: -6.370 $\pm$ 1.124  $\chi^2/\text{NDF}$ : 45.5/24

Right Out: -19.313 $\pm$ 0.960  $\chi^2/\text{NDF}$ : 673.8/30

Left In: 2.501 $\pm$ 1.156  $\chi^2/\text{NDF}$ : 78.4/22

Left: -2.059 $\pm$ 0.806  $\chi^2/\text{NDF}$ : 154.1/47

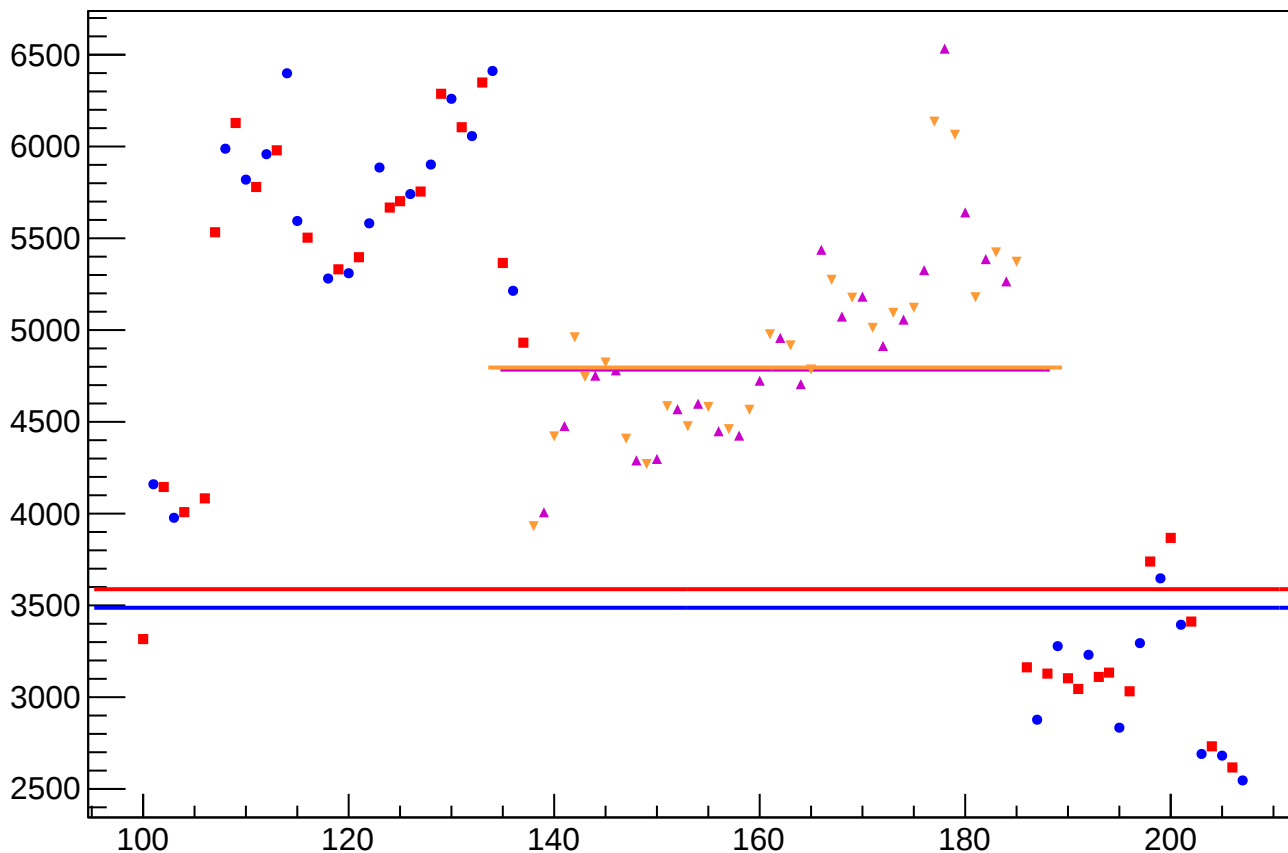
Right: -9.038 $\pm$ 0.686  $\chi^2/\text{NDF}$ : 1193.7/57

In: 2.025 $\pm$ 0.748  $\chi^2/\text{NDF}$ : 364.8/49

Out: -13.850 $\pm$ 0.730  $\chi^2/\text{NDF}$ : 795.9/55

All: -6.104 $\pm$ 0.522  $\chi^2/\text{NDF}$ : 1391.3/105

# diff\_bpm0r05Y\_rms vs Slug, Sign Corrected



Right In:  $3487.107 \pm 0.694$   $\chi^2/\text{NDF}: 2396197.7/26$

Left Out:  $4795.847 \pm 0.795$   $\chi^2/\text{NDF}: 361249.7/24$

Right Out:  $3588.293 \pm 0.679$   $\chi^2/\text{NDF}: 2275055.6/30$

Left In:  $4784.434 \pm 0.817$   $\chi^2/\text{NDF}: 357507.2/22$

Left:  $4790.301 \pm 0.570$   $\chi^2/\text{NDF}: 718857.1/47$

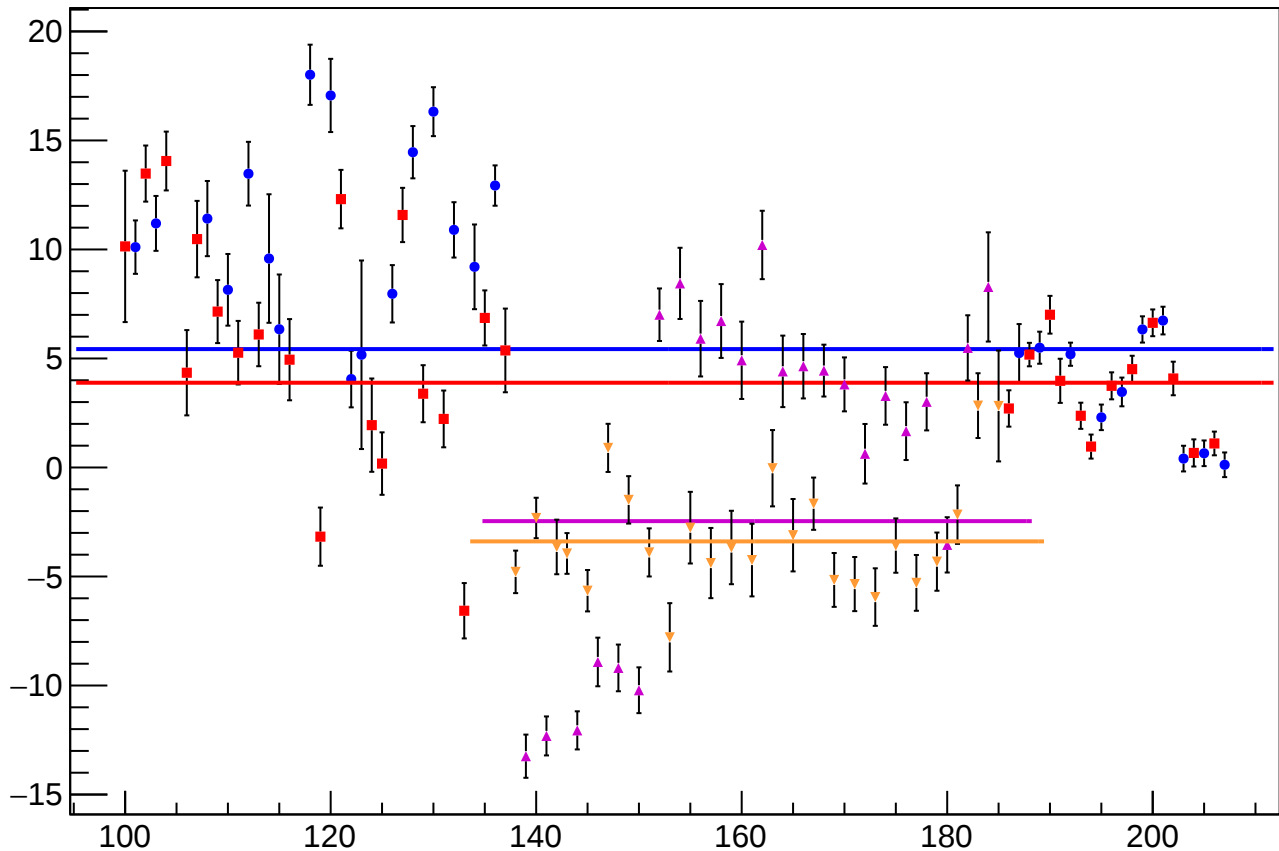
Right:  $3538.774 \pm 0.485$   $\chi^2/\text{NDF}: 4682116.1/57$

In:  $4030.349 \pm 0.529$   $\chi^2/\text{NDF}: 4218058.3/49$

Out:  $4097.994 \pm 0.516$   $\chi^2/\text{NDF}: 3970655.5/55$

All:  $4064.987 \pm 0.369$   $\chi^2/\text{NDF}: 8197089.4/10$

# diff\_bpm2i01X\_mean vs Slug, Sign Corrected



Right In: 5.430 $\pm$ 0.172  $\chi^2/\text{NDF}$ : 728.6/26

Left Out: -3.390 $\pm$ 0.252  $\chi^2/\text{NDF}$ : 77.7/24

Right Out: 3.887 $\pm$ 0.163  $\chi^2/\text{NDF}$ : 457.0/30

Left In: -2.461 $\pm$ 0.264  $\chi^2/\text{NDF}$ : 928.0/22

Left: -2.947 $\pm$ 0.183  $\chi^2/\text{NDF}$ : 1012.2/47

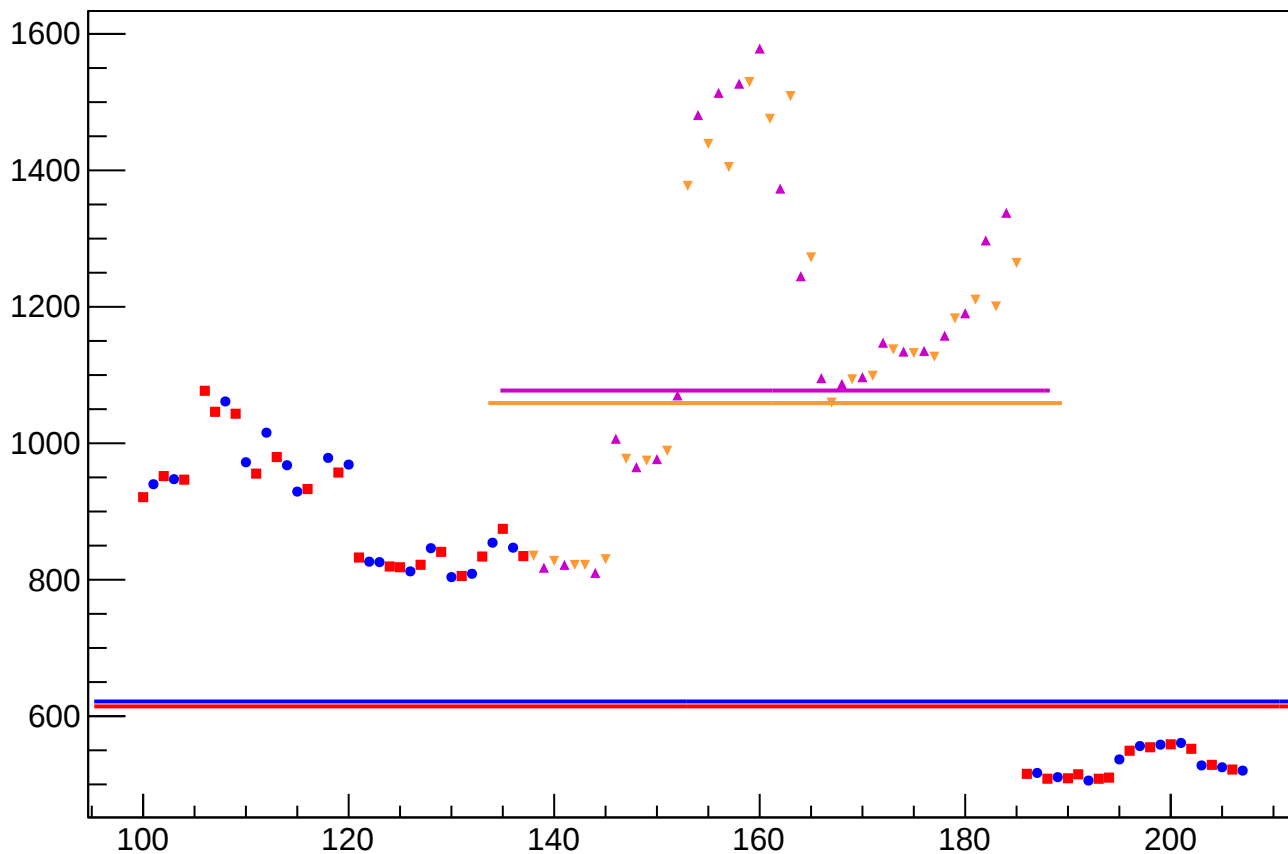
Right: 4.617 $\pm$ 0.118  $\chi^2/\text{NDF}$ : 1227.9/57

In: 3.079 $\pm$ 0.144  $\chi^2/\text{NDF}$ : 2282.0/49

Out: 1.740 $\pm$ 0.137  $\chi^2/\text{NDF}$ : 1121.4/55

All: 2.375 $\pm$ 0.099  $\chi^2/\text{NDF}$ : 3448.7/105

# diff\_bpm2i01X\_rms vs Slug, Sign Corrected



Right In: 621.572 $\pm$ 0.122  $\chi^2$ /NDF: 1746510.9/26

Left Out: 1058.941 $\pm$ 0.178  $\chi^2$ /NDF:1403222.2/24

Right Out: 614.369 $\pm$ 0.115  $\chi^2$ /NDF: 2007053.6/30

Left In: 1077.284 $\pm$ 0.187  $\chi^2$ /NDF:1280349.9/22

Left: 1067.683 $\pm$ 0.129  $\chi^2$ /NDF: 2688612.0/47

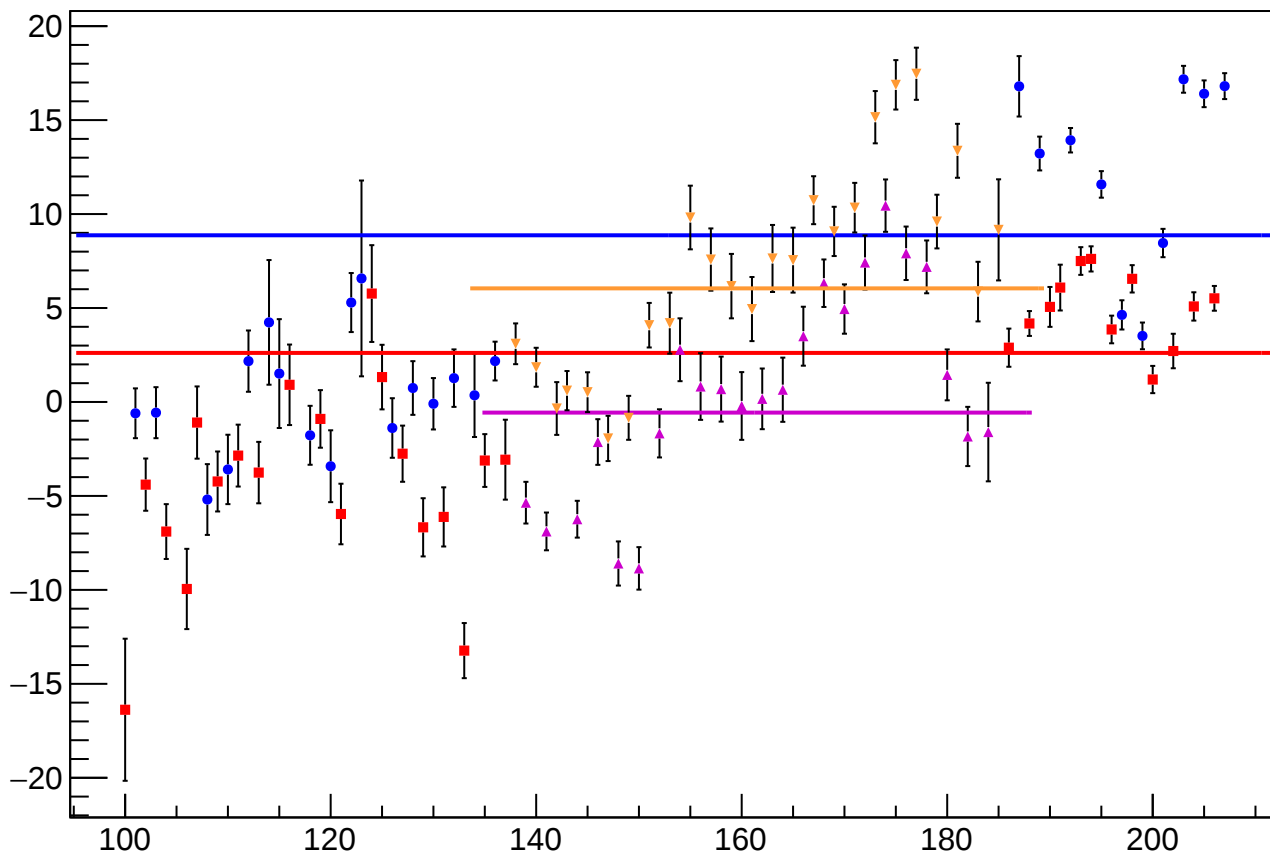
Right: 617.777 $\pm$ 0.084  $\chi^2$ /NDF: 3755407.8/57

In: 757.370 $\pm$ 0.102  $\chi^2$ /NDF:7198868.3/49

Out: 745.563 $\pm$ 0.097  $\chi^2$ /NDF:7789180.1/55

All: 751.161 $\pm$ 0.070  $\chi^2$ /NDF: 14995088.6/10

# diff\_bpm2i01Y\_mean vs Slug, Sign Corrected



Right In:  $8.870 \pm 0.205$   $\chi^2/\text{NDF}: 1106.1/26$

Left Out:  $6.045 \pm 0.272$   $\chi^2/\text{NDF}: 430.8/24$

Right Out:  $2.611 \pm 0.195$   $\chi^2/\text{NDF}: 617.3/30$

Left In:  $-0.566 \pm 0.284$   $\chi^2/\text{NDF}: 417.0/22$

Left:  $2.888 \pm 0.196$   $\chi^2/\text{NDF}: 1130.7/47$

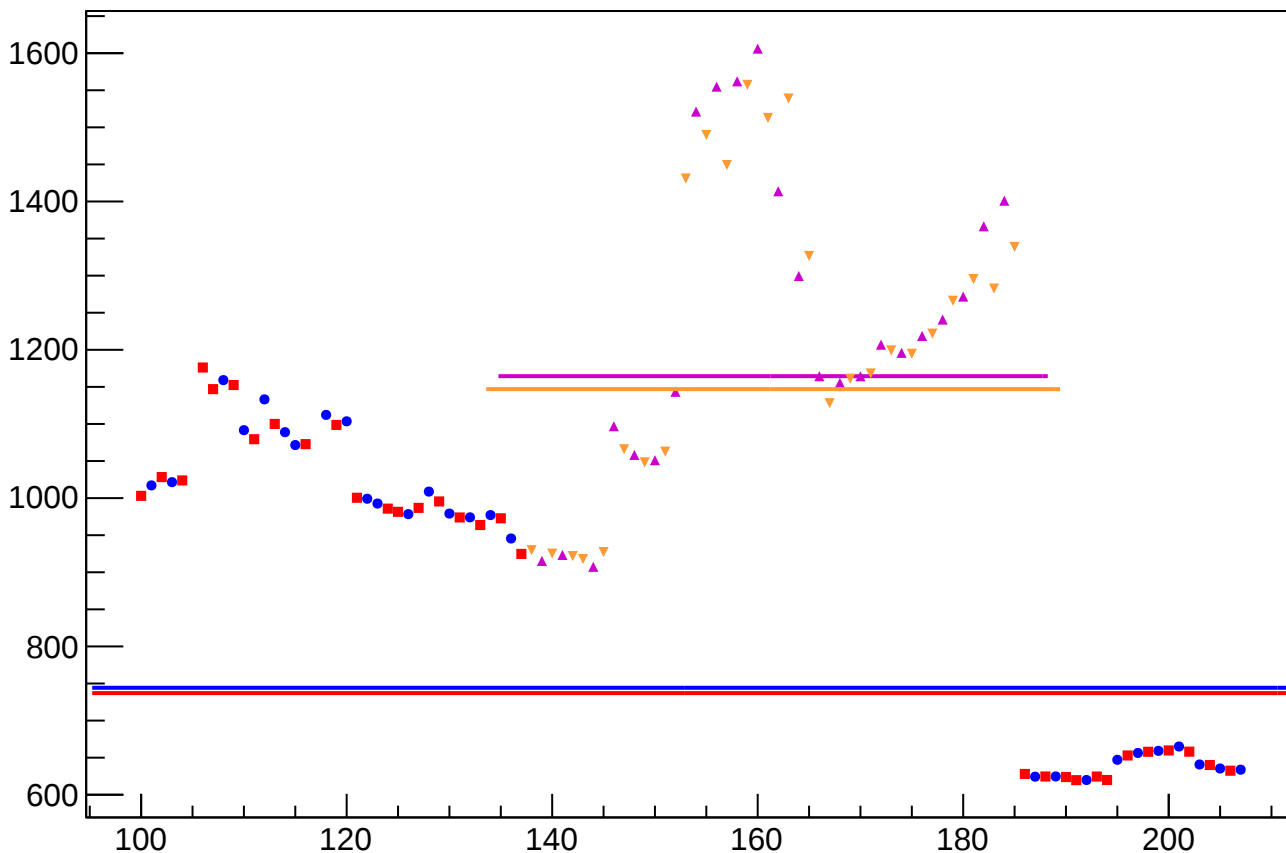
Right:  $5.576 \pm 0.141$   $\chi^2/\text{NDF}: 2214.0/57$

In:  $5.639 \pm 0.166$   $\chi^2/\text{NDF}: 2248.4/49$

Out:  $3.775 \pm 0.158$   $\chi^2/\text{NDF}: 1153.8/55$

All:  $4.661 \pm 0.115$   $\chi^2/\text{NDF}: 3468.3/105$

# diff\_bpm2i01Y\_rms vs Slug, Sign Corrected



Right In: 744.250+/-0.145  $\chi^2/\text{NDF}$ : 1422927.6/26

Left Out: 1146.960+/-0.192  $\chi^2/\text{NDF}$ : 1045761.4/24

Right Out: 737.061+/-0.138  $\chi^2/\text{NDF}$ : 1621336.2/30

Left In: 1164.432+/-0.201  $\chi^2/\text{NDF}$ : 944112.0/22

Left: 1155.305+/-0.139  $\chi^2/\text{NDF}$ : 1993824.0/47

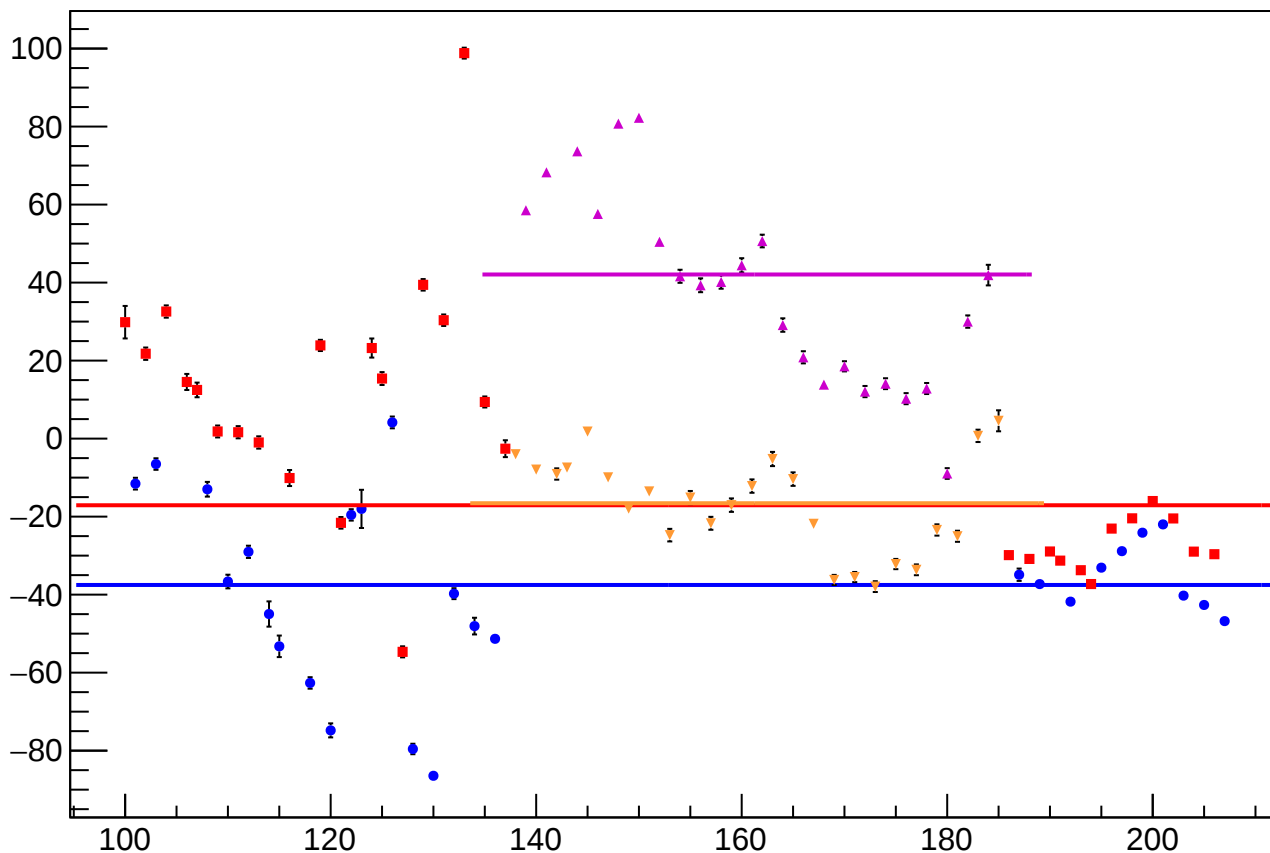
Right: 740.467+/-0.100  $\chi^2/\text{NDF}$ : 3045558.0/57

In: 888.103+/-0.118  $\chi^2/\text{NDF}$ : 5243675.5/49

Out: 875.984+/-0.112  $\chi^2/\text{NDF}$ : 5676972.0/55

All: 881.741+/-0.081  $\chi^2/\text{NDF}$ : 10926226.0/100

# diff\_bpm2i02X\_mean vs Slug, Sign Corrected



Right In: -37.521 +/- 0.201  $\chi^2/\text{NDF}$ : 6493.0/26

Left Out: -16.567 +/- 0.275  $\chi^2/\text{NDF}$ : 1931.2/24

Right Out: -17.086 +/- 0.191  $\chi^2/\text{NDF}$ : 17671.1/30

Left In: 42.077 +/- 0.289  $\chi^2/\text{NDF}$ : 8332.3/22

Left: 11.318 +/- 0.199  $\chi^2/\text{NDF}$ : 31846.5/47

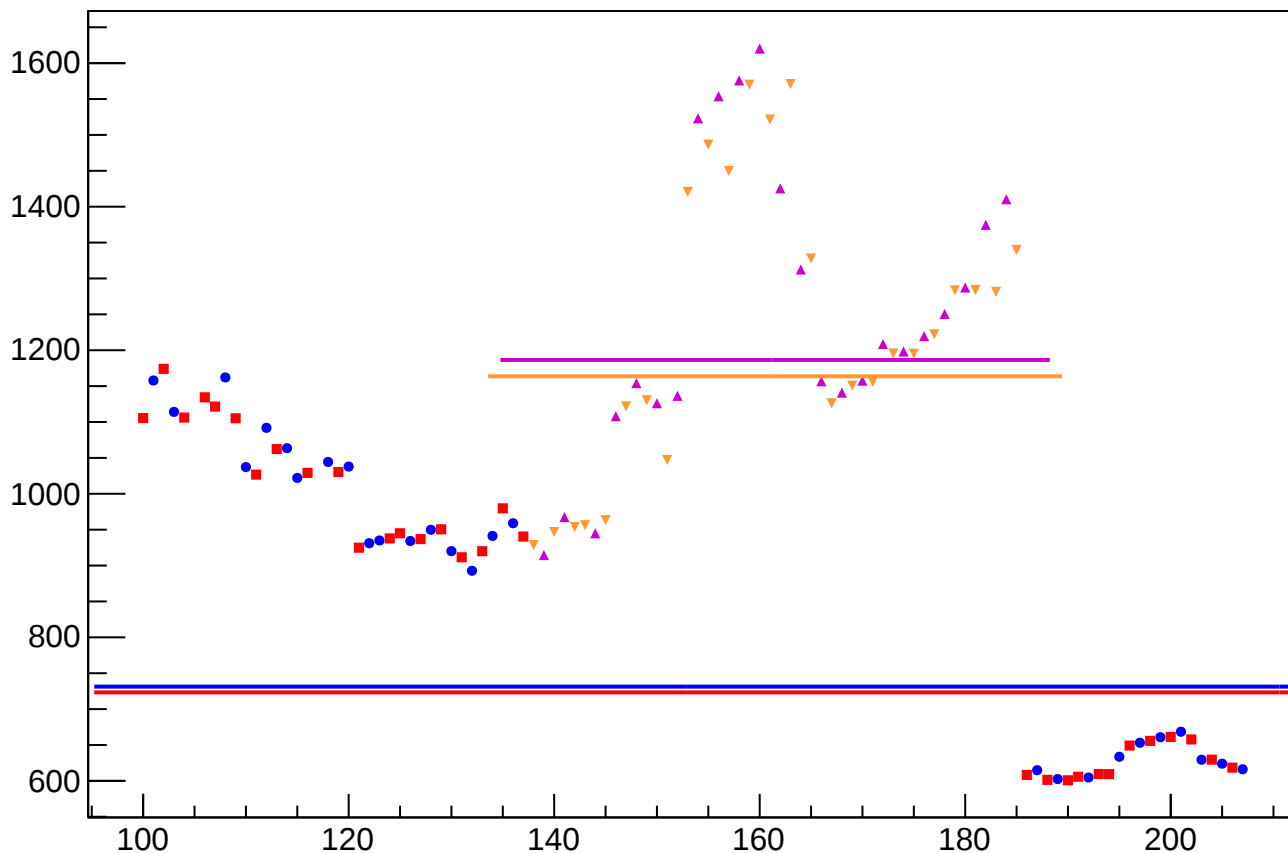
Right: -26.753 +/- 0.139  $\chi^2/\text{NDF}$ : 29584.2/57

In: -11.498 +/- 0.165  $\chi^2/\text{NDF}$ : 65850.4/49

Out: -16.918 +/- 0.157  $\chi^2/\text{NDF}$ : 19604.7/55

All: -14.349 +/- 0.114  $\chi^2/\text{NDF}$ : 86020.8/105

# diff\_bpm2i02X\_rms vs Slug, Sign Corrected



Right In: 731.339 $\pm$ 0.142  $\chi^2$ /NDF: 1444932.2/26

Left Out: 1163.691 $\pm$ 0.195  $\chi^2$ /NDF: 936079.1/24

Right Out: 723.306 $\pm$ 0.135  $\chi^2$ /NDF: 1637779.1/30

Left In: 1186.476 $\pm$ 0.204  $\chi^2$ /NDF: 833420.3/22

Left: 1174.525 $\pm$ 0.141  $\chi^2$ /NDF: 1776015.7/47

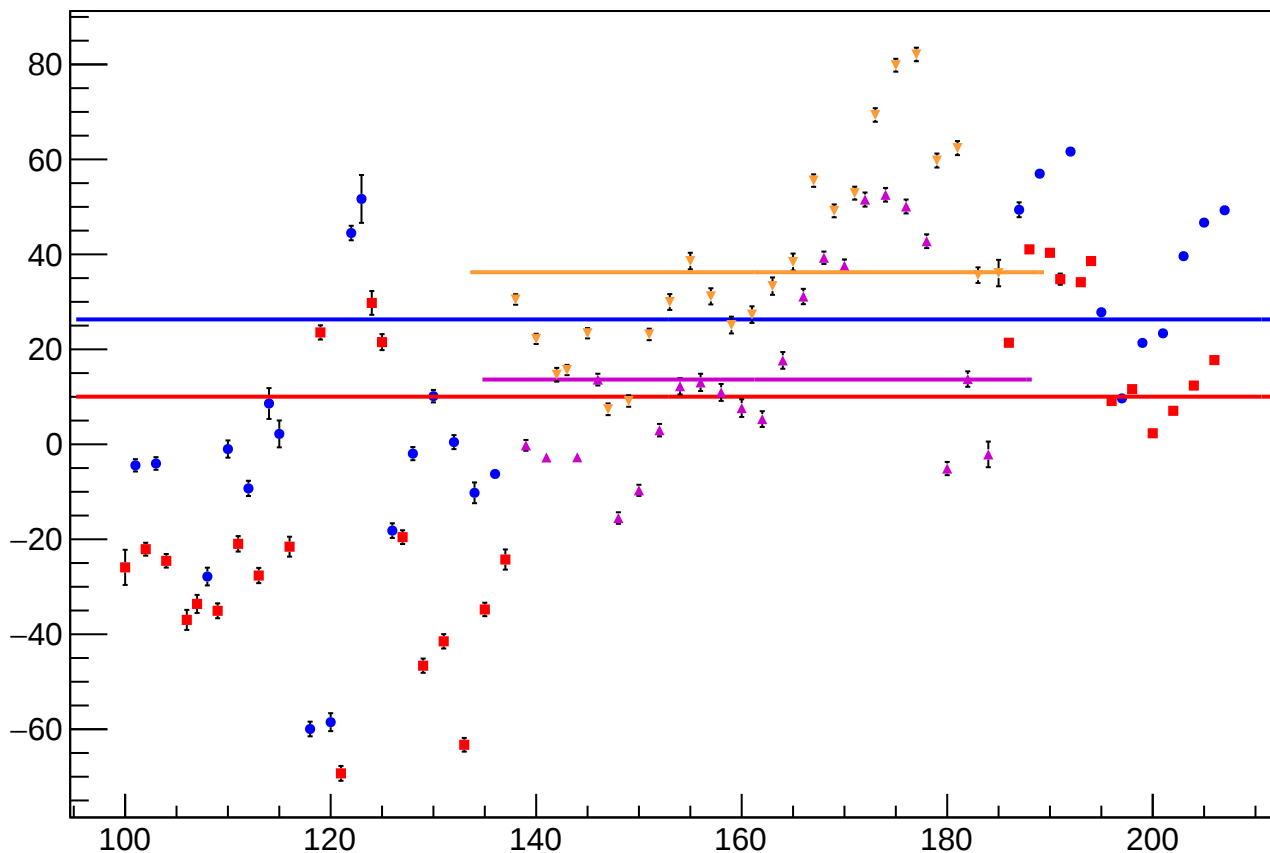
Right: 727.106 $\pm$ 0.098  $\chi^2$ /NDF: 3084386.7/57

In: 880.139 $\pm$ 0.117  $\chi^2$ /NDF: 5614910.4/49

Out: 866.333 $\pm$ 0.111  $\chi^2$ /NDF: 6030501.4/55

All: 872.875 $\pm$ 0.080  $\chi^2$ /NDF: 11652752.1/10

# diff\_bpm2i02Y\_mean vs Slug, Sign Corrected



Right In: 26.301 $\pm$ 0.199  $\chi^2$ /NDF: 18604.2/26

Left Out: 36.234 $\pm$ 0.280  $\chi^2$ /NDF: 5794.2/24

Right Out: 10.035 $\pm$ 0.189  $\chi^2$ /NDF: 21040.9/30

Left In: 13.640 $\pm$ 0.293  $\chi^2$ /NDF: 5178.0/22

Left: 25.447 $\pm$ 0.202  $\chi^2$ /NDF: 14084.0/47

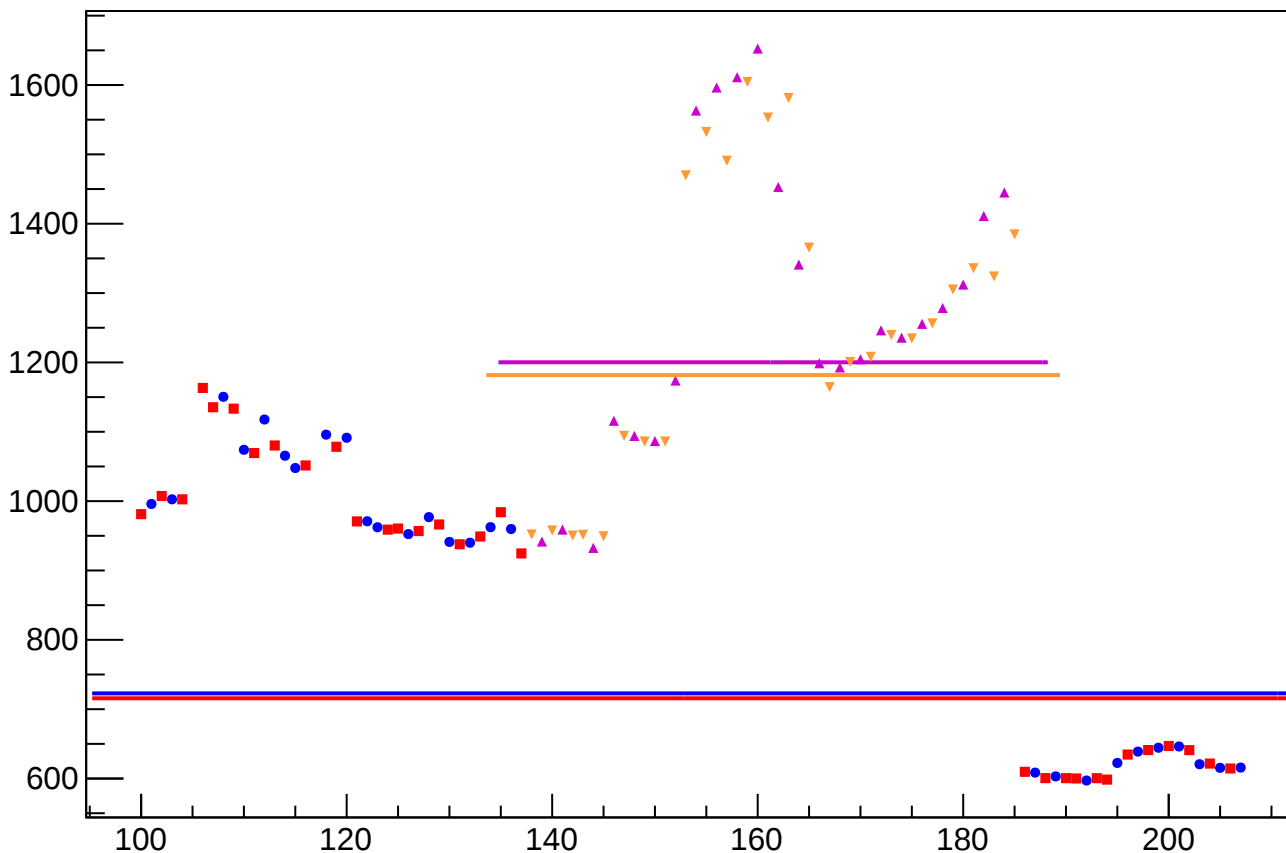
Right: 17.740 $\pm$ 0.137  $\chi^2$ /NDF: 43149.8/57

In: 22.291 $\pm$ 0.165  $\chi^2$ /NDF: 25060.0/49

Out: 18.247 $\pm$ 0.157  $\chi^2$ /NDF: 32851.4/55

All: 20.168 $\pm$ 0.114  $\chi^2$ /NDF: 58227.7/105

# diff\_bpm2i02Y\_rms vs Slug, Sign Corrected



Right In: 722.798 $\pm$ 0.141  $\chi^2$ /NDF: 1499749.7/26

Left Out: 1181.732 $\pm$ 0.198  $\chi^2$ /NDF:1043520.8/24

Right Out: 715.747 $\pm$ 0.134  $\chi^2$ /NDF: 1702862.7/30

Left In: 1200.198 $\pm$ 0.207  $\chi^2$ /NDF:938224.7/22

Left: 1190.549 $\pm$ 0.143  $\chi^2$ /NDF: 1985902.3/47

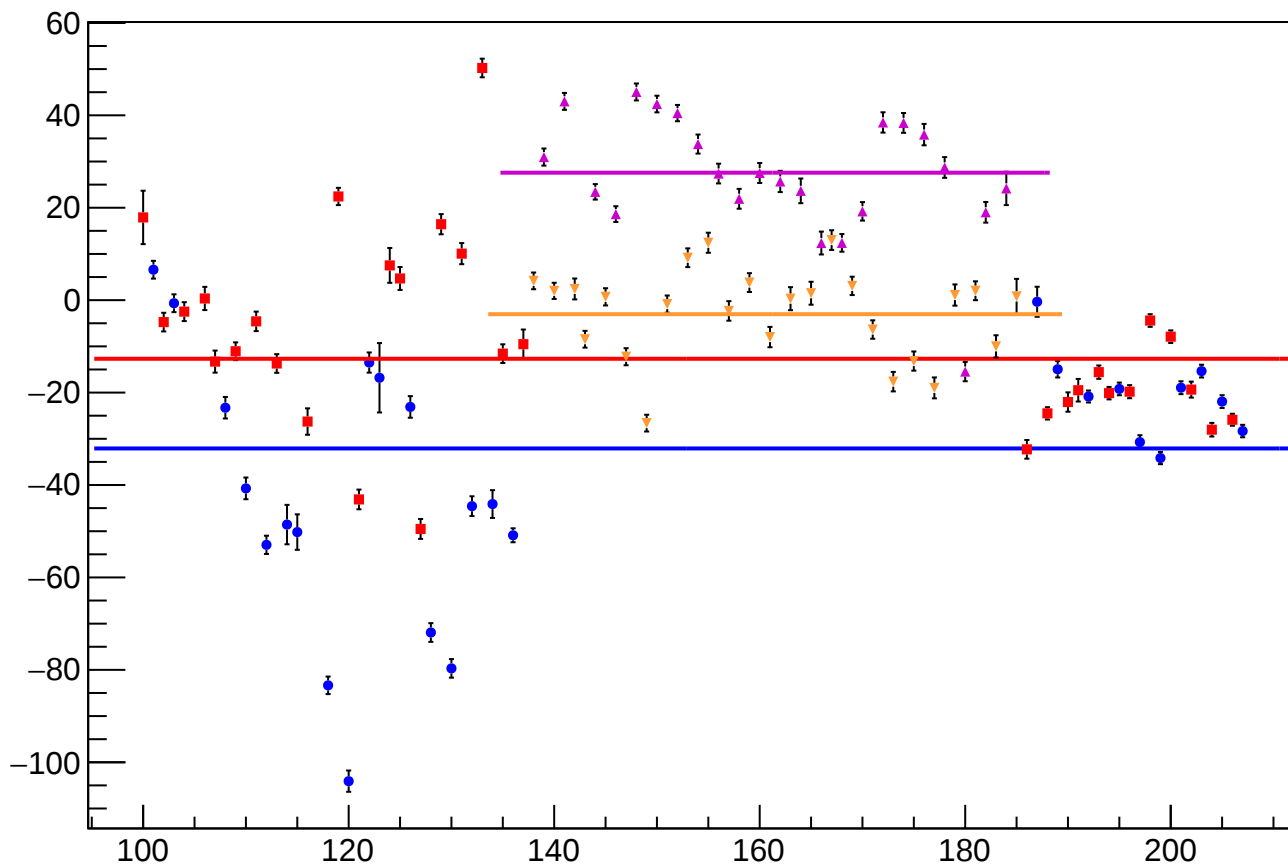
Right: 719.087 $\pm$ 0.097  $\chi^2$ /NDF: 3203929.6/57

In: 873.989 $\pm$ 0.117  $\chi^2$ /NDF:6071154.0/49

Out: 861.817 $\pm$ 0.111  $\chi^2$ /NDF:6552771.6/55

All: 867.597 $\pm$ 0.080  $\chi^2$ /NDF: 12629657.0/10

# diff\_bpm0i02X\_mean vs Slug, Sign Corrected



Right In: -32.091 $\pm$ 0.352  $\chi^2/\text{NDF}$ : 4449.7/26

Left Out: -3.037 $\pm$ 0.415  $\chi^2/\text{NDF}$ : 555.6/24

Right Out: -12.684 $\pm$ 0.336  $\chi^2/\text{NDF}$ : 2851.1/30

Left In: 27.583 $\pm$ 0.429  $\chi^2/\text{NDF}$ : 960.1/22

Left: 11.767 $\pm$ 0.298  $\chi^2/\text{NDF}$ : 4146.6/47

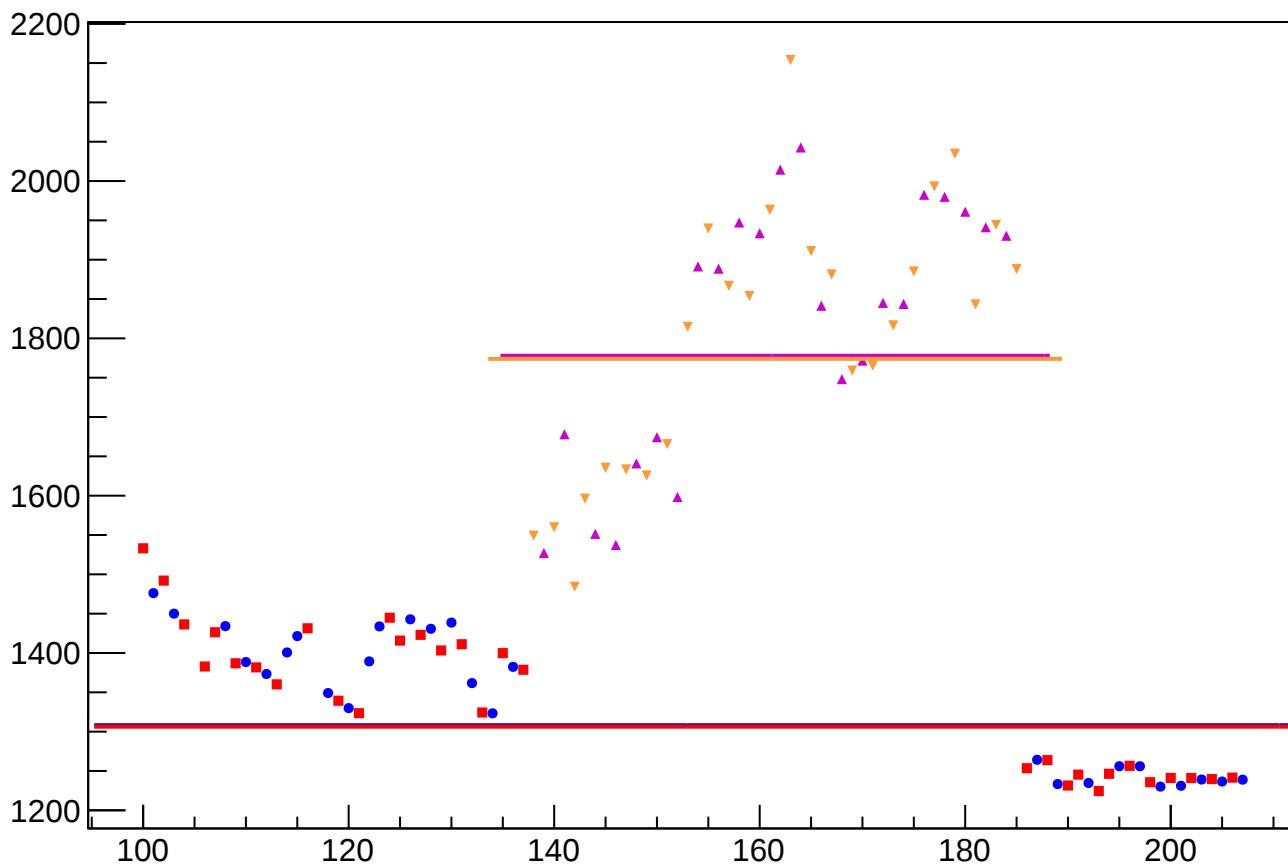
Right: -21.951 $\pm$ 0.243  $\chi^2/\text{NDF}$ : 8892.9/57

In: -8.118 $\pm$ 0.272  $\chi^2/\text{NDF}$ : 16984.1/49

Out: -8.864 $\pm$ 0.261  $\chi^2/\text{NDF}$ : 3732.9/55

All: -8.506 $\pm$ 0.188  $\chi^2/\text{NDF}$ : 20720.9/105

# diff\_bpm0i02X\_rms vs Slug, Sign Corrected



Right In: 1308.168 $\pm$ 0.249  $\chi^2$ /NDF: 116428.5/26

Left Out: 1773.965 $\pm$ 0.294  $\chi^2$ /NDF:313031.1/24

Right Out: 1306.320 $\pm$ 0.238  $\chi^2$ /NDF: 115092.8/30

Left In: 1777.884 $\pm$ 0.303  $\chi^2$ /NDF:299514.0/22

Left: 1775.860 $\pm$ 0.211  $\chi^2$ /NDF: 612631.3/47

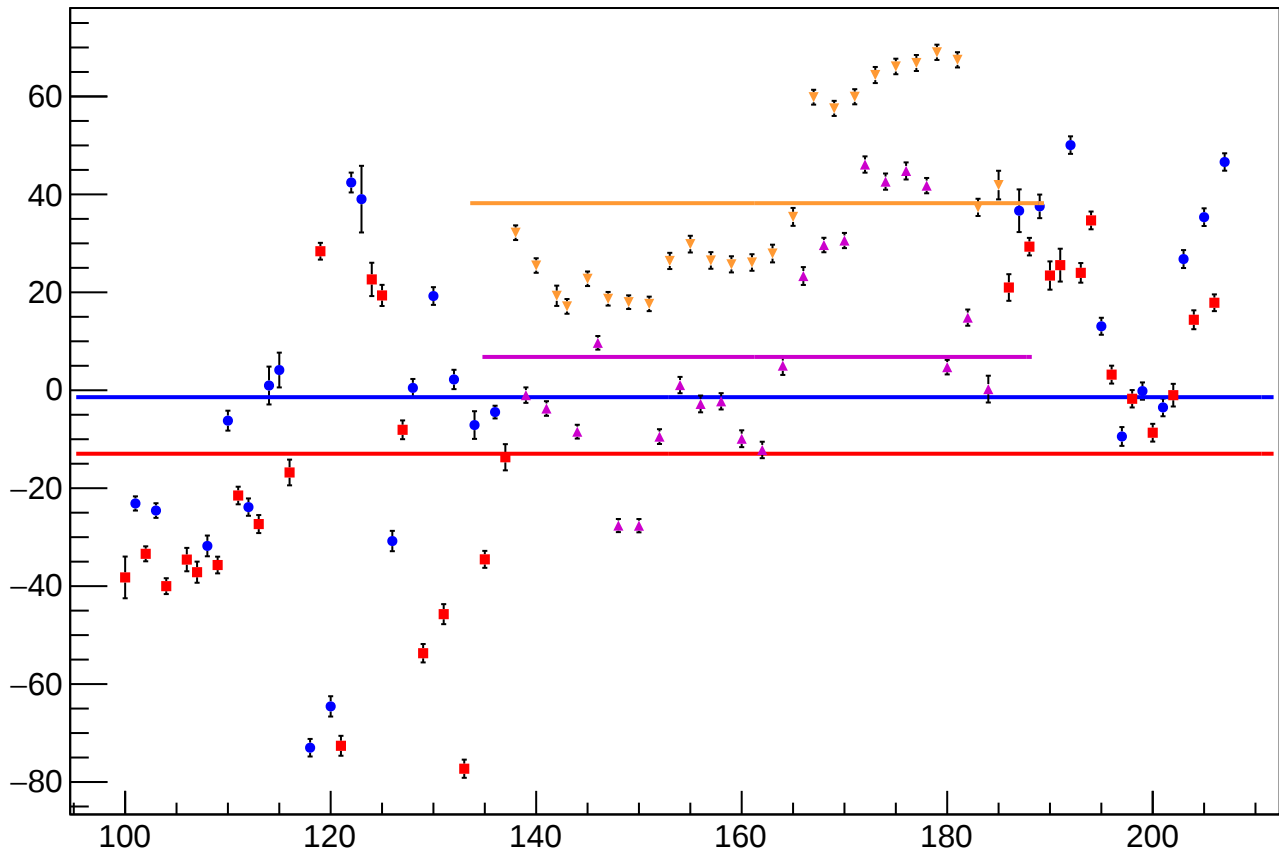
Right: 1307.202 $\pm$ 0.172  $\chi^2$ /NDF: 231550.2/57

In: 1496.866 $\pm$ 0.192  $\chi^2$ /NDF:1850226.4/49

Out: 1491.496 $\pm$ 0.185  $\chi^2$ /NDF:1961487.9/55

All: 1494.073 $\pm$ 0.133  $\chi^2$ /NDF: 3812120.0/10

# diff\_bpm0i02Y\_mean vs Slug, Sign Corrected



Right In:  $-1.409 \pm 0.374$   $\chi^2/\text{NDF}$ : 6844.9/26

Left Out:  $38.206 \pm 0.323$   $\chi^2/\text{NDF}$ : 3514.2/24

Right Out:  $-12.961 \pm 0.360$   $\chi^2/\text{NDF}$ : 7541.1/30

Left In:  $6.808 \pm 0.333$   $\chi^2/\text{NDF}$ : 4494.5/22

Left:  $22.967 \pm 0.232$   $\chi^2/\text{NDF}$ : 12584.4/47

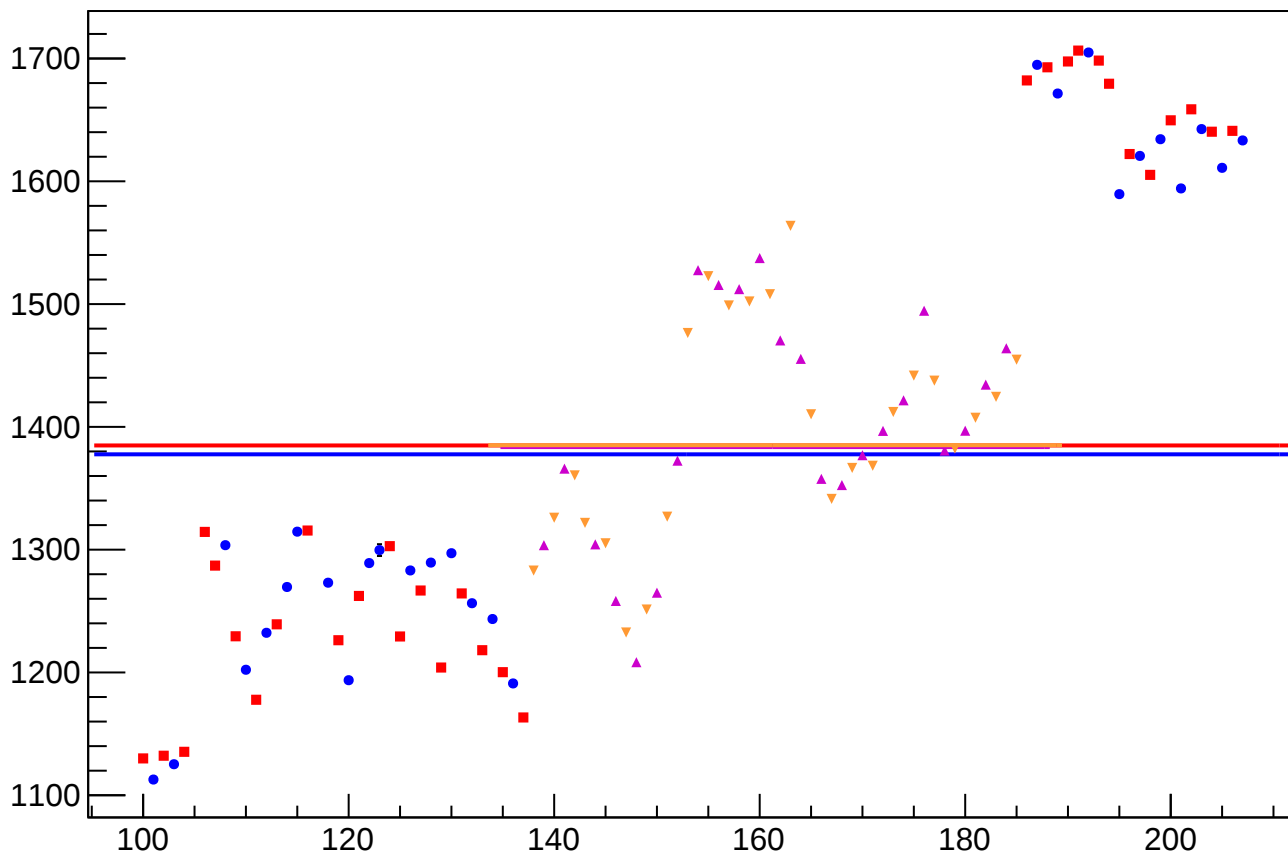
Right:  $-7.401 \pm 0.259$   $\chi^2/\text{NDF}$ : 14881.6/57

In:  $3.171 \pm 0.249$   $\chi^2/\text{NDF}$ : 11609.0/49

Out:  $15.356 \pm 0.241$   $\chi^2/\text{NDF}$ : 22236.0/55

All:  $9.464 \pm 0.173$   $\chi^2/\text{NDF}$ : 35085.6/105

diff\_bpm0i02Y\_rms vs Slug, Sign Corrected



Right In: 1377.648 $\pm$ 0.264  $\chi^2$ /NDF: 606095.2/26

Left Out: 1385.063 $\pm$ 0.229  $\chi^2$ /NDF:146001.5/24

Right Out: 1384.871 $\pm$ 0.255  $\chi^2$ /NDF: 735483.5/30

Left In: 1383.558 $\pm$ 0.235  $\chi^2$ /NDF:154696.0/22

Left: 1384.333 $\pm$ 0.164  $\chi^2$ /NDF: 300718.5/47

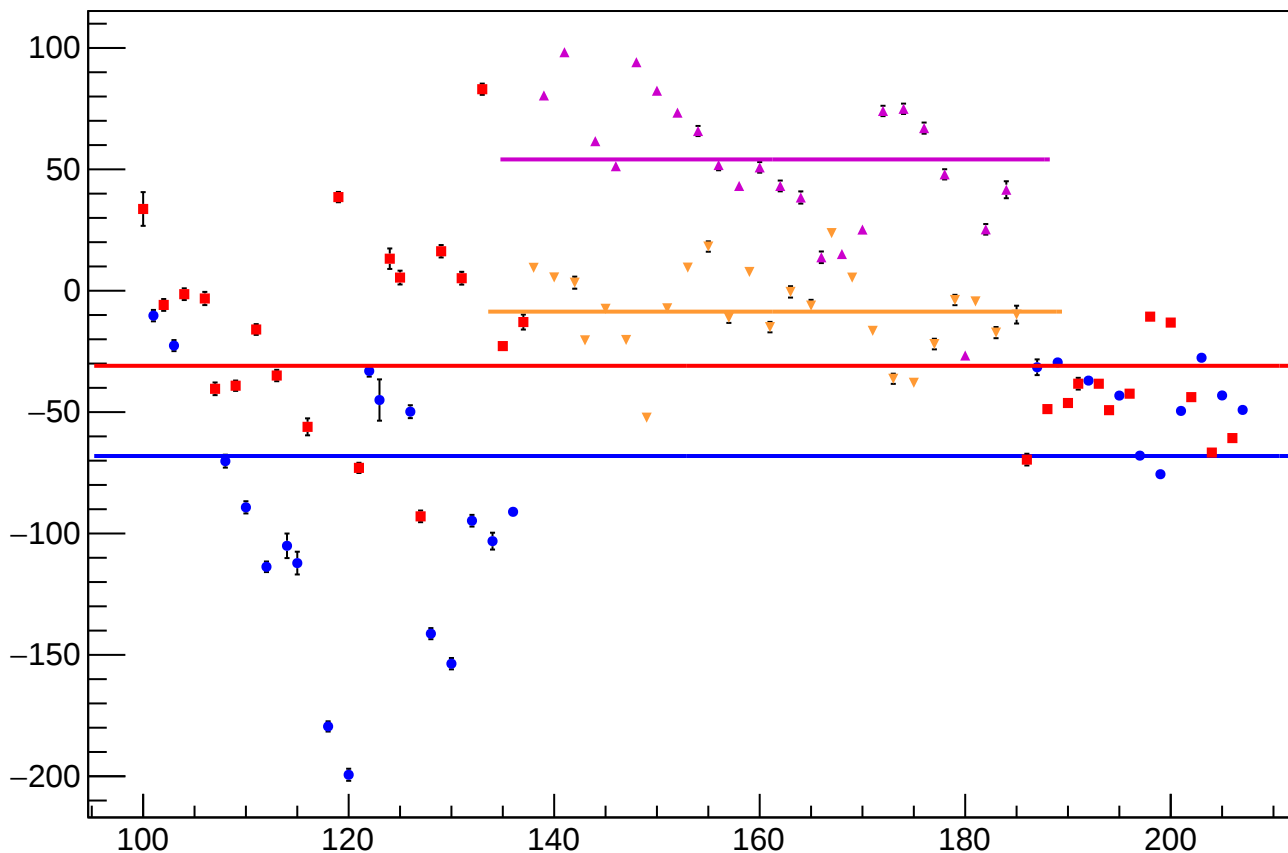
Right: 1381.395 $\pm$ 0.183  $\chi^2$ /NDF: 1341966.2/57

In: 1380.942 $\pm$ 0.176  $\chi^2$ /NDF:761070.0/49

Out: 1384.978 $\pm$ 0.170  $\chi^2$ /NDF:881485.3/55

All: 1383.026 $\pm$ 0.122  $\chi^2$ /NDF: 1642827.4/100

# diff\_bpm0i02aX\_mean vs Slug, Sign Corrected



Right In:  $-68.079 \pm 0.392$   $\chi^2/\text{NDF}: 12935.5/26$

Left Out:  $-8.606 \pm 0.410$   $\chi^2/\text{NDF}: 1930.5/24$

Right Out:  $-30.923 \pm 0.370$   $\chi^2/\text{NDF}: 7895.7/30$

Left In:  $54.089 \pm 0.426$   $\chi^2/\text{NDF}: 4721.6/22$

Left:  $21.586 \pm 0.295$   $\chi^2/\text{NDF}: 17900.0/47$

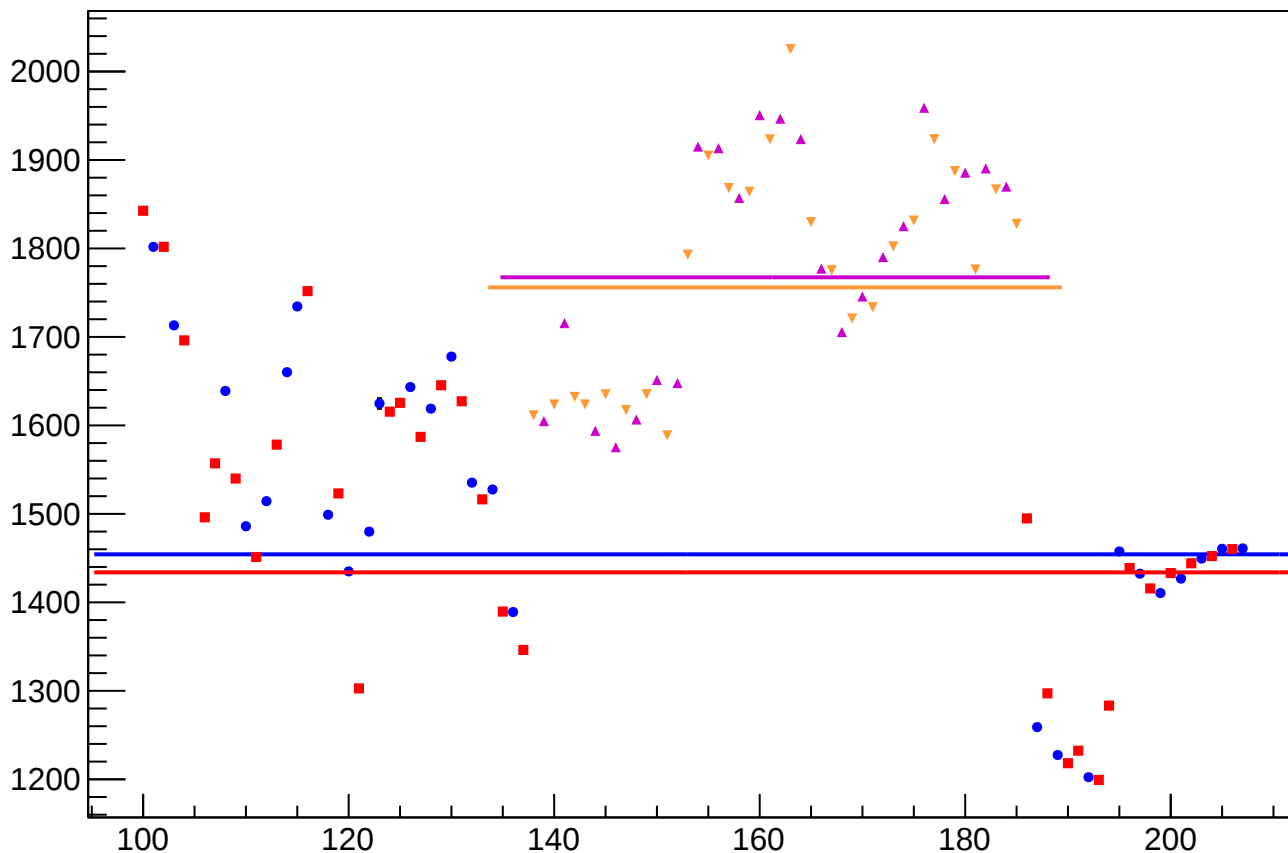
Right:  $-48.435 \pm 0.269$   $\chi^2/\text{NDF}: 25582.8/57$

In:  $-12.024 \pm 0.288$   $\chi^2/\text{NDF}: 62239.0/49$

Out:  $-20.910 \pm 0.275$   $\chi^2/\text{NDF}: 11458.1/55$

All:  $-16.681 \pm 0.199$   $\chi^2/\text{NDF}: 74194.9/105$

# diff\_bpm0i02aX\_rms vs Slug, Sign Corrected



Right In: 1454.290 $\pm$ 0.277  $\chi^2/\text{NDF}$ : 261570.6/26

Left Out: 1756.034 $\pm$ 0.290  $\chi^2/\text{NDF}$ :175762.3/24

Right Out: 1433.870 $\pm$ 0.262  $\chi^2/\text{NDF}$ : 308738.2/30

Left In: 1767.410 $\pm$ 0.301  $\chi^2/\text{NDF}$ :187958.2/22

Left: 1761.512 $\pm$ 0.209  $\chi^2/\text{NDF}$ : 364461.2/47

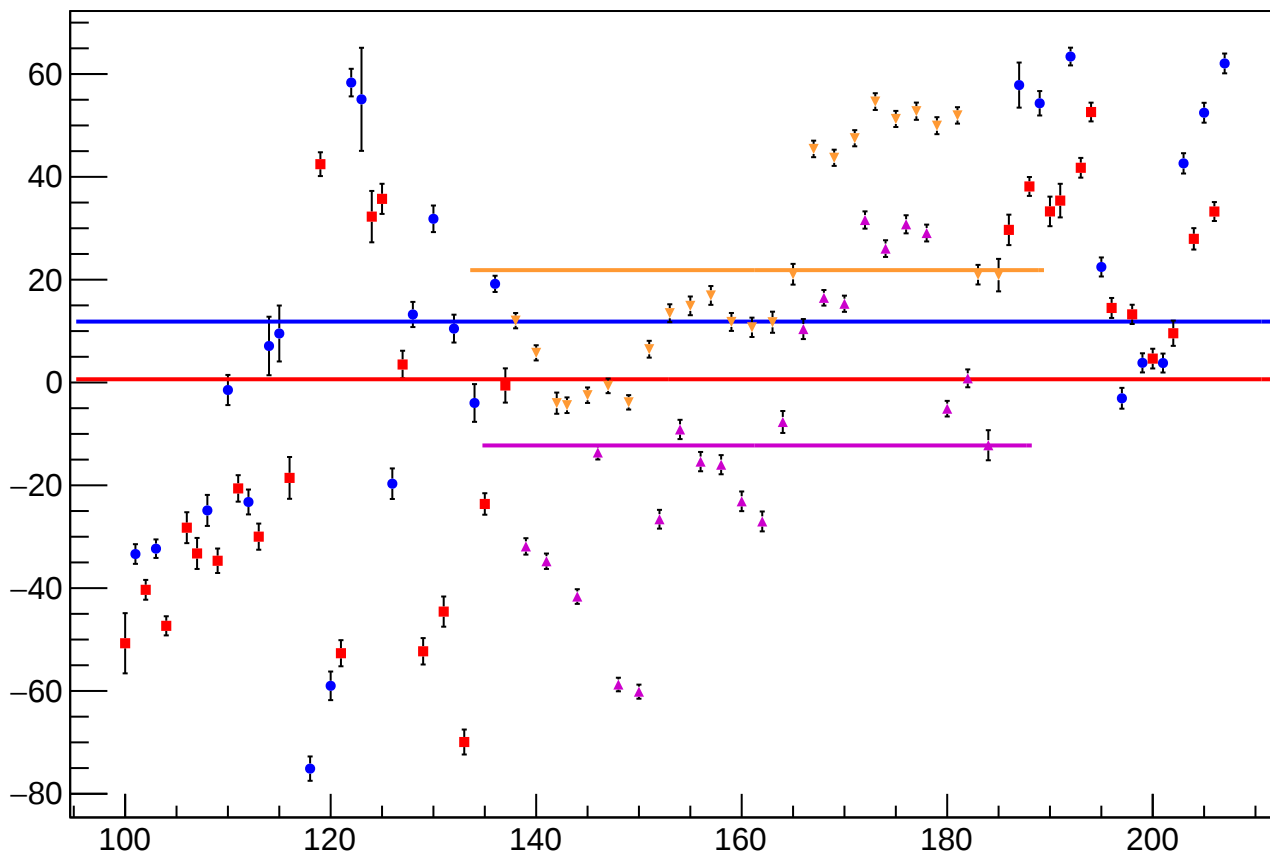
Right: 1443.495 $\pm$ 0.190  $\chi^2/\text{NDF}$ : 573179.1/57

In: 1597.962 $\pm$ 0.204  $\chi^2/\text{NDF}$ :1035257.6/49

Out: 1578.412 $\pm$ 0.194  $\chi^2/\text{NDF}$ :1164596.9/55

All: 1587.717 $\pm$ 0.141  $\chi^2/\text{NDF}$ : 2204673.5/10

# diff\_bpm0i02aY\_mean vs Slug, Sign Corrected



Right In: 11.849 $\pm$ 0.446  $\chi^2$ /NDF: 6881.2/26

Left Out: 21.856 $\pm$ 0.335  $\chi^2$ /NDF:4110.5/24

Right Out: 0.628 $\pm$ 0.428  $\chi^2$ /NDF: 7085.8/30

Left In: -12.246 $\pm$ 0.347  $\chi^2$ /NDF:6781.6/22

Left: 5.391 $\pm$ 0.241  $\chi^2$ /NDF: 15885.7/47

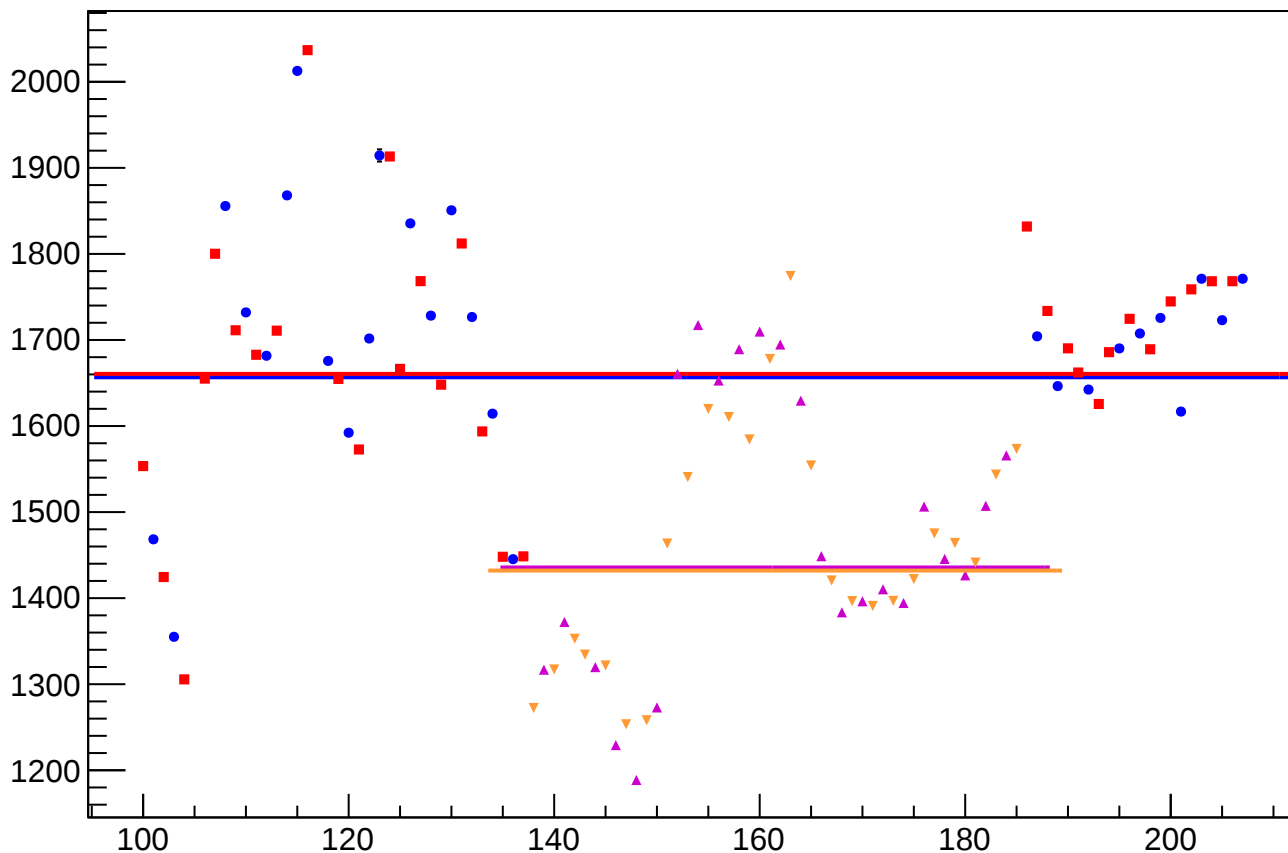
Right: 6.004 $\pm$ 0.309  $\chi^2$ /NDF: 14296.2/57

In: -3.168 $\pm$ 0.274  $\chi^2$ /NDF:15478.8/49

Out: 13.785 $\pm$ 0.264  $\chi^2$ /NDF:12720.0/55

All: 5.623 $\pm$ 0.190  $\chi^2$ /NDF: 30184.3/105

# diff\_bpm0i02aY\_rms vs Slug, Sign Corrected



Right In:  $1656.640 \pm 0.316$   $\chi^2/\text{NDF}: 179899.7/26$

Left Out:  $1432.060 \pm 0.237$   $\chi^2/\text{NDF}: 297360.3/24$

Right Out:  $1660.595 \pm 0.303$   $\chi^2/\text{NDF}: 206134.3/30$

Left In:  $1435.645 \pm 0.245$   $\chi^2/\text{NDF}: 420835.0/22$

Left:  $1433.791 \pm 0.171$   $\chi^2/\text{NDF}: 718305.7/47$

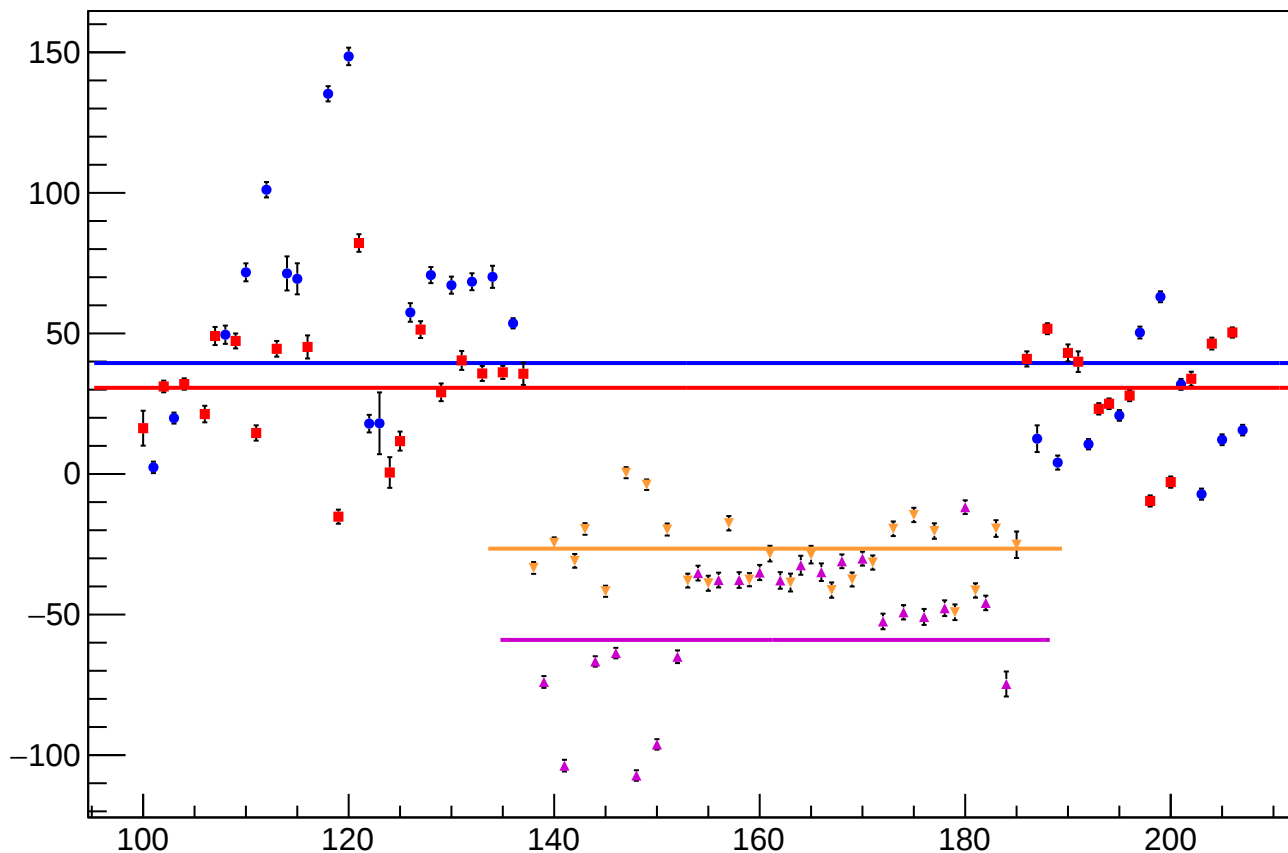
Right:  $1658.700 \pm 0.218$   $\chi^2/\text{NDF}: 386115.8/57$

In:  $1518.905 \pm 0.194$   $\chi^2/\text{NDF}: 906267.3/49$

Out:  $1518.944 \pm 0.187$   $\chi^2/\text{NDF}: 856684.3/55$

All:  $1518.925 \pm 0.134$   $\chi^2/\text{NDF}: 1762951.6/100$

# diff\_bpm0i05X\_mean vs Slug, Sign Corrected



Right In: 39.470 $\pm$ 0.478  $\chi^2/\text{NDF}$ : 5756.8/26

Left Out: -26.554 $\pm$ 0.488  $\chi^2/\text{NDF}$ : 717.5/24

Right Out: 30.661 $\pm$ 0.456  $\chi^2/\text{NDF}$ : 1948.8/30

Left In: -59.014 $\pm$ 0.506  $\chi^2/\text{NDF}$ : 2783.8/22

Left: -42.178 $\pm$ 0.351  $\chi^2/\text{NDF}$ : 5632.2/47

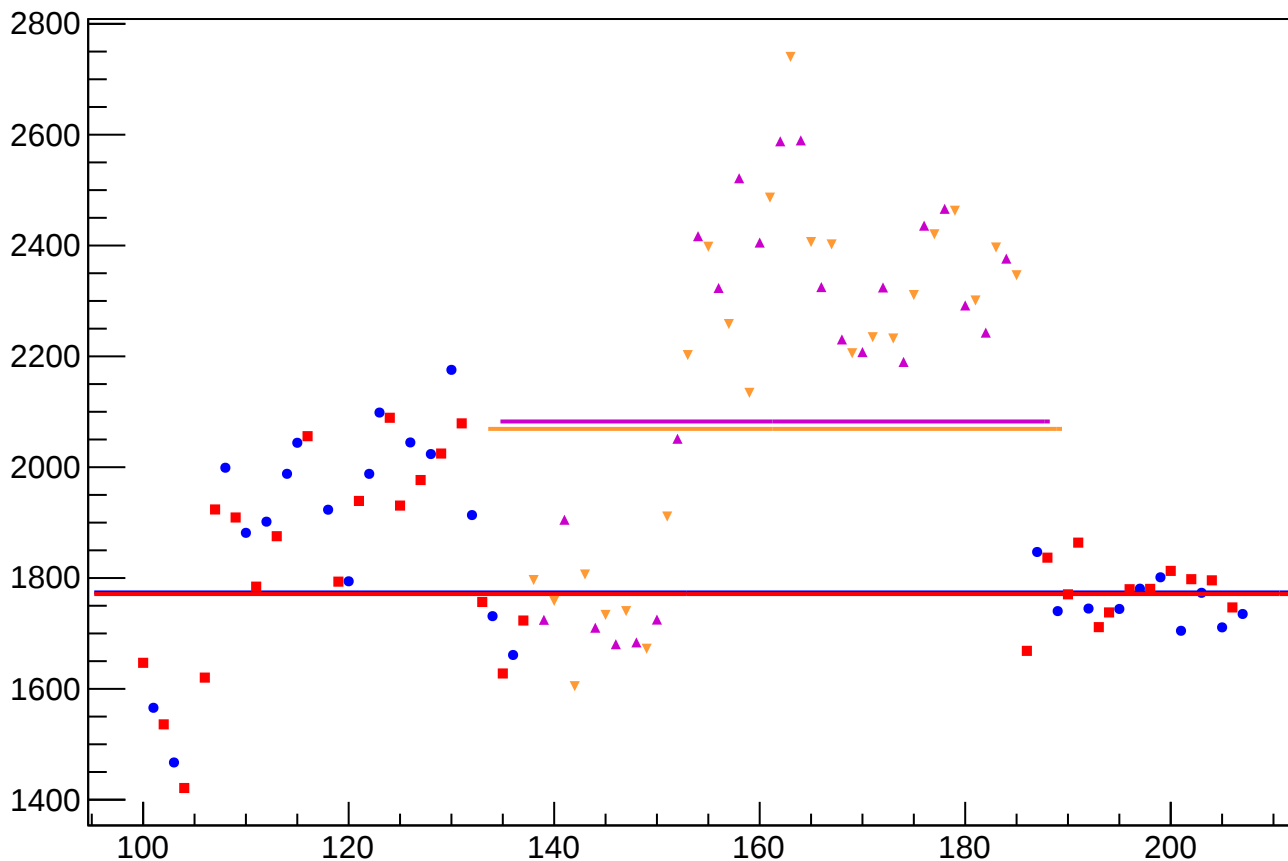
Right: 34.862 $\pm$ 0.330  $\chi^2/\text{NDF}$ : 7883.3/57

In: -6.923 $\pm$ 0.348  $\chi^2/\text{NDF}$ : 28543.9/49

Out: 3.962 $\pm$ 0.333  $\chi^2/\text{NDF}$ : 10002.0/55

All: -1.252 $\pm$ 0.241  $\chi^2/\text{NDF}$ : 39056.8/105

# diff\_bpm0i05X\_rms vs Slug, Sign Corrected



Right In: 1774.018 $\pm$ 0.338  $\chi^2$ /NDF: 194532.1/26

Left Out: 2069.146 $\pm$ 0.345  $\chi^2$ /NDF: 799037.9/24

Right Out: 1771.058 $\pm$ 0.323  $\chi^2$ /NDF: 188462.5/30

Left In: 2082.497 $\pm$ 0.358  $\chi^2$ /NDF: 785304.0/22

Left: 2075.572 $\pm$ 0.248  $\chi^2$ /NDF: 1585062.9/47

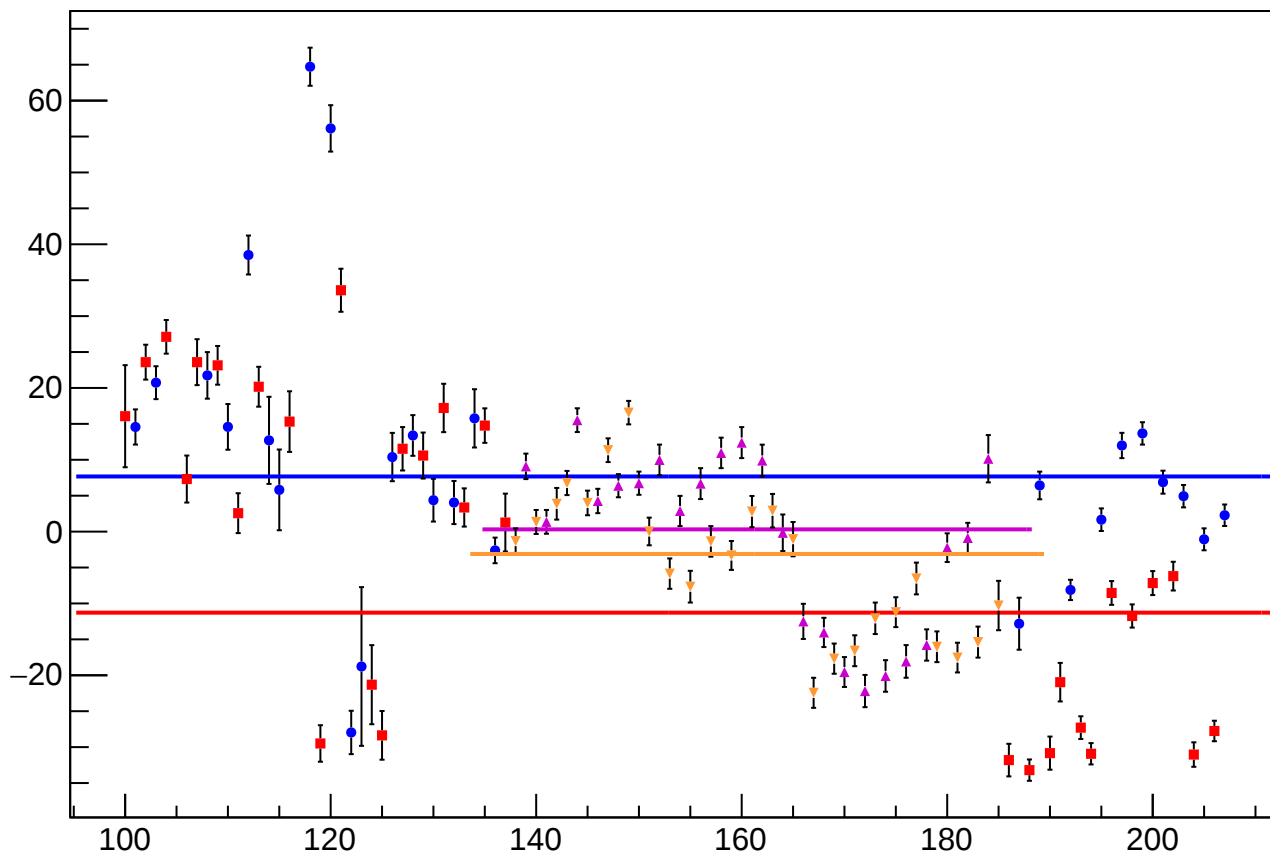
Right: 1772.470 $\pm$ 0.233  $\chi^2$ /NDF: 383034.7/57

In: 1919.334 $\pm$ 0.246  $\chi^2$ /NDF: 1372347.5/49

Out: 1910.162 $\pm$ 0.236  $\chi^2$ /NDF: 1385731.2/55

All: 1914.555 $\pm$ 0.170  $\chi^2$ /NDF: 2758804.4/10

# diff\_bpm0i05Y\_mean vs Slug, Sign Corrected



Right In:  $7.677 \pm 0.423$   $\chi^2/\text{NDF}: 1313.5/26$

Left Out:  $-3.112 \pm 0.404$   $\chi^2/\text{NDF}: 643.7/24$

Right Out:  $-11.281 \pm 0.405$   $\chi^2/\text{NDF}: 2579.2/30$

Left In:  $0.312 \pm 0.421$   $\chi^2/\text{NDF}: 736.5/22$

Left:  $-1.470 \pm 0.292$   $\chi^2/\text{NDF}: 1414.7/47$

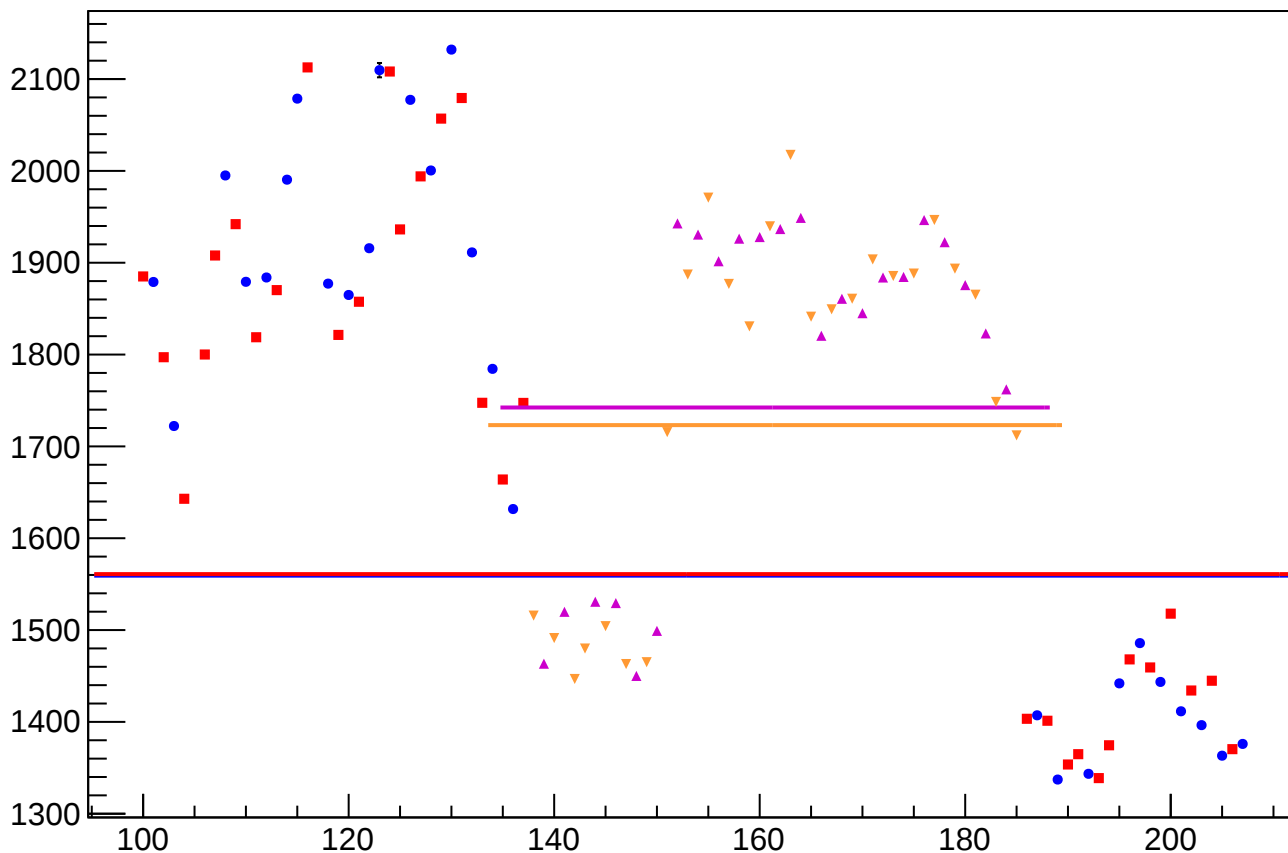
Right:  $-2.221 \pm 0.293$   $\chi^2/\text{NDF}: 4939.2/57$

In:  $3.974 \pm 0.299$   $\chi^2/\text{NDF}: 2202.2/49$

Out:  $-7.187 \pm 0.286$   $\chi^2/\text{NDF}: 3426.7/55$

All:  $-1.844 \pm 0.207$   $\chi^2/\text{NDF}: 6357.2/105$

# diff\_bpm0i05Y\_rms vs Slug, Sign Corrected



Right In:  $1559.269 \pm 0.299$   $\chi^2/\text{NDF}: 647171.3/26$

Left Out:  $1723.168 \pm 0.286$   $\chi^2/\text{NDF}: 477441.1/24$

Right Out:  $1560.924 \pm 0.286$   $\chi^2/\text{NDF}: 614272.2/30$

Left In:  $1742.354 \pm 0.298$   $\chi^2/\text{NDF}: 435841.5/22$

Left:  $1732.370 \pm 0.206$   $\chi^2/\text{NDF}: 915443.3/47$

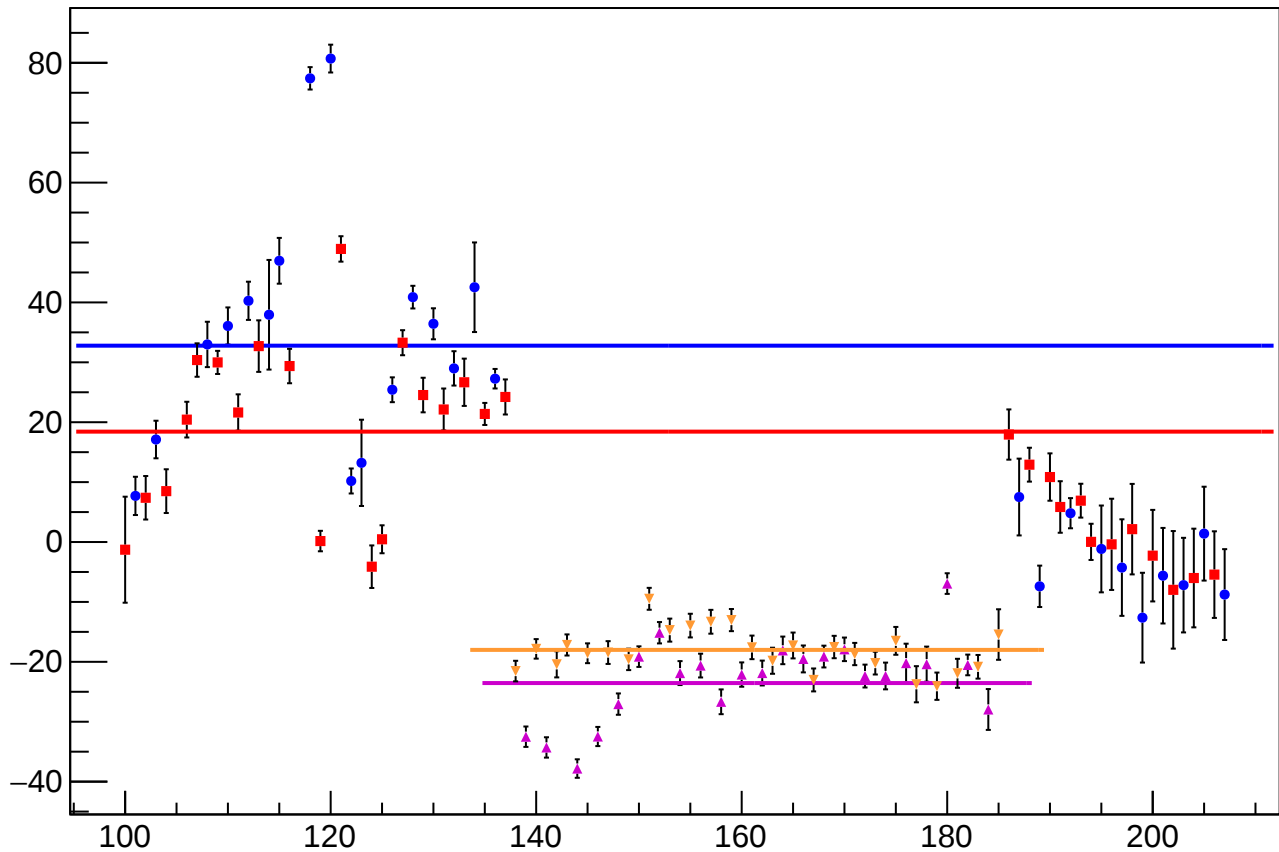
Right:  $1560.133 \pm 0.207$   $\chi^2/\text{NDF}: 1261459.5/57$

In:  $1651.323 \pm 0.211$   $\chi^2/\text{NDF}: 1271007.5/49$

Out:  $1642.221 \pm 0.202$   $\chi^2/\text{NDF}: 1252452.9/55$

All:  $1646.578 \pm 0.146$   $\chi^2/\text{NDF}: 2524429.2/100$

# diff\_bpm0i07X\_mean vs Slug, Sign Corrected



Right In:  $32.779 \pm 0.594$   $\chi^2/\text{NDF}$ : 1724.3/26

Left Out:  $-18.007 \pm 0.397$   $\chi^2/\text{NDF}$ : 73.8/24

Right Out:  $18.429 \pm 0.549$   $\chi^2/\text{NDF}$ : 705.2/30

Left In:  $-23.544 \pm 0.406$   $\chi^2/\text{NDF}$ : 346.7/22

Left:  $-20.714 \pm 0.284$   $\chi^2/\text{NDF}$ : 515.7/47

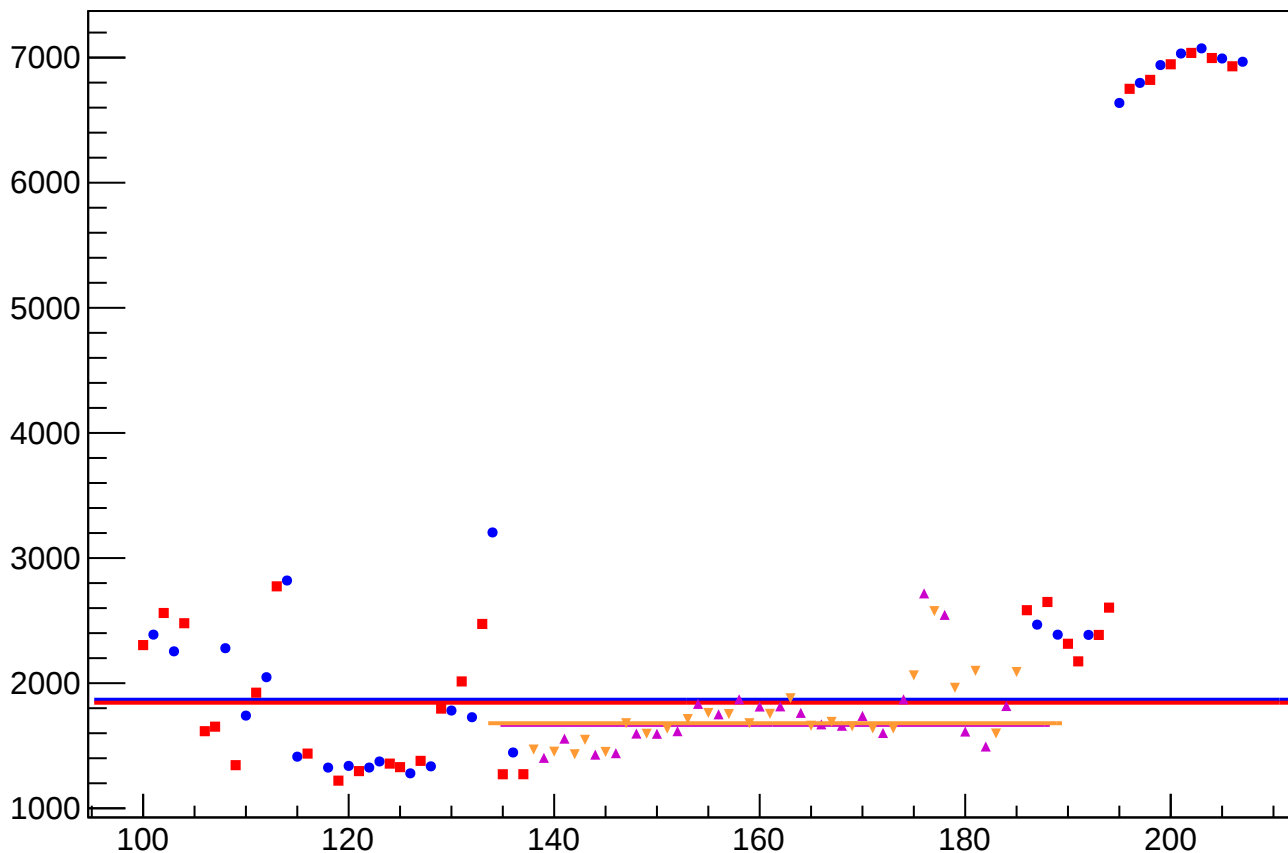
Right:  $25.036 \pm 0.403$   $\chi^2/\text{NDF}$ : 2744.5/57

In:  $-5.629 \pm 0.335$   $\chi^2/\text{NDF}$ : 8202.8/49

Out:  $-5.498 \pm 0.321$   $\chi^2/\text{NDF}$ : 3675.4/55

All:  $-5.561 \pm 0.232$   $\chi^2/\text{NDF}$ : 11878.3/105

# diff\_bpm0i07X\_rms vs Slug, Sign Corrected



Right In: 1867.618 $\pm$ 0.420  $\chi^2$ /NDF: 7255300.1/26

Left Out: 1679.814 $\pm$ 0.281  $\chi^2$ /NDF: 522795.6/24

Right Out: 1843.953 $\pm$ 0.388  $\chi^2$ /NDF: 6779905.0/30

Left In: 1666.819 $\pm$ 0.287  $\chi^2$ /NDF: 650990.8/22

Left: 1673.462 $\pm$ 0.201  $\chi^2$ /NDF: 1174835.7/47

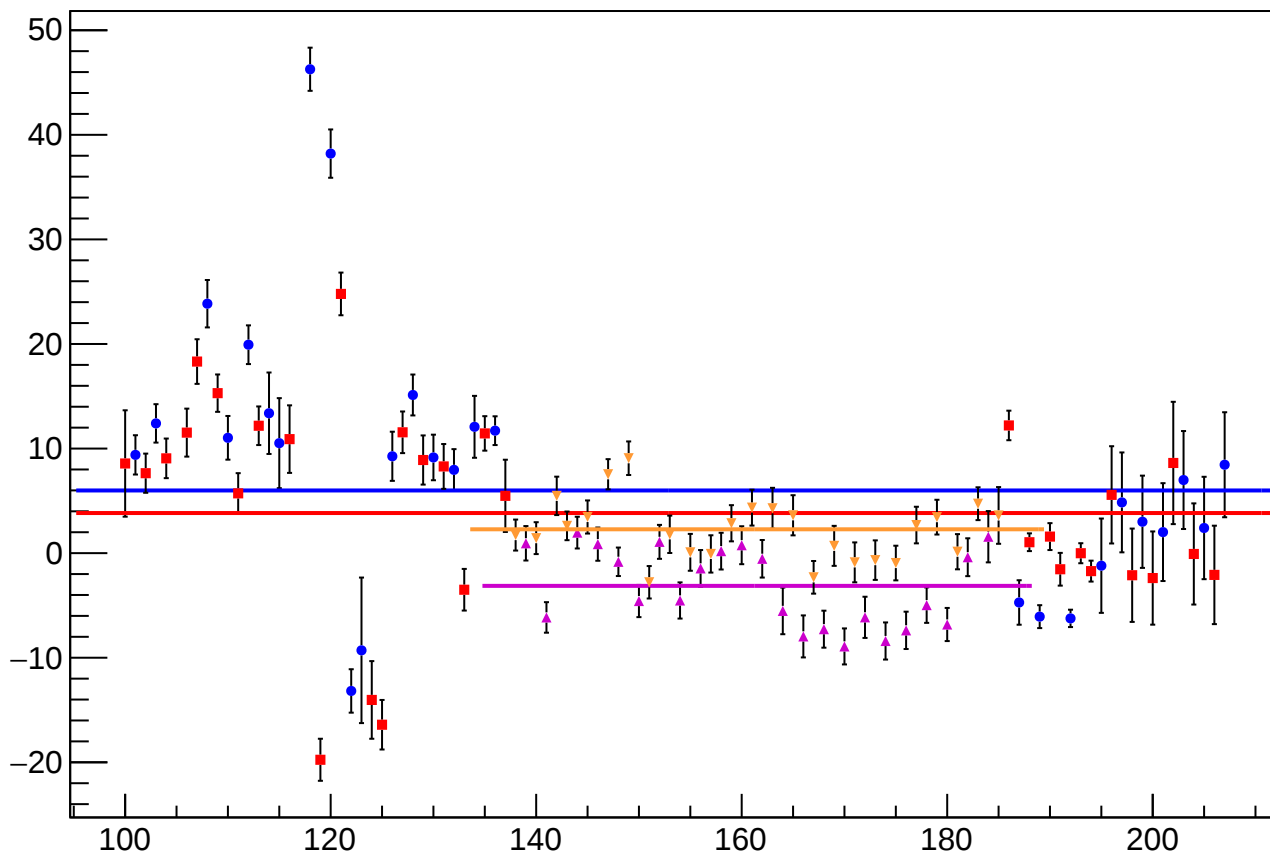
Right: 1854.848 $\pm$ 0.285  $\chi^2$ /NDF: 14036918.3/57

In: 1730.687 $\pm$ 0.237  $\chi^2$ /NDF: 8062159.7/49

Out: 1736.166 $\pm$ 0.227  $\chi^2$ /NDF: 7420255.5/55

All: 1733.539 $\pm$ 0.164  $\chi^2$ /NDF: 15482693.7/102

# diff\_bpm0i07Y\_mean vs Slug, Sign Corrected



Right In: 5.993 $\pm$ 0.393  $\chi^2/\text{NDF}$ : 1226.6/26

Left Out: 2.280 $\pm$ 0.338  $\chi^2/\text{NDF}$ : 75.6/24

Right Out: 3.836 $\pm$ 0.327  $\chi^2/\text{NDF}$ : 650.4/30

Left In: -3.129 $\pm$ 0.358  $\chi^2/\text{NDF}$ : 103.4/22

Left: -0.274 $\pm$ 0.246  $\chi^2/\text{NDF}$ : 299.7/47

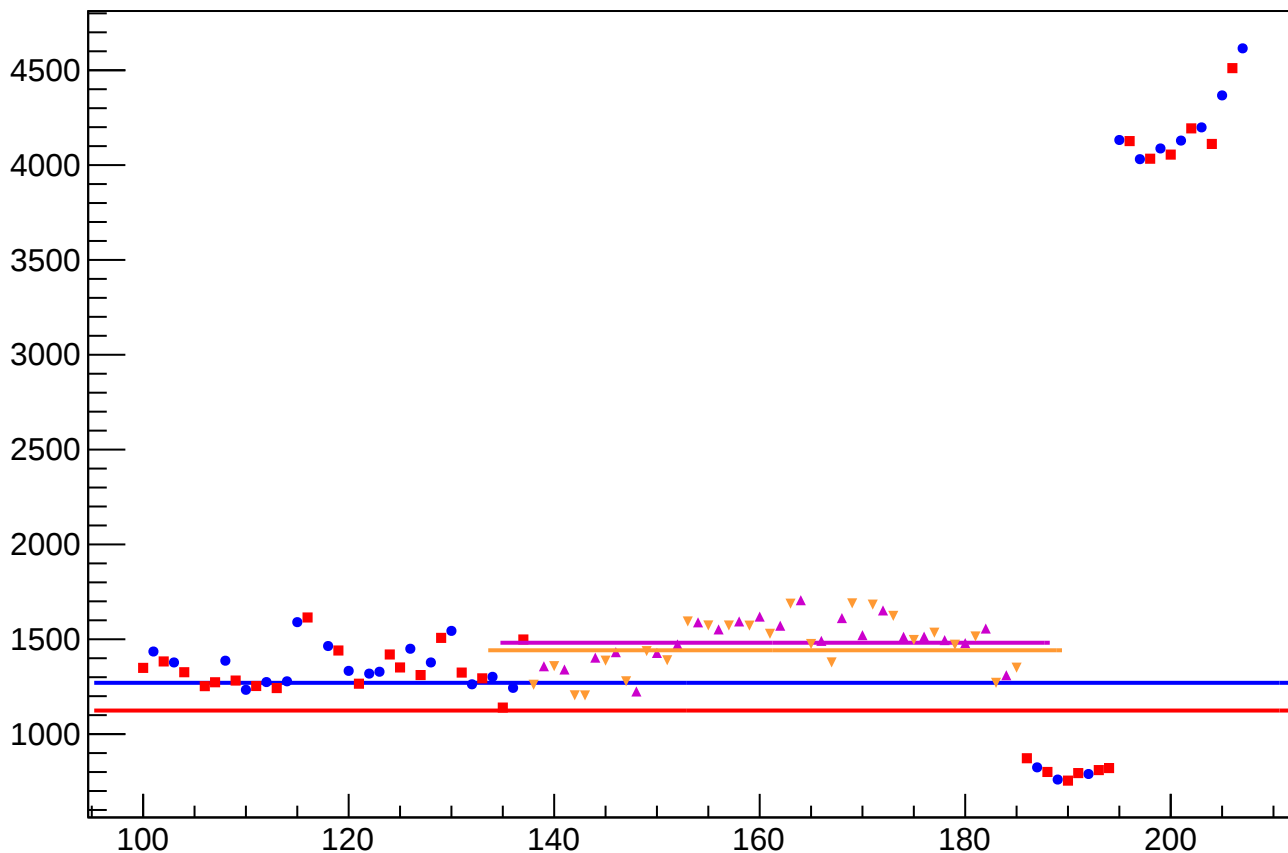
Right: 4.718 $\pm$ 0.252  $\chi^2/\text{NDF}$ : 1894.8/57

In: 0.999 $\pm$ 0.265  $\chi^2/\text{NDF}$ : 1624.4/49

Out: 3.083 $\pm$ 0.235  $\chi^2/\text{NDF}$ : 736.9/55

All: 2.163 $\pm$ 0.176  $\chi^2/\text{NDF}$ : 2395.9/105

# diff\_bpm0i07Y\_rms vs Slug, Sign Corrected



Right In: 1270.401+/-0.278  $\chi^2/\text{NDF}$ : 6807413.4/26

Left Out: 1441.951+/-0.239  $\chi^2/\text{NDF}$ : 370617.4/24

Right Out: 1124.219+/-0.231  $\chi^2/\text{NDF}$ : 6282895.8/30

Left In: 1481.695+/-0.253  $\chi^2/\text{NDF}$ : 208470.6/22

Left: 1460.716+/-0.174  $\chi^2/\text{NDF}$ : 592125.7/47

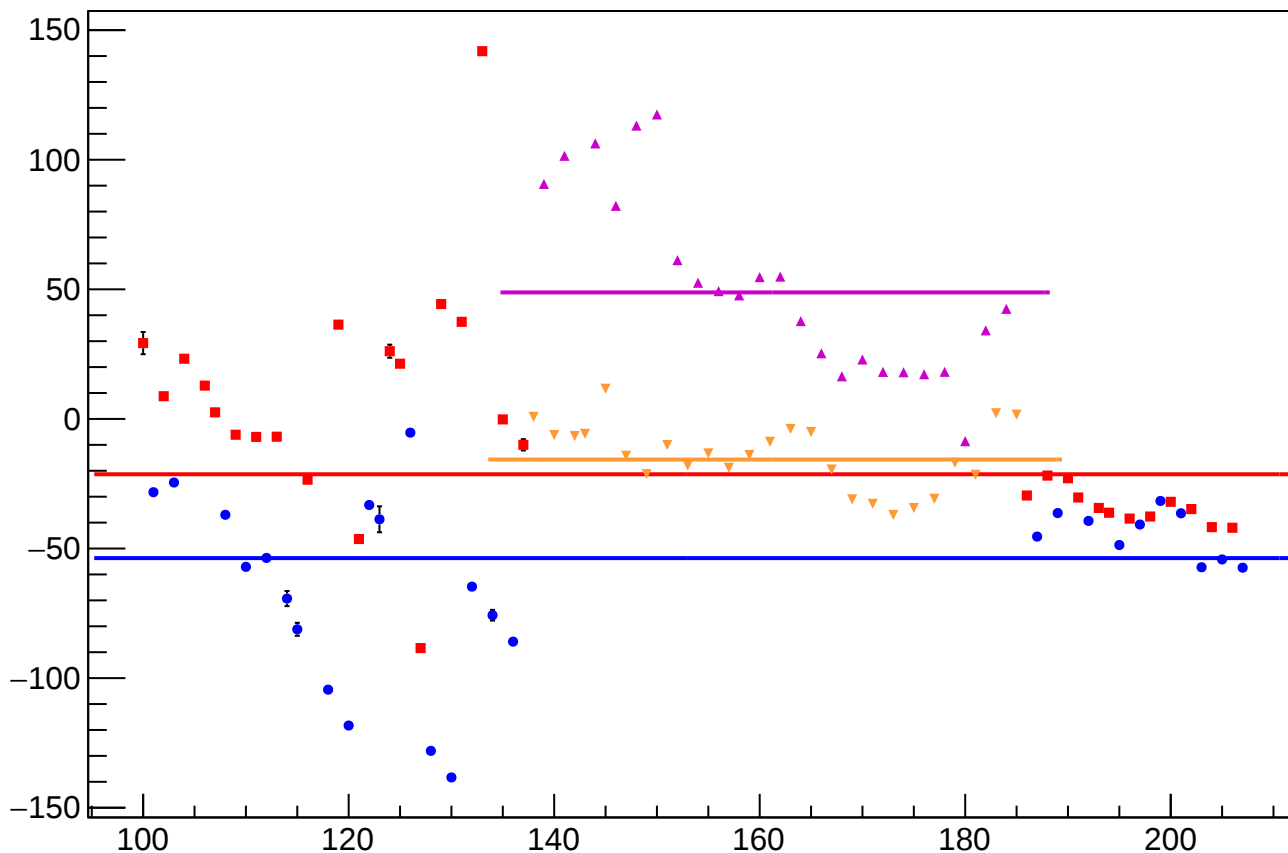
Right: 1184.016+/-0.178  $\chi^2/\text{NDF}$ : 13253495.6/57

In: 1386.087+/-0.187  $\chi^2/\text{NDF}$ : 7331767.0/49

Out: 1277.866+/-0.166  $\chi^2/\text{NDF}$ : 7564892.2/55

All: 1325.630+/-0.124  $\chi^2/\text{NDF}$ : 15083518.8/100

# diff\_bpm1i02X\_mean vs Slug, Sign Corrected



Right In: -53.697 $\pm$ 0.199  $\chi^2$ /NDF: 17049.1/26

Left Out: -15.666 $\pm$ 0.212  $\chi^2$ /NDF: 3518.1/24

Right Out: -21.345 $\pm$ 0.190  $\chi^2$ /NDF: 30467.9/30

Left In: 48.812 $\pm$ 0.220  $\chi^2$ /NDF: 25260.8/22

Left: 15.324 $\pm$ 0.152  $\chi^2$ /NDF: 73443.2/47

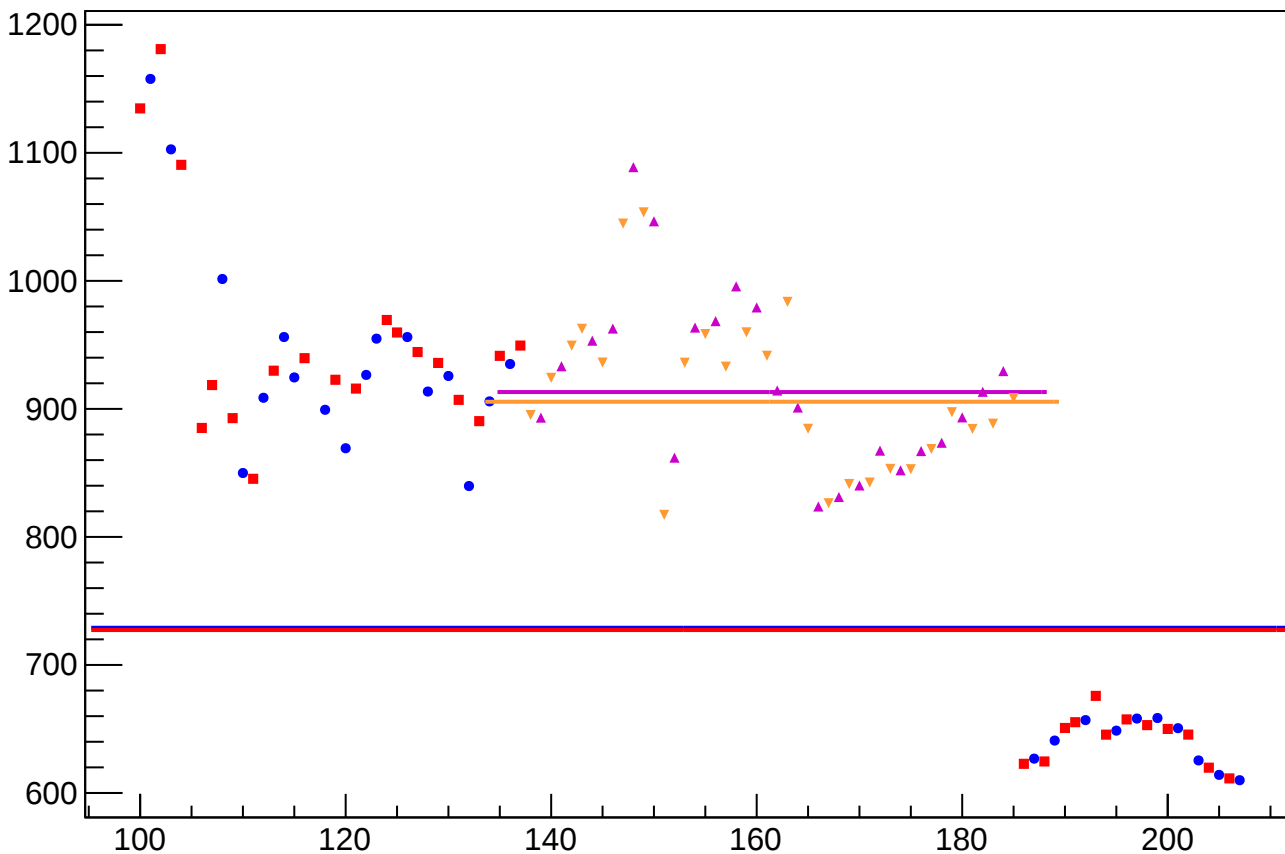
Right: -36.763 $\pm$ 0.138  $\chi^2$ /NDF: 61297.8/57

In: -7.441 $\pm$ 0.148  $\chi^2$ /NDF: 161588.6/49

Out: -18.805 $\pm$ 0.141  $\chi^2$ /NDF: 34384.4/55

All: -13.368 $\pm$ 0.102  $\chi^2$ /NDF: 199061.0/105

# diff\_bpm1i02X\_rms vs Slug, Sign Corrected



Right In: 729.045 $\pm$ 0.141  $\chi^2$ /NDF: 1055206.7/26

Left Out: 905.578 $\pm$ 0.150  $\chi^2$ /NDF:162073.5/24

Right Out: 727.261 $\pm$ 0.135  $\chi^2$ /NDF: 1121796.0/30

Left In: 913.165 $\pm$ 0.155  $\chi^2$ /NDF:174438.8/22

Left: 909.225 $\pm$ 0.108  $\chi^2$ /NDF: 337749.0/47

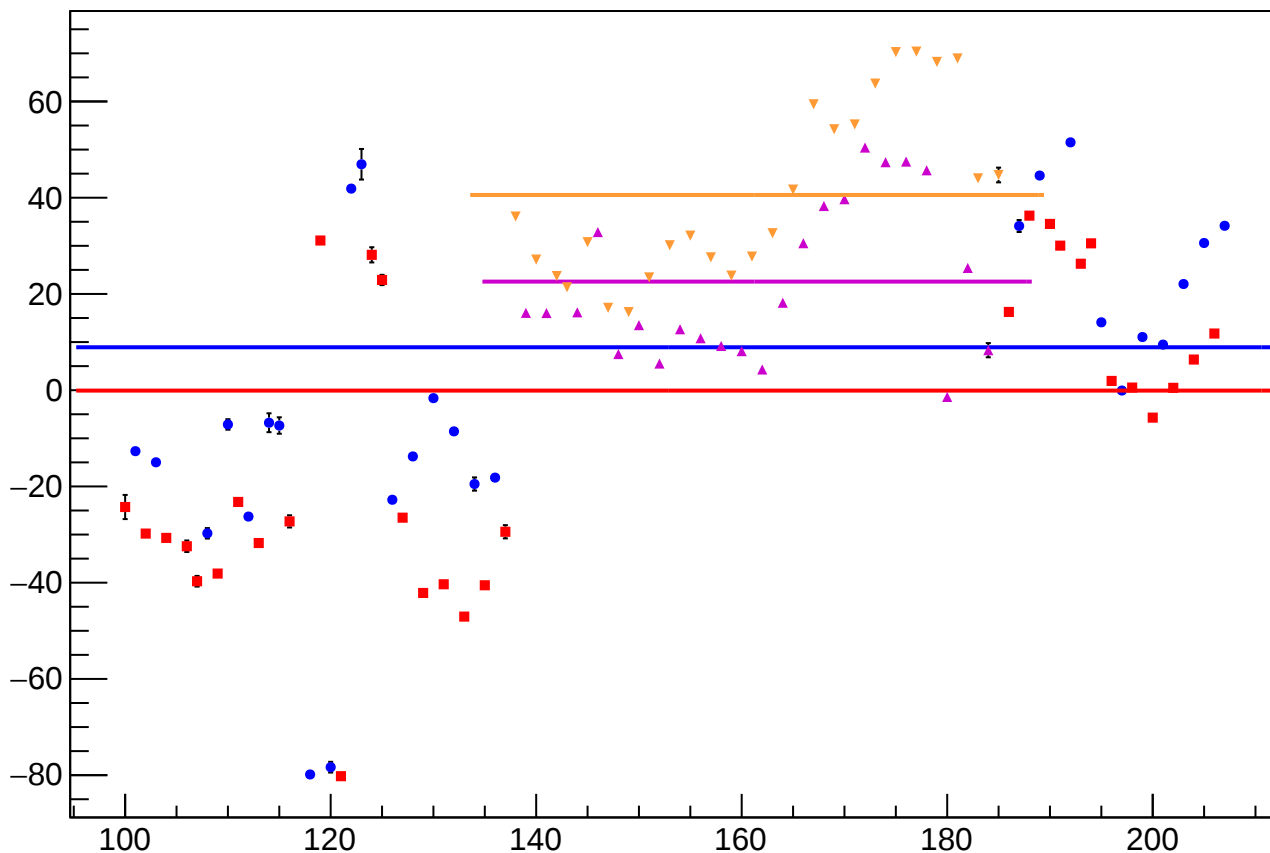
Right: 728.111 $\pm$ 0.097  $\chi^2$ /NDF: 2177086.5/57

In: 812.126 $\pm$ 0.104  $\chi^2$ /NDF:1999257.0/49

Out: 807.010 $\pm$ 0.100  $\chi^2$ /NDF:2069620.5/55

All: 809.457 $\pm$ 0.072  $\chi^2$ /NDF: 4070129.5/105

# diff\_bpm1i02Y\_mean vs Slug, Sign Corrected



Right In:  $8.921 \pm 0.146$   $\chi^2/\text{NDF}$ : 41017.8/26

Left Out:  $40.573 \pm 0.168$   $\chi^2/\text{NDF}$ : 12079.0/24

Right Out:  $-0.083 \pm 0.139$   $\chi^2/\text{NDF}$ : 41749.8/30

Left In:  $22.565 \pm 0.175$   $\chi^2/\text{NDF}$ : 8167.7/22

Left:  $31.959 \pm 0.121$   $\chi^2/\text{NDF}$ : 25752.7/47

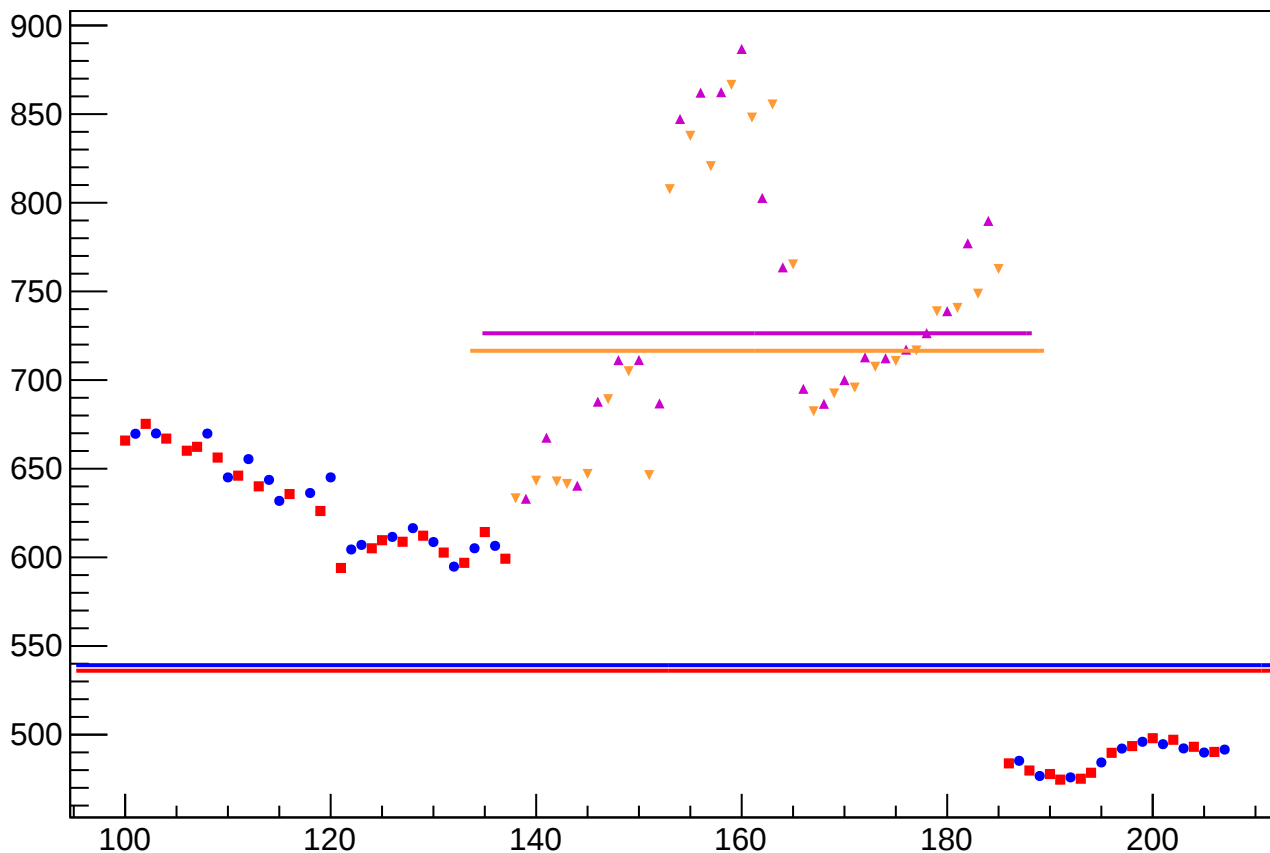
Right:  $4.196 \pm 0.101$   $\chi^2/\text{NDF}$ : 84768.6/57

In:  $14.502 \pm 0.112$   $\chi^2/\text{NDF}$ : 52766.5/49

Out:  $16.423 \pm 0.107$   $\chi^2/\text{NDF}$ : 88682.5/55

All:  $15.507 \pm 0.077$   $\chi^2/\text{NDF}$ : 141602.8/105

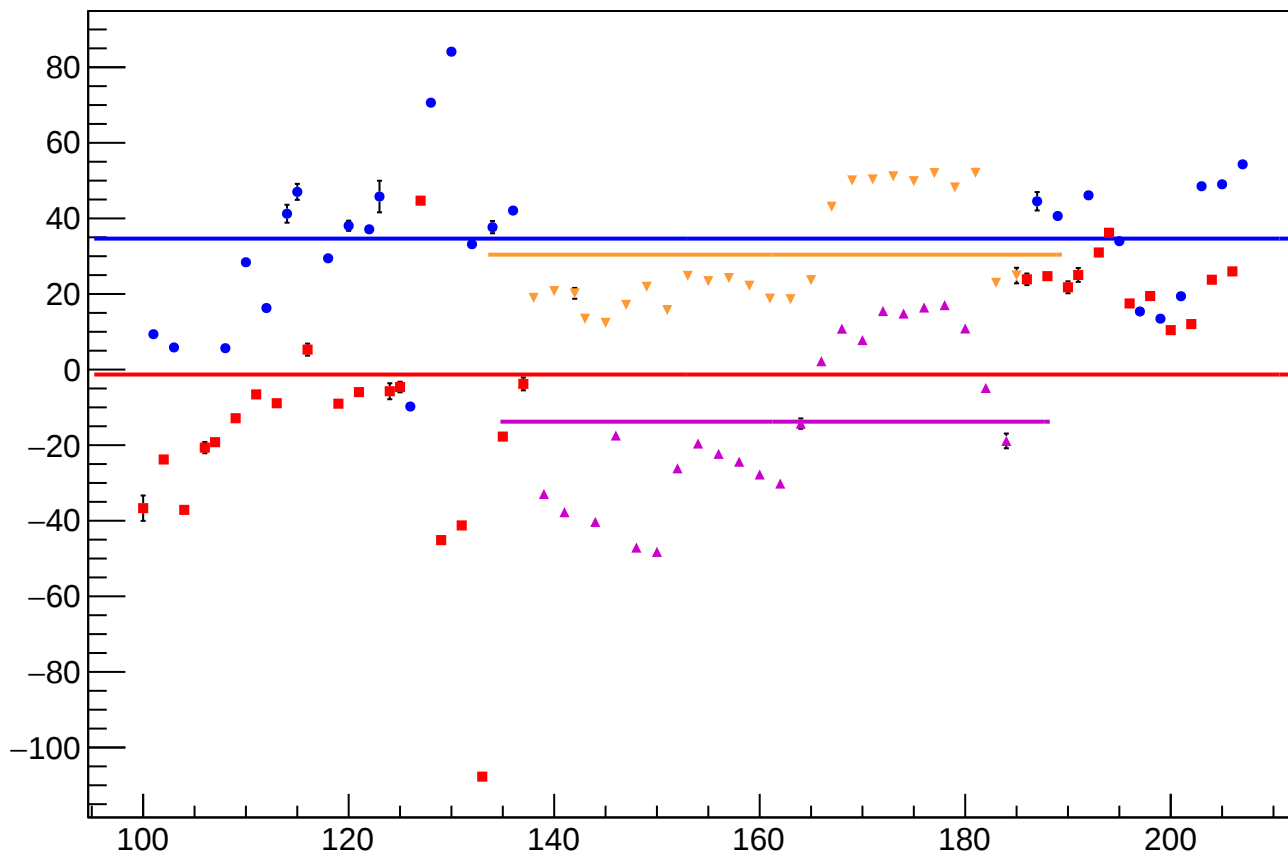
# diff\_bpm1i02Y\_rms vs Slug, Sign Corrected



Right In: 539.181 $\pm$ 0.103  $\chi^2$ /NDF: 460739.5/26  
 Left Out: 716.515 $\pm$ 0.119  $\chi^2$ /NDF:342740.2/24  
 Right Out: 536.066 $\pm$ 0.098  $\chi^2$ /NDF: 508826.1/30  
 Left In: 726.390 $\pm$ 0.124  $\chi^2$ /NDF:289788.8/22

Left: 721.238 $\pm$ 0.086  $\chi^2$ /NDF: 635840.6/47  
 Right: 537.546 $\pm$ 0.071  $\chi^2$ /NDF: 970044.6/57  
 In: 615.747 $\pm$ 0.079  $\chi^2$ /NDF:2098884.1/49  
 Out: 609.325 $\pm$ 0.076  $\chi^2$ /NDF:2224820.8/55  
 All: 612.385 $\pm$ 0.055  $\chi^2$ /NDF: 4327141.4/105

# diff\_bpm1i04X\_mean vs Slug, Sign Corrected



Right In:  $34.657 \pm 0.228$   $\chi^2/\text{NDF}: 8283.2/26$

Left Out:  $30.408 \pm 0.237$   $\chi^2/\text{NDF}: 3808.0/24$

Right Out:  $-1.310 \pm 0.219$   $\chi^2/\text{NDF}: 21343.4/30$

Left In:  $-13.787 \pm 0.246$   $\chi^2/\text{NDF}: 7979.7/22$

Left:  $9.082 \pm 0.171$   $\chi^2/\text{NDF}: 28511.9/47$

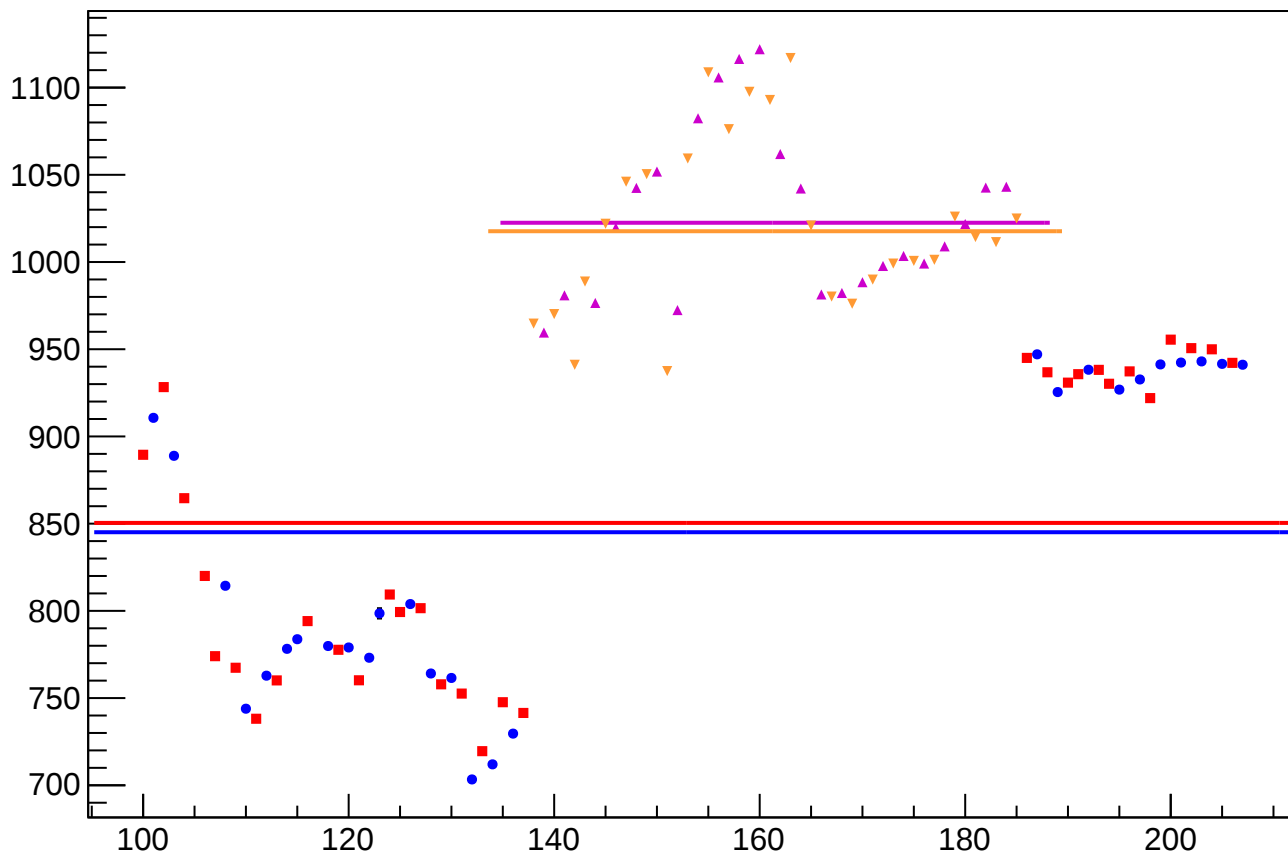
Right:  $15.989 \pm 0.158$   $\chi^2/\text{NDF}: 42547.5/57$

In:  $12.260 \pm 0.167$   $\chi^2/\text{NDF}: 37142.4/49$

Out:  $13.304 \pm 0.161$   $\chi^2/\text{NDF}: 34777.7/55$

All:  $12.801 \pm 0.116$   $\chi^2/\text{NDF}: 71940.4/105$

# diff\_bpm1i04X\_rms vs Slug, Sign Corrected



Right In: 845.086 $\pm$ 0.161  $\chi^2$ /NDF: 311121.2/26

Left Out: 1017.653 $\pm$ 0.168  $\chi^2$ /NDF:83612.5/24

Right Out: 850.423 $\pm$ 0.155  $\chi^2$ /NDF: 315738.7/30

Left In: 1022.511 $\pm$ 0.174  $\chi^2$ /NDF:69635.5/22

Left: 1019.997 $\pm$ 0.121  $\chi^2$ /NDF: 153652.2/47

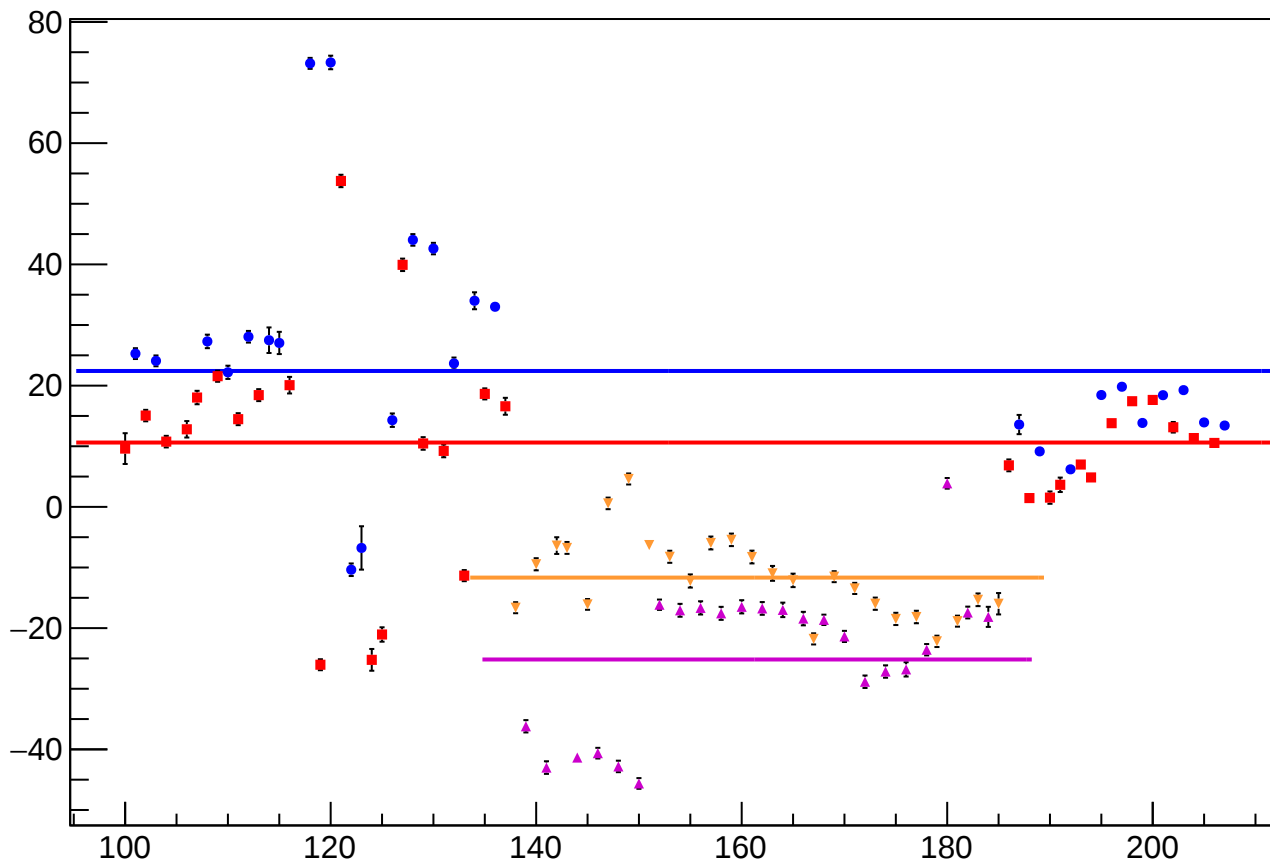
Right: 847.856 $\pm$ 0.112  $\chi^2$ /NDF: 627429.0/57

In: 927.117 $\pm$ 0.118  $\chi^2$ /NDF:940908.9/49

Out: 927.476 $\pm$ 0.114  $\chi^2$ /NDF:934507.4/55

All: 927.303 $\pm$ 0.082  $\chi^2$ /NDF: 1875421.1/105

# diff\_bpm1i04Y\_mean vs Slug, Sign Corrected



Right In:  $22.419 \pm 0.166$   $\chi^2/\text{NDF}: 9290.9/26$

Left Out:  $-11.664 \pm 0.200$   $\chi^2/\text{NDF}: 1147.4/24$

Right Out:  $10.614 \pm 0.162$   $\chi^2/\text{NDF}: 7015.9/30$

Left In:  $-25.174 \pm 0.207$   $\chi^2/\text{NDF}: 3747.1/22$

Left:  $-18.184 \pm 0.144$   $\chi^2/\text{NDF}: 7090.4/47$

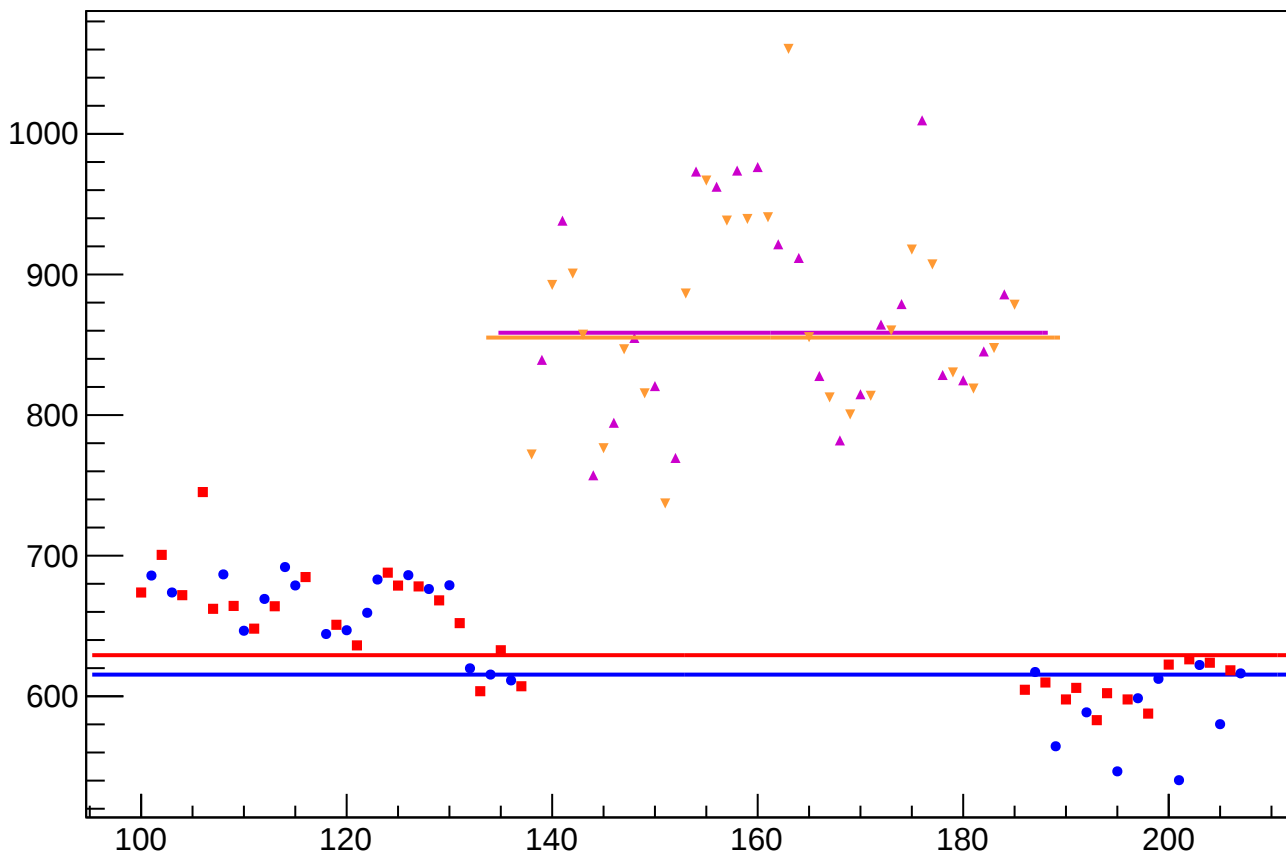
Right:  $16.371 \pm 0.116$   $\chi^2/\text{NDF}: 18899.9/57$

In:  $3.841 \pm 0.130$   $\chi^2/\text{NDF}: 45148.7/49$

Out:  $1.810 \pm 0.126$   $\chi^2/\text{NDF}: 15646.4/55$

All:  $2.797 \pm 0.090$   $\chi^2/\text{NDF}: 60921.5/105$

# diff\_bpm1i04Y\_rms vs Slug, Sign Corrected



Right In:  $615.400 \pm 0.117$   $\chi^2/\text{NDF}$ : 149135.8/26

Left Out:  $855.131 \pm 0.142$   $\chi^2/\text{NDF}$ : 233746.7/24

Right Out:  $629.225 \pm 0.114$   $\chi^2/\text{NDF}$ : 90415.4/30

Left In:  $858.563 \pm 0.147$   $\chi^2/\text{NDF}$ : 239019.8/22

Left:  $856.788 \pm 0.102$   $\chi^2/\text{NDF}$ : 473049.9/47

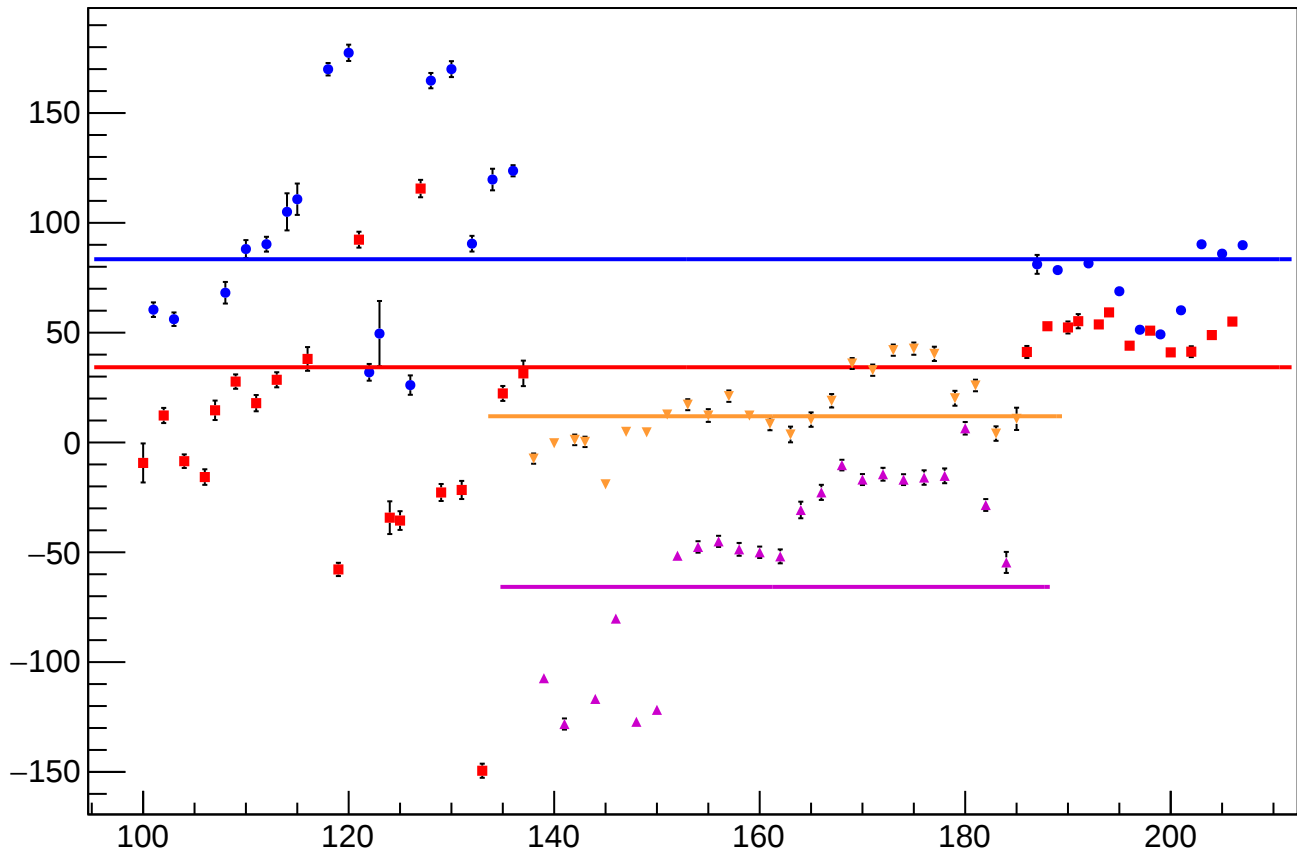
Right:  $622.483 \pm 0.082$   $\chi^2/\text{NDF}$ : 246663.9/57

In:  $710.319 \pm 0.092$   $\chi^2/\text{NDF}$ : 2064629.9/49

Out:  $718.499 \pm 0.089$   $\chi^2/\text{NDF}$ : 1863108.0/55

All:  $714.526 \pm 0.064$   $\chi^2/\text{NDF}$ : 3931837.6/105

# diff\_bpm1i06X\_mean vs Slug, Sign Corrected



Right In: 83.440+/-0.509  $\chi^2/\text{NDF}$ : 4401.2/26

Left Out: 11.938+/-0.505  $\chi^2/\text{NDF}$ : 976.6/24

Right Out: 34.254+/-0.493  $\chi^2/\text{NDF}$ : 6965.1/30

Left In: -65.752+/-0.518  $\chi^2/\text{NDF}$ : 7335.8/22

Left: -25.968+/-0.362  $\chi^2/\text{NDF}$ : 19845.5/47

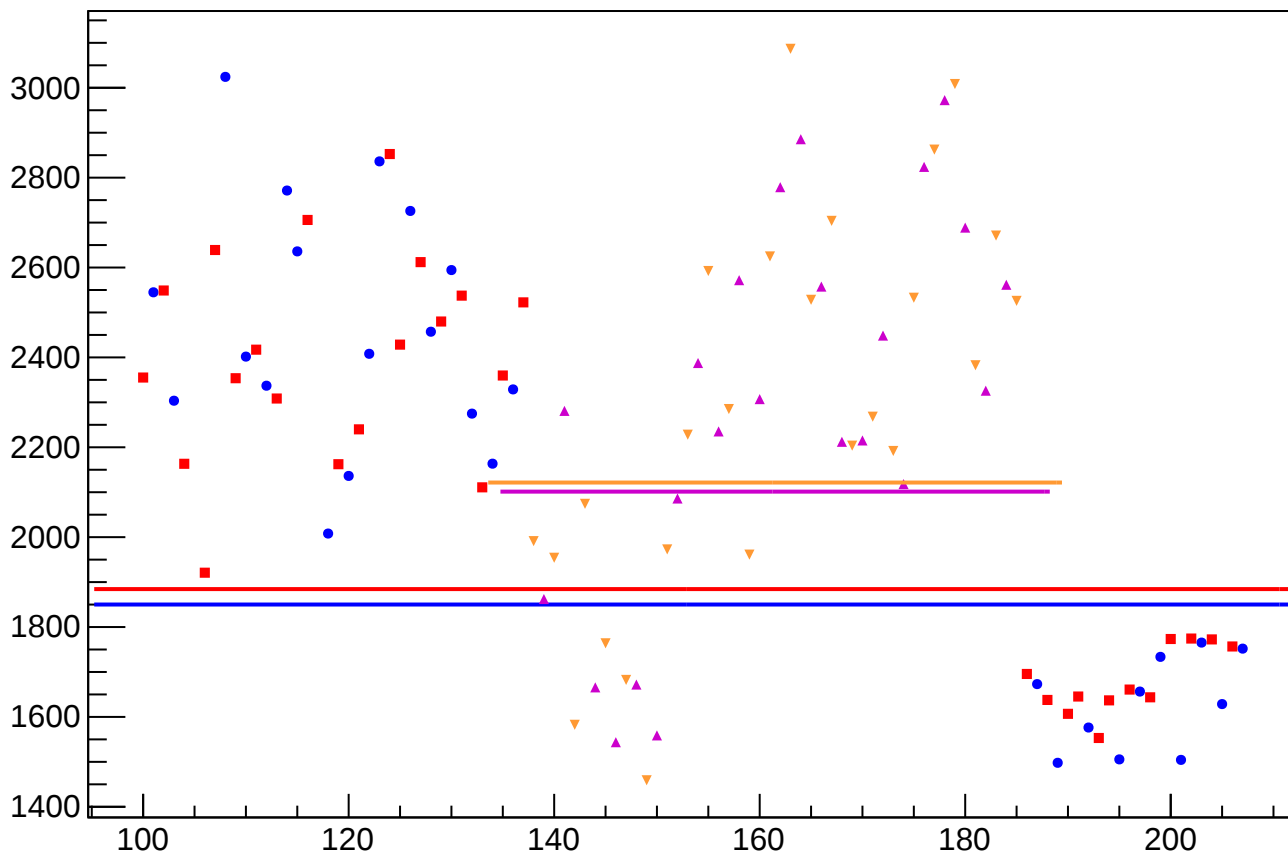
Right: 58.050+/-0.354  $\chi^2/\text{NDF}$ : 16190.1/57

In: 10.132+/-0.363  $\chi^2/\text{NDF}$ : 53981.9/49

Out: 23.381+/-0.353  $\chi^2/\text{NDF}$ : 8941.9/55

All: 16.945+/-0.253  $\chi^2/\text{NDF}$ : 63609.1/105

# diff\_bpm1i06X\_rms vs Slug, Sign Corrected



Right In:  $1850.106 \pm 0.360$

$\chi^2/\text{NDF}$ : 1111274.6/26

Left Out:  $2121.567 \pm 0.357$

$\chi^2/\text{NDF}$ : 1387847.6/24

Right Out:  $1884.444 \pm 0.348$

$\chi^2/\text{NDF}$ : 927778.0/30

Left In:  $2101.325 \pm 0.366$

$\chi^2/\text{NDF}$ : 1360518.3/22

Left:  $2111.691 \pm 0.256$   $\chi^2/\text{NDF}$ : 2749931.8/47

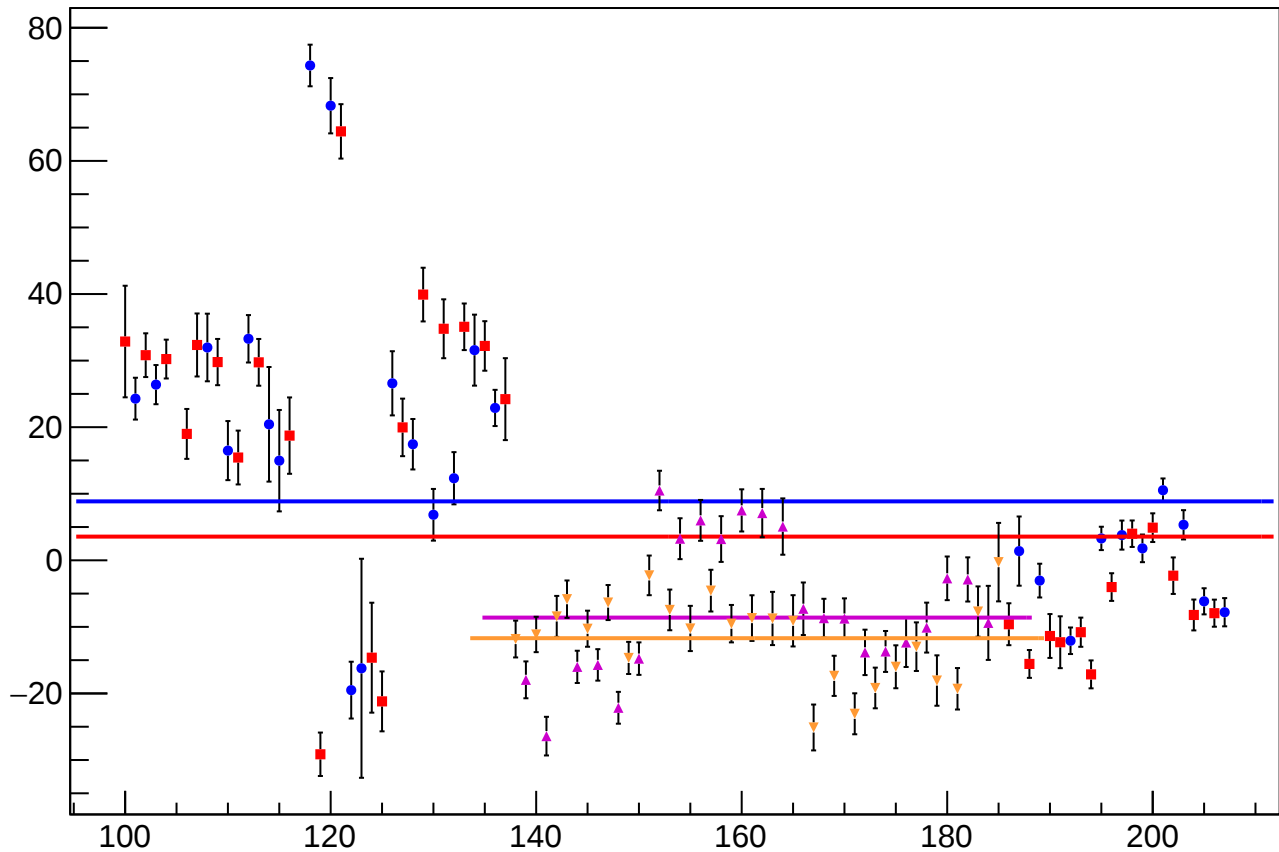
Right:  $1867.832 \pm 0.250$   $\chi^2/\text{NDF}$ : 2043754.7/57

In:  $1973.546 \pm 0.257$   $\chi^2/\text{NDF}$ : 2711354.3/49

Out:  $1999.977 \pm 0.249$   $\chi^2/\text{NDF}$ : 2541450.0/55

All:  $1987.137 \pm 0.179$   $\chi^2/\text{NDF}$ : 5258260.1/10

# diff\_bpm1i06Y\_mean vs Slug, Sign Corrected



Left: -10.193 ± 0.448  $\chi^2/\text{NDF}$ : 361.1/47

Right: 6.179 ± 0.389  $\chi^2/\text{NDF}$ : 2574.1/57

In: 1.416 ± 0.419  $\chi^2/\text{NDF}$ : 1861.0/49

Out: -3.052 ± 0.412  $\chi^2/\text{NDF}$ : 1778.1/55

All: -0.857 ± 0.294  $\chi^2/\text{NDF}$ : 3696.9/105

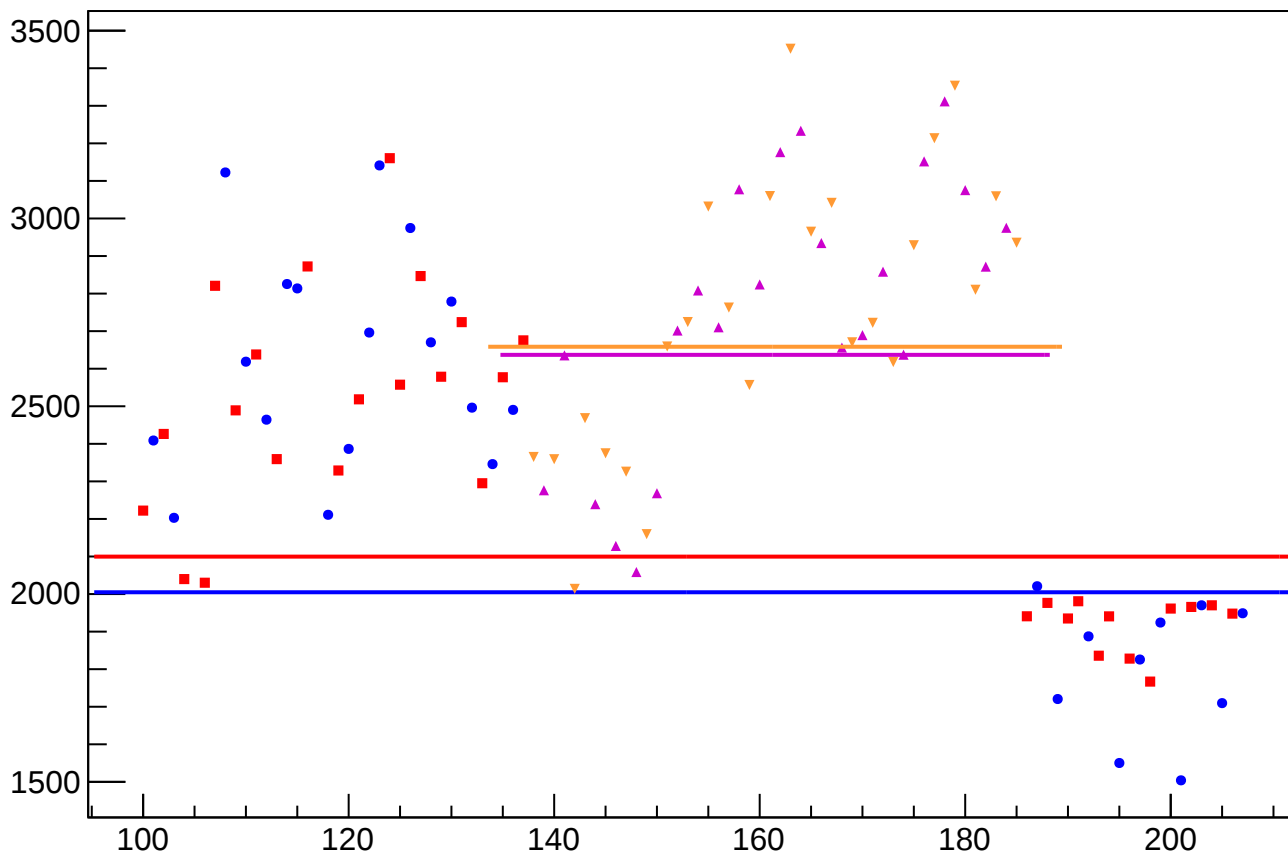
Right In: 8.855 ± 0.553  $\chi^2/\text{NDF}$ : 1172.1/26

Left Out: -11.700 ± 0.625  $\chi^2/\text{NDF}$ : 85.0/24

Right Out: 3.562 ± 0.547  $\chi^2/\text{NDF}$ : 1355.7/30

Left In: -8.606 ± 0.642  $\chi^2/\text{NDF}$ : 264.2/22

# diff\_bpm1i06Y\_rms vs Slug, Sign Corrected



Right In: 2004.799 $\pm$ 0.391  $\chi^2/\text{NDF}$ : 1055086.0/26

Left Out: 2658.486 $\pm$ 0.442  $\chi^2/\text{NDF}$ : 618133.8/24

Right Out: 2099.695 $\pm$ 0.387  $\chi^2/\text{NDF}$ : 624873.8/30

Left In: 2636.885 $\pm$ 0.454  $\chi^2/\text{NDF}$ : 652894.5/22

Left: 2647.967 $\pm$ 0.317  $\chi^2/\text{NDF}$ : 1272190.1/47

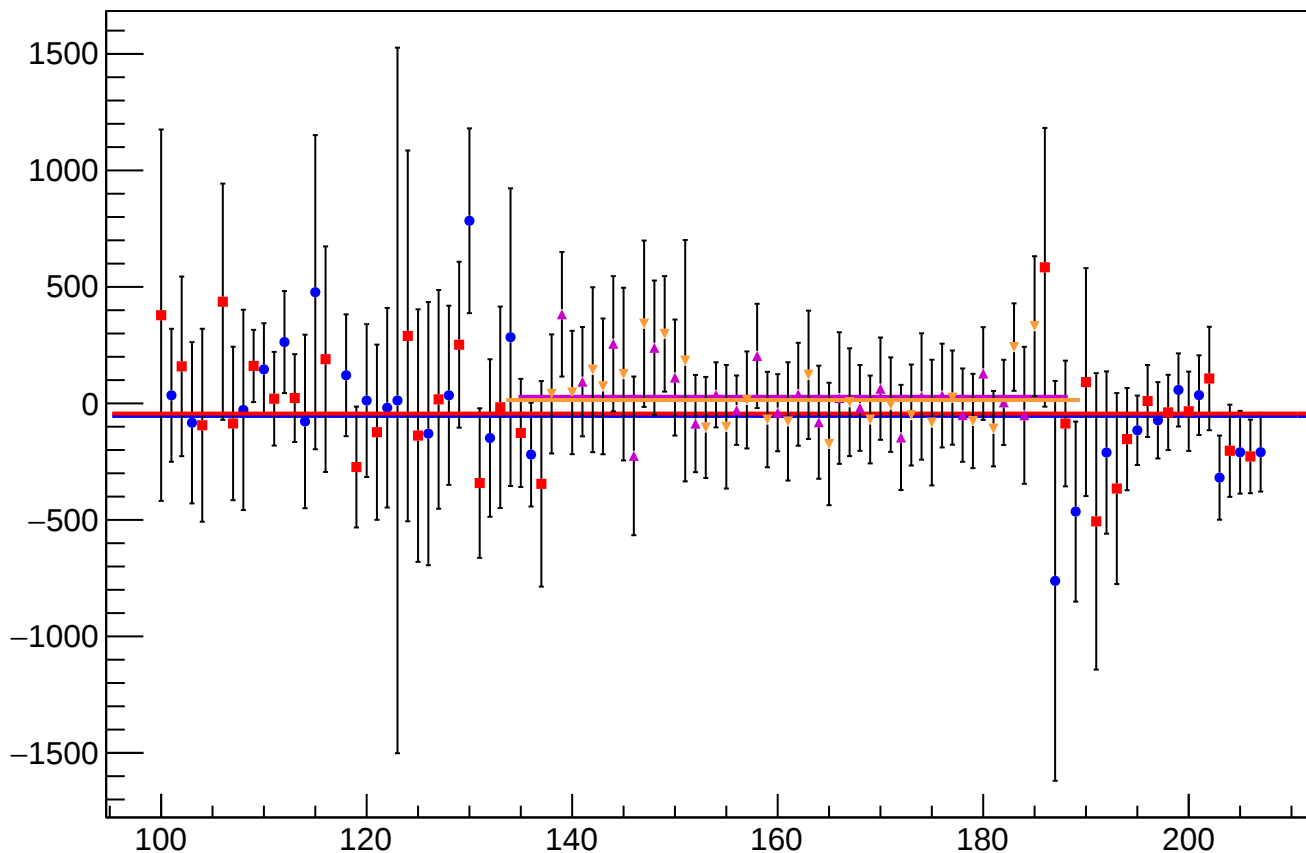
Right: 2052.775 $\pm$ 0.275  $\chi^2/\text{NDF}$ : 1709730.8/57

In: 2274.083 $\pm$ 0.296  $\chi^2/\text{NDF}$ : 2821005.5/49

Out: 2341.830 $\pm$ 0.291  $\chi^2/\text{NDF}$ : 2147677.9/55

All: 2308.550 $\pm$ 0.208  $\chi^2/\text{NDF}$ : 4995286.2/100

asym\_bcm\_an\_us\_bcm\_an\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In:  $-53.750 \pm 48.219$   $\chi^2/\text{NDF}: 16.5/26$

Left Out:  $14.520 \pm 47.528$   $\chi^2/\text{NDF}: 7.8/24$

Right Out:  $-43.726 \pm 46.900$   $\chi^2/\text{NDF}: 12.1/30$

Left In:  $28.310 \pm 44.638$   $\chi^2/\text{NDF}: 6.3/22$

Left:  $21.847 \pm 32.538$   $\chi^2/\text{NDF}: 14.1/47$

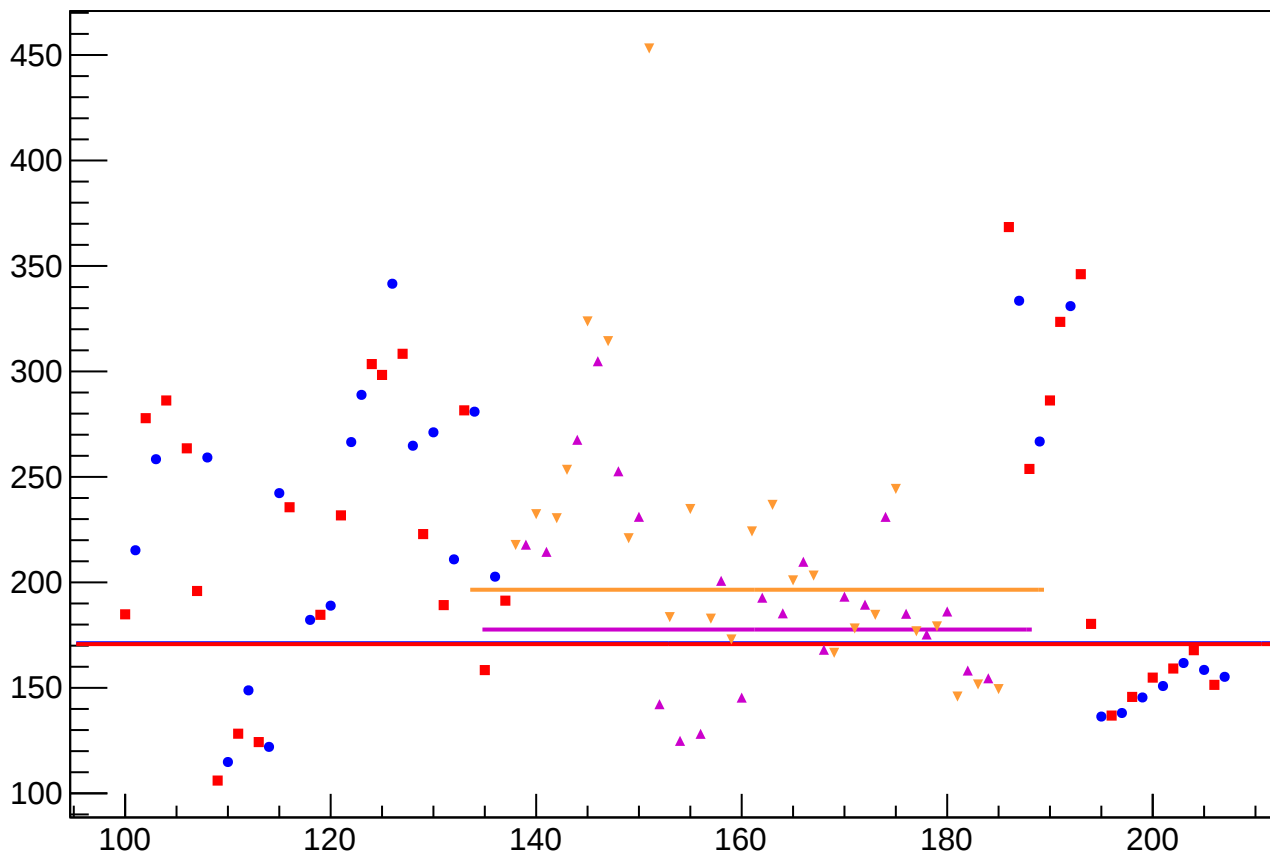
Right:  $-48.599 \pm 33.620$   $\chi^2/\text{NDF}: 28.6/57$

In:  $-9.561 \pm 32.757$   $\chi^2/\text{NDF}: 24.4/49$

Out:  $-14.991 \pm 33.383$   $\chi^2/\text{NDF}: 20.6/55$

All:  $-12.224 \pm 23.381$   $\chi^2/\text{NDF}: 45.0/105$

asym\_bcm\_an\_us\_bcm\_an\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 171.143+/-0.034  $\chi^2/\text{NDF}$ : 2094466.0/26

Left Out: 196.514+/-0.034  $\chi^2/\text{NDF}$ :1789504.4/24

Right Out: 170.726+/-0.033  $\chi^2/\text{NDF}$ : 2773704.9/30

Left In: 177.643+/-0.032  $\chi^2/\text{NDF}$ :1630664.5/22

Left: 186.488+/-0.023  $\chi^2/\text{NDF}$ : 3587689.7/47

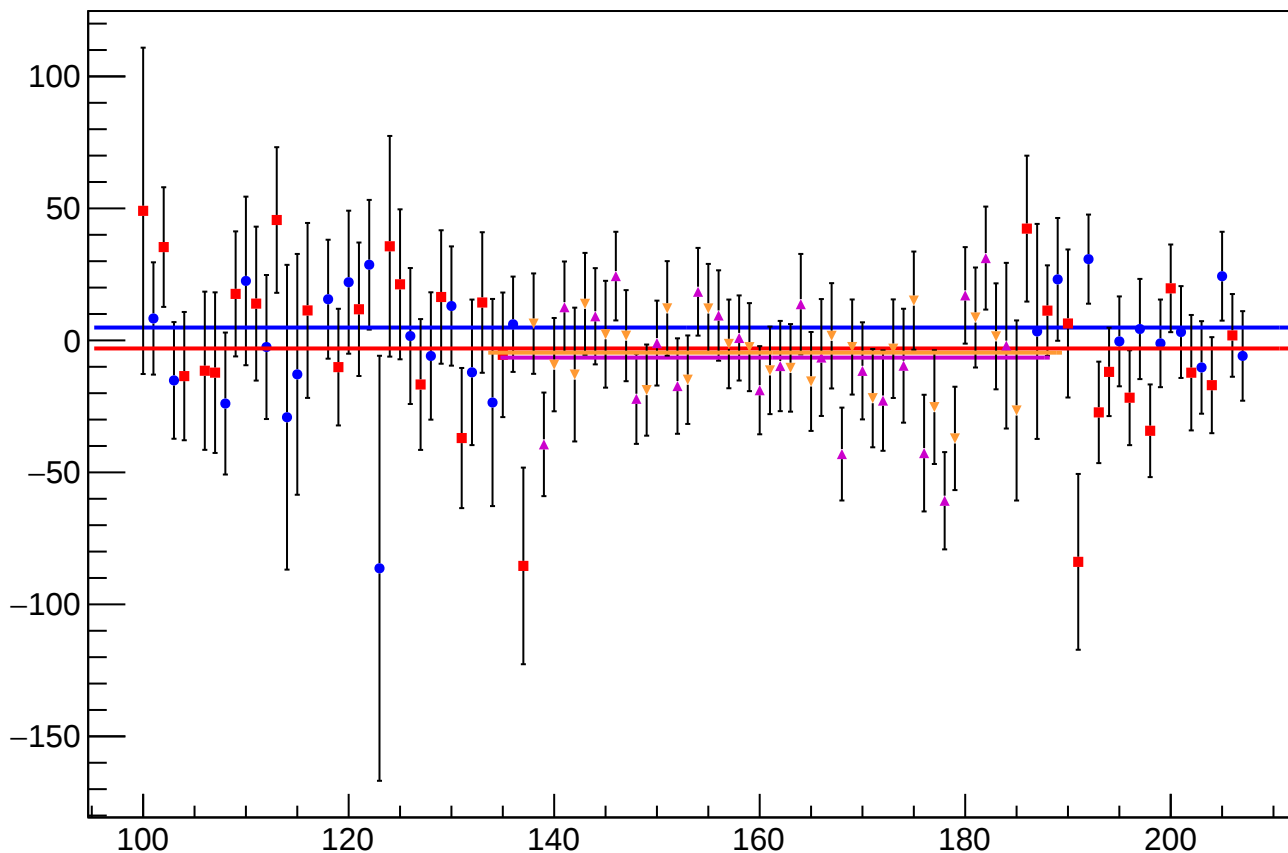
Right: 170.929+/-0.024  $\chi^2/\text{NDF}$ : 4868247.7/57

In: 174.643+/-0.023  $\chi^2/\text{NDF}$ :3744702.9/49

Out: 183.448+/-0.024  $\chi^2/\text{NDF}$ :4861524.3/55

All: 178.962+/-0.017  $\chi^2/\text{NDF}$ : 8677112.2/105

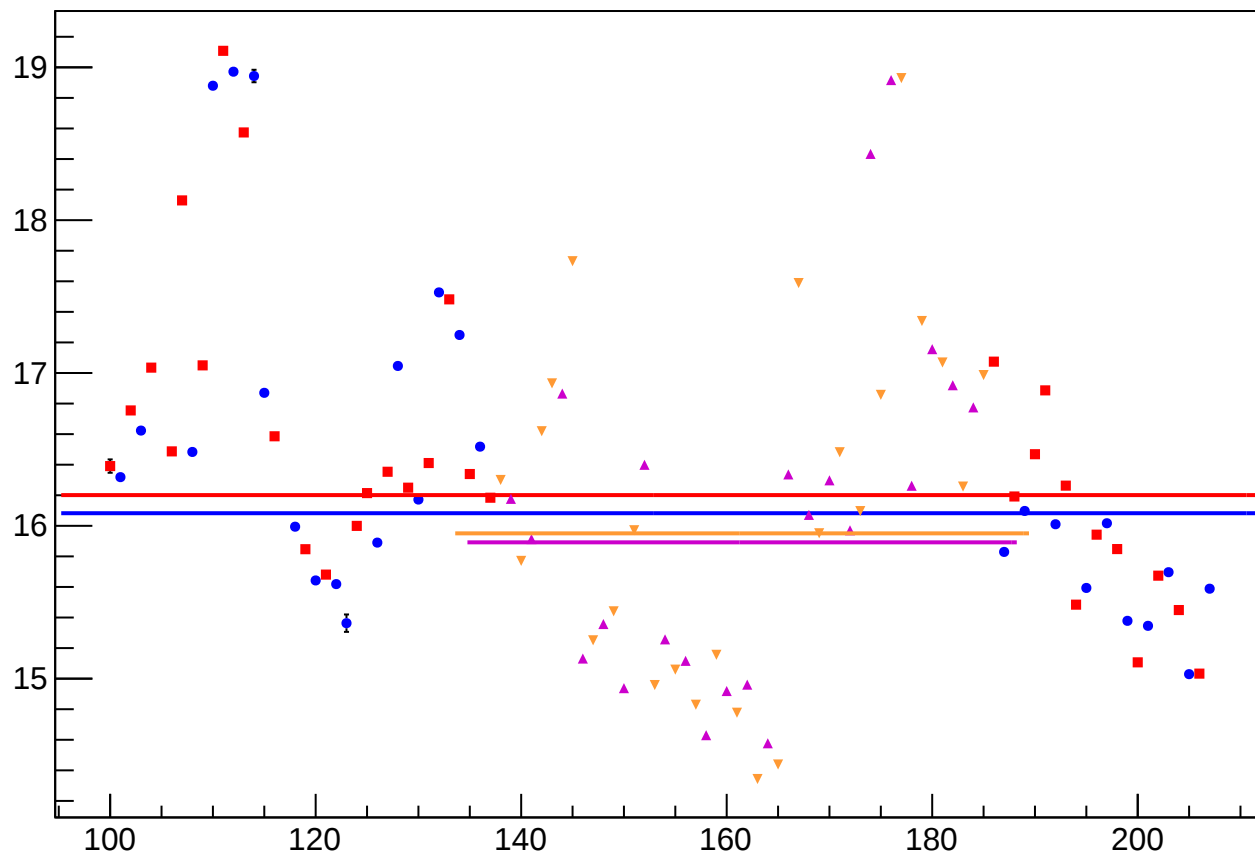
asym\_bcm\_an\_avg\_bcm\_dg\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $4.867 \pm 4.324$   $\chi^2/\text{NDF}: 12.7/26$   
 Left Out:  $-4.646 \pm 3.728$   $\chi^2/\text{NDF}: 12.1/24$   
 Right Out:  $-3.059 \pm 4.168$   $\chi^2/\text{NDF}: 36.5/30$   
 Left In:  $-6.526 \pm 3.828$   $\chi^2/\text{NDF}: 36.4/22$

Left:  $-5.561 \pm 2.670$   $\chi^2/\text{NDF}: 48.6/47$   
 Right:  $0.759 \pm 3.001$   $\chi^2/\text{NDF}: 50.9/57$   
 In:  $-1.520 \pm 2.866$   $\chi^2/\text{NDF}: 53.0/49$   
 Out:  $-3.941 \pm 2.779$   $\chi^2/\text{NDF}: 48.6/55$   
 All:  $-2.768 \pm 1.995$   $\chi^2/\text{NDF}: 101.9/105$

asym\_bcm\_an\_avg\_bcm\_dg\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 16.083 $\pm$ 0.003  $\chi^2$ /NDF: 77838.3/26

Left Out: 15.951 $\pm$ 0.003  $\chi^2$ /NDF:173458.5/24

Right Out: 16.201 $\pm$ 0.003  $\chi^2$ /NDF: 87945.0/30

Left In: 15.892 $\pm$ 0.003  $\chi^2$ /NDF:147093.3/22

Left: 15.922 $\pm$ 0.002  $\chi^2$ /NDF: 320794.5/47

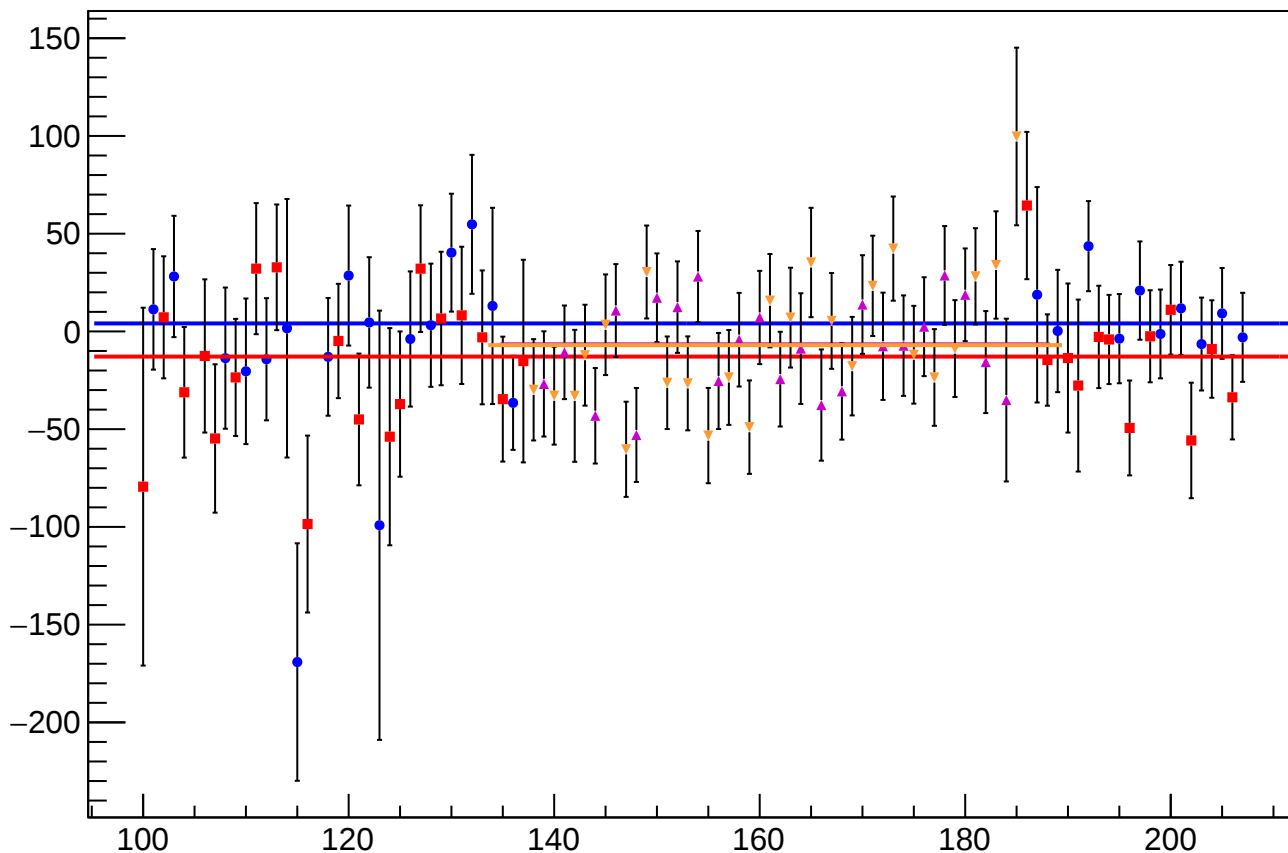
Right: 16.144 $\pm$ 0.002  $\chi^2$ /NDF: 166562.5/57

In: 15.976 $\pm$ 0.002  $\chi^2$ /NDF:227111.7/49

Out: 16.062 $\pm$ 0.002  $\chi^2$ /NDF:265411.6/55

All: 16.020 $\pm$ 0.001  $\chi^2$ /NDF: 493458.9/105

asym\_bcm\_an\_avg\_bcm\_dg\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $4.092 \pm 5.792$   $\chi^2/\text{NDF}: 22.0/26$

Left Out:  $-7.017 \pm 5.121$   $\chi^2/\text{NDF}: 37.4/24$

Right Out:  $-12.876 \pm 5.573$   $\chi^2/\text{NDF}: 26.3/30$

Left In:  $-6.611 \pm 5.251$   $\chi^2/\text{NDF}: 19.1/22$

Left:  $-6.820 \pm 3.666$   $\chi^2/\text{NDF}: 56.6/47$

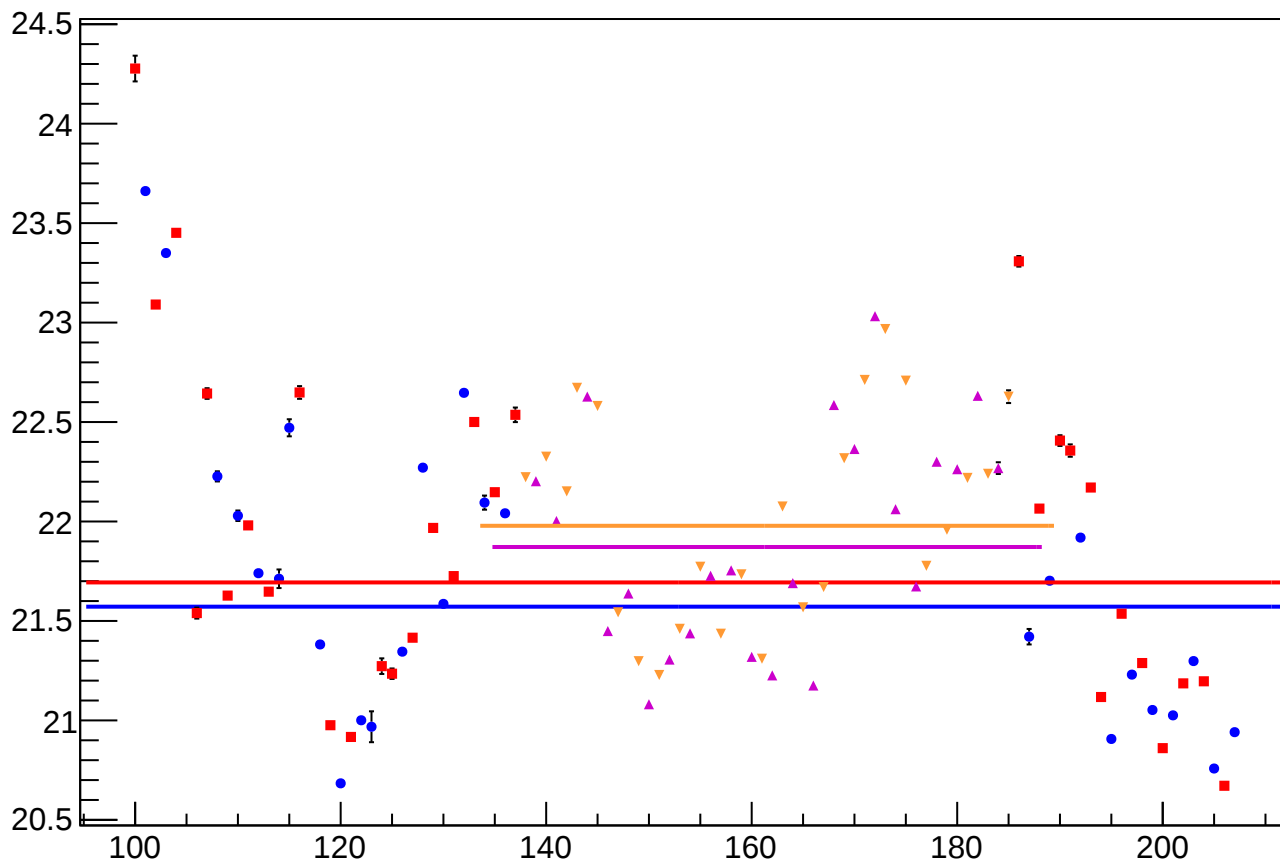
Right:  $-4.719 \pm 4.016$   $\chi^2/\text{NDF}: 52.8/57$

In:  $-1.782 \pm 3.890$   $\chi^2/\text{NDF}: 43.0/49$

Out:  $-9.700 \pm 3.771$   $\chi^2/\text{NDF}: 64.4/55$

All:  $-5.865 \pm 2.708$   $\chi^2/\text{NDF}: 109.5/105$

asym\_bcm\_an\_avg\_bcm\_dg\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 21.572 $\pm$ 0.004  $\chi^2$ /NDF: 31967.6/26

Left Out: 21.978 $\pm$ 0.004  $\chi^2$ /NDF:19430.2/24

Right Out: 21.694 $\pm$ 0.004  $\chi^2$ /NDF: 34948.6/30

Left In: 21.872 $\pm$ 0.004  $\chi^2$ /NDF:20524.9/22

Left: 21.926 $\pm$ 0.003  $\chi^2$ /NDF: 40377.5/47

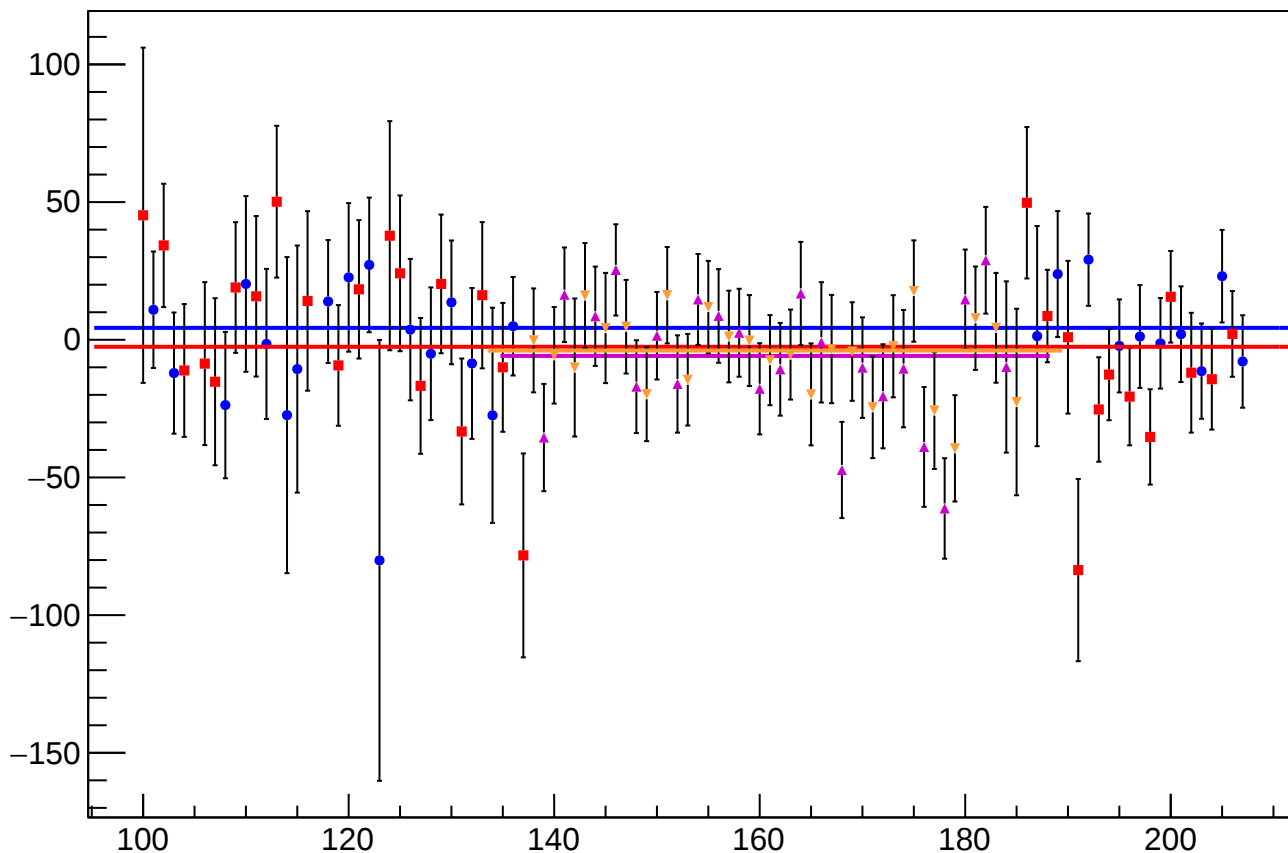
Right: 21.635 $\pm$ 0.003  $\chi^2$ /NDF: 67375.9/57

In: 21.736 $\pm$ 0.003  $\chi^2$ /NDF:55437.8/49

Out: 21.848 $\pm$ 0.003  $\chi^2$ /NDF:57210.2/55

All: 21.794 $\pm$ 0.002  $\chi^2$ /NDF: 113496.1/105

asym\_bcm\_an\_us\_ds3\_avg\_bcm\_dg\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $4.331 \pm 4.292$   $\chi^2/\text{NDF}: 12.2/26$

Left Out:  $-3.927 \pm 3.688$   $\chi^2/\text{NDF}: 14.0/24$

Right Out:  $-2.546 \pm 4.138$   $\chi^2/\text{NDF}: 37.1/30$

Left In:  $-5.861 \pm 3.787$   $\chi^2/\text{NDF}: 36.2/22$

Left:  $-4.869 \pm 2.642$   $\chi^2/\text{NDF}: 50.3/47$

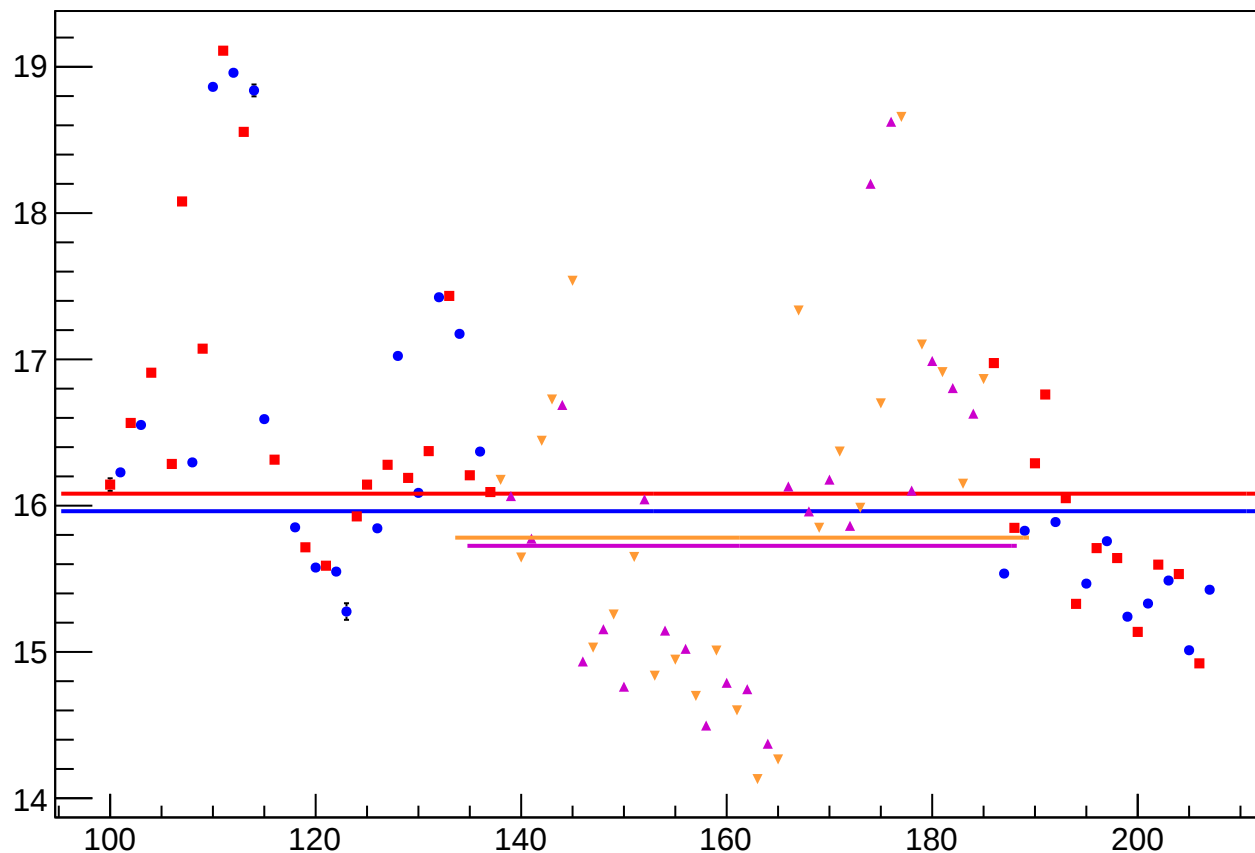
Right:  $0.768 \pm 2.979$   $\chi^2/\text{NDF}: 50.6/57$

In:  $-1.399 \pm 2.840$   $\chi^2/\text{NDF}: 51.5/49$

Out:  $-3.316 \pm 2.753$   $\chi^2/\text{NDF}: 51.1/55$

All:  $-2.387 \pm 1.977$   $\chi^2/\text{NDF}: 102.9/105$

asym\_bcm\_an\_us\_ds3\_avg\_bcm\_dg\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 15.962 $\pm$ 0.003  $\chi^2/\text{NDF}$ : 80730.5/26

Left Out: 15.781 $\pm$ 0.003  $\chi^2/\text{NDF}$ :172894.3/24

Right Out: 16.082 $\pm$ 0.003  $\chi^2/\text{NDF}$ : 90471.8/30

Left In: 15.725 $\pm$ 0.003  $\chi^2/\text{NDF}$ :145830.9/22

Left: 15.754 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 318948.8/47

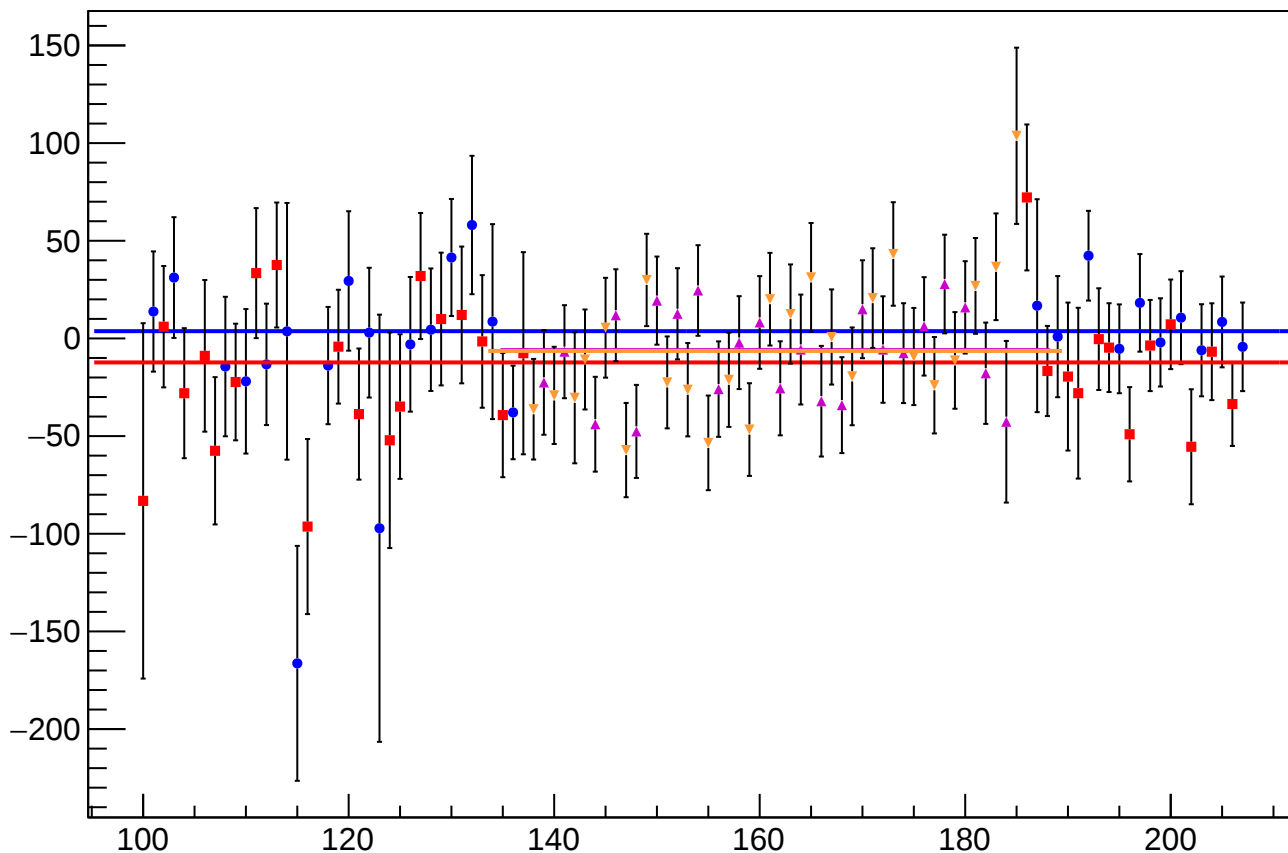
Right: 16.024 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 172010.3/57

In: 15.829 $\pm$ 0.002  $\chi^2/\text{NDF}$ :229982.1/49

Out: 15.914 $\pm$ 0.002  $\chi^2/\text{NDF}$ :269249.4/55

All: 15.873 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 500162.9/105

asym\_bcm\_an\_us\_ds3\_avg\_bcm\_dg\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $3.718 \pm 5.765$   $\chi^2/\text{NDF}: 22.5/26$

Left Out:  $-6.404 \pm 5.091$   $\chi^2/\text{NDF}: 37.4/24$

Right Out:  $-12.285 \pm 5.543$   $\chi^2/\text{NDF}: 27.8/30$

Left In:  $-5.978 \pm 5.222$   $\chi^2/\text{NDF}: 18.5/22$

Left:  $-6.196 \pm 3.646$   $\chi^2/\text{NDF}: 55.9/47$

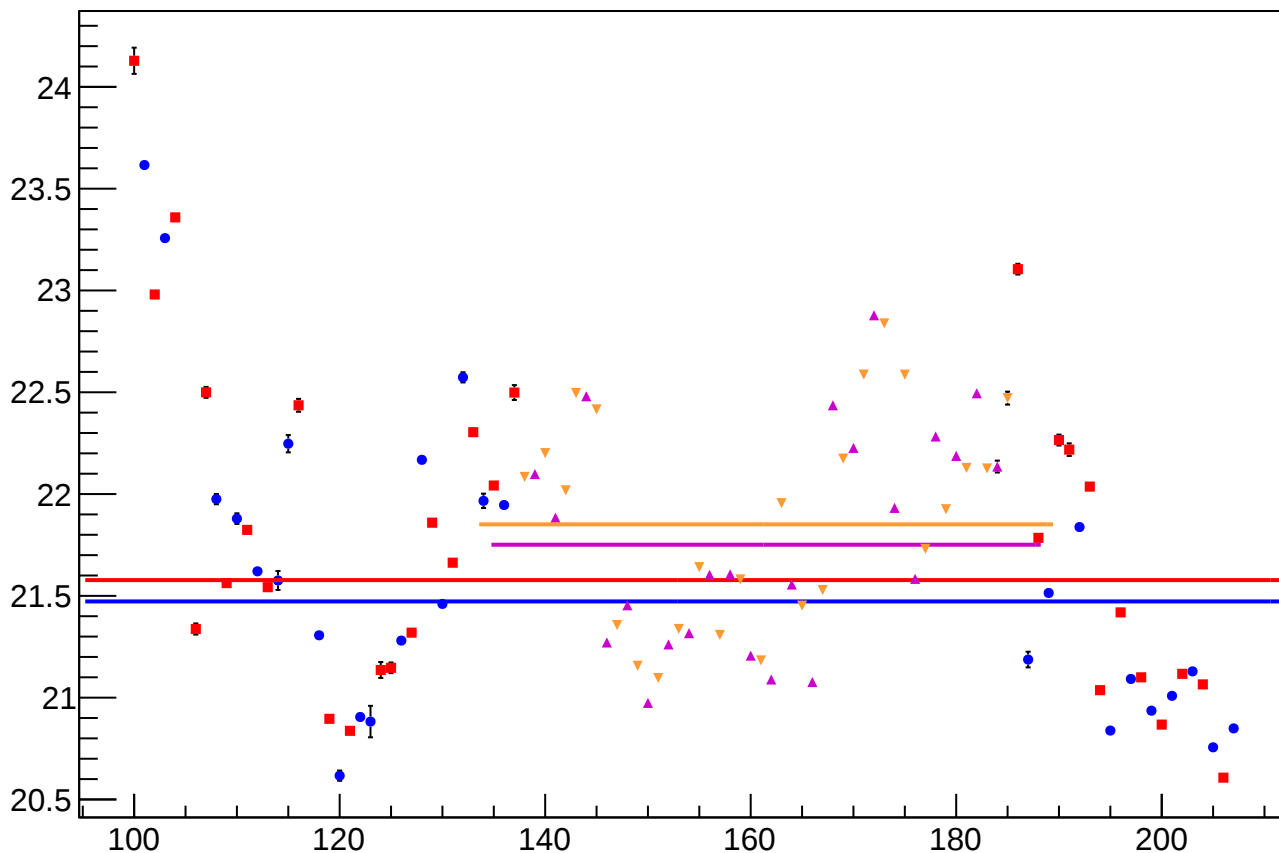
Right:  $-4.598 \pm 3.996$   $\chi^2/\text{NDF}: 54.3/57$

In:  $-1.608 \pm 3.871$   $\chi^2/\text{NDF}: 42.6/49$

Out:  $-9.095 \pm 3.750$   $\chi^2/\text{NDF}: 65.8/55$

All:  $-5.470 \pm 2.693$   $\chi^2/\text{NDF}: 110.3/105$

asym\_bcm\_an\_us\_ds3\_avg\_bcm\_dg\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 21.473+/-0.004  $\chi^2/\text{NDF}$ : 31506.1/26

Left Out: 21.851+/-0.004  $\chi^2/\text{NDF}$ :19631.8/24

Right Out: 21.577+/-0.004  $\chi^2/\text{NDF}$ : 32833.7/30

Left In: 21.751+/-0.004  $\chi^2/\text{NDF}$ :20516.3/22

Left: 21.802+/-0.003  $\chi^2/\text{NDF}$ : 40523.6/47

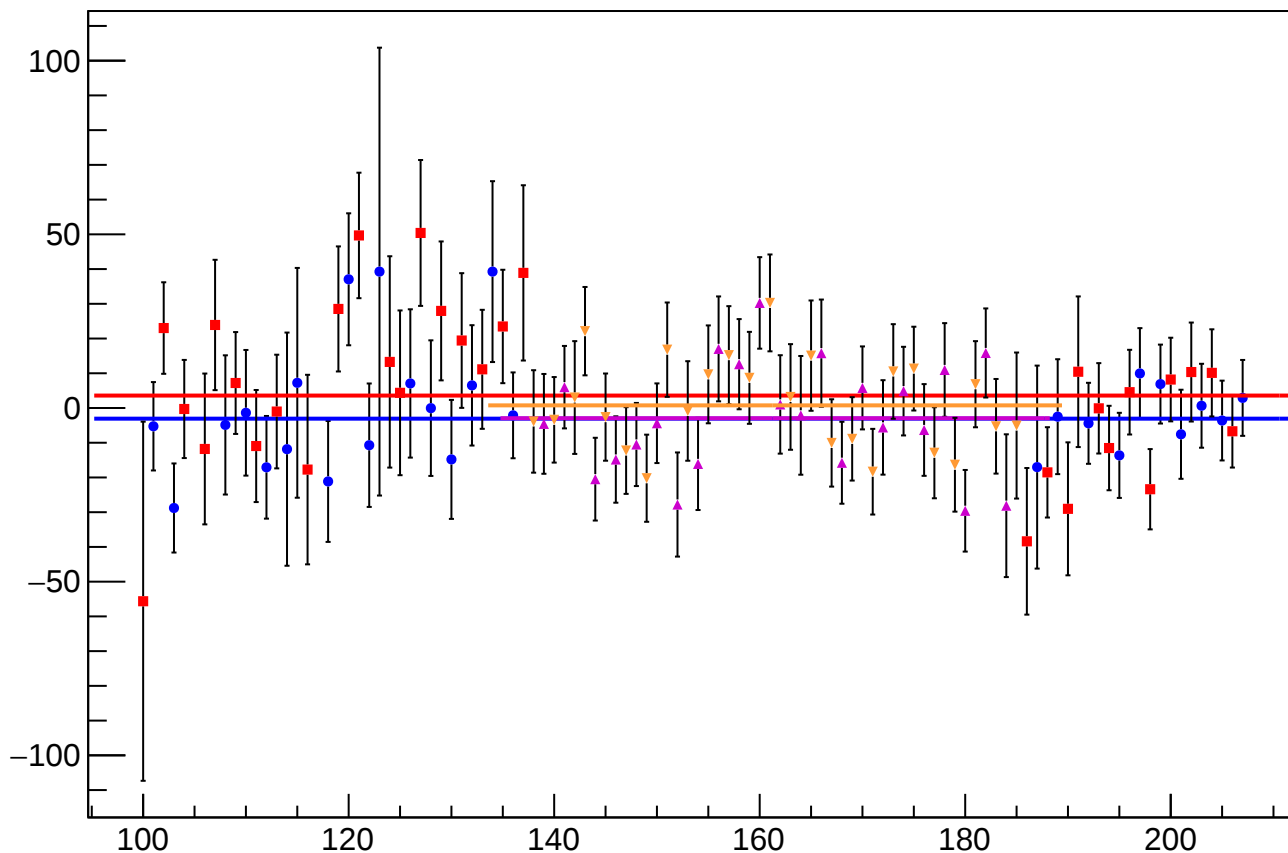
Right: 21.527+/-0.003  $\chi^2/\text{NDF}$ : 64683.3/57

In: 21.626+/-0.003  $\chi^2/\text{NDF}$ :54586.9/49

Out: 21.726+/-0.003  $\chi^2/\text{NDF}$ :55110.1/55

All: 21.677+/-0.002  $\chi^2/\text{NDF}$ : 110388.9/105

asym\_bcm\_an\_us\_bcm\_an\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-3.070 \pm 2.954$   $\chi^2/\text{NDF}: 18.2/26$

Left Out:  $0.759 \pm 2.698$   $\chi^2/\text{NDF}: 23.8/24$

Right Out:  $3.581 \pm 2.862$   $\chi^2/\text{NDF}: 44.6/30$

Left In:  $-2.944 \pm 2.757$   $\chi^2/\text{NDF}: 30.9/22$

Left:  $-1.053 \pm 1.929$   $\chi^2/\text{NDF}: 55.7/47$

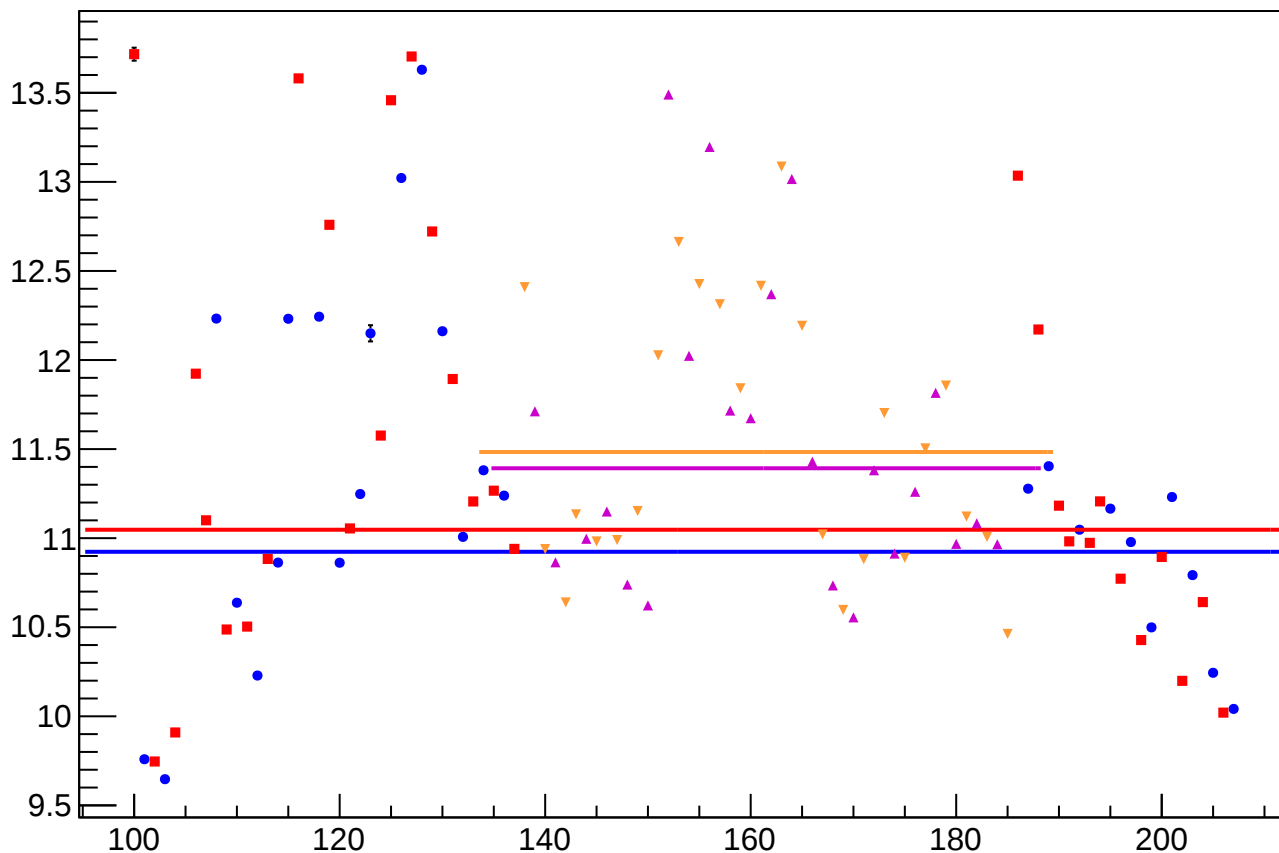
Right:  $0.361 \pm 2.055$   $\chi^2/\text{NDF}: 65.5/57$

In:  $-3.003 \pm 2.016$   $\chi^2/\text{NDF}: 49.2/49$

Out:  $2.087 \pm 1.963$   $\chi^2/\text{NDF}: 68.9/55$

All:  $-0.391 \pm 1.406$   $\chi^2/\text{NDF}: 121.4/105$

asym\_bcm\_an\_us\_bcm\_an\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 10.924 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 163459.2/26

Left Out: 11.484 $\pm$ 0.002  $\chi^2/\text{NDF}$ :129805.4/24

Right Out: 11.047 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 222255.2/30

Left In: 11.392 $\pm$ 0.002  $\chi^2/\text{NDF}$ :150493.3/22

Left: 11.439 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 281419.2/47

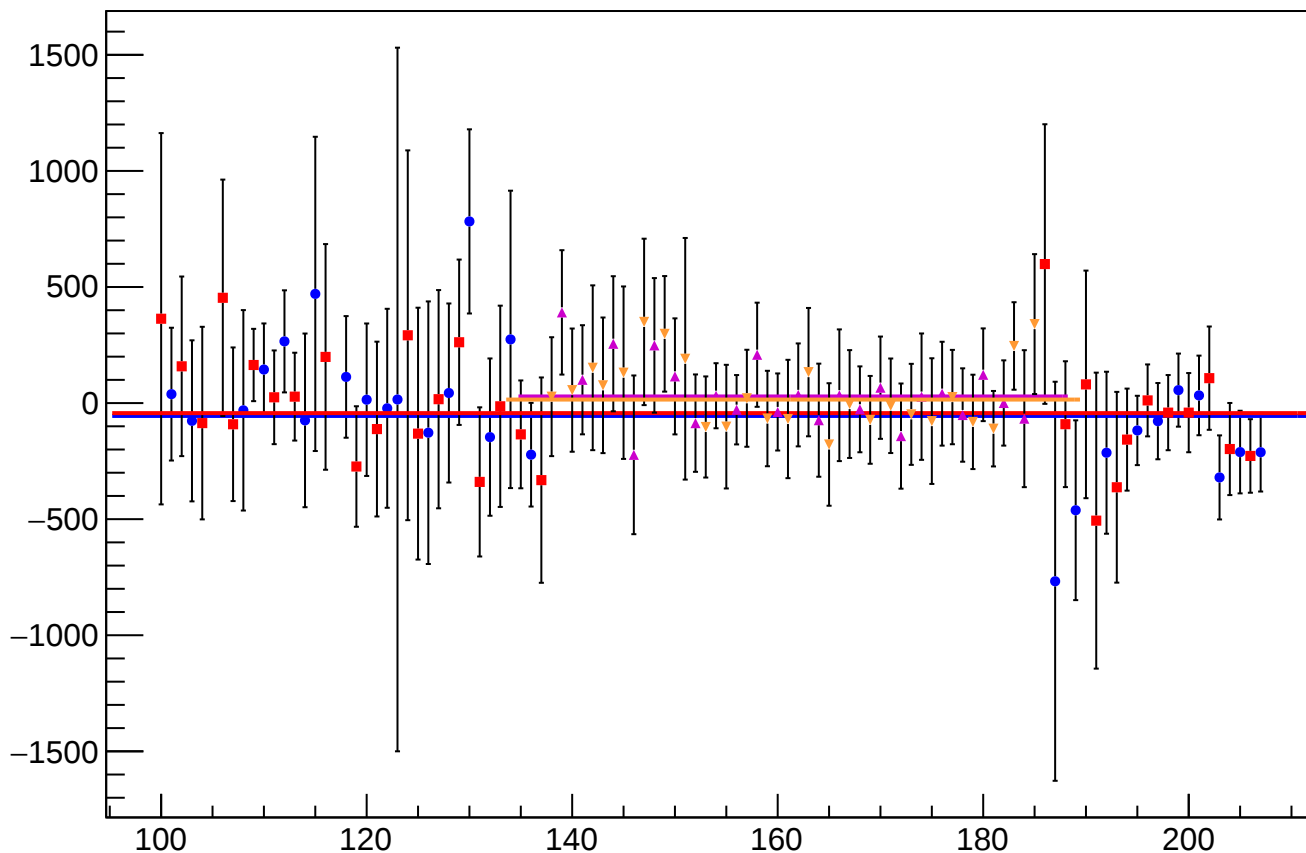
Right: 10.987 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 387526.2/57

In: 11.174 $\pm$ 0.001  $\chi^2/\text{NDF}$ :340874.7/49

Out: 11.278 $\pm$ 0.001  $\chi^2/\text{NDF}$ :376675.1/55

All: 11.228 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 720297.1/105

asym\_bcm\_an\_us\_bcm\_an\_ds3\_agg\_avg\_mean vs Slug, Sign Corrected



Right In:  $-55.351 \pm 48.343$   $\chi^2/\text{NDF}$ : 16.5/26

Left Out:  $15.130 \pm 47.705$   $\chi^2/\text{NDF}$ : 8.0/24

Right Out:  $-43.242 \pm 47.026$   $\chi^2/\text{NDF}$ : 12.2/30

Left In:  $28.500 \pm 44.797$   $\chi^2/\text{NDF}$ : 6.4/22

Left:  $22.235 \pm 32.656$   $\chi^2/\text{NDF}$ : 14.4/47

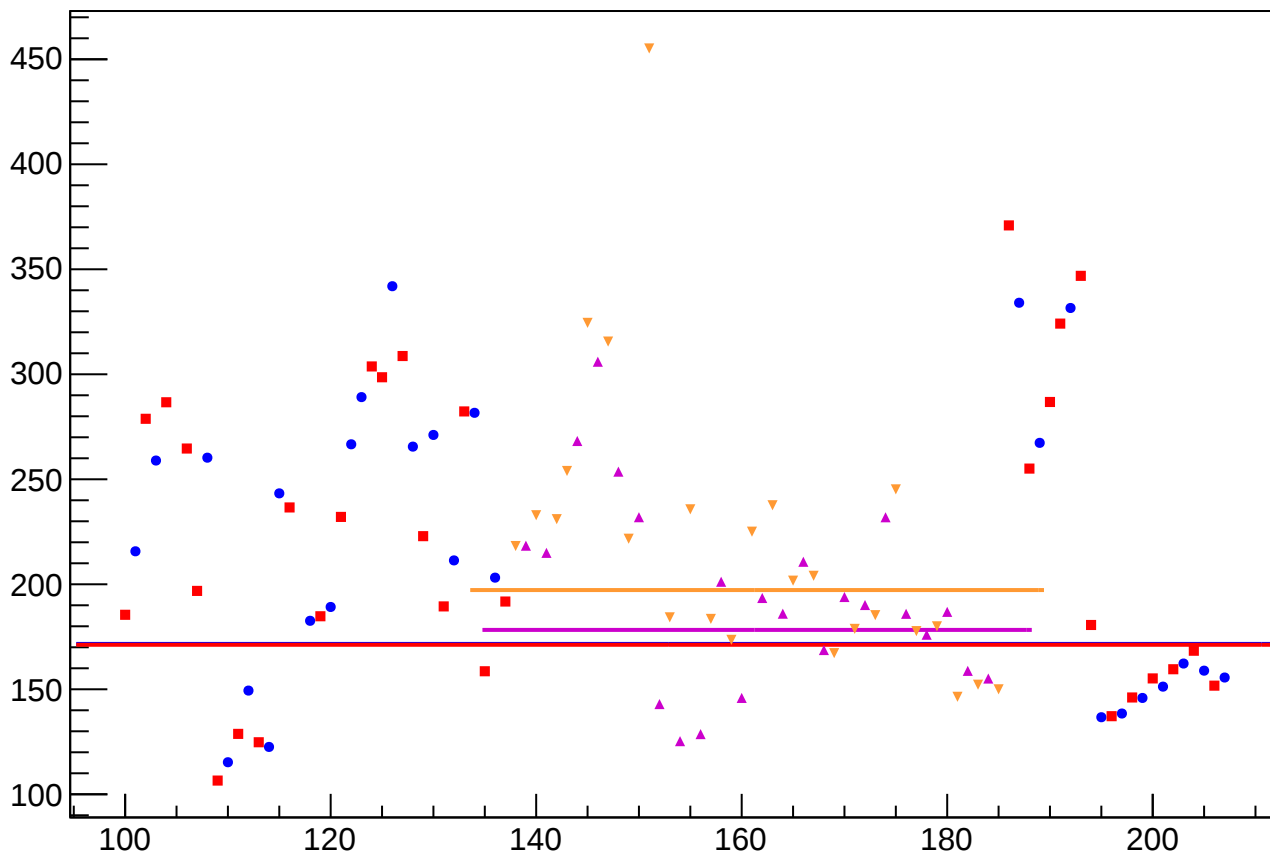
Right:  $-49.129 \pm 33.708$   $\chi^2/\text{NDF}$ : 28.7/57

In:  $-10.237 \pm 32.858$   $\chi^2/\text{NDF}$ : 24.5/49

Out:  $-14.474 \pm 33.490$   $\chi^2/\text{NDF}$ : 20.9/55

All:  $-12.315 \pm 23.454$   $\chi^2/\text{NDF}$ : 45.4/105

asym\_bcm\_an\_us\_bcm\_an\_ds3\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 171.600 $\pm$ 0.034  $\chi^2$ /NDF: 2089334.1/26

Left Out: 197.249 $\pm$ 0.034  $\chi^2$ /NDF:1786808.1/24

Right Out: 171.199 $\pm$ 0.033  $\chi^2$ /NDF: 2770075.3/30

Left In: 178.277 $\pm$ 0.032  $\chi^2$ /NDF:1628916.6/22

Left: 187.167 $\pm$ 0.023  $\chi^2$ /NDF: 3583826.5/47

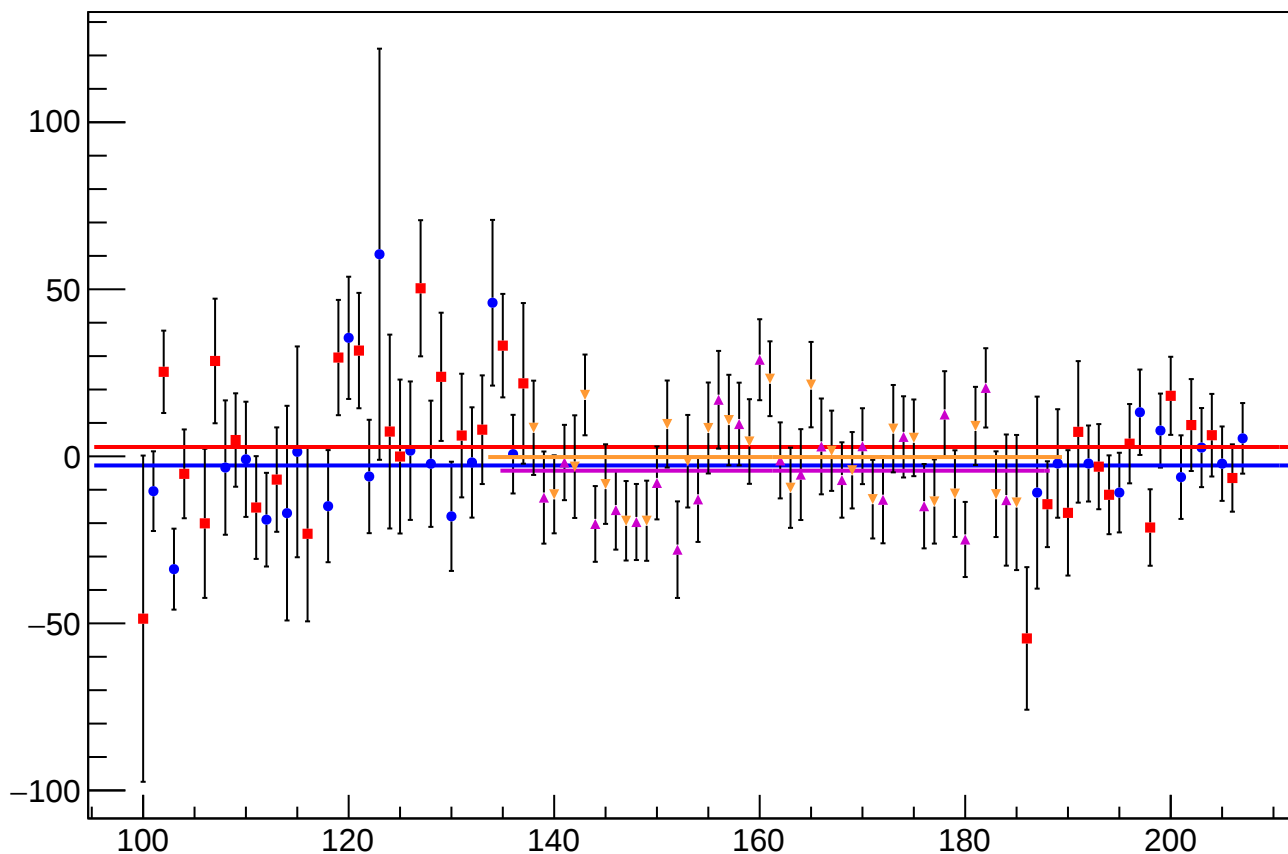
Right: 171.394 $\pm$ 0.024  $\chi^2$ /NDF: 4859480.4/57

In: 175.192 $\pm$ 0.023  $\chi^2$ /NDF:3738775.7/49

Out: 184.037 $\pm$ 0.024  $\chi^2$ /NDF:4859359.2/55

All: 179.531 $\pm$ 0.017  $\chi^2$ /NDF: 8669214.7/105

asym\_bcm\_an\_us\_bcm\_an\_ds3\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-2.732 \pm 2.852$   $\chi^2/\text{NDF}: 23.2/26$

Left Out:  $-0.211 \pm 2.523$   $\chi^2/\text{NDF}: 24.5/24$

Right Out:  $2.796 \pm 2.770$   $\chi^2/\text{NDF}: 46.2/30$

Left In:  $-4.298 \pm 2.589$   $\chi^2/\text{NDF}: 31.6/22$

Left:  $-2.202 \pm 1.807$   $\chi^2/\text{NDF}: 57.4/47$

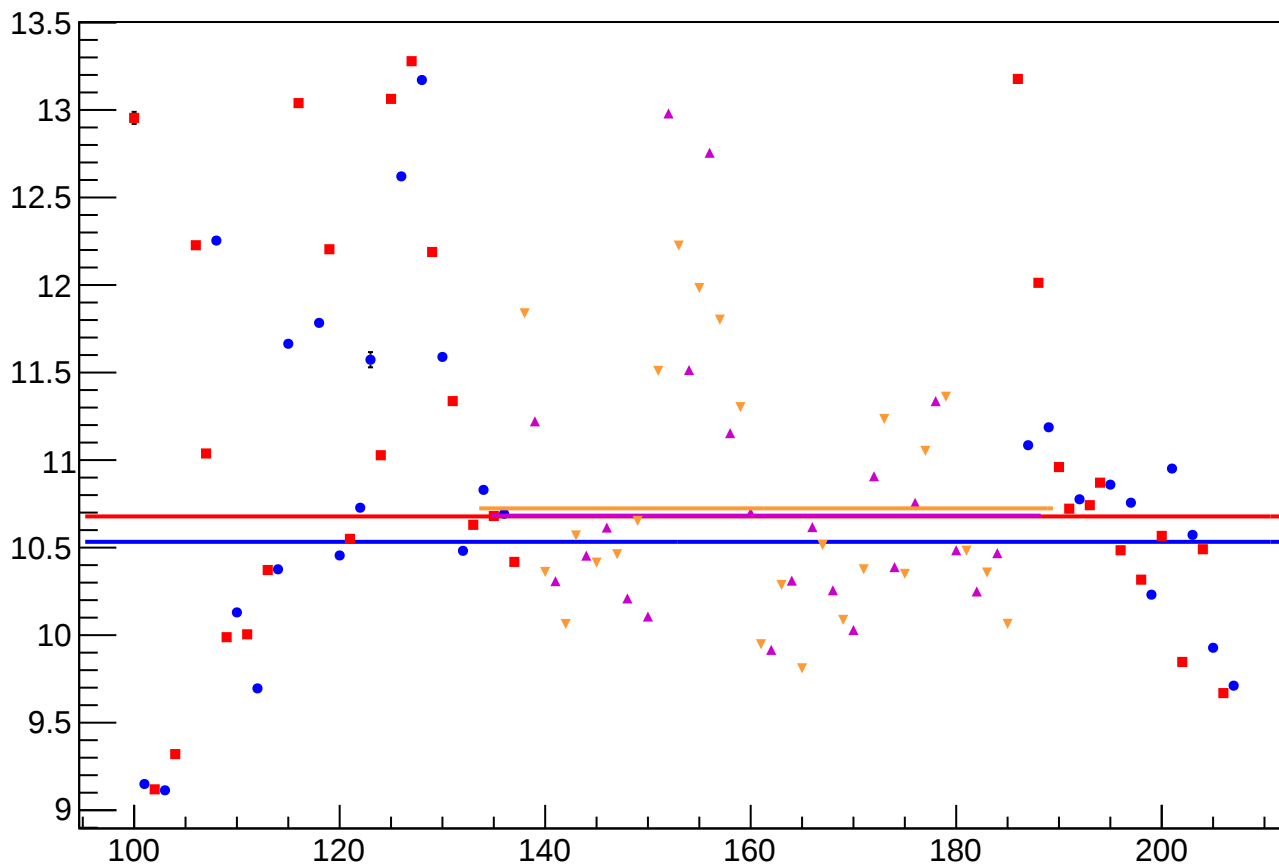
Right:  $0.112 \pm 1.987$   $\chi^2/\text{NDF}: 71.3/57$

In:  $-3.590 \pm 1.917$   $\chi^2/\text{NDF}: 55.0/49$

Out:  $1.153 \pm 1.865$   $\chi^2/\text{NDF}: 71.3/55$

All:  $-1.154 \pm 1.337$   $\chi^2/\text{NDF}: 129.5/105$

asym\_bcm\_an\_us\_bcm\_an\_ds3\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 10.533+/-0.002  $\chi^2/\text{NDF}$ : 188881.3/26

Left Out: 10.724+/-0.002  $\chi^2/\text{NDF}$ : 132558.9/24

Right Out: 10.678+/-0.002  $\chi^2/\text{NDF}$ : 259051.8/30

Left In: 10.683+/-0.002  $\chi^2/\text{NDF}$ : 147835.6/22

Left: 10.704+/-0.001  $\chi^2/\text{NDF}$ : 280658.8/47

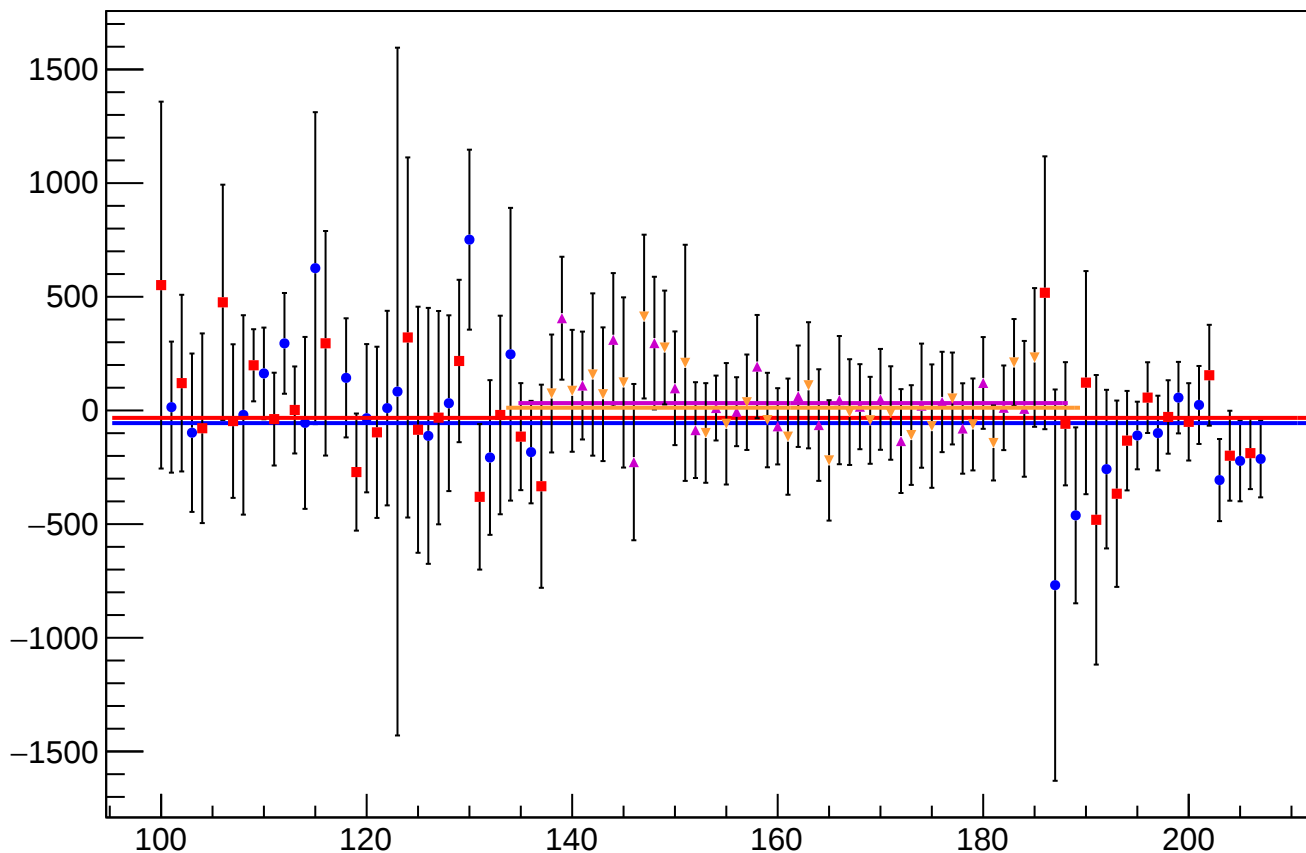
Right: 10.608+/-0.001  $\chi^2/\text{NDF}$ : 450597.2/57

In: 10.615+/-0.001  $\chi^2/\text{NDF}$ : 339733.1/49

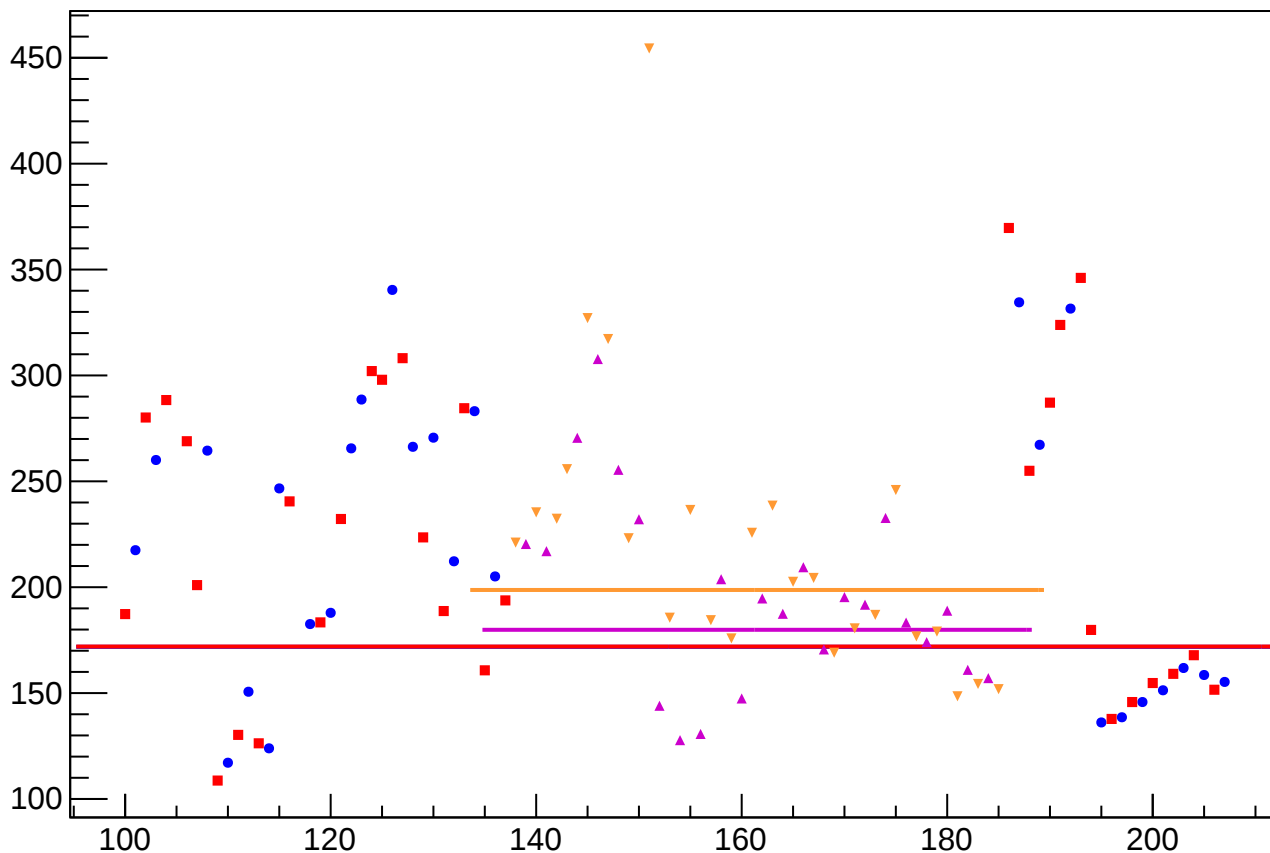
Out: 10.703+/-0.001  $\chi^2/\text{NDF}$ : 391912.7/55

All: 10.660+/-0.001  $\chi^2/\text{NDF}$ : 733823.8/105

asym\_bcm\_dg\_us\_bcm\_an\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



asym\_bcm\_dg\_us\_bcm\_an\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 171.856+/-0.034  $\chi^2/\text{NDF}$ : 2089296.9/26

Left Out: 198.695+/-0.034  $\chi^2/\text{NDF}$ :1759311.9/24

Right Out: 171.977+/-0.033  $\chi^2/\text{NDF}$ : 2728236.3/30

Left In: 179.886+/-0.032  $\chi^2/\text{NDF}$ :1580636.4/22

Left: 188.712+/-0.023  $\chi^2/\text{NDF}$ : 3502782.6/47

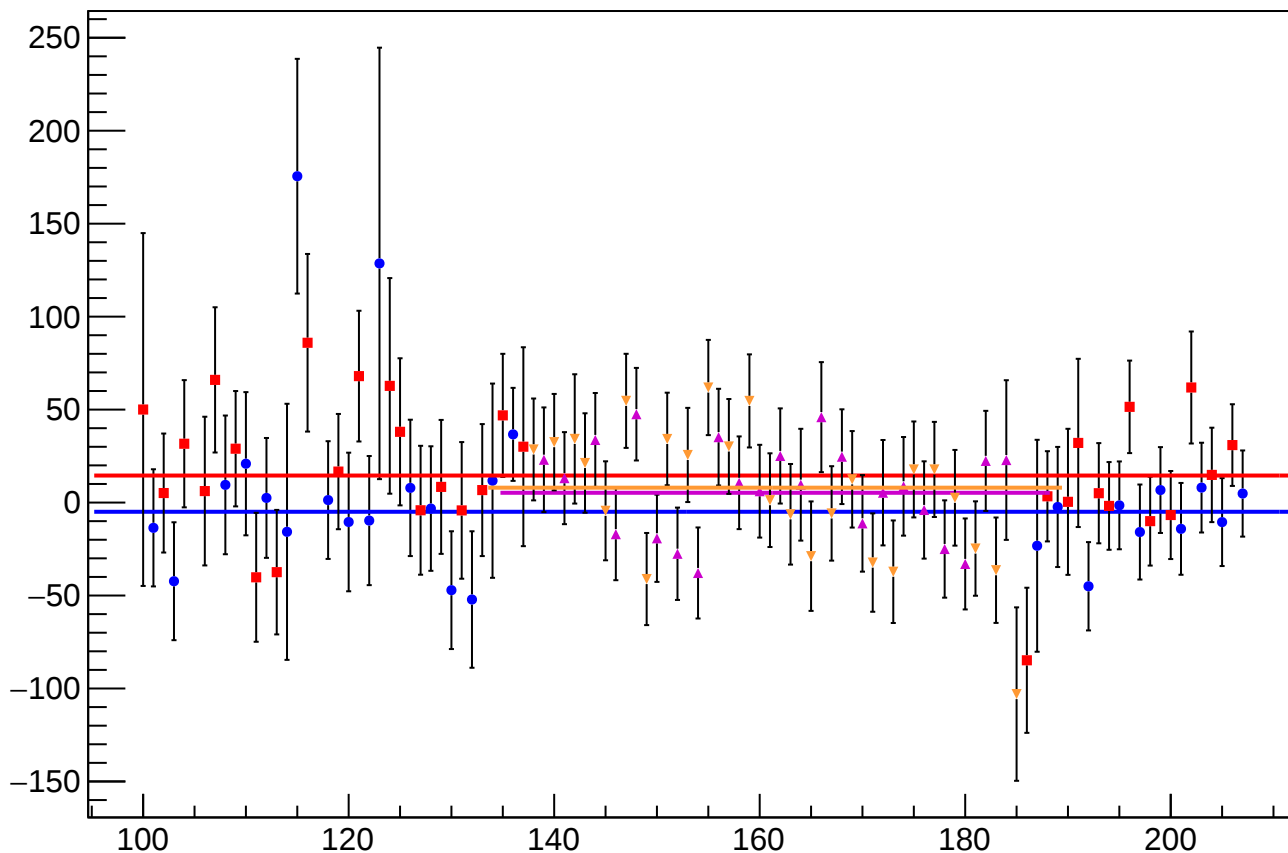
Right: 171.918+/-0.024  $\chi^2/\text{NDF}$ : 4817539.6/57

In: 176.151+/-0.023  $\chi^2/\text{NDF}$ :3699358.1/49

Out: 185.104+/-0.024  $\chi^2/\text{NDF}$ :4802470.1/55

All: 180.542+/-0.017  $\chi^2/\text{NDF}$ : 8573931.2/105

asym\_bcm\_dg\_us\_bcm\_an\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-4.953 \pm 5.973$   $\chi^2/\text{NDF}: 22.2/26$

Left Out:  $8.004 \pm 5.334$   $\chi^2/\text{NDF}: 37.4/24$

Right Out:  $14.536 \pm 5.759$   $\chi^2/\text{NDF}: 29.3/30$

Left In:  $5.261 \pm 5.465$   $\chi^2/\text{NDF}: 20.8/22$

Left:  $6.665 \pm 3.817$   $\chi^2/\text{NDF}: 58.3/47$

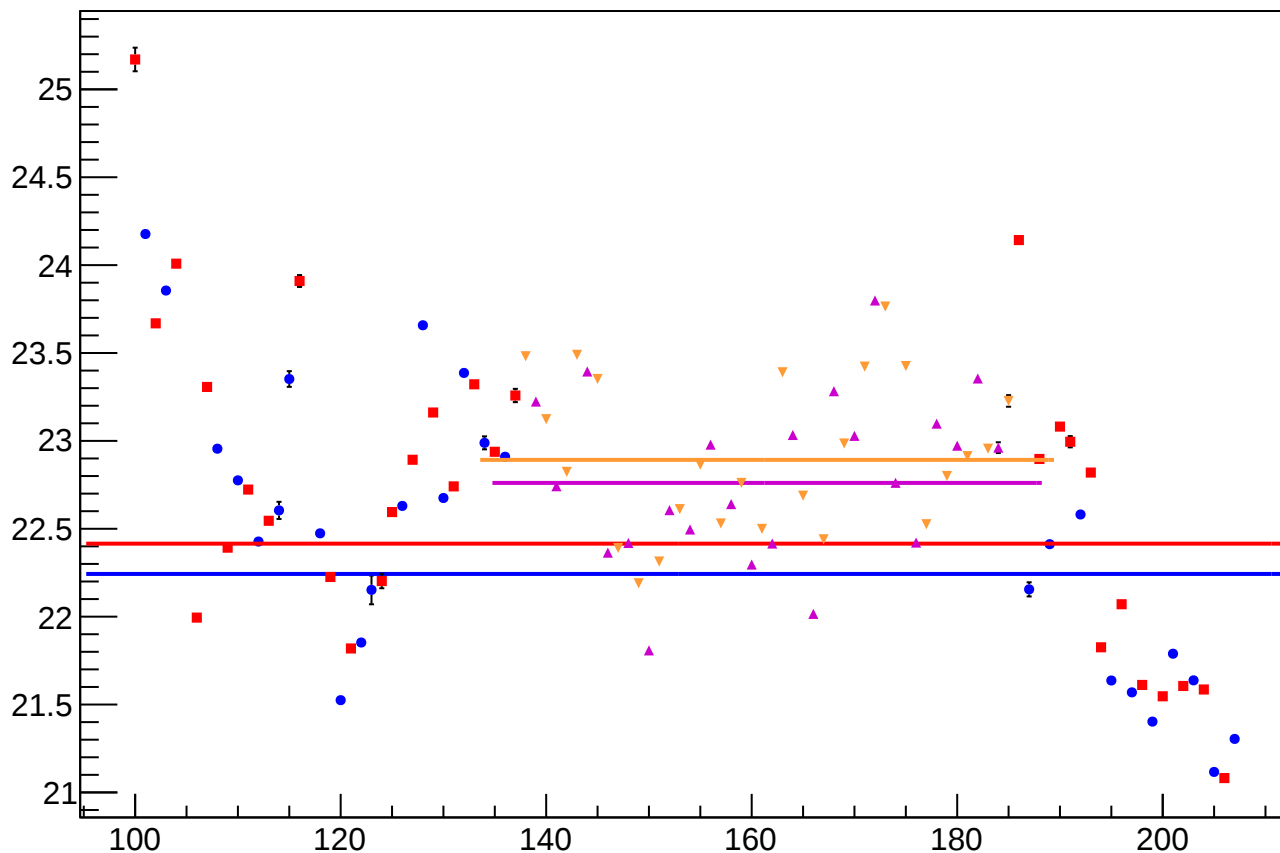
Right:  $5.147 \pm 4.146$   $\chi^2/\text{NDF}: 57.0/57$

In:  $0.607 \pm 4.032$   $\chi^2/\text{NDF}: 44.6/49$

Out:  $11.020 \pm 3.913$   $\chi^2/\text{NDF}: 67.4/55$

All:  $5.969 \pm 2.808$   $\chi^2/\text{NDF}: 115.4/105$

asym\_bcm\_dg\_us\_bcm\_an\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 22.243 $\pm$ 0.004  $\chi^2$ /NDF: 39173.2/26

Left Out: 22.892 $\pm$ 0.004  $\chi^2$ /NDF:12995.5/24

Right Out: 22.415 $\pm$ 0.004  $\chi^2$ /NDF: 40510.1/30

Left In: 22.761 $\pm$ 0.004  $\chi^2$ /NDF:14550.0/22

Left: 22.828 $\pm$ 0.003  $\chi^2$ /NDF: 28133.9/47

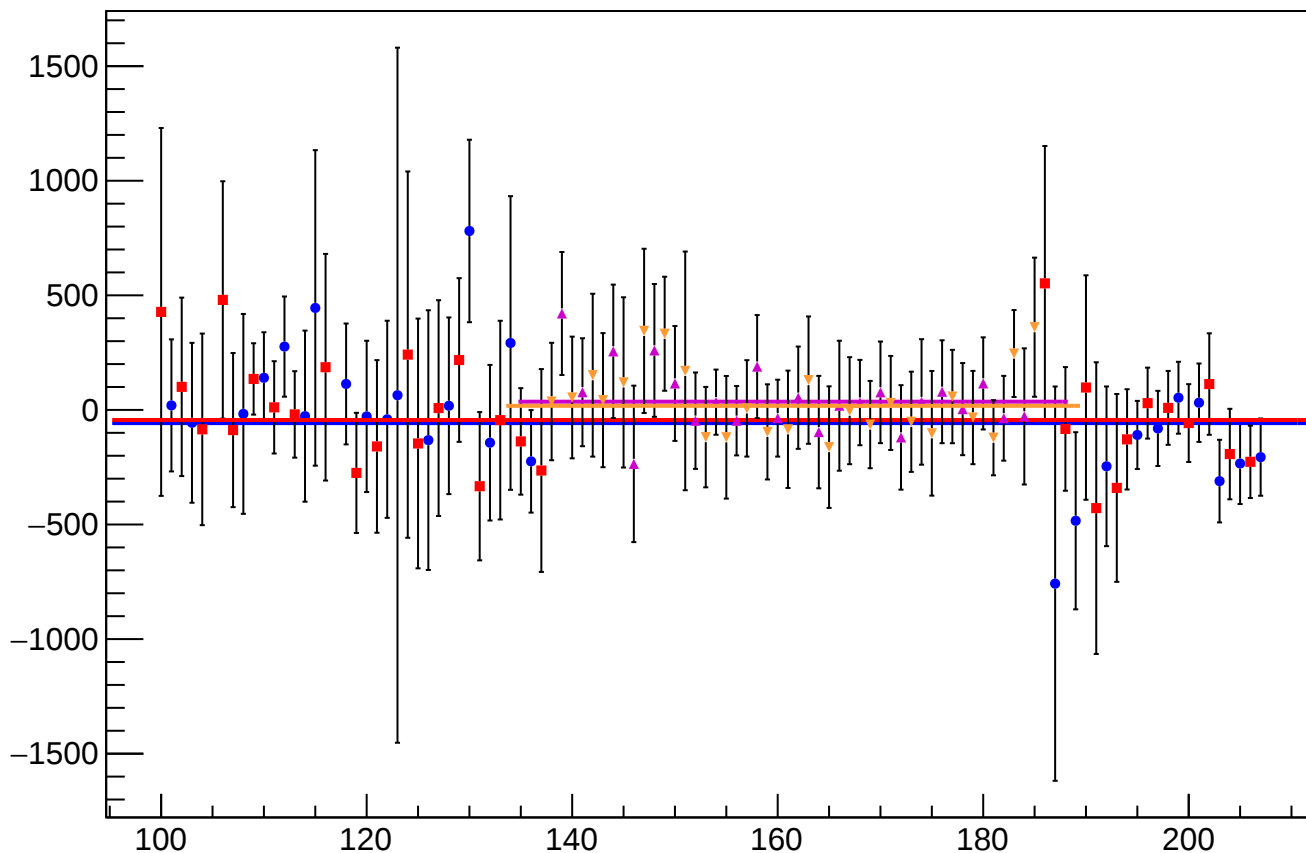
Right: 22.332 $\pm$ 0.003  $\chi^2$ /NDF: 80546.3/57

In: 22.525 $\pm$ 0.003  $\chi^2$ /NDF:61909.0/49

Out: 22.672 $\pm$ 0.003  $\chi^2$ /NDF:60877.1/55

All: 22.601 $\pm$ 0.002  $\chi^2$ /NDF: 124153.6/105

asym\_bcm\_dg\_ds\_bcm\_an\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In:  $-57.542 \pm 48.278$   $\chi^2/\text{NDF}: 16.6/26$

Left Out:  $17.777 \pm 47.941$   $\chi^2/\text{NDF}: 8.5/24$

Right Out:  $-44.100 \pm 46.980$   $\chi^2/\text{NDF}: 10.8/30$

Left In:  $35.879 \pm 45.087$   $\chi^2/\text{NDF}: 6.3/22$

Left:  $27.383 \pm 32.844$   $\chi^2/\text{NDF}: 14.9/47$

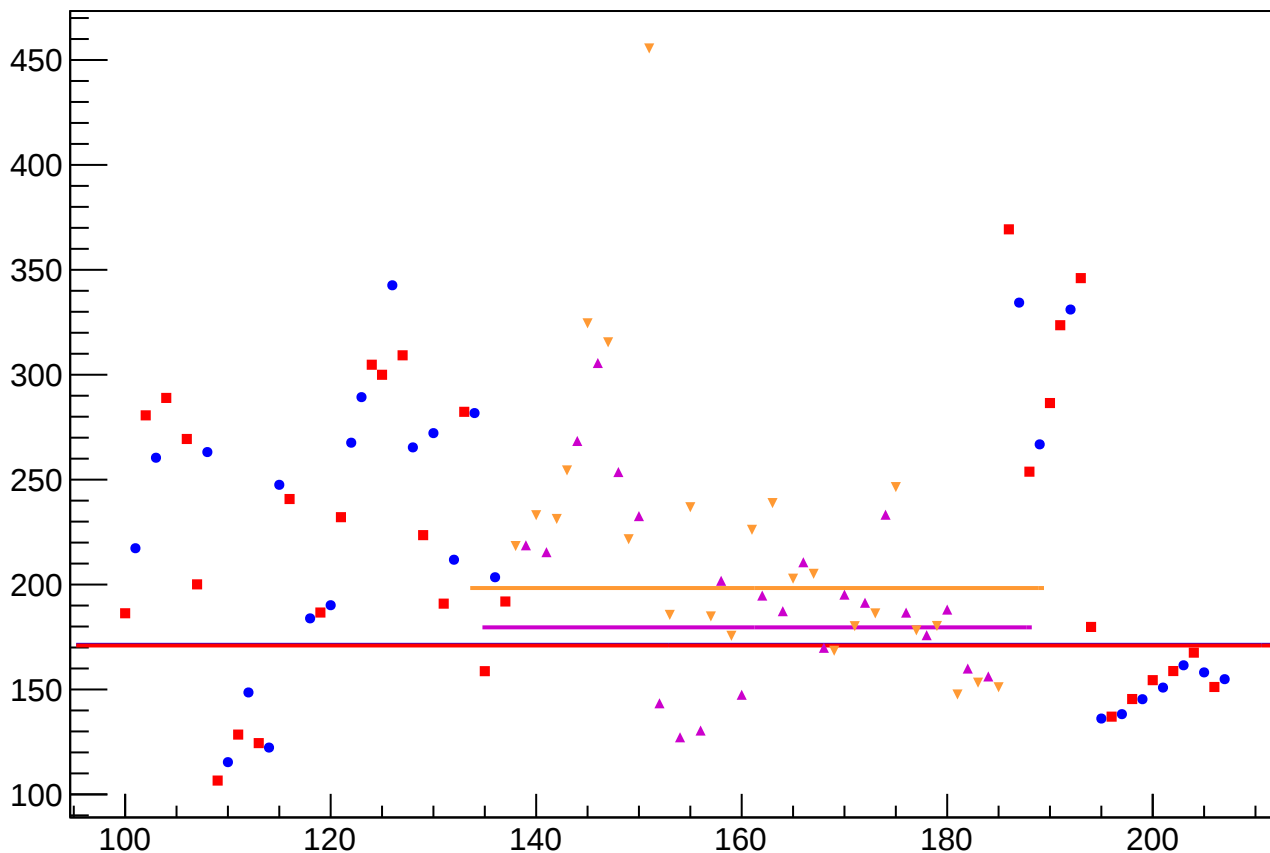
Right:  $-50.638 \pm 33.669$   $\chi^2/\text{NDF}: 27.5/57$

In:  $-7.643 \pm 32.952$   $\chi^2/\text{NDF}: 24.9/49$

Out:  $-13.788 \pm 33.555$   $\chi^2/\text{NDF}: 20.2/55$

All:  $-10.660 \pm 23.511$   $\chi^2/\text{NDF}: 45.2/105$

asym\_bcm\_dg\_ds\_bcm\_an\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 171.277+/-0.034  $\chi^2/\text{NDF}$ : 2119393.8/26

Left Out: 198.344+/-0.034  $\chi^2/\text{NDF}$ :1757450.6/24

Right Out: 170.964+/-0.033  $\chi^2/\text{NDF}$ : 2797642.9/30

Left In: 179.605+/-0.032  $\chi^2/\text{NDF}$ :1575744.0/22

Left: 188.400+/-0.023  $\chi^2/\text{NDF}$ : 3495336.8/47

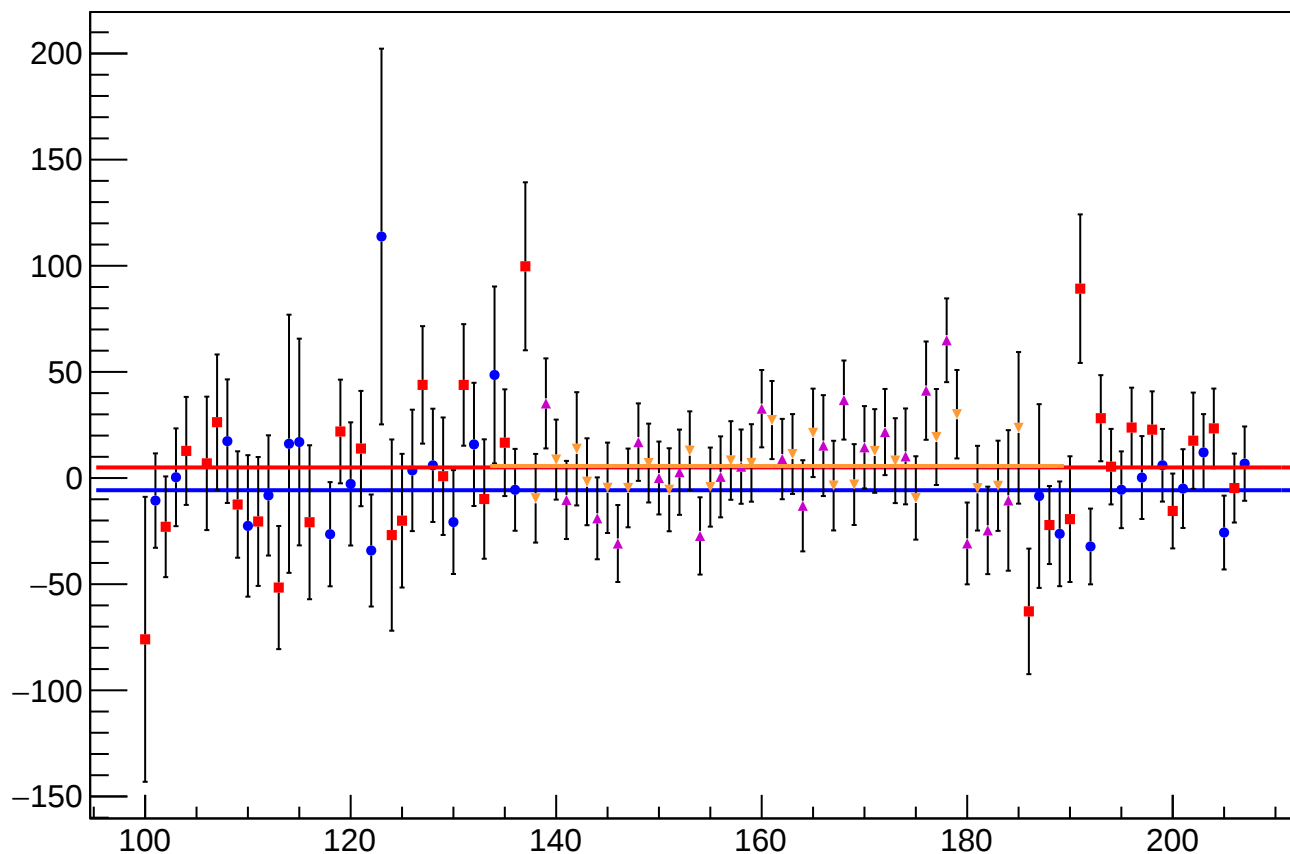
Right: 171.116+/-0.024  $\chi^2/\text{NDF}$ : 4917080.0/57

In: 175.725+/-0.023  $\chi^2/\text{NDF}$ :3726922.2/49

Out: 184.377+/-0.024  $\chi^2/\text{NDF}$ :4887861.6/55

All: 179.973+/-0.017  $\chi^2/\text{NDF}$ : 8682462.5/105

asym\_bcm\_dg\_ds\_bcm\_an\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-5.740 \pm 4.562$   $\chi^2/\text{NDF}: 14.3/26$

Left Out:  $5.680 \pm 4.024$   $\chi^2/\text{NDF}: 7.7/24$

Right Out:  $4.994 \pm 4.412$   $\chi^2/\text{NDF}: 40.8/30$

Left In:  $5.595 \pm 4.121$   $\chi^2/\text{NDF}: 36.4/22$

Left:  $5.639 \pm 2.879$   $\chi^2/\text{NDF}: 44.1/47$

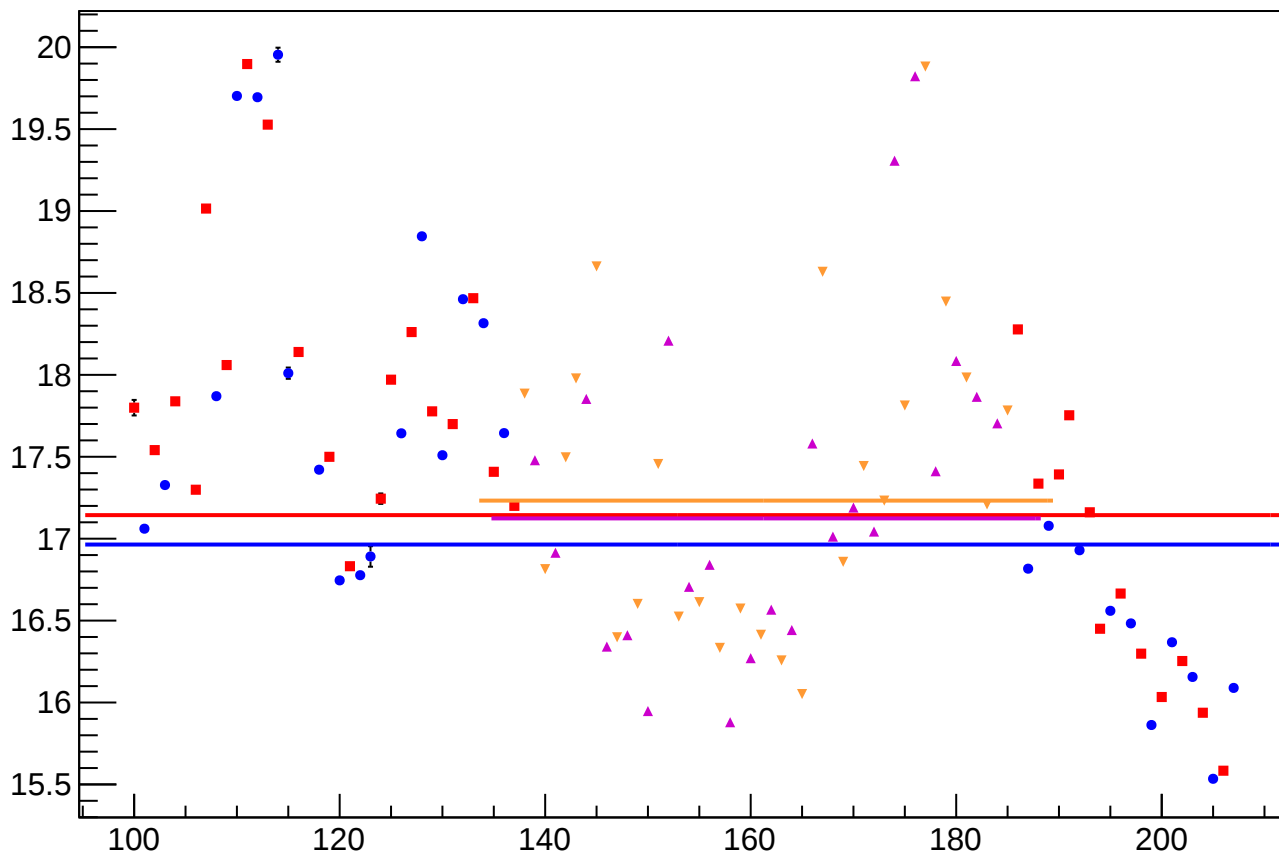
Right:  $-0.193 \pm 3.172$   $\chi^2/\text{NDF}: 58.0/57$

In:  $0.502 \pm 3.058$   $\chi^2/\text{NDF}: 54.1/49$

Out:  $5.369 \pm 2.973$   $\chi^2/\text{NDF}: 48.6/55$

All:  $3.004 \pm 2.132$   $\chi^2/\text{NDF}: 104.0/105$

asym\_bcm\_dg\_ds\_bcm\_an\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 16.964 $\pm$ 0.003  $\chi^2$ /NDF: 98368.6/26

Left Out: 17.232 $\pm$ 0.003  $\chi^2$ /NDF:98701.0/24

Right Out: 17.144 $\pm$ 0.003  $\chi^2$ /NDF: 105463.2/30

Left In: 17.124 $\pm$ 0.003  $\chi^2$ /NDF:100747.0/22

Left: 17.179 $\pm$ 0.002  $\chi^2$ /NDF: 200160.6/47

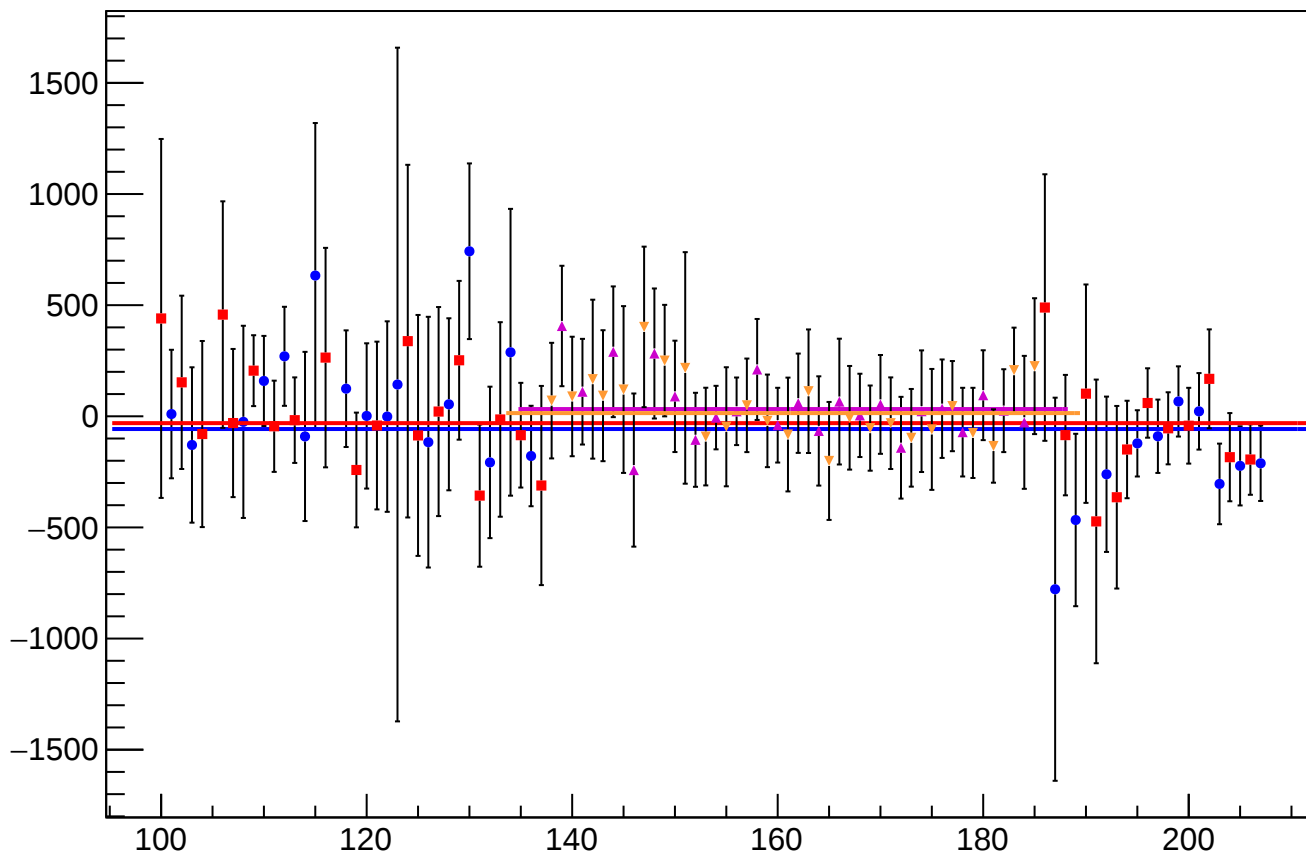
Right: 17.057 $\pm$ 0.002  $\chi^2$ /NDF: 205432.4/57

In: 17.052 $\pm$ 0.002  $\chi^2$ /NDF:200461.3/49

Out: 17.192 $\pm$ 0.002  $\chi^2$ /NDF:204605.0/55

All: 17.124 $\pm$ 0.002  $\chi^2$ /NDF: 407225.2/105

asym\_bcm\_dg\_us\_bcm\_an\_us\_agg\_avg\_mean vs Slug, Sign Corrected



Right In:  $-57.279 \pm 48.561$   $\chi^2/\text{NDF}$ : 16.7/26

Left Out:  $14.362 \pm 48.130$   $\chi^2/\text{NDF}$ : 6.9/24

Right Out:  $-30.791 \pm 47.313$   $\chi^2/\text{NDF}$ : 12.2/30

Left In:  $32.571 \pm 45.248$   $\chi^2/\text{NDF}$ : 6.7/22

Left:  $24.028 \pm 32.967$   $\chi^2/\text{NDF}$ : 13.7/47

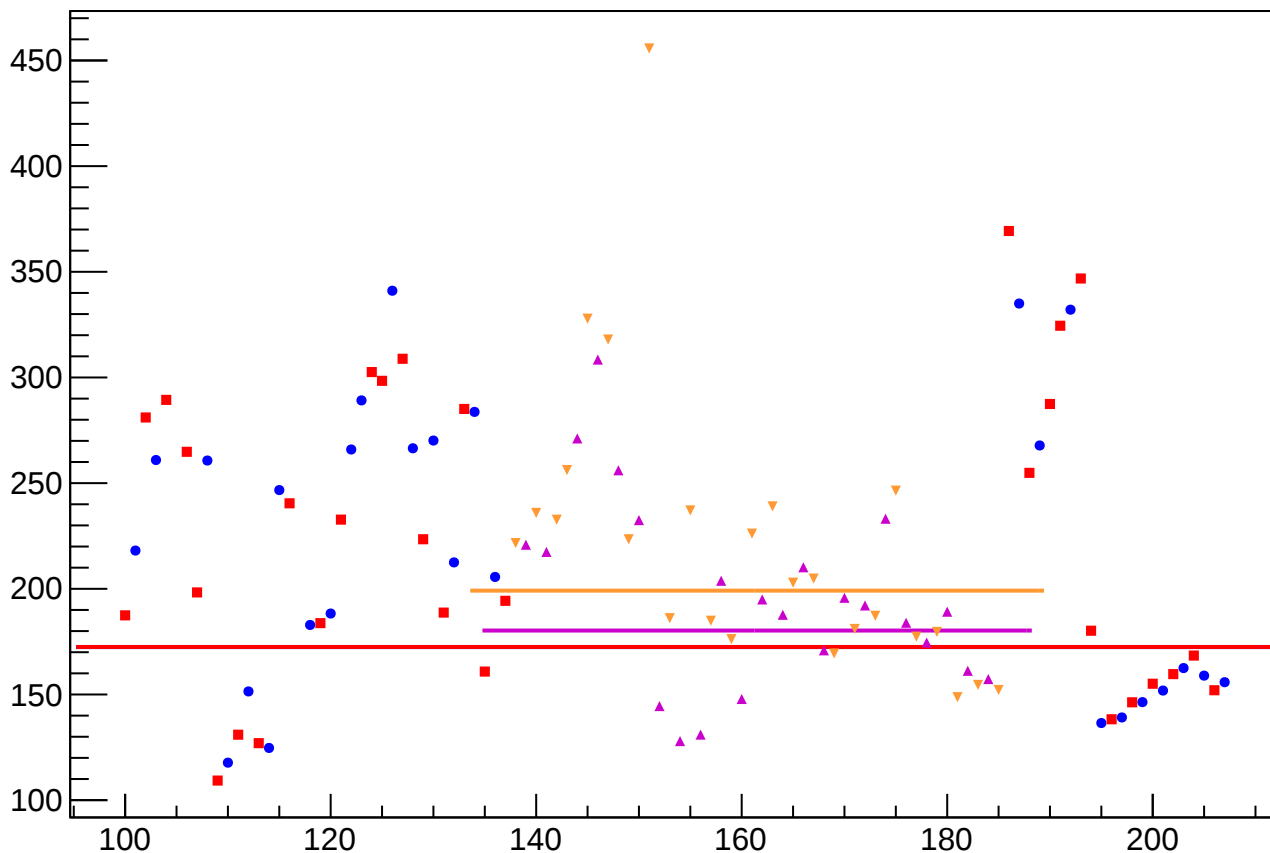
Right:  $-43.690 \pm 33.888$   $\chi^2/\text{NDF}$ : 29.0/57

In:  $-9.184 \pm 33.104$   $\chi^2/\text{NDF}$ : 25.2/49

Out:  $-8.600 \pm 33.740$   $\chi^2/\text{NDF}$ : 19.6/55

All:  $-8.898 \pm 23.630$   $\chi^2/\text{NDF}$ : 44.8/105

asym\_bcm\_dg\_us\_bcm\_an\_us\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 172.433+/-0.034  $\chi^2/\text{NDF}$ : 2071247.8/26

Left Out: 199.136+/-0.034  $\chi^2/\text{NDF}$ :1760298.1/24

Right Out: 172.480+/-0.033  $\chi^2/\text{NDF}$ : 2704343.8/30

Left In: 180.256+/-0.032  $\chi^2/\text{NDF}$ :1580553.5/22

Left: 189.114+/-0.023  $\chi^2/\text{NDF}$ : 3504211.1/47

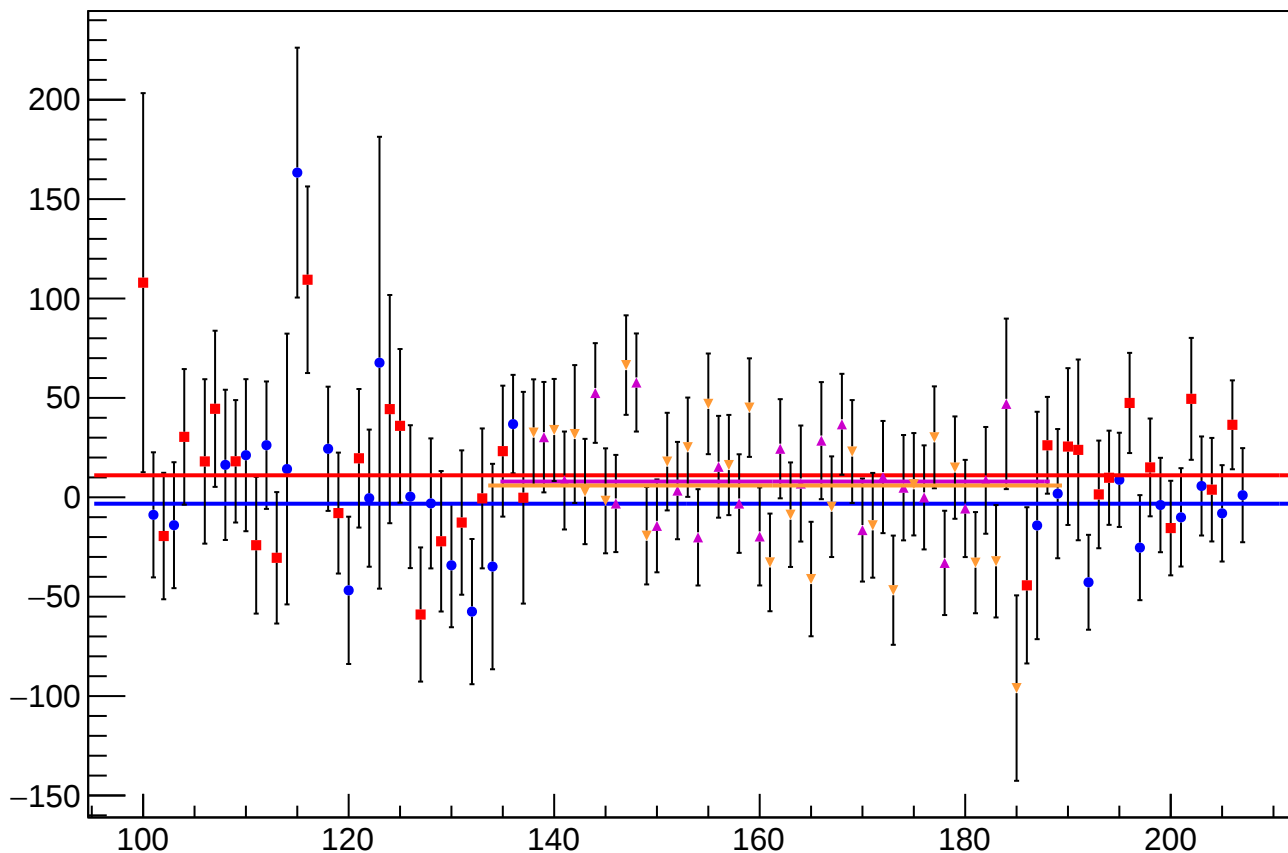
Right: 172.457+/-0.024  $\chi^2/\text{NDF}$ : 4775592.5/57

In: 176.621+/-0.023  $\chi^2/\text{NDF}$ :3679585.2/49

Out: 185.580+/-0.024  $\chi^2/\text{NDF}$ :4776624.0/55

All: 181.015+/-0.017  $\chi^2/\text{NDF}$ : 8528056.8/105

asym\_bcm\_dg\_us\_bcm\_an\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-3.229 \pm 6.006$   $\chi^2/\text{NDF}: 21.6/26$

Left Out:  $5.937 \pm 5.285$   $\chi^2/\text{NDF}: 36.1/24$

Right Out:  $11.067 \pm 5.774$   $\chi^2/\text{NDF}: 26.2/30$

Left In:  $7.915 \pm 5.422$   $\chi^2/\text{NDF}: 18.7/22$

Left:  $6.901 \pm 3.784$   $\chi^2/\text{NDF}: 54.9/47$

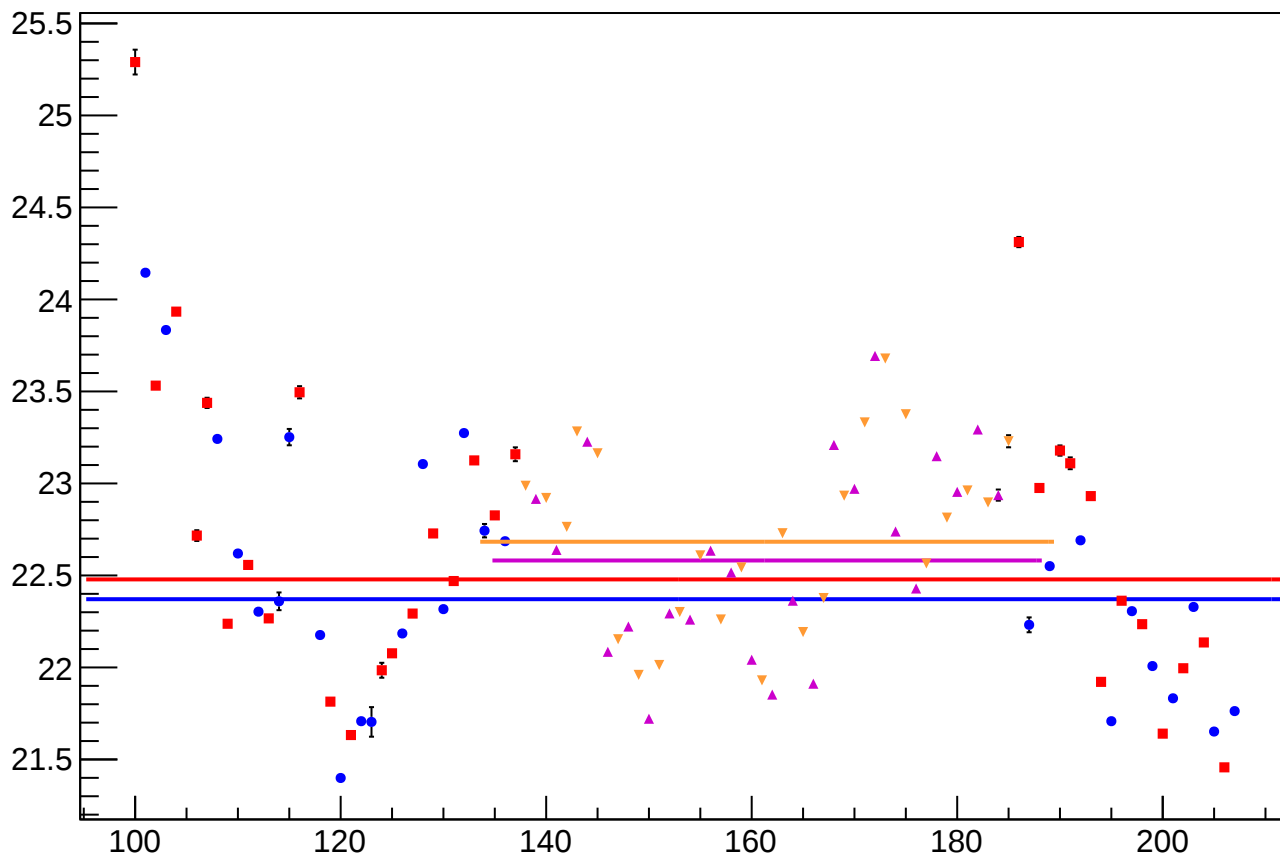
Right:  $4.200 \pm 4.162$   $\chi^2/\text{NDF}: 50.7/57$

In:  $2.912 \pm 4.024$   $\chi^2/\text{NDF}: 42.1/49$

Out:  $8.276 \pm 3.899$   $\chi^2/\text{NDF}: 62.8/55$

All:  $5.679 \pm 2.800$   $\chi^2/\text{NDF}: 105.8/105$

asym\_bcm\_dg\_us\_bcm\_an\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 22.371+/-0.004  $\chi^2/\text{NDF}$ : 23666.6/26

Left Out: 22.683+/-0.004  $\chi^2/\text{NDF}$ :16320.2/24

Right Out: 22.478+/-0.004  $\chi^2/\text{NDF}$ : 29469.4/30

Left In: 22.581+/-0.004  $\chi^2/\text{NDF}$ :17904.5/22

Left: 22.634+/-0.003  $\chi^2/\text{NDF}$ : 34586.9/47

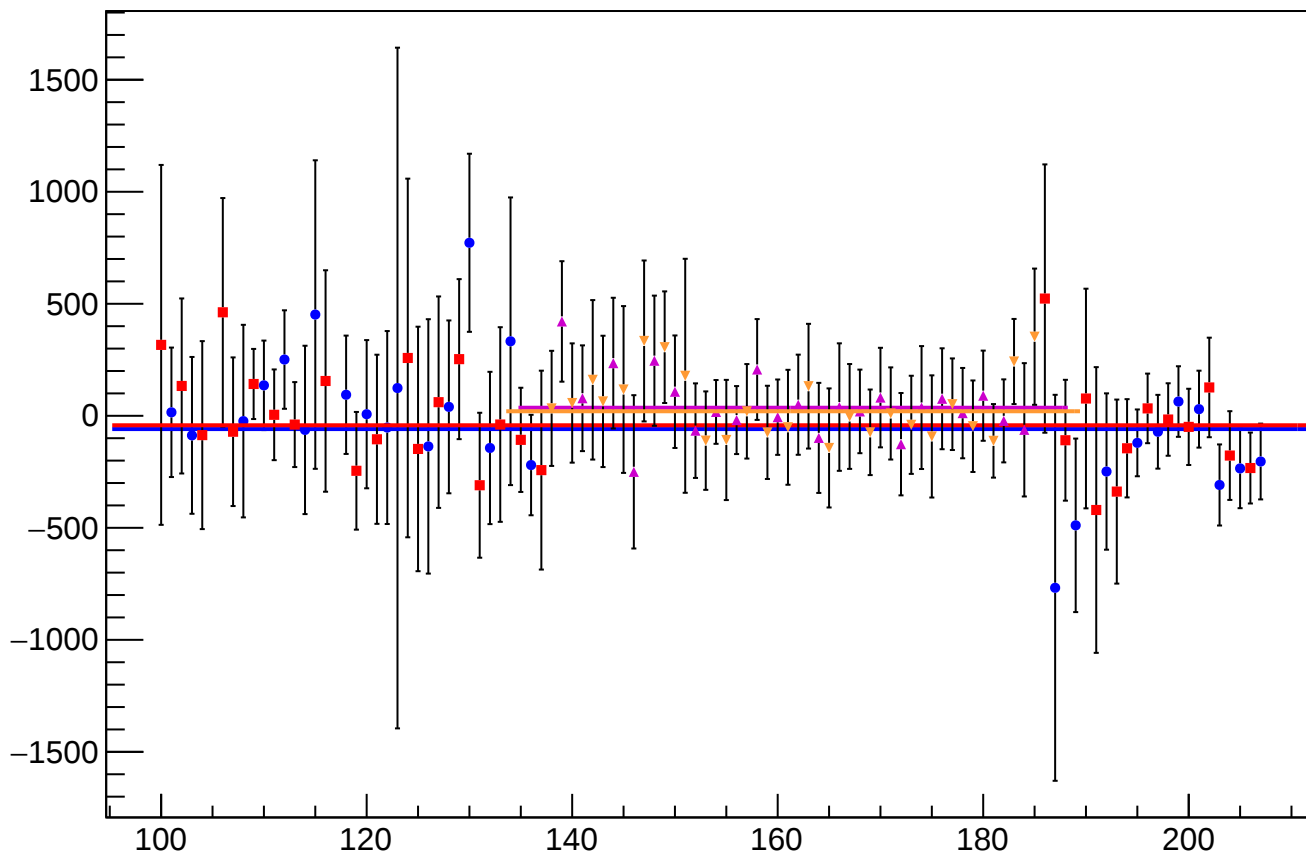
Right: 22.427+/-0.003  $\chi^2/\text{NDF}$ : 53469.4/57

In: 22.487+/-0.003  $\chi^2/\text{NDF}$ :42923.7/49

Out: 22.590+/-0.003  $\chi^2/\text{NDF}$ :47157.7/55

All: 22.540+/-0.002  $\chi^2/\text{NDF}$ : 90757.6/105

asym\_bcm\_dg\_ds\_bcm\_an\_us\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: -59.219 $\pm$ 48.424  $\chi^2$ /NDF: 16.2/26

Left Out: 20.306 $\pm$ 48.049  $\chi^2$ /NDF: 7.7/24

Right Out: -42.280 $\pm$ 47.100  $\chi^2$ /NDF: 10.4/30

Left In: 35.996 $\pm$ 45.180  $\chi^2$ /NDF: 6.1/22

Left: 28.633 $\pm$ 32.915  $\chi^2$ /NDF: 13.8/47

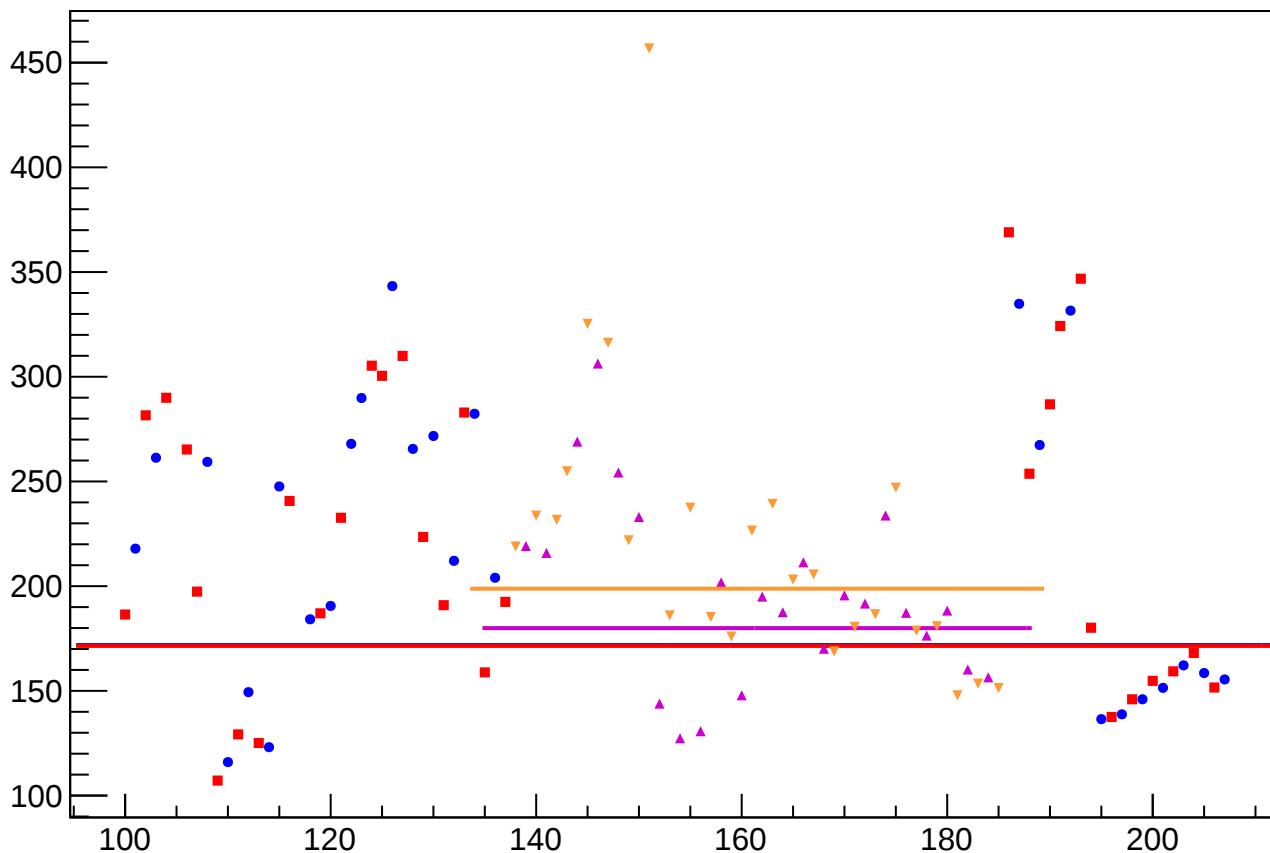
Right: -50.515 $\pm$ 33.763  $\chi^2$ /NDF: 26.7/57

In: -8.316 $\pm$ 33.034  $\chi^2$ /NDF: 24.4/49

Out: -11.611 $\pm$ 33.635  $\chi^2$ /NDF: 18.9/55

All: -9.934 $\pm$ 23.568  $\chi^2$ /NDF: 43.3/105

asym\_bcm\_dg\_ds\_bcm\_an\_us\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 171.860 $\pm$ 0.034  $\chi^2$ /NDF: 2100749.8/26

Left Out: 198.784 $\pm$ 0.034  $\chi^2$ /NDF:1758481.8/24

Right Out: 171.475 $\pm$ 0.033  $\chi^2$ /NDF: 2772812.6/30

Left In: 179.972 $\pm$ 0.032  $\chi^2$ /NDF:1575888.3/22

Left: 188.800 $\pm$ 0.023  $\chi^2$ /NDF: 3497081.8/47

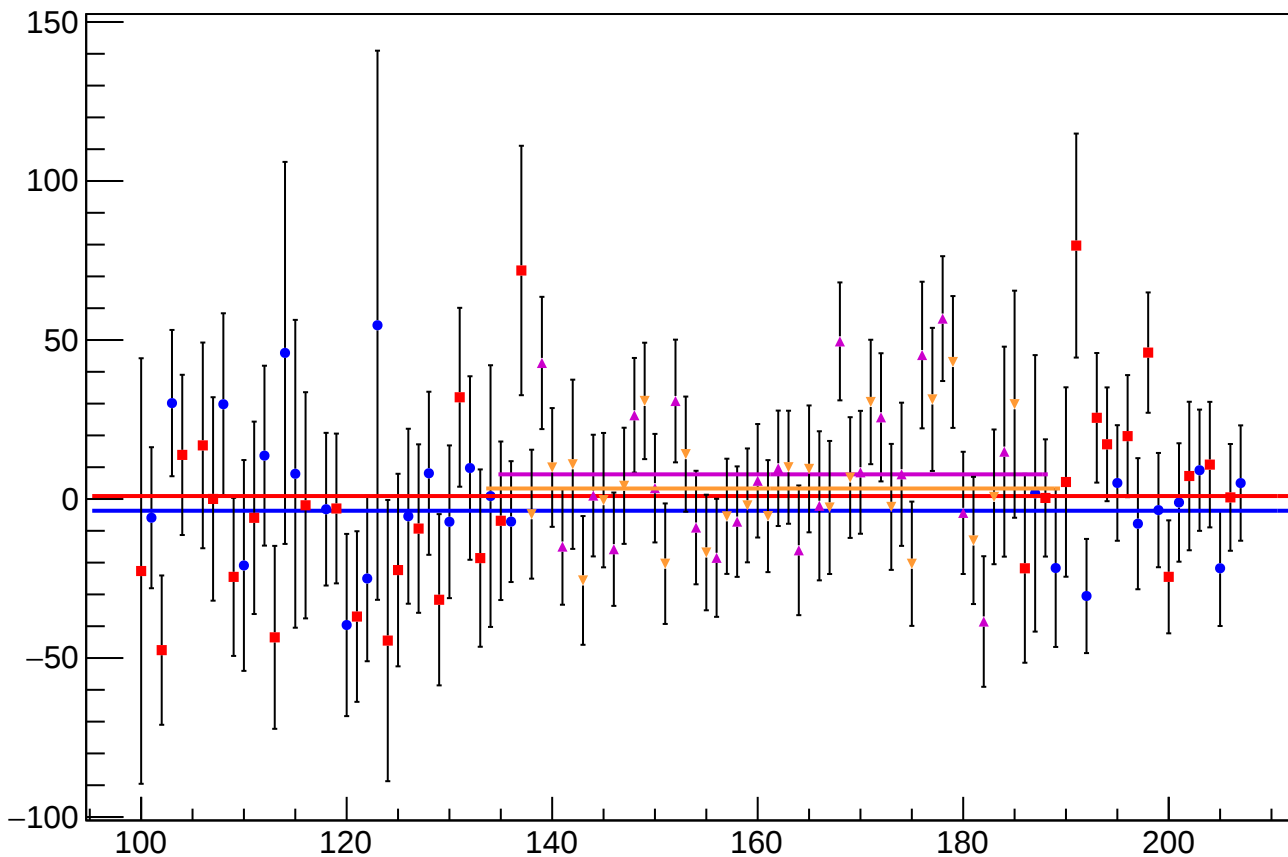
Right: 171.662 $\pm$ 0.024  $\chi^2$ /NDF: 4873627.6/57

In: 176.197 $\pm$ 0.023  $\chi^2$ /NDF:3706642.8/49

Out: 184.857 $\pm$ 0.024  $\chi^2$ /NDF:4860782.0/55

All: 180.449 $\pm$ 0.017  $\chi^2$ /NDF: 8634908.5/105

asym\_bcm\_dg\_ds\_bcm\_an\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-3.691 \pm 4.605$   $\chi^2/\text{NDF}: 12.9/26$

Left Out:  $3.307 \pm 3.954$   $\chi^2/\text{NDF}: 18.7/24$

Right Out:  $0.933 \pm 4.435$   $\chi^2/\text{NDF}: 35.7/30$

Left In:  $7.756 \pm 4.061$   $\chi^2/\text{NDF}: 34.3/22$

Left:  $5.472 \pm 2.833$   $\chi^2/\text{NDF}: 53.6/47$

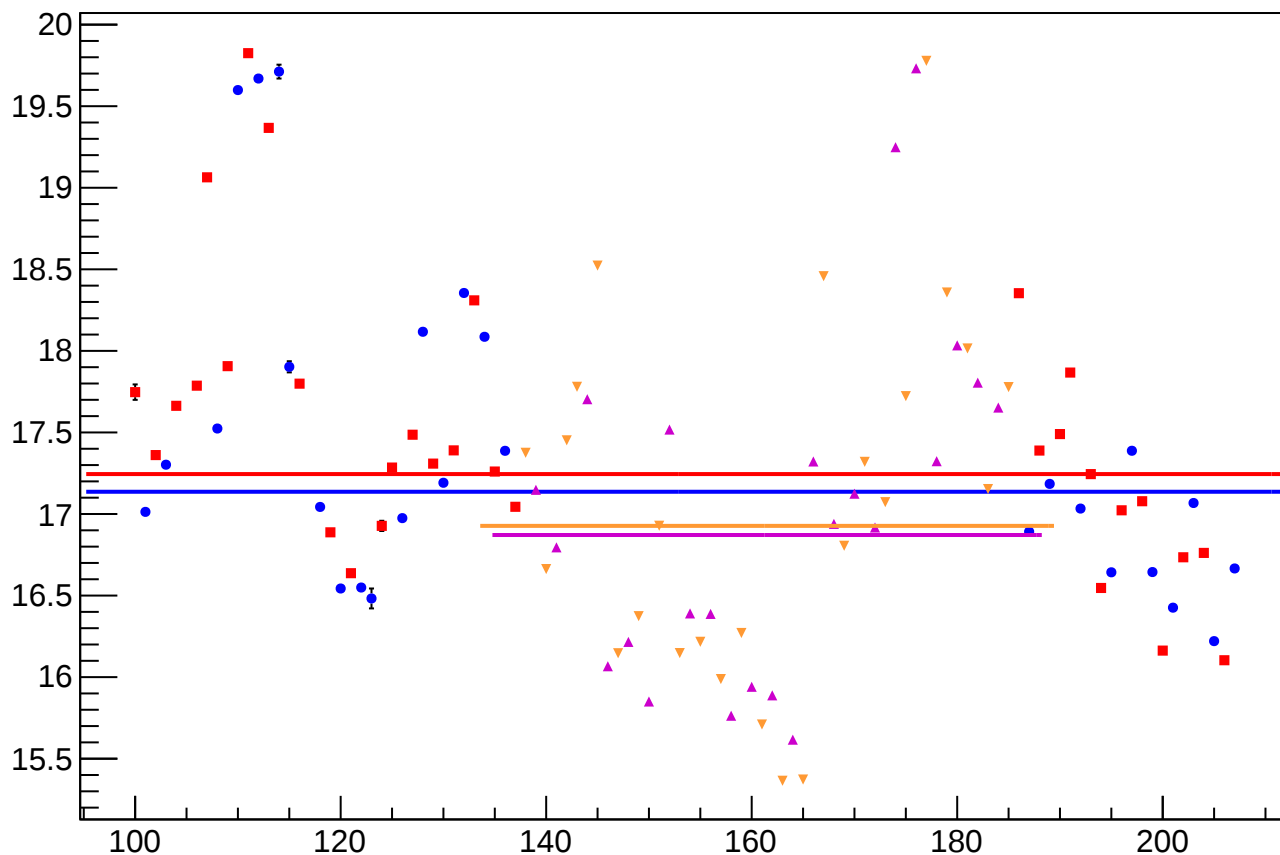
Right:  $-1.292 \pm 3.195$   $\chi^2/\text{NDF}: 49.0/57$

In:  $2.749 \pm 3.046$   $\chi^2/\text{NDF}: 50.6/49$

Out:  $2.256 \pm 2.951$   $\chi^2/\text{NDF}: 54.5/55$

All:  $2.495 \pm 2.119$   $\chi^2/\text{NDF}: 105.1/105$

asym\_bcm\_dg\_ds\_bcm\_an\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 17.136 $\pm$ 0.003  $\chi^2$ /NDF: 54573.8/26

Left Out: 16.927 $\pm$ 0.003  $\chi^2$ /NDF:138533.2/24

Right Out: 17.245 $\pm$ 0.003  $\chi^2$ /NDF: 65835.2/30

Left In: 16.871 $\pm$ 0.003  $\chi^2$ /NDF:117993.8/22

Left: 16.900 $\pm$ 0.002  $\chi^2$ /NDF: 256722.4/47

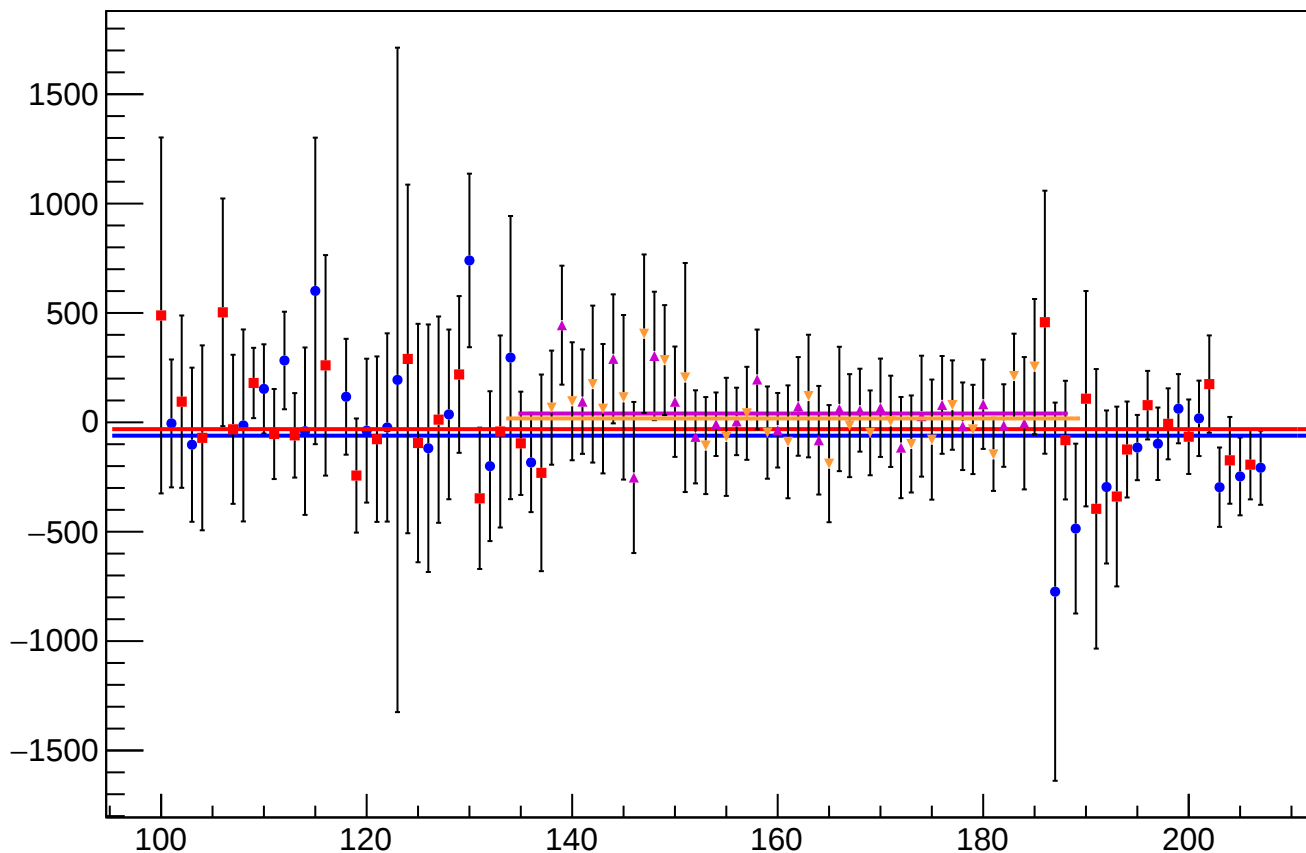
Right: 17.193 $\pm$ 0.002  $\chi^2$ /NDF: 120984.2/57

In: 16.987 $\pm$ 0.002  $\chi^2$ /NDF:176296.9/49

Out: 17.068 $\pm$ 0.002  $\chi^2$ /NDF:210081.4/55

All: 17.029 $\pm$ 0.001  $\chi^2$ /NDF: 387101.5/105

asym\_bcm\_dg\_us\_bcm\_dg\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In:  $-60.944 \pm 48.696$   $\chi^2/\text{NDF}$ : 16.7/26

Left Out:  $17.828 \pm 48.547$   $\chi^2/\text{NDF}$ : 7.5/24

Right Out:  $-31.097 \pm 47.479$   $\chi^2/\text{NDF}$ : 11.1/30

Left In:  $40.355 \pm 45.689$   $\chi^2/\text{NDF}$ : 6.6/22

Left:  $29.774 \pm 33.271$   $\chi^2/\text{NDF}$ : 14.2/47

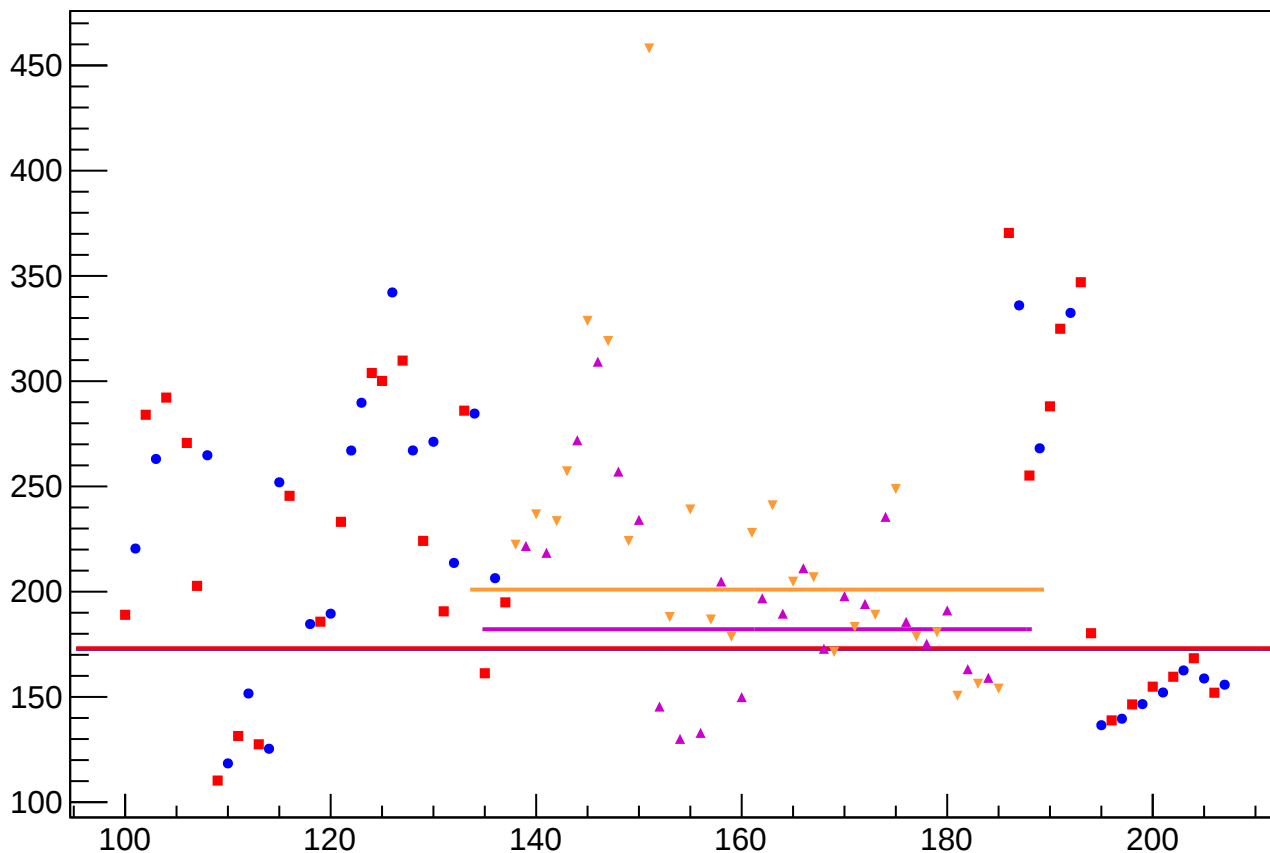
Right:  $-45.643 \pm 33.995$   $\chi^2/\text{NDF}$ : 27.9/57

In:  $-7.070 \pm 33.319$   $\chi^2/\text{NDF}$ : 25.6/49

Out:  $-7.179 \pm 33.944$   $\chi^2/\text{NDF}$ : 19.0/55

All:  $-7.123 \pm 23.778$   $\chi^2/\text{NDF}$ : 44.7/105

asym\_bcm\_dg\_us\_bcm\_dg\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In:  $172.870 \pm 0.034$   $\chi^2/\text{NDF}: 2087471.9/26$

Left Out:  $200.985 \pm 0.034$   $\chi^2/\text{NDF}: 1727291.4/24$

Right Out:  $173.081 \pm 0.034$   $\chi^2/\text{NDF}: 2715103.5/30$

Left In:  $182.158 \pm 0.032$   $\chi^2/\text{NDF}: 1535922.8/22$

Left:  $191.001 \pm 0.024$   $\chi^2/\text{NDF}: 3422724.8/47$

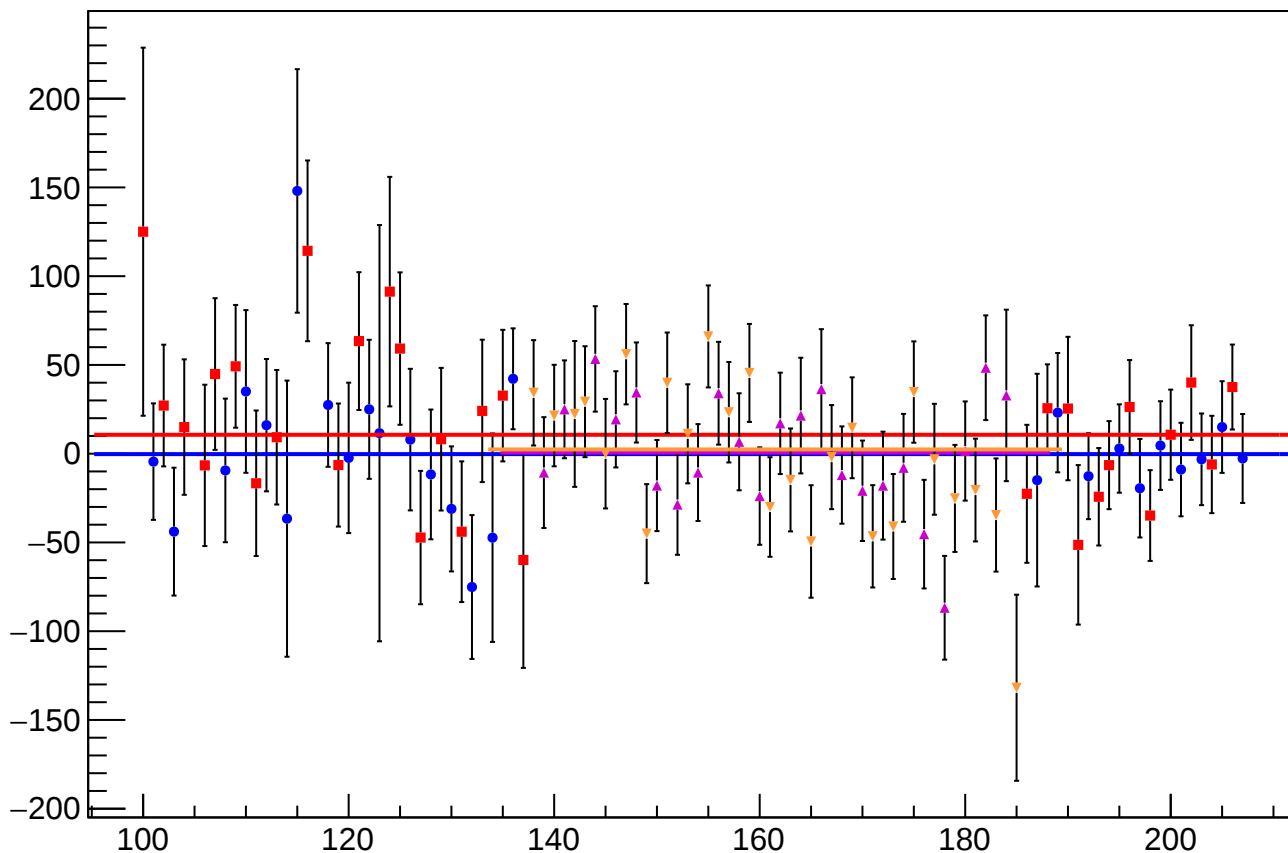
Right:  $172.978 \pm 0.024$   $\chi^2/\text{NDF}: 4802594.5/57$

In:  $177.810 \pm 0.024$   $\chi^2/\text{NDF}: 3662087.7/49$

Out:  $186.723 \pm 0.024$   $\chi^2/\text{NDF}: 4780124.4/55$

All:  $182.184 \pm 0.017$   $\chi^2/\text{NDF}: 8512436.3/105$

asym\_bcm\_dg\_us\_bcm\_dg\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-0.241 \pm 6.491$   $\chi^2/\text{NDF}$ : 17.3/26

Left Out:  $2.390 \pm 5.980$   $\chi^2/\text{NDF}$ : 39.1/24

Right Out:  $10.654 \pm 6.208$   $\chi^2/\text{NDF}$ : 30.3/30

Left In:  $0.641 \pm 6.091$   $\chi^2/\text{NDF}$ : 27.3/22

Left:  $1.531 \pm 4.267$   $\chi^2/\text{NDF}$ : 66.5/47

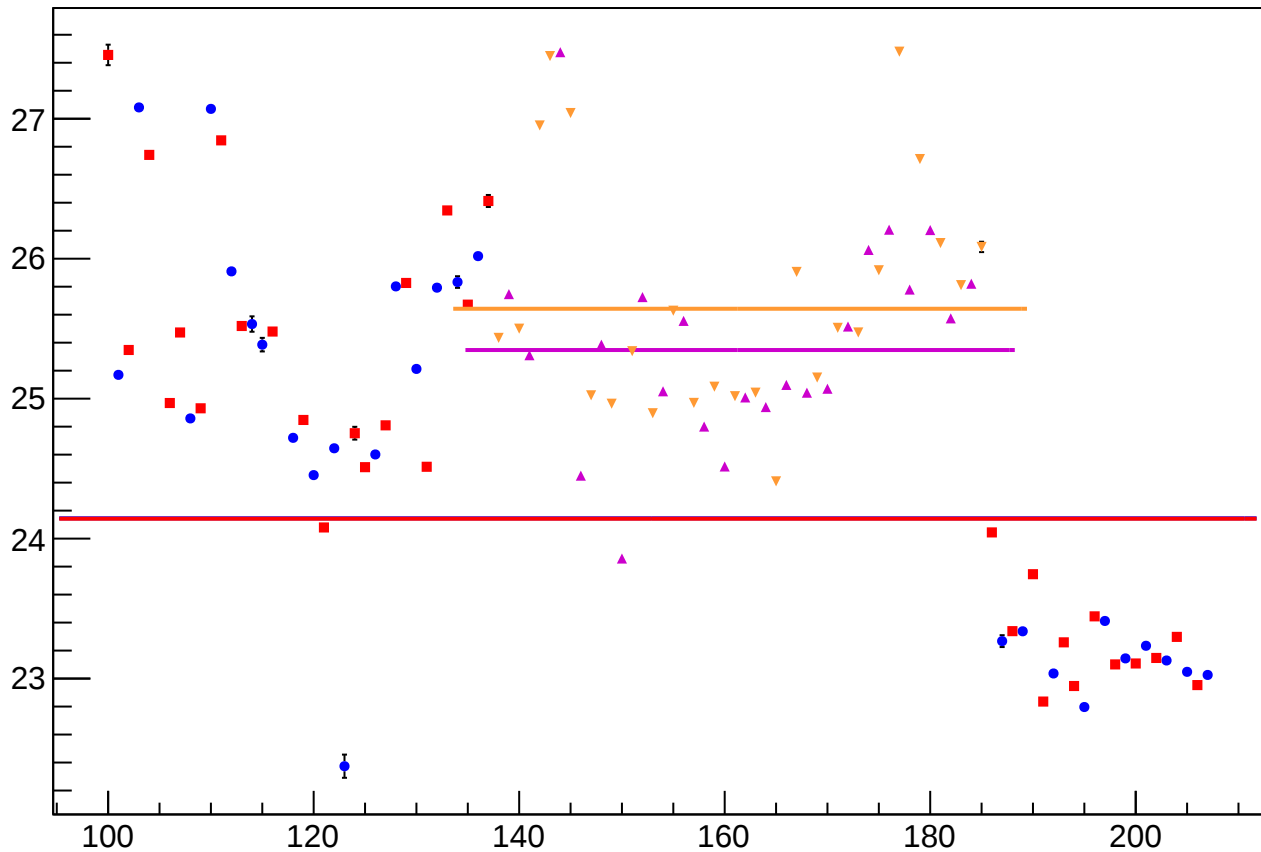
Right:  $5.449 \pm 4.486$   $\chi^2/\text{NDF}$ : 49.1/57

In:  $0.228 \pm 4.442$   $\chi^2/\text{NDF}$ : 44.6/49

Out:  $6.367 \pm 4.307$   $\chi^2/\text{NDF}$ : 70.3/55

All:  $3.392 \pm 3.092$   $\chi^2/\text{NDF}$ : 115.9/105

asym\_bcm\_dg\_us\_bcm\_dg\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 24.145 $\pm$ 0.005  $\chi^2$ /NDF: 80433.1/26

Left Out: 25.642 $\pm$ 0.004  $\chi^2$ /NDF:34802.2/24

Right Out: 24.142 $\pm$ 0.004  $\chi^2$ /NDF: 75355.6/30

Left In: 25.347 $\pm$ 0.004  $\chi^2$ /NDF:29389.5/22

Left: 25.498 $\pm$ 0.003  $\chi^2$ /NDF: 66578.5/47

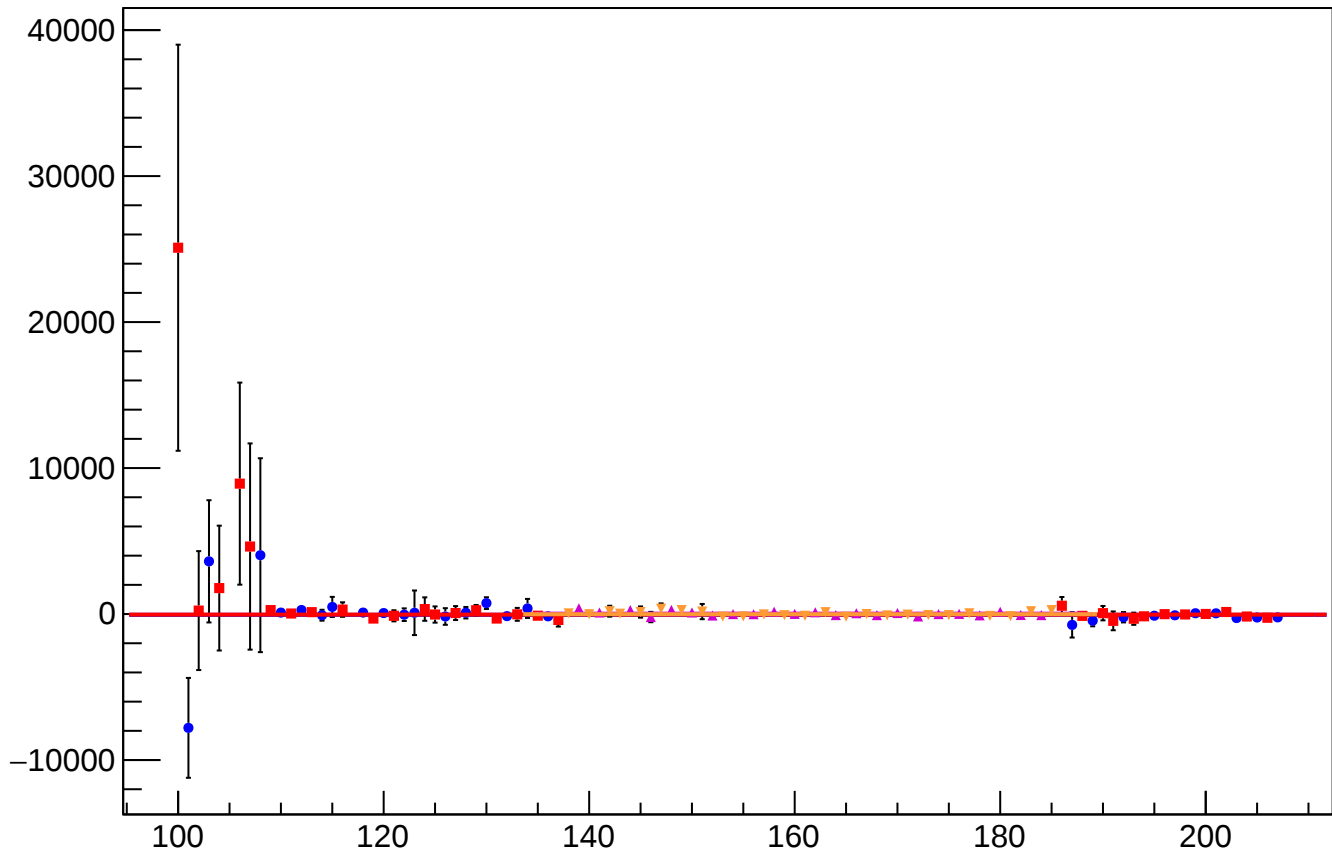
Right: 24.144 $\pm$ 0.003  $\chi^2$ /NDF: 155789.0/57

In: 24.784 $\pm$ 0.003  $\chi^2$ /NDF:146318.0/49

Out: 24.920 $\pm$ 0.003  $\chi^2$ /NDF:170730.2/55

All: 24.854 $\pm$ 0.002  $\chi^2$ /NDF: 318014.3/105

asym\_bcm\_cav4cQ\_bcm\_an\_us\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: -53.910 $\pm$ 51.157  $\chi^2$ /NDF: 21.4/26

Left Out: -11.432 $\pm$ 48.263  $\chi^2$ /NDF: 8.0/24

Right Out: -38.252 $\pm$ 50.781  $\chi^2$ /NDF: 17.7/30

Left In: 27.098 $\pm$ 45.999  $\chi^2$ /NDF: 7.2/22

Left: 8.758 $\pm$ 33.298  $\chi^2$ /NDF: 15.5/47

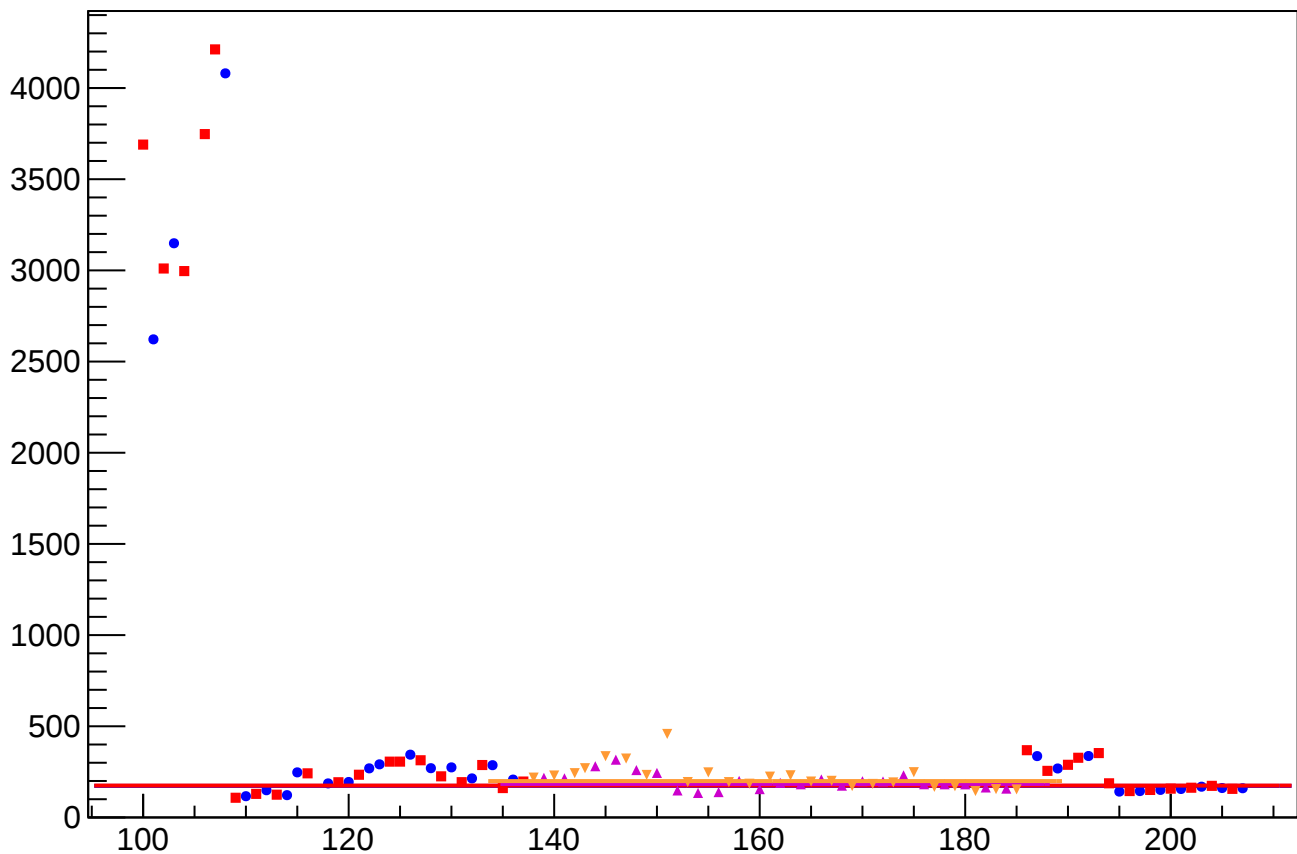
Right: -46.024 $\pm$ 36.040  $\chi^2$ /NDF: 39.1/57

In: -9.117 $\pm$ 34.205  $\chi^2$ /NDF: 30.0/49

Out: -24.161 $\pm$ 34.983  $\chi^2$ /NDF: 25.8/55

All: -16.470 $\pm$ 24.457  $\chi^2$ /NDF: 55.9/105

asym\_bcm\_cav4cQ\_bcm\_an\_us\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 173.054 $\pm$ 0.036  $\chi^2$ /NDF: 4490719.4/26

Left Out: 199.438 $\pm$ 0.034  $\chi^2$ /NDF: 1877848.7/24

Right Out: 174.783 $\pm$ 0.036  $\chi^2$ /NDF: 5334737.4/30

Left In: 183.805 $\pm$ 0.033  $\chi^2$ /NDF: 1412869.6/22

Left: 191.246 $\pm$ 0.024  $\chi^2$ /NDF: 3400676.1/47

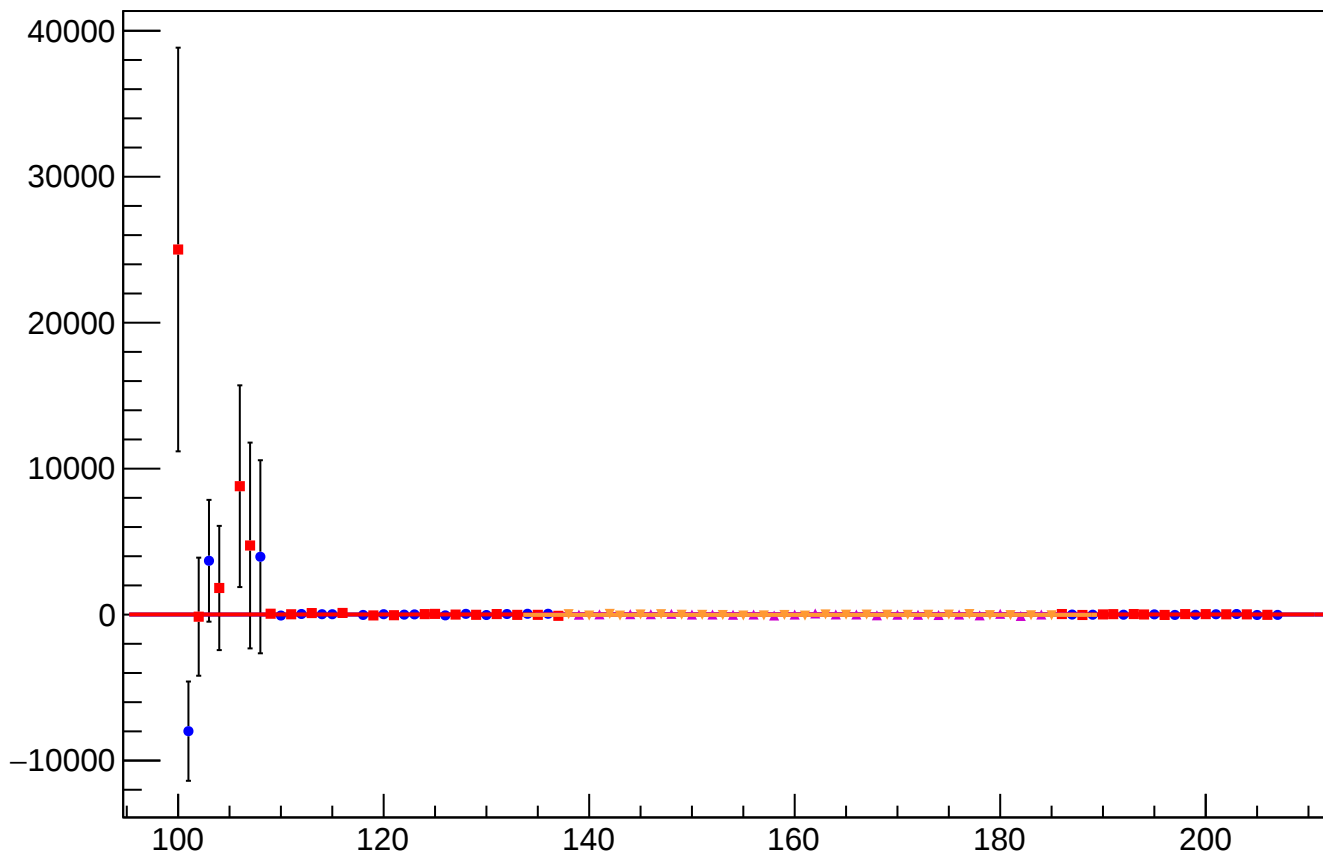
Right: 173.924 $\pm$ 0.025  $\chi^2$ /NDF: 9826607.4/57

In: 178.999 $\pm$ 0.024  $\chi^2$ /NDF: 5952435.5/49

Out: 187.737 $\pm$ 0.025  $\chi^2$ /NDF: 7460298.6/55

All: 183.269 $\pm$ 0.017  $\chi^2$ /NDF: 13476530.0/100

asym\_bcm\_cav4cQ\_bcm\_an\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 3.653+/-7.824  $\chi^2/\text{NDF}$ : 23.4/26

Left Out: -18.118+/-6.704  $\chi^2/\text{NDF}$ : 21.7/24

Right Out: 11.271+/-7.624  $\chi^2/\text{NDF}$ : 29.6/30

Left In: 1.267+/-6.908  $\chi^2/\text{NDF}$ : 32.0/22

Left: -8.716+/-4.811  $\chi^2/\text{NDF}$ : 57.8/47

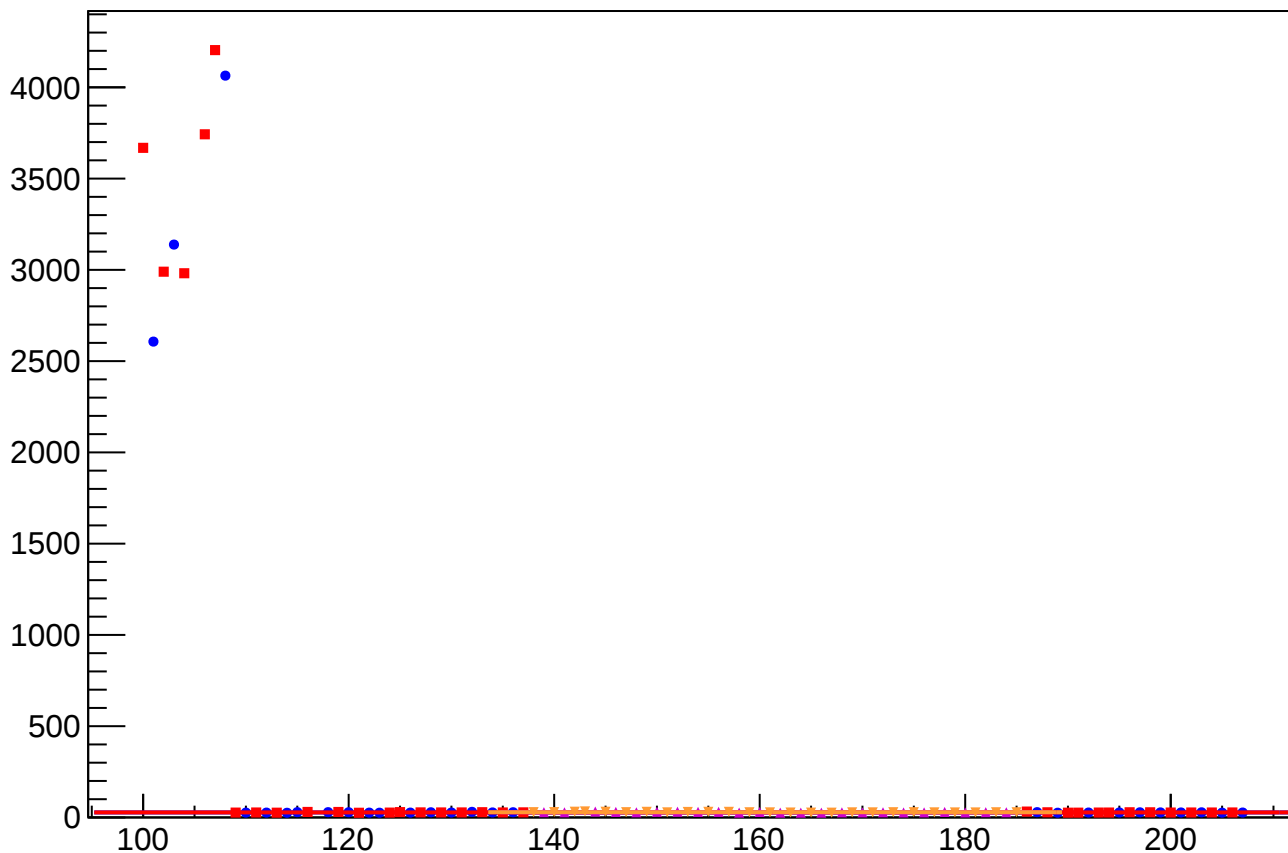
Right: 7.561+/-5.460  $\chi^2/\text{NDF}$ : 53.5/57

In: 2.312+/-5.178  $\chi^2/\text{NDF}$ : 55.5/49

Out: -5.303+/-5.034  $\chi^2/\text{NDF}$ : 59.8/55

All: -1.603+/-3.610  $\chi^2/\text{NDF}$ : 116.3/105

asym\_bcm\_cav4cQ\_bcm\_an\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 27.497 $\pm$ 0.006  $\chi^2$ /NDF: 3040402.1/26

Left Out: 28.694 $\pm$ 0.005  $\chi^2$ /NDF:110466.9/24

Right Out: 27.594 $\pm$ 0.005  $\chi^2$ /NDF: 3503272.8/30

Left In: 28.677 $\pm$ 0.005  $\chi^2$ /NDF:123814.4/22

Left: 28.685 $\pm$ 0.003  $\chi^2$ /NDF: 234287.5/47

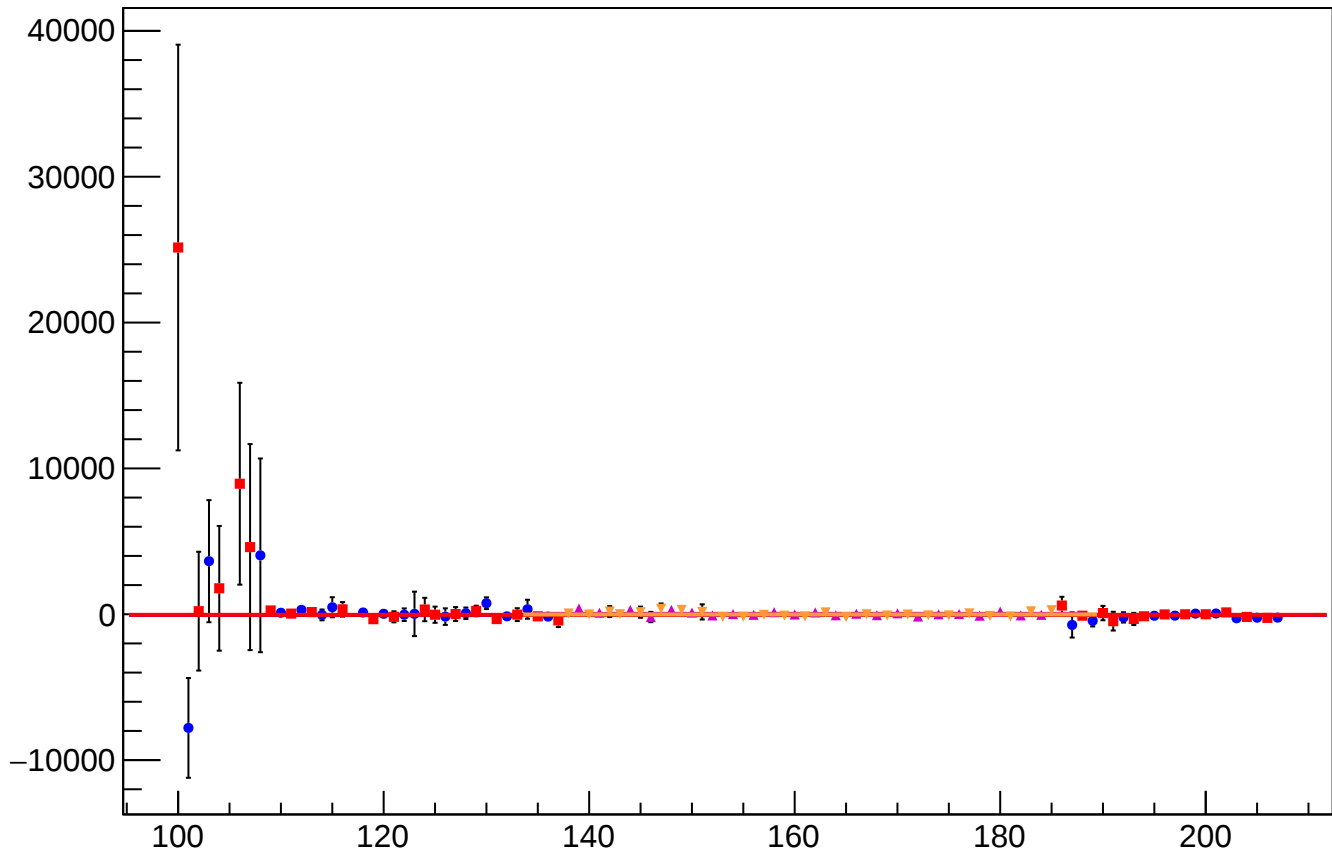
Right: 27.546 $\pm$ 0.004  $\chi^2$ /NDF: 6543832.0/57

In: 28.160 $\pm$ 0.004  $\chi^2$ /NDF:3189779.7/49

Out: 28.214 $\pm$ 0.004  $\chi^2$ /NDF:3637226.4/55

All: 28.188 $\pm$ 0.003  $\chi^2$ /NDF: 6827118.5/105

asym\_bcm\_cav4cQ\_bcm\_an\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: -52.755 $\pm$ 50.997  $\chi^2$ /NDF: 21.7/26

Left Out: -13.878 $\pm$ 48.155  $\chi^2$ /NDF:8.8/24

Right Out: -39.604 $\pm$ 50.638  $\chi^2$ /NDF: 18.3/30

Left In: 27.286 $\pm$ 45.907  $\chi^2$ /NDF:7.5/22

Left: 7.688 $\pm$ 33.228  $\chi^2$ /NDF: 16.7/47

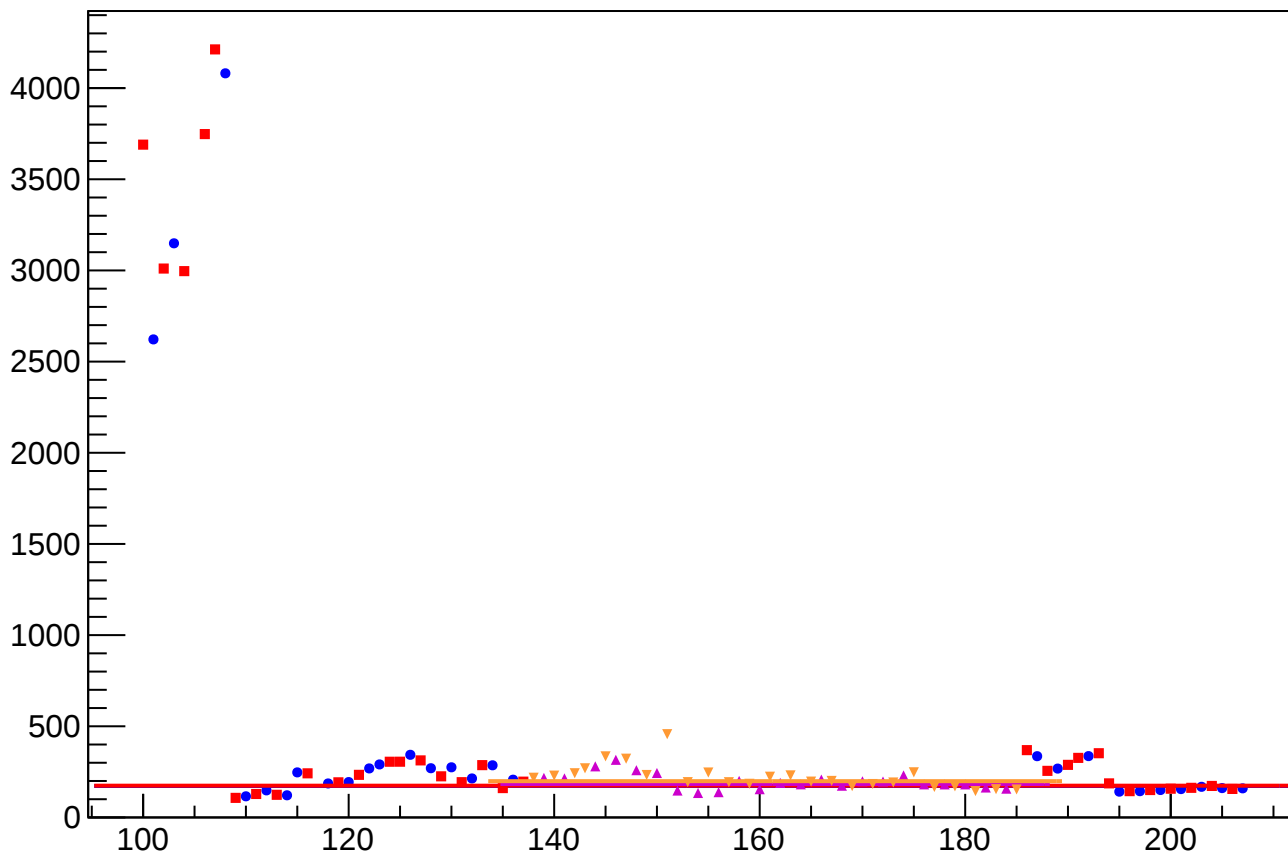
Right: -46.133 $\pm$ 35.933  $\chi^2$ /NDF: 40.0/57

In: -8.542 $\pm$ 34.119  $\chi^2$ /NDF:30.5/49

Out: -26.095 $\pm$ 34.896  $\chi^2$ /NDF:27.2/55

All: -17.121 $\pm$ 24.396  $\chi^2$ /NDF: 57.9/105

asym\_bcm\_cav4cQ\_bcm\_an\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 172.464 $\pm$ 0.036  $\chi^2$ /NDF: 4503859.9/26

Left Out: 198.997 $\pm$ 0.034  $\chi^2$ /NDF:1877636.0/24

Right Out: 174.231 $\pm$ 0.036  $\chi^2$ /NDF: 5351913.5/30

Left In: 183.442 $\pm$ 0.032  $\chi^2$ /NDF:1412341.8/22

Left: 190.847 $\pm$ 0.023  $\chi^2$ /NDF: 3399302.2/47

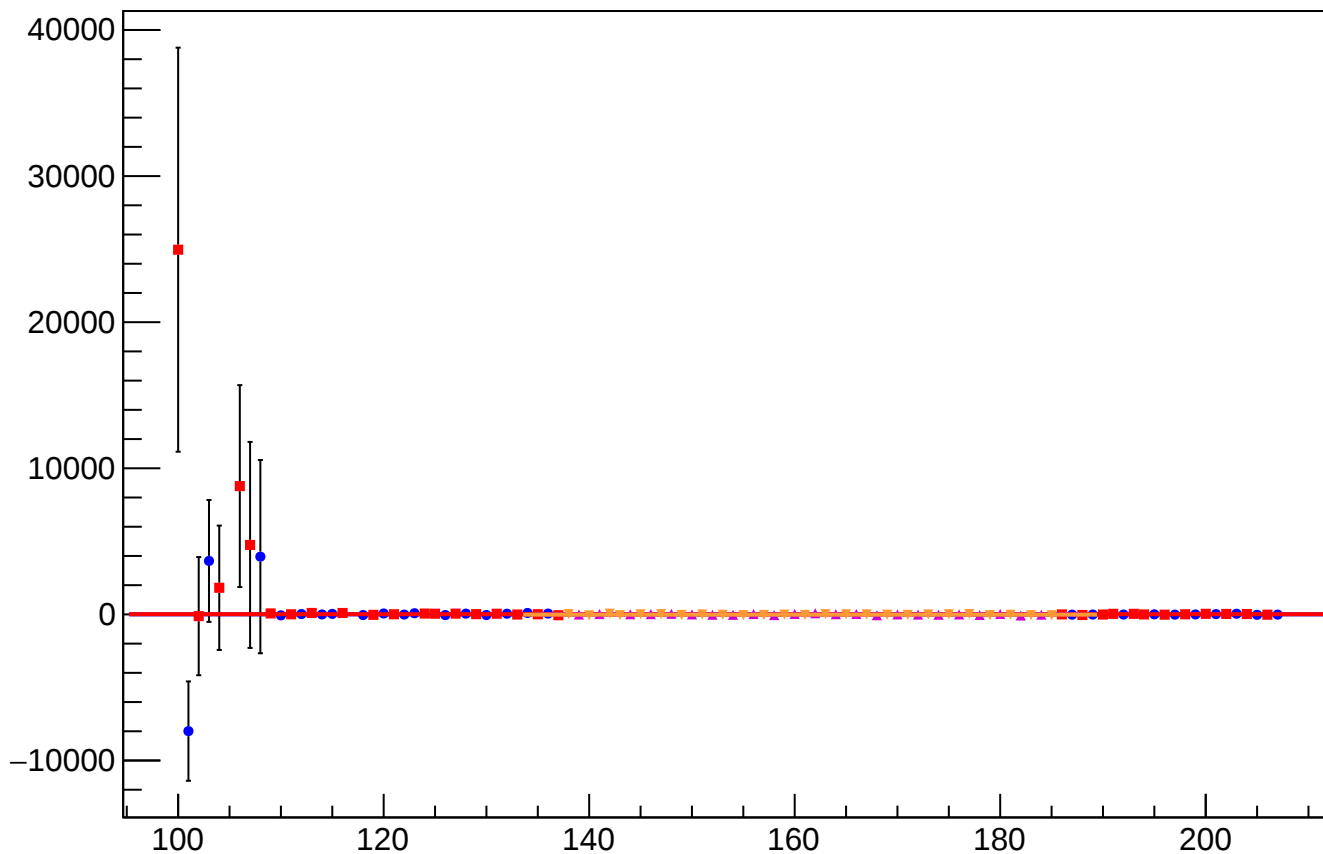
Right: 173.354 $\pm$ 0.025  $\chi^2$ /NDF: 9856981.7/57

In: 178.528 $\pm$ 0.024  $\chi^2$ /NDF:5967389.5/49

Out: 187.236 $\pm$ 0.025  $\chi^2$ /NDF:7480754.1/55

All: 182.784 $\pm$ 0.017  $\chi^2$ /NDF: 13511813.4/100

asym\_bcm\_cav4cQ\_bcm\_an\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 2.391+/-7.801  $\chi^2/\text{NDF}$ : 27.3/26

Left Out: -15.829+/-6.733  $\chi^2/\text{NDF}$ :16.5/24

Right Out: 14.372+/-7.614  $\chi^2/\text{NDF}$ : 26.1/30

Left In: -0.498+/-6.937  $\chi^2/\text{NDF}$ :26.1/22

Left: -8.392+/-4.831  $\chi^2/\text{NDF}$ : 45.1/47

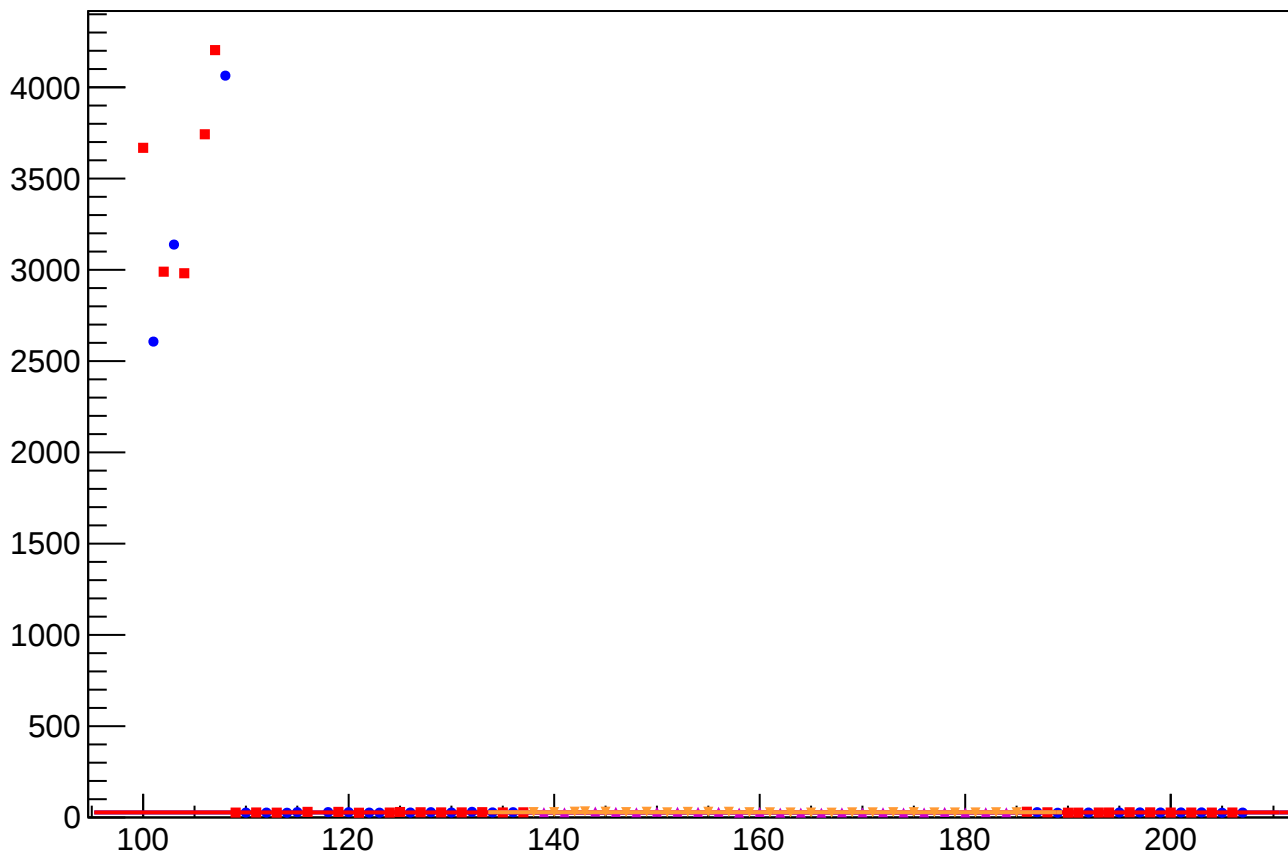
Right: 8.527+/-5.449  $\chi^2/\text{NDF}$ : 54.7/57

In: 0.778+/-5.184  $\chi^2/\text{NDF}$ :53.5/49

Out: -2.576+/-5.044  $\chi^2/\text{NDF}$ :51.5/55

All: -0.945+/-3.615  $\chi^2/\text{NDF}$ : 105.2/105

asym\_bcm\_cav4cQ\_bcm\_an\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 27.412 $\pm$ 0.006  $\chi^2$ /NDF: 3046406.8/26

Left Out: 28.814 $\pm$ 0.005  $\chi^2$ /NDF:122153.6/24

Right Out: 27.558 $\pm$ 0.005  $\chi^2$ /NDF: 3503535.0/30

Left In: 28.797 $\pm$ 0.005  $\chi^2$ /NDF:128279.2/22

Left: 28.806 $\pm$ 0.003  $\chi^2$ /NDF: 250439.0/47

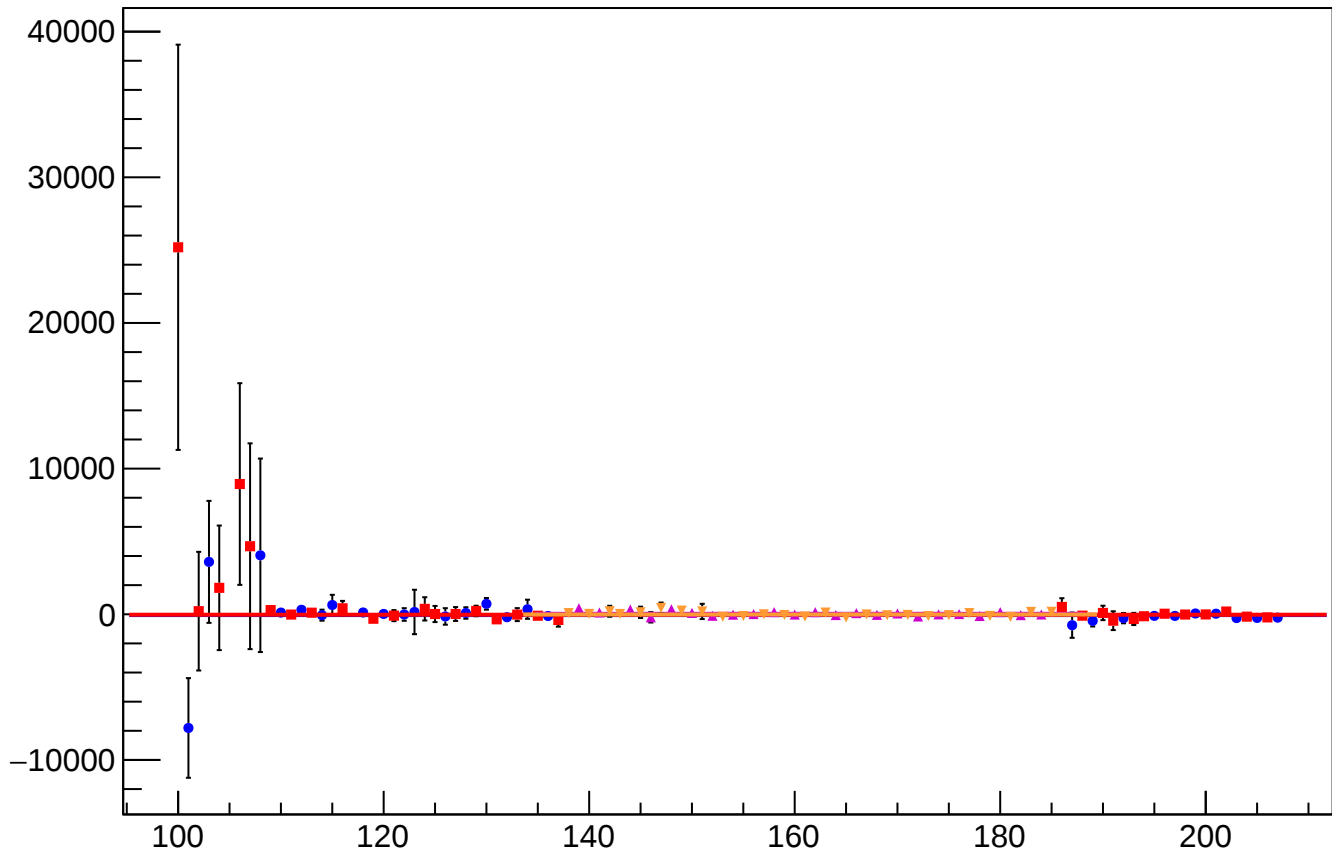
Right: 27.487 $\pm$ 0.004  $\chi^2$ /NDF: 6550298.0/57

In: 28.186 $\pm$ 0.004  $\chi^2$ /NDF:3209895.5/49

Out: 28.263 $\pm$ 0.004  $\chi^2$ /NDF:3656258.8/55

All: 28.225 $\pm$ 0.003  $\chi^2$ /NDF: 6866381.7/105

asym\_bcm\_cav4cQ\_bcm\_dg\_us\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: -54.499 $\pm$ 51.341  $\chi^2$ /NDF: 22.0/26

Left Out: -13.966 $\pm$ 48.735  $\chi^2$ /NDF:8.1/24

Right Out: -30.510 $\pm$ 51.022  $\chi^2$ /NDF: 17.3/30

Left In: 31.477 $\pm$ 46.483  $\chi^2$ /NDF:7.8/22

Left: 9.830 $\pm$ 33.637  $\chi^2$ /NDF: 16.4/47

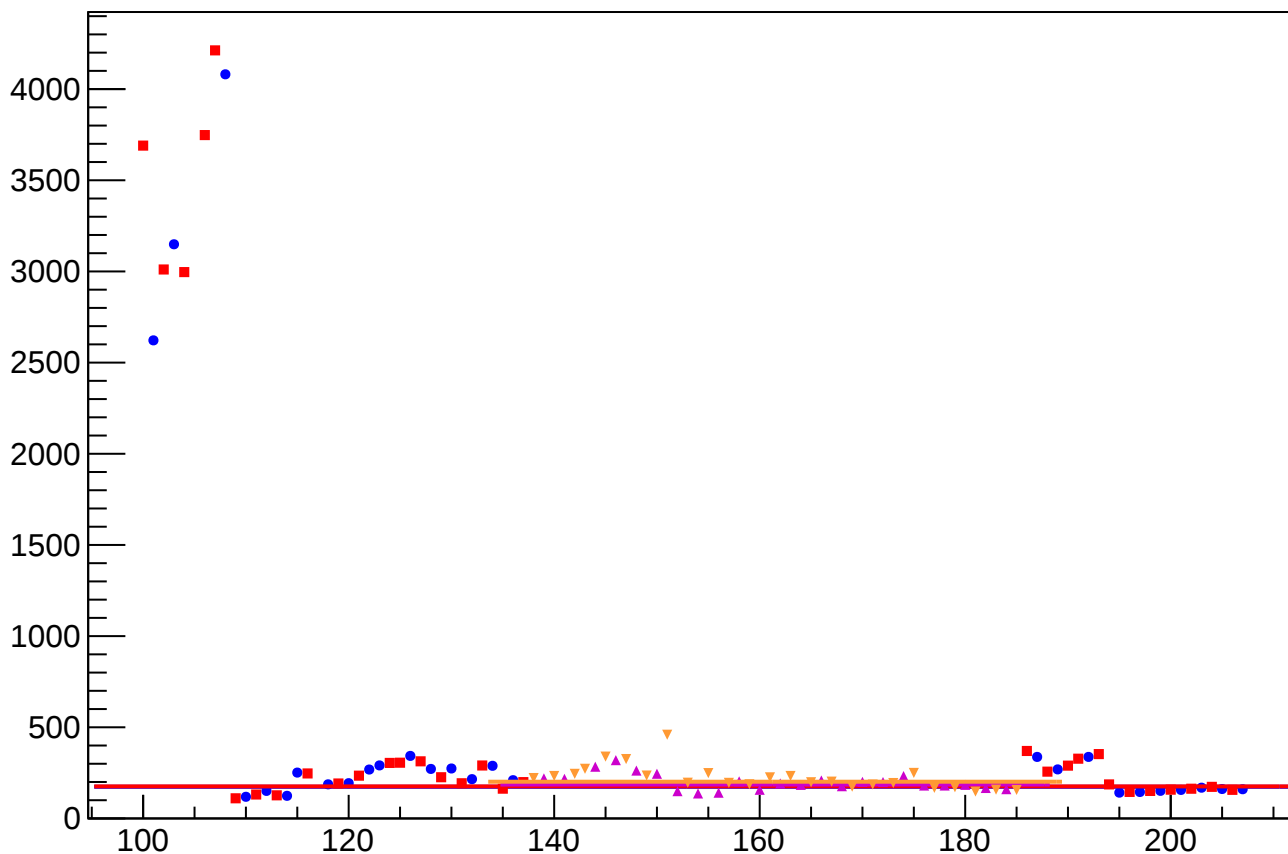
Right: -42.430 $\pm$ 36.190  $\chi^2$ /NDF: 39.4/57

In: -7.252 $\pm$ 34.458  $\chi^2$ /NDF:31.4/49

Out: -21.859 $\pm$ 35.242  $\chi^2$ /NDF:25.5/55

All: -14.391 $\pm$ 24.638  $\chi^2$ /NDF: 57.0/105

asym\_bcm\_cav4cQ\_bcm\_dg\_us\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 173.737 $\pm$ 0.036  $\chi^2$ /NDF: 4473267.3/26

Left Out: 201.503 $\pm$ 0.034  $\chi^2$ /NDF:1854905.1/24

Right Out: 175.787 $\pm$ 0.036  $\chi^2$ /NDF: 5292633.5/30

Left In: 185.878 $\pm$ 0.033  $\chi^2$ /NDF:1380877.6/22

Left: 193.321 $\pm$ 0.024  $\chi^2$ /NDF: 3343425.2/47

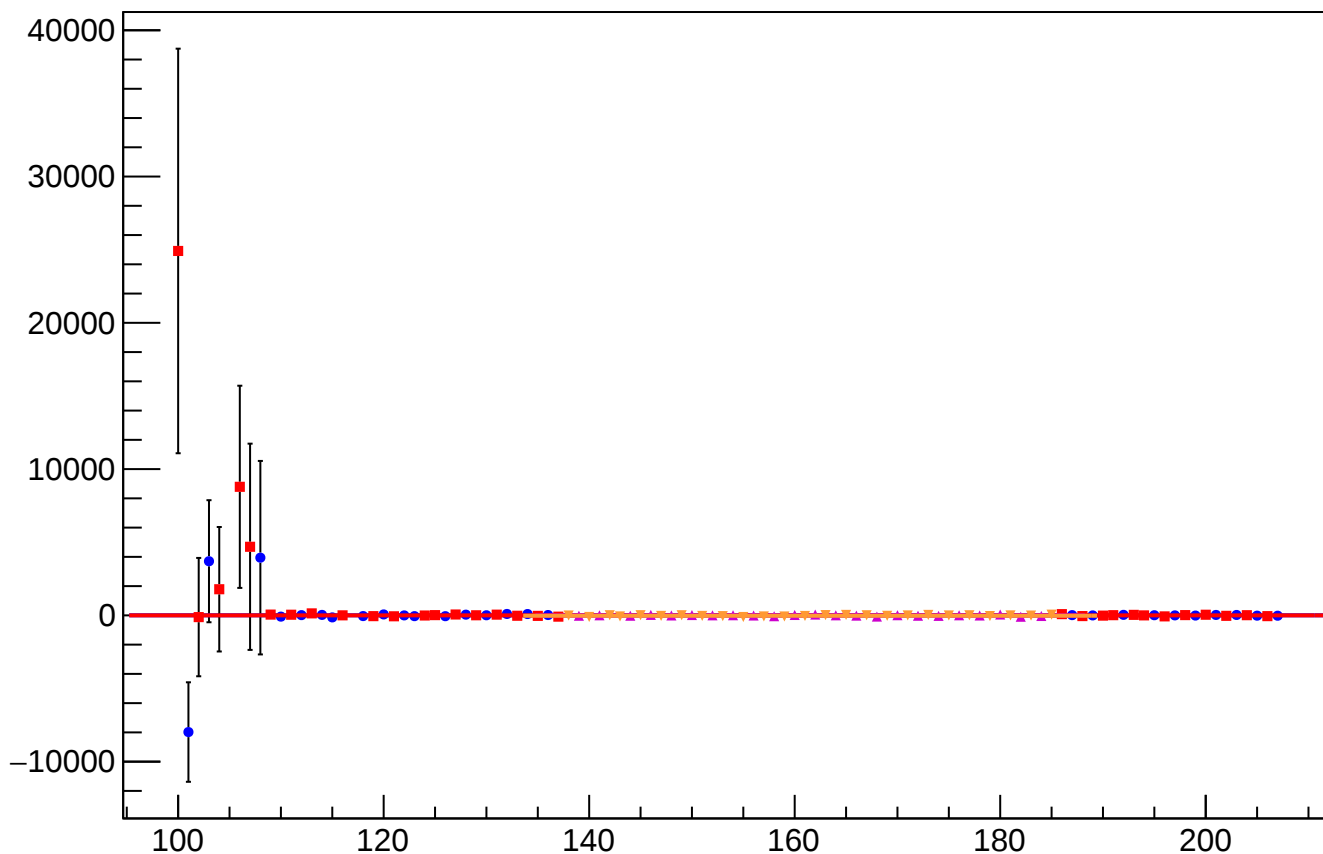
Right: 174.768 $\pm$ 0.026  $\chi^2$ /NDF: 9767503.9/57

In: 180.409 $\pm$ 0.024  $\chi^2$ /NDF:5915607.3/49

Out: 189.234 $\pm$ 0.025  $\chi^2$ /NDF:7413217.8/55

All: 184.722 $\pm$ 0.017  $\chi^2$ /NDF: 13392933.8/100

asym\_bcm\_cav4cQ\_bcm\_dg\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 5.612+/-9.521  $\chi^2/\text{NDF}$ : 23.1/26

Left Out: -24.144+/-8.076  $\chi^2/\text{NDF}$ : 24.9/24

Right Out: 0.725+/-9.277  $\chi^2/\text{NDF}$ : 34.3/30

Left In: -5.924+/-8.340  $\chi^2/\text{NDF}$ : 21.0/22

Left: -15.326+/-5.802  $\chi^2/\text{NDF}$ : 48.4/47

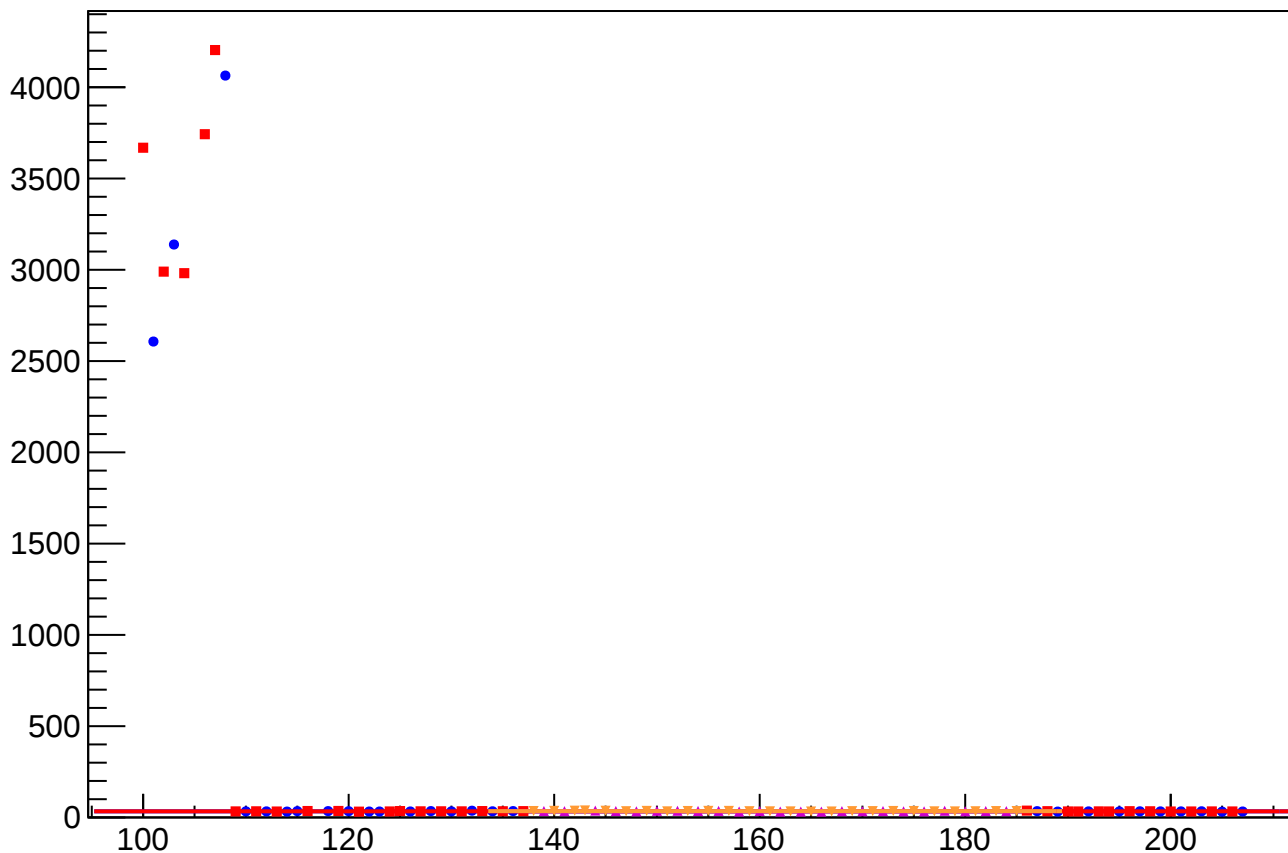
Right: 3.105+/-6.644  $\chi^2/\text{NDF}$ : 57.5/57

In: -0.916+/-6.274  $\chi^2/\text{NDF}$ : 45.0/49

Out: -13.421+/-6.091  $\chi^2/\text{NDF}$ : 63.3/55

All: -7.353+/-4.370  $\chi^2/\text{NDF}$ : 110.3/105

asym\_bcm\_cav4cQ\_bcm\_dg\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 33.480+/-0.007  $\chi^2/\text{NDF}$ : 3018676.4/26

Left Out: 34.617+/-0.006  $\chi^2/\text{NDF}$ : 57868.4/24

Right Out: 33.623+/-0.007  $\chi^2/\text{NDF}$ : 3467526.5/30

Left In: 34.682+/-0.006  $\chi^2/\text{NDF}$ : 59834.3/22

Left: 34.649+/-0.004  $\chi^2/\text{NDF}$ : 117764.0/47

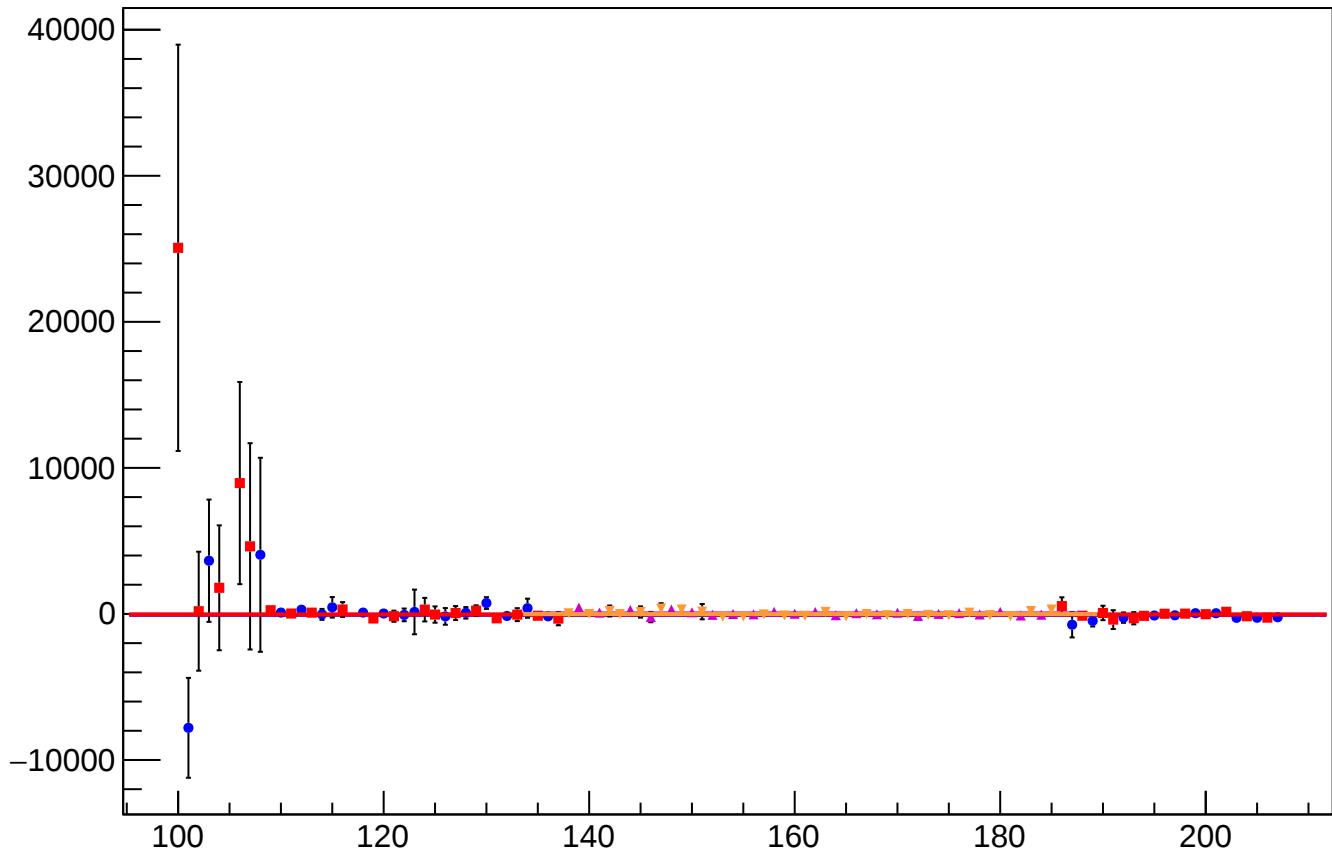
Right: 33.553+/-0.005  $\chi^2/\text{NDF}$ : 6486433.1/57

In: 34.160+/-0.004  $\chi^2/\text{NDF}$ : 3096537.7/49

Out: 34.189+/-0.004  $\chi^2/\text{NDF}$ : 3538477.7/55

All: 34.175+/-0.003  $\chi^2/\text{NDF}$ : 6635036.7/105

asym\_bcm\_cav4cQ\_bcm\_dg\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: -58.087 $\pm$ 51.191  $\chi^2$ /NDF: 21.6/26

Left Out: -7.558 $\pm$ 48.662  $\chi^2$ /NDF:8.8/24

Right Out: -37.038 $\pm$ 50.821  $\chi^2$ /NDF: 16.2/30

Left In: 34.977 $\pm$ 46.421  $\chi^2$ /NDF:7.1/22

Left: 14.712 $\pm$ 33.589  $\chi^2$ /NDF: 16.3/47

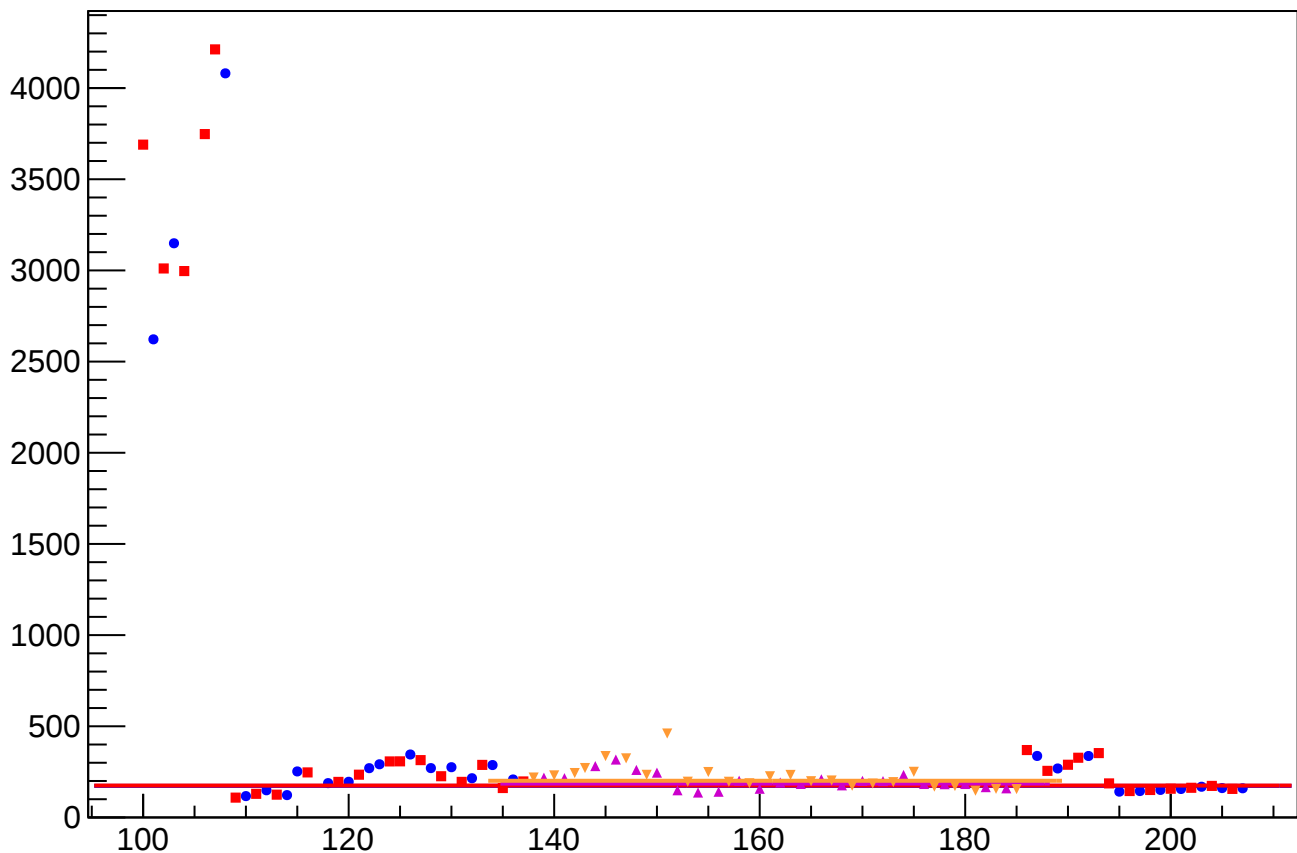
Right: -47.486 $\pm$ 36.066  $\chi^2$ /NDF: 37.9/57

In: -7.017 $\pm$ 34.387  $\chi^2$ /NDF:30.5/49

Out: -21.658 $\pm$ 35.148  $\chi^2$ /NDF:25.2/55

All: -14.178 $\pm$ 24.580  $\chi^2$ /NDF: 55.8/105

asym\_bcm\_cav4cQ\_bcm\_dg\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 173.134 $\pm$ 0.036  $\chi^2$ /NDF: 4501871.3/26

Left Out: 201.198 $\pm$ 0.034  $\chi^2$ /NDF:1848437.4/24

Right Out: 174.910 $\pm$ 0.036  $\chi^2$ /NDF: 5341454.5/30

Left In: 185.627 $\pm$ 0.033  $\chi^2$ /NDF:1371411.2/22

Left: 193.046 $\pm$ 0.024  $\chi^2$ /NDF: 3327061.1/47

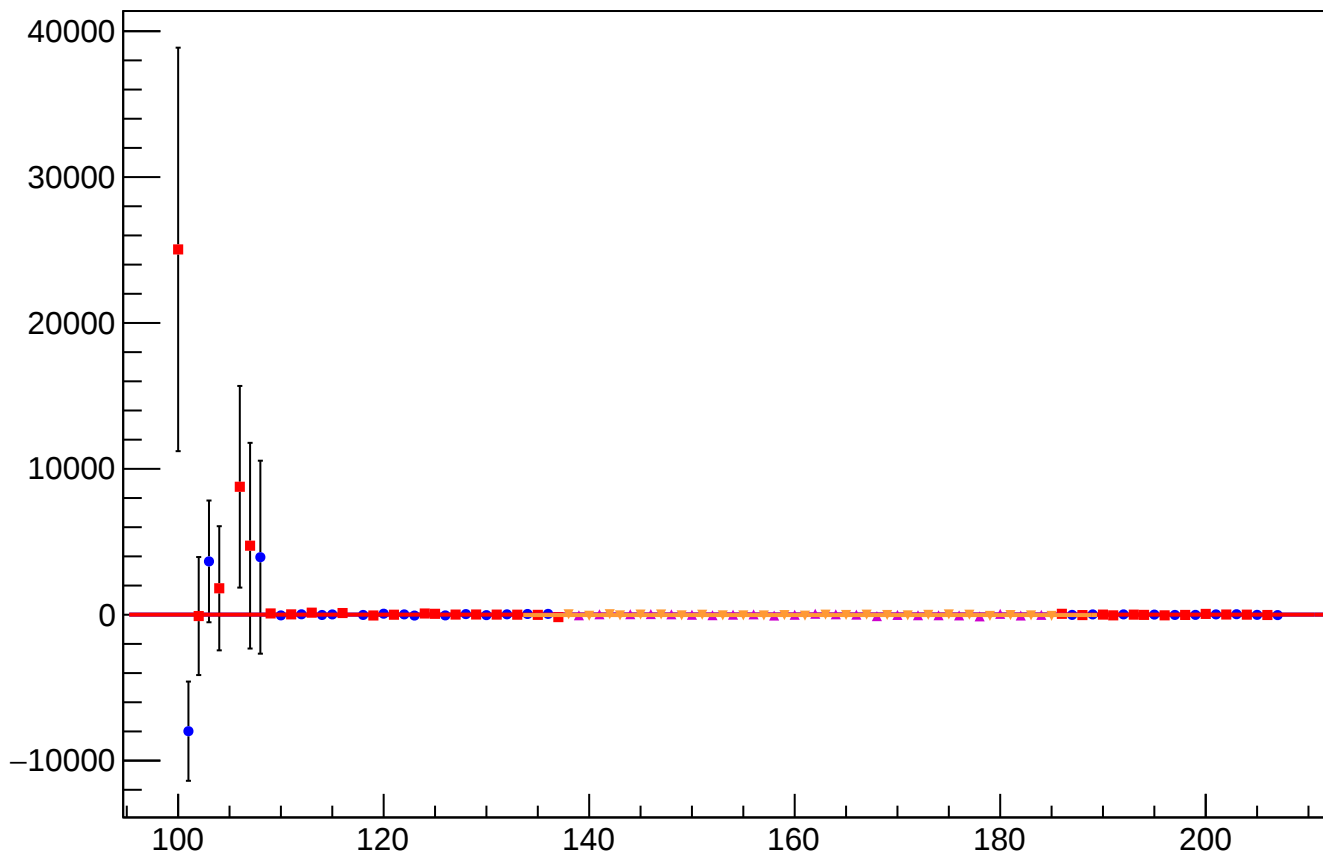
Right: 174.028 $\pm$ 0.026  $\chi^2$ /NDF: 9844537.7/57

In: 179.990 $\pm$ 0.024  $\chi^2$ /NDF:5938653.7/49

Out: 188.624 $\pm$ 0.025  $\chi^2$ /NDF:7469078.7/55

All: 184.213 $\pm$ 0.017  $\chi^2$ /NDF: 13469401.7/10

asym\_bcm\_cav4cQ\_bcm\_dg\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 8.654+/-8.619  $\chi^2/\text{NDF}$ : 18.1/26

Left Out: -23.320+/-7.352  $\chi^2/\text{NDF}$ : 18.3/24

Right Out: 7.662+/-8.403  $\chi^2/\text{NDF}$ : 36.9/30

Left In: -6.386+/-7.577  $\chi^2/\text{NDF}$ : 38.7/22

Left: -15.108+/-5.276  $\chi^2/\text{NDF}$ : 59.6/47

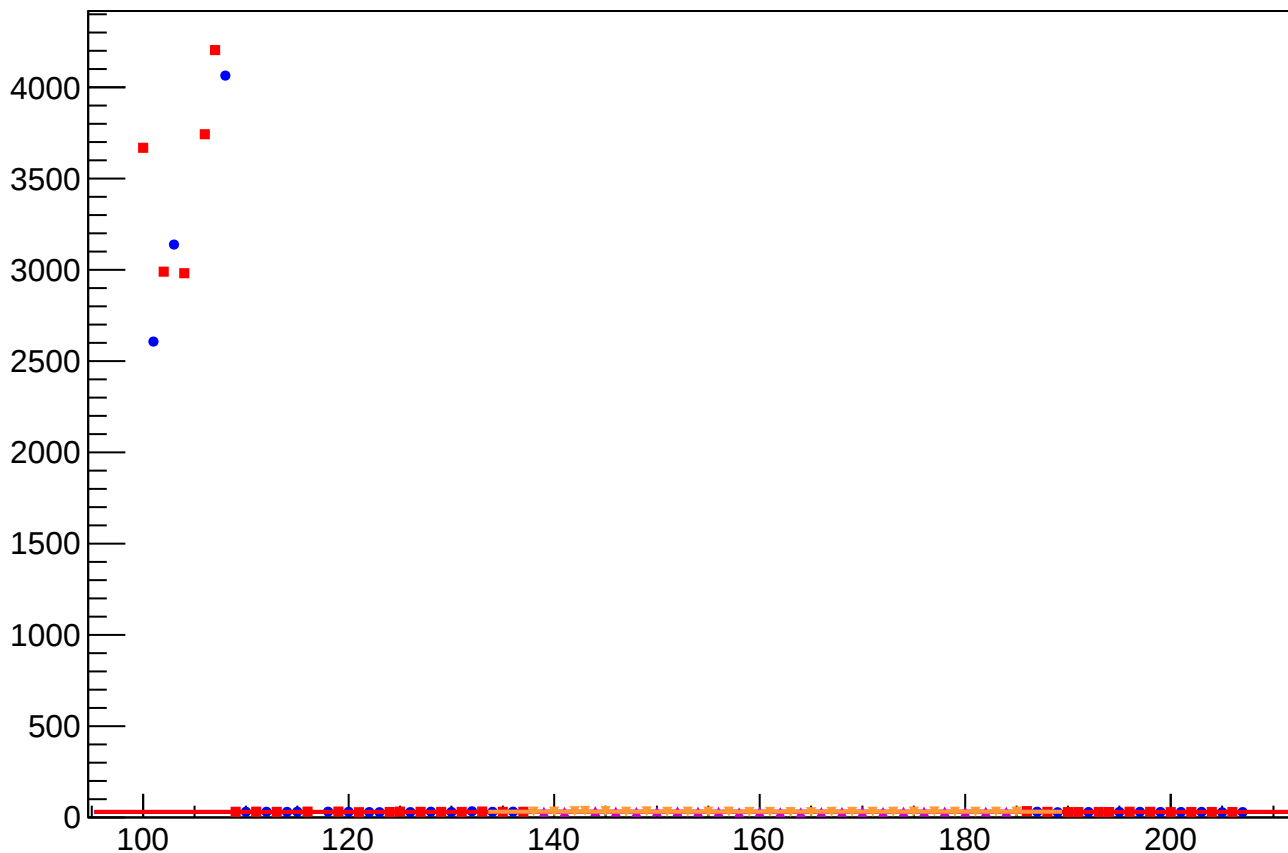
Right: 8.145+/-6.017  $\chi^2/\text{NDF}$ : 55.0/57

In: 0.170+/-5.690  $\chi^2/\text{NDF}$ : 58.6/49

Out: -9.887+/-5.533  $\chi^2/\text{NDF}$ : 62.9/55

All: -4.999+/-3.967  $\chi^2/\text{NDF}$ : 123.1/105

asym\_bcm\_cav4cQ\_bcm\_dg\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 30.296 $\pm$ 0.006  $\chi^2$ /NDF: 3036556.6/26

Left Out: 31.488 $\pm$ 0.005  $\chi^2$ /NDF:81938.2/24

Right Out: 30.431 $\pm$ 0.006  $\chi^2$ /NDF: 3483937.3/30

Left In: 31.475 $\pm$ 0.005  $\chi^2$ /NDF:87797.5/22

Left: 31.482 $\pm$ 0.004  $\chi^2$ /NDF: 169738.8/47

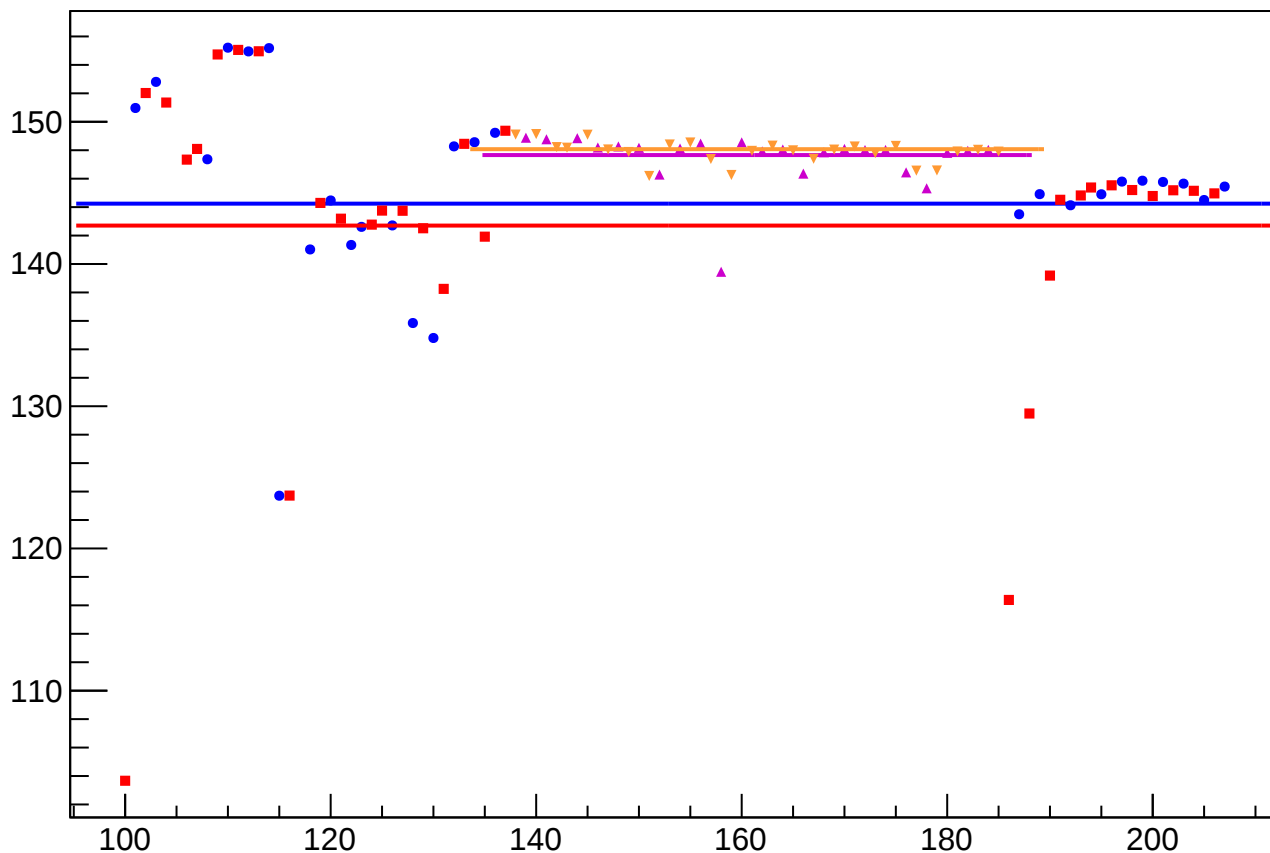
Right: 30.365 $\pm$ 0.004  $\chi^2$ /NDF: 6520746.9/57

In: 30.961 $\pm$ 0.004  $\chi^2$ /NDF:3145494.9/49

Out: 31.030 $\pm$ 0.004  $\chi^2$ /NDF:3583818.5/55

All: 30.996 $\pm$ 0.003  $\chi^2$ /NDF: 6729464.1/105

# yield\_bcm\_an\_ds\_mean vs Slug, Sign Corrected



Right In: 144.244+/-0.000  $\chi^2/\text{NDF}$ : 3486813520.8/26

Left Out: 148.074+/-0.000  $\chi^2/\text{NDF}$ : 65673678.9/24

Right Out: 142.702+/-0.000  $\chi^2/\text{NDF}$ : 7407168456.3/30

Left In: 147.660+/-0.000  $\chi^2/\text{NDF}$ : 343892338.9/22

Left: 147.875+/-0.000  $\chi^2/\text{NDF}$ : 417177881.5/47

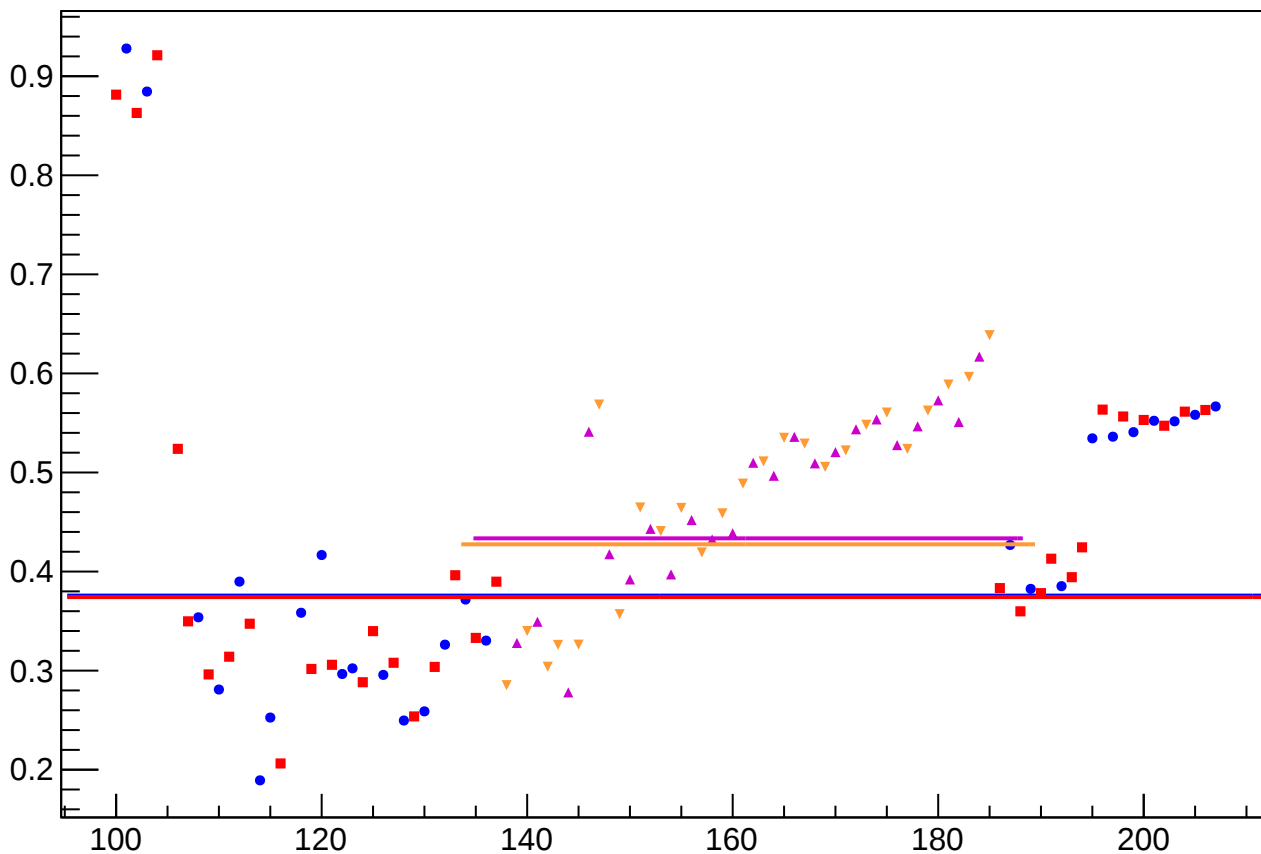
Right: 143.430+/-0.000  $\chi^2/\text{NDF}$ : 10998099684.0/57

In: 145.981+/-0.000  $\chi^2/\text{NDF}$ : 4323307492.8/49

Out: 145.386+/-0.000  $\chi^2/\text{NDF}$ : 8809969128.4/55

All: 145.670+/-0.000  $\chi^2/\text{NDF}$ : 13164575742.0/100

# yield\_bcm\_an\_ds\_rms vs Slug, Sign Corrected



Right In: 0.376+/-0.000  $\chi^2/\text{NDF}$ : 2730599.4/26

Left Out: 0.428+/-0.000  $\chi^2/\text{NDF}$ :1892802.8/24

Right Out: 0.374+/-0.000  $\chi^2/\text{NDF}$ : 2529702.3/30

Left In: 0.434+/-0.000  $\chi^2/\text{NDF}$ :1479367.0/22

Left: 0.430+/-0.000  $\chi^2/\text{NDF}$ : 3375366.2/47

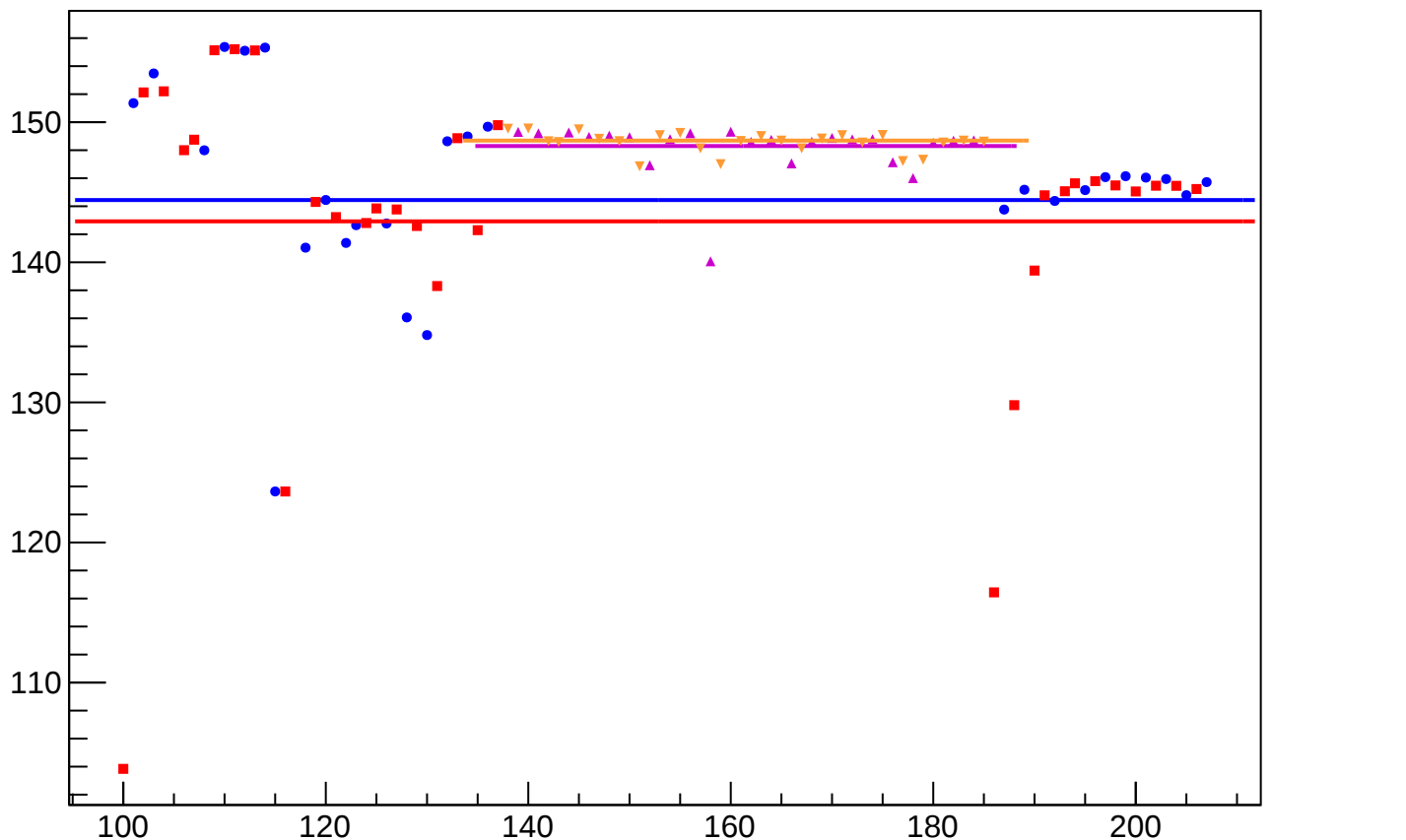
Right: 0.375+/-0.000  $\chi^2/\text{NDF}$ : 5260495.9/57

In: 0.405+/-0.000  $\chi^2/\text{NDF}$ :4491760.5/49

Out: 0.401+/-0.000  $\chi^2/\text{NDF}$ :4685613.7/55

All: 0.403+/-0.000  $\chi^2/\text{NDF}$ : 9180564.7/105

yield\_bcm\_an\_ds3\_mean vs Slug, Sign Corrected



Right In: 144.441 $\pm$ 0.000  $\chi^2$ /NDF: 3535434140.5/26

Left Out: 148.687 $\pm$ 0.000  $\chi^2$ /NDF: 52285197.5/24

Right Out: 142.922 $\pm$ 0.000  $\chi^2$ /NDF: 7355632171.4/30

Left In: 148.298 $\pm$ 0.000  $\chi^2$ /NDF: 332527463.6/22

Left: 148.500 $\pm$ 0.000  $\chi^2$ /NDF: 391414535.1/47

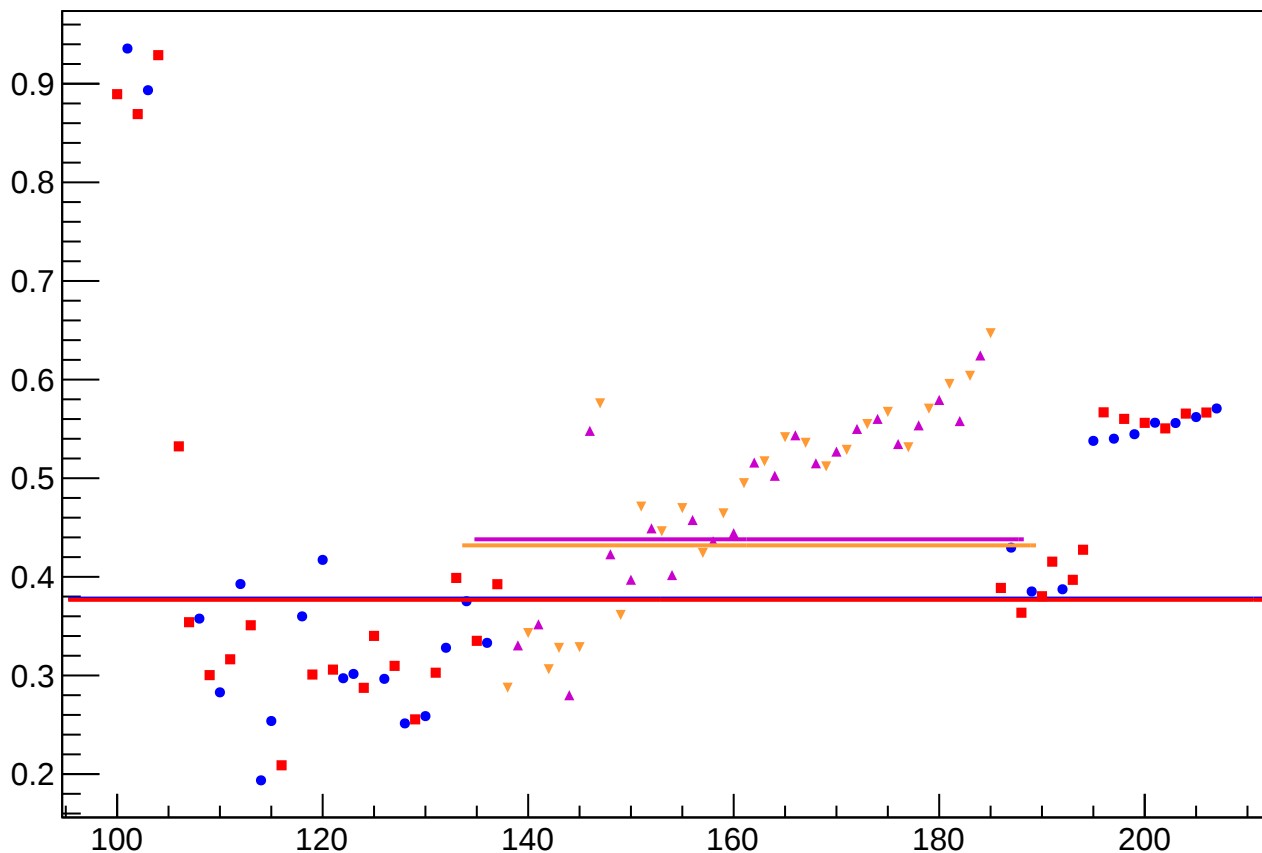
Right: 143.640 $\pm$ 0.000  $\chi^2$ /NDF: 10990935382.3/57

In: 146.393 $\pm$ 0.000  $\chi^2$ /NDF: 4485083447.5/49

Out: 145.791 $\pm$ 0.000  $\chi^2$ /NDF: 8921584173.7/55

All: 146.078 $\pm$ 0.000  $\chi^2$ /NDF: 13438205010.0

# yield\_bcm\_an\_ds3\_rms vs Slug, Sign Corrected



Right In: 0.378+/-0.000  $\chi^2/\text{NDF}$ : 2738666.2/26

Left Out: 0.432+/-0.000  $\chi^2/\text{NDF}$ :1924979.0/24

Right Out: 0.377+/-0.000  $\chi^2/\text{NDF}$ : 2533608.0/30

Left In: 0.438+/-0.000  $\chi^2/\text{NDF}$ :1504635.6/22

Left: 0.435+/-0.000  $\chi^2/\text{NDF}$ : 3432903.3/47

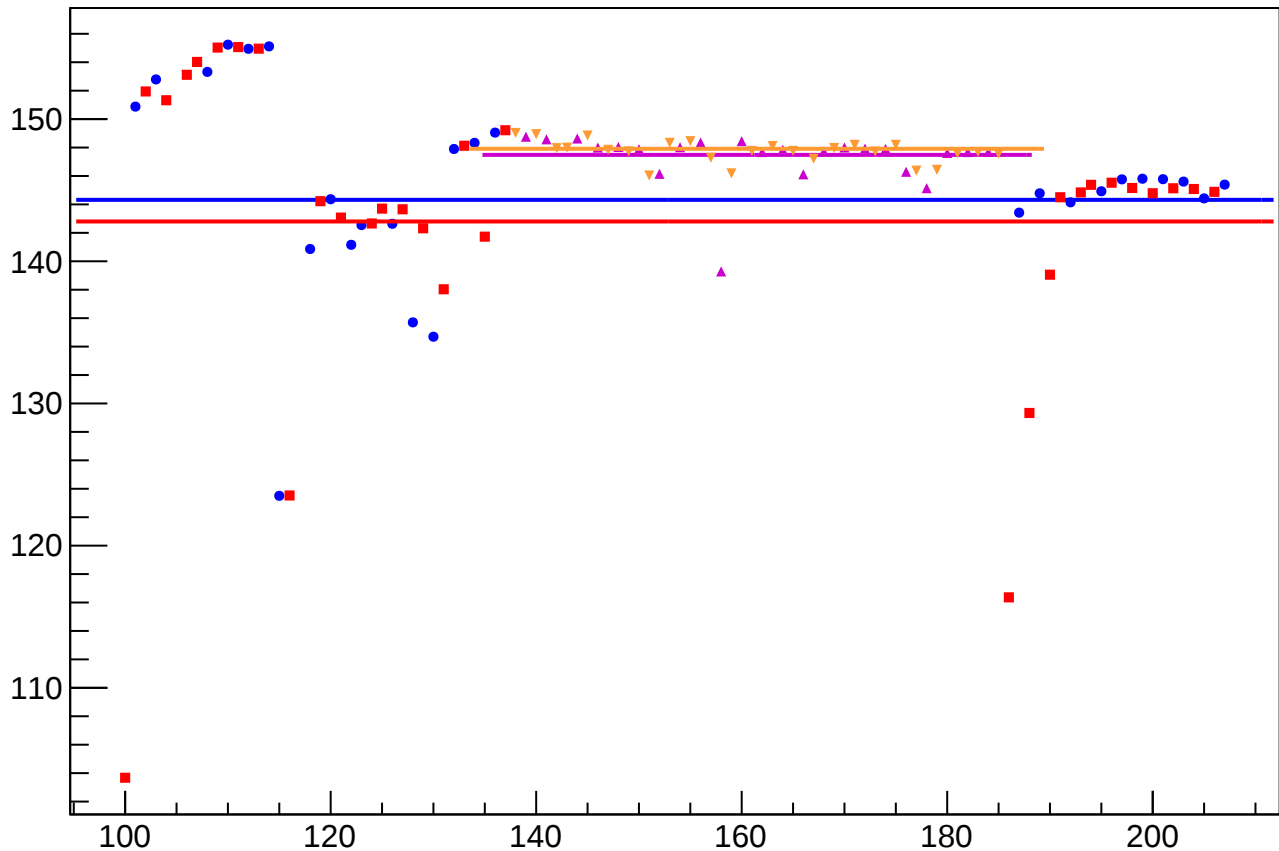
Right: 0.377+/-0.000  $\chi^2/\text{NDF}$ : 5272410.3/57

In: 0.408+/-0.000  $\chi^2/\text{NDF}$ :4542937.0/49

Out: 0.404+/-0.000  $\chi^2/\text{NDF}$ :4736123.5/55

All: 0.406+/-0.000  $\chi^2/\text{NDF}$ : 9282119.9/105

# yield\_bcm\_an\_us\_mean vs Slug, Sign Corrected



Right In: 144.321+/-0.000  $\chi^2/\text{NDF}$ : 3692850973.2/26

Left Out: 147.912+/-0.000  $\chi^2/\text{NDF}$ : 64463426.1/24

Right Out: 142.800+/-0.000  $\chi^2/\text{NDF}$ : 7784278939.4/30

Left In: 147.483+/-0.000  $\chi^2/\text{NDF}$ : 342674720.4/22

Left: 147.706+/-0.000  $\chi^2/\text{NDF}$ : 415263003.2/47

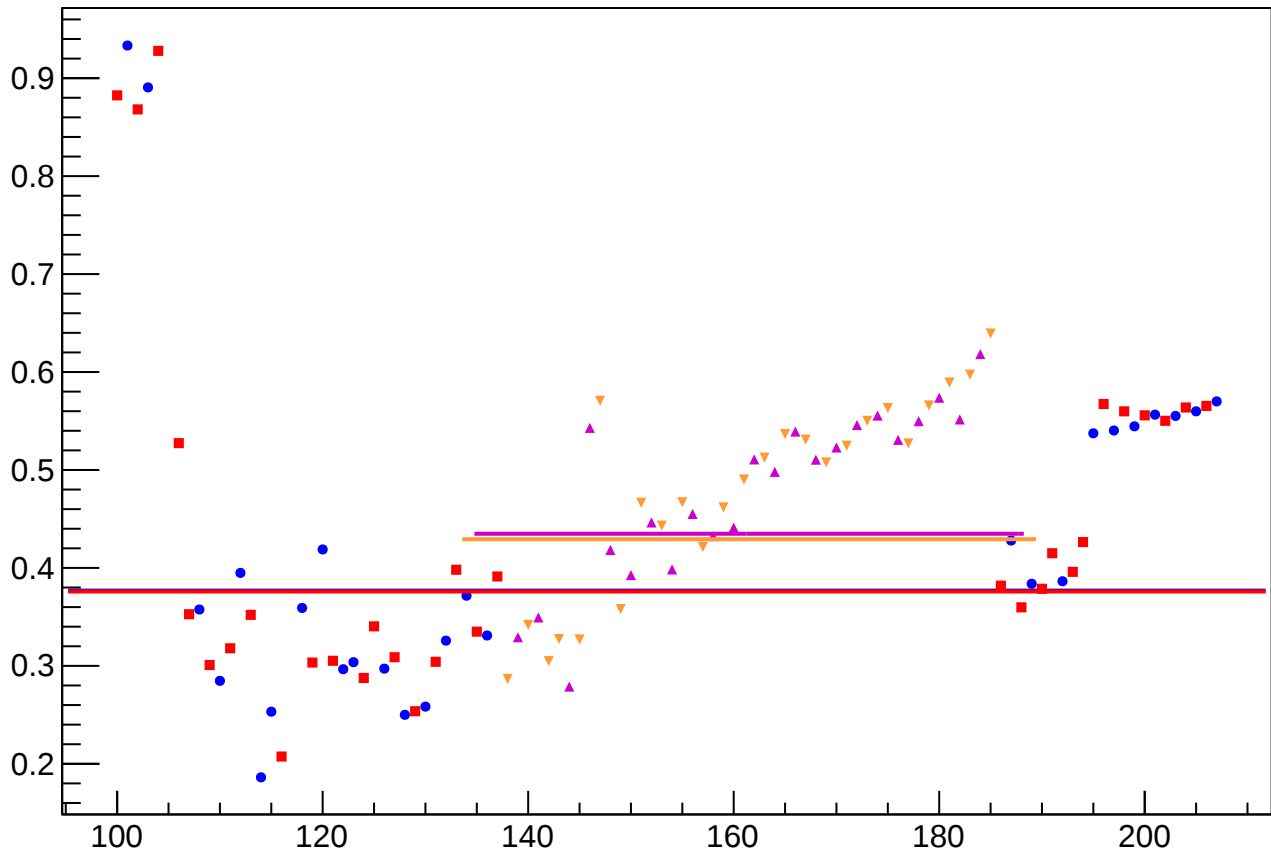
Right: 143.519+/-0.000  $\chi^2/\text{NDF}$ : 11577663331.6/57

In: 145.930+/-0.000  $\chi^2/\text{NDF}$ : 4454621536.5/49

Out: 145.355+/-0.000  $\chi^2/\text{NDF}$ : 9049264670.8/55

All: 145.629+/-0.000  $\chi^2/\text{NDF}$ : 13532857176.

# yield\_bcm\_an\_us\_rms vs Slug, Sign Corrected



Right In:  $0.377 \pm 0.000$   $\chi^2/\text{NDF}$ : 2763402.7/26

Left Out:  $0.429 \pm 0.000$   $\chi^2/\text{NDF}$ : 1891709.3/24

Right Out:  $0.376 \pm 0.000$   $\chi^2/\text{NDF}$ : 2534238.3/30

Left In:  $0.435 \pm 0.000$   $\chi^2/\text{NDF}$ : 1485915.1/22

Left:  $0.432 \pm 0.000$   $\chi^2/\text{NDF}$ : 3380372.0/47

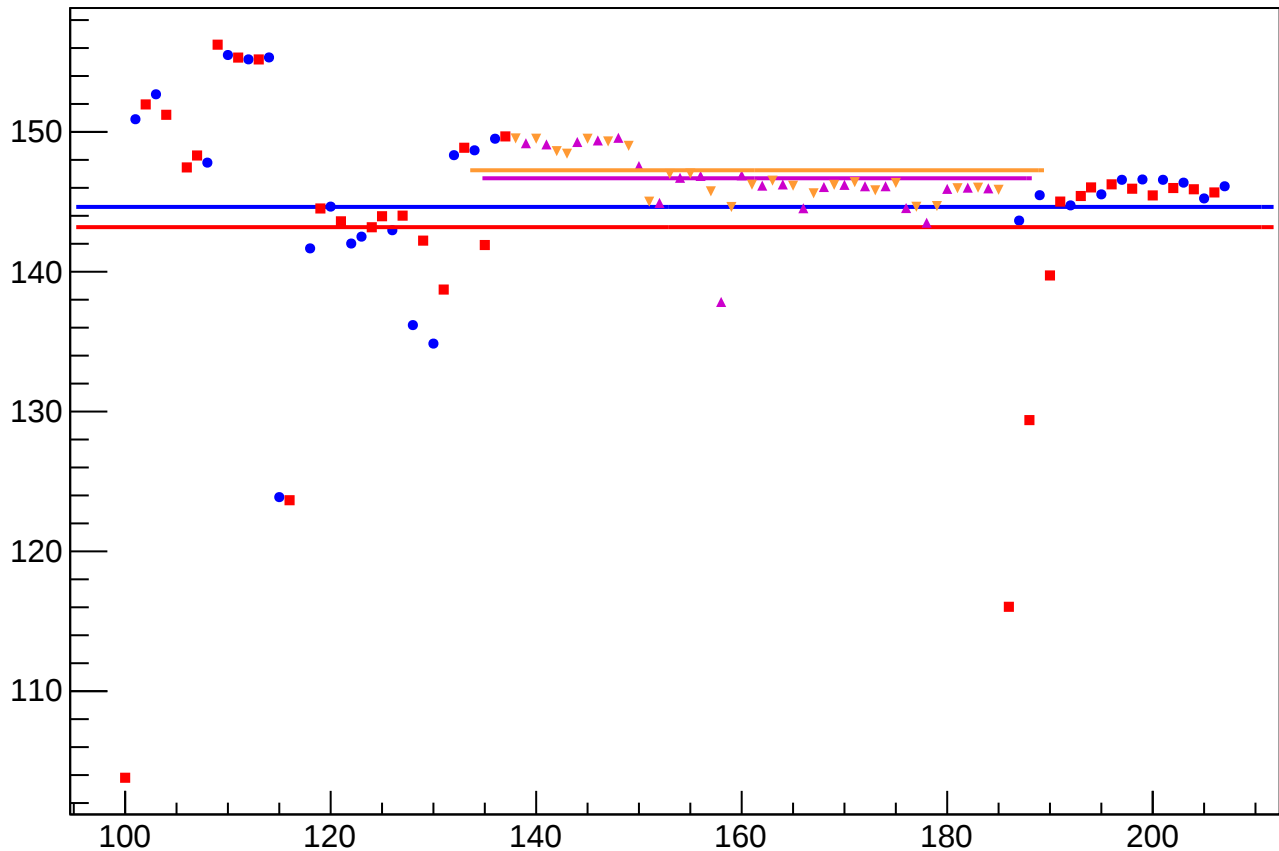
Right:  $0.376 \pm 0.000$   $\chi^2/\text{NDF}$ : 5297710.4/57

In:  $0.406 \pm 0.000$   $\chi^2/\text{NDF}$ : 4531900.3/49

Out:  $0.403 \pm 0.000$   $\chi^2/\text{NDF}$ : 4687771.5/55

All:  $0.404 \pm 0.000$   $\chi^2/\text{NDF}$ : 9222137.4/105

# yield\_bcm\_dg\_us\_mean vs Slug, Sign Corrected



Right In: 144.636 +/- 0.000  $\chi^2/\text{NDF}$ : 3219115696.1/26

Left Out: 147.257 +/- 0.000  $\chi^2/\text{NDF}$ : 261906278.3/24

Right Out: 143.189 +/- 0.000  $\chi^2/\text{NDF}$ : 7121579127.8/30

Left In: 146.685 +/- 0.000  $\chi^2/\text{NDF}$ : 554922388.0/22

Left: 146.981 +/- 0.000  $\chi^2/\text{NDF}$ : 830580031.2/47

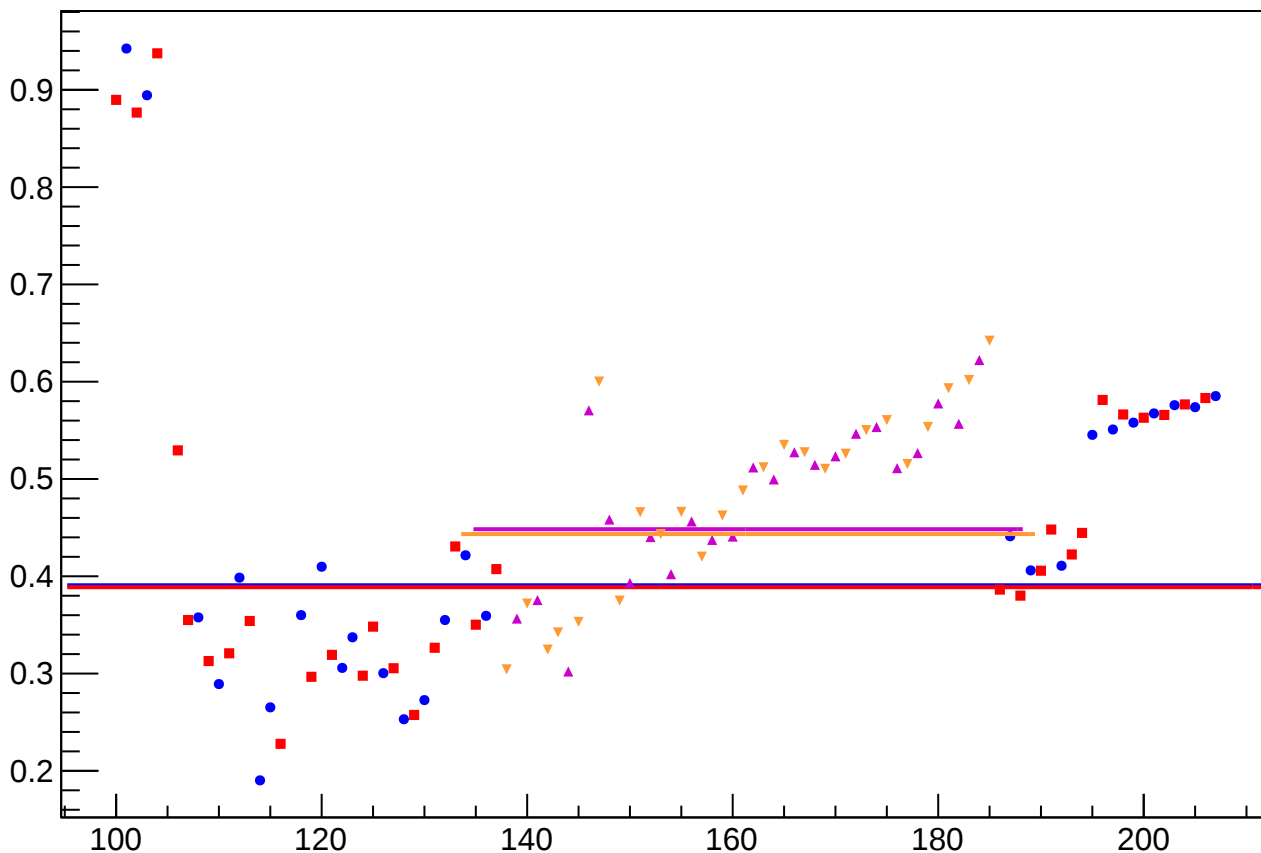
Right: 143.872 +/- 0.000  $\chi^2/\text{NDF}$ : 10425387850.9/57

In: 145.690 +/- 0.000  $\chi^2/\text{NDF}$ : 3939283504.2/49

Out: 145.237 +/- 0.000  $\chi^2/\text{NDF}$ : 8098001945.5/55

All: 145.453 +/- 0.000  $\chi^2/\text{NDF}$ : 12054205504.0/100

# yield\_bcm\_dg\_us\_rms vs Slug, Sign Corrected



Right In: 0.391 $\pm$ 0.000  $\chi^2$ /NDF: 2693897.6/26

Left Out: 0.443 $\pm$ 0.000  $\chi^2$ /NDF:1480479.3/24

Right Out: 0.389 $\pm$ 0.000  $\chi^2$ /NDF: 2471789.0/30

Left In: 0.448 $\pm$ 0.000  $\chi^2$ /NDF:1120261.8/22

Left: 0.446 $\pm$ 0.000  $\chi^2$ /NDF: 2602838.0/47

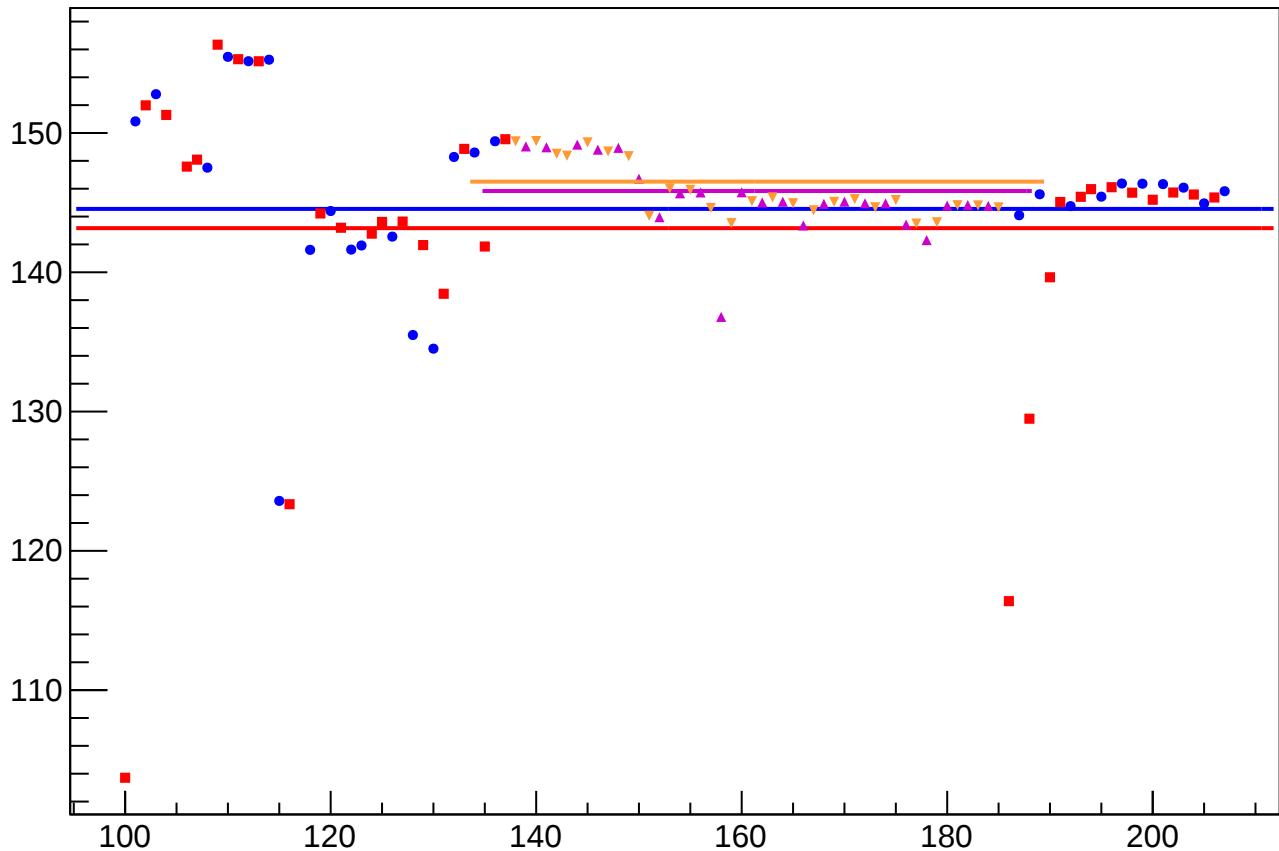
Right: 0.390 $\pm$ 0.000  $\chi^2$ /NDF: 5166010.9/57

In: 0.420 $\pm$ 0.000  $\chi^2$ /NDF:4075743.1/49

Out: 0.416 $\pm$ 0.000  $\chi^2$ /NDF:4210045.3/55

All: 0.418 $\pm$ 0.000  $\chi^2$ /NDF: 8288620.6/105

# yield\_bcm\_dg\_ds\_mean vs Slug, Sign Corrected



Right In: 144.550 $\pm$ 0.000  $\chi^2$ /NDF: 3328908593.1/26

Left Out: 146.508 $\pm$ 0.000  $\chi^2$ /NDF: 401248837.9/24

Right Out: 143.167 $\pm$ 0.000  $\chi^2$ /NDF: 7075428558.8/30

Left In: 145.834 $\pm$ 0.000  $\chi^2$ /NDF: 690172810.0/22

Left: 146.184 $\pm$ 0.000  $\chi^2$ /NDF: 1110403123.5/47

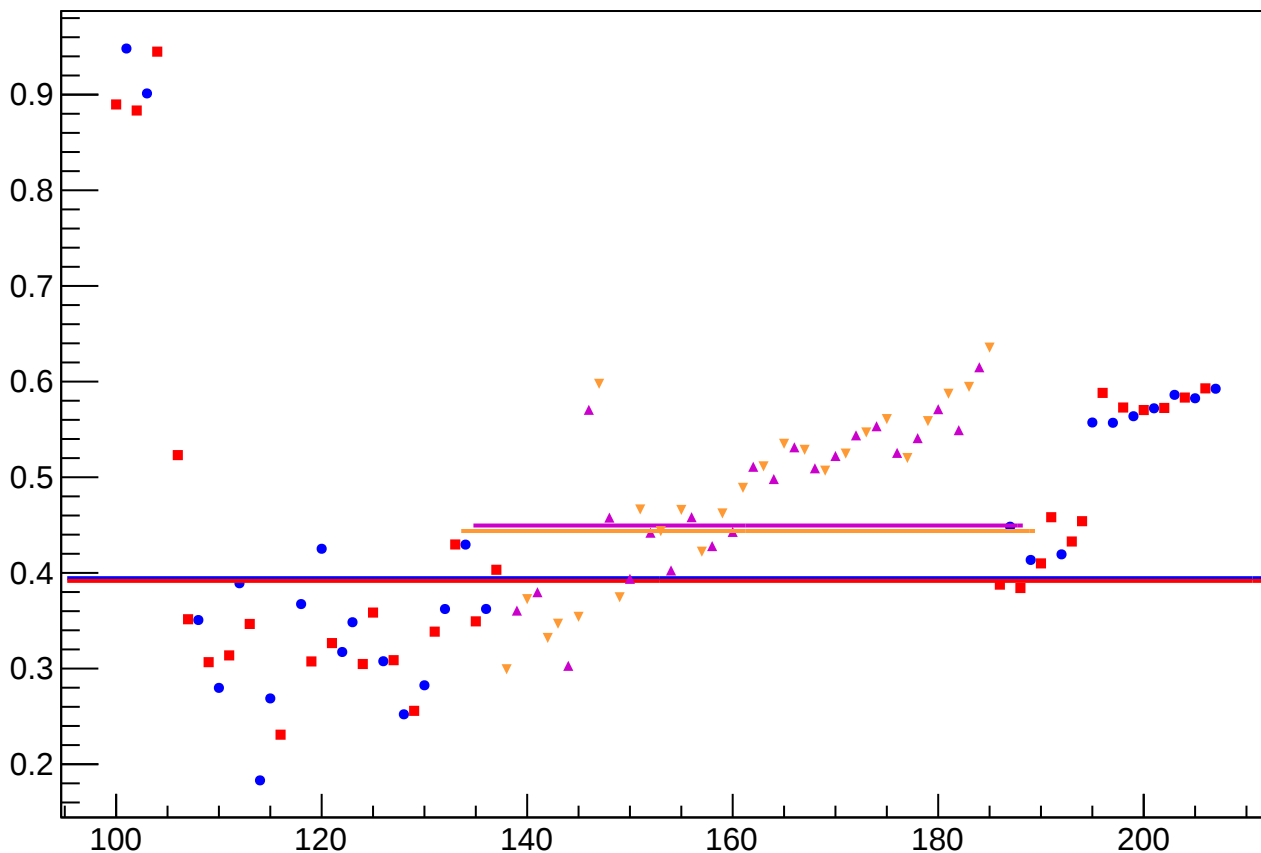
Right: 143.818 $\pm$ 0.000  $\chi^2$ /NDF: 10480068956.1/57

In: 145.216 $\pm$ 0.000  $\chi^2$ /NDF: 4083082850.3/49

Out: 144.863 $\pm$ 0.000  $\chi^2$ /NDF: 7953573220.8/55

All: 145.031 $\pm$ 0.000  $\chi^2$ /NDF: 12046848428.0/100

# yield\_bcm\_dg\_ds\_rms vs Slug, Sign Corrected



Right In: 0.394 $\pm$ 0.000  $\chi^2$ /NDF: 2743332.1/26

Left Out: 0.444 $\pm$ 0.000  $\chi^2$ /NDF:1460383.7/24

Right Out: 0.392 $\pm$ 0.000  $\chi^2$ /NDF: 2504299.4/30

Left In: 0.450 $\pm$ 0.000  $\chi^2$ /NDF:1092776.5/22

Left: 0.447 $\pm$ 0.000  $\chi^2$ /NDF: 2555905.8/47

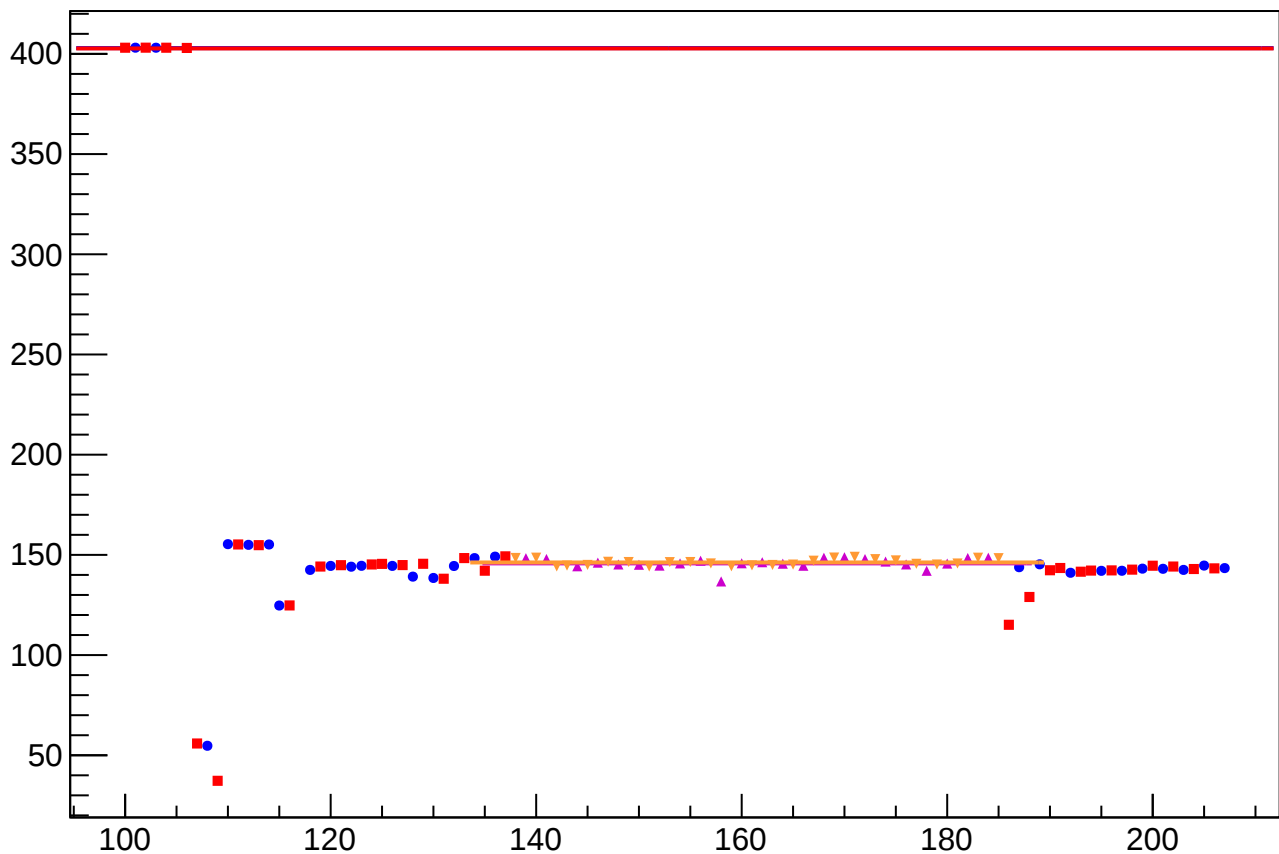
Right: 0.393 $\pm$ 0.000  $\chi^2$ /NDF: 5248262.6/57

In: 0.423 $\pm$ 0.000  $\chi^2$ /NDF:4071237.9/49

Out: 0.418 $\pm$ 0.000  $\chi^2$ /NDF:4196930.1/55

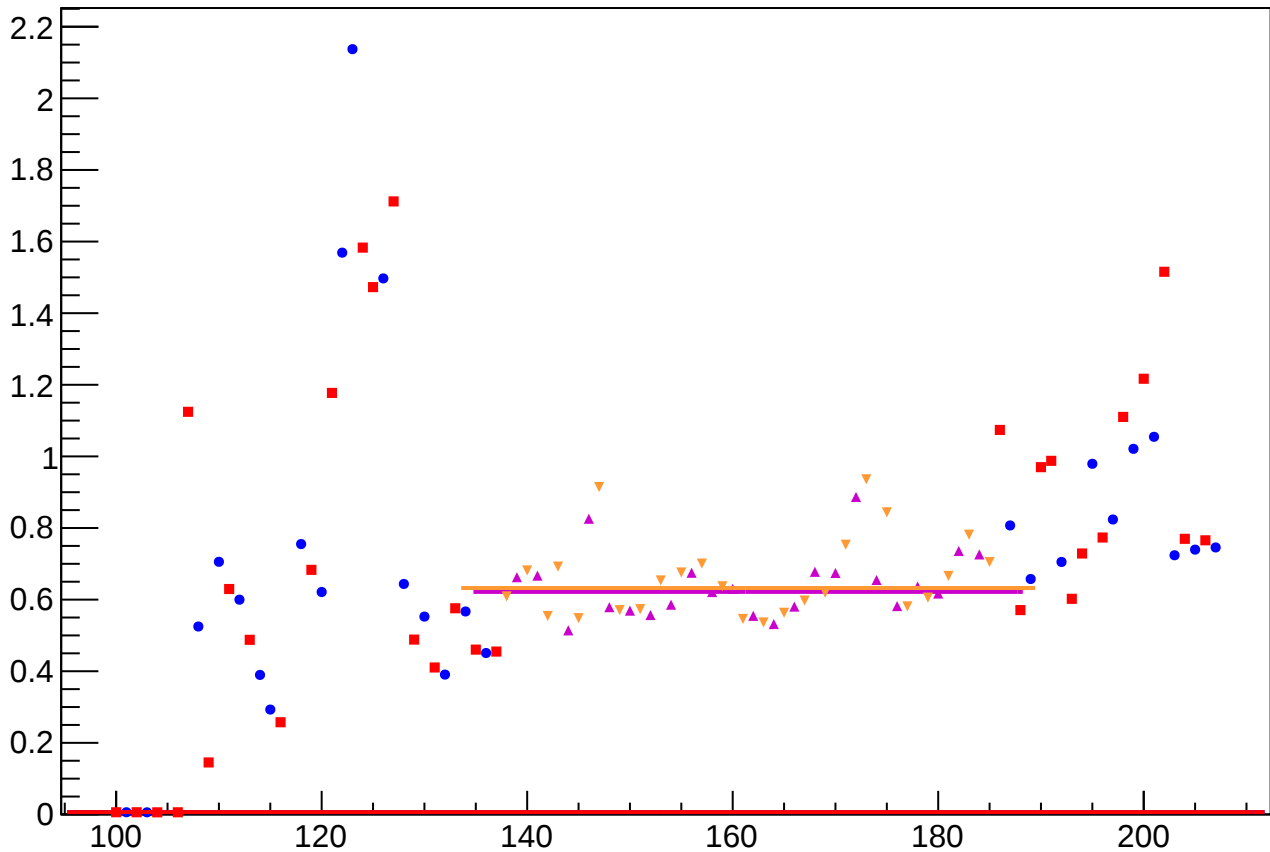
All: 0.420 $\pm$ 0.000  $\chi^2$ /NDF: 8272120.2/105

# yield\_cav4bQ\_mean vs Slug, Sign Corrected



|                            |                                          |                        |                                          |
|----------------------------|------------------------------------------|------------------------|------------------------------------------|
| Right In: 402.883+/-0.000  | $\chi^2/\text{NDF}$ : 1697996571789.8/26 | Left: 145.987+/-0.000  | $\chi^2/\text{NDF}$ : 295994641.0/47     |
| Left Out: 146.216+/-0.000  | $\chi^2/\text{NDF}$ : 86042286.3/24      | Right: 402.795+/-0.000 | $\chi^2/\text{NDF}$ : 5553762746989.0/47 |
| Right Out: 402.718+/-0.000 | $\chi^2/\text{NDF}$ : 3855314982846.0/30 | In: 402.592+/-0.000    | $\chi^2/\text{NDF}$ : 4028920645153.8/49 |
| Left In: 145.755+/-0.000   | $\chi^2/\text{NDF}$ : 206171532.0/22     | Out: 402.457+/-0.000   | $\chi^2/\text{NDF}$ : 6212524888055.1/50 |
|                            |                                          | All: 402.521+/-0.000   | $\chi^2/\text{NDF}$ : 102417463156.0/100 |

# yield\_cav4bQ\_rms vs Slug, Sign Corrected



Right In: 0.007 $\pm$ 0.000  $\chi^2$ /NDF: 20388088.2/26

Left Out: 0.632 $\pm$ 0.000  $\chi^2$ /NDF:613604.5/24

Right Out: 0.007 $\pm$ 0.000  $\chi^2$ /NDF: 22362471.0/30

Left In: 0.622 $\pm$ 0.000  $\chi^2$ /NDF:399965.3/22

Left: 0.627 $\pm$ 0.000  $\chi^2$ /NDF: 1017722.4/47

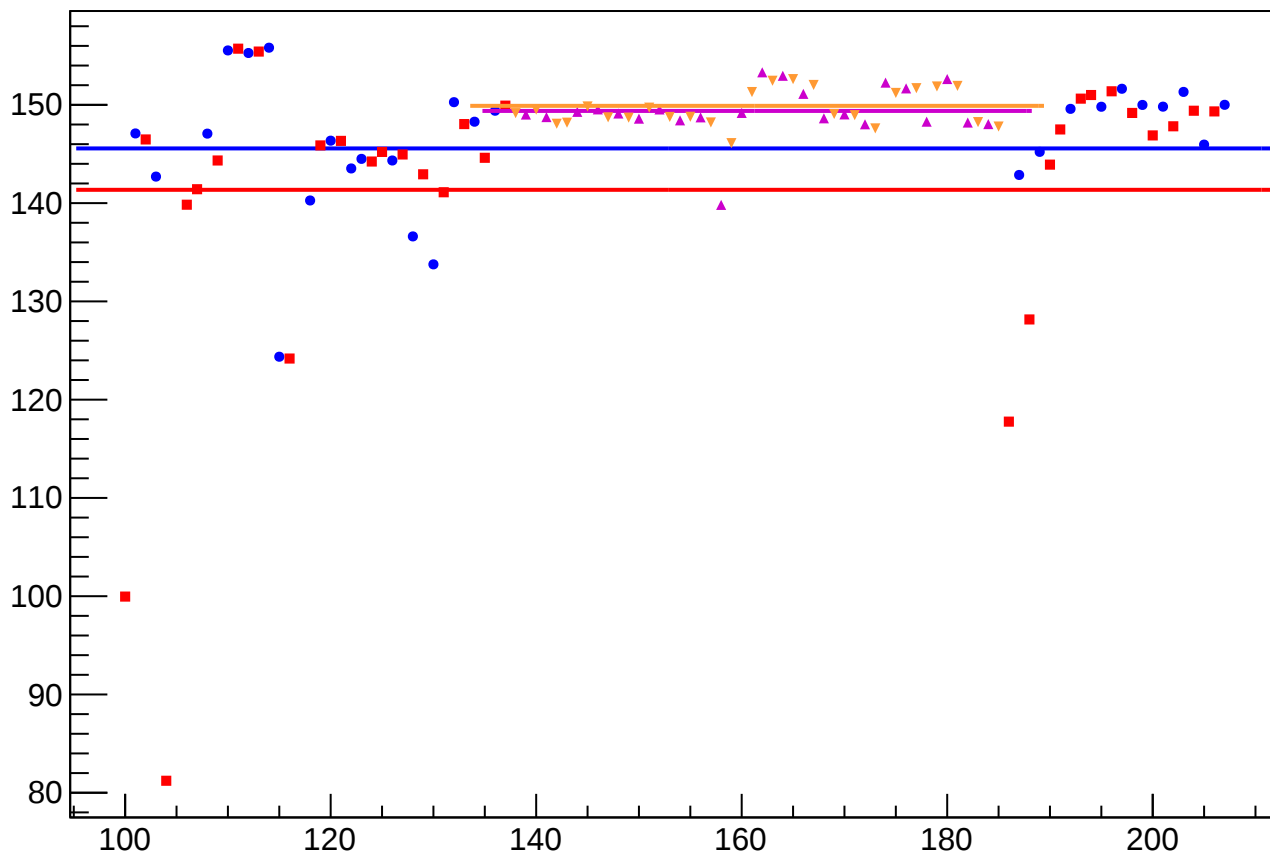
Right: 0.007 $\pm$ 0.000  $\chi^2$ /NDF: 42750560.0/57

In: 0.007 $\pm$ 0.000  $\chi^2$ /NDF:47458429.7/49

Out: 0.007 $\pm$ 0.000  $\chi^2$ /NDF:51041511.9/55

All: 0.007 $\pm$ 0.000  $\chi^2$ /NDF: 98500081.8/105

# yield\_cav4cQ\_mean vs Slug, Sign Corrected



Right In: 145.566 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1328972517.2/26

Left Out: 149.900 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 162845622.6/24

Right Out: 141.354 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 3247297286.8/30

Left In: 149.382 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 434657827.5/22

Left: 149.650 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 604081739.6/47

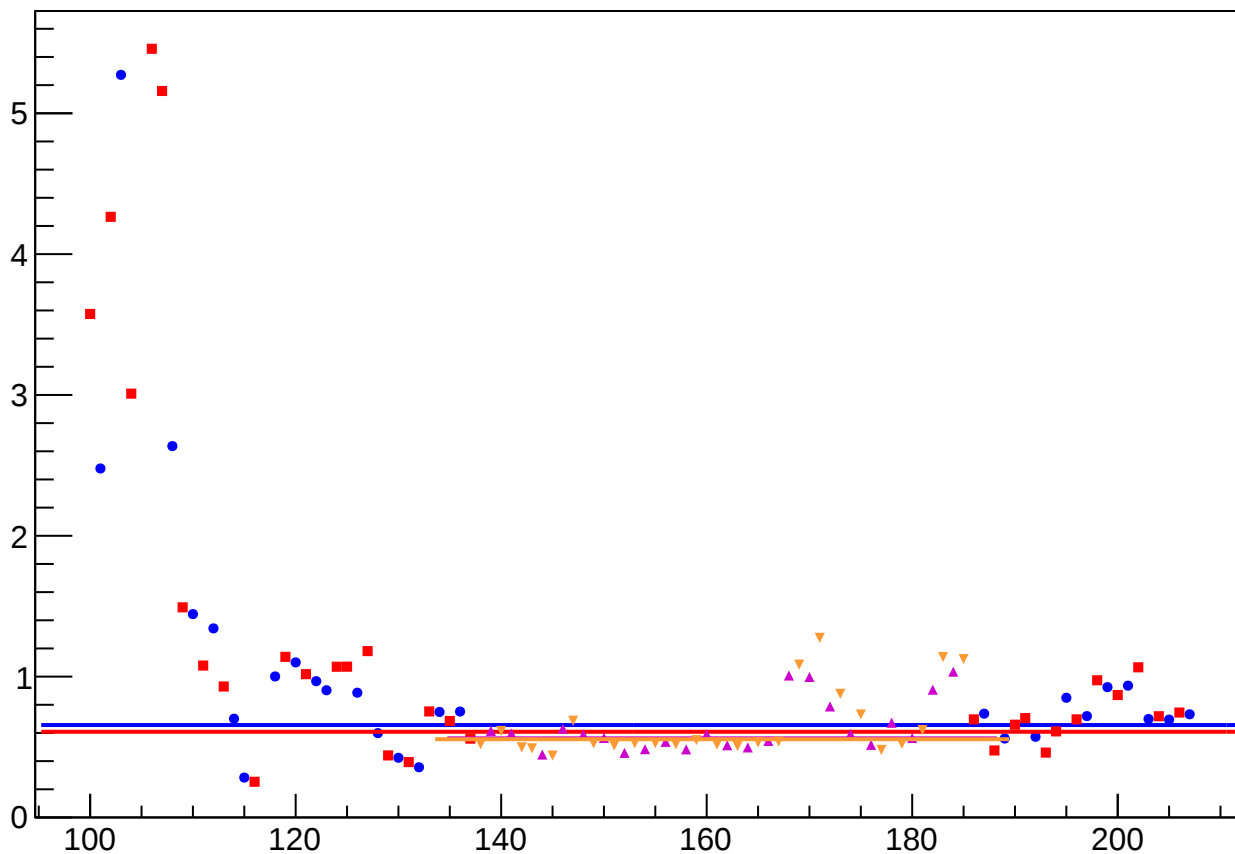
Right: 143.249 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 4786837548.3/57

In: 148.186 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1979259720.7/49

Out: 146.976 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 4678059654.6/55

All: 147.547 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 6710607749.8

# yield\_cav4cQ\_rms vs Slug, Sign Corrected



Right In: 0.656 $\pm$ 0.000  $\chi^2$ /NDF: 4007857.4/26

Left Out: 0.555 $\pm$ 0.000  $\chi^2$ /NDF:1773688.1/24

Right Out: 0.608 $\pm$ 0.000  $\chi^2$ /NDF: 5544050.6/30

Left In: 0.562 $\pm$ 0.000  $\chi^2$ /NDF:1305573.4/22

Left: 0.559 $\pm$ 0.000  $\chi^2$ /NDF: 3081194.0/47

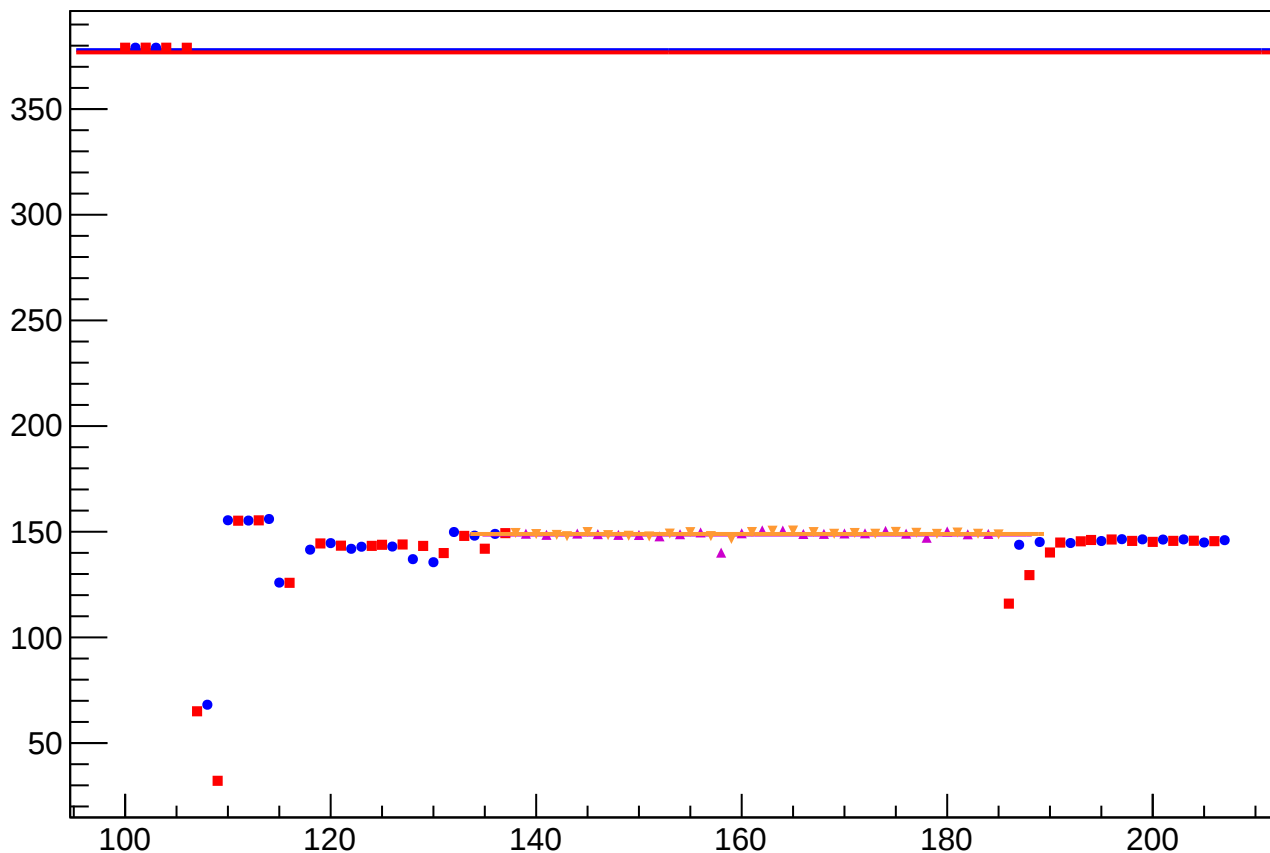
Right: 0.630 $\pm$ 0.000  $\chi^2$ /NDF: 9605942.3/57

In: 0.591 $\pm$ 0.000  $\chi^2$ /NDF:5577680.0/49

Out: 0.574 $\pm$ 0.000  $\chi^2$ /NDF:7415339.6/55

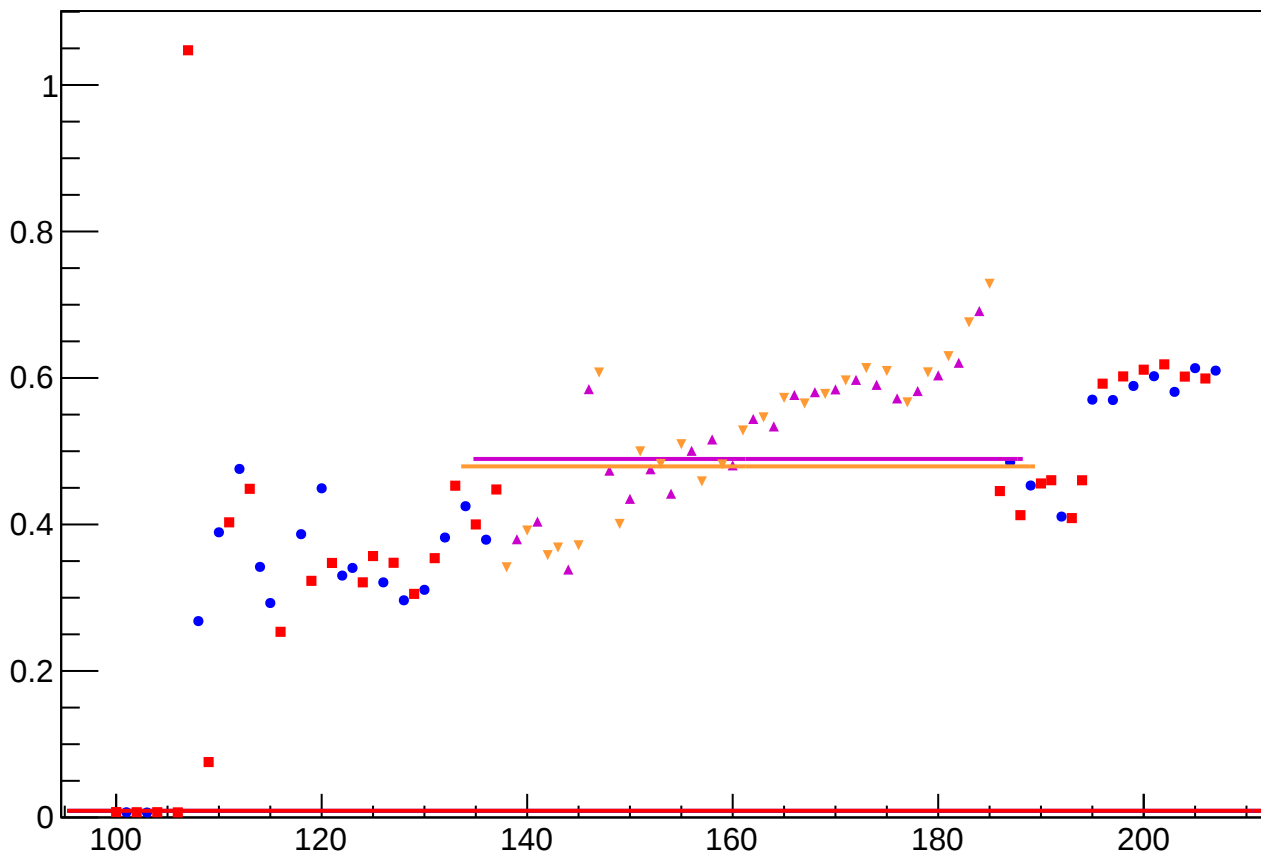
All: 0.582 $\pm$ 0.000  $\chi^2$ /NDF: 13015891.2/105

# yield\_cav4dQ\_mean vs Slug, Sign Corrected



Right In: 377.879 $\pm$ 0.000  $\chi^2$ /NDF: 3758987360400.5/26  
 Left Out: 148.944 $\pm$ 0.000  $\chi^2$ /NDF: 63976941.3/24  
 Right Out: 376.825 $\pm$ 0.000  $\chi^2$ /NDF: 9948110112903.1/30  
 Left In: 148.672 $\pm$ 0.000  $\chi^2$ /NDF: 252846428.3/22  
 Left: 148.814 $\pm$ 0.000  $\chi^2$ /NDF: 319467494.9/47  
 Right: 377.317 $\pm$ 0.000  $\chi^2$ /NDF: 13714990056594.1/47  
 In: 376.710 $\pm$ 0.000  $\chi^2$ /NDF: 7334150927046.4/49  
 Out: 375.711 $\pm$ 0.000  $\chi^2$ /NDF: 13808485245680.3/49  
 All: 376.178 $\pm$ 0.000  $\chi^2$ /NDF: 211497522764.1/99

# yield\_cav4dQ\_rms vs Slug, Sign Corrected



Right In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 23131301.8/26

Left Out: 0.479+/-0.000  $\chi^2/\text{NDF}$ :1516566.1/24

Right Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 24531443.1/30

Left In: 0.489+/-0.000  $\chi^2/\text{NDF}$ :1076134.2/22

Left: 0.484+/-0.000  $\chi^2/\text{NDF}$ : 2600075.4/47

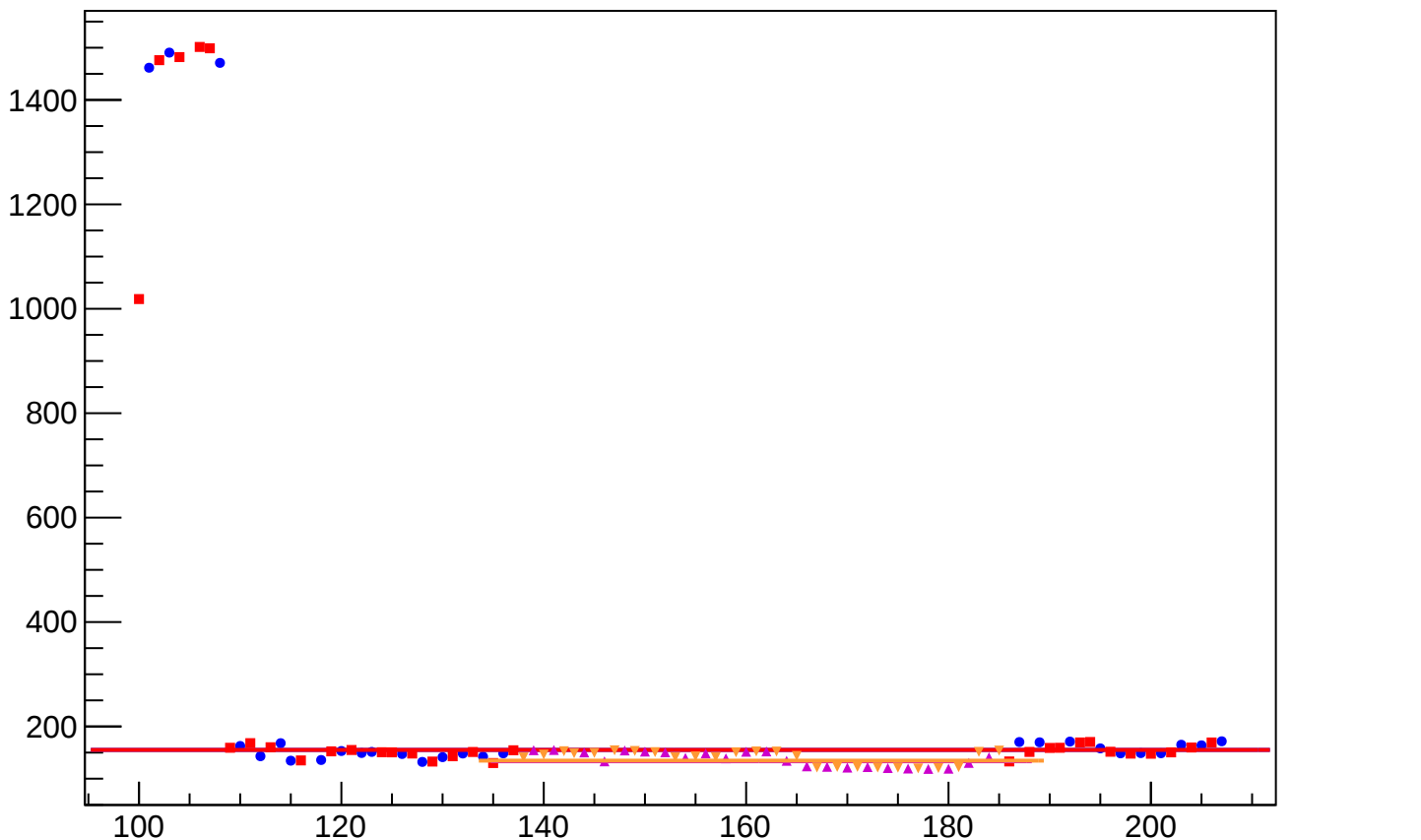
Right: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 47662814.4/57

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :55618601.5/49

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :58916555.0/55

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 114535255.4/105

# yield\_bcm0l02\_mean vs Slug, Sign Corrected



Right In: 155.118+/-0.000

$\chi^2/\text{NDF}$ : 25928823922.7/26

Left: 133.958+/-0.000

$\chi^2/\text{NDF}$ : 8697951676.8/47

Right: 155.112+/-0.000

$\chi^2/\text{NDF}$ : 60926038562.3/57

Left Out: 134.554+/-0.000

$\chi^2/\text{NDF}$ : 4376966869.3/24

In: 142.310+/-0.000

$\chi^2/\text{NDF}$ : 34677026871.1/49

Right Out: 155.107+/-0.000

$\chi^2/\text{NDF}$ : 34997213561.7/30

Out: 143.498+/-0.000

$\chi^2/\text{NDF}$ : 43733494872.7/55

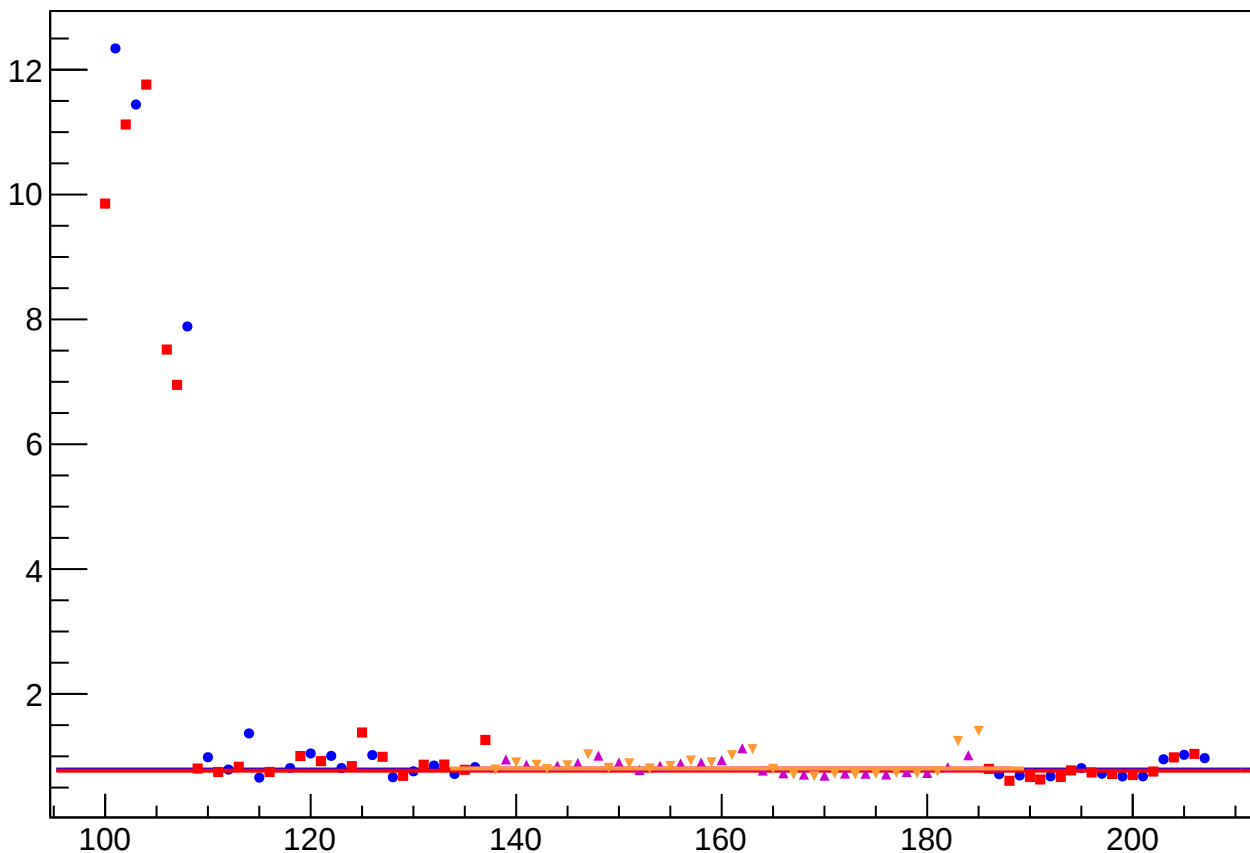
Left In: 133.337+/-0.000

$\chi^2/\text{NDF}$ : 4303812119.2/22

All: 142.929+/-0.000

$\chi^2/\text{NDF}$ : 78438929836.0/100

# yield\_bcm0l02\_rms vs Slug, Sign Corrected



Right In: 0.788 $\pm$ 0.000  $\chi^2$ /NDF: 3007386.9/26

Left Out: 0.806 $\pm$ 0.000  $\chi^2$ /NDF:690578.5/24

Right Out: 0.771 $\pm$ 0.000  $\chi^2$ /NDF: 3297804.1/30

Left In: 0.805 $\pm$ 0.000  $\chi^2$ /NDF:480510.8/22

Left: 0.805 $\pm$ 0.000  $\chi^2$ /NDF: 1171131.4/47

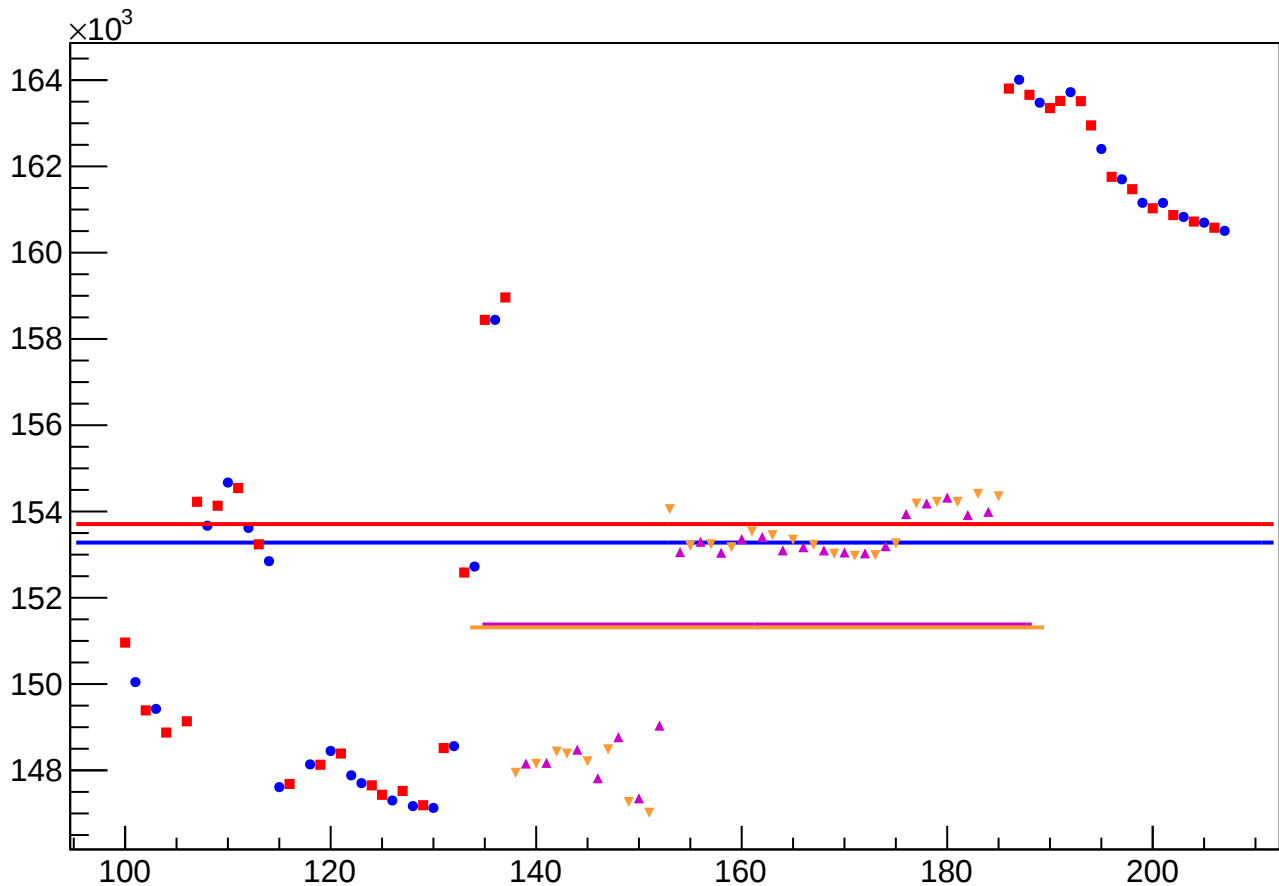
Right: 0.779 $\pm$ 0.000  $\chi^2$ /NDF: 6310592.5/57

In: 0.798 $\pm$ 0.000  $\chi^2$ /NDF:3492936.4/49

Out: 0.791 $\pm$ 0.000  $\chi^2$ /NDF:4014480.7/55

All: 0.794 $\pm$ 0.000  $\chi^2$ /NDF: 7509605.4/105

# yield\_bpm0i01WS\_mean vs Slug, Sign Corrected



Right In: 153279.495 $\pm$ 0.055

$\chi^2$ /NDF: 10663683320.0/26

Left: 151345.082 $\pm$ 0.035

$\chi^2$ /NDF: 5518562148.3/4

Right: 153505.773 $\pm$ 0.038

$\chi^2$ /NDF: 22276645553.0/24

Left Out: 151313.284 $\pm$ 0.049

$\chi^2$ /NDF: 3153768134.8/24

Right Out: 153707.609 $\pm$ 0.052

$\chi^2$ /NDF: 11581228648.1/30

In: 152257.494 $\pm$ 0.038

$\chi^2$ /NDF: 13663426971.3/4

Out: 152427.517 $\pm$ 0.036

$\chi^2$ /NDF: 15860599181.7/22

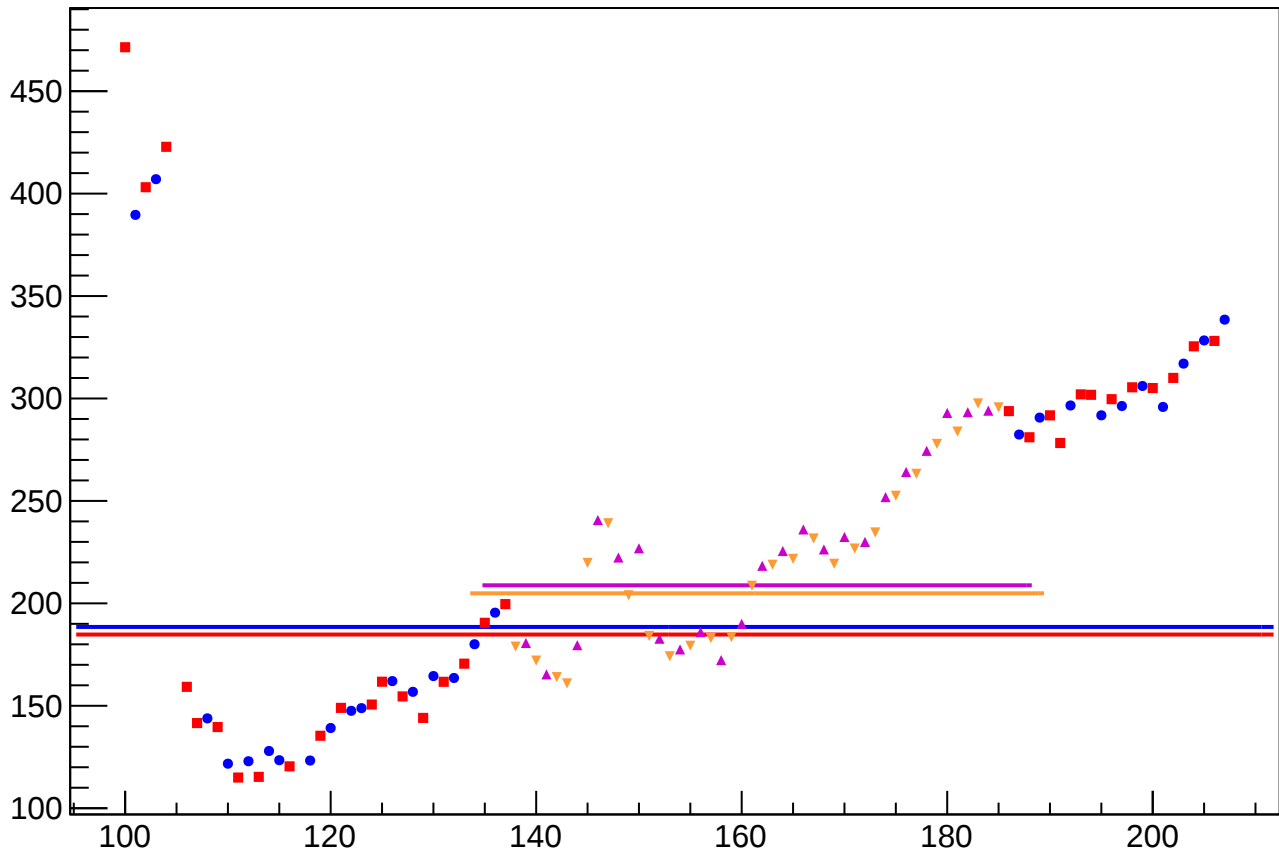
Left In: 151380.236 $\pm$ 0.051

$\chi^2$ /NDF: 2363895785.3/22

All: 152347.042 $\pm$ 0.026

$\chi^2$ /NDF: 295348240.0/24

# yield\_bpm0i01WS\_rms vs Slug, Sign Corrected



Right In: 188.486 $\pm$ 0.039  $\chi^2$ /NDF: 3919187.6/26

Left Out: 204.900 $\pm$ 0.034  $\chi^2$ /NDF: 1056380.8/24

Right Out: 184.783 $\pm$ 0.037  $\chi^2$ /NDF: 4392464.4/30

Left In: 208.813 $\pm$ 0.036  $\chi^2$ /NDF: 1001936.6/22

Left: 206.758 $\pm$ 0.025  $\chi^2$ /NDF: 2064453.9/47

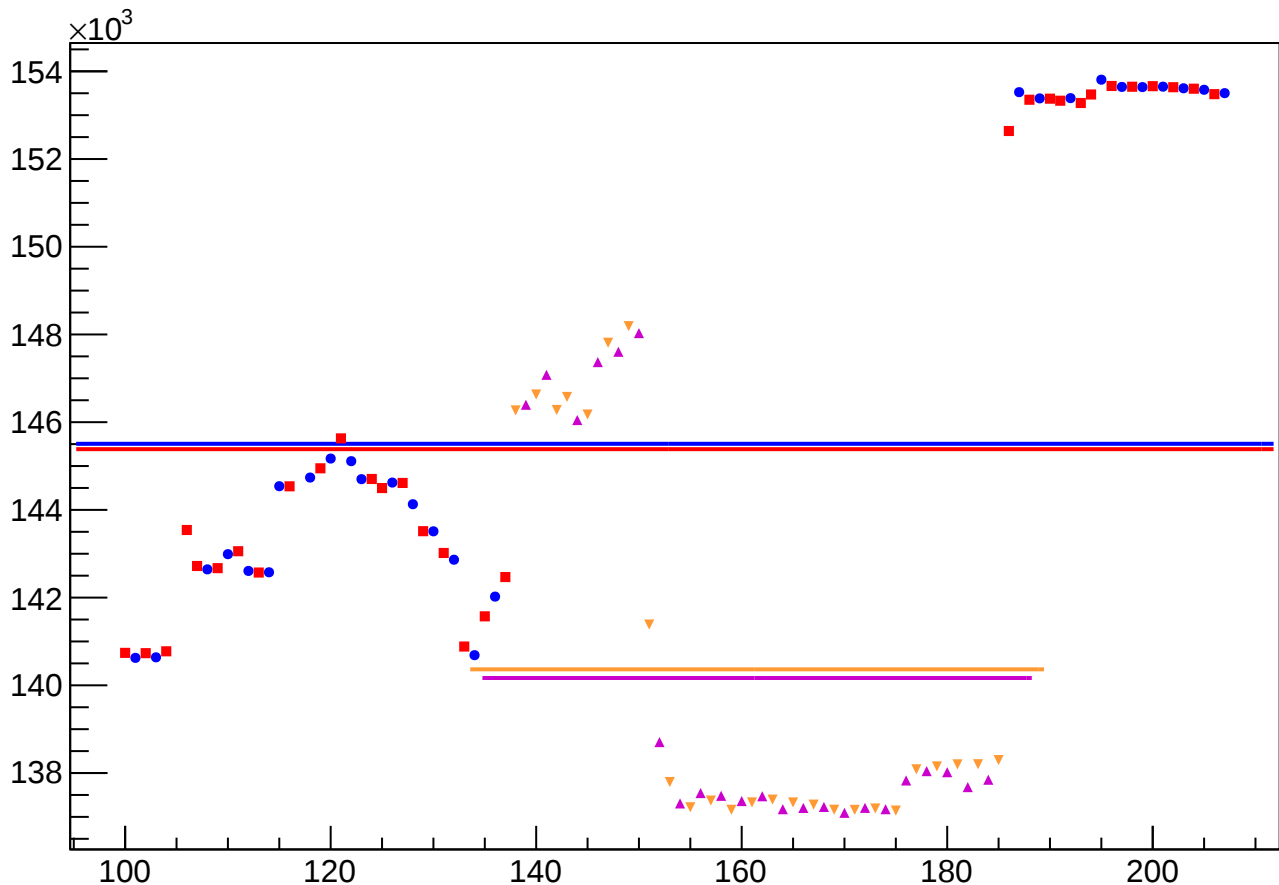
Right: 186.529 $\pm$ 0.027  $\chi^2$ /NDF: 8316399.5/57

In: 199.424 $\pm$ 0.027  $\chi^2$ /NDF: 5066784.3/49

Out: 195.538 $\pm$ 0.025  $\chi^2$ /NDF: 5607750.2/55

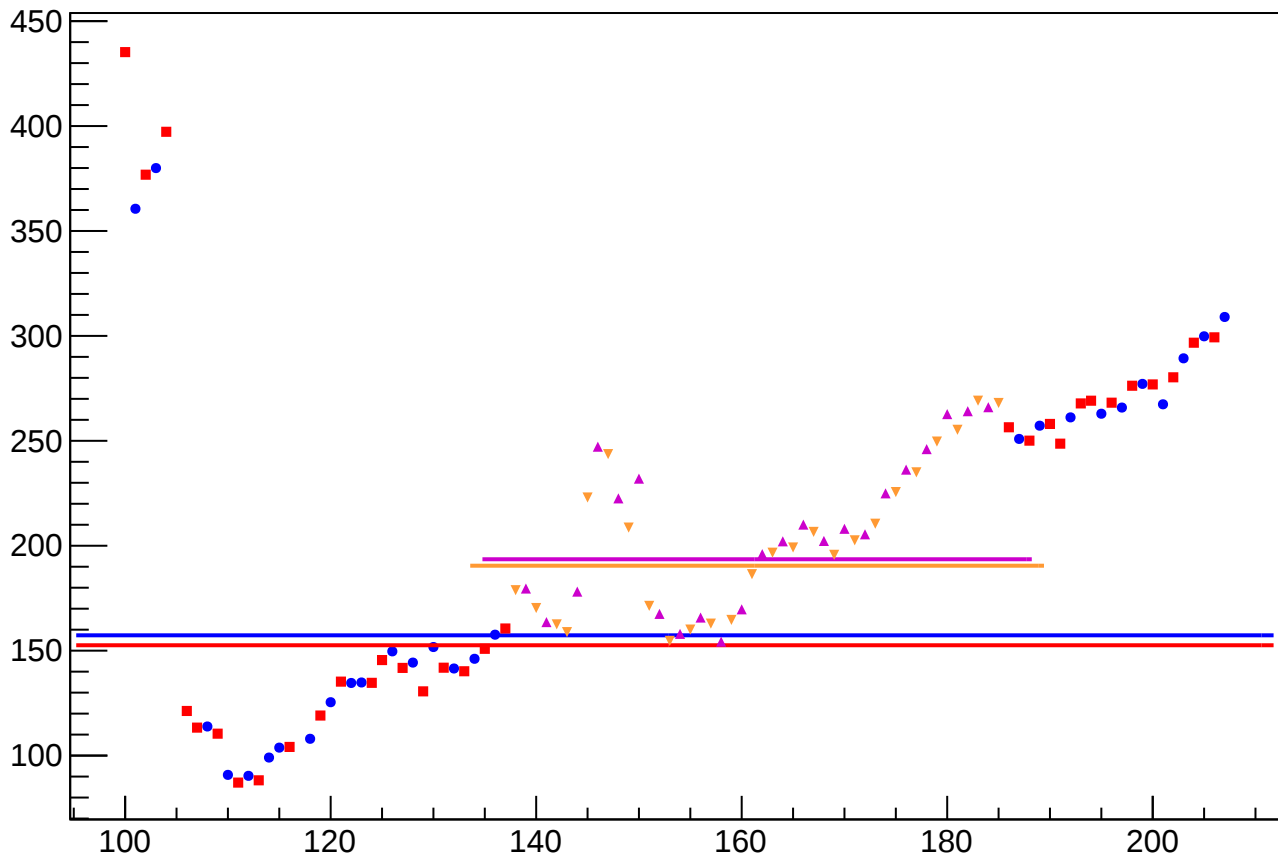
All: 197.377 $\pm$ 0.018  $\chi^2$ /NDF: 10685813.9/100

# yield\_bpm0i01aWS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                                |
|-----------------------------------|--------------------------------|-------------------------------|--------------------------------|
| Right In: 145506.988 $\pm$ 0.047  | $\chi^2$ /NDF: 8283198152.5/26 | Left: 140270.460 $\pm$ 0.033  | $\chi^2$ /NDF: 16714620354.4   |
| Left Out: 140364.444 $\pm$ 0.045  | $\chi^2$ /NDF: 8677078677.7/24 | Right: 145441.428 $\pm$ 0.032 | $\chi^2$ /NDF: 17762617494.1   |
| Right Out: 145384.581 $\pm$ 0.044 | $\chi^2$ /NDF: 9475783889.2/30 | In: 142863.338 $\pm$ 0.033    | $\chi^2$ /NDF: 22706952355.4/4 |
| Left In: 140166.971 $\pm$ 0.047   | $\chi^2$ /NDF: 8028464654.6/22 | Out: 142957.309 $\pm$ 0.031   | $\chi^2$ /NDF: 24518946332.1/4 |
|                                   |                                | All: 142913.138 $\pm$ 0.023   | $\chi^2$ /NDF: 472300972.1     |

# yield\_bpm0i01aWS\_rms vs Slug, Sign Corrected



Right In: 157.316 $\pm$ 0.033  $\chi^2/\text{NDF}$ : 4788071.4/26

Left Out: 190.486 $\pm$ 0.032  $\chi^2/\text{NDF}$ : 950233.2/24

Right Out: 152.577 $\pm$ 0.031  $\chi^2/\text{NDF}$ : 5357075.4/30

Left In: 193.558 $\pm$ 0.034  $\chi^2/\text{NDF}$ : 963675.0/22

Left: 191.948 $\pm$ 0.023  $\chi^2/\text{NDF}$ : 1918302.4/47

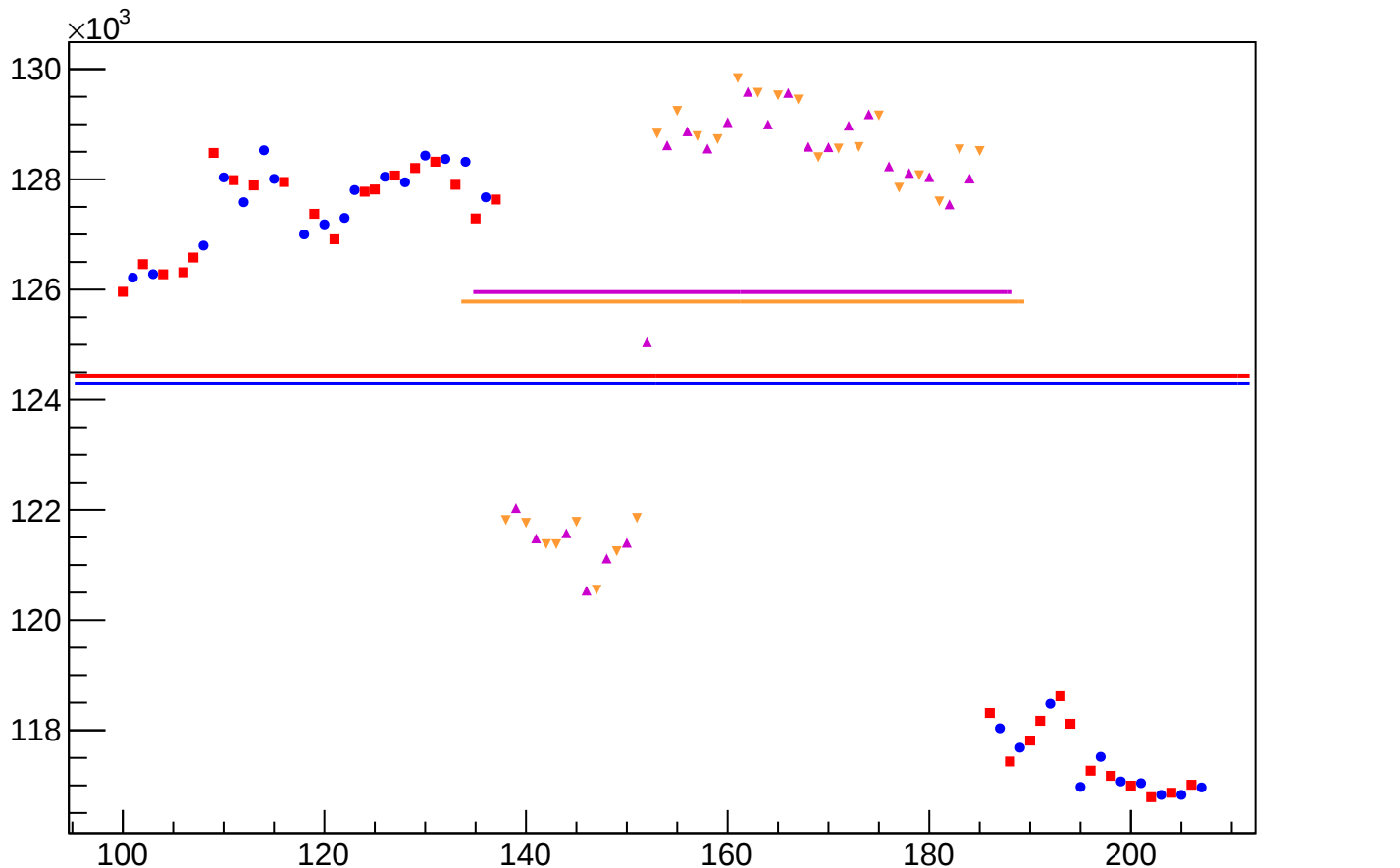
Right: 154.778 $\pm$ 0.023  $\chi^2/\text{NDF}$ : 10156047.3/57

In: 175.258 $\pm$ 0.024  $\chi^2/\text{NDF}$ : 6340892.4/49

Out: 170.906 $\pm$ 0.022  $\chi^2/\text{NDF}$ : 7033340.3/55

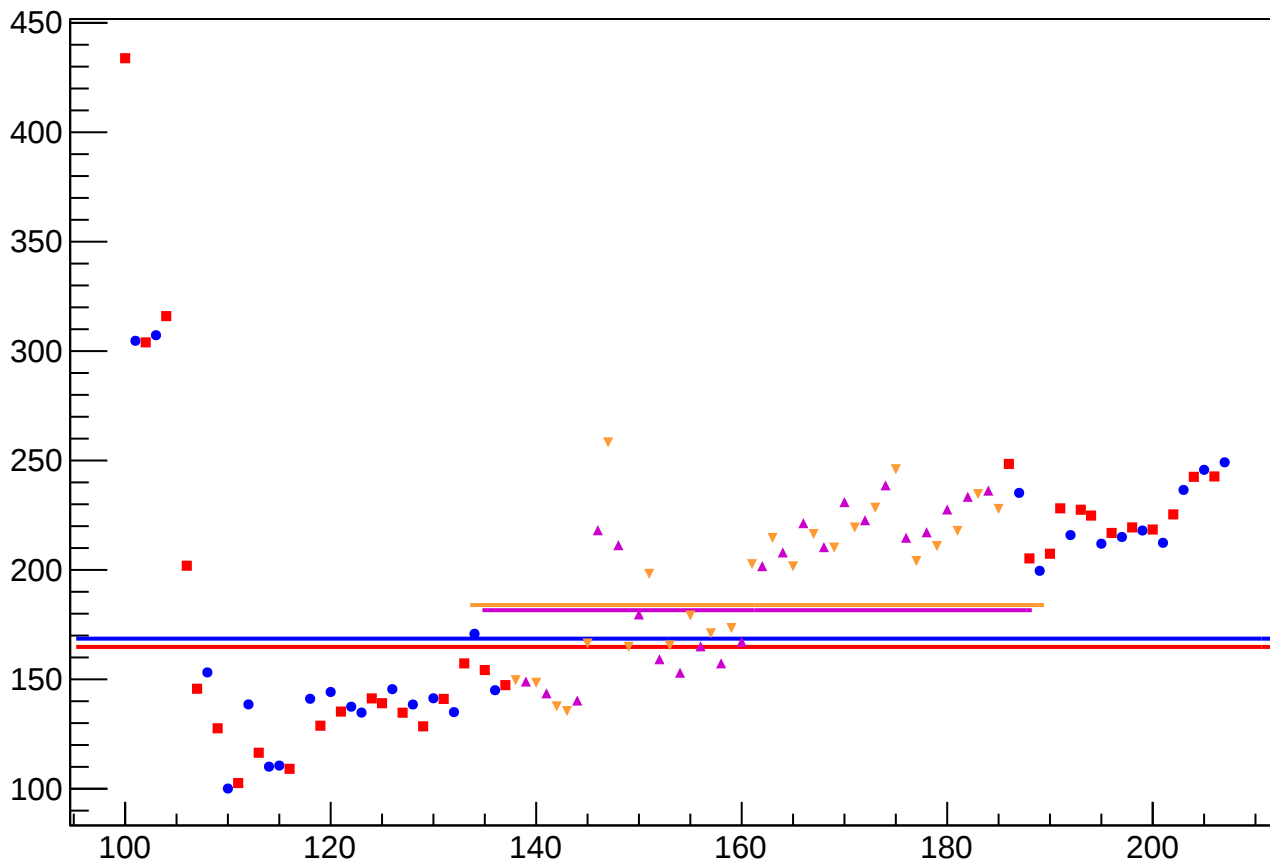
All: 172.952 $\pm$ 0.016  $\chi^2/\text{NDF}$ : 13392245.1/10

# yield\_bpm0l01WS\_mean vs Slug, Sign Corrected



|                                   |                                 |                               |                                 |
|-----------------------------------|---------------------------------|-------------------------------|---------------------------------|
| Right In: 124295.418 $\pm$ 0.048  | $\chi^2$ /NDF: 10616429626.9/26 | Left: 125867.639 $\pm$ 0.031  | $\chi^2$ /NDF: 12541428458.9/26 |
| Left Out: 125782.764 $\pm$ 0.044  | $\chi^2$ /NDF: 6729761889.8/24  | Right: 124371.030 $\pm$ 0.033 | $\chi^2$ /NDF: 22114384500.0/24 |
| Right Out: 124438.251 $\pm$ 0.045 | $\chi^2$ /NDF: 11493207814.5/30 | In: 125177.377 $\pm$ 0.033    | $\chi^2$ /NDF: 17064129857.1/30 |
| Left In: 125955.637 $\pm$ 0.045   | $\chi^2$ /NDF: 5804088930.1/22  | Out: 125125.166 $\pm$ 0.031   | $\chi^2$ /NDF: 18679587824.0/22 |
|                                   |                                 | All: 125150.291 $\pm$ 0.023   | $\chi^2$ /NDF: 35745043/22      |

# yield\_bpm0l01WS\_rms vs Slug, Sign Corrected



Right In: 168.597 $\pm$ 0.034  $\chi^2$ /NDF: 2126191.7/26

Left Out: 183.947 $\pm$ 0.031  $\chi^2$ /NDF:1123194.0/24

Right Out: 164.810 $\pm$ 0.032  $\chi^2$ /NDF: 2623111.6/30

Left In: 181.596 $\pm$ 0.032  $\chi^2$ /NDF:1103524.3/22

Left: 182.792 $\pm$ 0.022  $\chi^2$ /NDF: 2229521.2/47

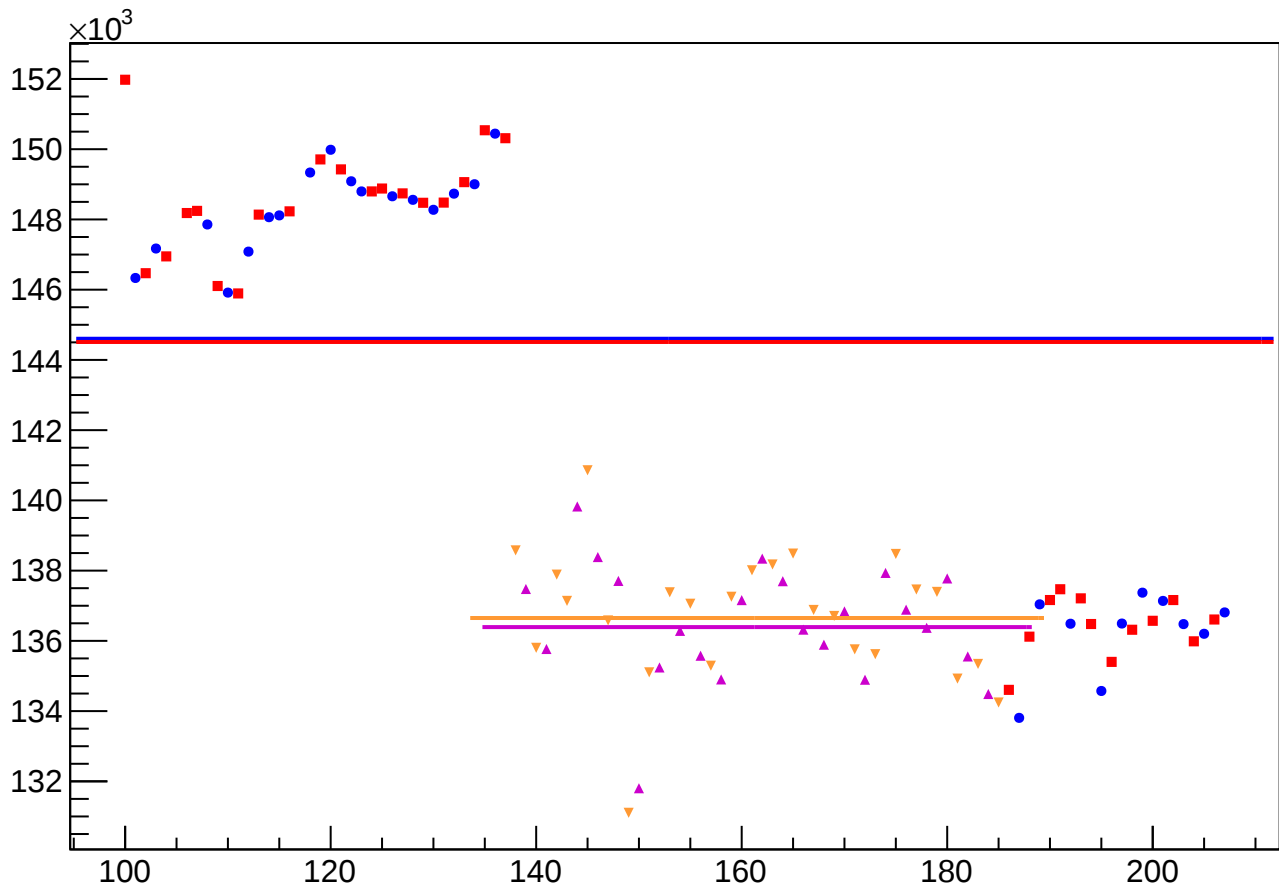
Right: 166.592 $\pm$ 0.023  $\chi^2$ /NDF: 4755979.4/57

In: 175.502 $\pm$ 0.023  $\chi^2$ /NDF:3308620.8/49

Out: 174.587 $\pm$ 0.022  $\chi^2$ /NDF:3931317.4/55

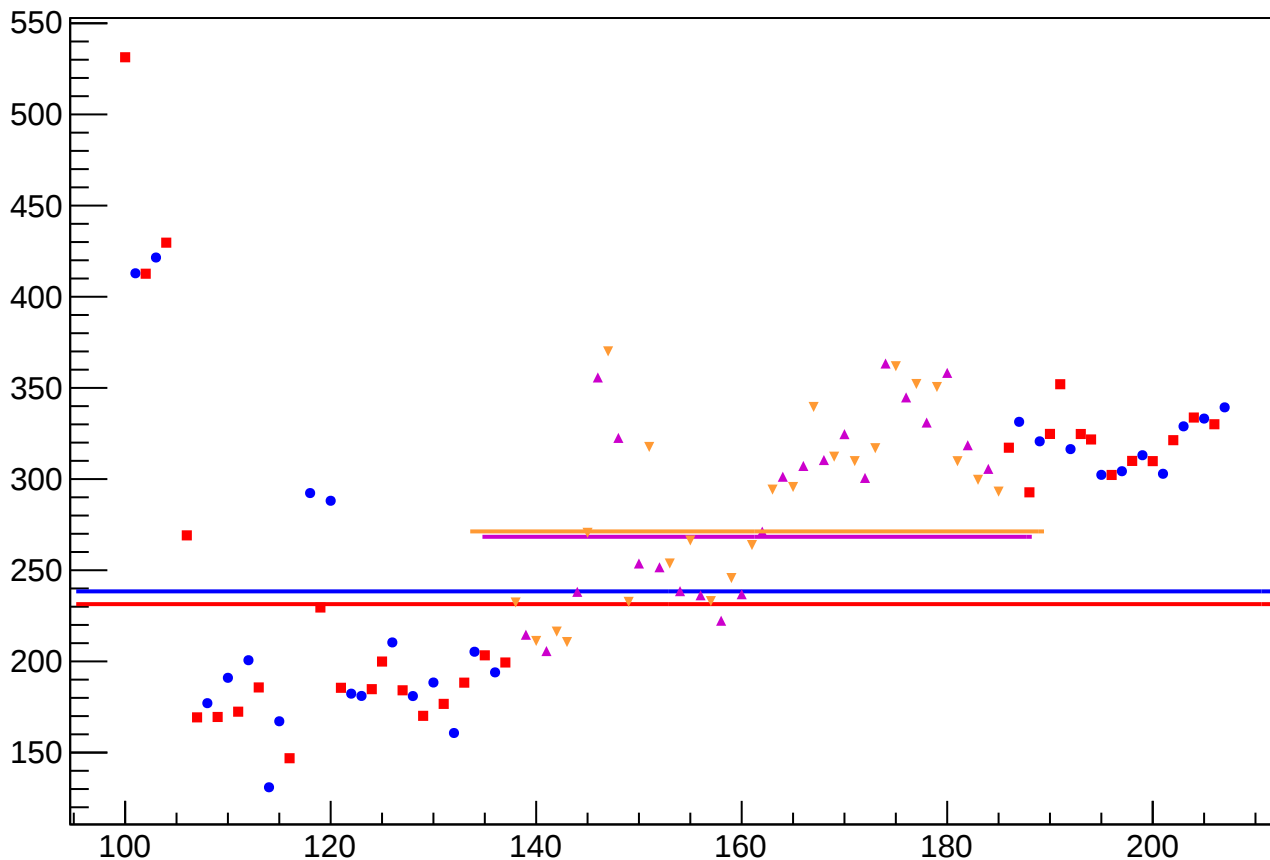
All: 175.027 $\pm$ 0.016  $\chi^2$ /NDF: 7240753.8/105

# yield\_bpm0l02WS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                                |
|-----------------------------------|--------------------------------|-------------------------------|--------------------------------|
| Right In: 144602.666 $\pm$ 0.068  | $\chi^2$ /NDF: 7292115628.1/26 | Left: 136524.219 $\pm$ 0.046  | $\chi^2$ /NDF: 1640486942.5/4  |
| Left Out: 136650.935 $\pm$ 0.065  | $\chi^2$ /NDF: 930649595.5/24  | Right: 144553.744 $\pm$ 0.046 | $\chi^2$ /NDF: 15356472027.9   |
| Right Out: 144511.060 $\pm$ 0.063 | $\chi^2$ /NDF: 8063376501.1/30 | In: 140395.387 $\pm$ 0.047    | $\chi^2$ /NDF: 15547145946.2/4 |
| Left In: 136392.188 $\pm$ 0.066   | $\chi^2$ /NDF: 701986841.4/22  | Out: 140670.561 $\pm$ 0.045   | $\chi^2$ /NDF: 16558913692.4   |
|                                   |                                | All: 140539.071 $\pm$ 0.033   | $\chi^2$ /NDF: 321237904       |

# yield\_bpm0l02WS\_rms vs Slug, Sign Corrected



Right In: 238.410 $\pm$ 0.048  $\chi^2$ /NDF: 2263034.8/26

Left Out: 271.295 $\pm$ 0.046  $\chi^2$ /NDF:1064485.7/24

Right Out: 231.414 $\pm$ 0.045  $\chi^2$ /NDF: 2548681.8/30

Left In: 268.344 $\pm$ 0.047  $\chi^2$ /NDF:1077364.0/22

Left: 269.850 $\pm$ 0.033  $\chi^2$ /NDF: 2143892.9/47

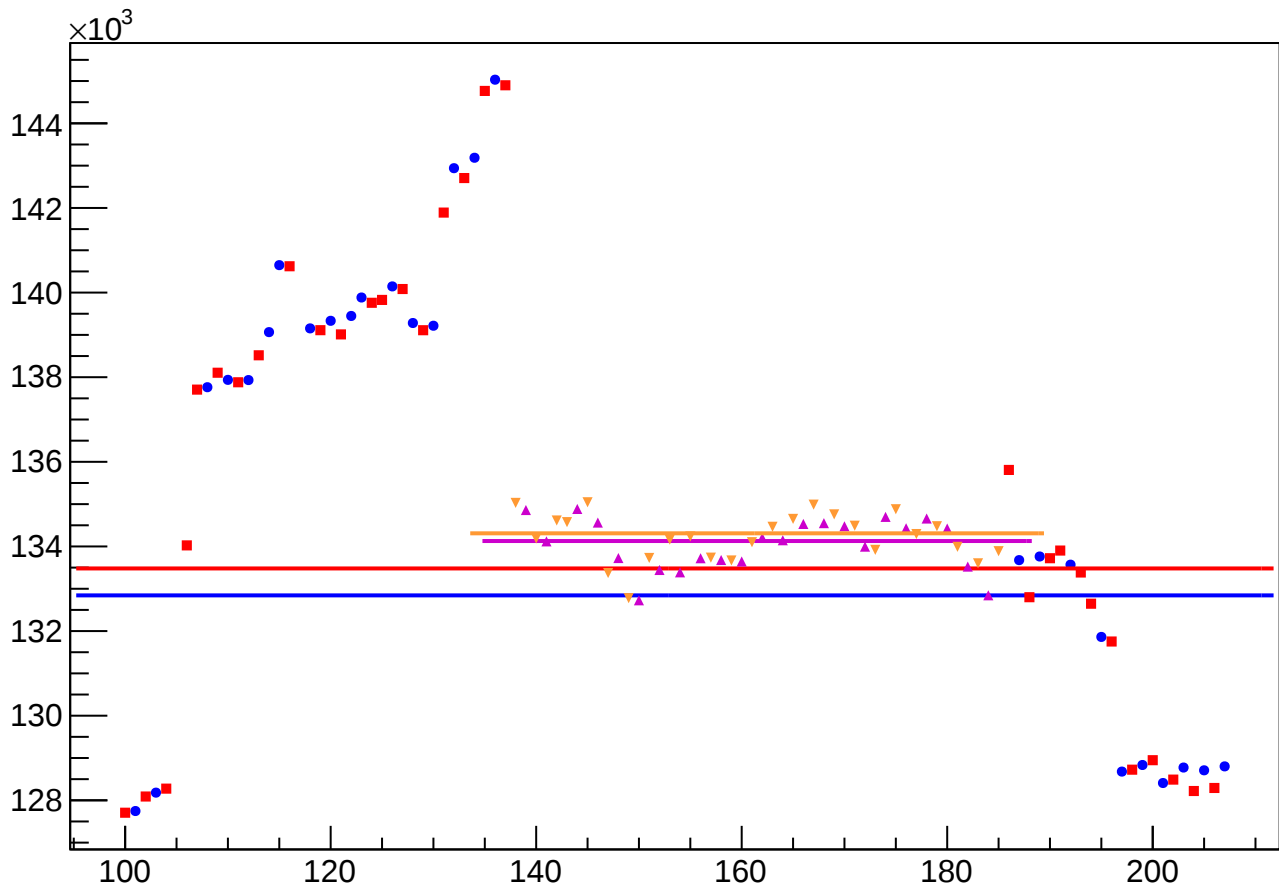
Right: 234.673 $\pm$ 0.033  $\chi^2$ /NDF: 4823147.2/57

In: 253.749 $\pm$ 0.033  $\chi^2$ /NDF:3541187.4/49

Out: 250.900 $\pm$ 0.032  $\chi^2$ /NDF:4002676.2/55

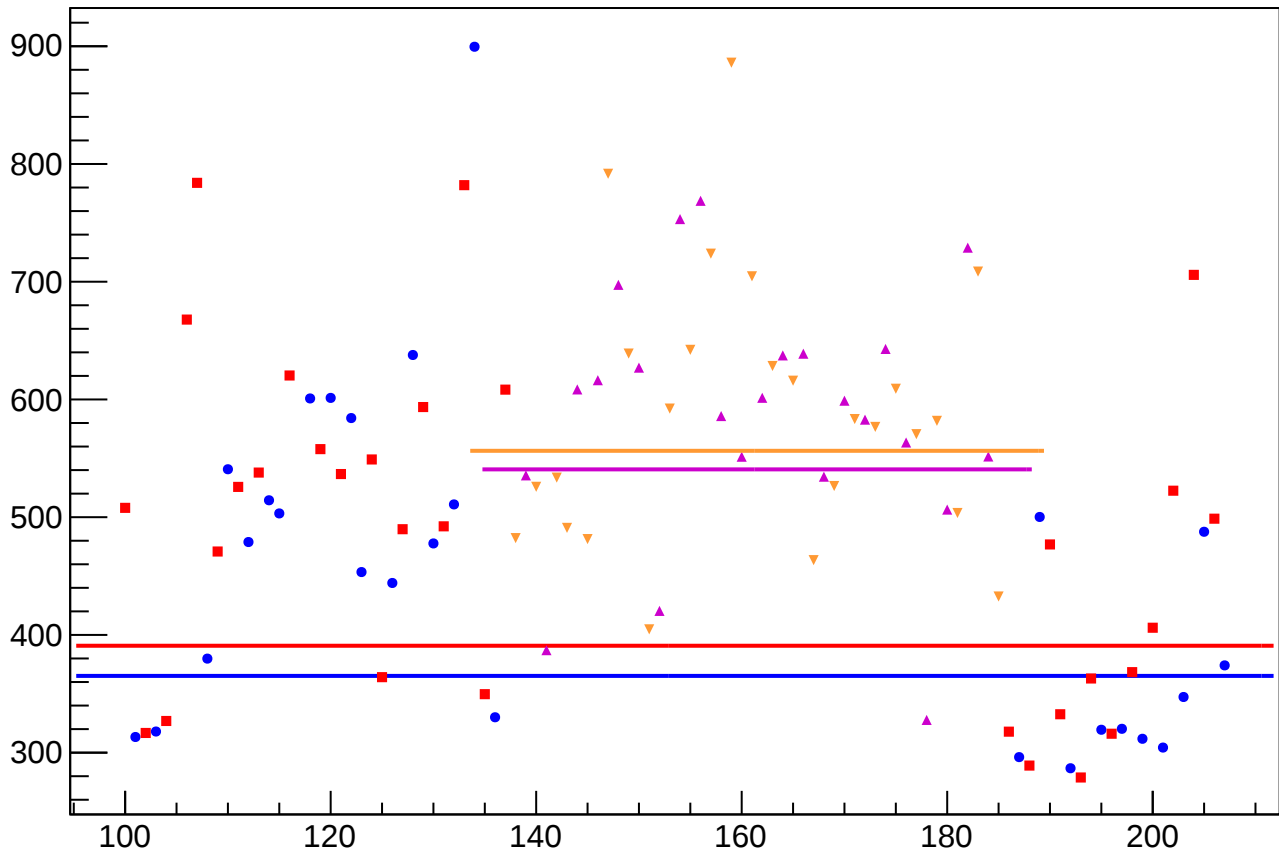
All: 252.261 $\pm$ 0.023  $\chi^2$ /NDF: 7547664.0/105

# yield\_bpm0l03WS\_mean vs Slug, Sign Corrected



|                               |                                       |                           |                                       |
|-------------------------------|---------------------------------------|---------------------------|---------------------------------------|
| Right In: 132843.479+/-0.111  | $\chi^2/\text{NDF}$ : 2515506897.6/26 | Left: 134221.438+/-0.099  | $\chi^2/\text{NDF}$ : 31894688.0/47   |
| Left Out: 134310.250+/-0.139  | $\chi^2/\text{NDF}$ : 15518632.9/24   | Right: 133146.585+/-0.080 | $\chi^2/\text{NDF}$ : 4141965466.1/4  |
| Right Out: 133479.963+/-0.116 | $\chi^2/\text{NDF}$ : 1610732647.5/30 | In: 133329.485+/-0.087    | $\chi^2/\text{NDF}$ : 2581935627.6/49 |
| Left In: 134128.172+/-0.142   | $\chi^2/\text{NDF}$ : 15533736.2/22   | Out: 133822.661+/-0.089   | $\chi^2/\text{NDF}$ : 1647339012.9/5  |
|                               |                                       | All: 133571.363+/-0.062   | $\chi^2/\text{NDF}$ : 424491532.0/100 |

# yield\_bpm0l03WS\_rms vs Slug, Sign Corrected



Right In: 365.202 $\pm$ 0.078  $\chi^2$ /NDF: 1337564.8/26

Left Out: 556.381 $\pm$ 0.098  $\chi^2$ /NDF: 1002064.0/24

Right Out: 390.811 $\pm$ 0.082  $\chi^2$ /NDF: 1898221.0/30

Left In: 540.607 $\pm$ 0.100  $\chi^2$ /NDF: 1409015.2/22

Left: 548.687 $\pm$ 0.070  $\chi^2$ /NDF: 2423723.9/47

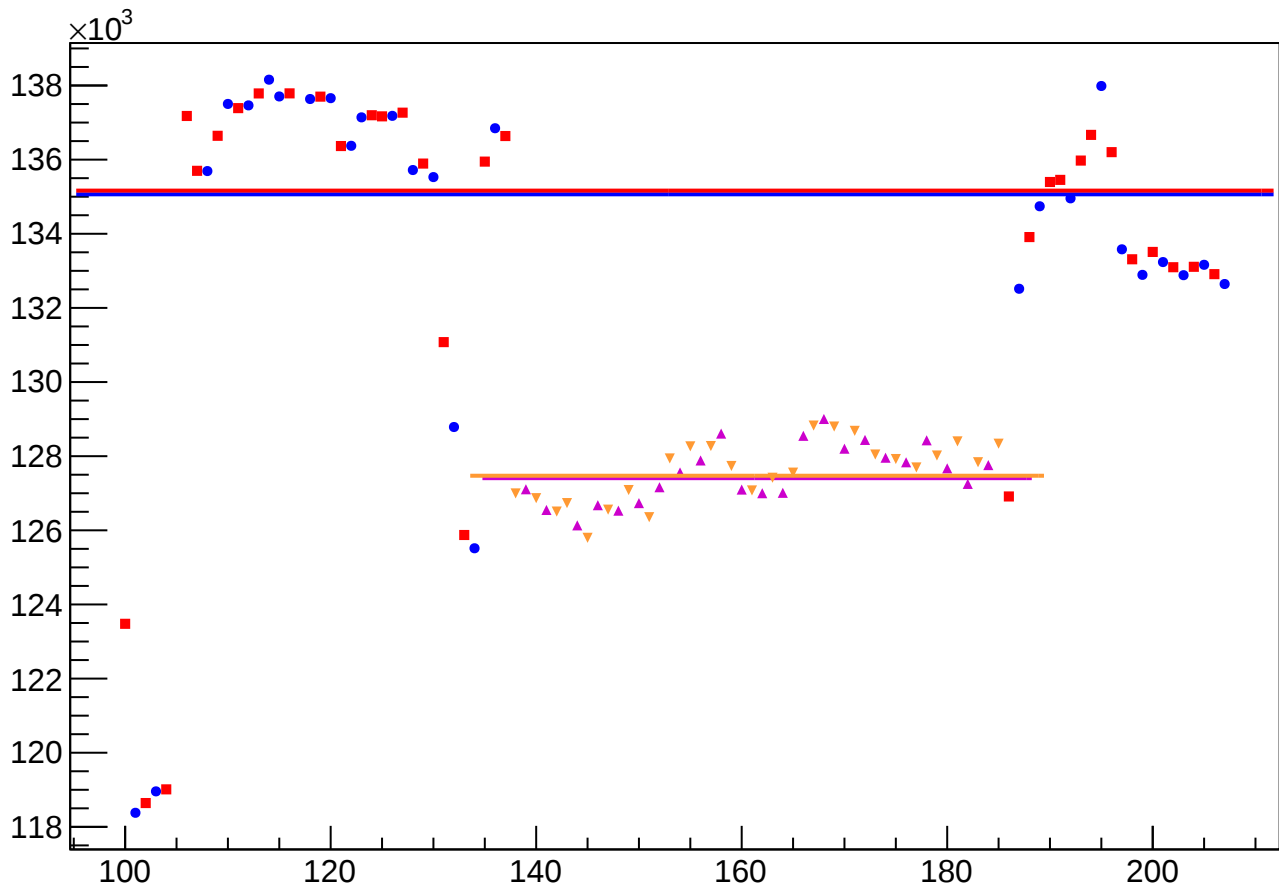
Right: 377.397 $\pm$ 0.057  $\chi^2$ /NDF: 3286702.2/57

In: 431.558 $\pm$ 0.062  $\chi^2$ /NDF: 4644126.0/49

Out: 459.149 $\pm$ 0.063  $\chi^2$ /NDF: 4577435.0/55

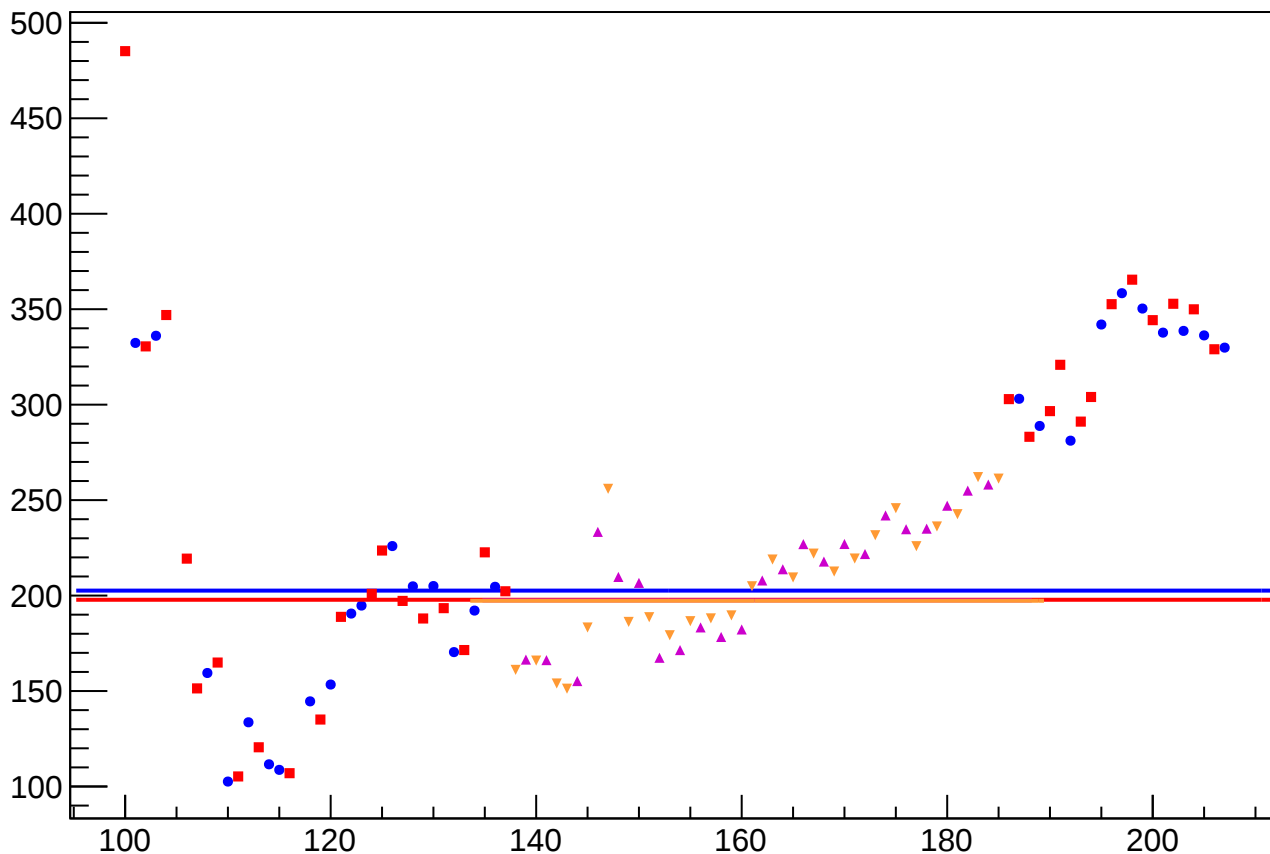
All: 445.090 $\pm$ 0.044  $\chi^2$ /NDF: 9319469.2/105

yield\_bpm0l04WS\_mean vs Slug, Sign Corrected



|                               |                                       |                           |                                        |
|-------------------------------|---------------------------------------|---------------------------|----------------------------------------|
| Right In: 135064.437+/-0.060  | $\chi^2/\text{NDF}$ : 4843574829.4/26 | Left: 127440.757+/-0.034  | $\chi^2/\text{NDF}$ : 574486725.7/47   |
| Left Out: 127472.525+/-0.047  | $\chi^2/\text{NDF}$ : 303609315.6/24  | Right: 135117.500+/-0.041 | $\chi^2/\text{NDF}$ : 10058727552.4/47 |
| Right Out: 135164.447+/-0.056 | $\chi^2/\text{NDF}$ : 5213662704.1/30 | In: 130442.342+/-0.038    | $\chi^2/\text{NDF}$ : 15051022173.0/47 |
| Left In: 127406.911+/-0.048   | $\chi^2/\text{NDF}$ : 269927988.0/22  | Out: 130631.108+/-0.036   | $\chi^2/\text{NDF}$ : 16583534134.5/47 |
|                               |                                       | All: 130540.838+/-0.026   | $\chi^2/\text{NDF}$ : 316477254.0/47   |

# yield\_bpm0l04WS\_rms vs Slug, Sign Corrected



Right In: 202.603 $\pm$ 0.042  $\chi^2$ /NDF: 3968784.2/26

Left Out: 197.289 $\pm$ 0.033  $\chi^2$ /NDF: 852024.1/24

Right Out: 197.803 $\pm$ 0.040  $\chi^2$ /NDF: 4553246.1/30

Left In: 197.471 $\pm$ 0.034  $\chi^2$ /NDF: 791577.5/22

Left: 197.377 $\pm$ 0.024  $\chi^2$ /NDF: 1643616.2/47

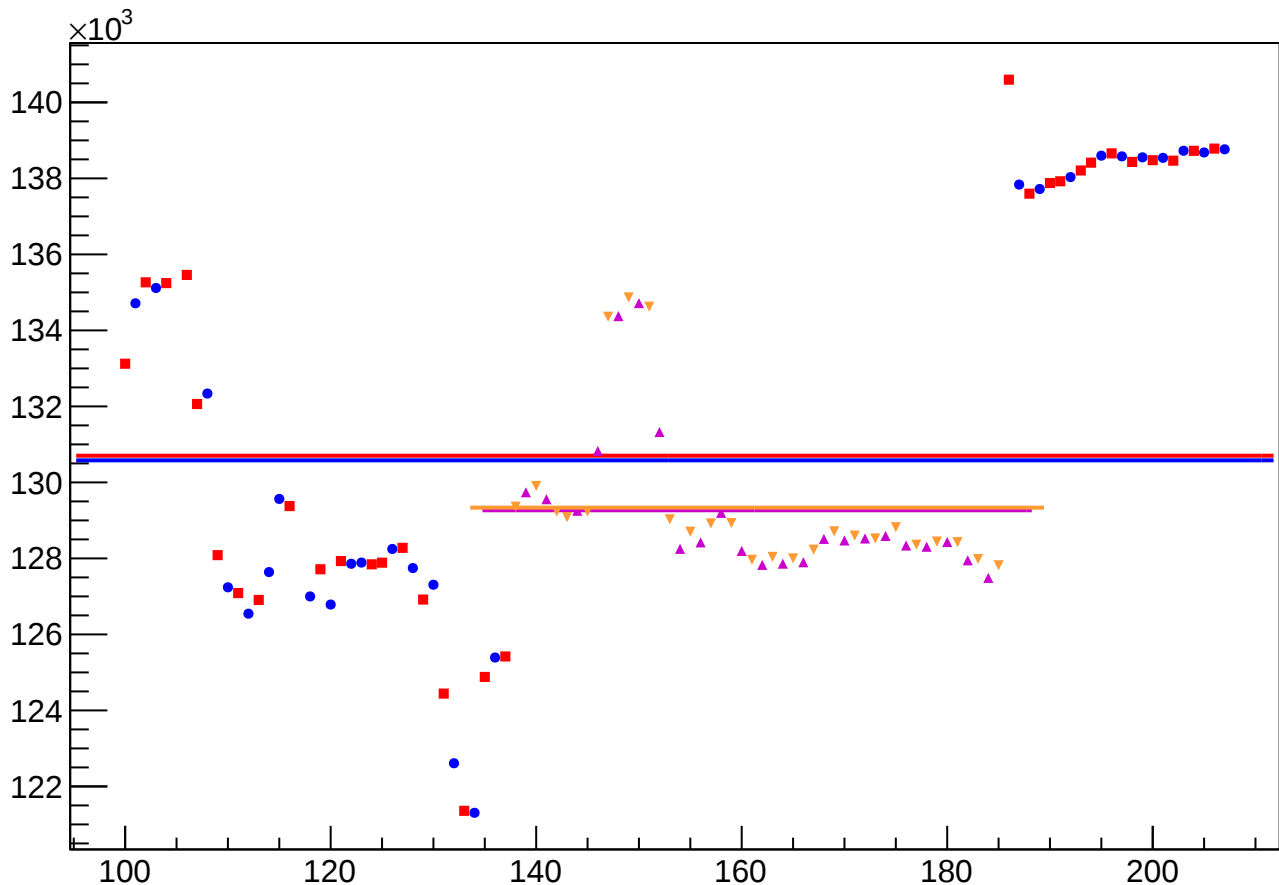
Right: 200.056 $\pm$ 0.029  $\chi^2$ /NDF: 8528893.8/57

In: 199.505 $\pm$ 0.027  $\chi^2$ /NDF: 4769288.6/49

Out: 197.500 $\pm$ 0.025  $\chi^2$ /NDF: 5405369.0/55

All: 198.459 $\pm$ 0.018  $\chi^2$ /NDF: 10177628.9/100

# yield\_bpm0l05WS\_mean vs Slug, Sign Corrected



Right In: 130580.518 $\pm$ 0.055

$\chi^2$ /NDF: 10718265849.1/26

Left: 129302.466 $\pm$ 0.034

$\chi^2$ /NDF: 2665755007.2/24

Right: 130645.890 $\pm$ 0.038

$\chi^2$ /NDF: 22315721430.3/24

Left Out: 129335.946 $\pm$ 0.047

$\chi^2$ /NDF: 1450933621.0/24

Right Out: 130702.829 $\pm$ 0.052

$\chi^2$ /NDF: 11594840383.2/30

In: 129833.485 $\pm$ 0.036

$\chi^2$ /NDF: 12252987954.6/24

Out: 129951.756 $\pm$ 0.035

$\chi^2$ /NDF: 13431289116.8/24

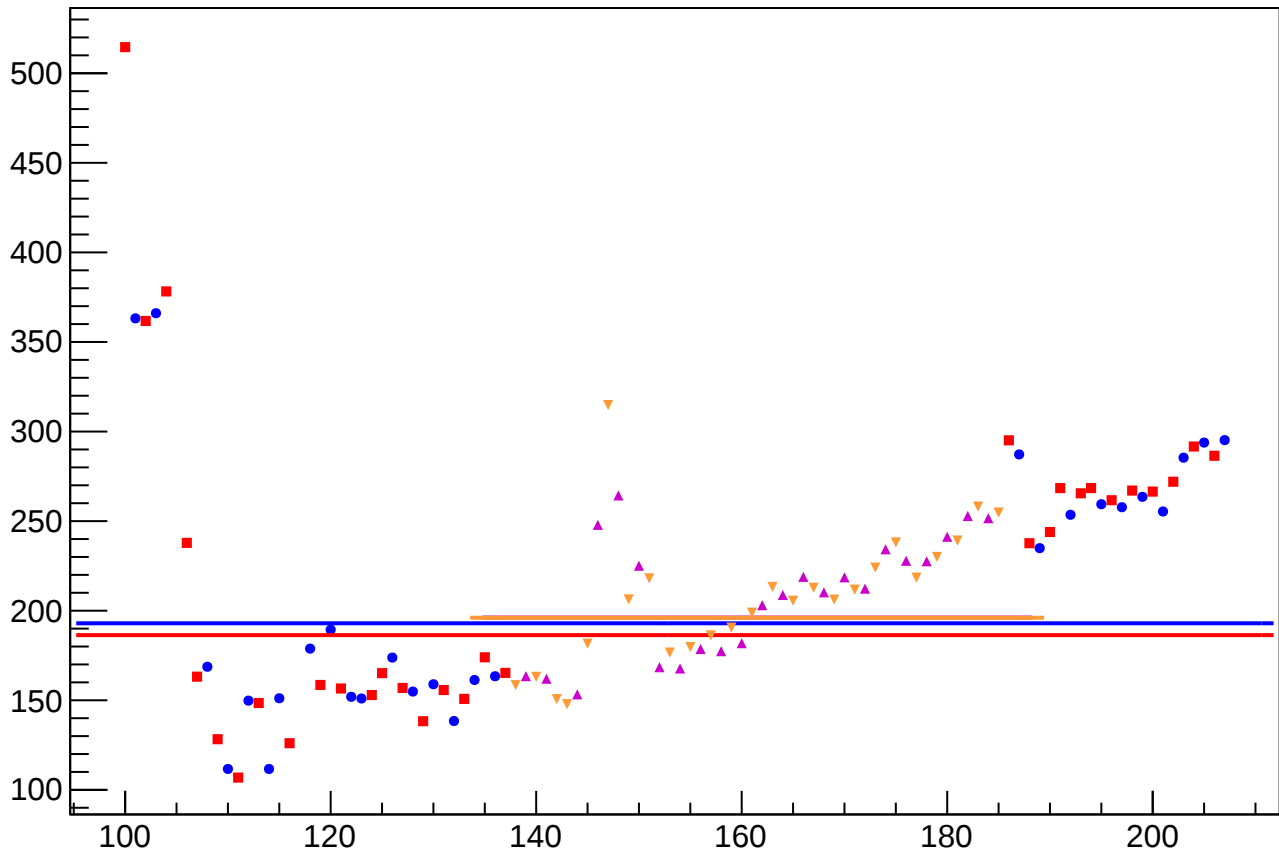
Left In: 129266.909 $\pm$ 0.048

$\chi^2$ /NDF: 1213762773.1/22

All: 129895.414 $\pm$ 0.025

$\chi^2$ /NDF: 256898312.1/24

# yield\_bpm0l05WS\_rms vs Slug, Sign Corrected



Right In: 192.975+/-0.039  $\chi^2/\text{NDF}$ : 2555323.5/26

Left Out: 196.077+/-0.033  $\chi^2/\text{NDF}$ : 975710.9/24

Right Out: 186.377+/-0.036  $\chi^2/\text{NDF}$ : 3184950.9/30

Left In: 196.186+/-0.034  $\chi^2/\text{NDF}$ : 898058.0/22

Left: 196.130+/-0.024  $\chi^2/\text{NDF}$ : 1873774.2/47

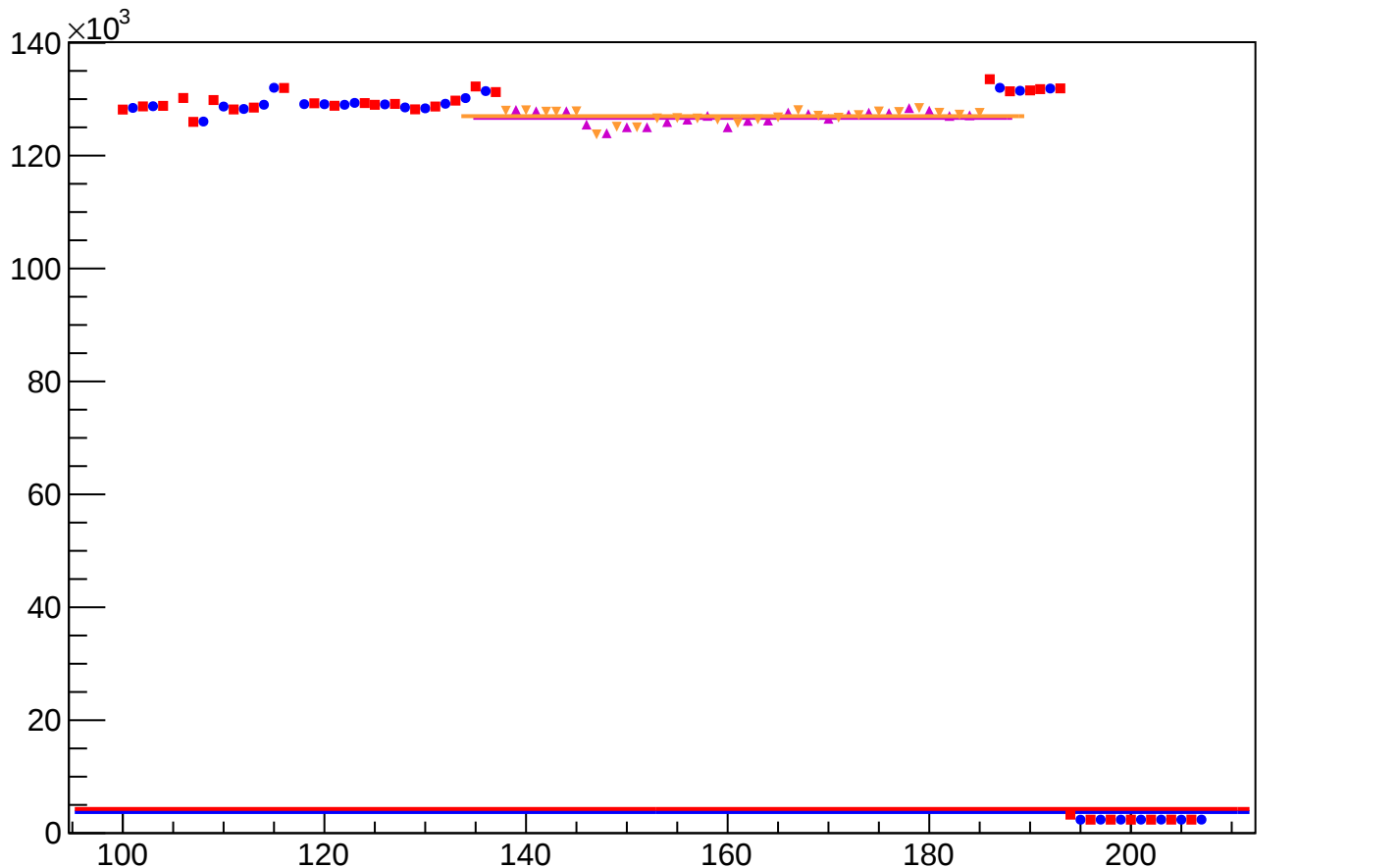
Right: 189.448+/-0.027  $\chi^2/\text{NDF}$ : 5755494.8/57

In: 194.801+/-0.026  $\chi^2/\text{NDF}$ : 3457218.2/49

Out: 191.707+/-0.024  $\chi^2/\text{NDF}$ : 4199496.1/55

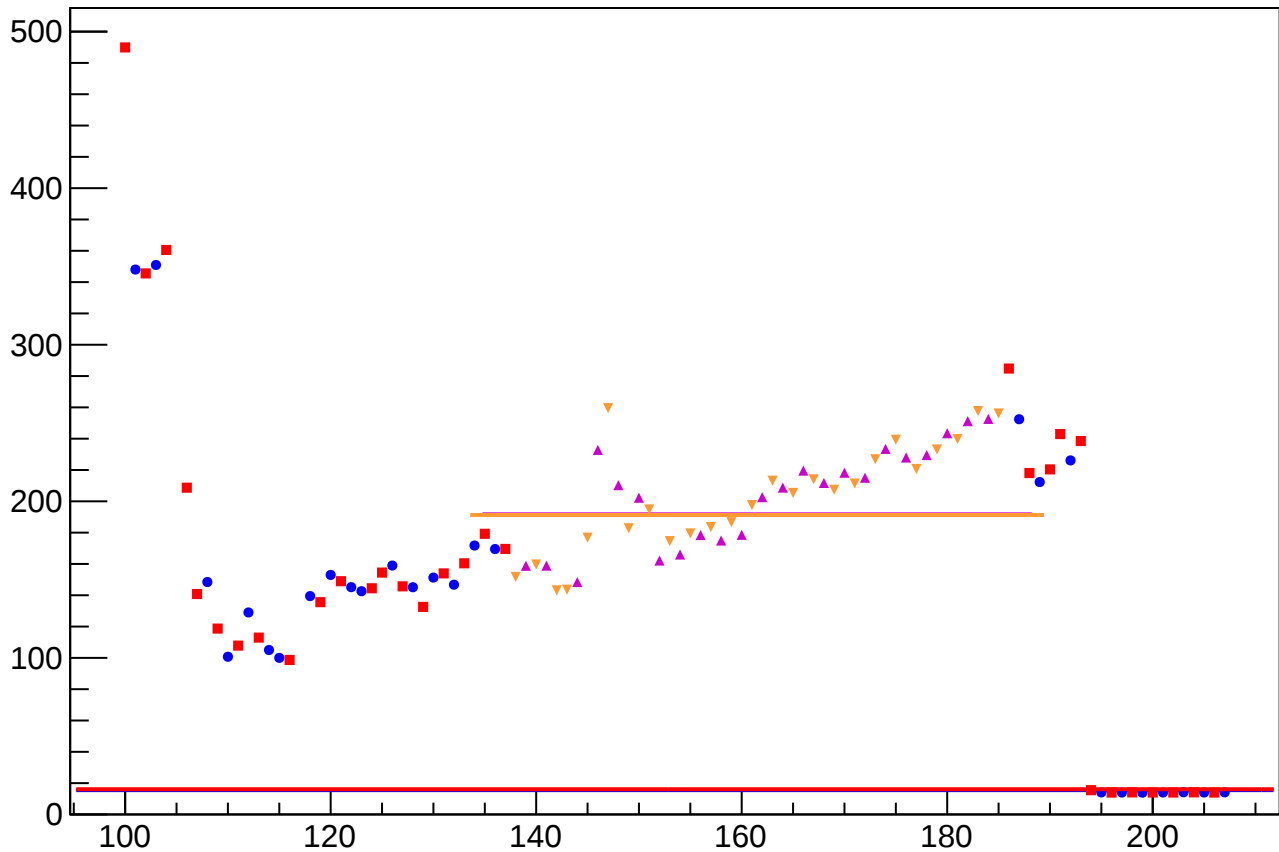
All: 193.181+/-0.018  $\chi^2/\text{NDF}$ : 7664316.3/105

# yield\_bpm0l06WS\_mean vs Slug, Sign Corrected



|                                  |                                          |                              |                                           |
|----------------------------------|------------------------------------------|------------------------------|-------------------------------------------|
| Right In: 3737.415 $\pm$ 0.006   | $\chi^2/\text{NDF}$ : 4879226229330.0/26 | Left: 126836.943 $\pm$ 0.033 | $\chi^2/\text{NDF}$ : 1211882944.2/24     |
| Left Out: 126981.724 $\pm$ 0.046 | $\chi^2/\text{NDF}$ : 530573115.8/24     | Right: 3992.156 $\pm$ 0.004  | $\chi^2/\text{NDF}$ : 10681759019960.0/24 |
| Right Out: 4284.507 $\pm$ 0.006  | $\chi^2/\text{NDF}$ : 5798516629418.1/30 | In: 5639.483 $\pm$ 0.006     | $\chi^2/\text{NDF}$ : 11618794572050.1/30 |
| Left In: 126682.659 $\pm$ 0.047  | $\chi^2/\text{NDF}$ : 660415880.0/22     | Out: 6598.004 $\pm$ 0.006    | $\chi^2/\text{NDF}$ : 12926724033579.0/22 |
|                                  |                                          | All: 6086.617 $\pm$ 0.004    | $\chi^2/\text{NDF}$ : 24558063375.0/22    |

# yield\_bpm0l06WS\_rms vs Slug, Sign Corrected



Right In: 15.537 $\pm$ 0.004  $\chi^2$ /NDF: 13277888.4/26

Left Out: 191.263 $\pm$ 0.032  $\chi^2$ /NDF: 992566.2/24

Right Out: 16.106 $\pm$ 0.004  $\chi^2$ /NDF: 15546858.4/30

Left In: 191.683 $\pm$ 0.033  $\chi^2$ /NDF: 864384.9/22

Left: 191.466 $\pm$ 0.023  $\chi^2$ /NDF: 1857033.4/47

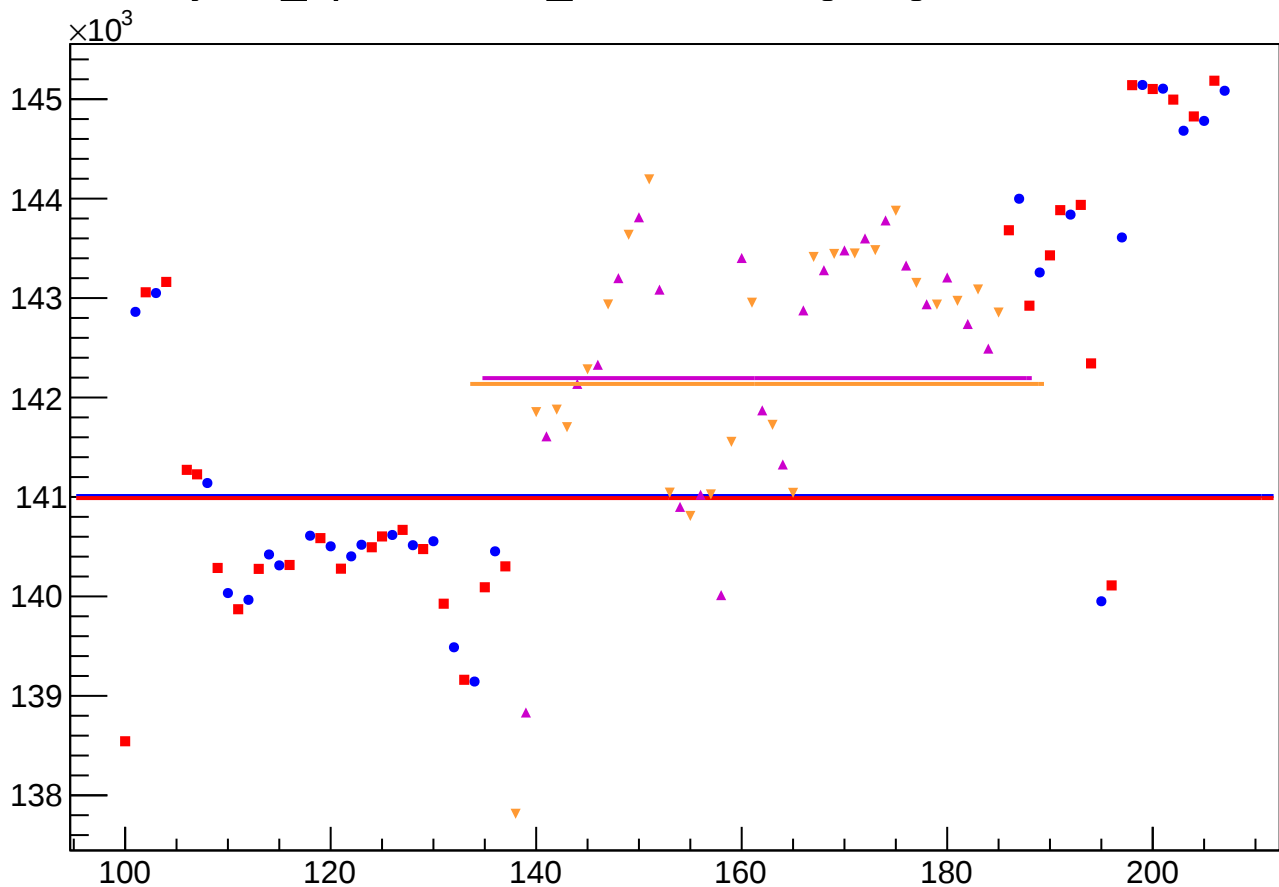
Right: 15.802 $\pm$ 0.003  $\chi^2$ /NDF: 28833419.9/57

In: 18.263 $\pm$ 0.004  $\chi^2$ /NDF: 41807695.0/49

Out: 19.409 $\pm$ 0.004  $\chi^2$ /NDF: 45590635.0/55

All: 18.797 $\pm$ 0.003  $\chi^2$ /NDF: 87434195.7/105

yield\_bpm0l07WS\_mean vs Slug, Sign Corrected



Right In: 141009.527 $\pm$ 0.058  $\chi^2$ /NDF: 718353741.4/26

Left Out: 142136.579 $\pm$ 0.052  $\chi^2$ /NDF: 815573343.0/24

Right Out: 140988.696 $\pm$ 0.053  $\chi^2$ /NDF: 777297496.9/30

Left In: 142195.020 $\pm$ 0.054  $\chi^2$ /NDF: 644030906.9/22

Left: 142164.953 $\pm$ 0.038  $\chi^2$ /NDF: 1460209902.9/4

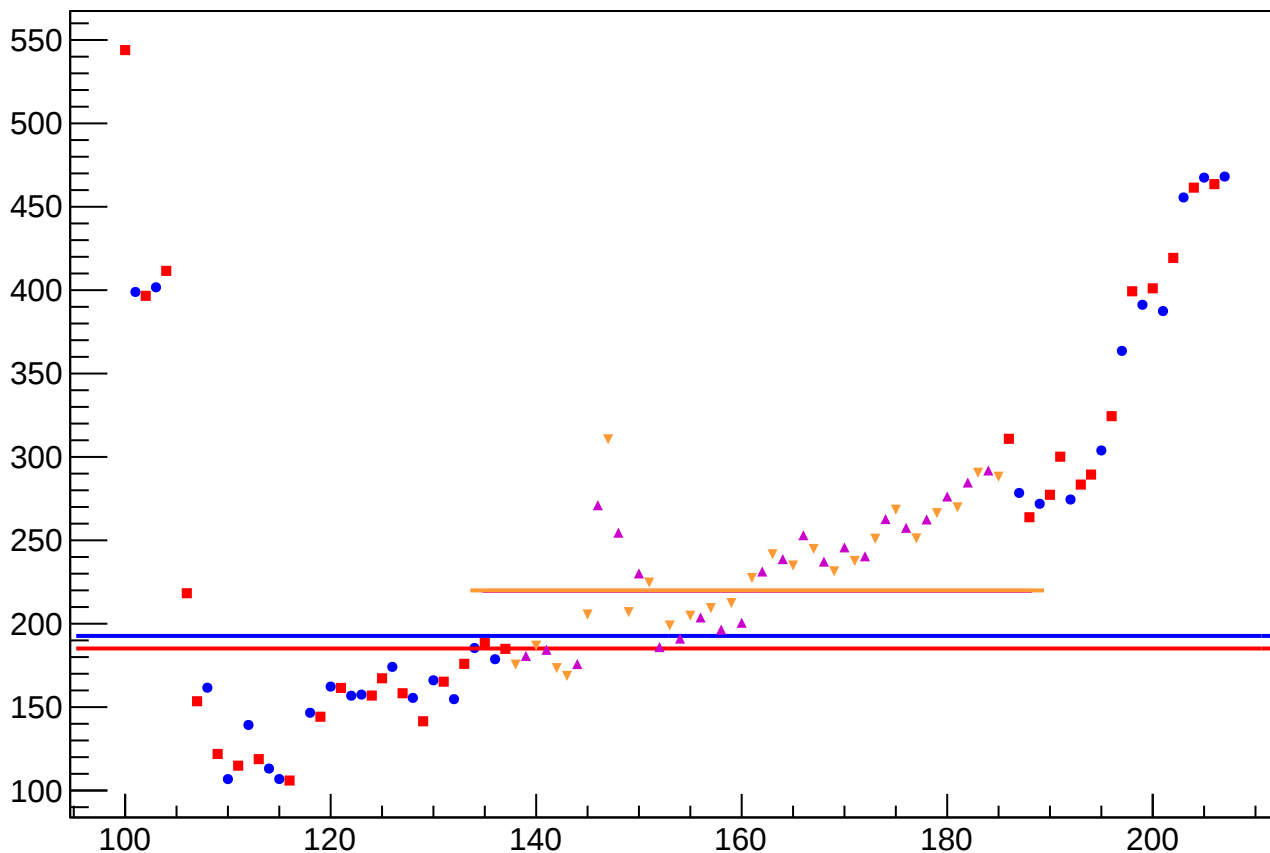
Right: 140998.272 $\pm$ 0.039  $\chi^2$ /NDF: 1495720943.3/4

In: 141645.999 $\pm$ 0.039  $\chi^2$ /NDF: 1586729419.5/4

Out: 141575.328 $\pm$ 0.037  $\chi^2$ /NDF: 1828175457.7/5

All: 141608.771 $\pm$ 0.027  $\chi^2$ /NDF: 341659400.0/10

# yield\_bpm0l07WS\_rms vs Slug, Sign Corrected



Right In: 192.686+/-0.041  $\chi^2/\text{NDF}$ : 5083736.4/26

Left Out: 219.969+/-0.037  $\chi^2/\text{NDF}$ : 866616.3/24

Right Out: 185.145+/-0.038  $\chi^2/\text{NDF}$ : 5580733.8/30

Left In: 219.685+/-0.038  $\chi^2/\text{NDF}$ : 812745.1/22

Left: 219.831+/-0.027  $\chi^2/\text{NDF}$ : 1679390.1/47

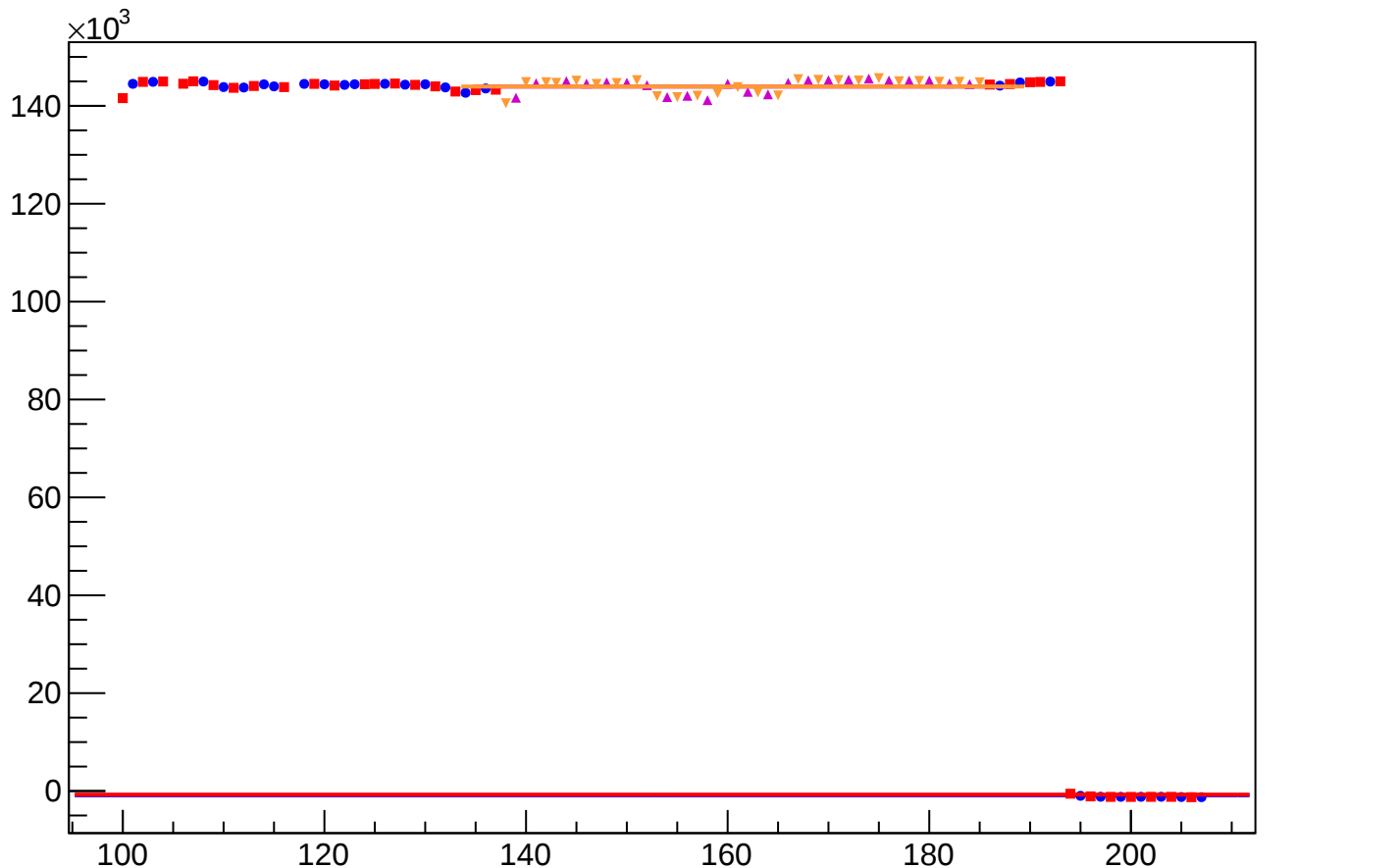
Right: 188.612+/-0.028  $\chi^2/\text{NDF}$ : 10682740.3/57

In: 207.181+/-0.028  $\chi^2/\text{NDF}$ : 6129194.2/49

Out: 202.942+/-0.026  $\chi^2/\text{NDF}$ : 6880480.0/55

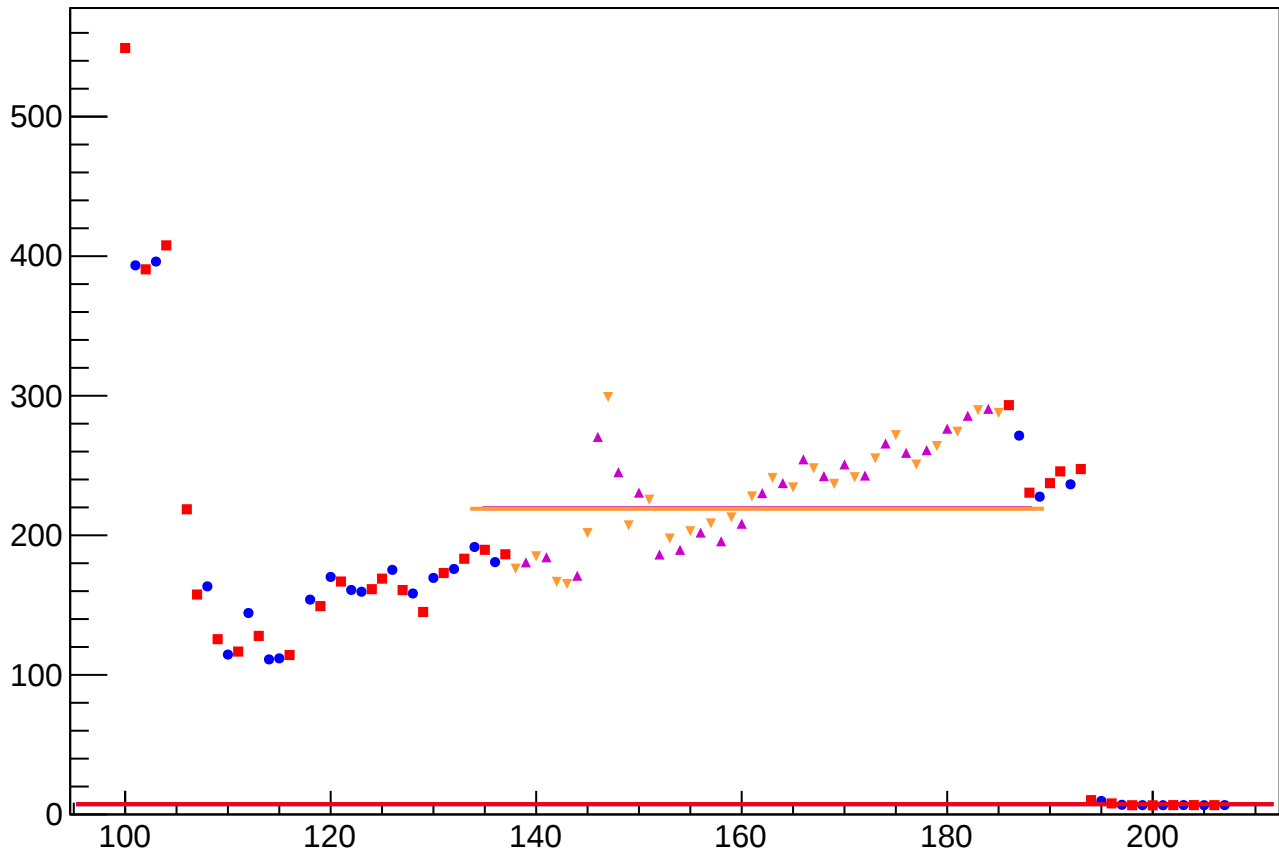
All: 204.948+/-0.019  $\chi^2/\text{NDF}$ : 13021828.6/100

# yield\_bpm0l08WS\_mean vs Slug, Sign Corrected



|                                  |                                   |                              |                                    |
|----------------------------------|-----------------------------------|------------------------------|------------------------------------|
| Right In: -866.511 $\pm$ 0.003   | $\chi^2$ /NDF: 5296035934654.3/26 | Left: 143944.995 $\pm$ 0.037 | $\chi^2$ /NDF: 1584524299.4/26     |
| Left Out: 143951.284 $\pm$ 0.052 | $\chi^2$ /NDF: 864679545.2/24     | Right: -807.729 $\pm$ 0.002  | $\chi^2$ /NDF: 11695109860855.3/24 |
| Right Out: -741.038 $\pm$ 0.003  | $\chi^2$ /NDF: 6398223513039.0/30 | In: -434.575 $\pm$ 0.003     | $\chi^2$ /NDF: 12508479889430.8/30 |
| Left In: 143938.288 $\pm$ 0.054  | $\chi^2$ /NDF: 719814685.6/22     | Out: -219.130 $\pm$ 0.003    | $\chi^2$ /NDF: 14073614876630.8/22 |
|                                  |                                   | All: -333.609 $\pm$ 0.002    | $\chi^2$ /NDF: 26584610380.0/100   |

# yield\_bpm0l08WS\_rms vs Slug, Sign Corrected



Right In:  $7.296 \pm 0.002$   $\chi^2/\text{NDF}$ : 14915805.2/26

Left Out:  $219.050 \pm 0.037$   $\chi^2/\text{NDF}$ : 934417.6/24

Right Out:  $7.382 \pm 0.002$   $\chi^2/\text{NDF}$ : 17448110.6/30

Left In:  $219.426 \pm 0.038$   $\chi^2/\text{NDF}$ : 850089.5/22

Left:  $219.232 \pm 0.026$   $\chi^2/\text{NDF}$ : 1784557.4/47

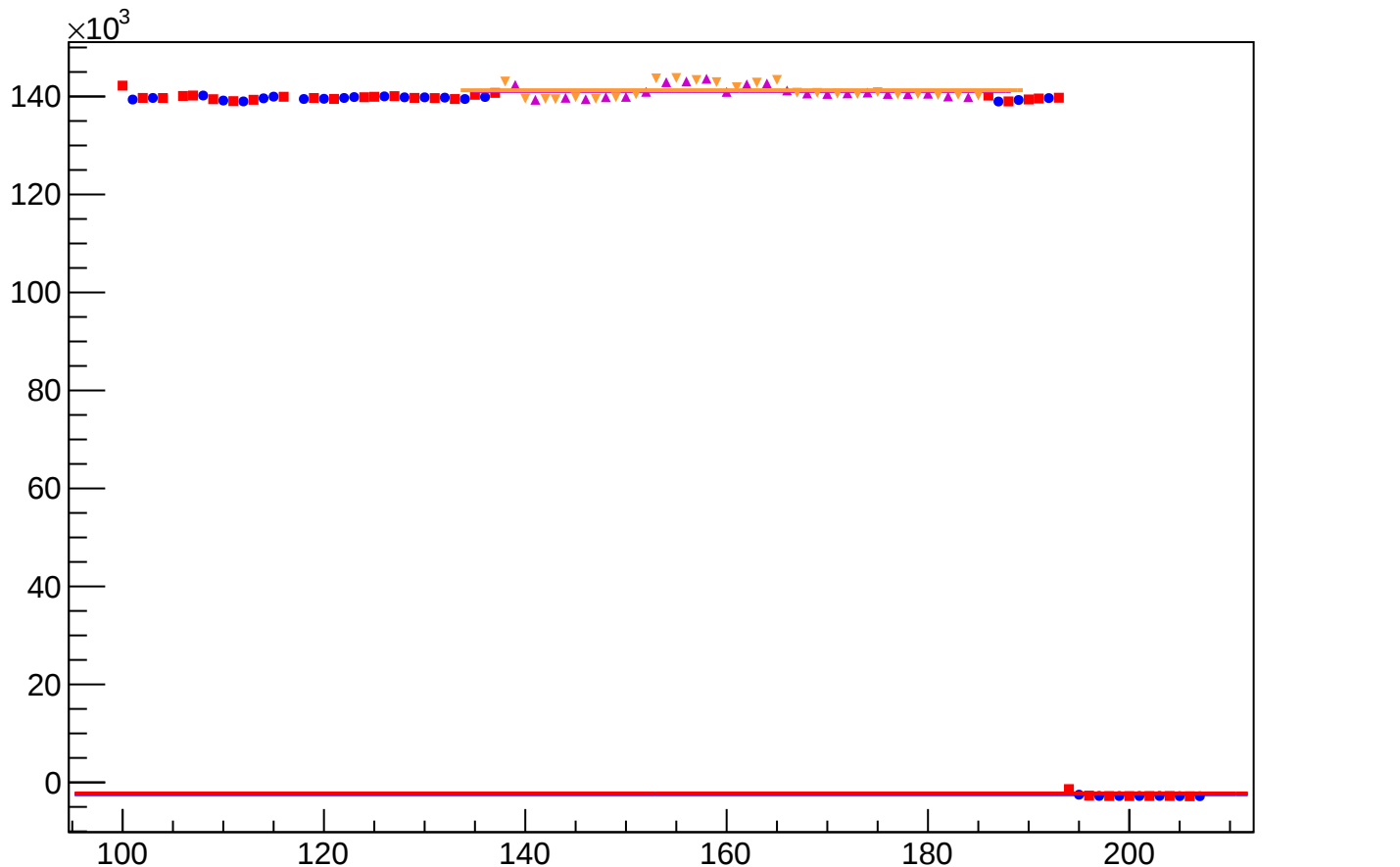
Right:  $7.336 \pm 0.002$   $\chi^2/\text{NDF}$ : 32364707.7/57

In:  $7.929 \pm 0.002$   $\chi^2/\text{NDF}$ : 46719044.4/49

Out:  $8.145 \pm 0.002$   $\chi^2/\text{NDF}$ : 51229839.1/55

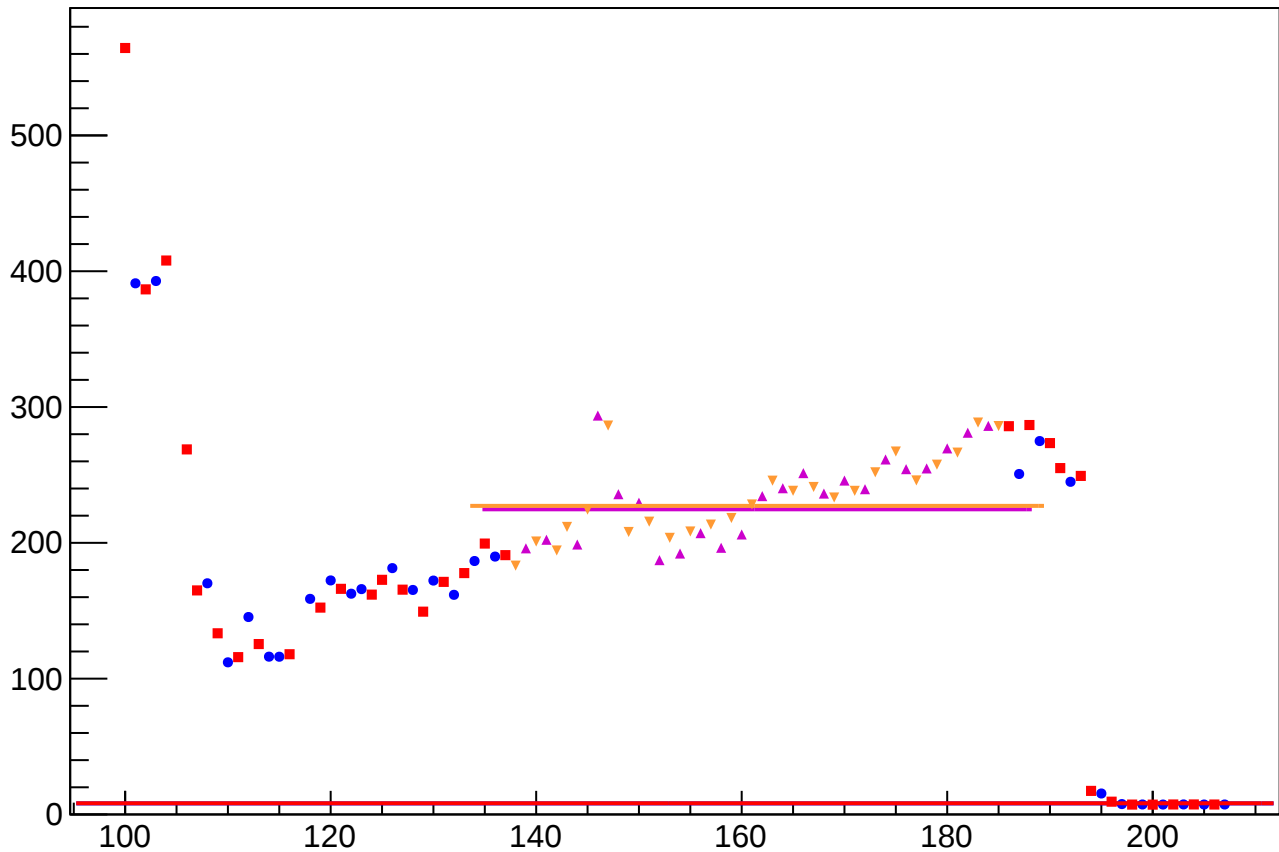
All:  $8.031 \pm 0.002$   $\chi^2/\text{NDF}$ : 97953956.9/105

# yield\_bpm0l09WS\_mean vs Slug, Sign Corrected



|                                  |                                   |                              |                                    |
|----------------------------------|-----------------------------------|------------------------------|------------------------------------|
| Right In: -2397.192 $\pm$ 0.003  | $\chi^2$ /NDF: 4864379516237.3/26 | Left: 141195.809 $\pm$ 0.038 | $\chi^2$ /NDF: 1365080862.2/24     |
| Left Out: 141268.791 $\pm$ 0.054 | $\chi^2$ /NDF: 795989244.2/24     | Right: -2332.790 $\pm$ 0.002 | $\chi^2$ /NDF: 1065211253296.2/24  |
| Right Out: -2259.952 $\pm$ 0.004 | $\chi^2$ /NDF: 5786927842728.5/30 | In: -1876.681 $\pm$ 0.003    | $\chi^2$ /NDF: 11670211184005.1/30 |
| Left In: 141119.484 $\pm$ 0.055  | $\chi^2$ /NDF: 565312728.1/22     | Out: -1644.644 $\pm$ 0.004   | $\chi^2$ /NDF: 12901167478439.1/24 |
|                                  |                                   | All: -1767.756 $\pm$ 0.002   | $\chi^2$ /NDF: 2457368951.1/24     |

# yield\_bpm0l09WS\_rms vs Slug, Sign Corrected



Right In: 8.128 $\pm$ 0.002  $\chi^2$ /NDF: 15070354.4/26

Left Out: 227.224 $\pm$ 0.038  $\chi^2$ /NDF:484955.3/24

Right Out: 8.232 $\pm$ 0.002  $\chi^2$ /NDF: 17484738.7/30

Left In: 224.686 $\pm$ 0.039  $\chi^2$ /NDF:578366.0/22

Left: 225.984 $\pm$ 0.027  $\chi^2$ /NDF: 1065504.5/47

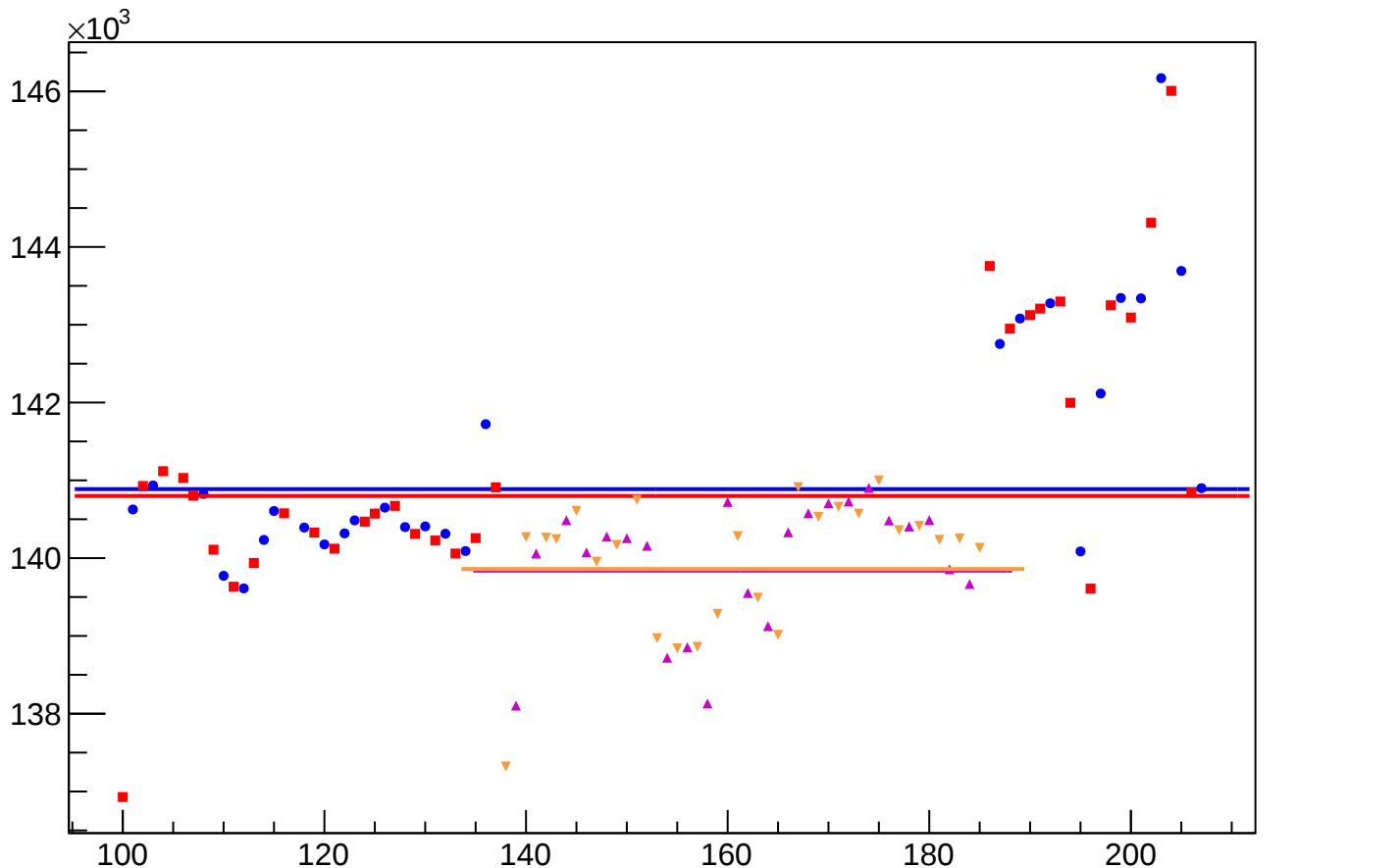
Right: 8.177 $\pm$ 0.002  $\chi^2$ /NDF: 32556029.1/57

In: 8.913 $\pm$ 0.002  $\chi^2$ /NDF:46638680.1/49

Out: 9.171 $\pm$ 0.002  $\chi^2$ /NDF:51089432.4/55

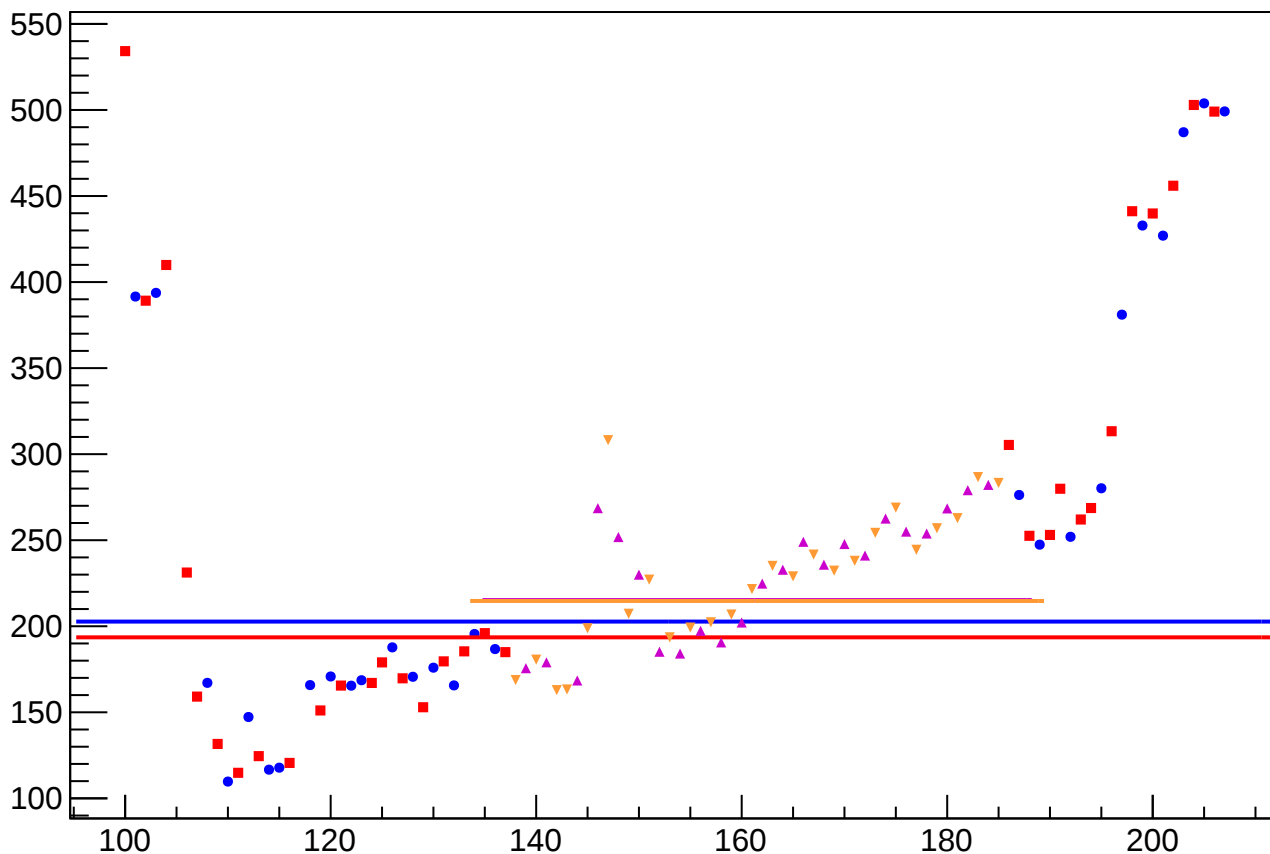
All: 9.034 $\pm$ 0.002  $\chi^2$ /NDF: 97733827.4/105

yield\_bpm0l10WS\_mean vs Slug, Sign Corrected



|                                   |                               |                               |                               |
|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Right In: 140887.283 $\pm$ 0.061  | $\chi^2$ /NDF: 428262225.1/26 | Left: 139849.553 $\pm$ 0.037  | $\chi^2$ /NDF: 609773442.9/47 |
| Left Out: 139859.696 $\pm$ 0.051  | $\chi^2$ /NDF: 330118281.5/24 | Right: 140839.175 $\pm$ 0.041 | $\chi^2$ /NDF: 933795429.5/5  |
| Right Out: 140798.926 $\pm$ 0.056 | $\chi^2$ /NDF: 504381324.3/30 | In: 140289.957 $\pm$ 0.040    | $\chi^2$ /NDF: 877561766.9/49 |
| Left In: 139838.724 $\pm$ 0.053   | $\chi^2$ /NDF: 279573689.3/22 | Out: 140290.049 $\pm$ 0.038   | $\chi^2$ /NDF: 989311988.2/55 |
|                                   |                               | All: 140290.005 $\pm$ 0.027   | $\chi^2$ /NDF: 186687375      |

# yield\_bpm0l10WS\_rms vs Slug, Sign Corrected



Right In: 202.715 $\pm$ 0.043  $\chi^2/\text{NDF}$ : 4809046.9/26

Left Out: 214.693 $\pm$ 0.036  $\chi^2/\text{NDF}$ : 981105.5/24

Right Out: 193.555 $\pm$ 0.039  $\chi^2/\text{NDF}$ : 5211992.3/30

Left In: 215.222 $\pm$ 0.037  $\chi^2/\text{NDF}$ : 881945.0/22

Left: 214.949 $\pm$ 0.026  $\chi^2/\text{NDF}$ : 1863154.2/47

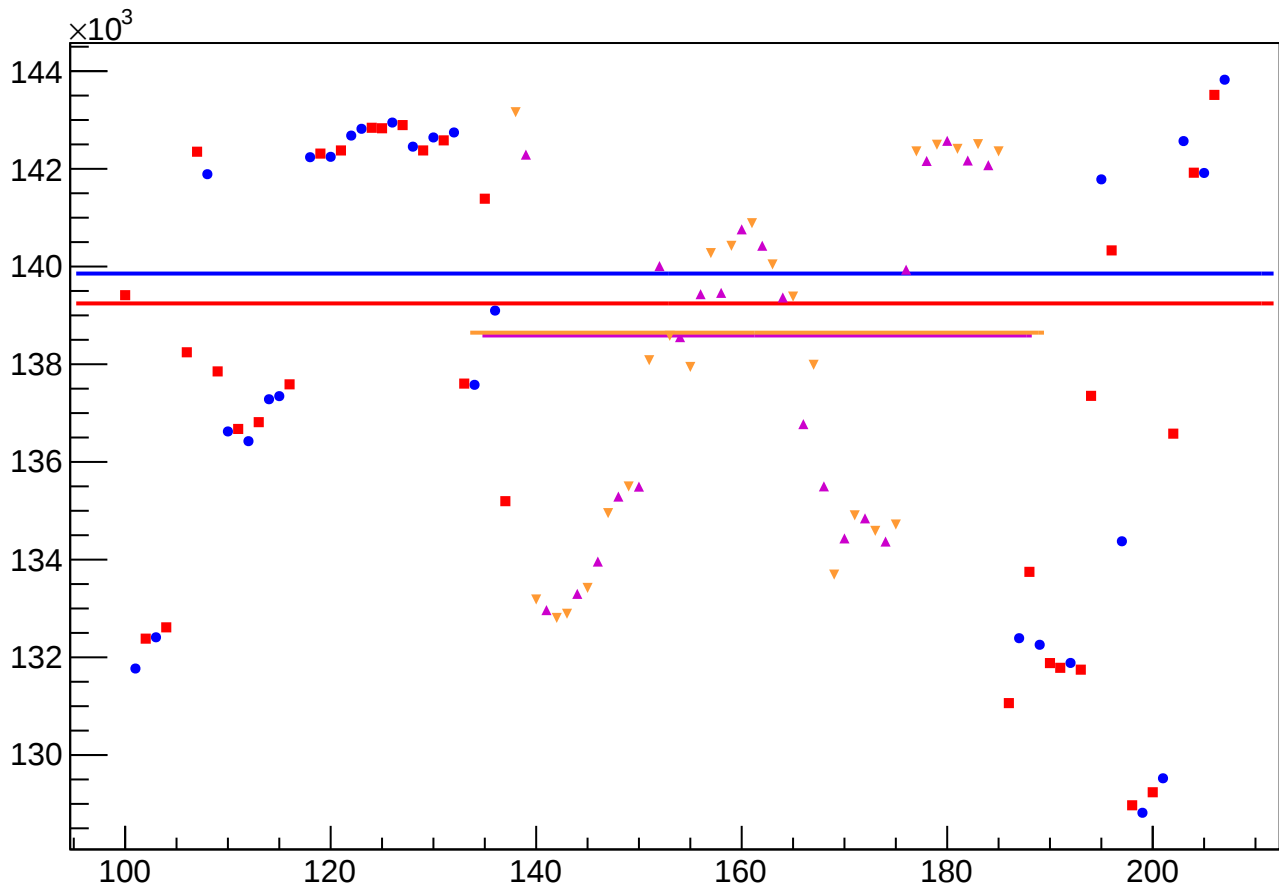
Right: 197.728 $\pm$ 0.029  $\chi^2/\text{NDF}$ : 10045798.0/57

In: 209.840 $\pm$ 0.028  $\chi^2/\text{NDF}$ : 5739285.2/49

Out: 205.007 $\pm$ 0.027  $\chi^2/\text{NDF}$ : 6349917.9/55

All: 207.284 $\pm$ 0.019  $\chi^2/\text{NDF}$ : 12104755.4/10

# yield\_bpm0r03WS\_mean vs Slug, Sign Corrected



Right In: 139856.376 $\pm$ 0.086

$\chi^2$ /NDF: 2228050739.1/26

Left: 138618.660 $\pm$ 0.051

$\chi^2$ /NDF: 4497021019.3/4

Left Out: 138646.366 $\pm$ 0.071

$\chi^2$ /NDF: 2548637600.4/24

Right: 139543.456 $\pm$ 0.060

$\chi^2$ /NDF: 4642277328.1/4

Right Out: 139244.852 $\pm$ 0.084

$\chi^2$ /NDF: 2388418147.3/30

In: 139124.394 $\pm$ 0.056

$\chi^2$ /NDF: 4301262758.3/49

Out: 138894.752 $\pm$ 0.054

$\chi^2$ /NDF: 4966669832.5/5

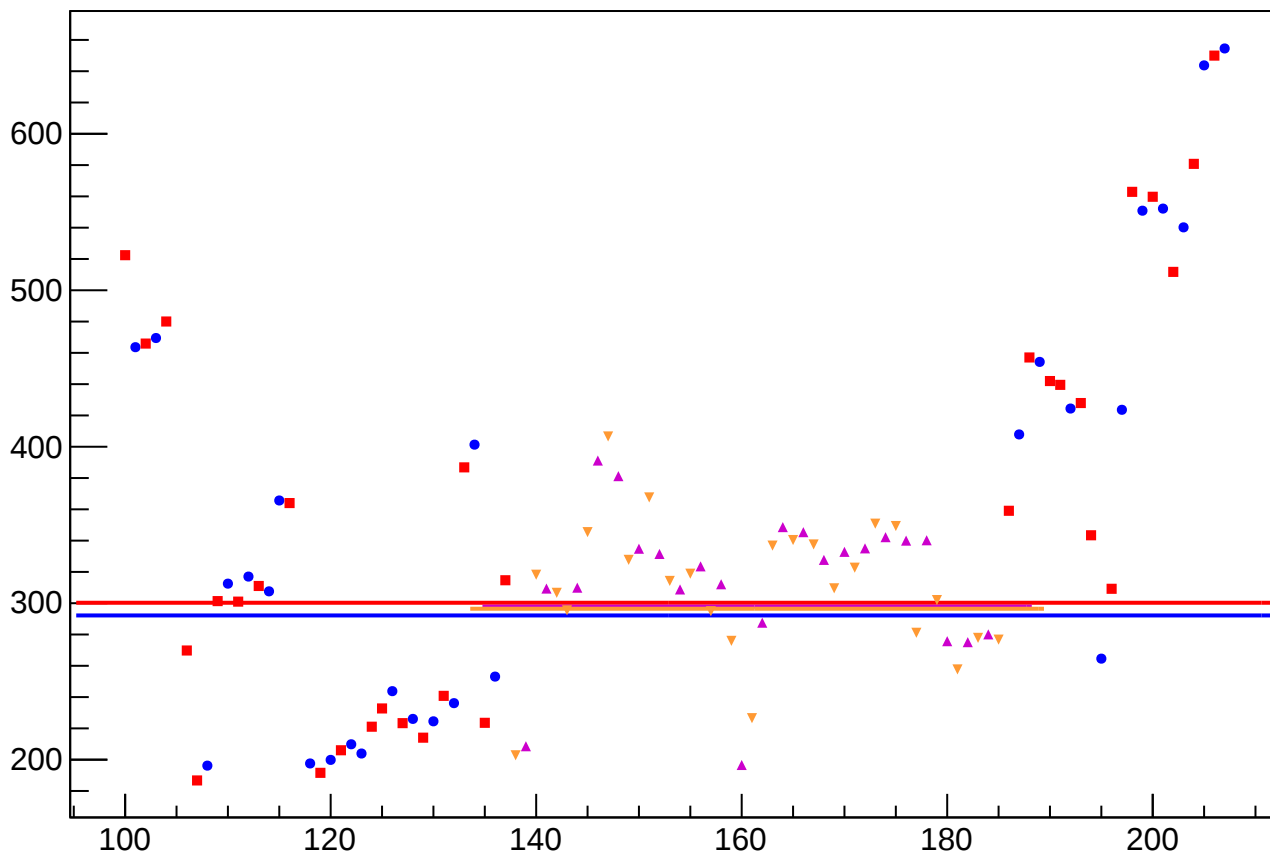
Left In: 138588.711 $\pm$ 0.074

$\chi^2$ /NDF: 1948065195.1/22

All: 139005.851 $\pm$ 0.039

$\chi^2$ /NDF: 927662092

# yield\_bpm0r03WS\_rms vs Slug, Sign Corrected



Right In: 292.180 $\pm$ 0.061  $\chi^2/\text{NDF}$ : 3796273.8/26

Left Out: 296.464 $\pm$ 0.050  $\chi^2/\text{NDF}$ : 893579.7/24

Right Out: 300.288 $\pm$ 0.059  $\chi^2/\text{NDF}$ : 3789937.0/30

Left In: 297.774 $\pm$ 0.052  $\chi^2/\text{NDF}$ : 1061489.5/22

Left: 297.094 $\pm$ 0.036  $\chi^2/\text{NDF}$ : 1955397.8/47

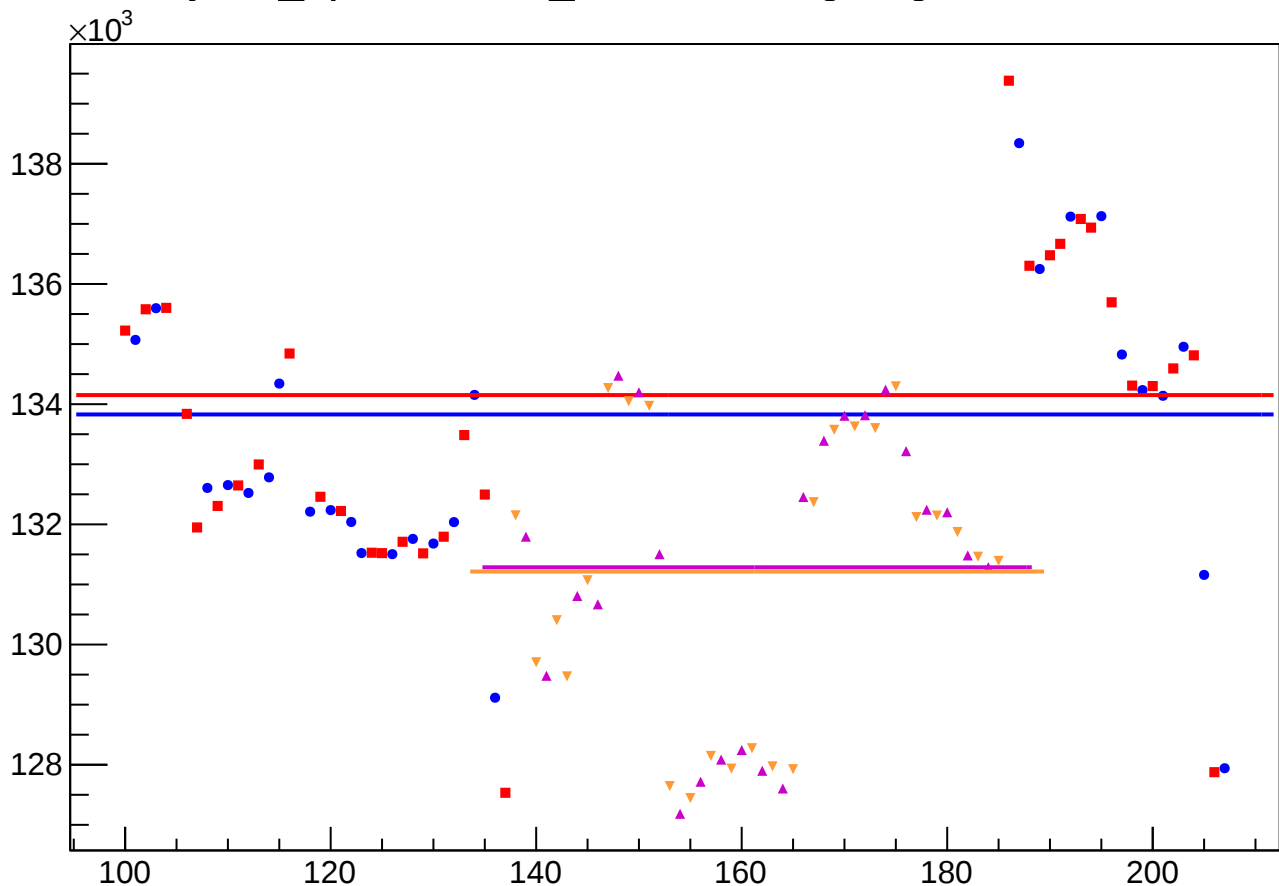
Right: 296.329 $\pm$ 0.043  $\chi^2/\text{NDF}$ : 7595284.0/57

In: 295.410 $\pm$ 0.040  $\chi^2/\text{NDF}$ : 4862637.6/49

Out: 298.051 $\pm$ 0.038  $\chi^2/\text{NDF}$ : 4685934.0/55

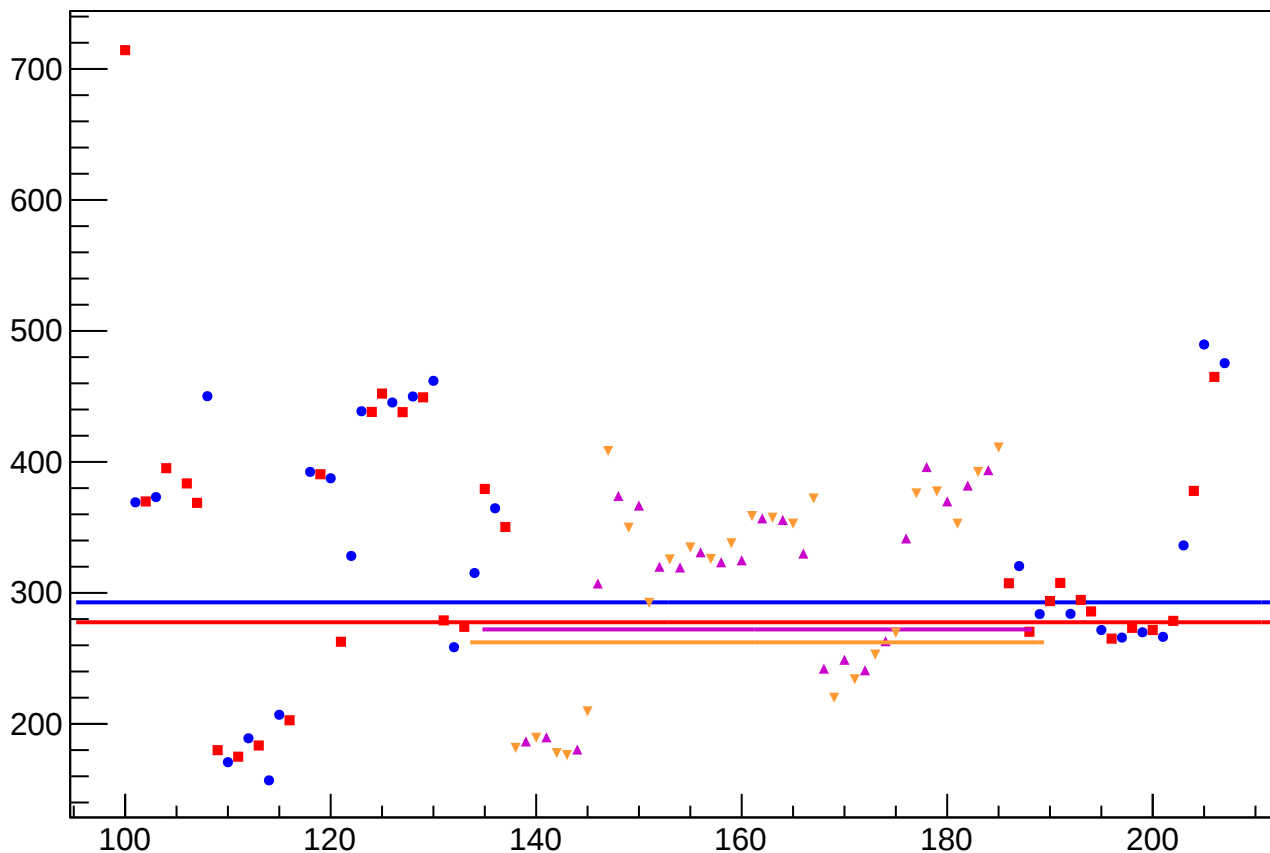
All: 296.774 $\pm$ 0.028  $\chi^2/\text{NDF}$ : 9550869.7/105

yield\_bpm0r05WS\_mean vs Slug, Sign Corrected



Right In: 133828.969 $\pm$ 0.083  $\chi^2$ /NDF: 756574262.2/26  
 Left Out: 131214.985 $\pm$ 0.064  $\chi^2$ /NDF: 1173424494.6/24  
 Right Out: 134151.254 $\pm$ 0.075  $\chi^2$ /NDF: 850136732.5/30  
 Left In: 131285.623 $\pm$ 0.068  $\chi^2$ /NDF: 1056232192.1/22  
 Left: 131248.166 $\pm$ 0.047  $\chi^2$ /NDF: 2230223308.9/4  
 Right: 134005.466 $\pm$ 0.056  $\chi^2$ /NDF: 1615017886.2/4  
 In: 132316.826 $\pm$ 0.053  $\chi^2$ /NDF: 2374449864.4/49  
 Out: 132455.293 $\pm$ 0.049  $\chi^2$ /NDF: 2903978368.4/5  
 All: 132391.248 $\pm$ 0.036  $\chi^2$ /NDF: 528213996

# yield\_bpm0r05WS\_rms vs Slug, Sign Corrected



Right In: 292.807 $\pm$ 0.059  $\chi^2$ /NDF: 2107974.9/26

Left Out: 262.260 $\pm$ 0.045  $\chi^2$ /NDF:2818169.1/24

Right Out: 277.602 $\pm$ 0.053  $\chi^2$ /NDF: 2082464.5/30

Left In: 272.115 $\pm$ 0.048  $\chi^2$ /NDF:2221925.0/22

Left: 266.889 $\pm$ 0.033  $\chi^2$ /NDF: 5062151.8/47

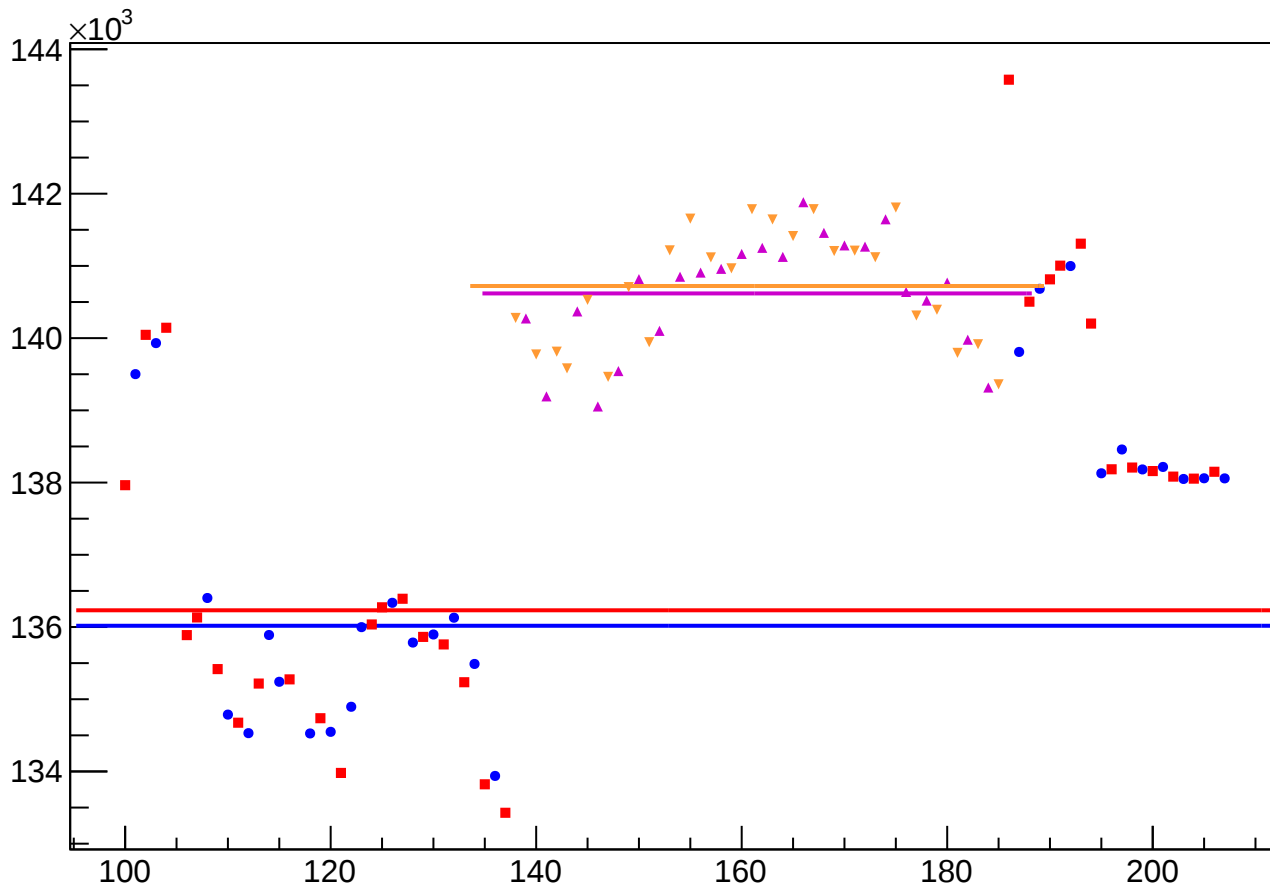
Right: 284.480 $\pm$ 0.039  $\chi^2$ /NDF: 4227422.9/57

In: 280.505 $\pm$ 0.037  $\chi^2$ /NDF:4404255.3/49

Out: 268.740 $\pm$ 0.035  $\chi^2$ /NDF:4948705.0/55

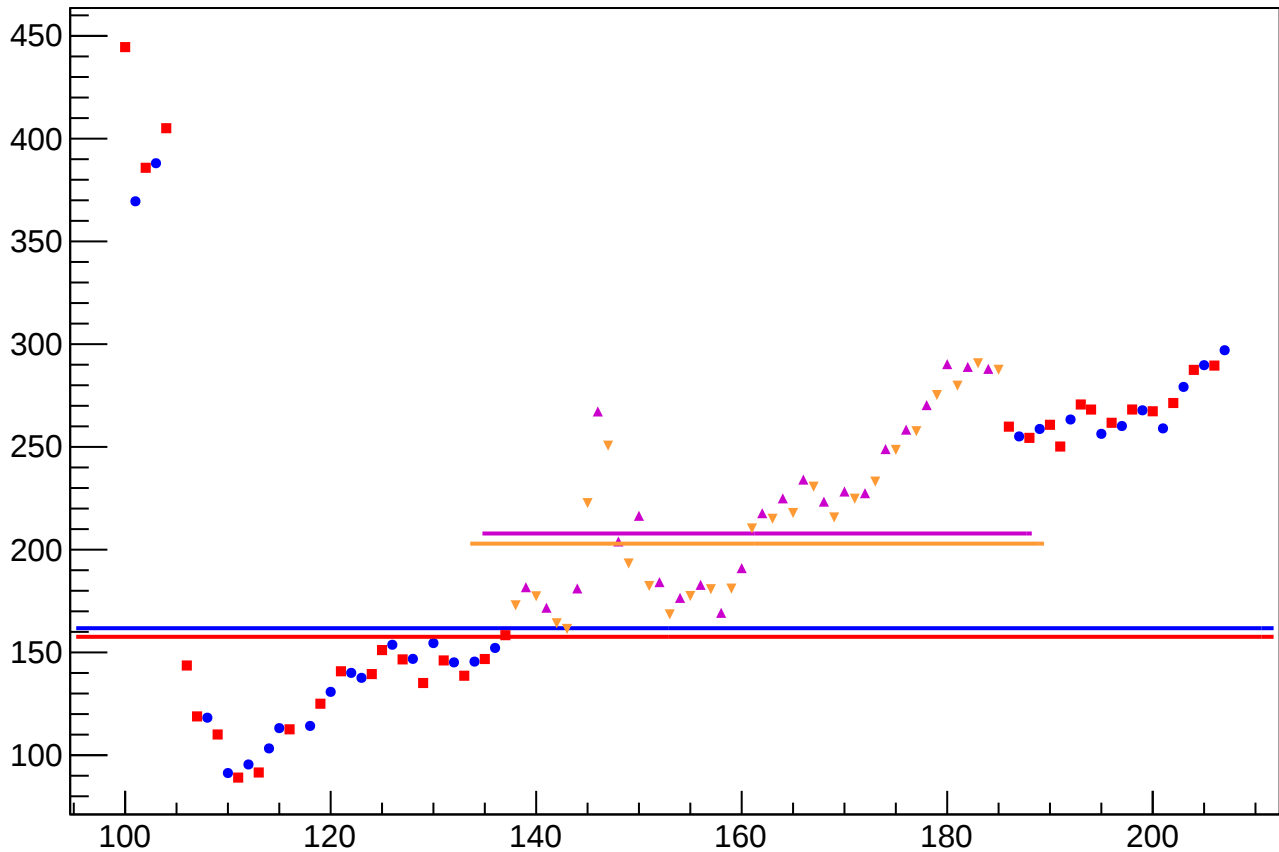
All: 274.182 $\pm$ 0.025  $\chi^2$ /NDF: 9406545.7/105

yield\_bpm0i02WS\_mean vs Slug, Sign Corrected



Right In: 136017.311 $\pm$ 0.048  $\chi^2$ /NDF: 1452994449.9/26  
 Left Out: 140721.823 $\pm$ 0.048  $\chi^2$ /NDF: 247257762.8/24  
 Right Out: 136231.580 $\pm$ 0.045  $\chi^2$ /NDF: 2095561785.8/30  
 Left In: 140619.038 $\pm$ 0.051  $\chi^2$ /NDF: 200370178.0/22  
 Left: 140673.196 $\pm$ 0.035  $\chi^2$ /NDF: 449761004.9/47  
 Right: 136130.966 $\pm$ 0.033  $\chi^2$ /NDF: 3559173815.6/47  
 In: 138169.841 $\pm$ 0.035  $\chi^2$ /NDF: 5972033473.8/49  
 Out: 138316.149 $\pm$ 0.033  $\chi^2$ /NDF: 6952793419.0/50  
 All: 138247.207 $\pm$ 0.024  $\chi^2$ /NDF: 129340994.0/100

# yield\_bpm0i02WS\_rms vs Slug, Sign Corrected



Right In: 161.789 $\pm$ 0.034  $\chi^2$ /NDF: 4339692.1/26

Left Out: 202.934 $\pm$ 0.034  $\chi^2$ /NDF:1052283.6/24

Right Out: 157.593 $\pm$ 0.032  $\chi^2$ /NDF: 4953100.1/30

Left In: 207.872 $\pm$ 0.036  $\chi^2$ /NDF:949200.3/22

Left: 205.270 $\pm$ 0.025  $\chi^2$ /NDF: 2011329.4/47

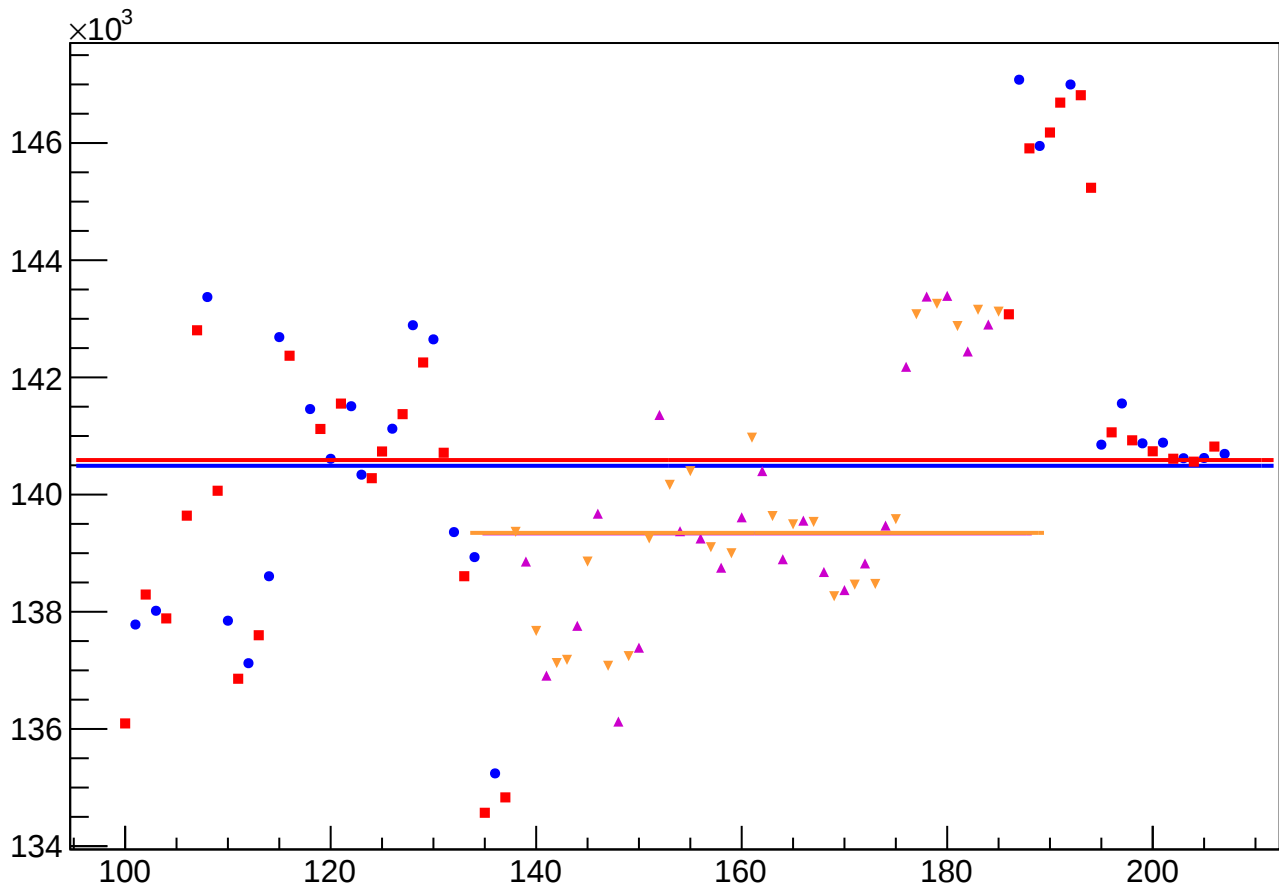
Right: 159.563 $\pm$ 0.023  $\chi^2$ /NDF: 9300935.6/57

In: 183.345 $\pm$ 0.025  $\chi^2$ /NDF:6155089.5/49

Out: 178.642 $\pm$ 0.023  $\chi^2$ /NDF:6945476.0/55

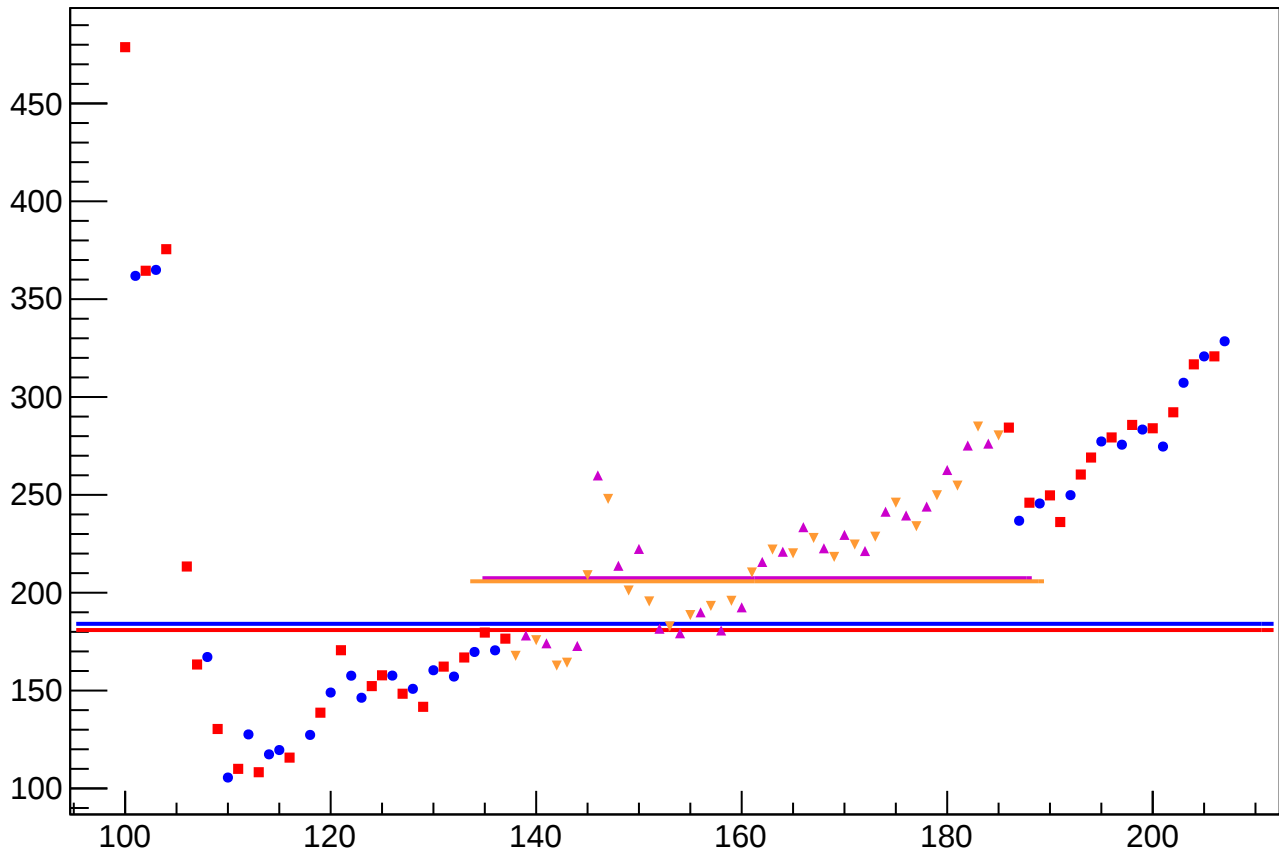
All: 180.858 $\pm$ 0.017  $\chi^2$ /NDF: 13119724.6/100

yield\_bpm0i02aWS\_mean vs Slug, Sign Corrected



|                               |                                       |                           |                                       |
|-------------------------------|---------------------------------------|---------------------------|---------------------------------------|
| Right In: 140491.390+/-0.053  | $\chi^2/\text{NDF}$ : 2771450196.8/26 | Left: 139342.403+/-0.035  | $\chi^2/\text{NDF}$ : 2564192227.9/4  |
| Left Out: 139346.604+/-0.049  | $\chi^2/\text{NDF}$ : 1271172976.7/24 | Right: 140543.047+/-0.037 | $\chi^2/\text{NDF}$ : 5984998726.1/4  |
| Right Out: 140589.375+/-0.051 | $\chi^2/\text{NDF}$ : 3211778118.5/30 | In: 139885.557+/-0.037    | $\chi^2/\text{NDF}$ : 4308888842.8/49 |
| Left In: 139337.874+/-0.051   | $\chi^2/\text{NDF}$ : 1293003954.9/22 | Out: 139947.138+/-0.035   | $\chi^2/\text{NDF}$ : 4794233830.1/5  |
|                               |                                       | All: 139917.752+/-0.025   | $\chi^2/\text{NDF}$ : 910458322.1/10  |

# yield\_bpm0i02aWS\_rms vs Slug, Sign Corrected



Right In: 184.102 $\pm$ 0.038  $\chi^2$ /NDF: 3421859.0/26

Left Out: 205.833 $\pm$ 0.035  $\chi^2$ /NDF: 738666.4/24

Right Out: 180.926 $\pm$ 0.036  $\chi^2$ /NDF: 3880995.7/30

Left In: 207.416 $\pm$ 0.036  $\chi^2$ /NDF: 701955.3/22

Left: 206.595 $\pm$ 0.025  $\chi^2$ /NDF: 1441628.2/47

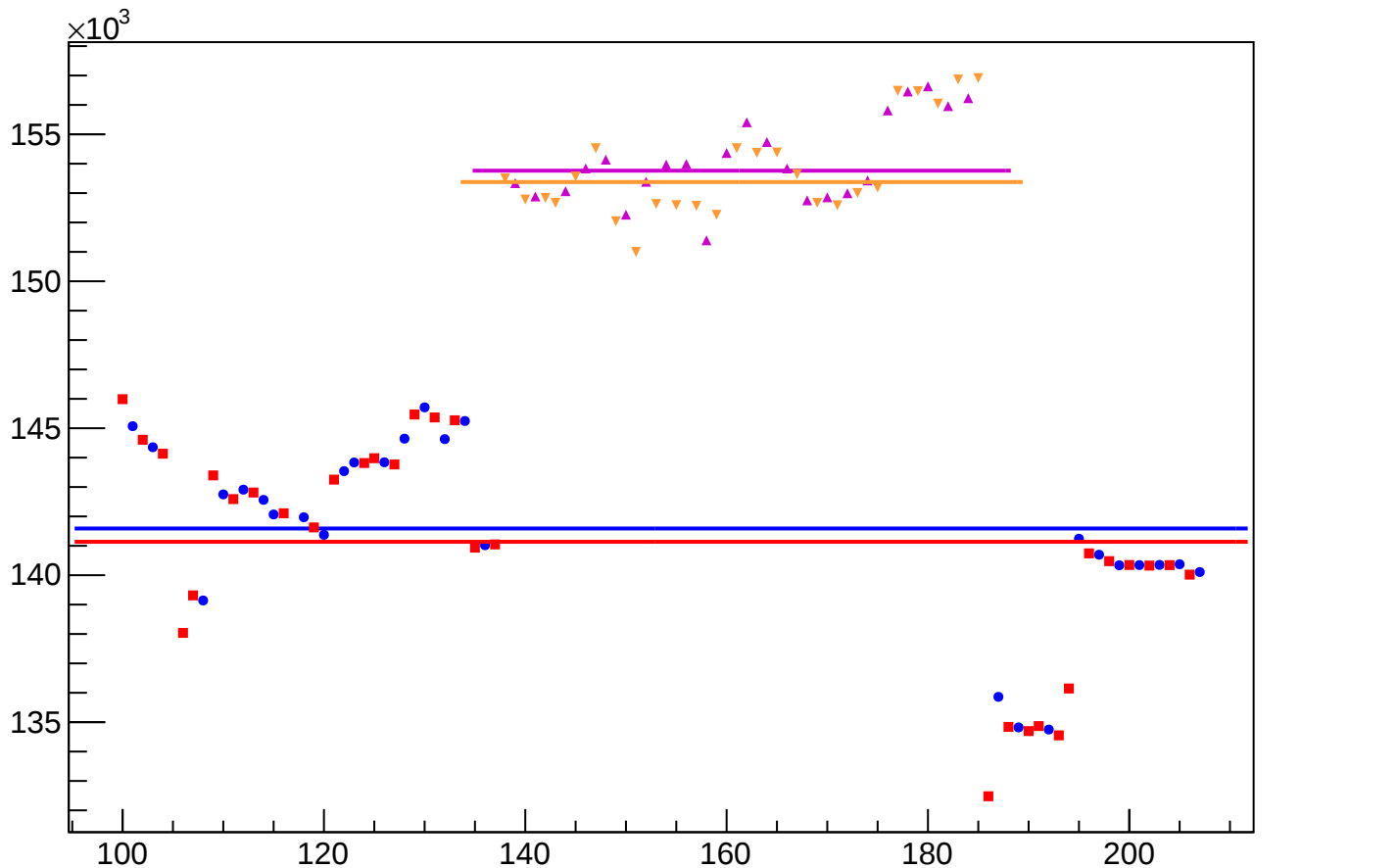
Right: 182.428 $\pm$ 0.026  $\chi^2$ /NDF: 7306576.7/57

In: 196.347 $\pm$ 0.026  $\chi^2$ /NDF: 4323511.8/49

Out: 193.797 $\pm$ 0.025  $\chi^2$ /NDF: 4869728.2/55

All: 195.014 $\pm$ 0.018  $\chi^2$ /NDF: 9198248.3/105

yield\_bpm0i05WS\_mean vs Slug, Sign Corrected



Right In: 141588.907 $\pm$ 0.054

$\chi^2$ /NDF: 2693907278.5/26

Left: 153562.262 $\pm$ 0.036

$\chi^2$ /NDF: 1468093411.3/4

Right: 141345.428 $\pm$ 0.037

$\chi^2$ /NDF: 7161930024.1/4

Left Out: 153376.698 $\pm$ 0.050

$\chi^2$ /NDF: 803848095.1/24

In: 147954.852 $\pm$ 0.037

$\chi^2$ /NDF: 30040501733.9/4

Right Out: 141136.139 $\pm$ 0.050

$\chi^2$ /NDF: 4430025122.1/30

Out: 147305.934 $\pm$ 0.035

$\chi^2$ /NDF: 35517402584.5/4

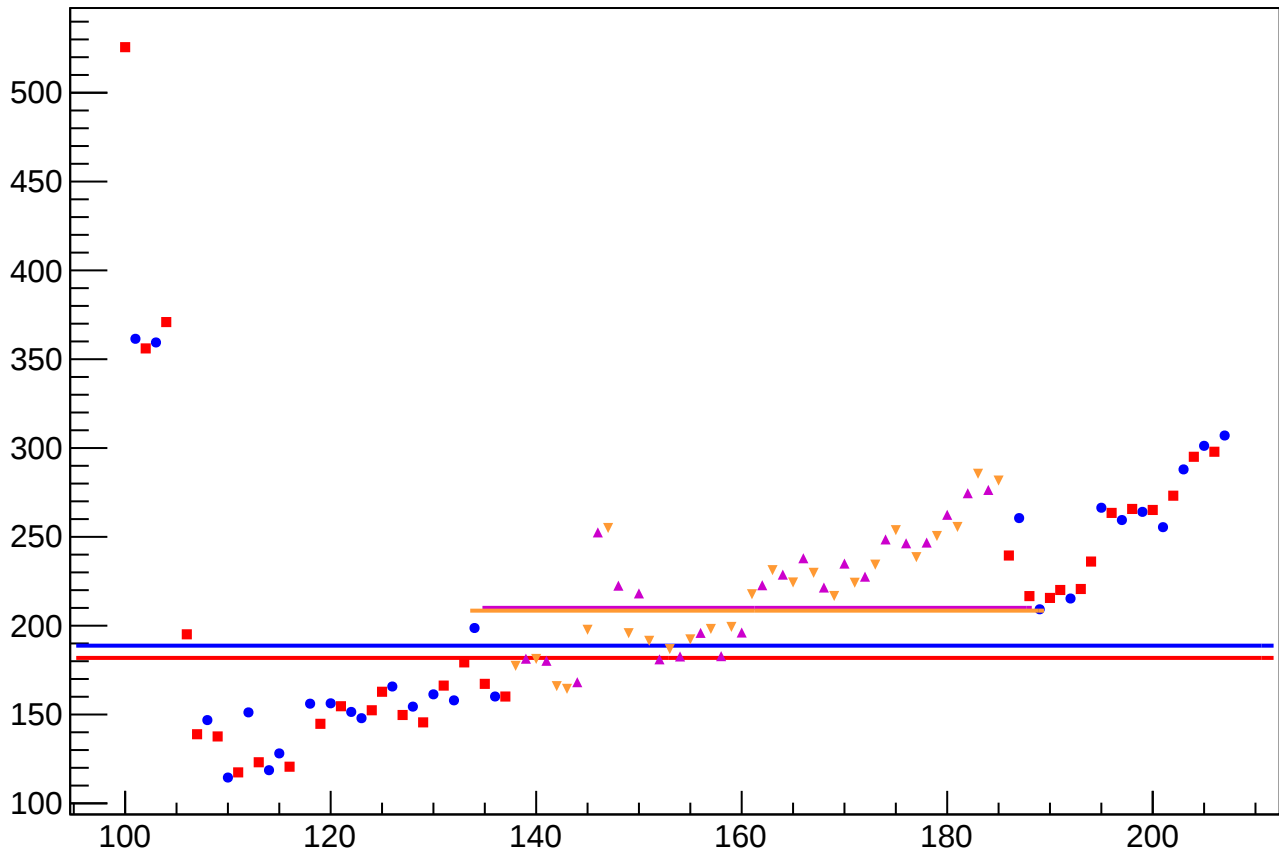
Left In: 153762.419 $\pm$ 0.051

$\chi^2$ /NDF: 635075685.0/22

All: 147612.164 $\pm$ 0.026

$\chi^2$ /NDF: 657185724.1/4

# yield\_bpm0i05WS\_rms vs Slug, Sign Corrected



Right In: 188.757 $\pm$ 0.038  $\chi^2$ /NDF: 2540552.7/26

Left Out: 208.466 $\pm$ 0.035  $\chi^2$ /NDF: 720894.7/24

Right Out: 181.863 $\pm$ 0.035  $\chi^2$ /NDF: 2851834.0/30

Left In: 210.038 $\pm$ 0.036  $\chi^2$ /NDF: 702369.5/22

Left: 209.222 $\pm$ 0.025  $\chi^2$ /NDF: 1424233.1/47

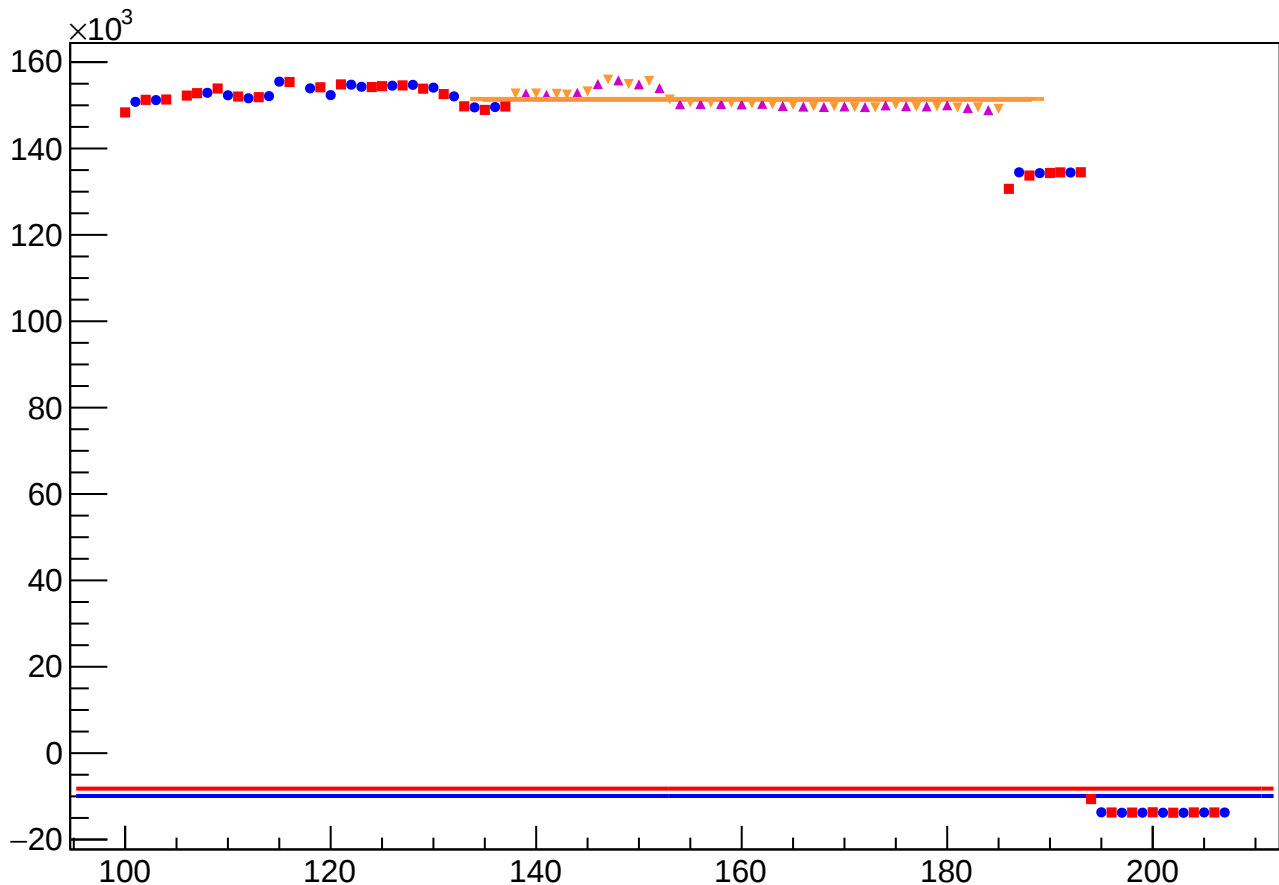
Right: 185.049 $\pm$ 0.026  $\chi^2$ /NDF: 5410003.8/57

In: 199.885 $\pm$ 0.026  $\chi^2$ /NDF: 3406185.9/49

Out: 195.272 $\pm$ 0.025  $\chi^2$ /NDF: 3858812.7/55

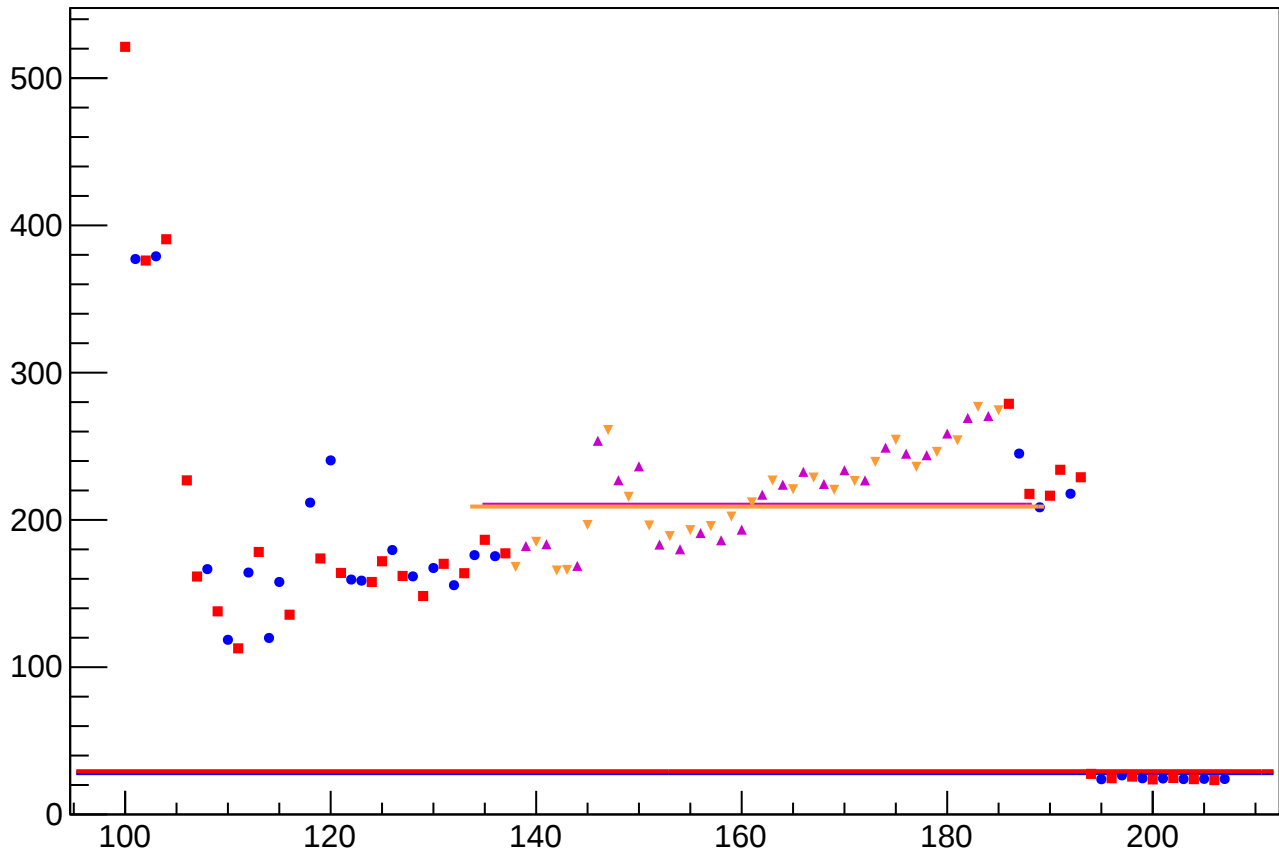
All: 197.449 $\pm$ 0.018  $\chi^2$ /NDF: 7281238.9/105

# yield\_bpm0i07WS\_mean vs Slug, Sign Corrected



|                                  |                                   |                              |                                 |
|----------------------------------|-----------------------------------|------------------------------|---------------------------------|
| Right In: -9919.764 $\pm$ 0.010  | $\chi^2$ /NDF: 5872740631013.9/26 | Left: 151425.512 $\pm$ 0.036 | $\chi^2$ /NDF: 2906409079.9/4   |
| Left Out: 151483.385 $\pm$ 0.050 | $\chi^2$ /NDF: 1481910066.9/24    | Right: -9116.980 $\pm$ 0.007 | $\chi^2$ /NDF: 1301854749562    |
| Right Out: -8211.852 $\pm$ 0.011 | $\chi^2$ /NDF: 7132715559341.8/30 | In: -3770.224 $\pm$ 0.010    | $\chi^2$ /NDF: 15344157651052.8 |
| Left In: 151363.165 $\pm$ 0.051  | $\chi^2$ /NDF: 1421662089.0/22    | Out: -875.886 $\pm$ 0.011    | $\chi^2$ /NDF: 17055230458288.8 |
|                                  |                                   | All: -2403.896 $\pm$ 0.007   | $\chi^2$ /NDF: 3243864410       |

# yield\_bpm0i07WS\_rms vs Slug, Sign Corrected



Right In:  $28.062 \pm 0.007$   $\chi^2/\text{NDF}: 11542859.9/26$

Left Out:  $209.076 \pm 0.035$   $\chi^2/\text{NDF}: 708260.3/24$

Right Out:  $29.374 \pm 0.008$   $\chi^2/\text{NDF}: 13463371.6/30$

Left In:  $210.345 \pm 0.036$   $\chi^2/\text{NDF}: 677747.7/22$

Left:  $209.687 \pm 0.025$   $\chi^2/\text{NDF}: 1386640.1/47$

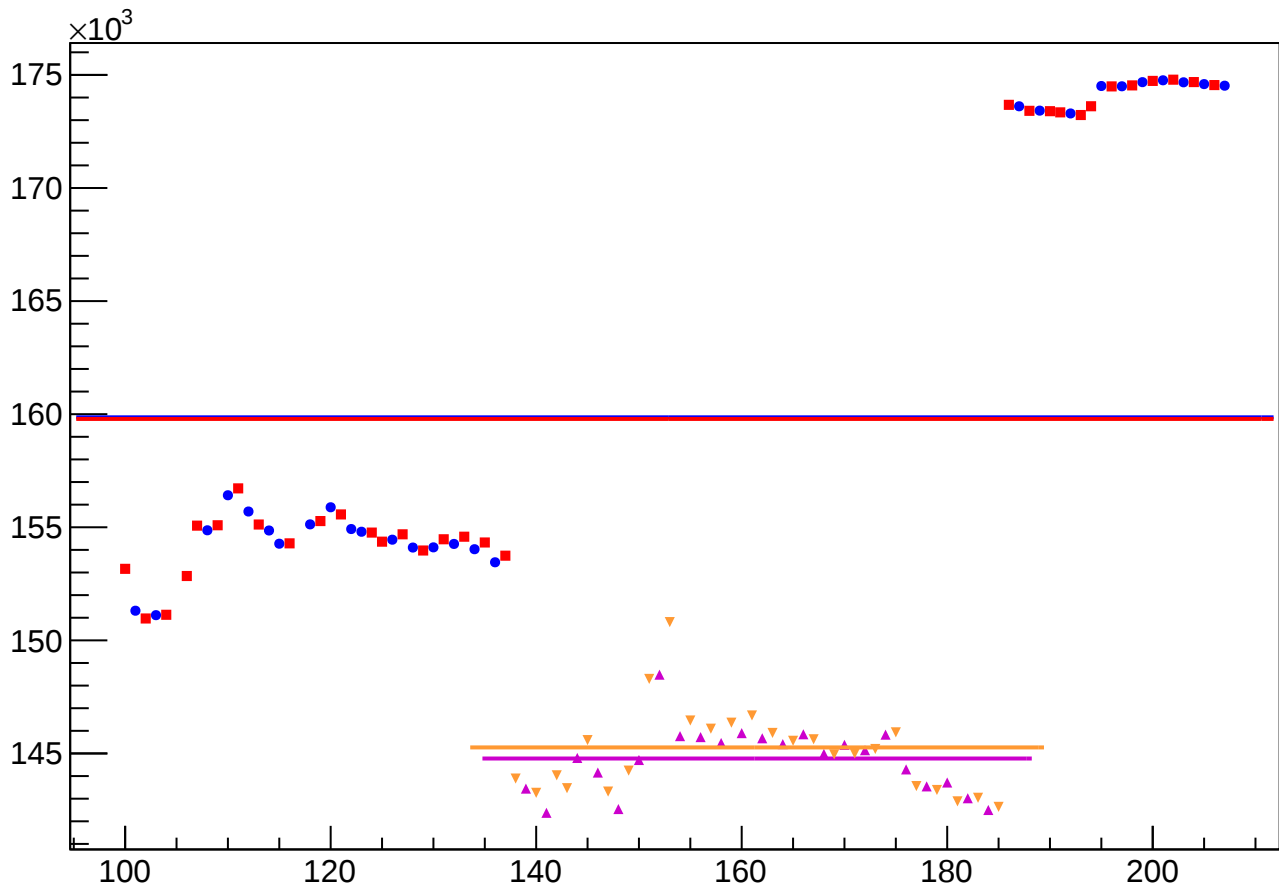
Right:  $28.679 \pm 0.005$   $\chi^2/\text{NDF}: 25021673.3/57$

In:  $35.012 \pm 0.007$   $\chi^2/\text{NDF}: 36413820.7/49$

Out:  $37.629 \pm 0.008$   $\chi^2/\text{NDF}: 39296828.6/55$

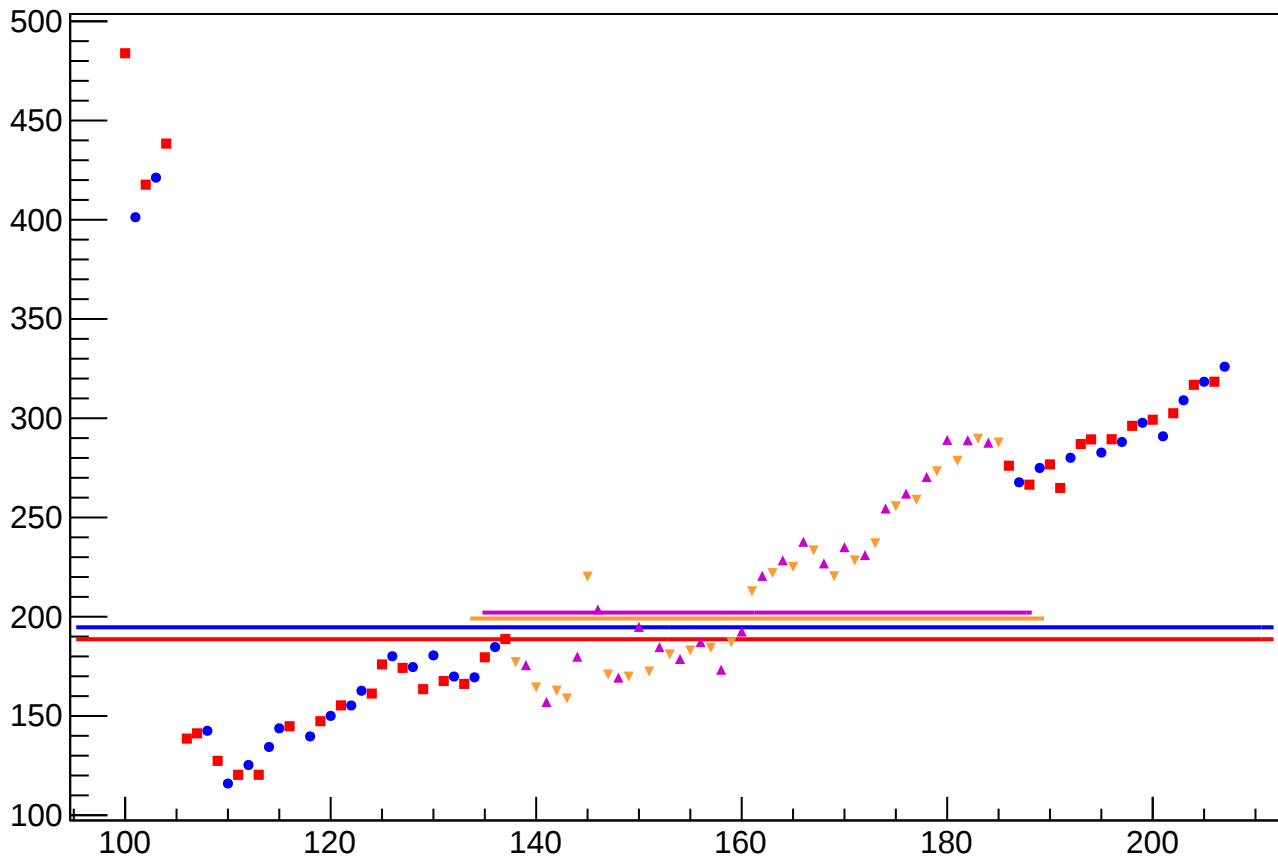
All:  $36.248 \pm 0.005$   $\chi^2/\text{NDF}: 75774807.1/105$

# yield\_bpm1i02WS\_mean vs Slug, Sign Corrected



|                                   |                                 |                               |                                |
|-----------------------------------|---------------------------------|-------------------------------|--------------------------------|
| Right In: 159860.858 $\pm$ 0.056  | $\chi^2$ /NDF: 23403456470.1/26 | Left: 145032.324 $\pm$ 0.034  | $\chi^2$ /NDF: 2687033506.0/4  |
| Left Out: 145266.717 $\pm$ 0.047  | $\chi^2$ /NDF: 1717707352.7/24  | Right: 159823.083 $\pm$ 0.038 | $\chi^2$ /NDF: 49505107917.4   |
| Right Out: 159790.320 $\pm$ 0.052 | $\chi^2$ /NDF: 26100811442.6/30 | In: 151359.033 $\pm$ 0.037    | $\chi^2$ /NDF: 64751894977.6/4 |
| Left In: 144776.016 $\pm$ 0.050   | $\chi^2$ /NDF: 918120275.4/22   | Out: 151794.534 $\pm$ 0.035   | $\chi^2$ /NDF: 70027144361.5   |
|                                   |                                 | All: 151589.055 $\pm$ 0.026   | $\chi^2$ /NDF: 134851404       |

# yield\_bpm1i02WS\_rms vs Slug, Sign Corrected



Right In: 194.684 $\pm$ 0.040  $\chi^2$ /NDF: 3402834.4/26

Left Out: 199.118 $\pm$ 0.034  $\chi^2$ /NDF:1152231.0/24

Right Out: 188.658 $\pm$ 0.037  $\chi^2$ /NDF: 3881903.5/30

Left In: 202.090 $\pm$ 0.035  $\chi^2$ /NDF:1057833.2/22

Left: 200.538 $\pm$ 0.024  $\chi^2$ /NDF: 2213821.5/47

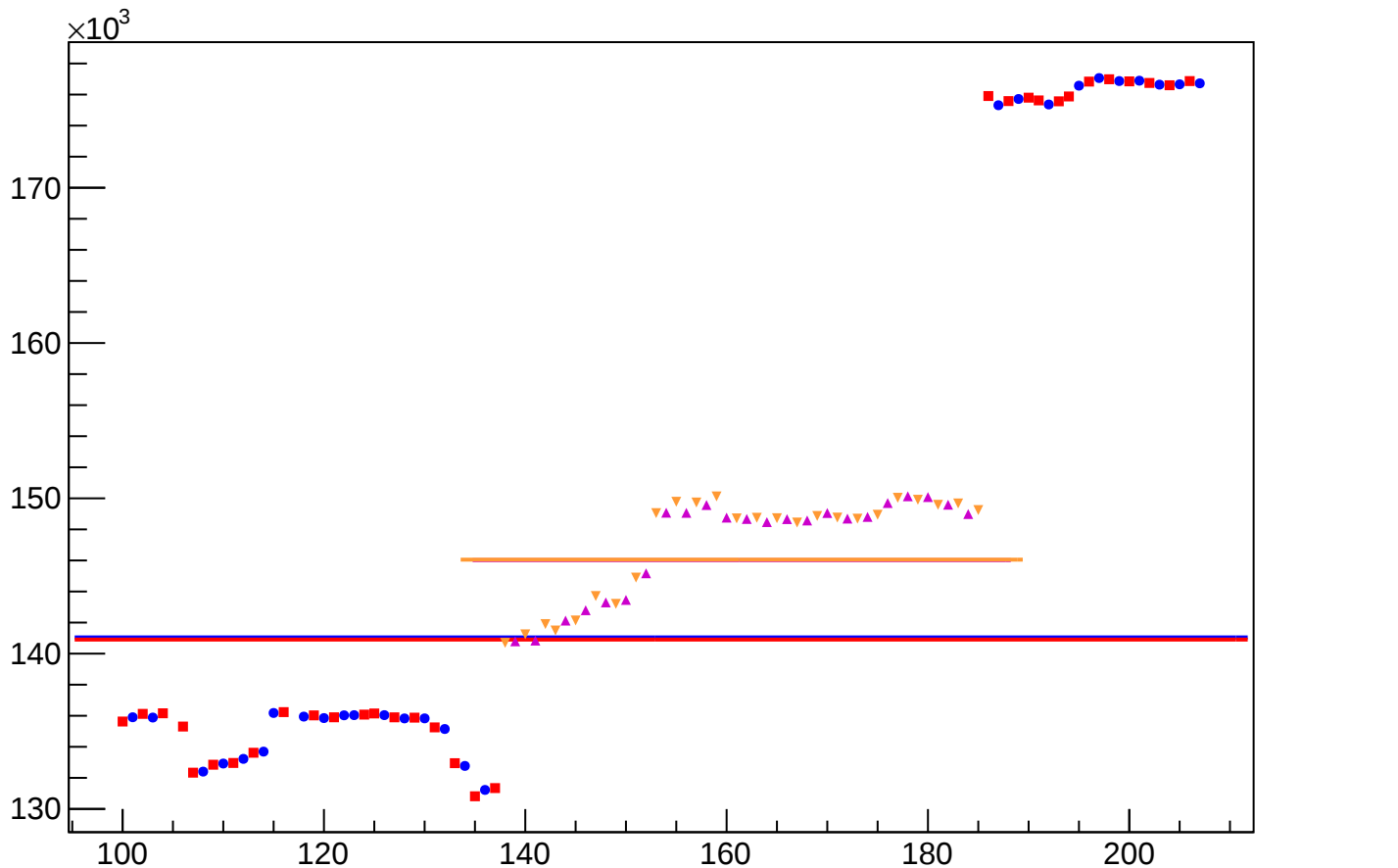
Right: 191.457 $\pm$ 0.027  $\chi^2$ /NDF: 7296999.9/57

In: 198.858 $\pm$ 0.026  $\chi^2$ /NDF:4480157.4/49

Out: 194.417 $\pm$ 0.025  $\chi^2$ /NDF:5077921.0/55

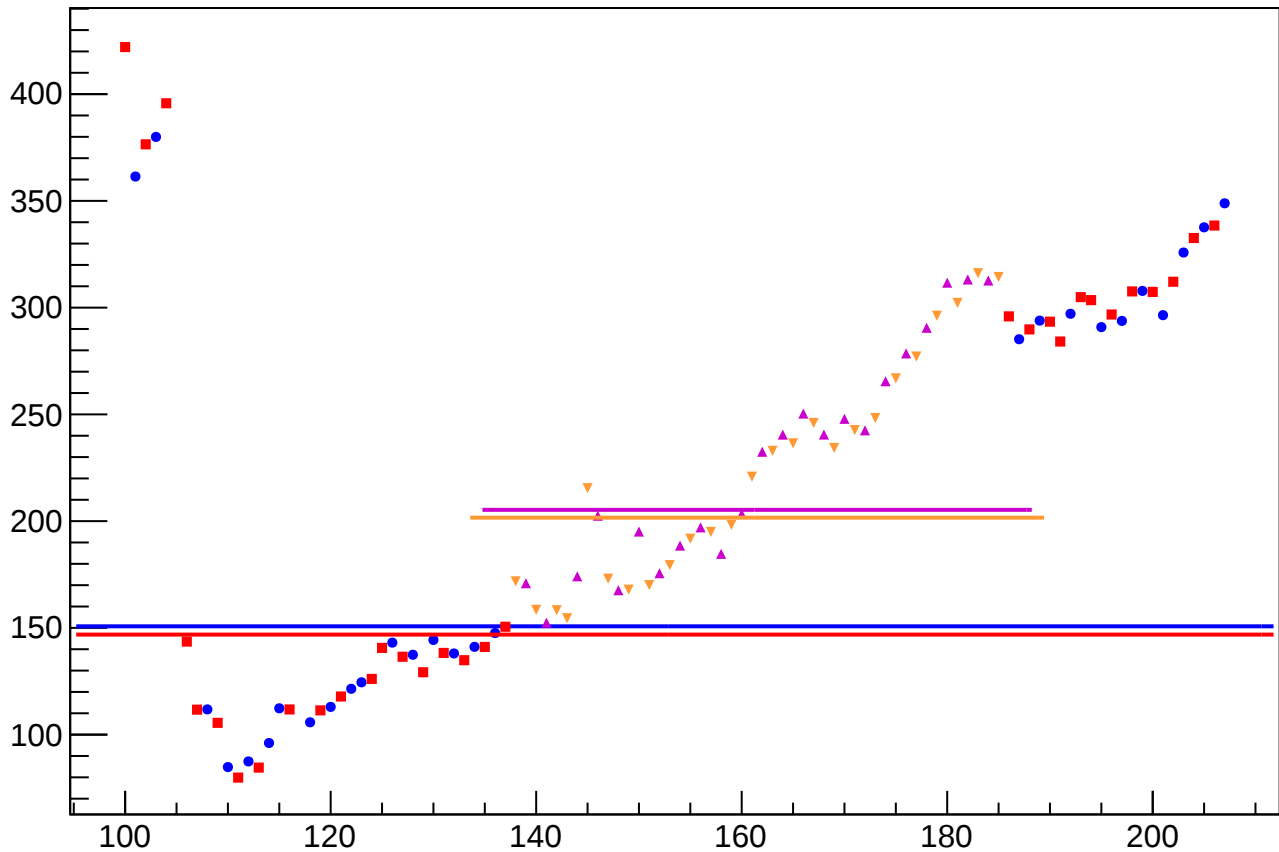
All: 196.512 $\pm$ 0.018  $\chi^2$ /NDF: 9573132.9/105

# yield\_bpm1i04WS\_mean vs Slug, Sign Corrected



|                               |                                         |                           |                                         |
|-------------------------------|-----------------------------------------|---------------------------|-----------------------------------------|
| Right In: 141046.321+/-0.046  | $\chi^2/\text{NDF}$ : 113235353398.7/26 | Left: 146036.626+/-0.035  | $\chi^2/\text{NDF}$ : 9994930852.8/26   |
| Left Out: 146051.733+/-0.048  | $\chi^2/\text{NDF}$ : 5403300123.1/24   | Right: 140971.527+/-0.032 | $\chi^2/\text{NDF}$ : 240921900819.7/24 |
| Right Out: 140905.349+/-0.043 | $\chi^2/\text{NDF}$ : 127681605240.7/30 | In: 143304.399+/-0.034    | $\chi^2/\text{NDF}$ : 123091105773.6/30 |
| Left In: 146020.015+/-0.051   | $\chi^2/\text{NDF}$ : 4591425371.4/22   | Out: 143206.887+/-0.032   | $\chi^2/\text{NDF}$ : 139359575505.7/22 |
|                               |                                         | All: 143252.964+/-0.023   | $\chi^2/\text{NDF}$ : 262454987.7/23    |

# yield\_bpm1i04WS\_rms vs Slug, Sign Corrected



Right In: 150.734 $\pm$ 0.033  $\chi^2$ /NDF: 5946088.9/26

Left Out: 201.632 $\pm$ 0.034  $\chi^2$ /NDF:1589564.0/24

Right Out: 146.856 $\pm$ 0.031  $\chi^2$ /NDF: 6719193.4/30

Left In: 205.286 $\pm$ 0.036  $\chi^2$ /NDF:1425292.7/22

Left: 203.372 $\pm$ 0.025  $\chi^2$ /NDF: 3020309.5/47

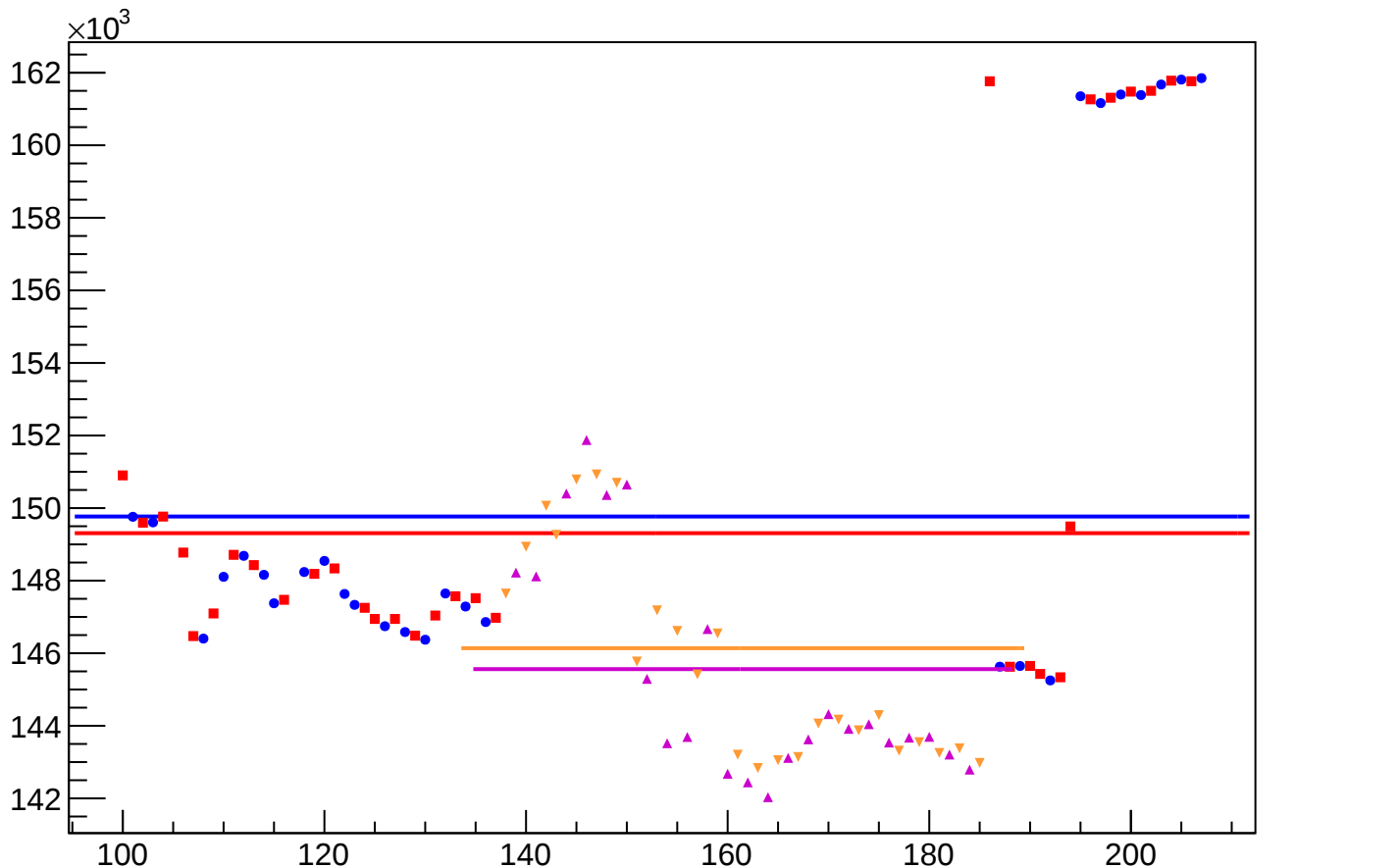
Right: 148.677 $\pm$ 0.022  $\chi^2$ /NDF: 12672759.9/57

In: 175.501 $\pm$ 0.024  $\chi^2$ /NDF:8637995.1/49

Out: 171.353 $\pm$ 0.023  $\chi^2$ /NDF:9730380.3/55

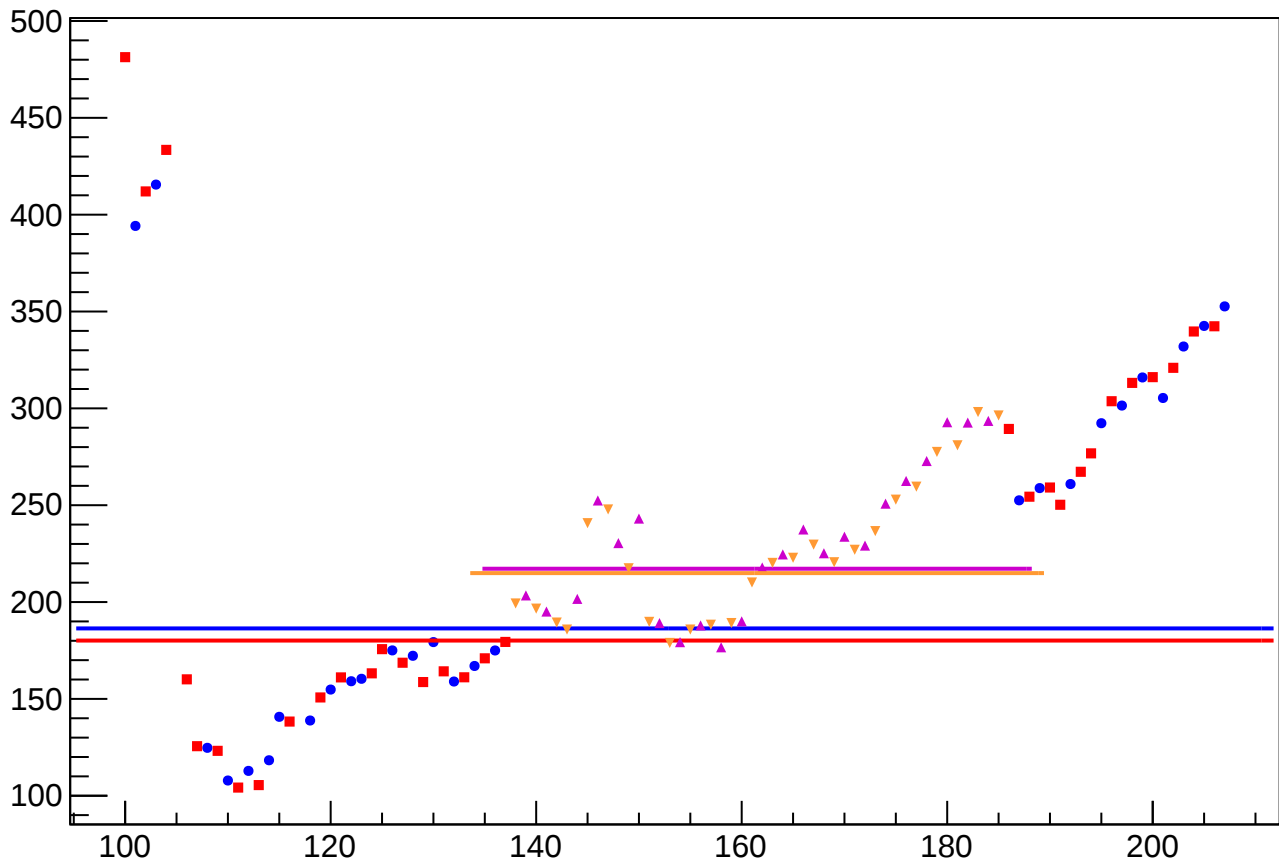
All: 173.313 $\pm$ 0.017  $\chi^2$ /NDF: 18383959.4/10

# yield\_bpm1i06WS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                                |
|-----------------------------------|--------------------------------|-------------------------------|--------------------------------|
| Right In: 149768.370 $\pm$ 0.055  | $\chi^2$ /NDF: 9416474437.5/26 | Left: 145862.850 $\pm$ 0.037  | $\chi^2$ /NDF: 5815743509.5/4  |
| Left Out: 146139.326 $\pm$ 0.051  | $\chi^2$ /NDF: 2699546907.6/24 | Right: 149521.823 $\pm$ 0.037 | $\chi^2$ /NDF: 18111600000.9/4 |
| Right Out: 149308.938 $\pm$ 0.051 | $\chi^2$ /NDF: 8657365820.9/30 | In: 147598.993 $\pm$ 0.038    | $\chi^2$ /NDF: 15512784515.0/4 |
| Left In: 145562.386 $\pm$ 0.053   | $\chi^2$ /NDF: 3054641996.0/22 | Out: 147724.485 $\pm$ 0.036   | $\chi^2$ /NDF: 13295787711.3/4 |
|                                   |                                | All: 147665.327 $\pm$ 0.026   | $\chi^2$ /NDF: 28814303/4      |

# yield\_bpm1i06WS\_rms vs Slug, Sign Corrected



Right In: 186.386 $\pm$ 0.039  $\chi^2$ /NDF: 4093254.7/26

Left Out: 214.945 $\pm$ 0.036  $\chi^2$ /NDF: 728515.5/24

Right Out: 180.121 $\pm$ 0.036  $\chi^2$ /NDF: 4602844.4/30

Left In: 217.203 $\pm$ 0.038  $\chi^2$ /NDF: 764798.3/22

Left: 216.027 $\pm$ 0.026  $\chi^2$ /NDF: 1495200.1/47

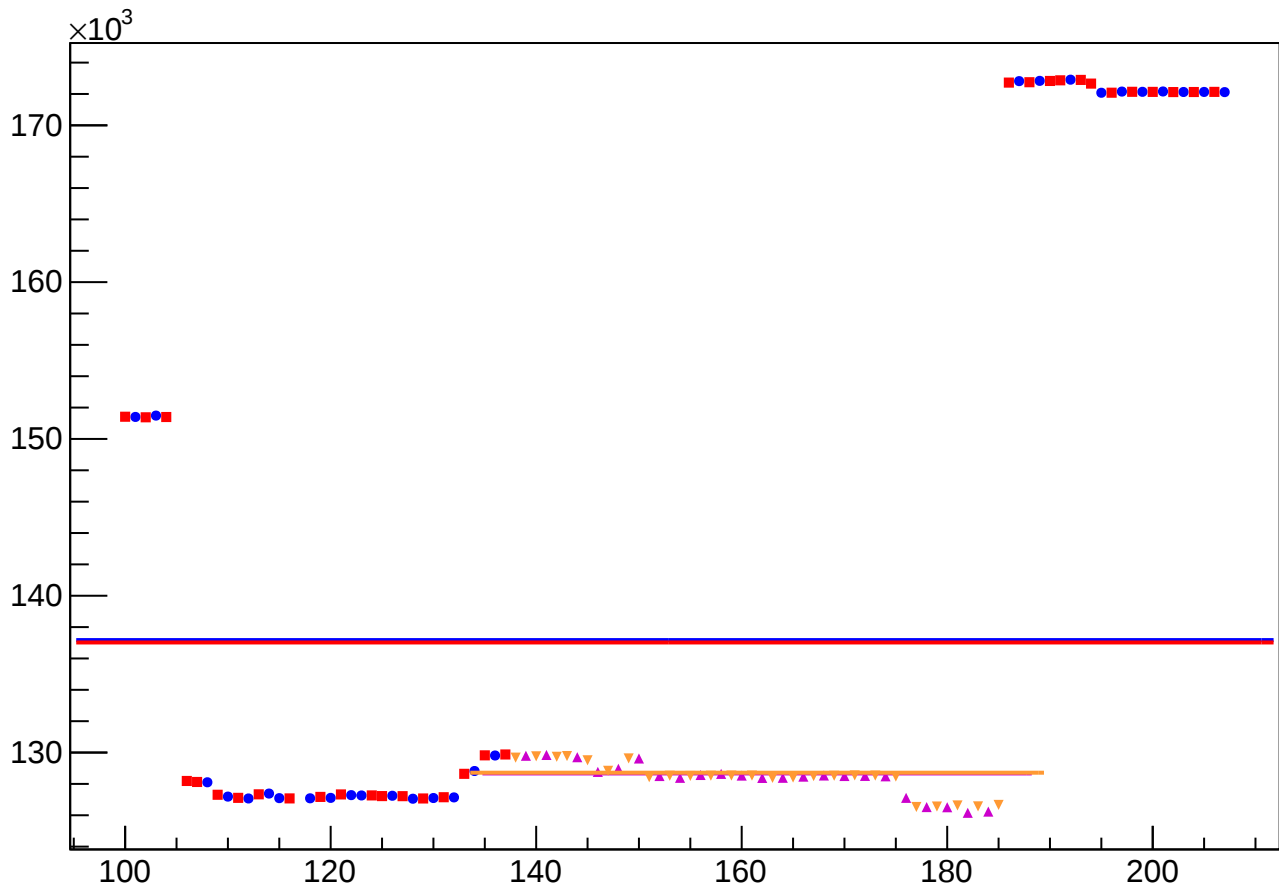
Right: 183.024 $\pm$ 0.026  $\chi^2$ /NDF: 8710143.6/57

In: 202.281 $\pm$ 0.027  $\chi^2$ /NDF: 5184640.7/49

Out: 197.529 $\pm$ 0.025  $\chi^2$ /NDF: 5799455.8/55

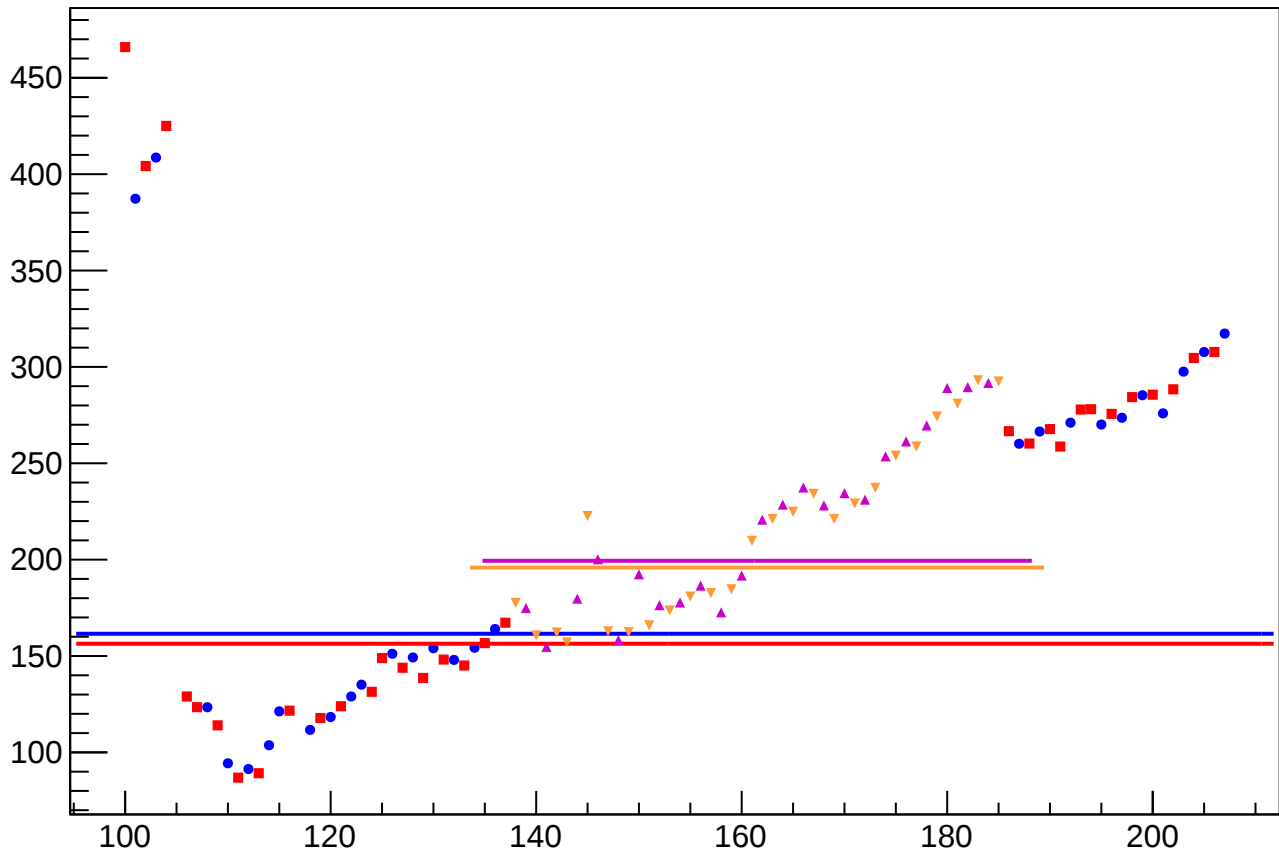
All: 199.769 $\pm$ 0.019  $\chi^2$ /NDF: 11000532.7/10

# yield\_bpm2i01WS\_mean vs Slug, Sign Corrected



Right In: 137172.317 $\pm$ 0.048  $\chi^2$ /NDF: 142420146747.4/26  
 Left Out: 128714.507 $\pm$ 0.047  $\chi^2$ /NDF: 348178101.1/24  
 Right Out: 137020.052 $\pm$ 0.045  $\chi^2$ /NDF: 163050265085.2/30  
 Left In: 128667.013 $\pm$ 0.049  $\chi^2$ /NDF: 333059477.6/22  
 Left: 128691.898 $\pm$ 0.034  $\chi^2$ /NDF: 681729975.4/47  
 Right: 137090.750 $\pm$ 0.033  $\chi^2$ /NDF: 305475739351.1/24  
 In: 132981.692 $\pm$ 0.034  $\chi^2$ /NDF: 158042223878.9/24  
 Out: 133025.537 $\pm$ 0.032  $\chi^2$ /NDF: 179817618345.1/24  
 All: 133004.929 $\pm$ 0.024  $\chi^2$ /NDF: 337860703.1/24

# yield\_bpm2i01WS\_rms vs Slug, Sign Corrected



Right In: 161.546 $\pm$ 0.034  $\chi^2$ /NDF: 4855625.1/26

Left Out: 195.883 $\pm$ 0.033  $\chi^2$ /NDF:1313361.5/24

Right Out: 156.370 $\pm$ 0.032  $\chi^2$ /NDF: 5491526.9/30

Left In: 199.413 $\pm$ 0.035  $\chi^2$ /NDF:1165698.7/22

Left: 197.564 $\pm$ 0.024  $\chi^2$ /NDF: 2484502.8/47

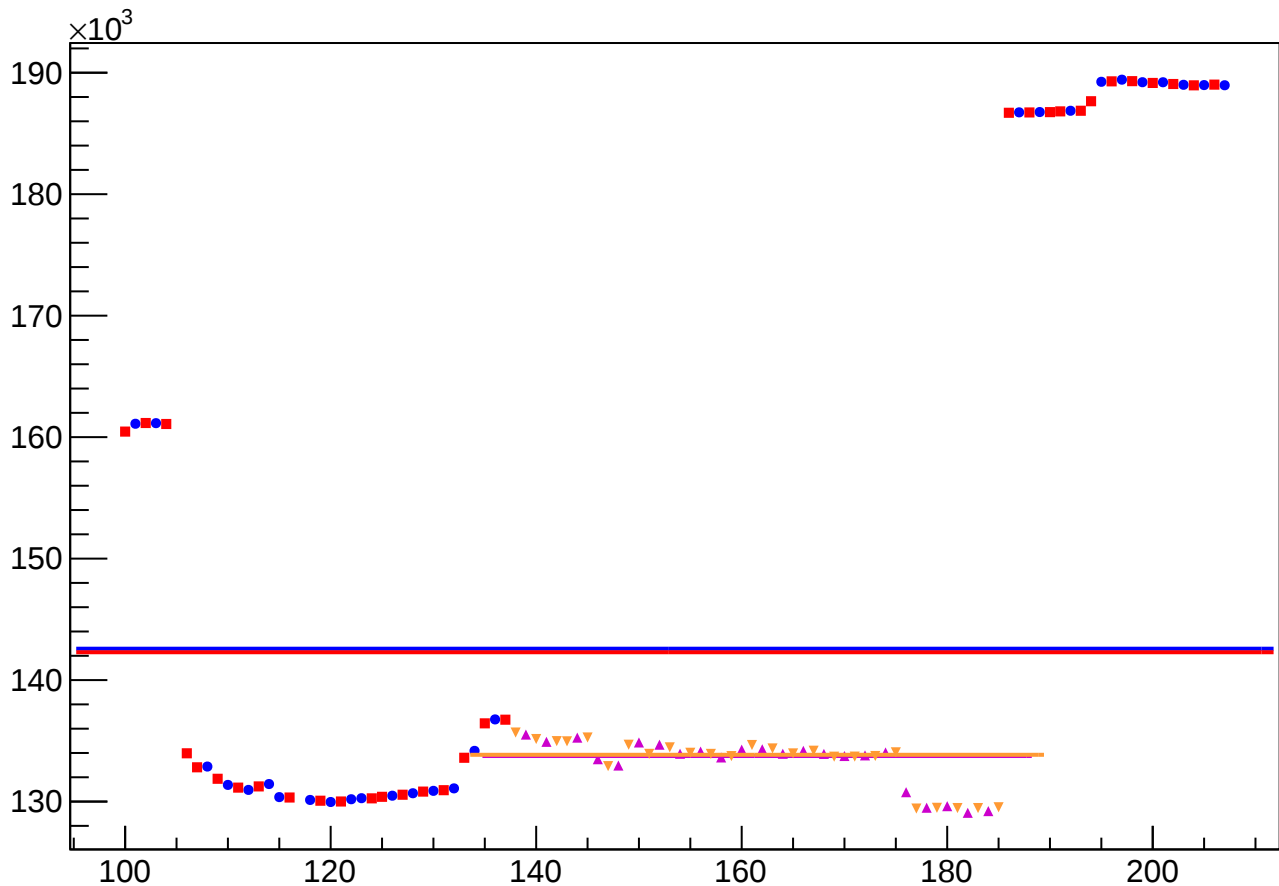
Right: 158.773 $\pm$ 0.023  $\chi^2$ /NDF: 10359463.2/57

In: 180.203 $\pm$ 0.024  $\chi^2$ /NDF:6627461.7/49

Out: 175.373 $\pm$ 0.023  $\chi^2$ /NDF:7548115.9/55

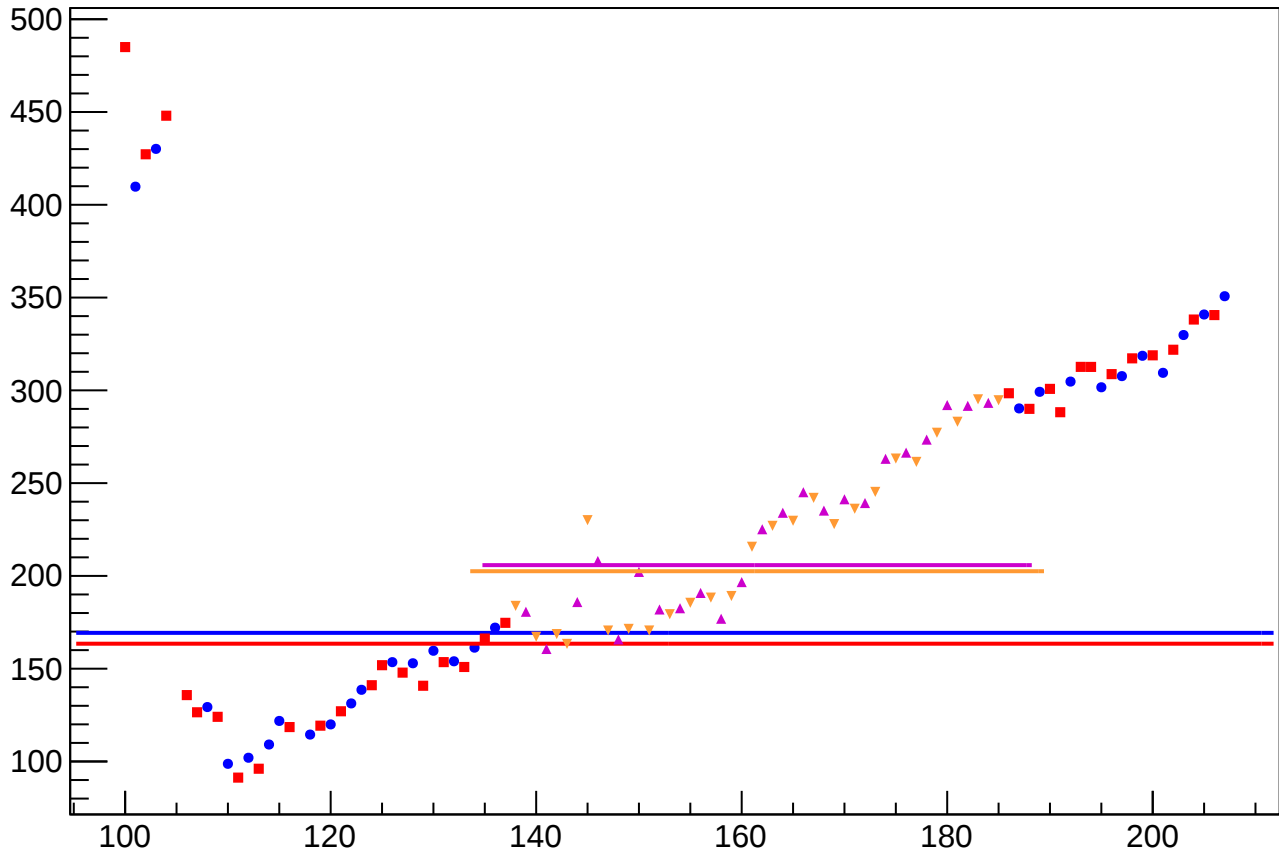
All: 177.644 $\pm$ 0.017  $\chi^2$ /NDF: 14196486.9/10

# yield\_bpm2i02WS\_mean vs Slug, Sign Corrected



Right In: 142583.479 $\pm$ 0.051  $\chi^2$ /NDF: 191858136782.5/26  
 Left Out: 133850.586 $\pm$ 0.048  $\chi^2$ /NDF: 1080107831.1/24  
 Right Out: 142292.391 $\pm$ 0.047  $\chi^2$ /NDF: 214396511519.7/30  
 Left In: 133749.630 $\pm$ 0.051  $\chi^2$ /NDF: 954069486.7/22  
 Left: 133802.452 $\pm$ 0.035  $\chi^2$ /NDF: 2036267179.3/4  
 Right: 142427.346 $\pm$ 0.035  $\chi^2$ /NDF: 406272063523  
 In: 138116.907 $\pm$ 0.036  $\chi^2$ /NDF: 207931526710.8  
 Out: 138135.555 $\pm$ 0.034  $\chi^2$ /NDF: 231033161651.  
 All: 138126.787 $\pm$ 0.025  $\chi^2$ /NDF: 43896483

# yield\_bpm2i02WS\_rms vs Slug, Sign Corrected



Right In: 169.310 $\pm$ 0.036  $\chi^2$ /NDF: 5273915.2/26

Left Out: 202.527 $\pm$ 0.034  $\chi^2$ /NDF: 1211991.5/24

Right Out: 163.465 $\pm$ 0.034  $\chi^2$ /NDF: 6001180.7/30

Left In: 205.808 $\pm$ 0.036  $\chi^2$ /NDF: 1094330.7/22

Left: 204.091 $\pm$ 0.025  $\chi^2$ /NDF: 2310735.8/47

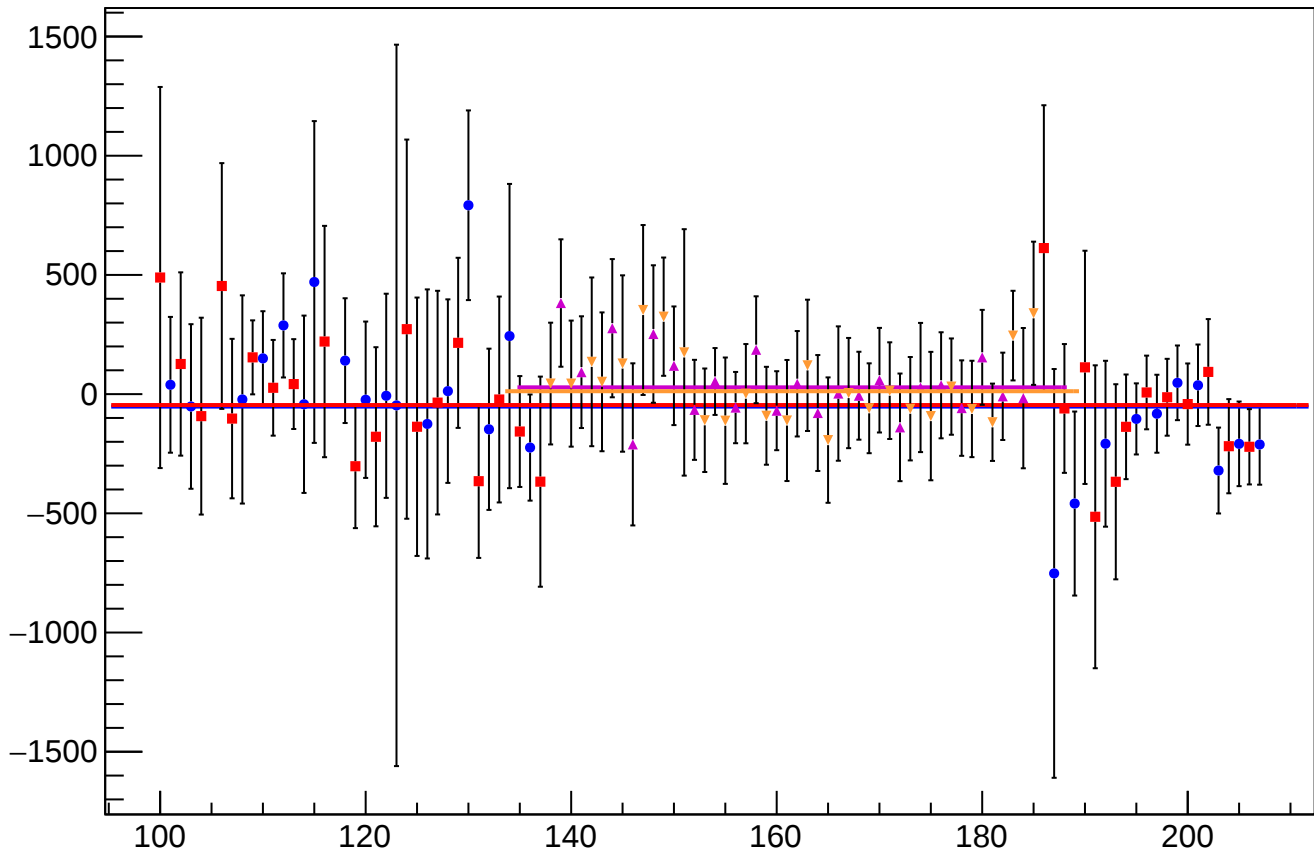
Right: 166.175 $\pm$ 0.025  $\chi^2$ /NDF: 11289138.4/57

In: 187.764 $\pm$ 0.025  $\chi^2$ /NDF: 6884430.6/49

Out: 182.700 $\pm$ 0.024  $\chi^2$ /NDF: 7879349.8/55

All: 185.081 $\pm$ 0.017  $\chi^2$ /NDF: 14784844.1/100

# asym\_bcm\_an\_ds\_mean vs Slug, Sign Corrected



Right In:  $-52.247 \pm 48.184$   $\chi^2/\text{NDF}$ : 16.9/26

Left Out:  $12.180 \pm 47.531$   $\chi^2/\text{NDF}$ : 8.6/24

Right Out:  $-45.798 \pm 46.911$   $\chi^2/\text{NDF}$ : 12.7/30

Left In:  $28.452 \pm 44.688$   $\chi^2/\text{NDF}$ : 6.7/22

Left:  $20.817 \pm 32.558$   $\chi^2/\text{NDF}$ : 15.3/47

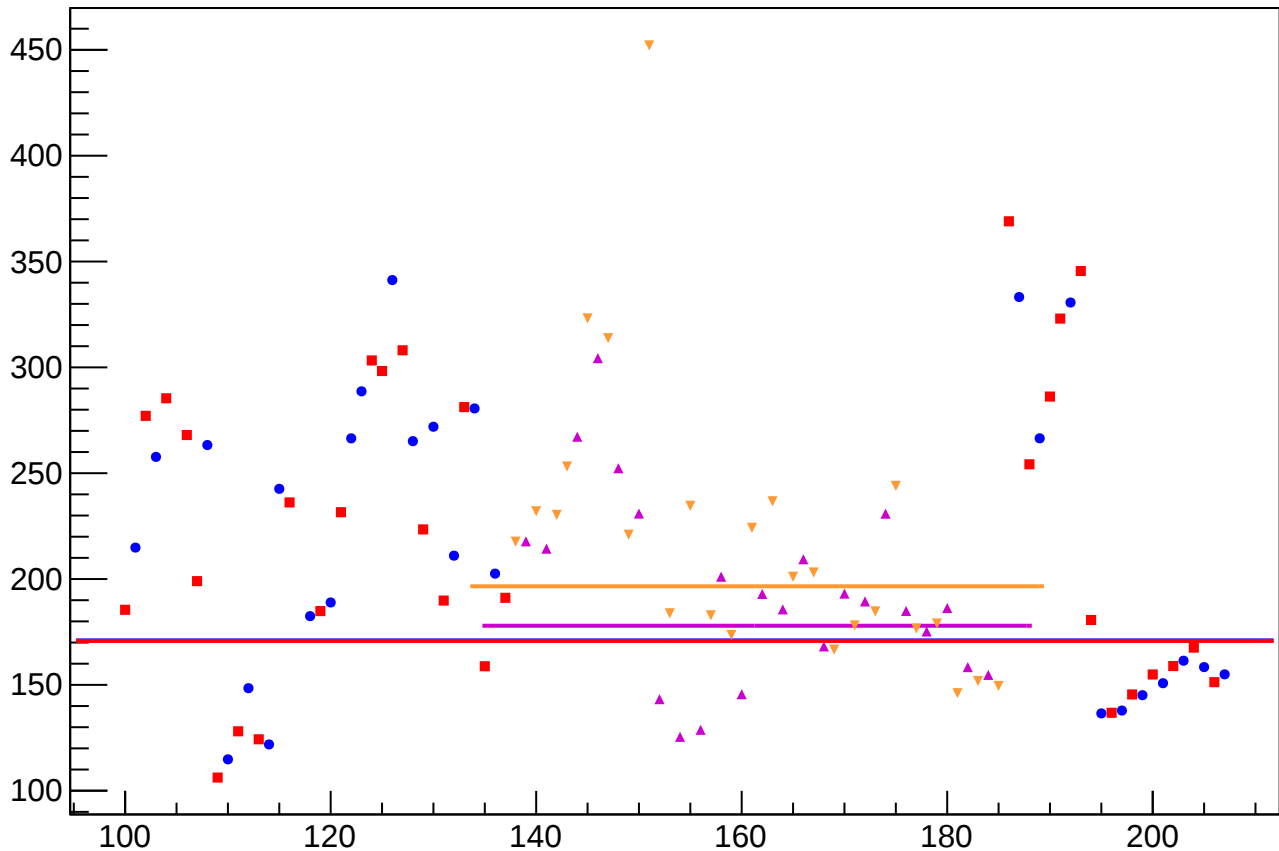
Right:  $-48.936 \pm 33.612$   $\chi^2/\text{NDF}$ : 29.6/57

In:  $-8.864 \pm 32.766$   $\chi^2/\text{NDF}$ : 25.0/49

Out:  $-17.189 \pm 33.388$   $\chi^2/\text{NDF}$ : 22.0/55

All:  $-12.948 \pm 23.386$   $\chi^2/\text{NDF}$ : 47.1/105

# asym\_bcm\_an\_ds\_rms vs Slug, Sign Corrected



Right In: 171.001 $\pm$ 0.034  $\chi^2$ /NDF: 2102639.2/26

Left Out: 196.576 $\pm$ 0.034  $\chi^2$ /NDF:1778719.0/24

Right Out: 170.771 $\pm$ 0.033  $\chi^2$ /NDF: 2779713.9/30

Left In: 177.933 $\pm$ 0.032  $\chi^2$ /NDF:1605780.8/22

Left: 186.680 $\pm$ 0.023  $\chi^2$ /NDF: 3547823.4/47

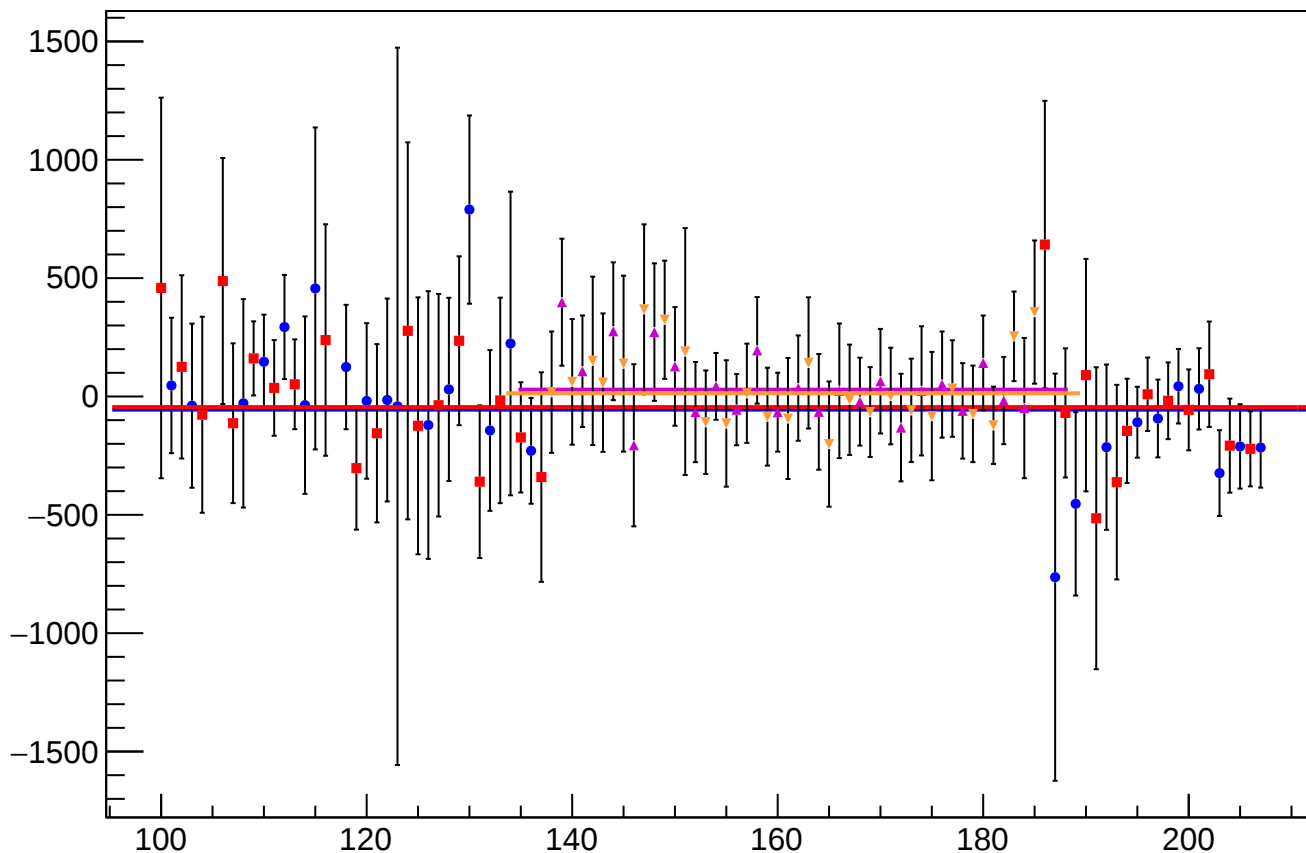
Right: 170.883 $\pm$ 0.024  $\chi^2$ /NDF: 4882376.3/57

In: 174.727 $\pm$ 0.023  $\chi^2$ /NDF:3730674.6/49

Out: 183.504 $\pm$ 0.024  $\chi^2$ /NDF:4857052.1/55

All: 179.033 $\pm$ 0.017  $\chi^2$ /NDF: 8658132.4/105

# asym\_bcm\_an\_ds3\_mean vs Slug, Sign Corrected



Right In:  $-55.412 \pm 48.418$   $\chi^2/\text{NDF}$ : 16.8/26

Left Out:  $13.395 \pm 47.862$   $\chi^2/\text{NDF}$ : 9.0/24

Right Out:  $-44.832 \pm 47.147$   $\chi^2/\text{NDF}$ : 12.9/30

Left In:  $28.806 \pm 44.980$   $\chi^2/\text{NDF}$ : 6.8/22

Left:  $21.578 \pm 32.777$   $\chi^2/\text{NDF}$ : 15.9/47

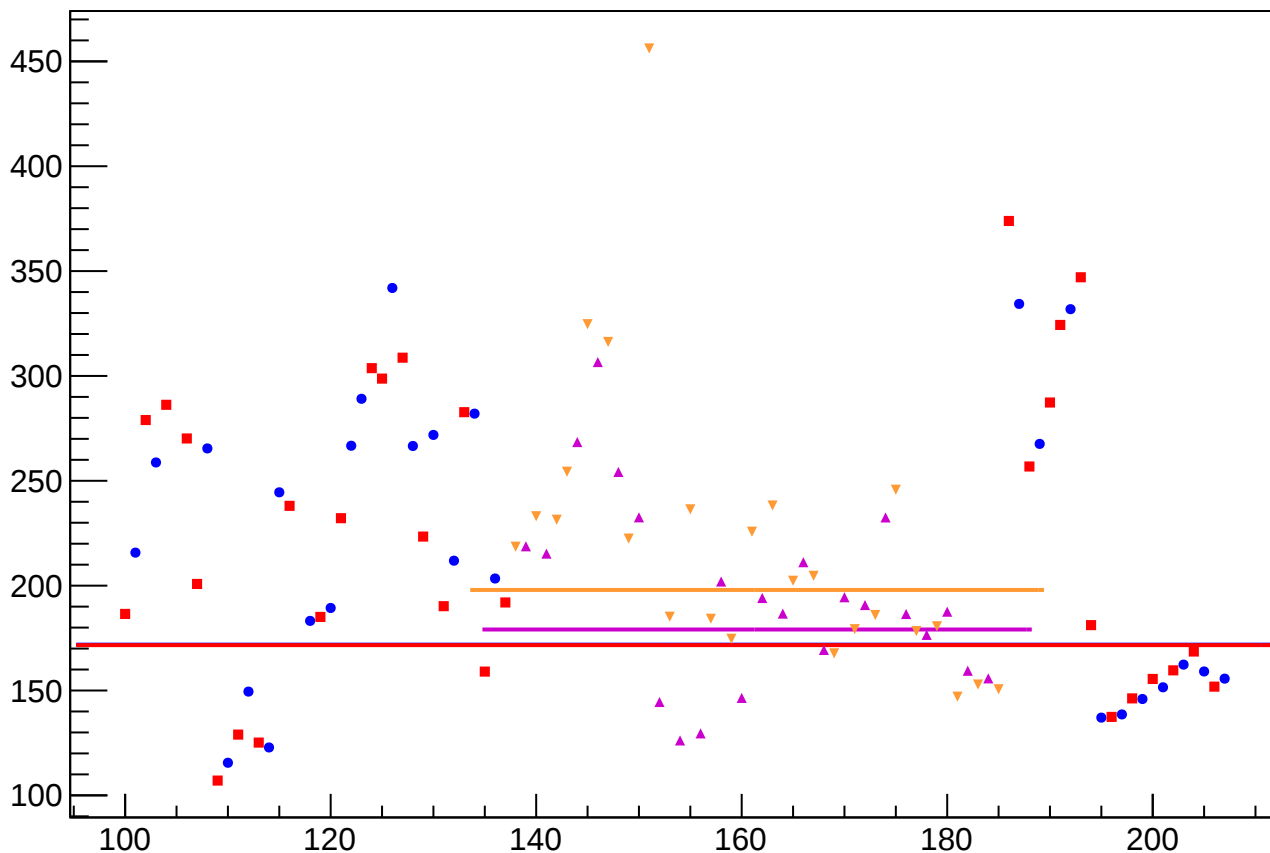
Right:  $-49.981 \pm 33.778$   $\chi^2/\text{NDF}$ : 29.7/57

In:  $-10.207 \pm 32.954$   $\chi^2/\text{NDF}$ : 25.3/49

Out:  $-16.157 \pm 33.588$   $\chi^2/\text{NDF}$ : 22.6/55

All:  $-13.125 \pm 23.523$   $\chi^2/\text{NDF}$ : 47.9/105

# asym\_bcm\_an\_ds3\_rms vs Slug, Sign Corrected



Right In:  $171.859 \pm 0.034$   $\chi^2/\text{NDF}$ : 2093579.0/26

Left Out:  $197.953 \pm 0.034$   $\chi^2/\text{NDF}$ : 1774524.3/24

Right Out:  $171.641 \pm 0.033$   $\chi^2/\text{NDF}$ : 2775133.3/30

Left In:  $179.090 \pm 0.032$   $\chi^2/\text{NDF}$ : 1605113.3/22

Left:  $187.936 \pm 0.023$   $\chi^2/\text{NDF}$ : 3544595.8/47

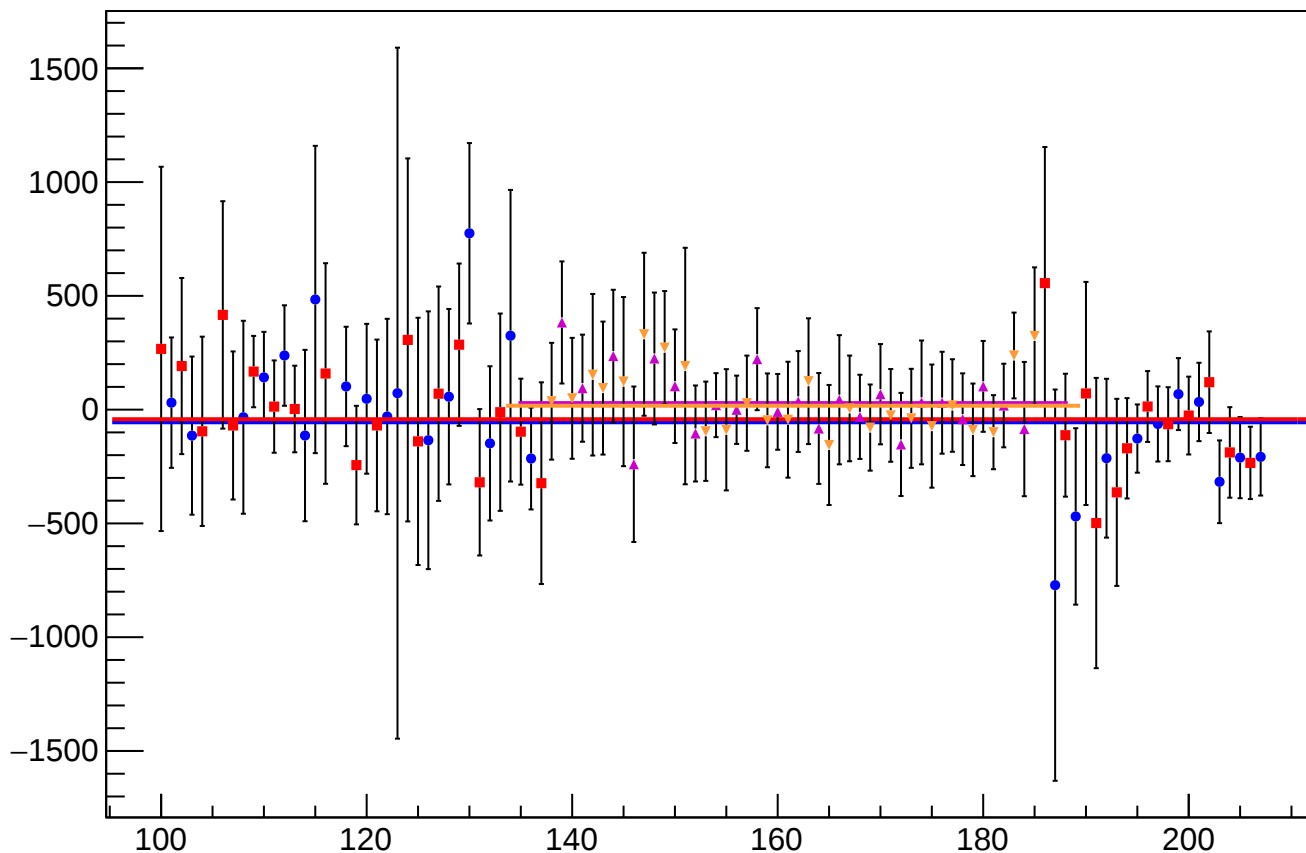
Right:  $171.747 \pm 0.024$   $\chi^2/\text{NDF}$ : 4868733.0/57

In:  $175.740 \pm 0.023$   $\chi^2/\text{NDF}$ : 3722633.9/49

Out:  $184.599 \pm 0.024$   $\chi^2/\text{NDF}$ : 4856411.2/55

All:  $180.085 \pm 0.017$   $\chi^2/\text{NDF}$ : 8649933.5/105

# asym\_bcm\_an\_us\_mean vs Slug, Sign Corrected



Right In: -55.473+/-48.497  $\chi^2/\text{NDF}$ : 16.2/26

Left Out: 17.142+/-47.738  $\chi^2/\text{NDF}$ : 7.1/24

Right Out: -42.141+/-47.155  $\chi^2/\text{NDF}$ : 11.7/30

Left In: 28.655+/-44.859  $\chi^2/\text{NDF}$ : 6.1/22

Left: 23.256+/-32.690  $\chi^2/\text{NDF}$ : 13.2/47

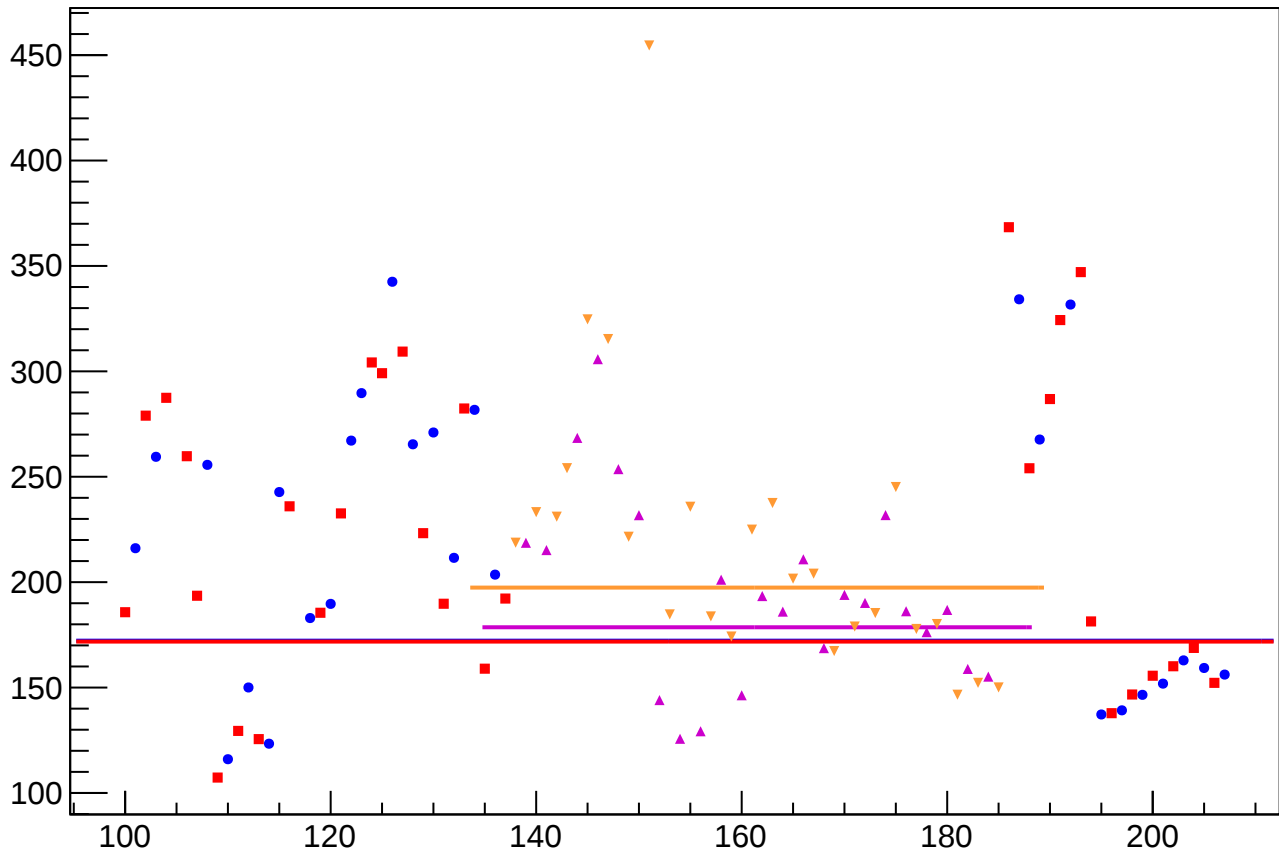
Right: -48.620+/-33.808  $\chi^2/\text{NDF}$ : 27.9/57

In: -10.136+/-32.931  $\chi^2/\text{NDF}$ : 24.0/49

Out: -12.864+/-33.548  $\chi^2/\text{NDF}$ : 19.5/55

All: -11.474+/-23.501  $\chi^2/\text{NDF}$ : 43.5/105

# asym\_bcm\_an\_us\_rms vs Slug, Sign Corrected



Right In:  $172.245 \pm 0.034$   $\chi^2/\text{NDF}$ : 2062325.3/26

Left Out:  $197.422 \pm 0.034$   $\chi^2/\text{NDF}$ : 1780261.9/24

Right Out:  $171.811 \pm 0.033$   $\chi^2/\text{NDF}$ : 2729984.4/30

Left In:  $178.601 \pm 0.032$   $\chi^2/\text{NDF}$ : 1608998.1/22

Left:  $187.427 \pm 0.023$   $\chi^2/\text{NDF}$ : 3554344.1/47

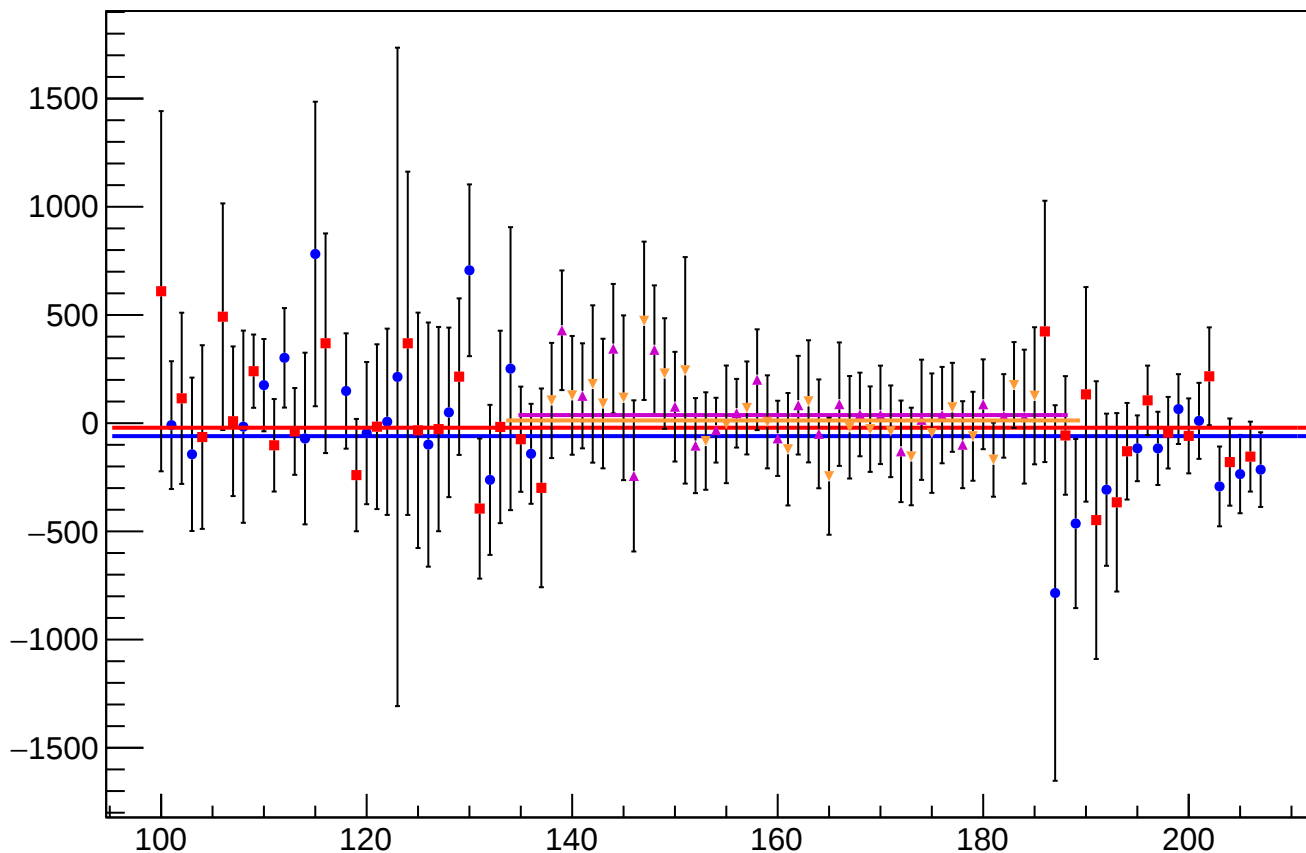
Right:  $172.022 \pm 0.024$   $\chi^2/\text{NDF}$ : 4792391.9/57

In:  $175.670 \pm 0.023$   $\chi^2/\text{NDF}$ : 3689840.4/49

Out:  $184.459 \pm 0.024$   $\chi^2/\text{NDF}$ : 4801600.4/55

All:  $179.983 \pm 0.017$   $\chi^2/\text{NDF}$ : 8561346.5/105

# asym\_bcm\_dg\_us\_mean vs Slug, Sign Corrected



Right In:  $-59.899 \pm 49.570$   $\chi^2/\text{NDF}$ : 17.0/26

Left Out:  $12.632 \pm 49.242$   $\chi^2/\text{NDF}$ : 7.5/24

Right Out:  $-20.982 \pm 48.472$   $\chi^2/\text{NDF}$ : 13.0/30

Left In:  $37.460 \pm 46.479$   $\chi^2/\text{NDF}$ : 7.6/22

Left:  $25.762 \pm 33.800$   $\chi^2/\text{NDF}$ : 15.3/47

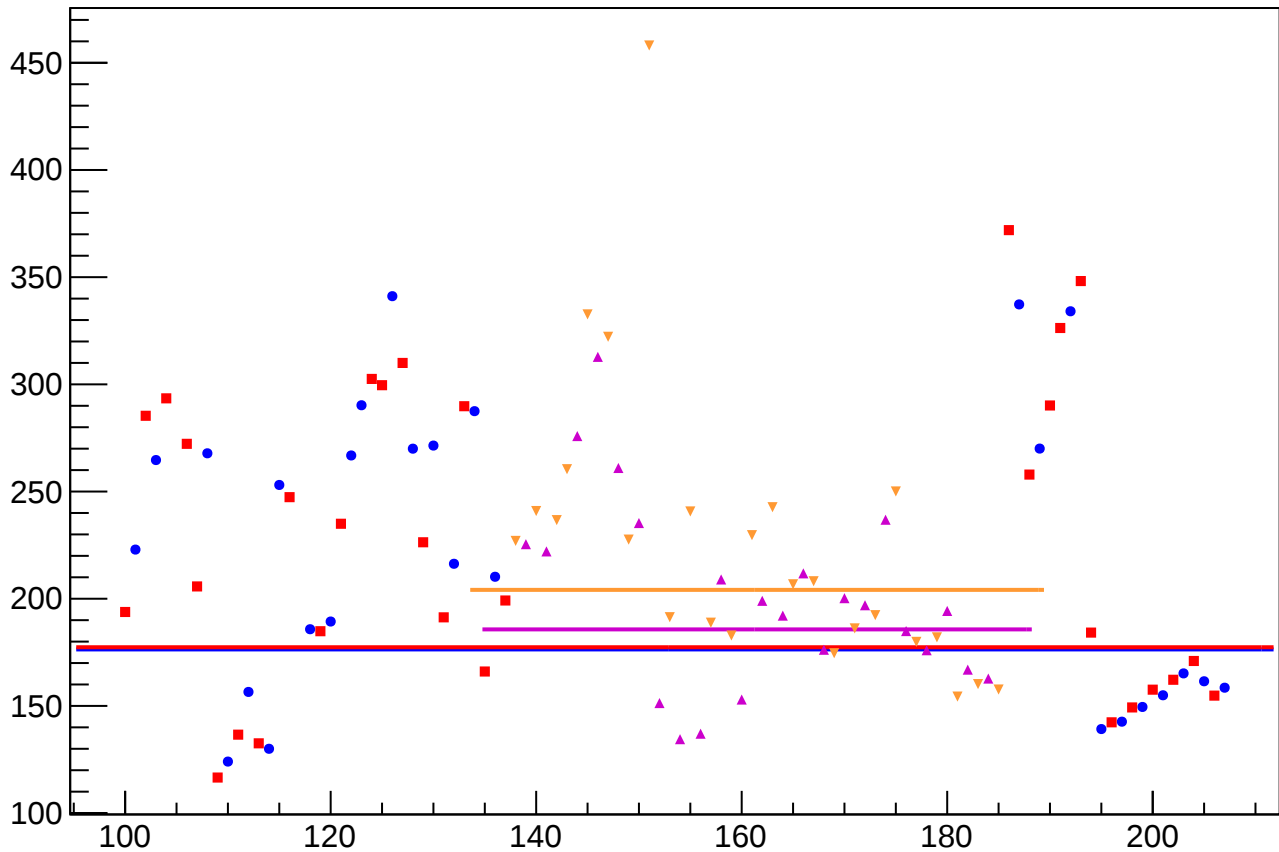
Right:  $-40.005 \pm 34.657$   $\chi^2/\text{NDF}$ : 30.4/57

In:  $-8.089 \pm 33.906$   $\chi^2/\text{NDF}$ : 26.7/49

Out:  $-4.440 \pm 34.544$   $\chi^2/\text{NDF}$ : 20.8/55

All:  $-6.298 \pm 24.198$   $\chi^2/\text{NDF}$ : 47.5/105

# asym\_bcm\_dg\_us\_rms vs Slug, Sign Corrected



Right In: 176.347 $\pm$ 0.035  $\chi^2$ /NDF: 1990056.1/26

Left Out: 204.132 $\pm$ 0.035  $\chi^2$ /NDF: 1672287.6/24

Right Out: 177.366 $\pm$ 0.034  $\chi^2$ /NDF: 2545766.2/30

Left In: 185.694 $\pm$ 0.033  $\chi^2$ /NDF: 1447767.0/22

Left: 194.381 $\pm$ 0.024  $\chi^2$ /NDF: 3268347.9/47

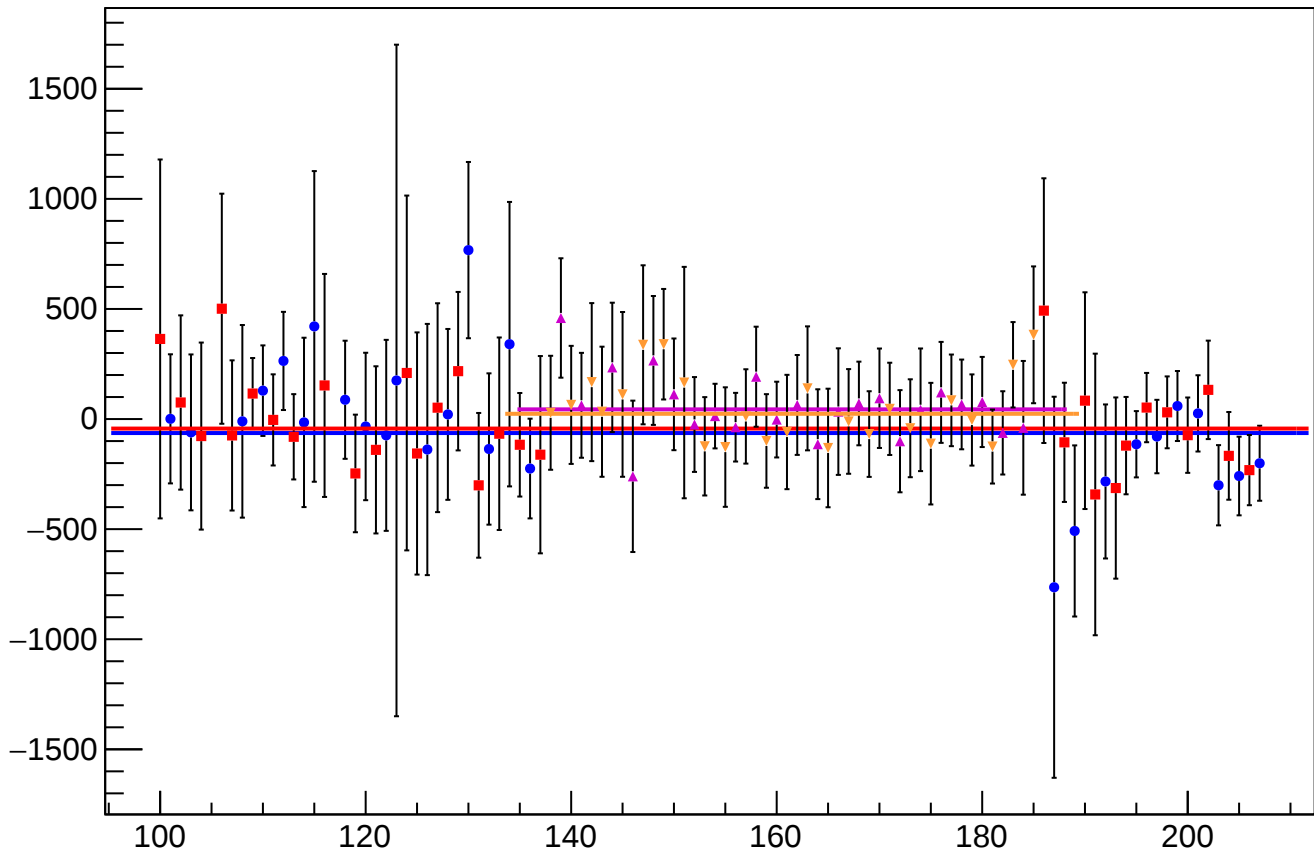
Right: 176.868 $\pm$ 0.025  $\chi^2$ /NDF: 4536254.0/57

In: 181.321 $\pm$ 0.024  $\chi^2$ /NDF: 3475657.6/49

Out: 190.538 $\pm$ 0.024  $\chi^2$ /NDF: 4518158.2/55

All: 185.844 $\pm$ 0.017  $\chi^2$ /NDF: 8066335.8/105

# asym\_bcm\_dg\_ds\_mean vs Slug, Sign Corrected



Right In:  $-63.567 \pm 48.950$   $\chi^2/\text{NDF}$ : 16.1/26

Left Out:  $23.843 \pm 48.783$   $\chi^2/\text{NDF}$ : 8.5/24

Right Out:  $-43.245 \pm 47.698$   $\chi^2/\text{NDF}$ : 9.5/30

Left In:  $43.978 \pm 45.981$   $\chi^2/\text{NDF}$ : 6.5/22

Left:  $34.506 \pm 33.460$   $\chi^2/\text{NDF}$ : 15.1/47

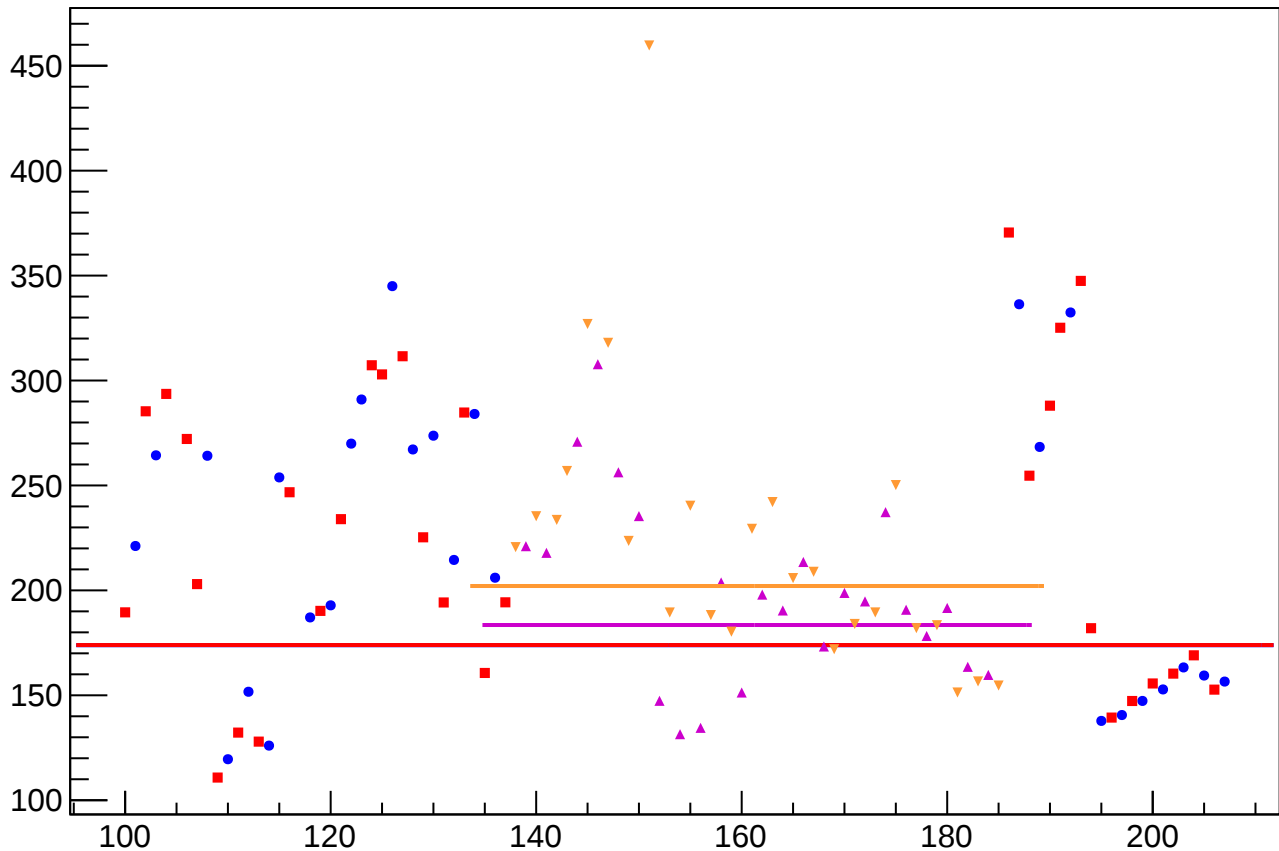
Right:  $-53.143 \pm 34.162$   $\chi^2/\text{NDF}$ : 25.7/57

In:  $-6.434 \pm 33.514$   $\chi^2/\text{NDF}$ : 25.2/49

Out:  $-10.455 \pm 34.105$   $\chi^2/\text{NDF}$ : 18.9/55

All:  $-8.409 \pm 23.904$   $\chi^2/\text{NDF}$ : 44.1/105

# asym\_bcm\_dg\_ds\_rms vs Slug, Sign Corrected



Right In: 173.861+/-0.035  $\chi^2/\text{NDF}$ : 2071600.4/26

Left Out: 202.081+/-0.034  $\chi^2/\text{NDF}$ : 1692787.9/24

Right Out: 173.945+/-0.034  $\chi^2/\text{NDF}$ : 2708850.2/30

Left In: 183.498+/-0.033  $\chi^2/\text{NDF}$ : 1483383.4/22

Left: 192.240+/-0.024  $\chi^2/\text{NDF}$ : 3329846.6/47

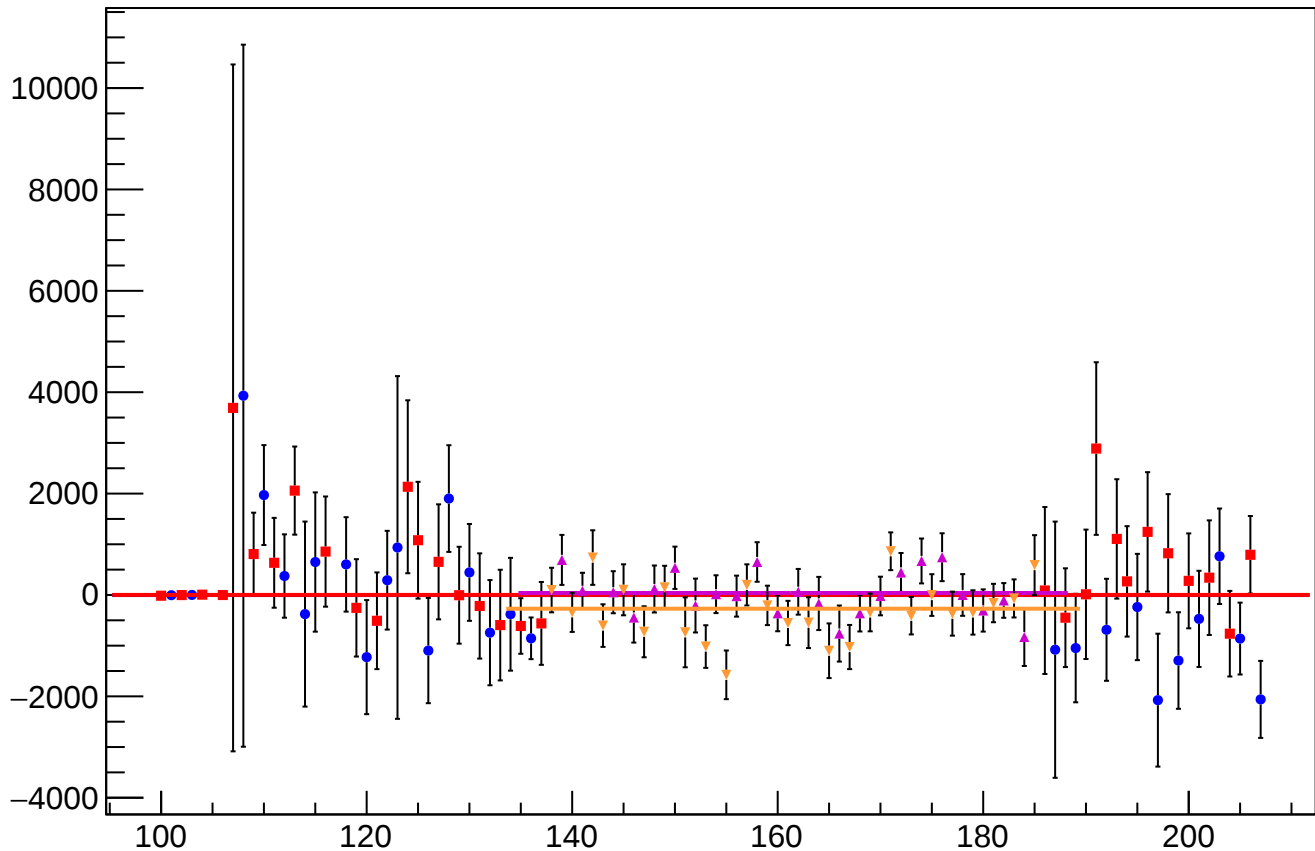
Right: 173.904+/-0.024  $\chi^2/\text{NDF}$ : 4780453.7/57

In: 178.981+/-0.024  $\chi^2/\text{NDF}$ : 3596164.1/49

Out: 187.697+/-0.024  $\chi^2/\text{NDF}$ : 4741752.8/55

All: 183.263+/-0.017  $\chi^2/\text{NDF}$ : 8404369.5/105

# asym\_cav4bQ\_mean vs Slug, Sign Corrected



Right In:  $-1.578 \pm 2.251$   $\chi^2/\text{NDF}$ : 33.1/26

Left Out:  $-270.969 \pm 86.967$   $\chi^2/\text{NDF}$ : 38.1/24

Right Out:  $0.743 \pm 2.111$   $\chi^2/\text{NDF}$ : 26.8/30

Left In:  $39.078 \pm 87.769$   $\chi^2/\text{NDF}$ : 20.3/22

Left:  $-117.369 \pm 61.777$   $\chi^2/\text{NDF}$ : 64.7/47

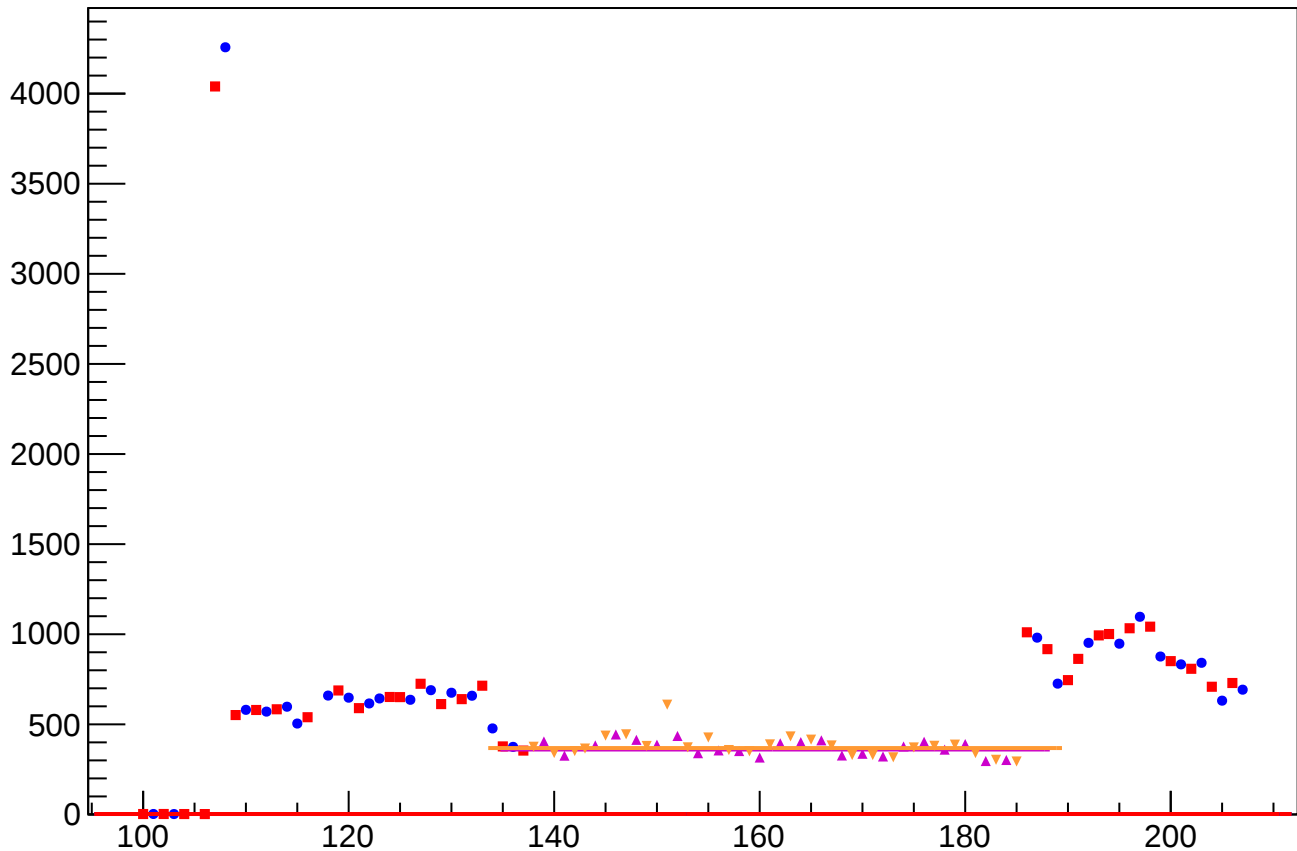
Right:  $-0.343 \pm 1.540$   $\chi^2/\text{NDF}$ : 60.5/57

In:  $-1.551 \pm 2.251$   $\chi^2/\text{NDF}$ : 53.6/49

Out:  $0.583 \pm 2.110$   $\chi^2/\text{NDF}$ : 74.7/55

All:  $-0.415 \pm 1.539$   $\chi^2/\text{NDF}$ : 128.8/105

# asym\_cav4bQ\_rms vs Slug, Sign Corrected



Right In: 2.499+/-0.002     $\chi^2/\text{NDF}$ : 24851939.4/26

Left Out: 368.397+/-0.061     $\chi^2/\text{NDF}$ :622466.1/24

Right Out: 2.477+/-0.001     $\chi^2/\text{NDF}$ : 26886741.7/30

Left In: 360.408+/-0.062     $\chi^2/\text{NDF}$ :417739.4/22

Left: 364.439+/-0.044     $\chi^2/\text{NDF}$ : 1048566.0/47

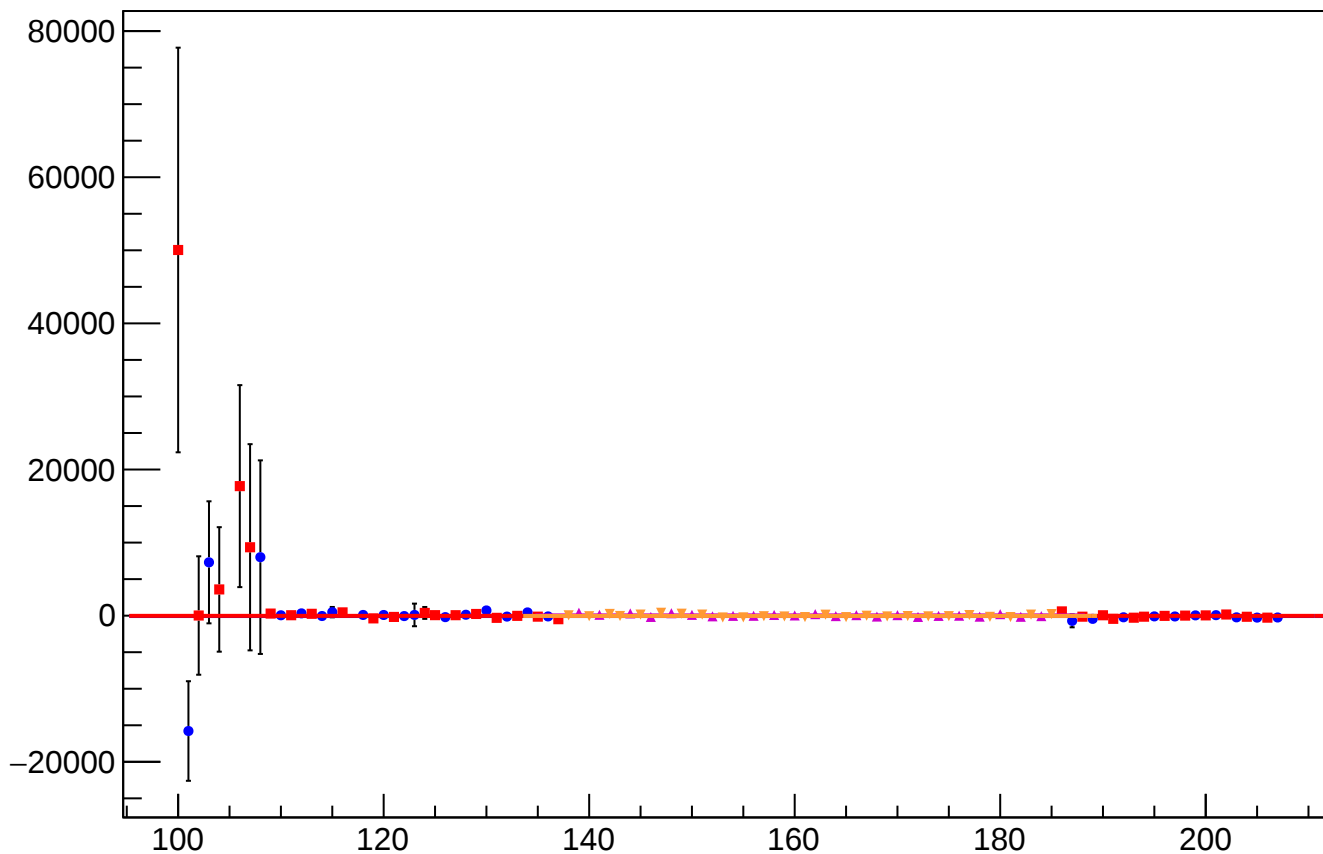
Right: 2.487+/-0.001     $\chi^2/\text{NDF}$ : 51738791.1/57

In: 2.735+/-0.002     $\chi^2/\text{NDF}$ :58505163.8/49

Out: 2.692+/-0.001     $\chi^2/\text{NDF}$ :62895523.5/55

All: 2.712+/-0.001     $\chi^2/\text{NDF}$ : 121401071.1/105

# asym\_cav4cQ\_mean vs Slug, Sign Corrected



Right In:  $-50.003 \pm 53.673$   $\chi^2/\text{NDF}$ : 20.6/26

Left Out:  $-38.013 \pm 49.628$   $\chi^2/\text{NDF}$ : 9.3/24

Right Out:  $-24.755 \pm 53.276$   $\chi^2/\text{NDF}$ : 19.9/30

Left In:  $28.205 \pm 48.167$   $\chi^2/\text{NDF}$ : 9.2/22

Left:  $-3.915 \pm 34.564$   $\chi^2/\text{NDF}$ : 19.4/47

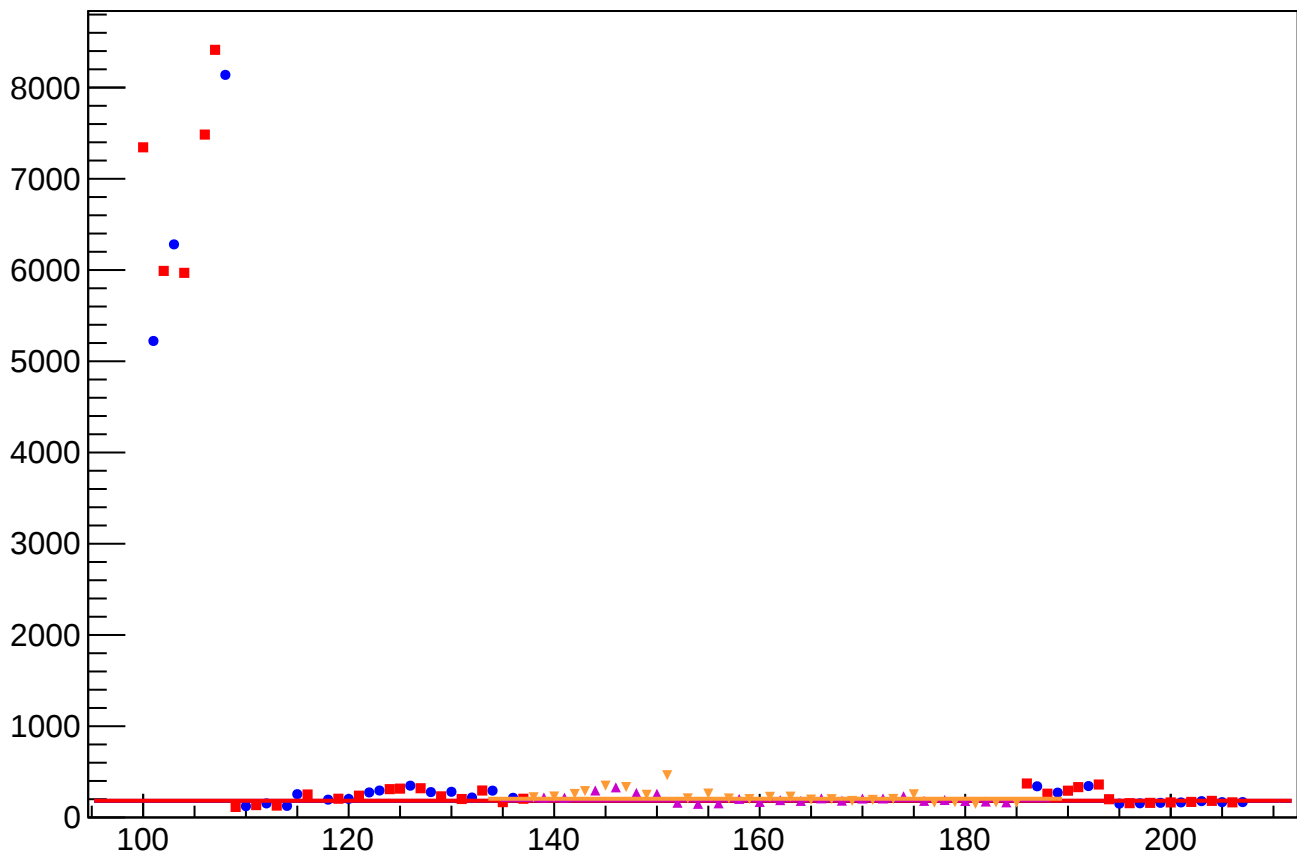
Right:  $-37.285 \pm 37.811$   $\chi^2/\text{NDF}$ : 40.6/57

In:  $-6.684 \pm 35.848$   $\chi^2/\text{NDF}$ : 31.0/49

Out:  $-31.853 \pm 36.314$   $\chi^2/\text{NDF}$ : 29.2/55

All:  $-19.106 \pm 25.511$   $\chi^2/\text{NDF}$ : 60.5/105

# asym\_cav4cQ\_rms vs Slug, Sign Corrected



Right In: 181.543 $\pm$ 0.038  $\chi^2$ /NDF: 4507774.2/26

Left Out: 205.027 $\pm$ 0.035  $\chi^2$ /NDF:1956045.1/24

Right Out: 183.449 $\pm$ 0.038  $\chi^2$ /NDF: 5354205.6/30

Left In: 193.405 $\pm$ 0.034  $\chi^2$ /NDF:1172169.3/22

Left: 199.042 $\pm$ 0.024  $\chi^2$ /NDF: 3184695.4/47

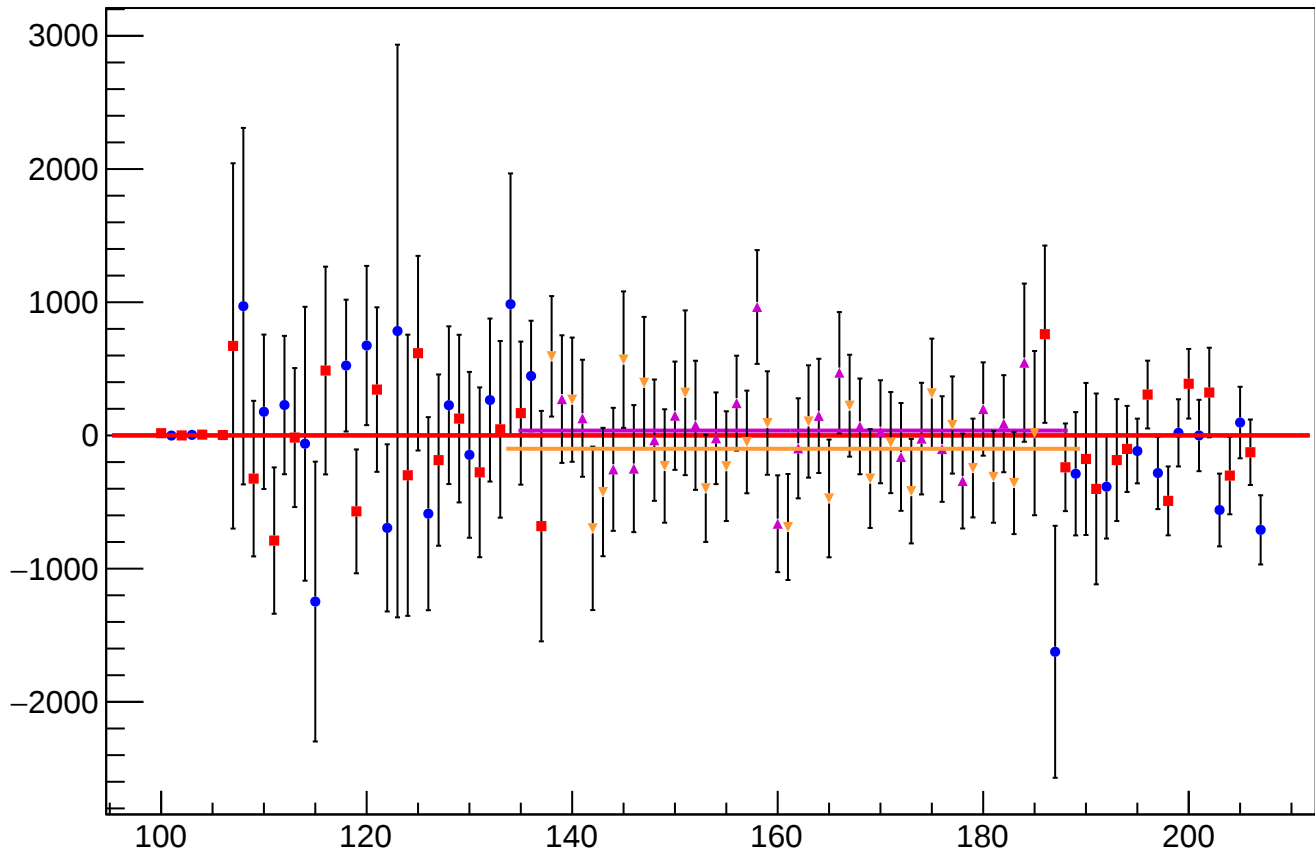
Right: 182.503 $\pm$ 0.027  $\chi^2$ /NDF: 9863249.9/57

In: 188.113 $\pm$ 0.025  $\chi^2$ /NDF:5734047.2/49

Out: 195.002 $\pm$ 0.026  $\chi^2$ /NDF:7485905.9/55

All: 191.513 $\pm$ 0.018  $\chi^2$ /NDF: 13256402.3/100

# asym\_cav4dQ\_mean vs Slug, Sign Corrected



Right In:  $-0.224 \pm 1.736$   $\chi^2/\text{NDF}$ : 27.4/26

Left Out:  $-100.058 \pm 84.190$   $\chi^2/\text{NDF}$ : 15.7/24

Right Out:  $1.313 \pm 1.622$   $\chi^2/\text{NDF}$ : 21.4/30

Left In:  $36.497 \pm 84.675$   $\chi^2/\text{NDF}$ : 13.5/22

Left:  $-32.173 \pm 59.702$   $\chi^2/\text{NDF}$ : 30.5/47

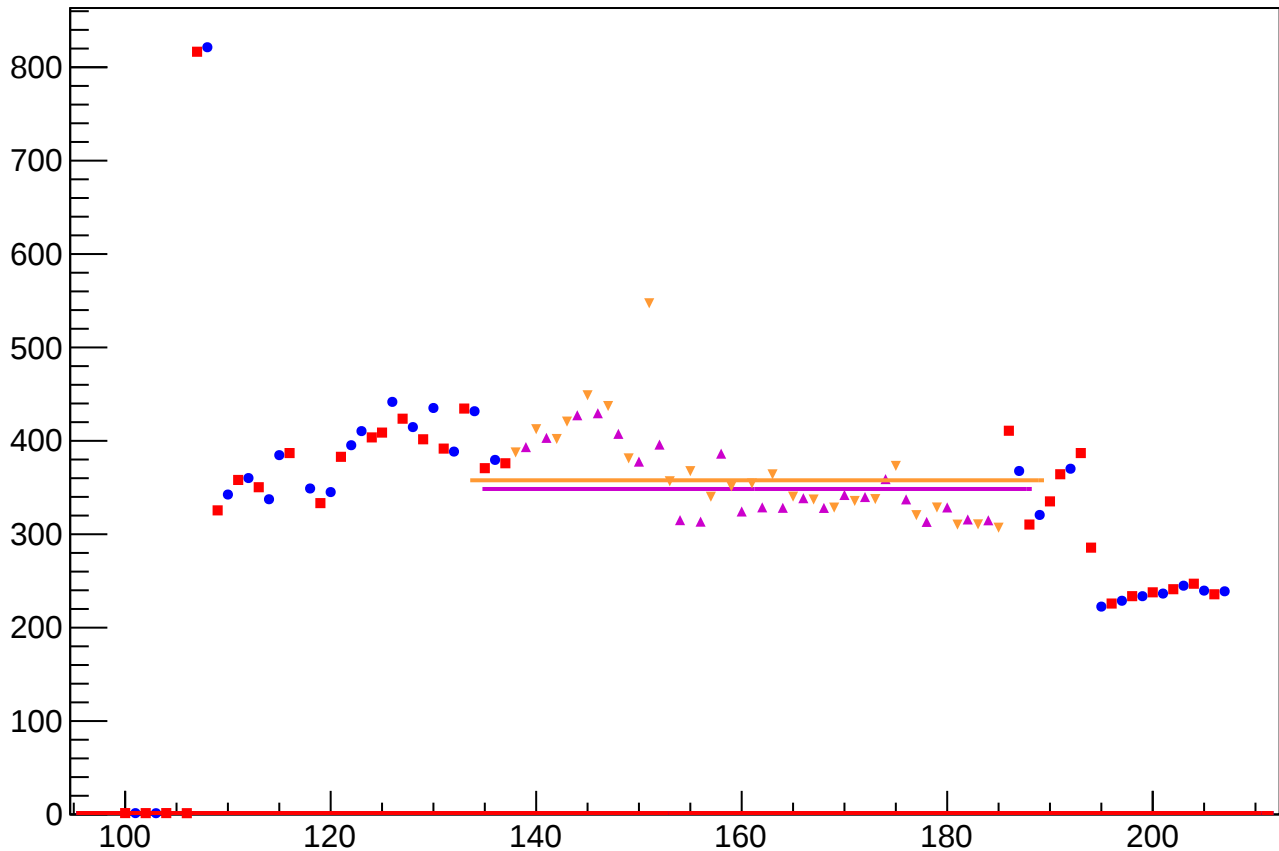
Right:  $0.597 \pm 1.185$   $\chi^2/\text{NDF}$ : 49.3/57

In:  $-0.208 \pm 1.736$   $\chi^2/\text{NDF}$ : 41.1/49

Out:  $1.276 \pm 1.622$   $\chi^2/\text{NDF}$ : 38.6/55

All:  $0.584 \pm 1.185$   $\chi^2/\text{NDF}$ : 80.1/105

# asym\_cav4dQ\_rms vs Slug, Sign Corrected



Right In: 1.538 $\pm$ 0.001  $\chi^2$ /NDF: 25090831.3/26

Left Out: 357.771 $\pm$ 0.060  $\chi^2$ /NDF:547124.8/24

Right Out: 1.528 $\pm$ 0.001  $\chi^2$ /NDF: 26582654.8/30

Left In: 348.464 $\pm$ 0.060  $\chi^2$ /NDF:360425.7/22

Left: 353.145 $\pm$ 0.042  $\chi^2$ /NDF: 919701.2/47

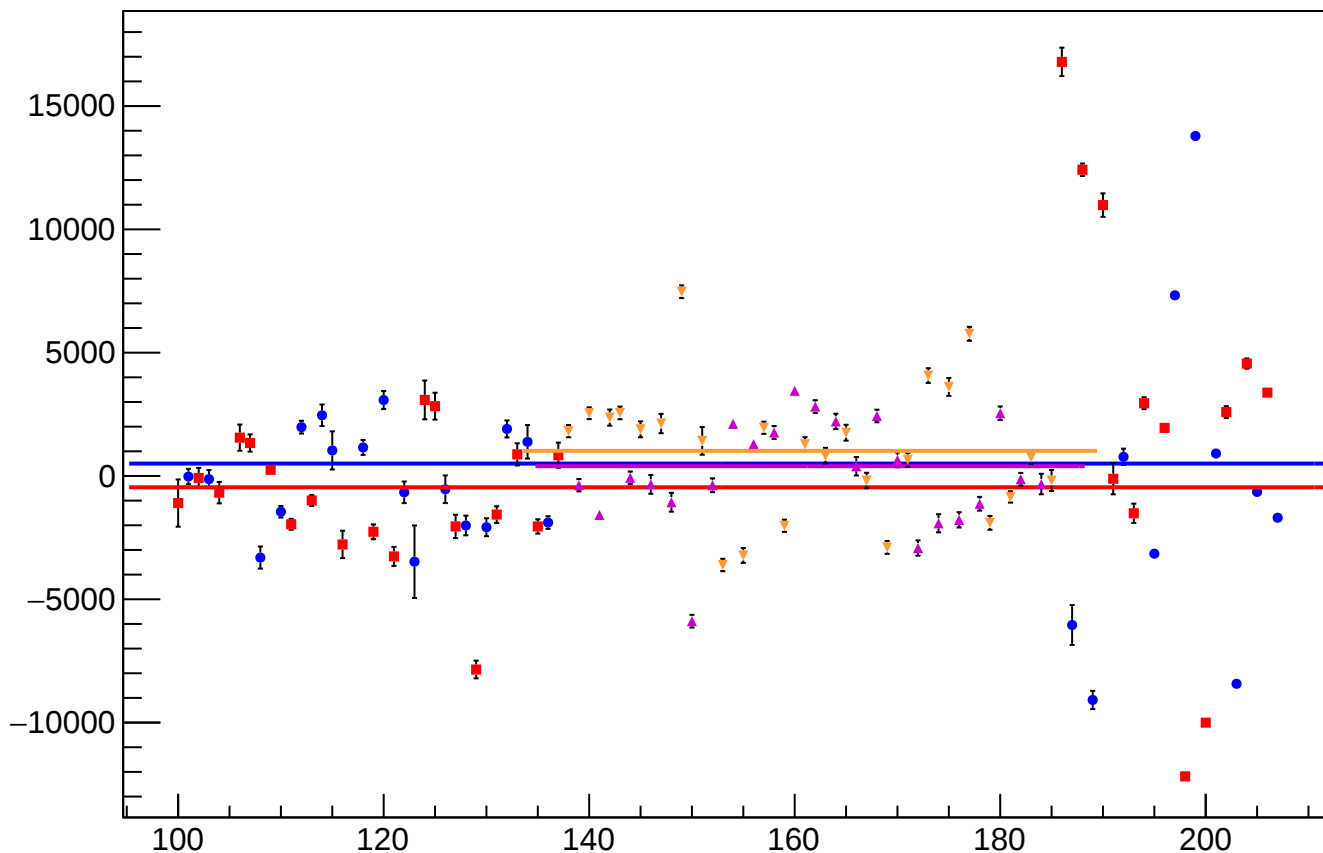
Right: 1.533 $\pm$ 0.001  $\chi^2$ /NDF: 51673517.1/57

In: 1.683 $\pm$ 0.001  $\chi^2$ /NDF:59010252.8/49

Out: 1.660 $\pm$ 0.001  $\chi^2$ /NDF:62926451.8/55

All: 1.671 $\pm$ 0.001  $\chi^2$ /NDF: 121936891.0/105

# asym\_bcm0l02\_mean vs Slug, Sign Corrected



Right In: 502.809+/-53.308  $\chi^2/\text{NDF}$ : 10822.0/26

Left Out: 1018.965+/-57.402  $\chi^2/\text{NDF}$ : 2310.1/24

Right Out: -458.566+/-51.552  $\chi^2/\text{NDF}$ : 13211.0/30

Left In: 396.609+/-55.090  $\chi^2/\text{NDF}$ : 1581.0/22

Left: 695.002+/-39.747  $\chi^2/\text{NDF}$ : 3952.3/47

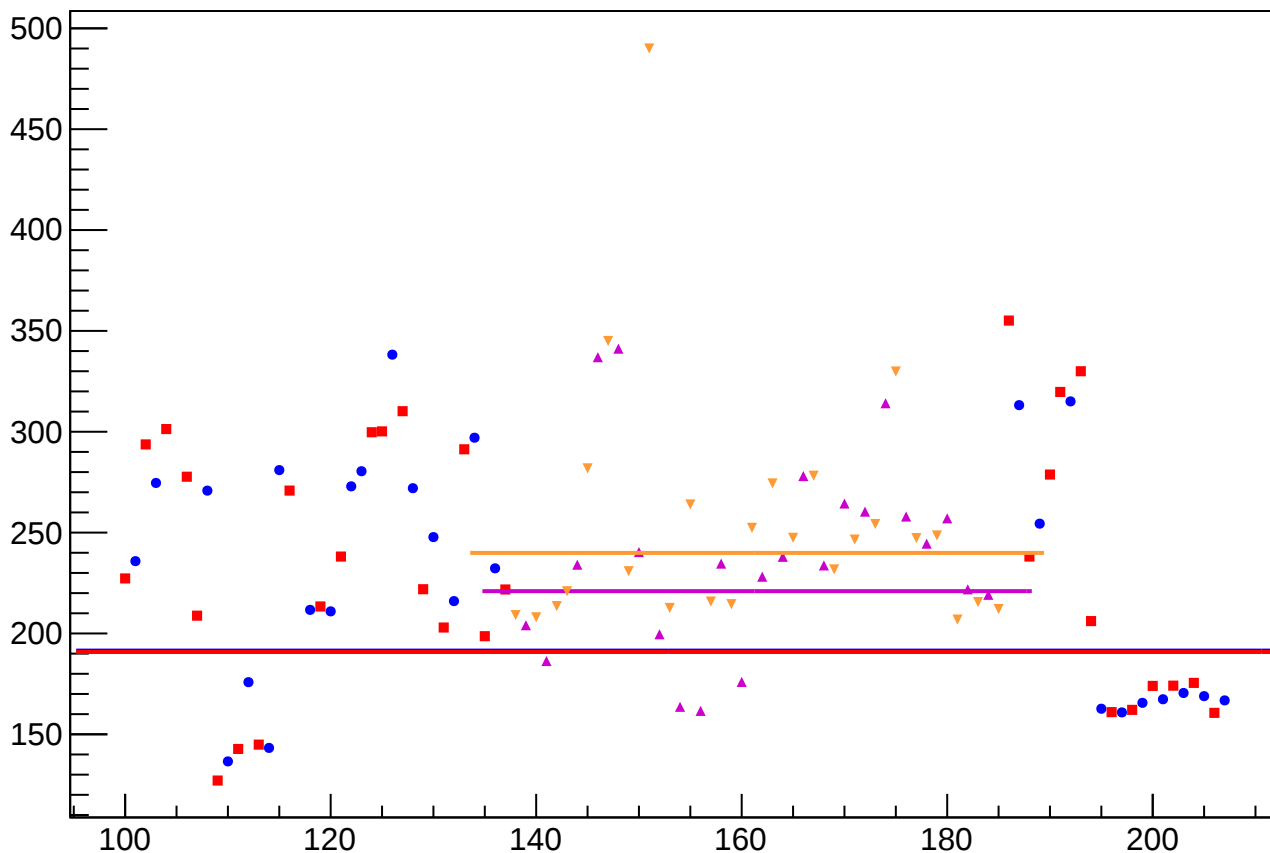
Right: 6.025+/-37.058  $\chi^2/\text{NDF}$ : 24201.1/57

In: 451.455+/-38.309  $\chi^2/\text{NDF}$ : 12404.9/49

Out: 201.089+/-38.355  $\chi^2/\text{NDF}$ : 15887.9/55

All: 326.421+/-27.105  $\chi^2/\text{NDF}$ : 28314.1/105

# asym\_bcm0l02\_rms vs Slug, Sign Corrected



Right In: 191.496 $\pm$ 0.038  $\chi^2$ /NDF: 1490505.0/26

Left Out: 239.942 $\pm$ 0.041  $\chi^2$ /NDF:1000770.0/24

Right Out: 190.816 $\pm$ 0.036  $\chi^2$ /NDF: 2050339.7/30

Left In: 220.972 $\pm$ 0.039  $\chi^2$ /NDF:1327680.6/22

Left: 230.067 $\pm$ 0.028  $\chi^2$ /NDF: 2442154.9/47

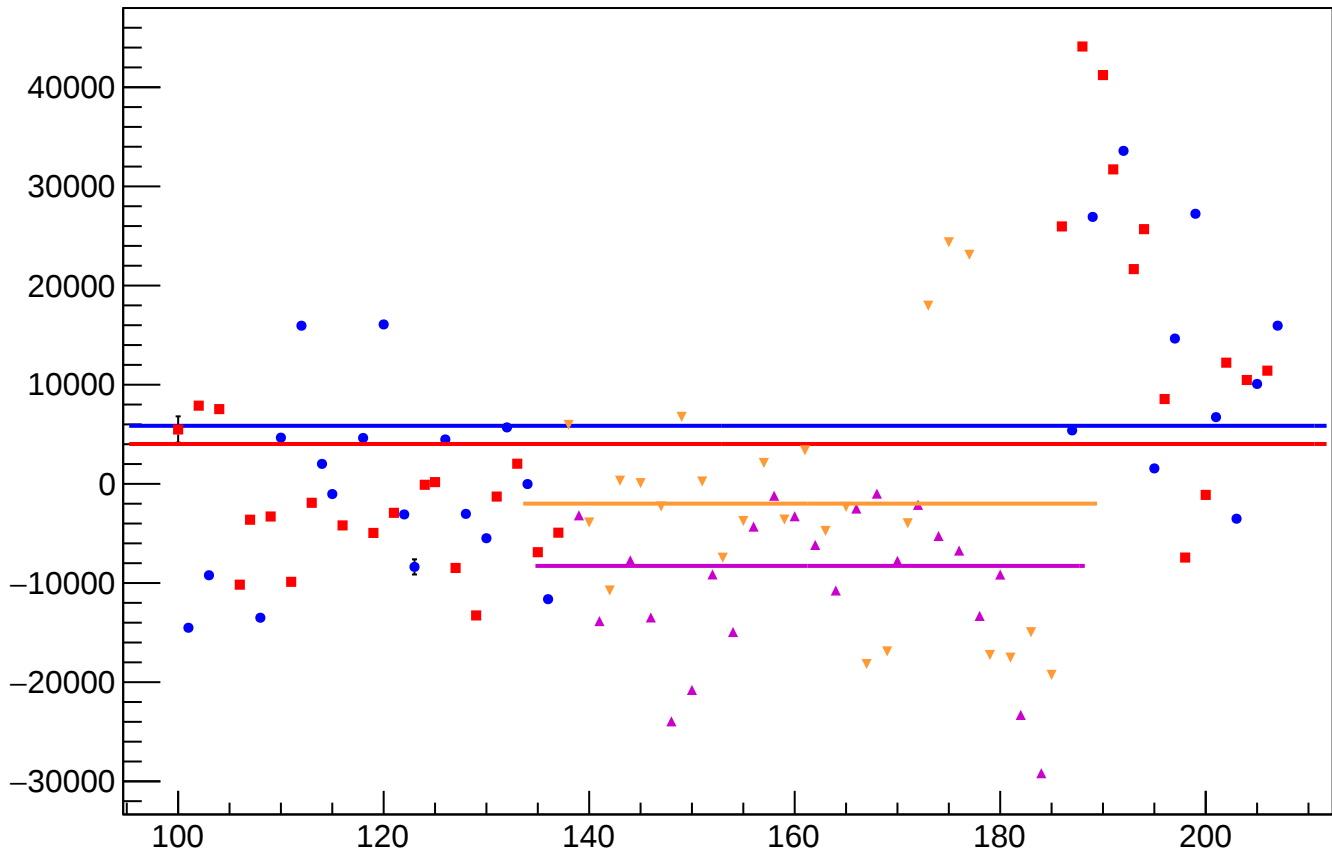
Right: 191.145 $\pm$ 0.026  $\chi^2$ /NDF: 3541012.6/57

In: 205.749 $\pm$ 0.027  $\chi^2$ /NDF:3113875.0/49

Out: 212.749 $\pm$ 0.027  $\chi^2$ /NDF:3861962.9/55

All: 209.245 $\pm$ 0.019  $\chi^2$ /NDF: 7009183.1/105

# asym\_bpm0i02WS\_mean vs Slug, Sign Corrected



Right In:  $5855.175 \pm 42.640$   $\chi^2/\text{NDF}: 89176.6/26$

Left Out:  $-1991.788 \pm 42.427$   $\chi^2/\text{NDF}: 63766.6/24$

Right Out:  $4023.041 \pm 40.528$   $\chi^2/\text{NDF}: 134262.5/30$

Left In:  $-8273.228 \pm 44.301$   $\chi^2/\text{NDF}: 22870.2/22$

Left:  $-4996.810 \pm 30.641$   $\chi^2/\text{NDF}: 97123.2/47$

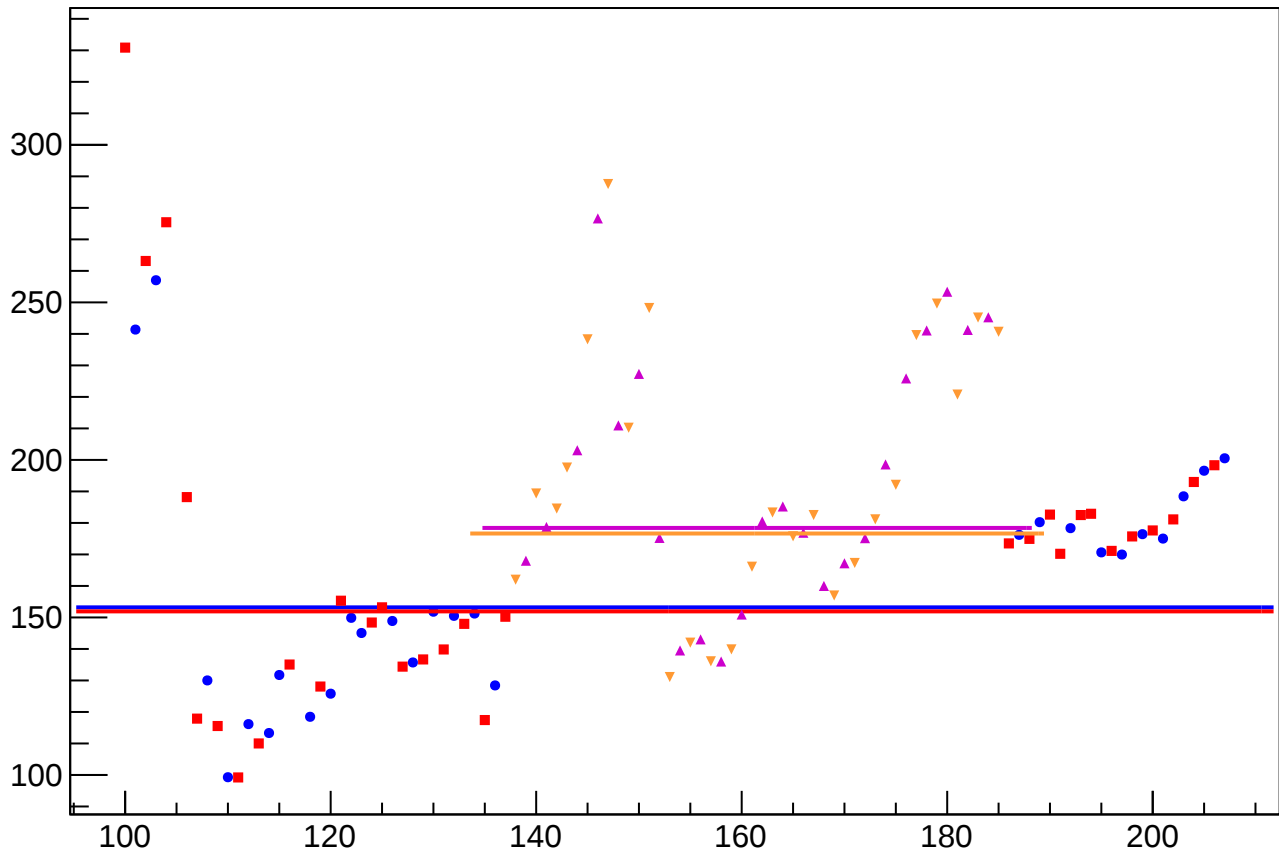
Right:  $4892.599 \pm 29.376$   $\chi^2/\text{NDF}: 224409.1/57$

In:  $-939.215 \pm 30.722$   $\chi^2/\text{NDF}: 164843.1/49$

Out:  $1153.250 \pm 29.306$   $\chi^2/\text{NDF}: 208538.3/55$

All:  $156.345 \pm 21.205$   $\chi^2/\text{NDF}: 375810.3/105$

# asym\_bpm0i02WS\_rms vs Slug, Sign Corrected



Right In: 153.201+/-0.030  $\chi^2/\text{NDF}$ : 1250066.0/26

Left Out: 176.641+/-0.030  $\chi^2/\text{NDF}$ :1551048.8/24

Right Out: 151.924+/-0.029  $\chi^2/\text{NDF}$ : 1530358.7/30

Left In: 178.413+/-0.031  $\chi^2/\text{NDF}$ :1293736.2/22

Left: 177.489+/-0.022  $\chi^2/\text{NDF}$ : 2846455.0/47

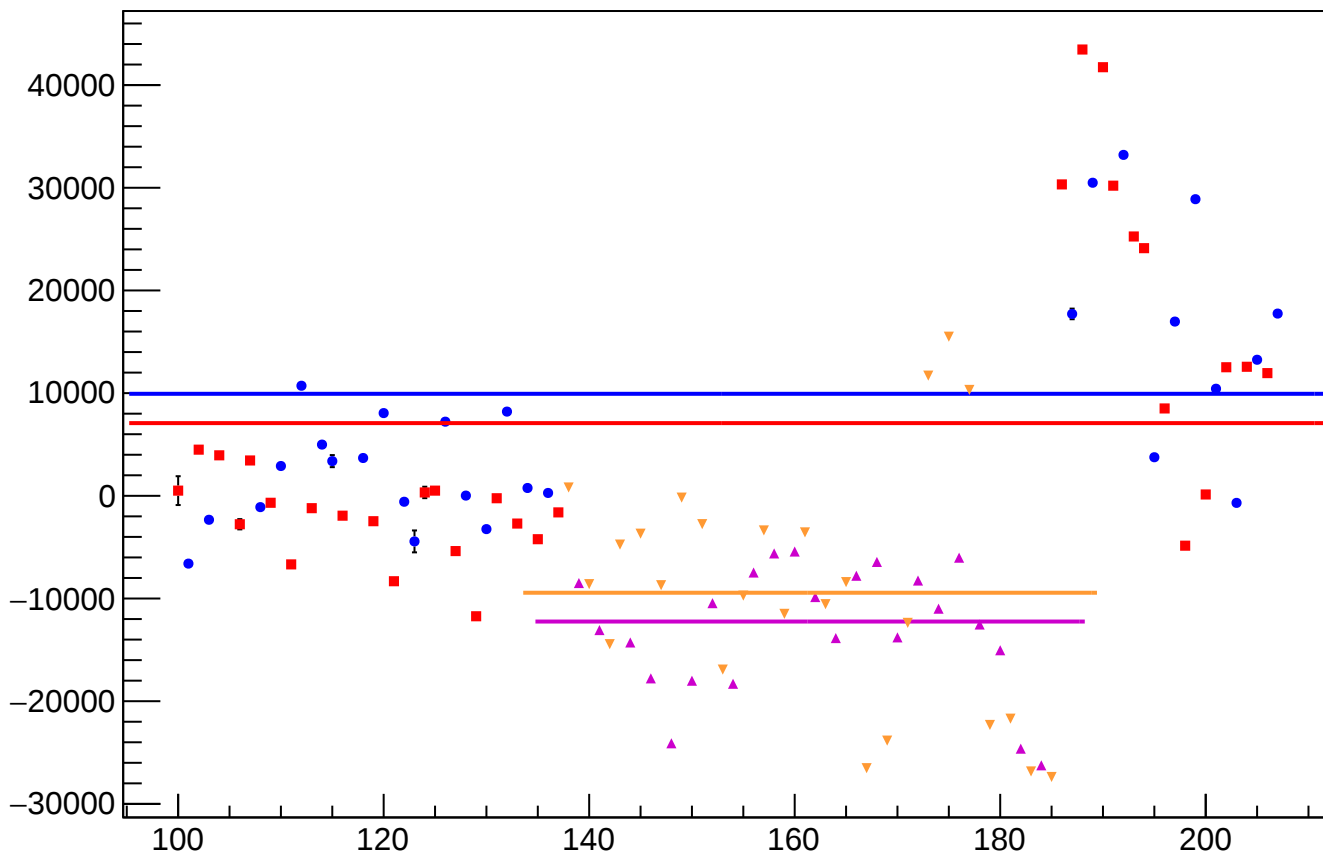
Right: 152.530+/-0.021  $\chi^2/\text{NDF}$ : 2781366.0/57

In: 165.326+/-0.022  $\chi^2/\text{NDF}$ :2880068.2/49

Out: 163.717+/-0.021  $\chi^2/\text{NDF}$ :3436318.3/55

All: 164.483+/-0.015  $\chi^2/\text{NDF}$ : 6319256.8/105

# asym\_bpm0i02aWS\_mean vs Slug, Sign Corrected



Right In: 9935.457+/-48.147

$\chi^2/\text{NDF}$ : 50419.6/26

Left: -10889.638+/-31.621

$\chi^2/\text{NDF}$ : 80800.7/47

Left Out: -9437.408+/-45.534

$\chi^2/\text{NDF}$ : 62220.4/24

Right: 8434.318+/-33.150

$\chi^2/\text{NDF}$ : 155881.0/57

Right Out: 7081.240+/-45.710

$\chi^2/\text{NDF}$ : 103613.1/30

In: -2163.243+/-32.458

$\chi^2/\text{NDF}$ : 182786.5/49

Out: -1209.972+/-32.260

$\chi^2/\text{NDF}$ : 231381.8/55

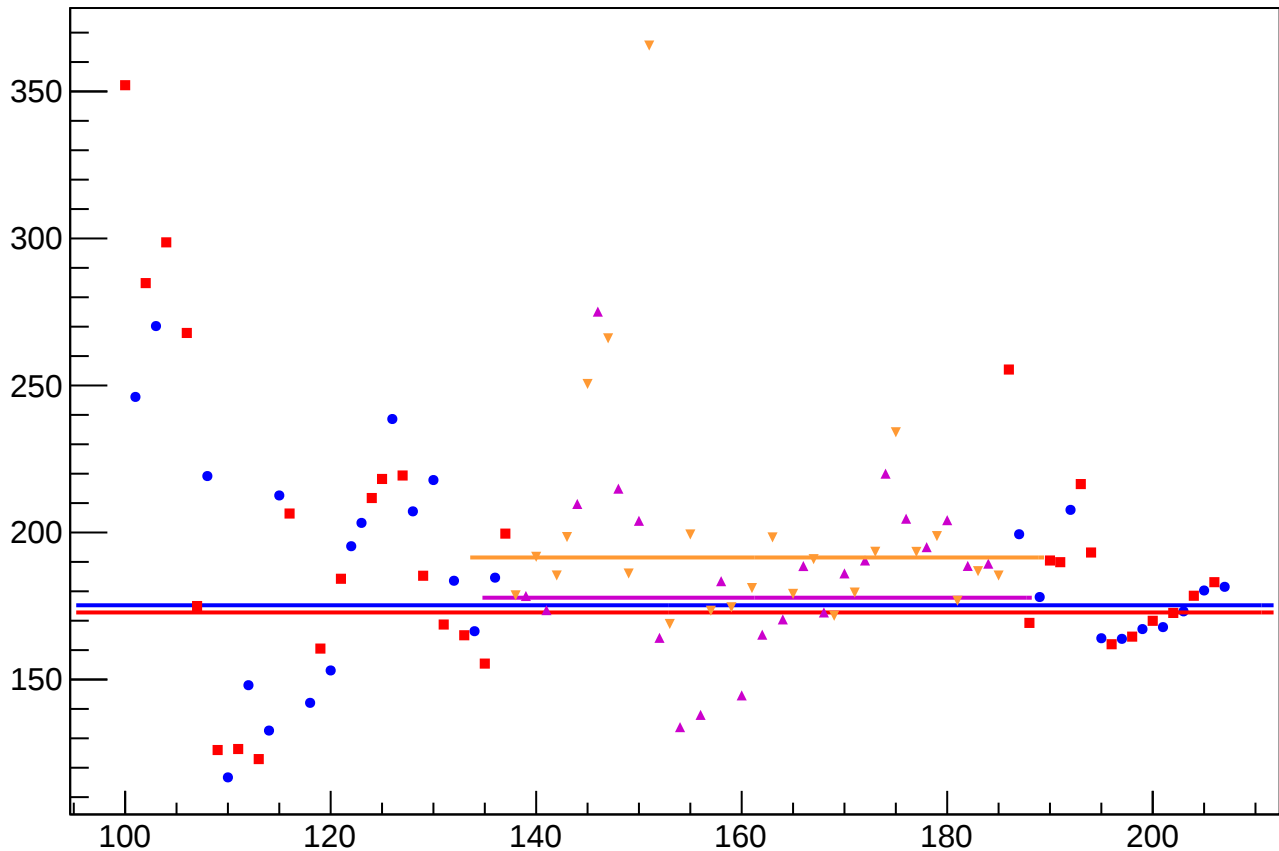
Left In: -12242.226+/-43.944

$\chi^2/\text{NDF}$ : 16615.8/22

All: -1683.695+/-22.881

$\chi^2/\text{NDF}$ : 414602.2/100

# asym\_bpm0i02aWS\_rms vs Slug, Sign Corrected



Right In:  $175.250 \pm 0.034$   $\chi^2/\text{NDF}$ : 761824.9/26

Left Out:  $191.507 \pm 0.032$   $\chi^2/\text{NDF}$ : 727251.6/24

Right Out:  $172.808 \pm 0.032$   $\chi^2/\text{NDF}$ : 1131650.6/30

Left In:  $177.821 \pm 0.031$   $\chi^2/\text{NDF}$ : 862494.4/22

Left:  $184.421 \pm 0.022$   $\chi^2/\text{NDF}$ : 1683284.8/47

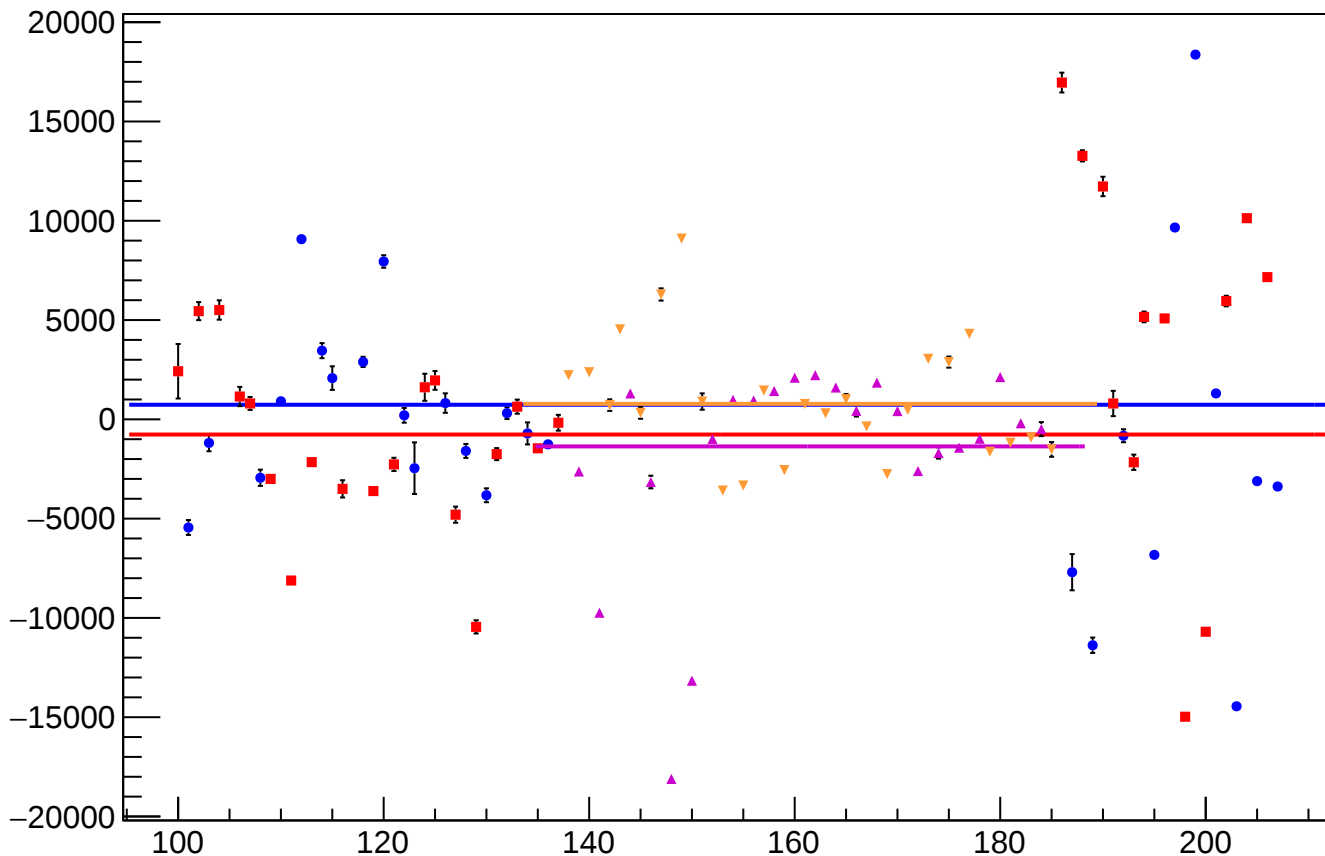
Right:  $173.966 \pm 0.023$   $\chi^2/\text{NDF}$ : 1896183.0/57

In:  $176.653 \pm 0.023$   $\chi^2/\text{NDF}$ : 1627430.6/49

Out:  $182.193 \pm 0.023$   $\chi^2/\text{NDF}$ : 2026891.0/55

All:  $179.440 \pm 0.016$   $\chi^2/\text{NDF}$ : 3683636.4/105

asym\_bpm0i05WS\_mean vs Slug, Sign Corrected



Right In: 734.473+/-54.145  $\chi^2/\text{NDF}$ : 20337.9/26

Left Out: 779.983+/-47.457  $\chi^2/\text{NDF}$ :4260.8/24

Right Out: -765.096+/-51.727  $\chi^2/\text{NDF}$ : 20346.1/30

Left In: -1363.043+/-45.807  $\chi^2/\text{NDF}$ :11632.9/22

Left: -329.448+/-32.958  $\chi^2/\text{NDF}$ : 16949.3/47

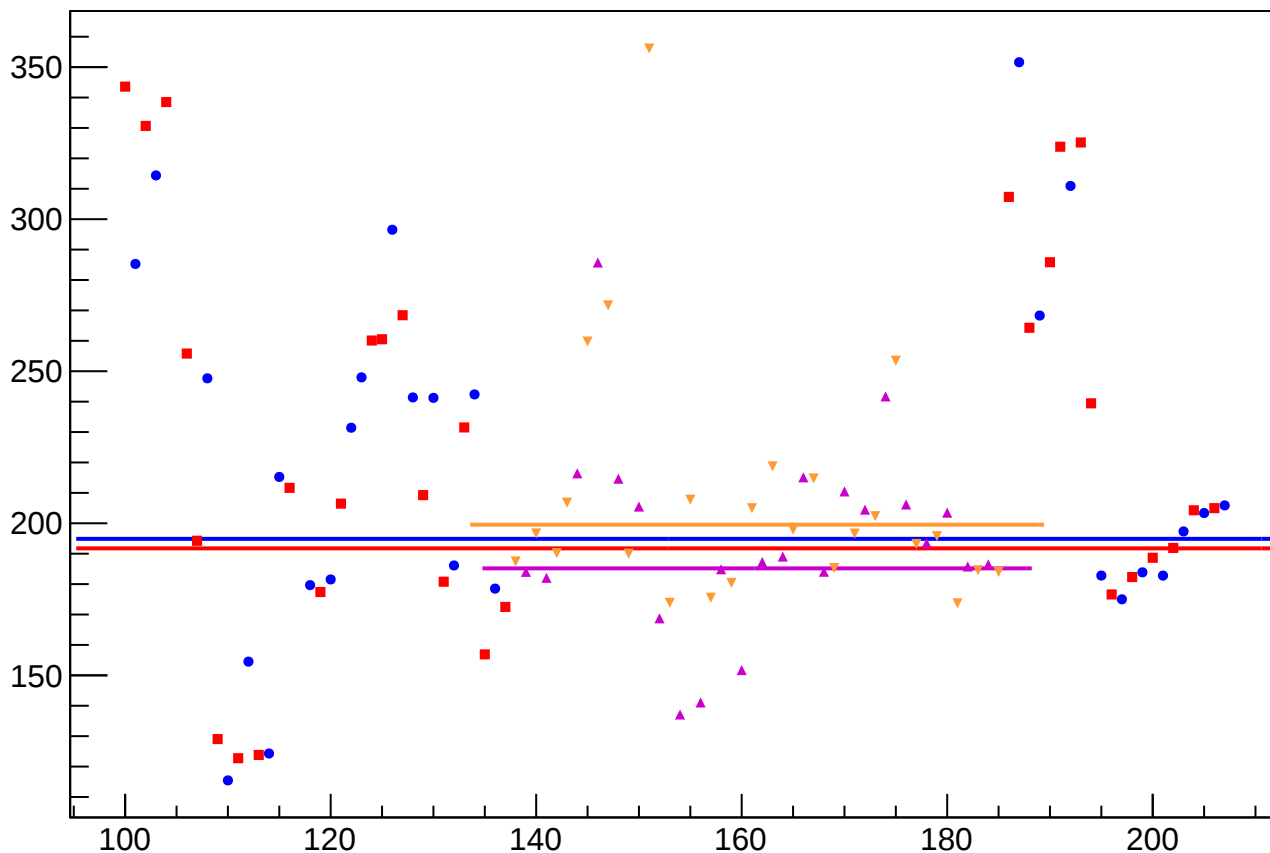
Right: -49.539+/-37.402  $\chi^2/\text{NDF}$ : 41085.0/57

In: -488.064+/-34.971  $\chi^2/\text{NDF}$ :32845.4/49

Out: 73.839+/-34.970  $\chi^2/\text{NDF}$ :25091.3/55

All: -207.103+/-24.728  $\chi^2/\text{NDF}$ : 58065.8/105

# asym\_bpm0i05WS\_rms vs Slug, Sign Corrected



Right In:  $194.885 \pm 0.038$   $\chi^2/\text{NDF}$ : 1415381.8/26

Left Out:  $199.547 \pm 0.034$   $\chi^2/\text{NDF}$ : 729356.3/24

Right Out:  $191.752 \pm 0.037$   $\chi^2/\text{NDF}$ : 2142233.6/30

Left In:  $185.171 \pm 0.032$   $\chi^2/\text{NDF}$ : 882752.2/22

Left:  $192.104 \pm 0.023$   $\chi^2/\text{NDF}$ : 1707122.0/47

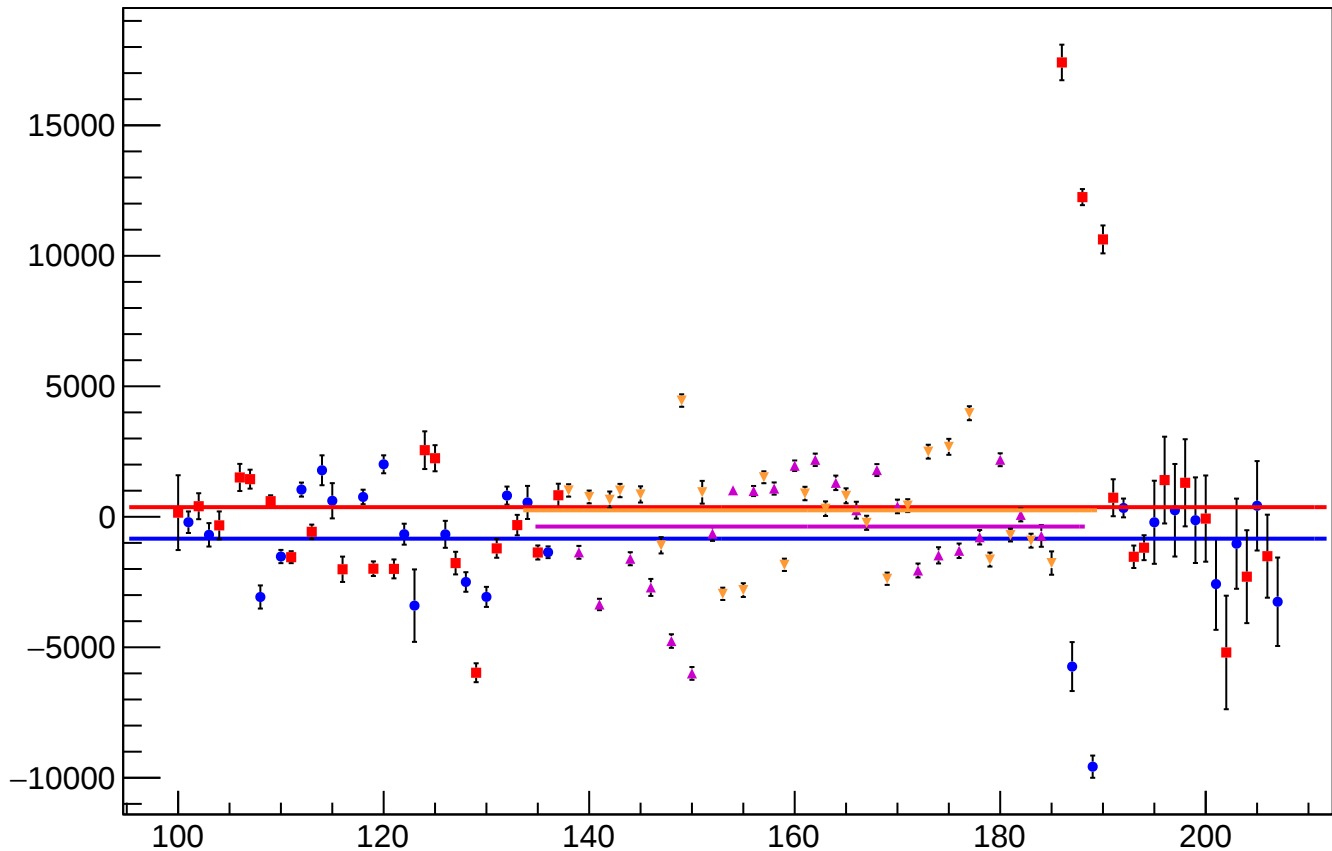
Right:  $193.247 \pm 0.026$   $\chi^2/\text{NDF}$ : 3561115.8/57

In:  $189.223 \pm 0.025$   $\chi^2/\text{NDF}$ : 2335658.0/49

Out:  $195.985 \pm 0.025$   $\chi^2/\text{NDF}$ : 2896246.5/55

All:  $192.604 \pm 0.017$   $\chi^2/\text{NDF}$ : 5269289.0/105

# asym\_bpm0i07WS\_mean vs Slug, Sign Corrected



Right In: -838.236+/-83.440  $\chi^2/\text{NDF}$ : 763.7/26

Left Out: 247.844+/-53.555  $\chi^2/\text{NDF}$ :1355.1/24

Right Out: 368.996+/-74.990  $\chi^2/\text{NDF}$ : 3172.8/30

Left In: -374.122+/-52.049  $\chi^2/\text{NDF}$ :1801.0/22

Left: -72.006+/-37.325  $\chi^2/\text{NDF}$ : 3225.5/47

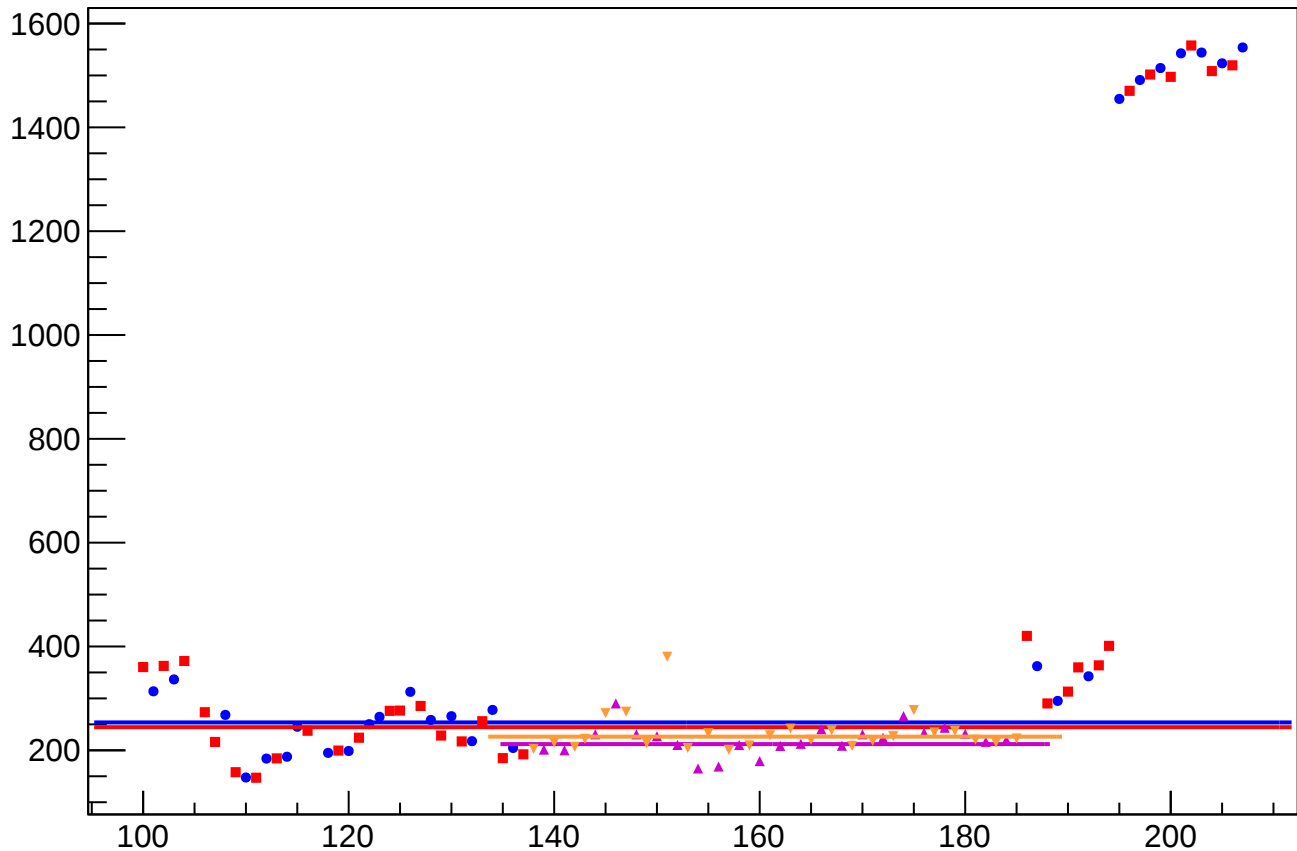
Right: -170.411+/-55.775  $\chi^2/\text{NDF}$ : 4052.3/57

In: -504.128+/-44.161  $\chi^2/\text{NDF}$ :2587.0/49

Out: 288.764+/-43.582  $\chi^2/\text{NDF}$ :4529.6/55

All: -102.445+/-31.020  $\chi^2/\text{NDF}$ : 7279.9/105

# asym\_bpm0i07WS\_rms vs Slug, Sign Corrected



Right In: 253.726 $\pm$ 0.059  $\chi^2/\text{NDF}$ : 8842640.0/26

Left Out: 226.322 $\pm$ 0.038  $\chi^2/\text{NDF}$ :521041.8/24

Right Out: 244.547 $\pm$ 0.053  $\chi^2/\text{NDF}$ : 8269831.4/30

Left In: 211.970 $\pm$ 0.037  $\chi^2/\text{NDF}$ :584344.5/22

Left: 218.941 $\pm$ 0.026  $\chi^2/\text{NDF}$ : 1179246.7/47

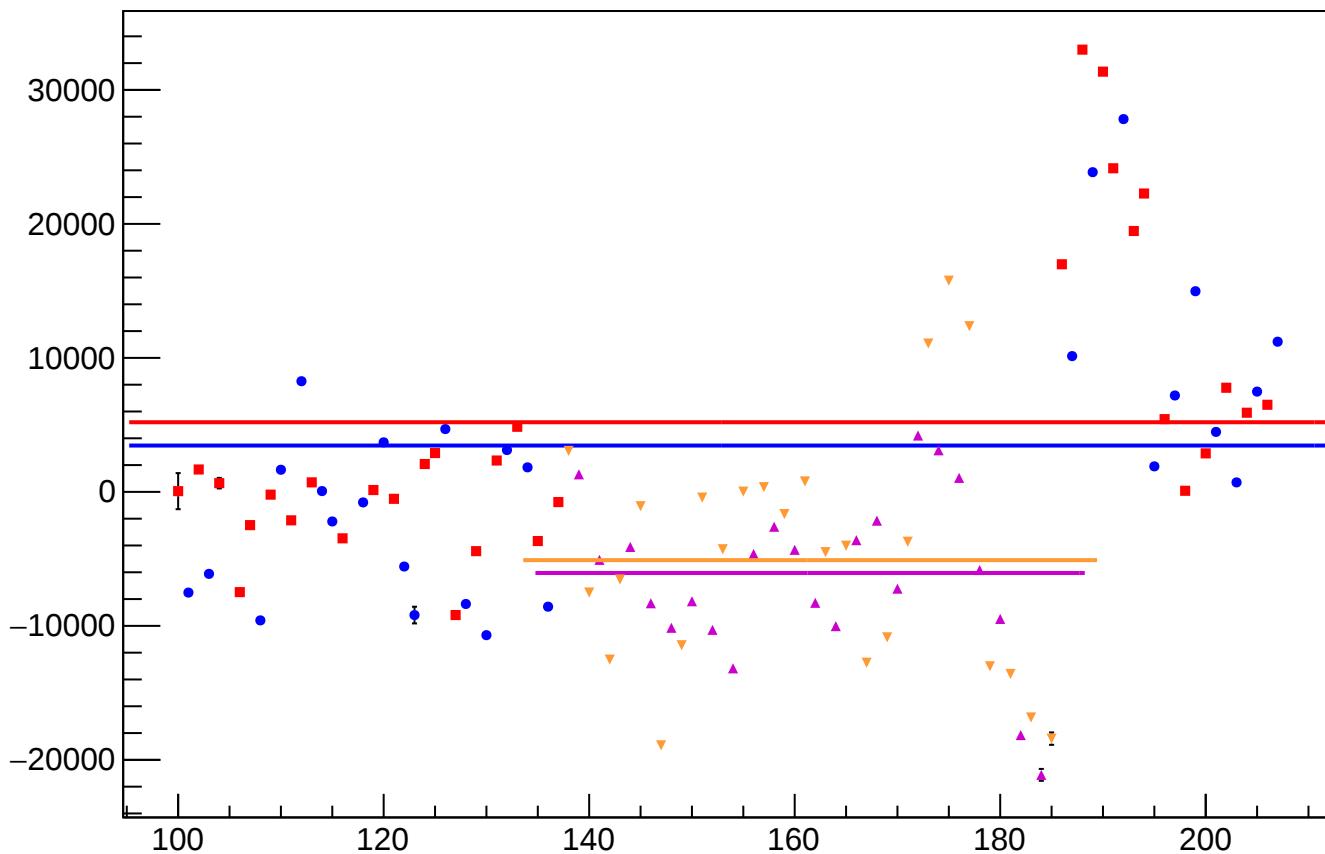
Right: 248.648 $\pm$ 0.039  $\chi^2/\text{NDF}$ : 17125862.4/57

In: 223.667 $\pm$ 0.031  $\chi^2/\text{NDF}$ :9787552.1/49

Out: 232.477 $\pm$ 0.031  $\chi^2/\text{NDF}$ :8869103.4/55

All: 228.130 $\pm$ 0.022  $\chi^2/\text{NDF}$ : 18696985.5/10

# asym\_bpm1i02WS\_mean vs Slug, Sign Corrected



Right In: 3458.637+/-36.240  $\chi^2/\text{NDF}$ : 75753.4/26

Left Out: -5095.305+/-33.703  $\chi^2/\text{NDF}$ :54395.4/24

Right Out: 5198.497+/-34.151  $\chi^2/\text{NDF}$ : 101070.7/30

Left In: -6053.569+/-34.998  $\chi^2/\text{NDF}$ :17590.3/22

Left: -5556.386+/-24.277  $\chi^2/\text{NDF}$ : 72374.6/47

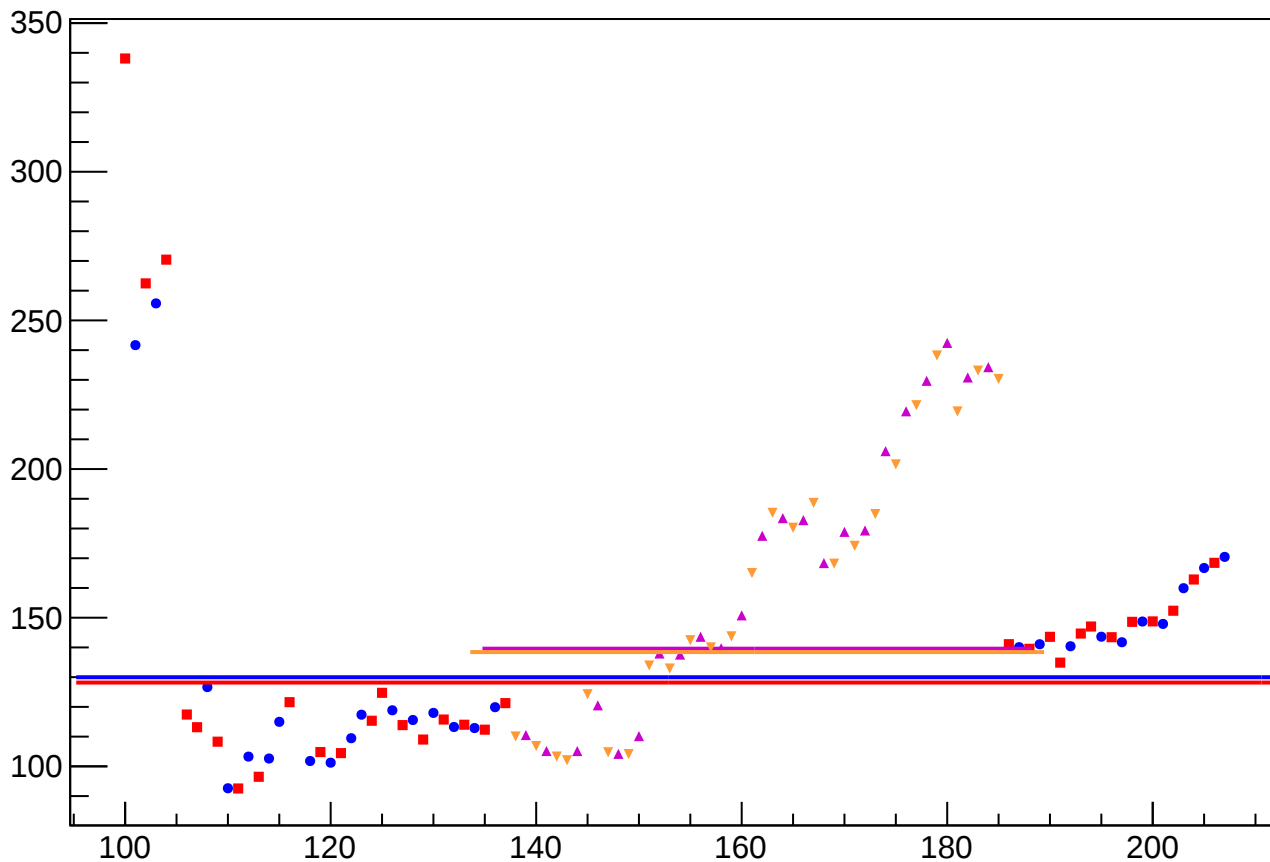
Right: 4380.147+/-24.854  $\chi^2/\text{NDF}$ : 178044.9/57

In: -1463.255+/-25.175  $\chi^2/\text{NDF}$ :128991.8/49

Out: -16.349+/-23.989  $\chi^2/\text{NDF}$ :201491.9/55

All: -704.910+/-17.367  $\chi^2/\text{NDF}$ : 332214.9/10

# asym\_bpm1i02WS\_rms vs Slug, Sign Corrected



Right In: 129.969 $\pm$ 0.026  $\chi^2$ /NDF: 1244211.1/26

Left Out: 138.436 $\pm$ 0.024  $\chi^2$ /NDF:2549435.8/24

Right Out: 128.185 $\pm$ 0.024  $\chi^2$ /NDF: 1360974.7/30

Left In: 139.578 $\pm$ 0.025  $\chi^2$ /NDF:2413658.9/22

Left: 138.985 $\pm$ 0.017  $\chi^2$ /NDF: 4964199.7/47

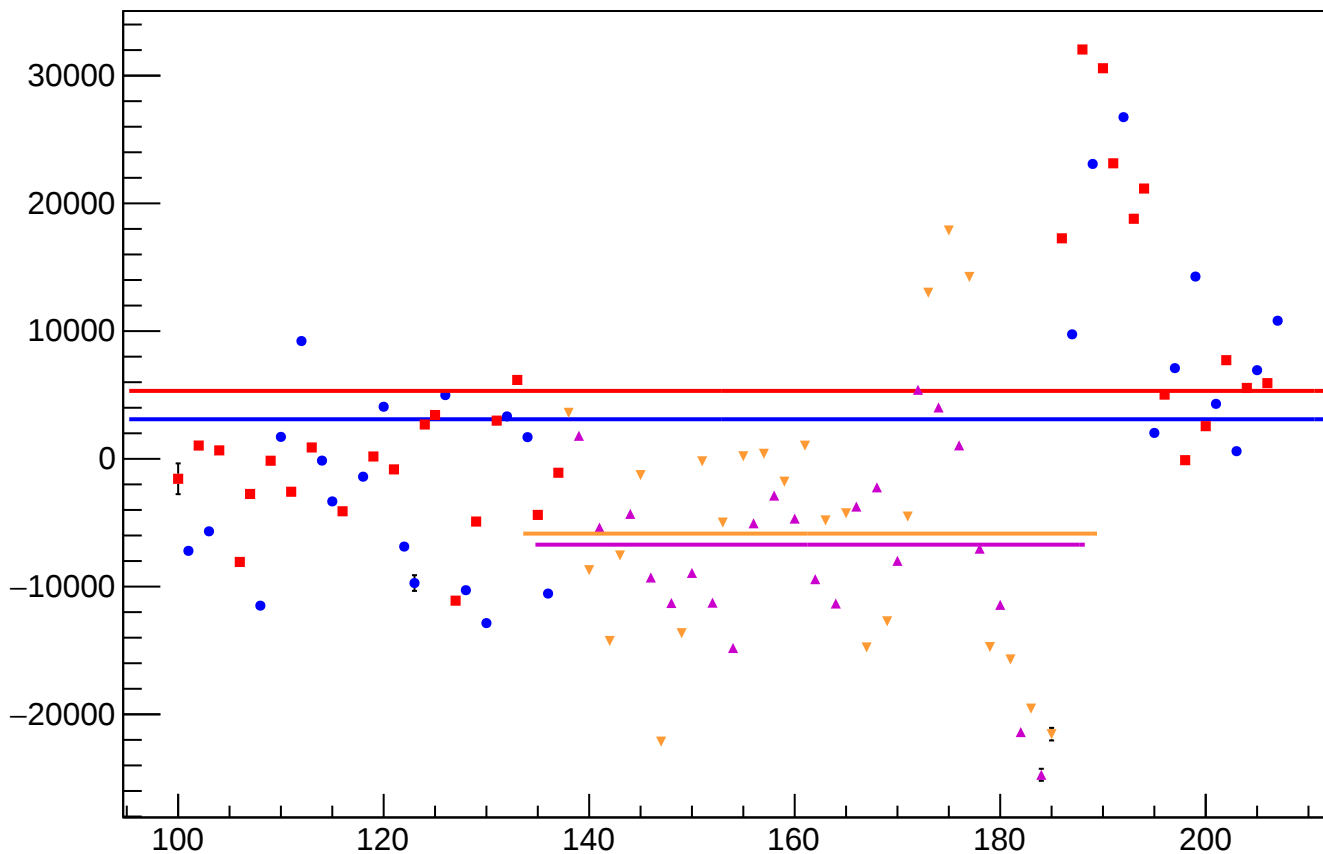
Right: 129.024 $\pm$ 0.018  $\chi^2$ /NDF: 2607752.2/57

In: 134.941 $\pm$ 0.018  $\chi^2$ /NDF:3730621.3/49

Out: 133.378 $\pm$ 0.017  $\chi^2$ /NDF:4001689.7/55

All: 134.122 $\pm$ 0.012  $\chi^2$ /NDF: 7736350.2/105

asym\_bpm2i01WS\_mean vs Slug, Sign Corrected



Right In: 3100.149 $\pm$ 36.346

$\chi^2/\text{NDF}$ : 80925.6/26

Left: -6268.993 $\pm$ 25.850

$\chi^2/\text{NDF}$ : 84625.8/47

Left Out: -5852.544 $\pm$ 35.880

$\chi^2/\text{NDF}$ : 63411.4/24

Right: 4270.968 $\pm$ 24.984

$\chi^2/\text{NDF}$ : 184427.9/57

Right Out: 5319.756 $\pm$ 34.400

$\chi^2/\text{NDF}$ : 101535.1/30

In: -1685.217 $\pm$ 26.023

$\chi^2/\text{NDF}$ : 137427.2/49

Out: -31.235 $\pm$ 24.831

$\chi^2/\text{NDF}$ : 215466.6/55

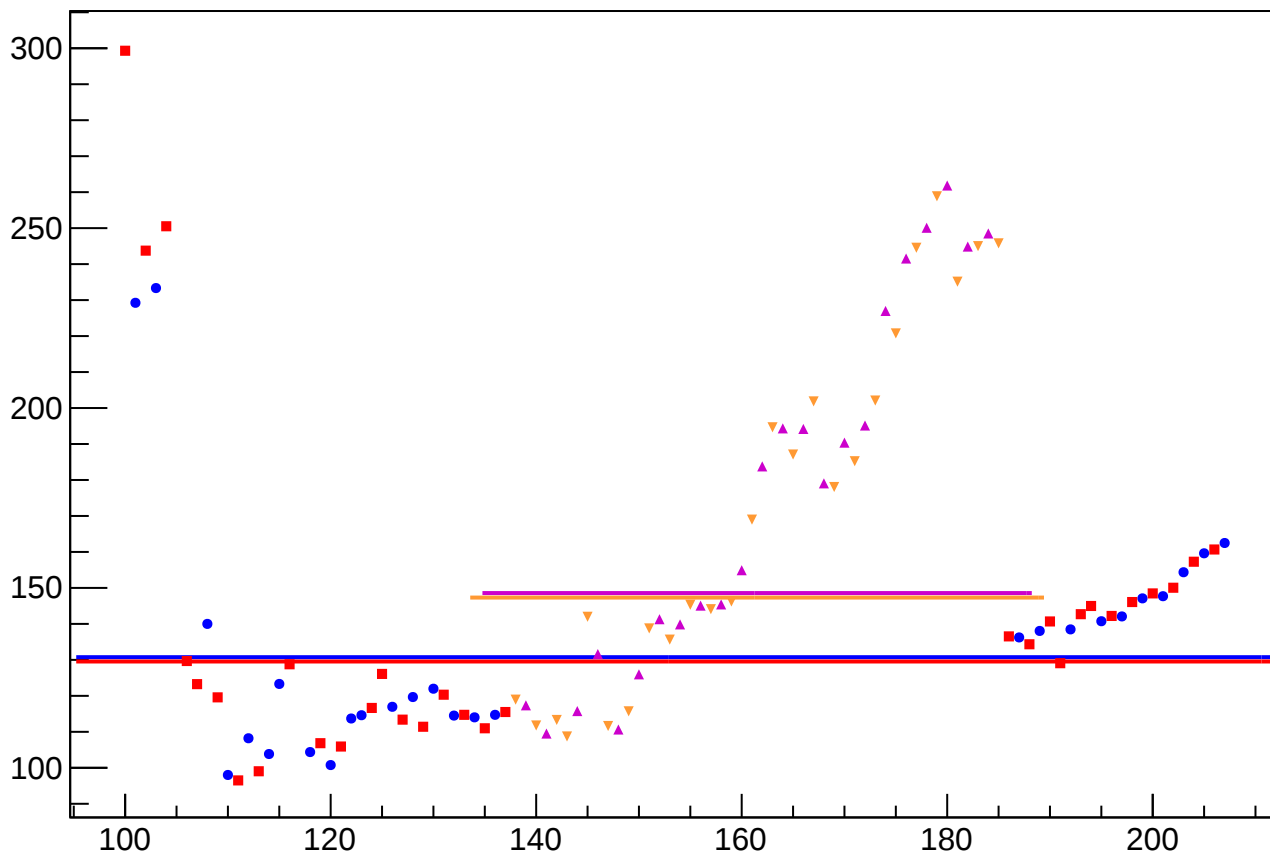
Left In: -6718.475 $\pm$ 37.276

$\chi^2/\text{NDF}$ : 20934.3/22

All: -819.482 $\pm$ 17.965

$\chi^2/\text{NDF}$ : 355008.3/10

# asym\_bpm2i01WS\_rms vs Slug, Sign Corrected



Right In: 130.746+/-0.026  $\chi^2/\text{NDF}$ : 993028.3/26

Left Out: 147.317+/-0.025  $\chi^2/\text{NDF}$ : 2511679.9/24

Right Out: 129.550+/-0.024  $\chi^2/\text{NDF}$ : 1070054.2/30

Left In: 148.569+/-0.026  $\chi^2/\text{NDF}$ : 2393185.0/22

Left: 147.919+/-0.018  $\chi^2/\text{NDF}$ : 4906034.9/47

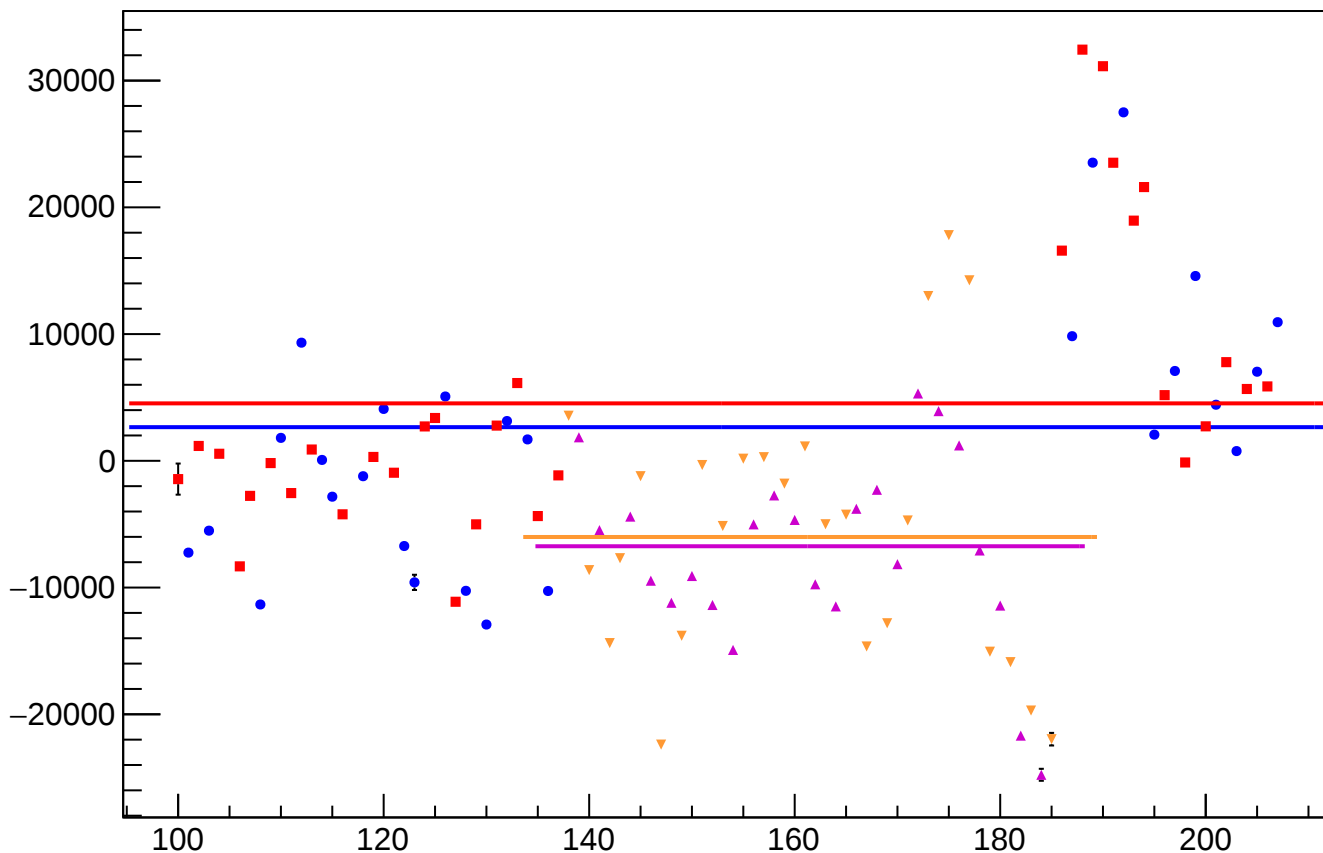
Right: 130.115+/-0.018  $\chi^2/\text{NDF}$ : 2064225.5/57

In: 139.433+/-0.018  $\chi^2/\text{NDF}$ : 3620580.3/49

Out: 138.060+/-0.018  $\chi^2/\text{NDF}$ : 3837263.2/55

All: 138.714+/-0.013  $\chi^2/\text{NDF}$ : 7460757.1/105

asym\_bpm2i02WS\_mean vs Slug, Sign Corrected



Right In: 2656.132+/-36.041  $\chi^2/\text{NDF}$ : 80380.0/26

Left Out: -6009.913+/-35.082  $\chi^2/\text{NDF}$ : 67852.2/24

Right Out: 4532.676+/-34.203  $\chi^2/\text{NDF}$ : 96212.3/30

Left In: -6740.666+/-36.379  $\chi^2/\text{NDF}$ : 22071.8/22

Left: -6362.031+/-25.253  $\chi^2/\text{NDF}$ : 90133.1/47

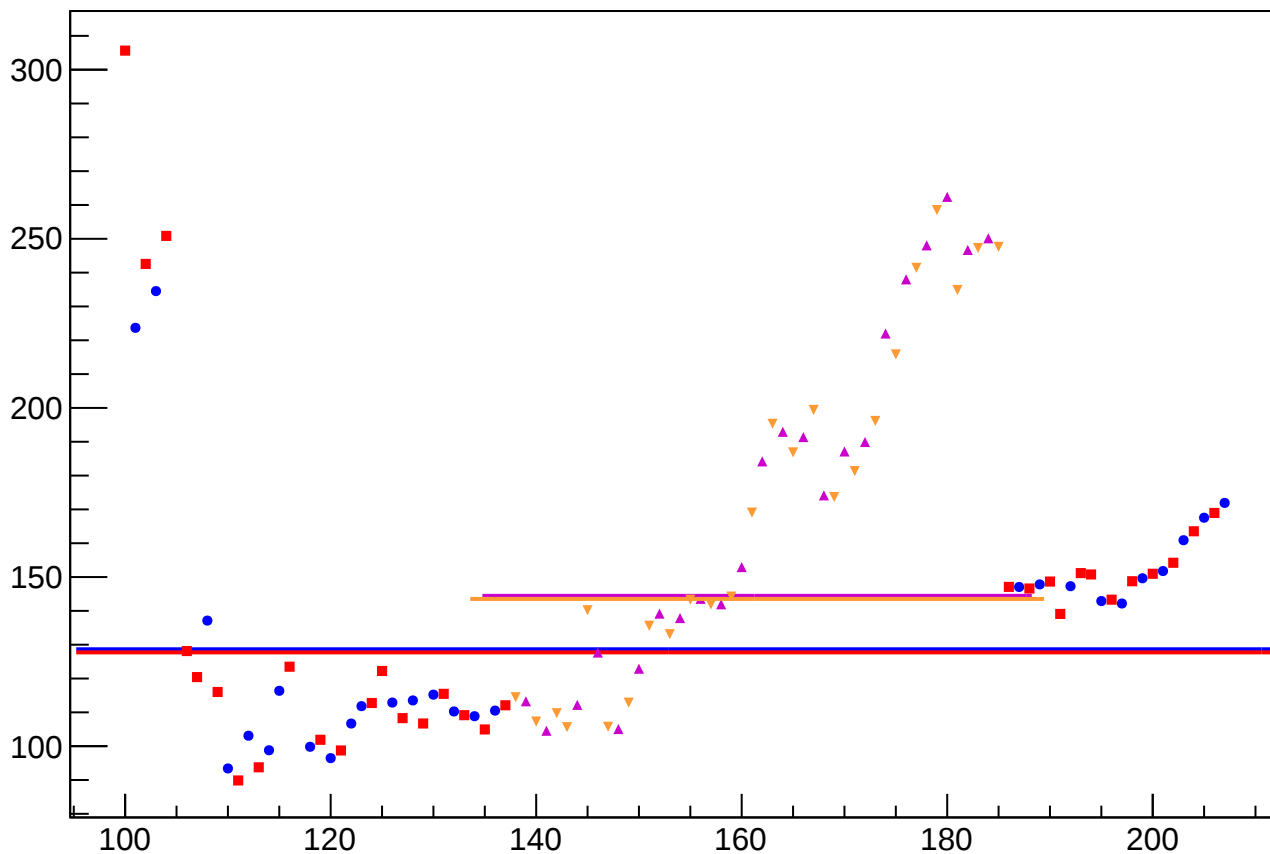
Right: 3643.495+/-24.809  $\chi^2/\text{NDF}$ : 178018.8/57

In: -1998.414+/-25.604  $\chi^2/\text{NDF}$ : 136122.7/49

Out: -604.764+/-24.490  $\chi^2/\text{NDF}$ : 210364.2/55

All: -1270.618+/-17.698  $\chi^2/\text{NDF}$ : 348034.1/111

# asym\_bpm2i02WS\_rms vs Slug, Sign Corrected



Right In: 128.647 $\pm$ 0.025  $\chi^2$ /NDF: 1314665.6/26

Left Out: 143.531 $\pm$ 0.025  $\chi^2$ /NDF: 2704790.3/24

Right Out: 127.733 $\pm$ 0.024  $\chi^2$ /NDF: 1465045.1/30

Left In: 144.440 $\pm$ 0.026  $\chi^2$ /NDF: 2586926.1/22

Left: 143.969 $\pm$ 0.018  $\chi^2$ /NDF: 5292363.3/47

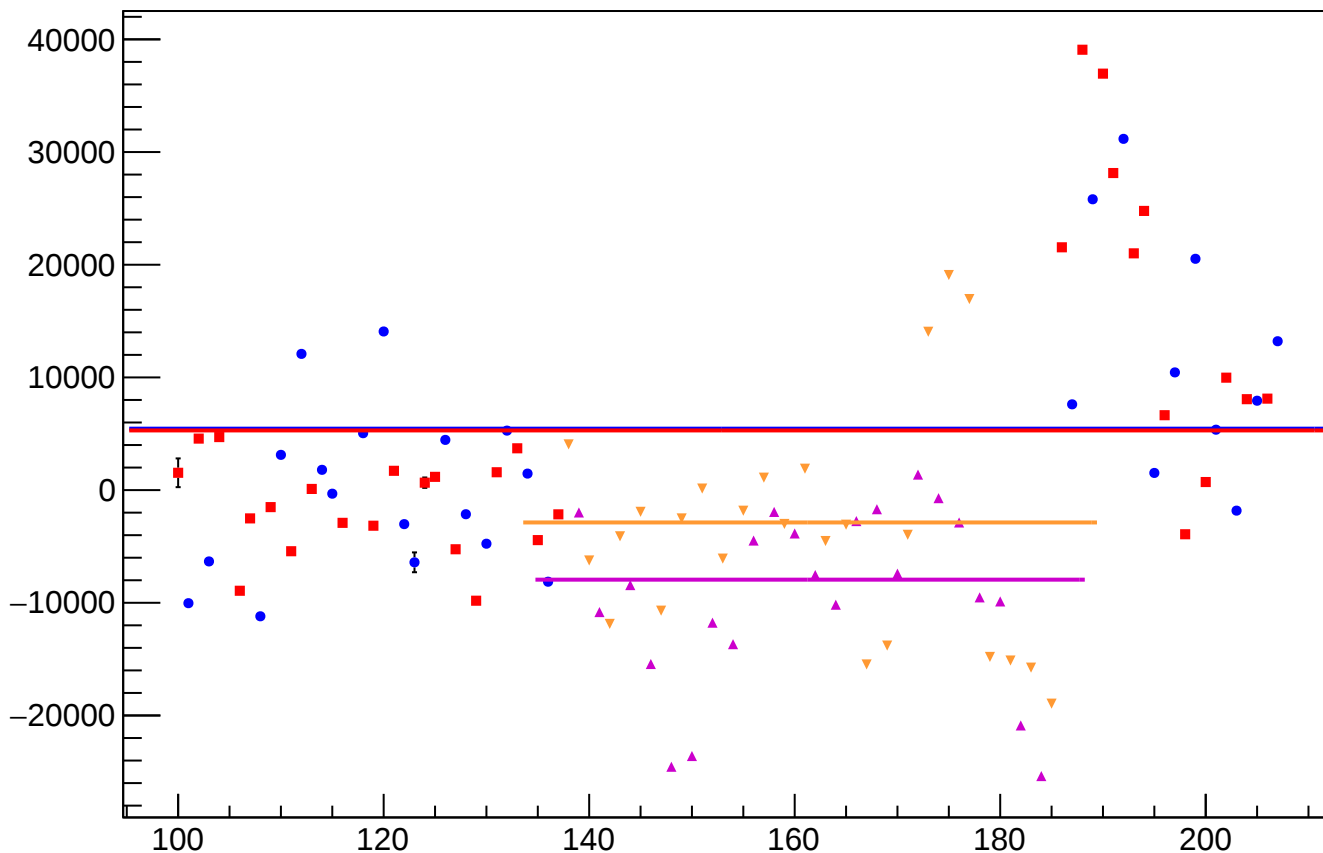
Right: 128.166 $\pm$ 0.018  $\chi^2$ /NDF: 2780387.8/57

In: 136.470 $\pm$ 0.018  $\chi^2$ /NDF: 4091792.0/49

Out: 135.431 $\pm$ 0.017  $\chi^2$ /NDF: 4377752.2/55

All: 135.928 $\pm$ 0.013  $\chi^2$ /NDF: 8471262.4/105

# asym\_bpm0i01WS\_mean vs Slug, Sign Corrected



Right In: 5452.301+/-43.621  $\chi^2/\text{NDF}$ : 61096.4/26

Left Out: -2870.473+/-39.482  $\chi^2/\text{NDF}$ : 46420.3/24

Right Out: 5296.165+/-41.388  $\chi^2/\text{NDF}$ : 95553.1/30

Left In: -7947.160+/-41.726  $\chi^2/\text{NDF}$ : 23874.5/22

Left: -5268.670+/-28.678  $\chi^2/\text{NDF}$ : 78105.0/47

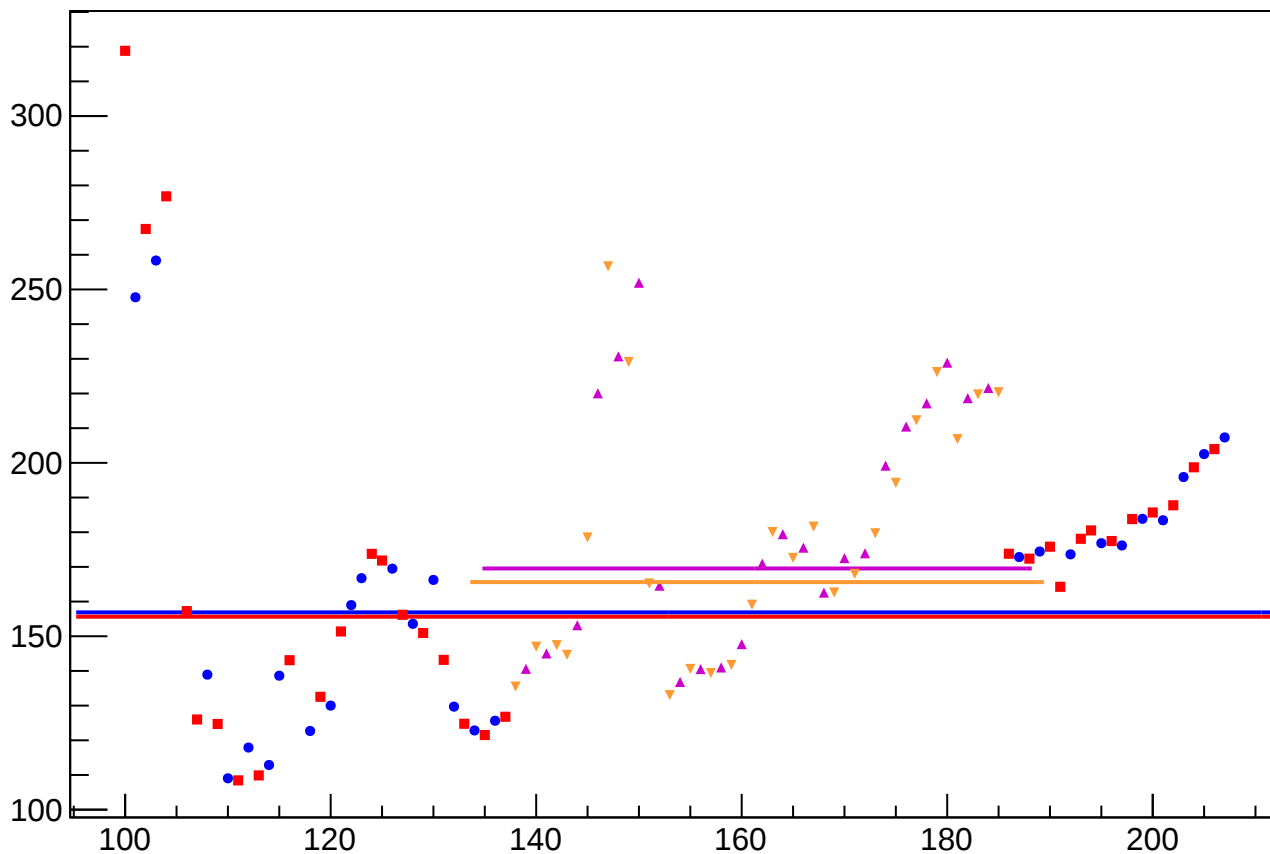
Right: 5370.133+/-30.024  $\chi^2/\text{NDF}$ : 156656.2/57

In: -1544.898+/-30.152  $\chi^2/\text{NDF}$ : 134244.4/49

Out: 1020.534+/-28.568  $\chi^2/\text{NDF}$ : 162358.0/55

All: -193.010+/-20.738  $\chi^2/\text{NDF}$ : 300417.1/100

# asym\_bpm0i01WS\_rms vs Slug, Sign Corrected



Right In: 156.883 $\pm$ 0.031  $\chi^2$ /NDF: 1261725.4/26

Left Out: 165.616 $\pm$ 0.028  $\chi^2$ /NDF:1144779.3/24

Right Out: 155.641 $\pm$ 0.029  $\chi^2$ /NDF: 1389697.6/30

Left In: 169.542 $\pm$ 0.030  $\chi^2$ /NDF:1159241.9/22

Left: 167.471 $\pm$ 0.020  $\chi^2$ /NDF: 2313359.6/47

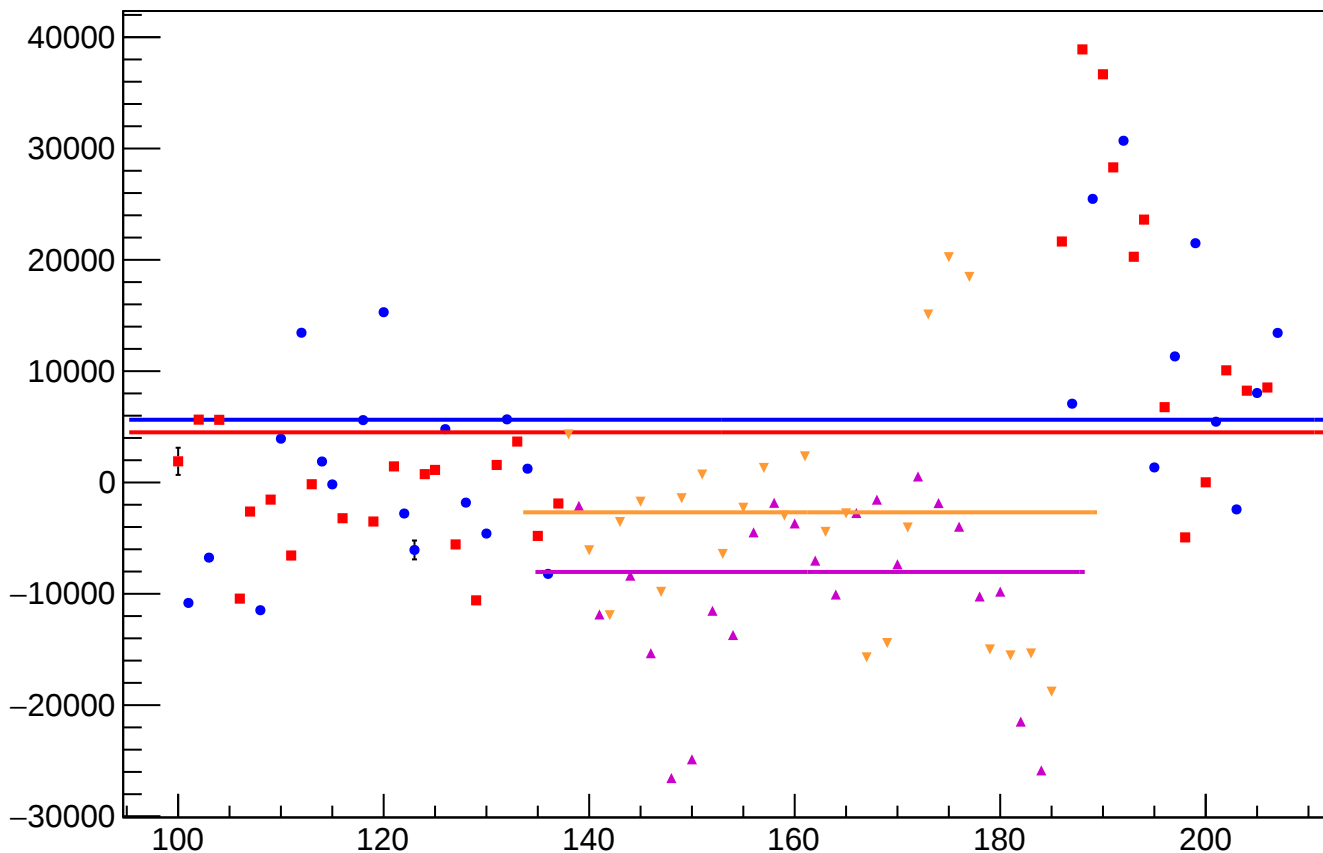
Right: 156.230 $\pm$ 0.021  $\chi^2$ /NDF: 2652276.5/57

In: 163.493 $\pm$ 0.021  $\chi^2$ /NDF:2508913.9/49

Out: 160.864 $\pm$ 0.020  $\chi^2$ /NDF:2595302.5/55

All: 162.108 $\pm$ 0.015  $\chi^2$ /NDF: 5112233.5/105

asym\_bpm0i01aWS\_mean vs Slug, Sign Corrected



Right In: 5635.450+/-36.796

$\chi^2/\text{NDF}$ : 85984.1/26

Left Out: -2680.012+/-35.764

$\chi^2/\text{NDF}$ : 56820.4/24

Right Out: 4506.180+/-34.688

$\chi^2/\text{NDF}$ : 133195.6/30

Left In: -8036.826+/-37.924

$\chi^2/\text{NDF}$ : 29261.6/22

Left: -5201.473+/-26.019

$\chi^2/\text{NDF}$ : 96642.3/47

Right: 5037.542+/-25.240

$\chi^2/\text{NDF}$ : 219678.4/57

In: -994.213+/-26.409

$\chi^2/\text{NDF}$ : 182193.7/49

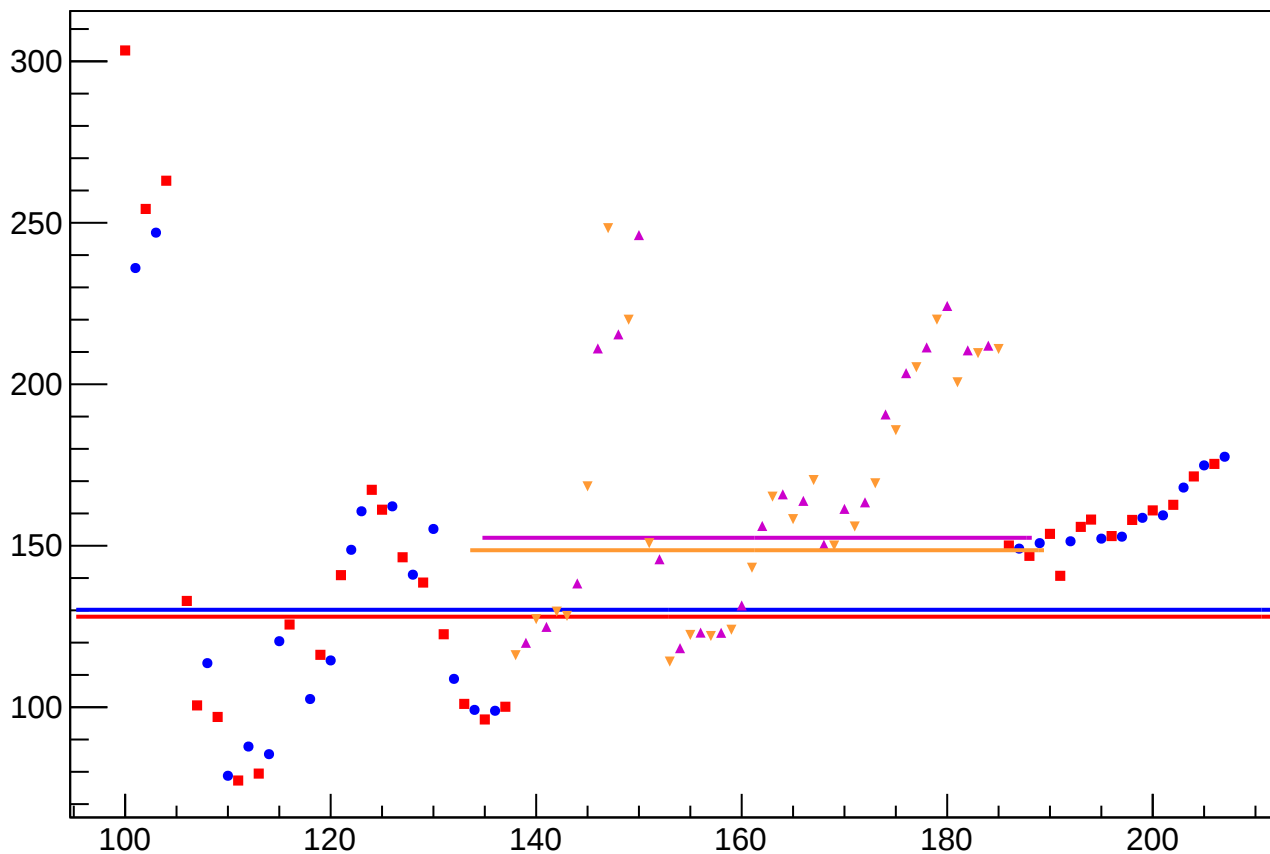
Out: 1022.804+/-24.900

$\chi^2/\text{NDF}$ : 210820.0/55

All: 73.564+/-18.117

$\chi^2/\text{NDF}$ : 396101.9/105

asym\_bpm0i01aWS\_rms vs Slug, Sign Corrected



Right In: 130.174 $\pm$ 0.026  $\chi^2$ /NDF: 1955798.1/26

Left Out: 148.611 $\pm$ 0.025  $\chi^2$ /NDF: 1685424.1/24

Right Out: 128.032 $\pm$ 0.025  $\chi^2$ /NDF: 2236927.7/30

Left In: 152.463 $\pm$ 0.027  $\chi^2$ /NDF: 1691517.7/22

Left: 150.424 $\pm$ 0.018  $\chi^2$ /NDF: 3387867.0/47

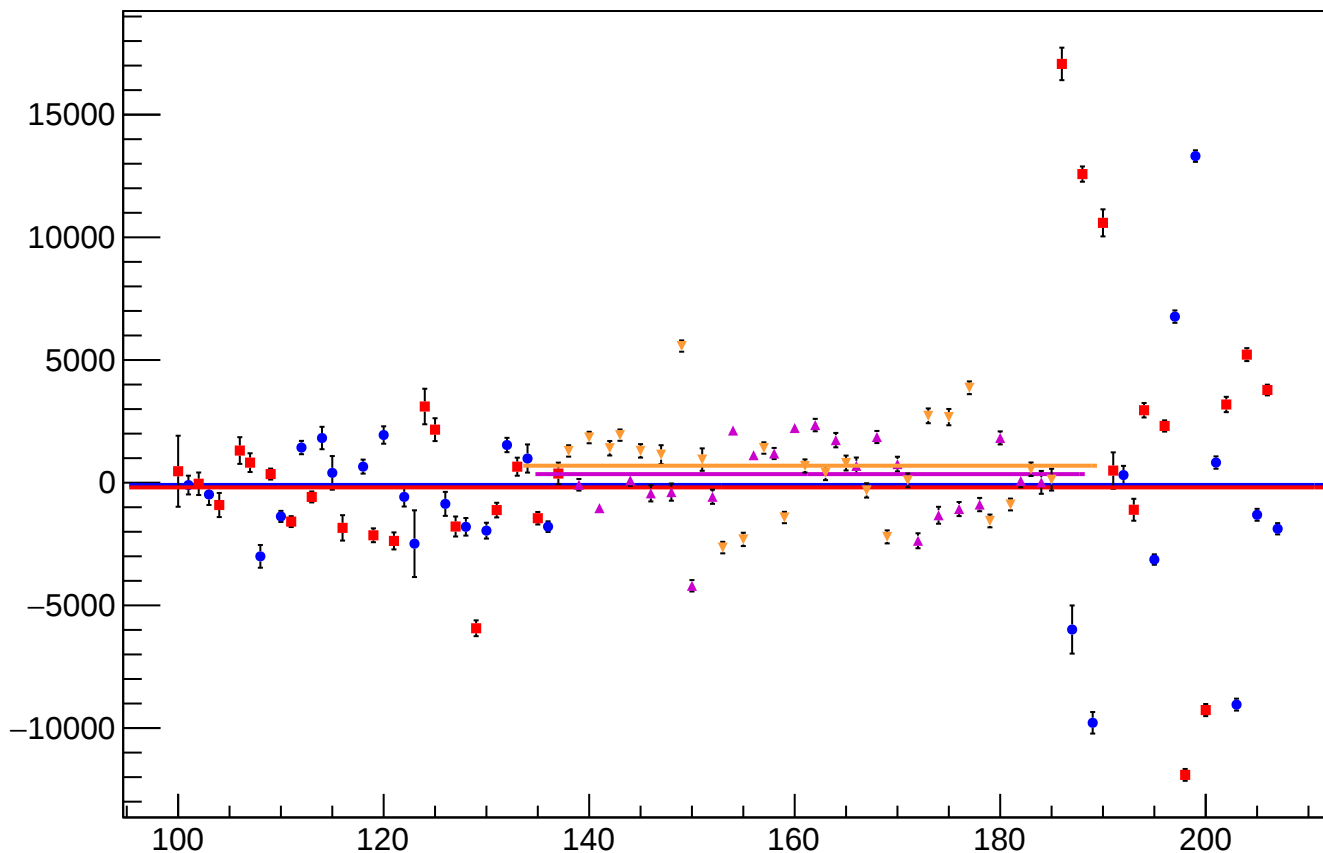
Right: 129.040 $\pm$ 0.018  $\chi^2$ /NDF: 4196313.8/57

In: 140.982 $\pm$ 0.019  $\chi^2$ /NDF: 4003178.7/49

Out: 138.007 $\pm$ 0.018  $\chi^2$ /NDF: 4263551.8/55

All: 139.407 $\pm$ 0.013  $\chi^2$ /NDF: 8280165.8/105

# asym\_bpm0l01WS\_mean vs Slug, Sign Corrected



Right In:  $-91.404 \pm 59.831$   $\chi^2/\text{NDF}$ : 6485.0/26

Left Out:  $692.998 \pm 54.303$   $\chi^2/\text{NDF}$ : 1422.0/24

Right Out:  $-191.748 \pm 57.928$   $\chi^2/\text{NDF}$ : 8129.5/30

Left In:  $349.623 \pm 53.094$   $\chi^2/\text{NDF}$ : 981.0/22

Left:  $517.444 \pm 37.963$   $\chi^2/\text{NDF}$ : 2423.4/47

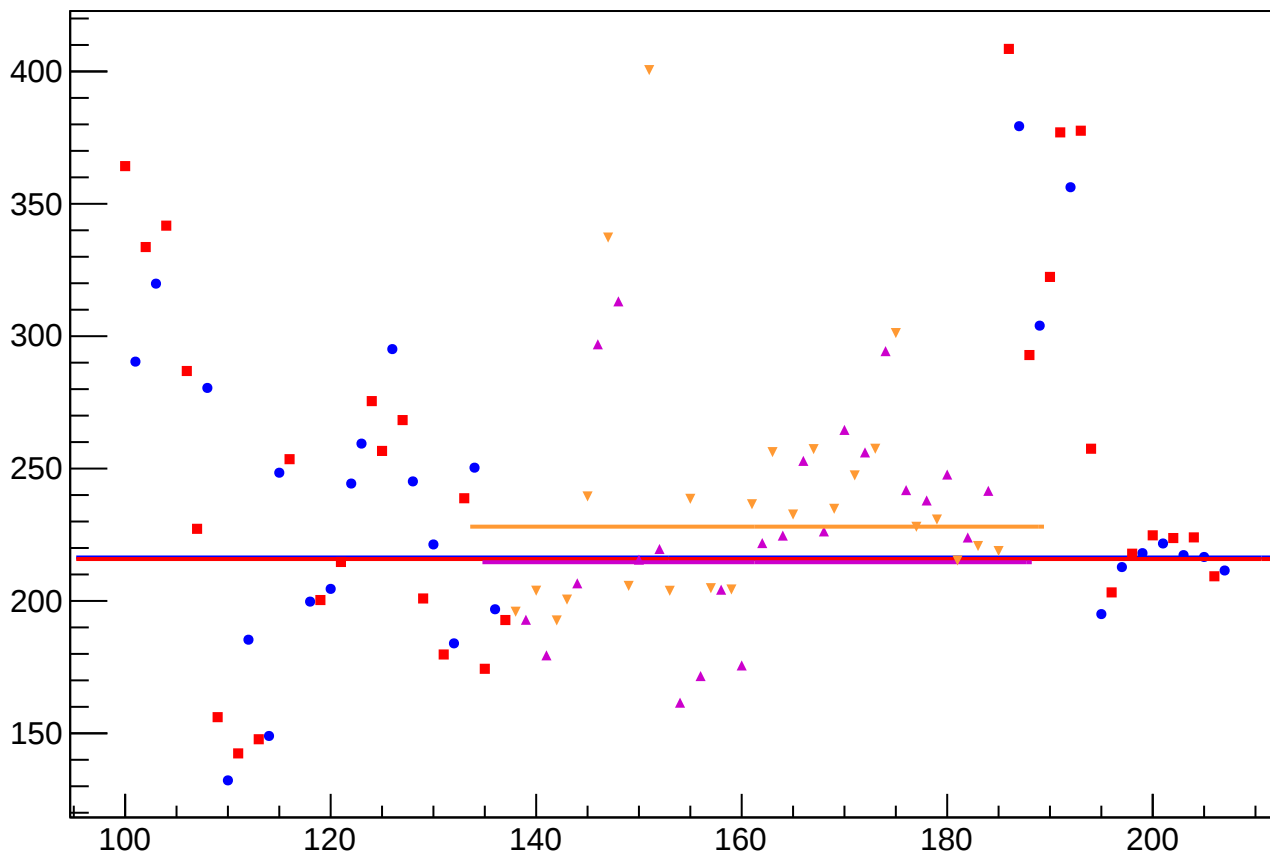
Right:  $-143.197 \pm 41.618$   $\chi^2/\text{NDF}$ : 14615.9/57

In:  $155.327 \pm 39.712$   $\chi^2/\text{NDF}$ : 7496.3/49

Out:  $279.171 \pm 39.618$   $\chi^2/\text{NDF}$ : 9675.7/55

All:  $217.397 \pm 28.047$   $\chi^2/\text{NDF}$ : 17176.9/105

# asym\_bpm0l01WS\_rms vs Slug, Sign Corrected



Right In:  $216.413 \pm 0.042$   $\chi^2/\text{NDF}: 1150753.8/26$

Left Out:  $228.061 \pm 0.038$   $\chi^2/\text{NDF}: 826343.8/24$

Right Out:  $215.829 \pm 0.041$   $\chi^2/\text{NDF}: 1822602.9/30$

Left In:  $214.627 \pm 0.038$   $\chi^2/\text{NDF}: 1025683.3/22$

Left:  $221.193 \pm 0.027$   $\chi^2/\text{NDF}: 1914604.4/47$

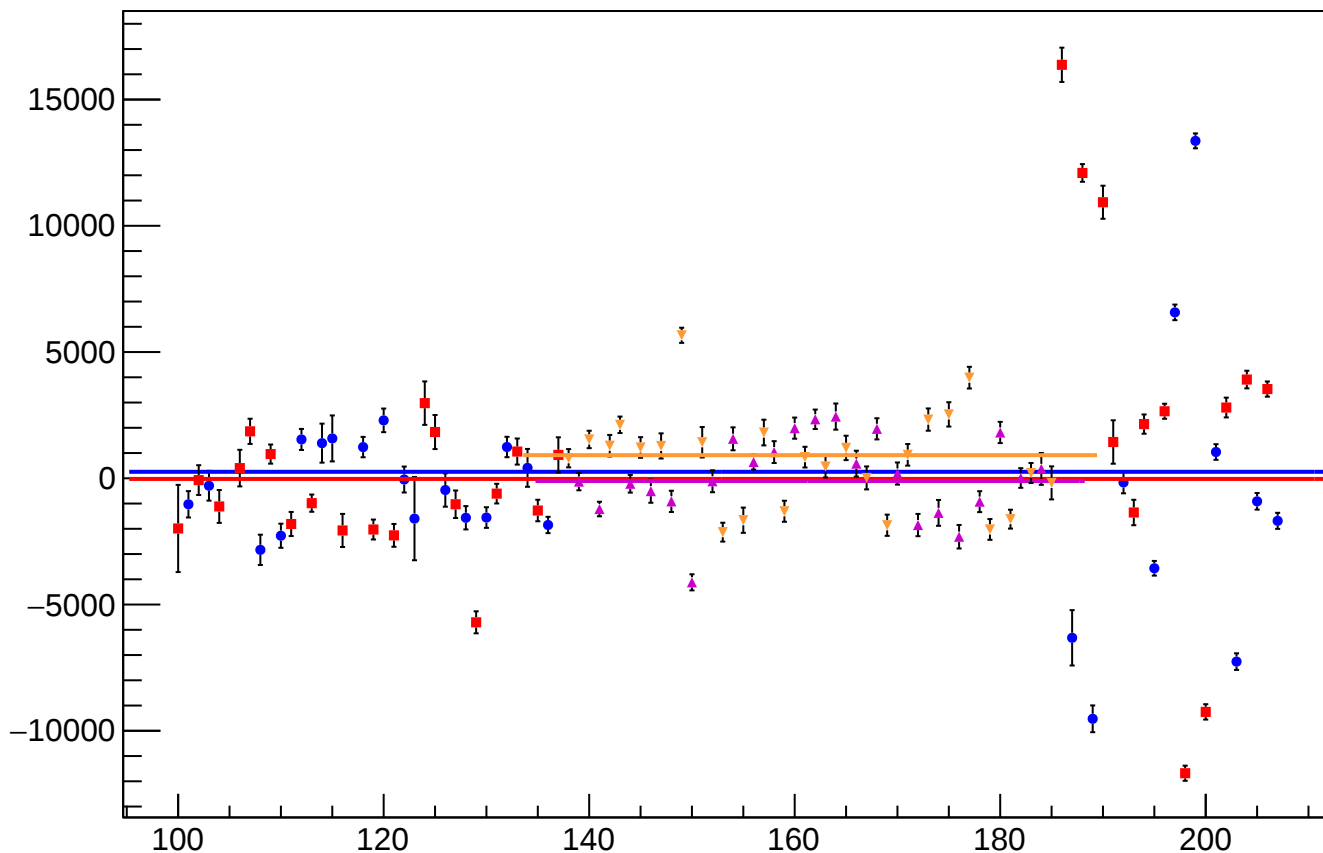
Right:  $216.111 \pm 0.029$   $\chi^2/\text{NDF}: 2973455.1/57$

In:  $215.414 \pm 0.028$   $\chi^2/\text{NDF}: 2177434.0/49$

Out:  $222.339 \pm 0.028$   $\chi^2/\text{NDF}: 2696411.9/55$

All:  $218.885 \pm 0.020$   $\chi^2/\text{NDF}: 4904332.5/105$

# asym\_bpm0l02WS\_mean vs Slug, Sign Corrected



Right In: 257.206 $\pm$ 81.655  $\chi^2$ /NDF: 3697.3/26

Left Out: 915.968 $\pm$ 83.398  $\chi^2$ /NDF:618.3/24

Right Out: -25.224 $\pm$ 79.330  $\chi^2$ /NDF: 5248.2/30

Left In: -106.116 $\pm$ 84.393  $\chi^2$ /NDF:390.3/22

Left: 410.985 $\pm$ 59.320  $\chi^2$ /NDF: 1082.8/47

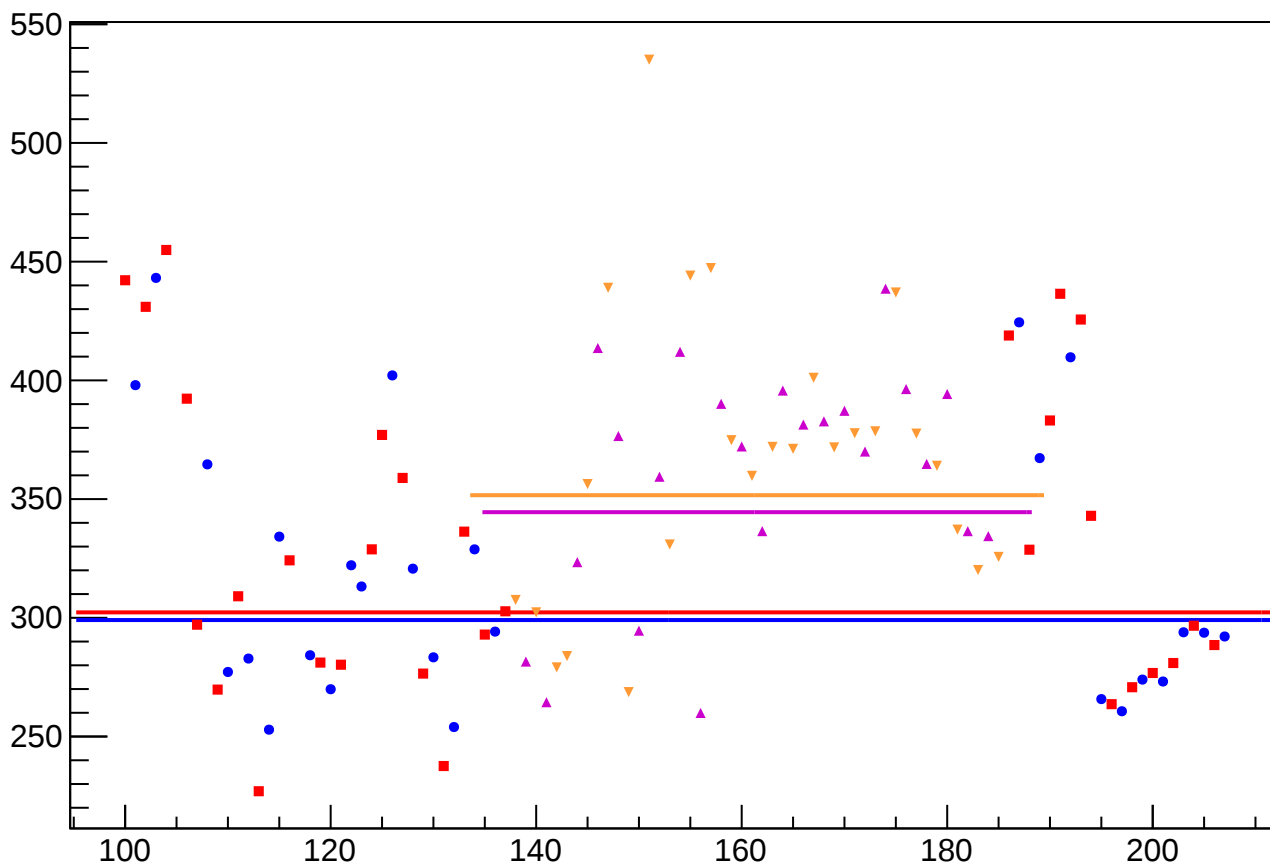
Right: 111.913 $\pm$ 56.899  $\chi^2$ /NDF: 8951.7/57

In: 81.535 $\pm$ 58.683  $\chi^2$ /NDF:4097.2/49

Out: 421.856 $\pm$ 57.479  $\chi^2$ /NDF:5933.4/55

All: 255.221 $\pm$ 41.063  $\chi^2$ /NDF: 10047.7/105

# asym\_bpm0l02WS\_rms vs Slug, Sign Corrected



Right In:  $299.059 \pm 0.058$   $\chi^2/\text{NDF}$ : 609900.6/26

Left Out:  $351.633 \pm 0.059$   $\chi^2/\text{NDF}$ : 907849.3/24

Right Out:  $302.289 \pm 0.056$   $\chi^2/\text{NDF}$ : 867398.4/30

Left In:  $344.491 \pm 0.060$   $\chi^2/\text{NDF}$ : 768885.4/22

Left:  $348.104 \pm 0.042$   $\chi^2/\text{NDF}$ : 1683981.7/47

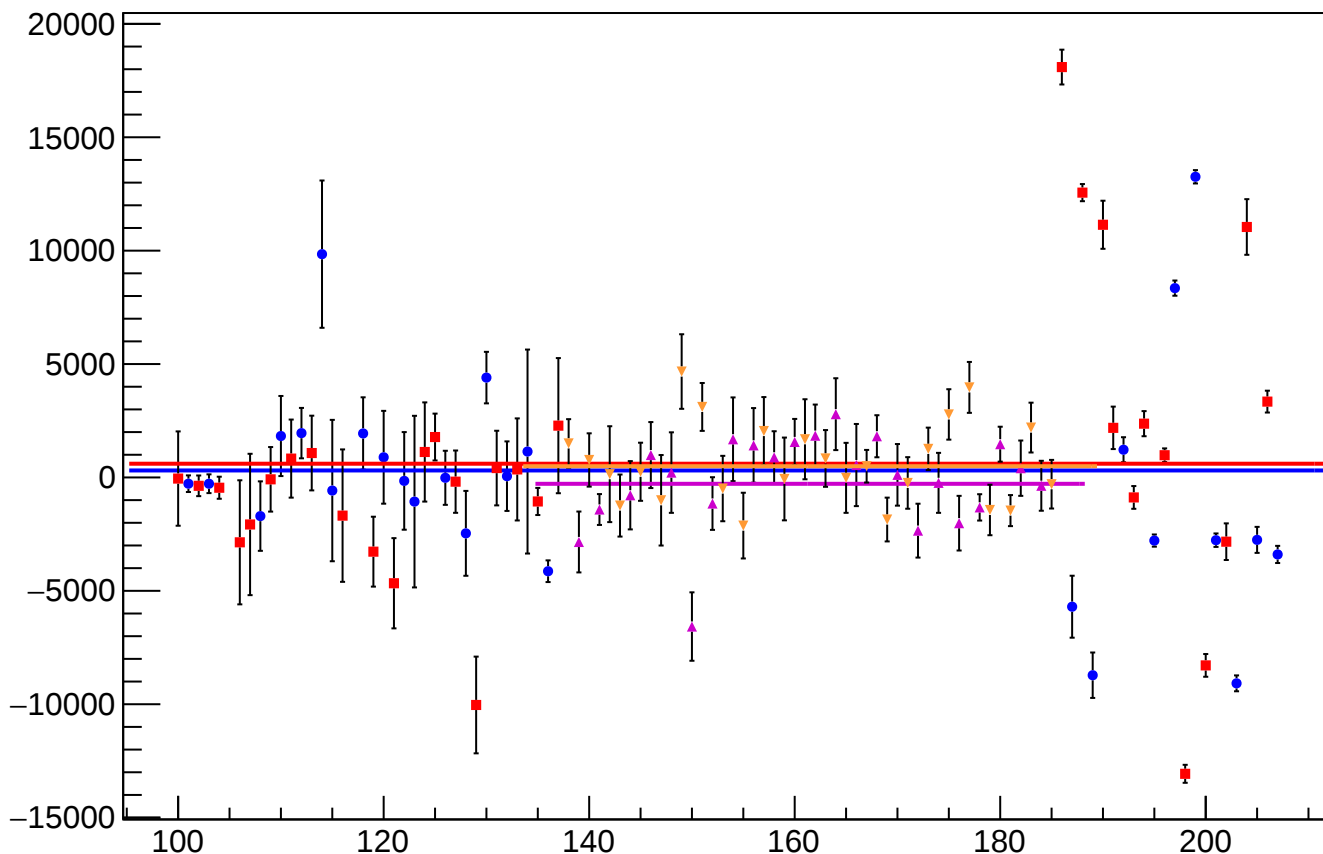
Right:  $300.721 \pm 0.040$   $\chi^2/\text{NDF}$ : 1478909.4/57

In:  $321.026 \pm 0.041$   $\chi^2/\text{NDF}$ : 1678150.0/49

Out:  $325.728 \pm 0.041$   $\chi^2/\text{NDF}$ : 2142806.0/55

All:  $323.426 \pm 0.029$   $\chi^2/\text{NDF}$ : 3827510.3/105

# asym\_bpm0l03WS\_mean vs Slug, Sign Corrected



Right In: 308.079+/-104.677  $\chi^2/\text{NDF}$ : 3822.9/26

Left Out: 495.014+/-231.058  $\chi^2/\text{NDF}$ : 56.2/24

Right Out: 605.344+/-126.293  $\chi^2/\text{NDF}$ : 3328.6/30

Left In: -280.692+/-232.048  $\chi^2/\text{NDF}$ : 57.2/22

Left: 108.818+/-163.732  $\chi^2/\text{NDF}$ : 119.1/47

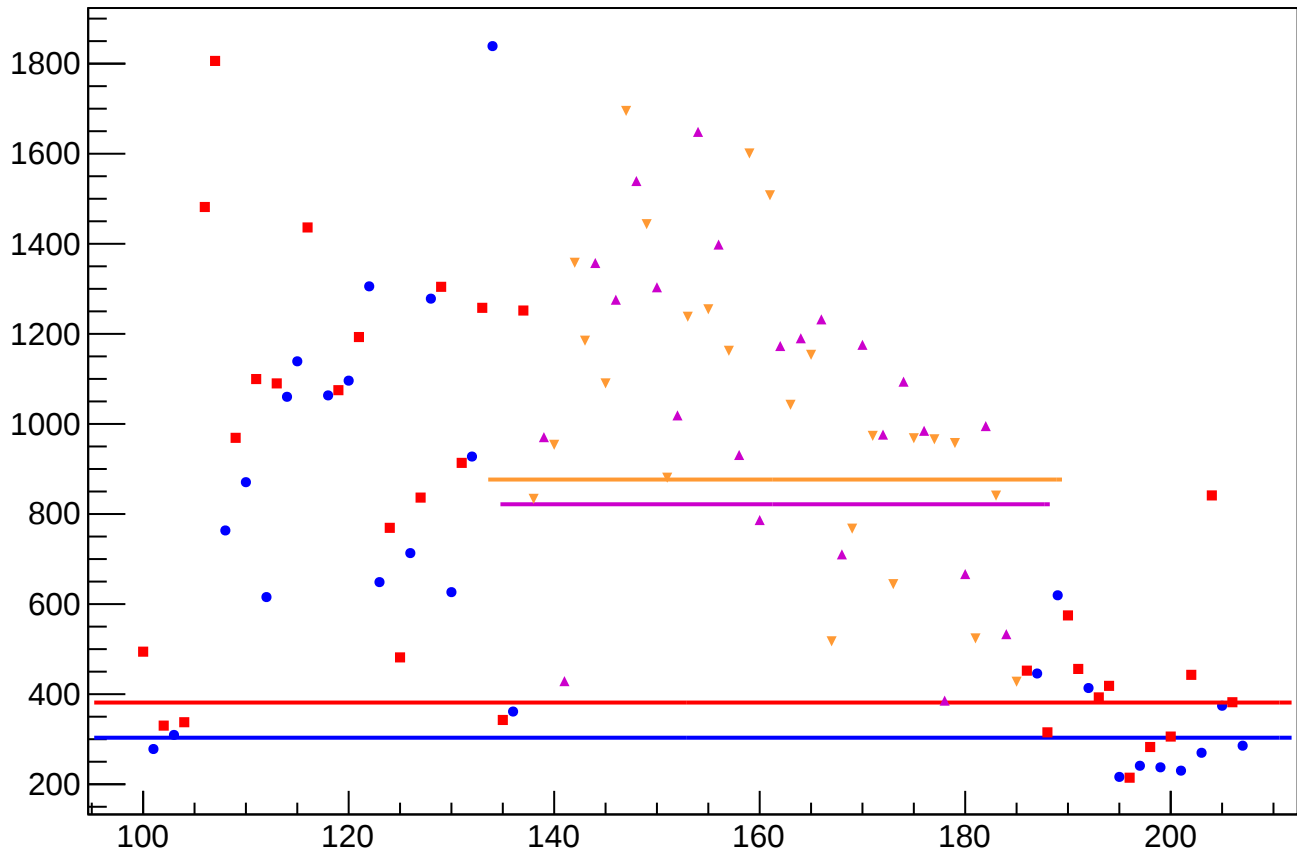
Right: 429.132+/-80.593  $\chi^2/\text{NDF}$ : 7154.8/57

In: 208.526+/-95.418  $\chi^2/\text{NDF}$ : 3885.5/49

Out: 579.964+/-110.819  $\chi^2/\text{NDF}$ : 3385.0/55

All: 366.660+/-72.308  $\chi^2/\text{NDF}$ : 7276.9/105

# asym\_bpm0l03WS\_rms vs Slug, Sign Corrected



Right In: 303.331+/-0.074  $\chi^2/\text{NDF}$ : 4402993.0/26

Left Out: 876.560+/-0.163  $\chi^2/\text{NDF}$ : 3434698.7/24

Right Out: 381.408+/-0.089  $\chi^2/\text{NDF}$ : 5457549.0/30

Left In: 821.657+/-0.164  $\chi^2/\text{NDF}$ : 4443094.2/22

Left: 849.226+/-0.116  $\chi^2/\text{NDF}$ : 7934012.4/47

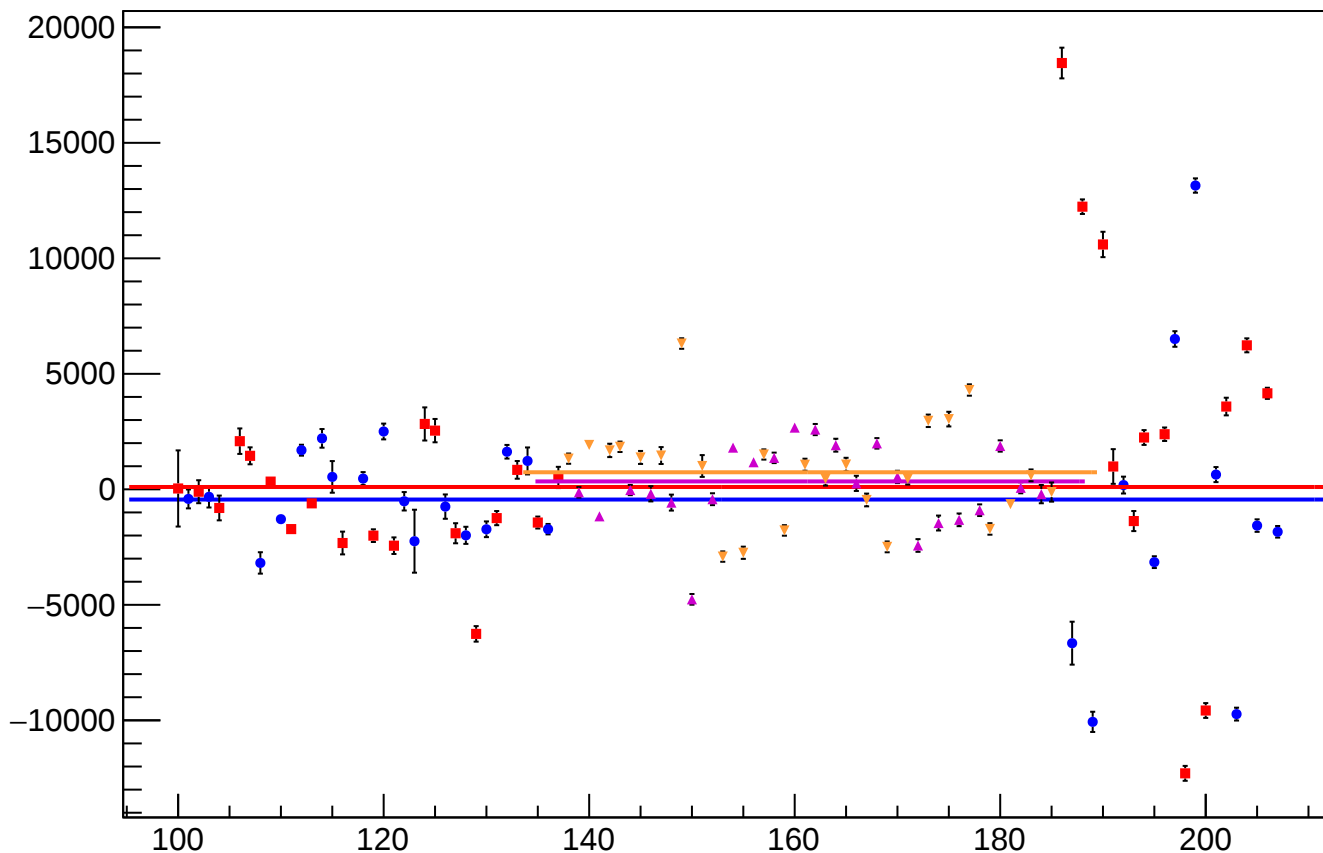
Right: 335.126+/-0.057  $\chi^2/\text{NDF}$ : 10313648.1/57

In: 390.972+/-0.067  $\chi^2/\text{NDF}$ : 17137697.4/49

Out: 495.309+/-0.078  $\chi^2/\text{NDF}$ : 15964175.4/55

All: 435.392+/-0.051  $\chi^2/\text{NDF}$ : 34119955.1/100

# asym\_bpm0l04WS\_mean vs Slug, Sign Corrected



Right In:  $-441.719 \pm 63.635$   $\chi^2/\text{NDF}: 4545.1/26$

Left Out:  $738.847 \pm 51.649$   $\chi^2/\text{NDF}: 1935.2/24$

Right Out:  $101.618 \pm 60.226$   $\chi^2/\text{NDF}: 6625.2/30$

Left In:  $342.465 \pm 50.044$   $\chi^2/\text{NDF}: 1254.9/22$

Left:  $534.403 \pm 35.941$   $\chi^2/\text{NDF}: 3220.5/47$

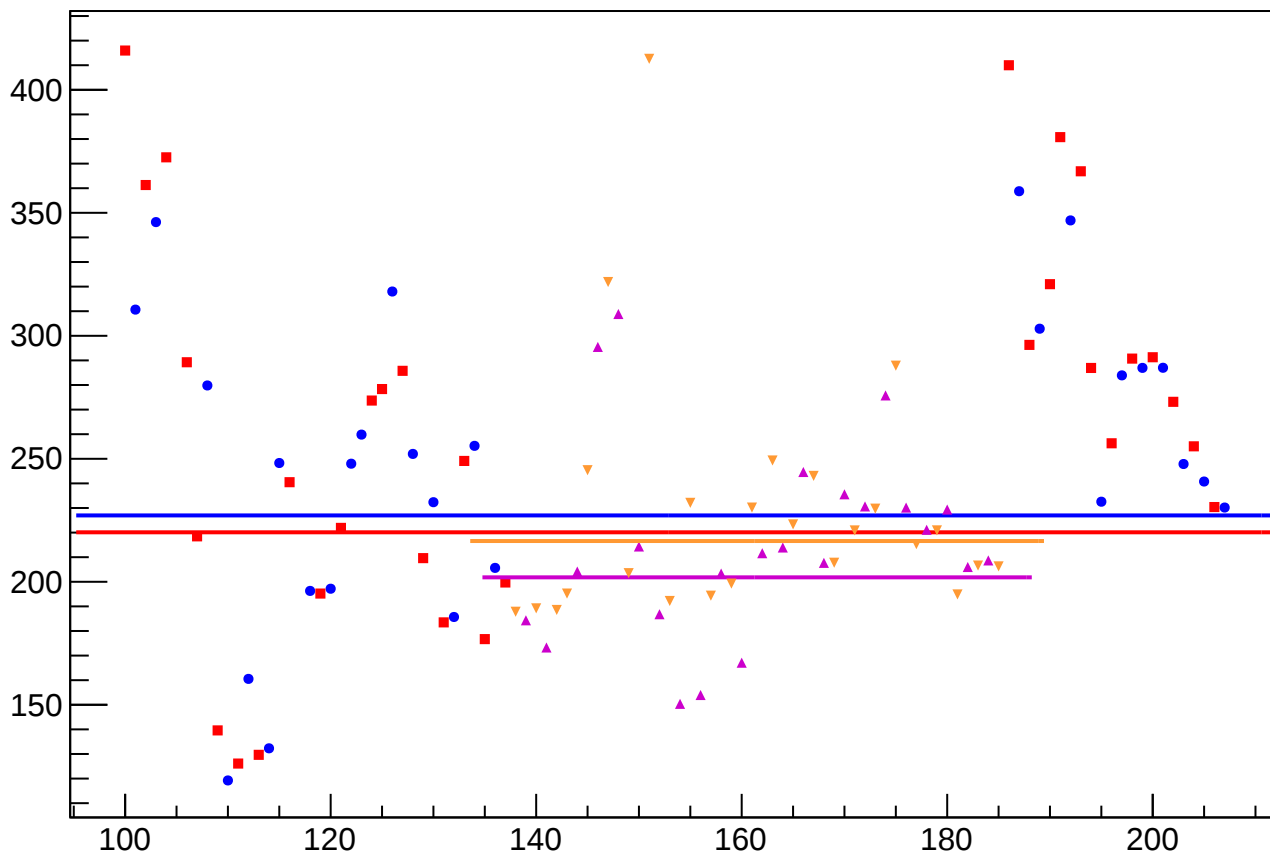
Right:  $-155.107 \pm 43.742$   $\chi^2/\text{NDF}: 11208.7/57$

In:  $42.803 \pm 39.337$   $\chi^2/\text{NDF}: 5893.9/49$

Out:  $468.800 \pm 39.206$   $\chi^2/\text{NDF}: 8624.9/55$

All:  $256.511 \pm 27.769$   $\chi^2/\text{NDF}: 14577.6/105$

# asym\_bpm0l04WS\_rms vs Slug, Sign Corrected



Right In: 226.981 $\pm$ 0.045  $\chi^2/\text{NDF}$ : 1775192.9/26

Left Out: 216.574 $\pm$ 0.037  $\chi^2/\text{NDF}$ : 886214.1/24

Right Out: 220.116 $\pm$ 0.043  $\chi^2/\text{NDF}$ : 2836130.2/30

Left In: 201.805 $\pm$ 0.035  $\chi^2/\text{NDF}$ : 1087243.4/22

Left: 208.957 $\pm$ 0.025  $\chi^2/\text{NDF}$ : 2057801.5/47

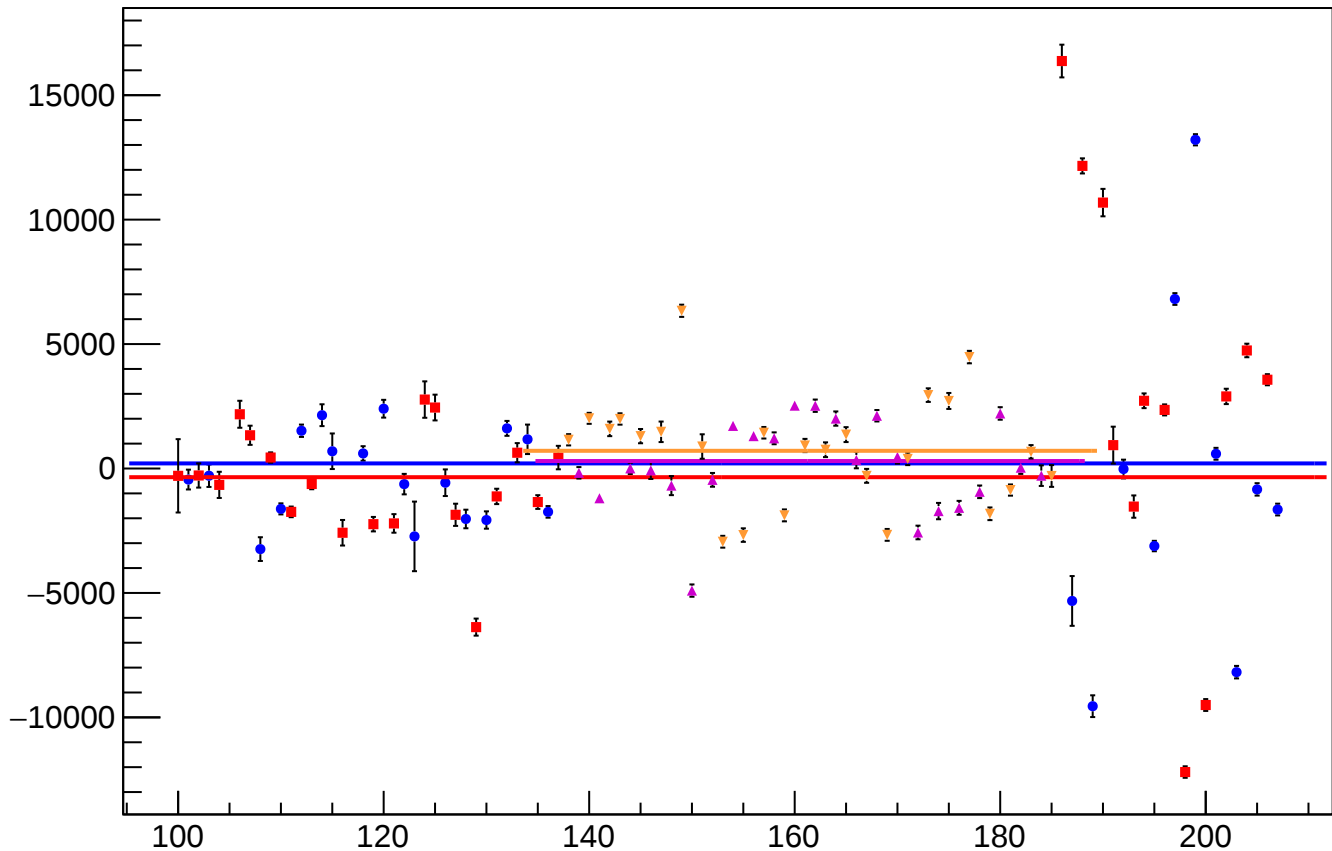
Right: 223.360 $\pm$ 0.031  $\chi^2/\text{NDF}$ : 4623604.2/57

In: 211.426 $\pm$ 0.028  $\chi^2/\text{NDF}$ : 3055860.5/49

Out: 218.075 $\pm$ 0.028  $\chi^2/\text{NDF}$ : 3726329.4/55

All: 214.762 $\pm$ 0.020  $\chi^2/\text{NDF}$ : 6810855.1/105

# asym\_bpm0l05WS\_mean vs Slug, Sign Corrected



Right In: 204.619 $\pm$ 60.062  $\chi^2$ /NDF: 6470.0/26

Left Out: 711.174 $\pm$ 53.245  $\chi^2$ /NDF:1835.3/24

Right Out: -349.075 $\pm$ 57.924  $\chi^2$ /NDF: 8452.5/30

Left In: 300.516 $\pm$ 51.984  $\chi^2$ /NDF:1208.6/22

Left: 500.925 $\pm$ 37.196  $\chi^2$ /NDF: 3074.4/47

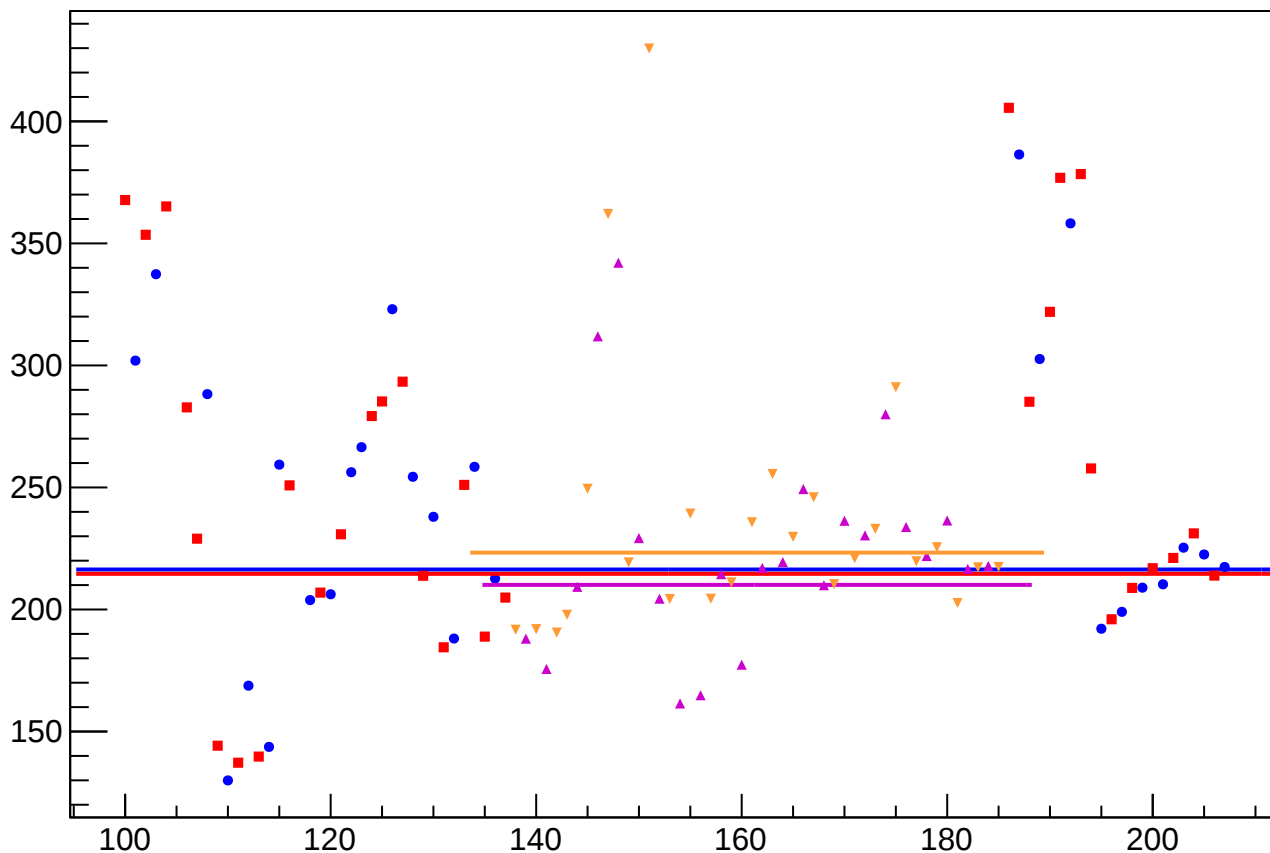
Right: -82.257 $\pm$ 41.694  $\chi^2$ /NDF: 14966.5/57

In: 259.446 $\pm$ 39.306  $\chi^2$ /NDF:7680.0/49

Out: 225.599 $\pm$ 39.200  $\chi^2$ /NDF:10469.4/55

All: 242.477 $\pm$ 27.756  $\chi^2$ /NDF: 18149.8/105

# asym\_bpm0l05WS\_rms vs Slug, Sign Corrected



Right In: 216.387 $\pm$ 0.042  $\chi^2$ /NDF: 1345441.2/26

Left Out: 223.296 $\pm$ 0.038  $\chi^2$ /NDF: 922768.4/24

Right Out: 214.613 $\pm$ 0.041  $\chi^2$ /NDF: 2093538.5/30

Left In: 210.080 $\pm$ 0.037  $\chi^2$ /NDF: 1015274.5/22

Left: 216.530 $\pm$ 0.026  $\chi^2$ /NDF: 2001132.1/47

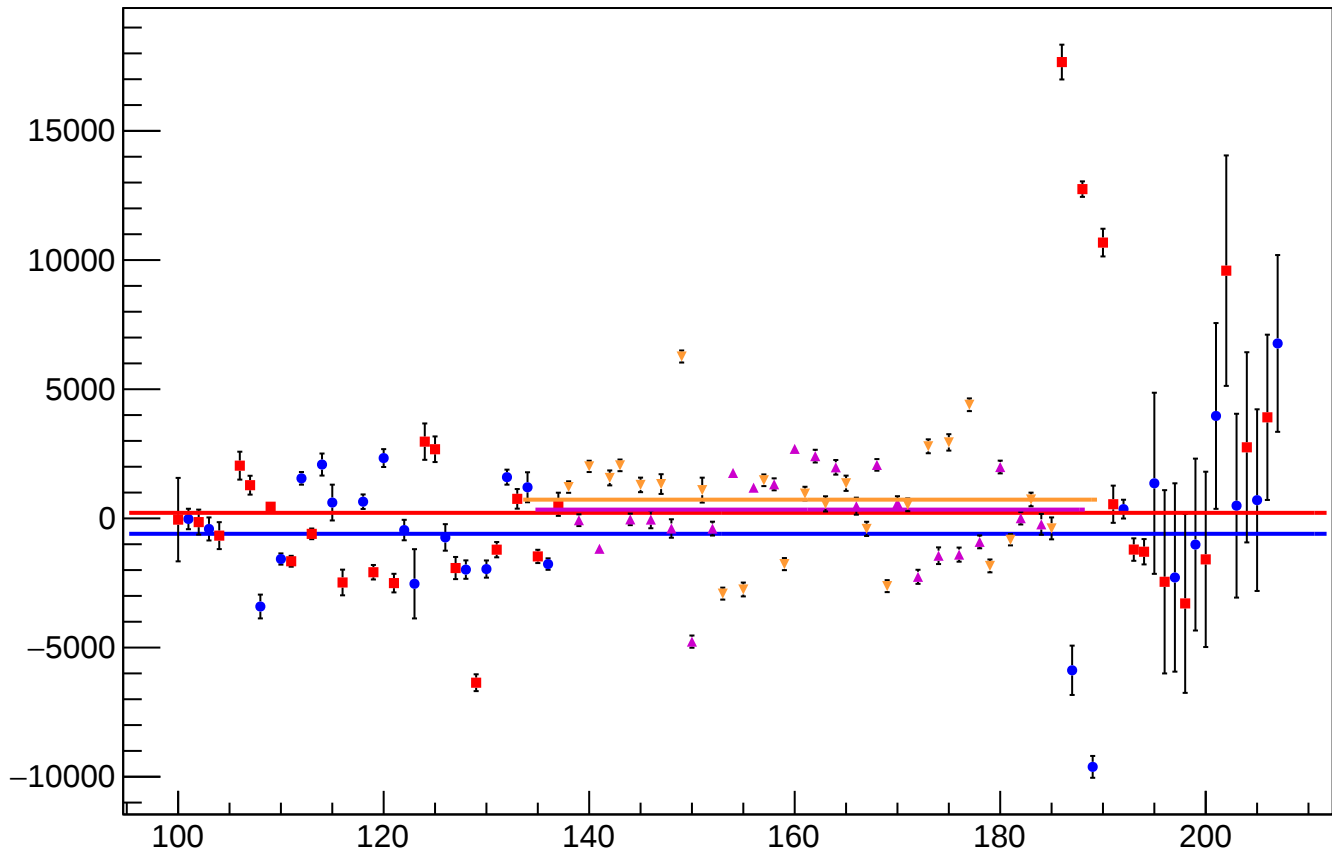
Right: 215.468 $\pm$ 0.029  $\chi^2$ /NDF: 3439883.7/57

In: 212.781 $\pm$ 0.028  $\chi^2$ /NDF: 2373324.9/49

Out: 219.320 $\pm$ 0.028  $\chi^2$ /NDF: 3040667.4/55

All: 216.059 $\pm$ 0.020  $\chi^2$ /NDF: 5441738.1/105

# asym\_bpm0l06WS\_mean vs Slug, Sign Corrected



Right In: -596.085+/-79.058  $\chi^2/\text{NDF}$ : 898.6/26

Left Out: 725.866+/-52.158  $\chi^2/\text{NDF}$ :1912.7/24

Right Out: 215.241+/-69.979  $\chi^2/\text{NDF}$ : 3639.7/30

Left In: 340.502+/-50.802  $\chi^2/\text{NDF}$ :1201.8/22

Left: 528.110+/-36.393  $\chi^2/\text{NDF}$ : 3142.6/47

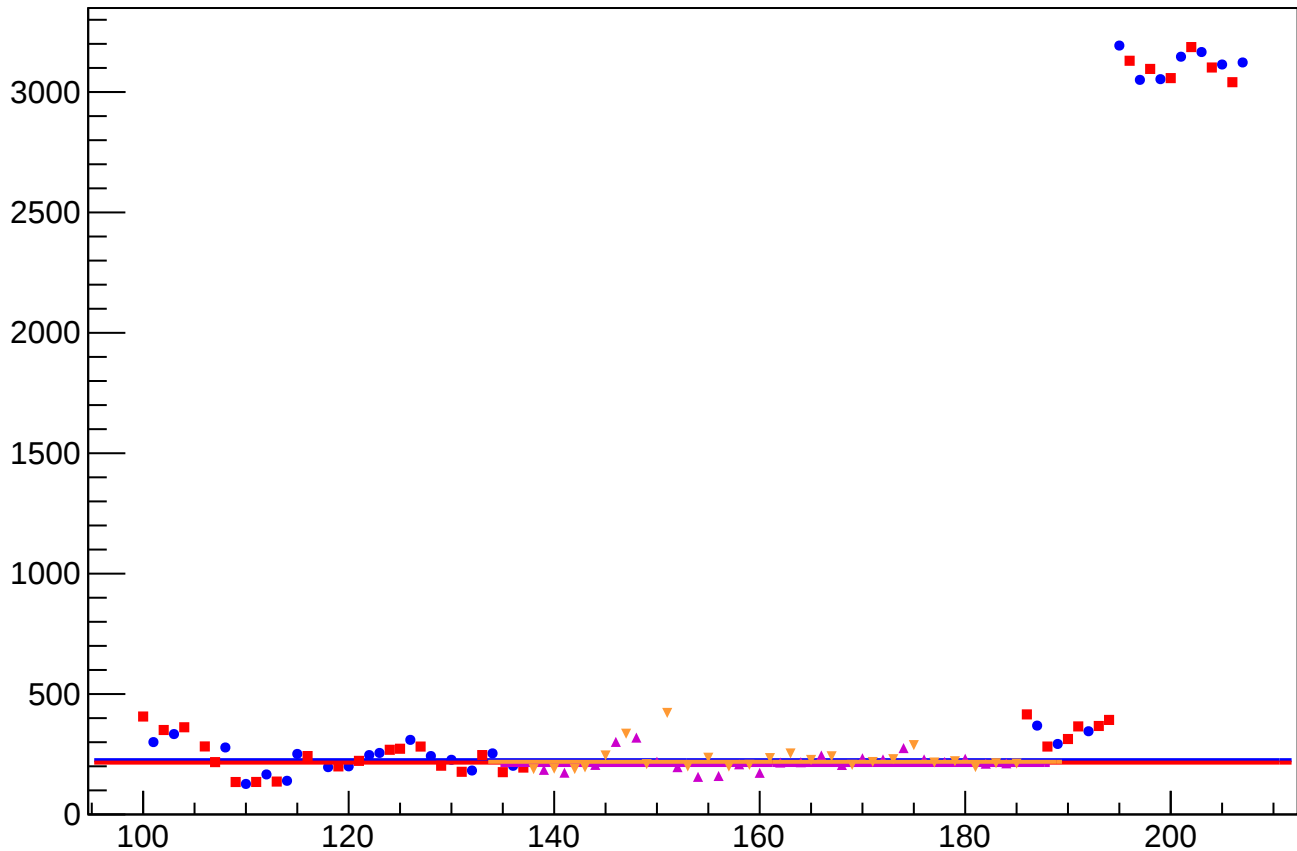
Right: -141.180+/-52.400  $\chi^2/\text{NDF}$ : 4597.4/57

In: 66.784+/-42.739  $\chi^2/\text{NDF}$ :2199.8/49

Out: 543.504+/-41.820  $\chi^2/\text{NDF}$ :5586.7/55

All: 310.324+/-29.891  $\chi^2/\text{NDF}$ : 7850.0/105

# asym\_bpm0l06WS\_rms vs Slug, Sign Corrected



Right In: 225.504 $\pm$ 0.056  $\chi^2$ /NDF: 10861126.4/26

Left Out: 218.768 $\pm$ 0.037  $\chi^2$ /NDF: 896914.5/24

Right Out: 215.227 $\pm$ 0.049  $\chi^2$ /NDF: 10252915.9/30

Left In: 205.249 $\pm$ 0.036  $\chi^2$ /NDF: 997168.8/22

Left: 211.831 $\pm$ 0.026  $\chi^2$ /NDF: 1963037.5/47

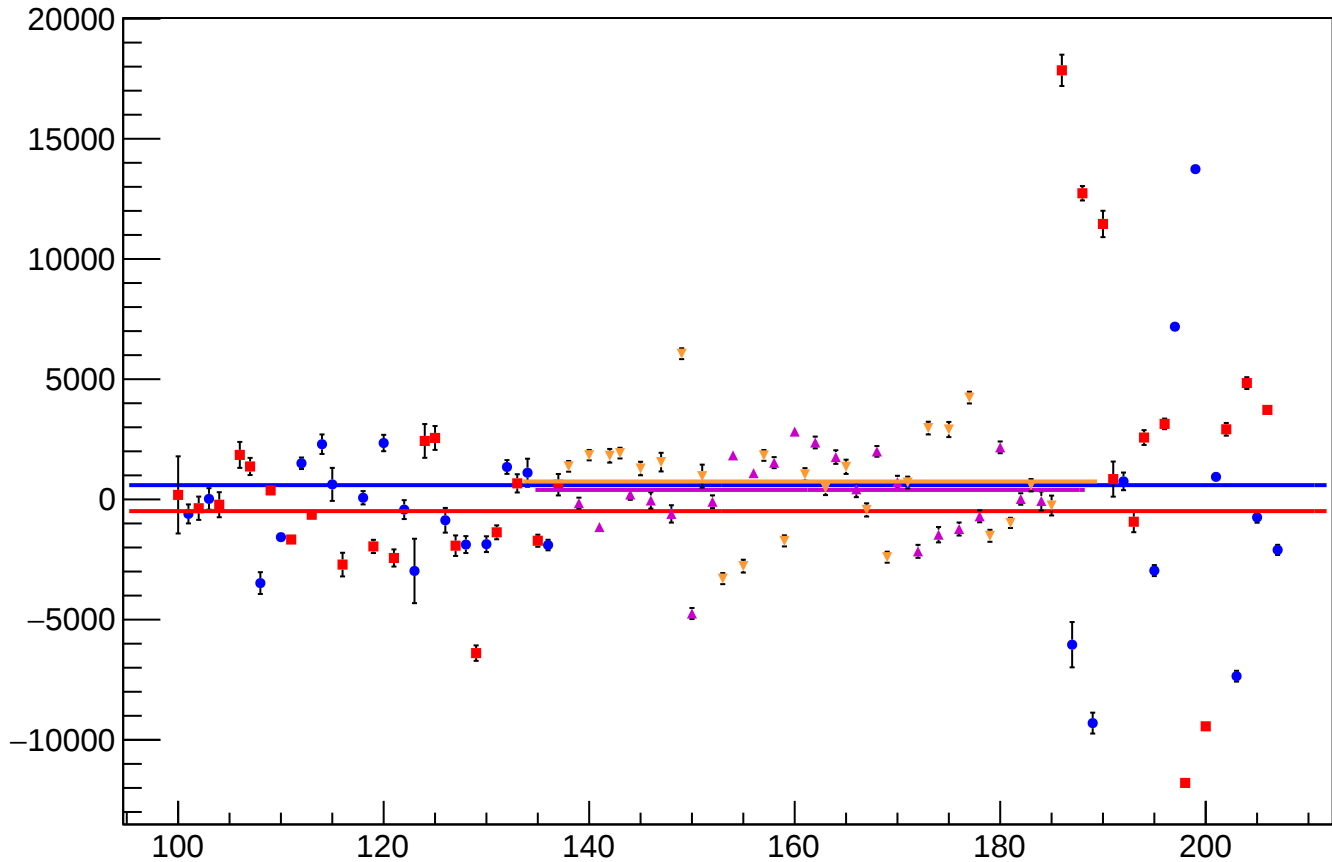
Right: 219.742 $\pm$ 0.037  $\chi^2$ /NDF: 21132990.1/57

In: 211.168 $\pm$ 0.030  $\chi^2$ /NDF: 11951206.1/49

Out: 217.504 $\pm$ 0.030  $\chi^2$ /NDF: 11153123.2/55

All: 214.405 $\pm$ 0.021  $\chi^2$ /NDF: 23126779.5/100

# asym\_bpm0l07WS\_mean vs Slug, Sign Corrected



Right In: 593.080+/-55.998  $\chi^2/\text{NDF}$ : 8447.4/26

Left Out: 746.405+/-51.592  $\chi^2/\text{NDF}$ :1942.1/24

Right Out: -486.544+/-54.074  $\chi^2/\text{NDF}$ : 10302.7/30

Left In: 394.379+/-50.311  $\chi^2/\text{NDF}$ :1236.4/22

Left: 565.969+/-36.020  $\chi^2/\text{NDF}$ : 3202.4/47

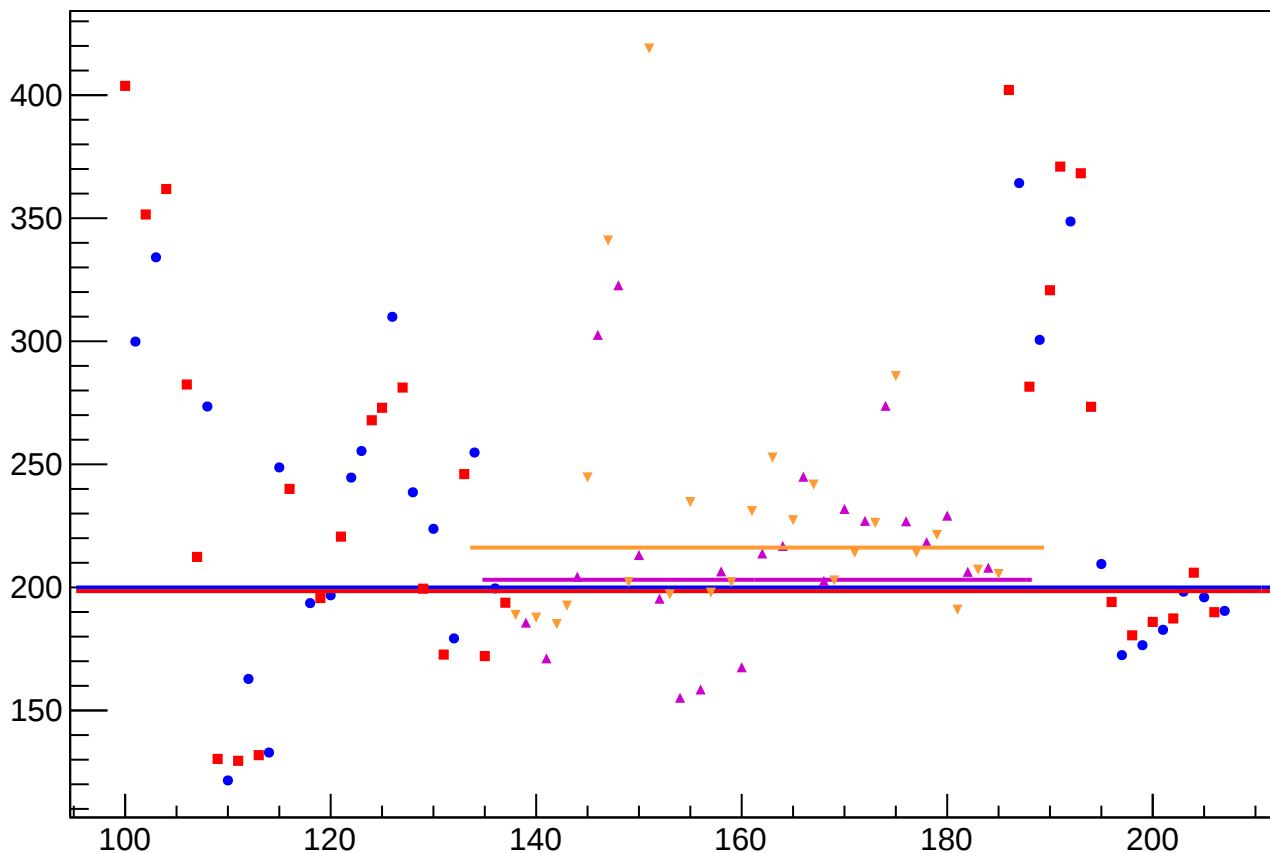
Right: 34.398+/-38.898  $\chi^2/\text{NDF}$ : 18942.4/57

In: 483.130+/-37.425  $\chi^2/\text{NDF}$ :9690.8/49

Out: 158.876+/-37.327  $\chi^2/\text{NDF}$ :12516.9/55

All: 320.580+/-26.429  $\chi^2/\text{NDF}$ : 22245.3/105

# asym\_bpm0l07WS\_rms vs Slug, Sign Corrected



Right In: 199.960 $\pm$ 0.040  $\chi^2$ /NDF: 1523994.4/26

Left Out: 216.178 $\pm$ 0.036  $\chi^2$ /NDF:946050.8/24

Right Out: 198.482 $\pm$ 0.038  $\chi^2$ /NDF: 2442087.7/30

Left In: 203.101 $\pm$ 0.036  $\chi^2$ /NDF:1038013.0/22

Left: 209.475 $\pm$ 0.025  $\chi^2$ /NDF: 2049926.5/47

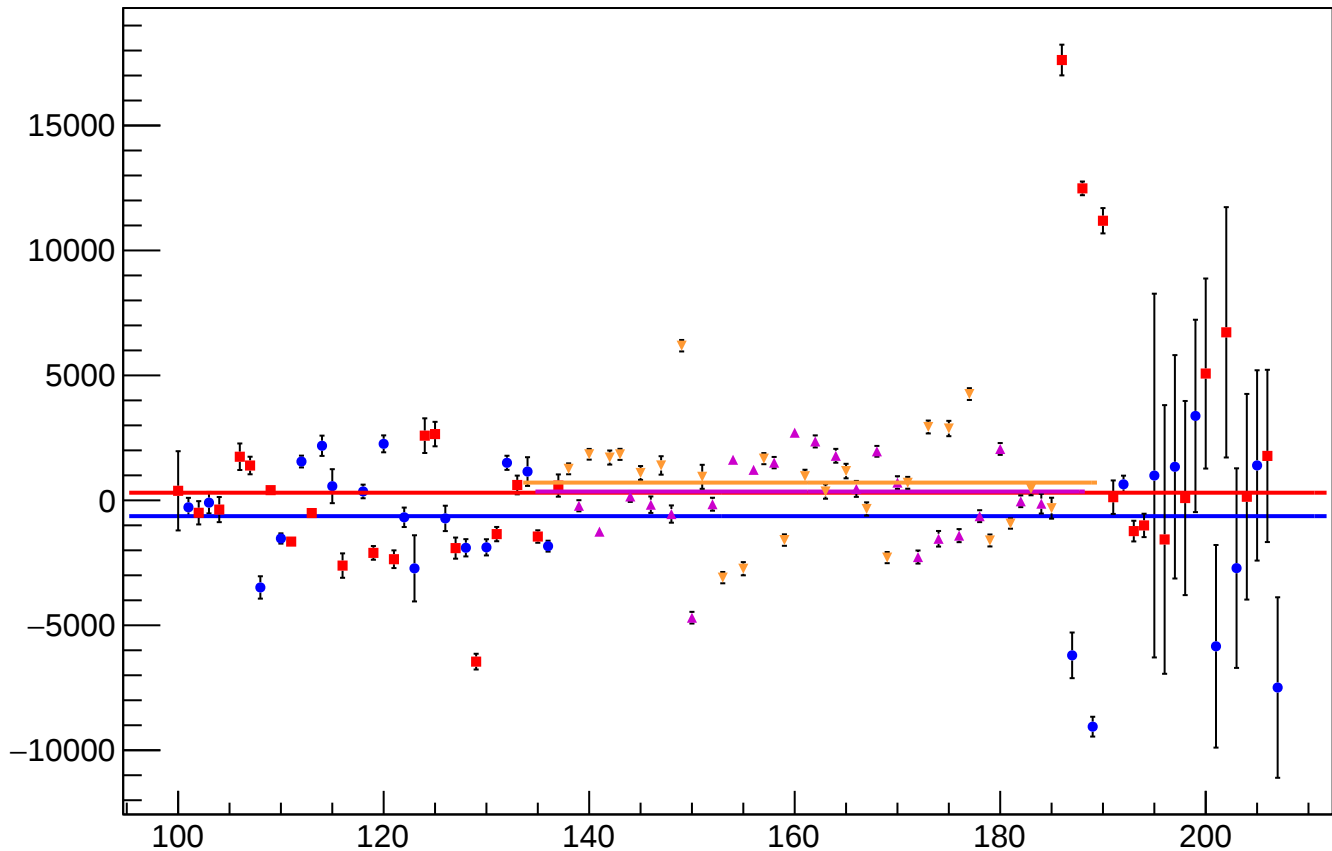
Right: 199.195 $\pm$ 0.028  $\chi^2$ /NDF: 3966803.7/57

In: 201.698 $\pm$ 0.026  $\chi^2$ /NDF:2565488.4/49

Out: 207.745 $\pm$ 0.026  $\chi^2$ /NDF:3500267.2/55

All: 204.730 $\pm$ 0.019  $\chi^2$ /NDF: 6091932.2/105

# asym\_bpm0l08WS\_mean vs Slug, Sign Corrected



Right In: -632.432+/-76.429  $\chi^2/\text{NDF}$ : 921.8/26

Left Out: 710.238+/-50.750  $\chi^2/\text{NDF}$ :1932.3/24

Right Out: 305.564+/-67.119  $\chi^2/\text{NDF}$ : 4164.7/30

Left In: 352.432+/-49.316  $\chi^2/\text{NDF}$ :1233.1/22

Left: 526.207+/-35.368  $\chi^2/\text{NDF}$ : 3190.9/47

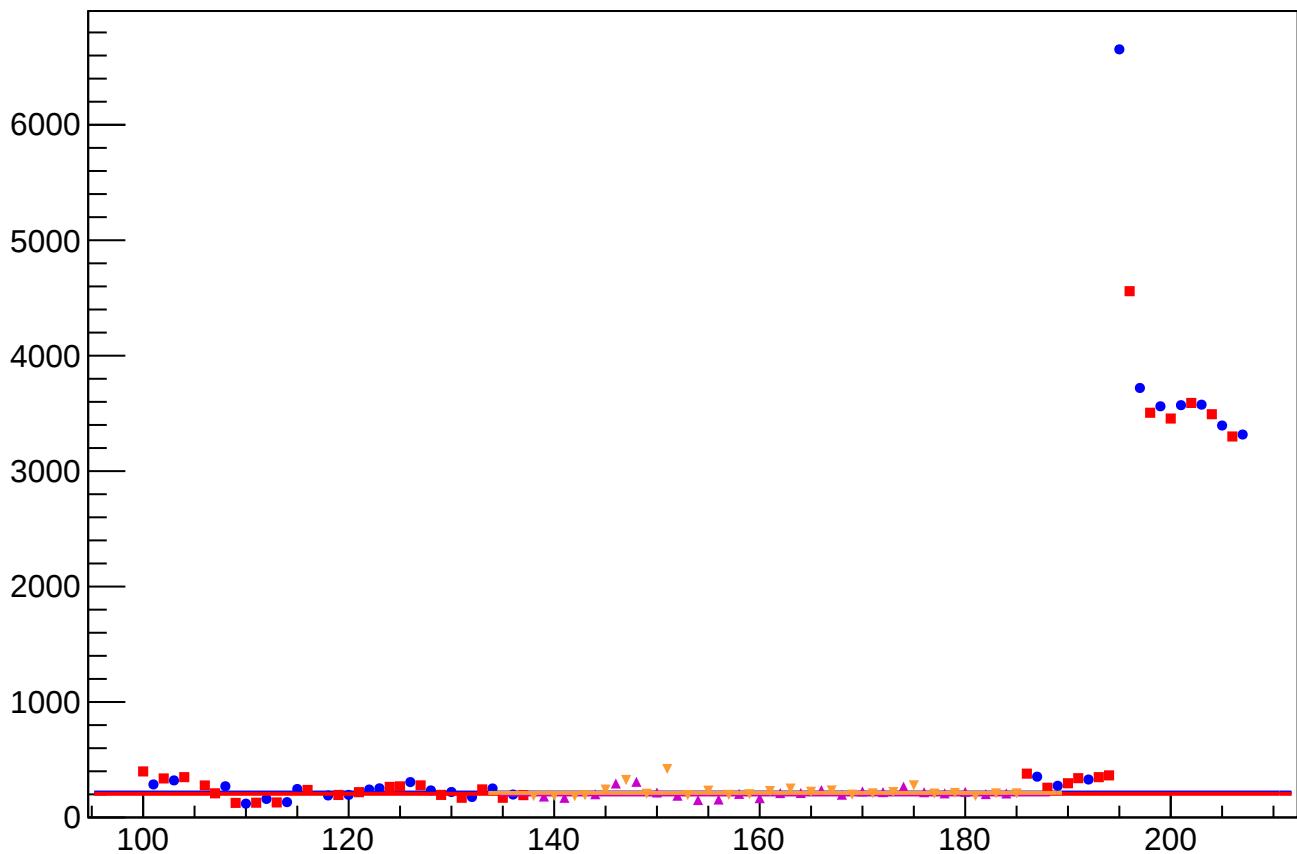
Right: -102.856+/-50.433  $\chi^2/\text{NDF}$ : 5171.6/57

In: 62.921+/-41.438  $\chi^2/\text{NDF}$ :2272.1/49

Out: 563.035+/-40.481  $\chi^2/\text{NDF}$ :6120.1/55

All: 318.822+/-28.957  $\chi^2/\text{NDF}$ : 8466.8/105

# asym\_bpm0l08WS\_rms vs Slug, Sign Corrected



Right In: 215.756+/-0.054  $\chi^2/\text{NDF}$ : 11278992.7/26

Left Out: 212.718+/-0.036  $\chi^2/\text{NDF}$ : 916225.9/24

Right Out: 204.826+/-0.047  $\chi^2/\text{NDF}$ : 10443415.7/30

Left In: 199.142+/-0.035  $\chi^2/\text{NDF}$ : 985932.4/22

Left: 205.736+/-0.025  $\chi^2/\text{NDF}$ : 1975772.3/47

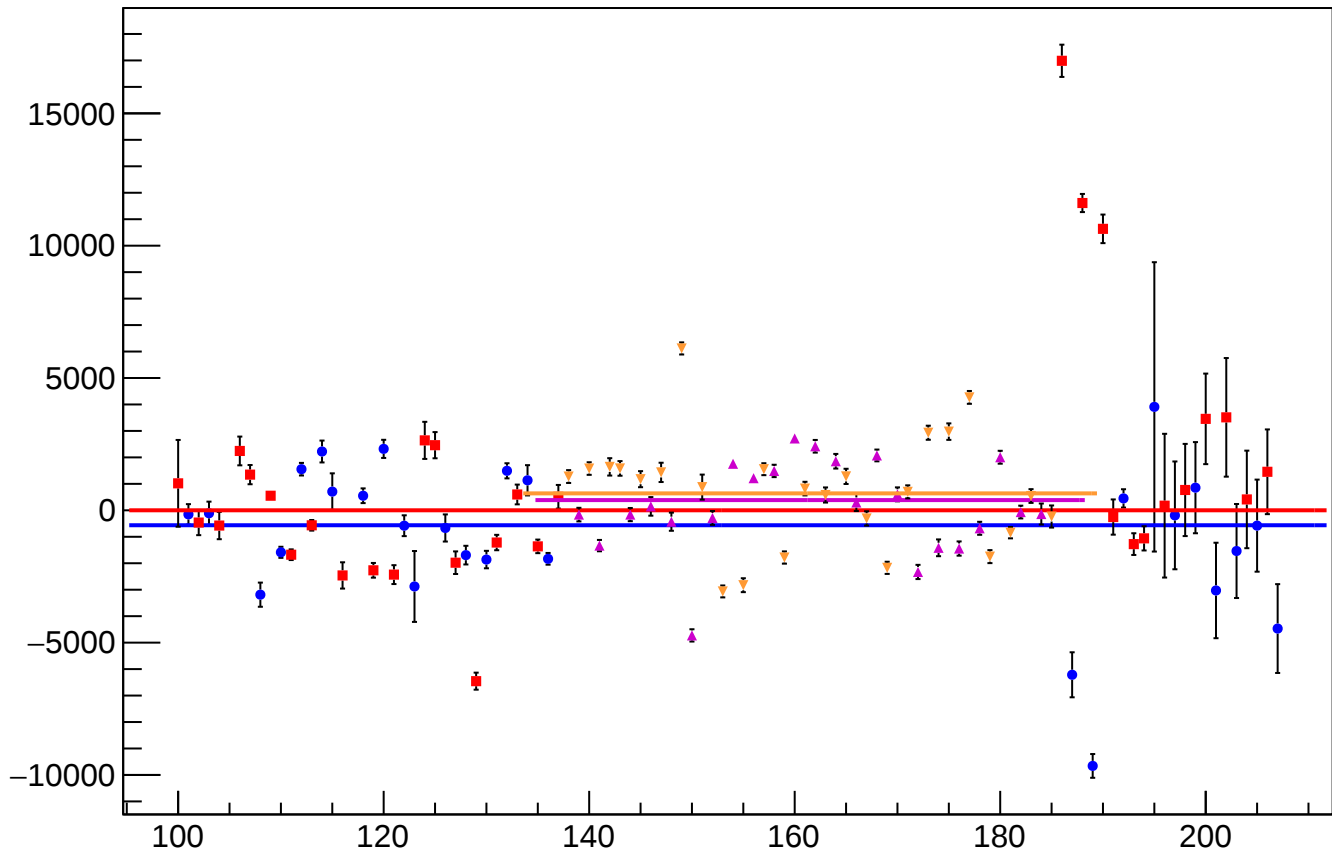
Right: 209.585+/-0.036  $\chi^2/\text{NDF}$ : 21745505.2/57

In: 204.026+/-0.029  $\chi^2/\text{NDF}$ : 12331653.6/49

Out: 209.847+/-0.029  $\chi^2/\text{NDF}$ : 11377238.2/55

All: 207.005+/-0.020  $\chi^2/\text{NDF}$ : 23729088.1/10

# asym\_bpm0l09WS\_mean vs Slug, Sign Corrected



Right In:  $-563.916 \pm 77.424$   $\chi^2/\text{NDF}$ : 868.0/26

Left Out:  $639.995 \pm 52.708$   $\chi^2/\text{NDF}$ : 1859.2/24

Right Out:  $0.897 \pm 68.830$   $\chi^2/\text{NDF}$ : 3103.6/30

Left In:  $386.248 \pm 50.994$   $\chi^2/\text{NDF}$ : 1238.0/22

Left:  $508.926 \pm 36.649$   $\chi^2/\text{NDF}$ : 3109.2/47

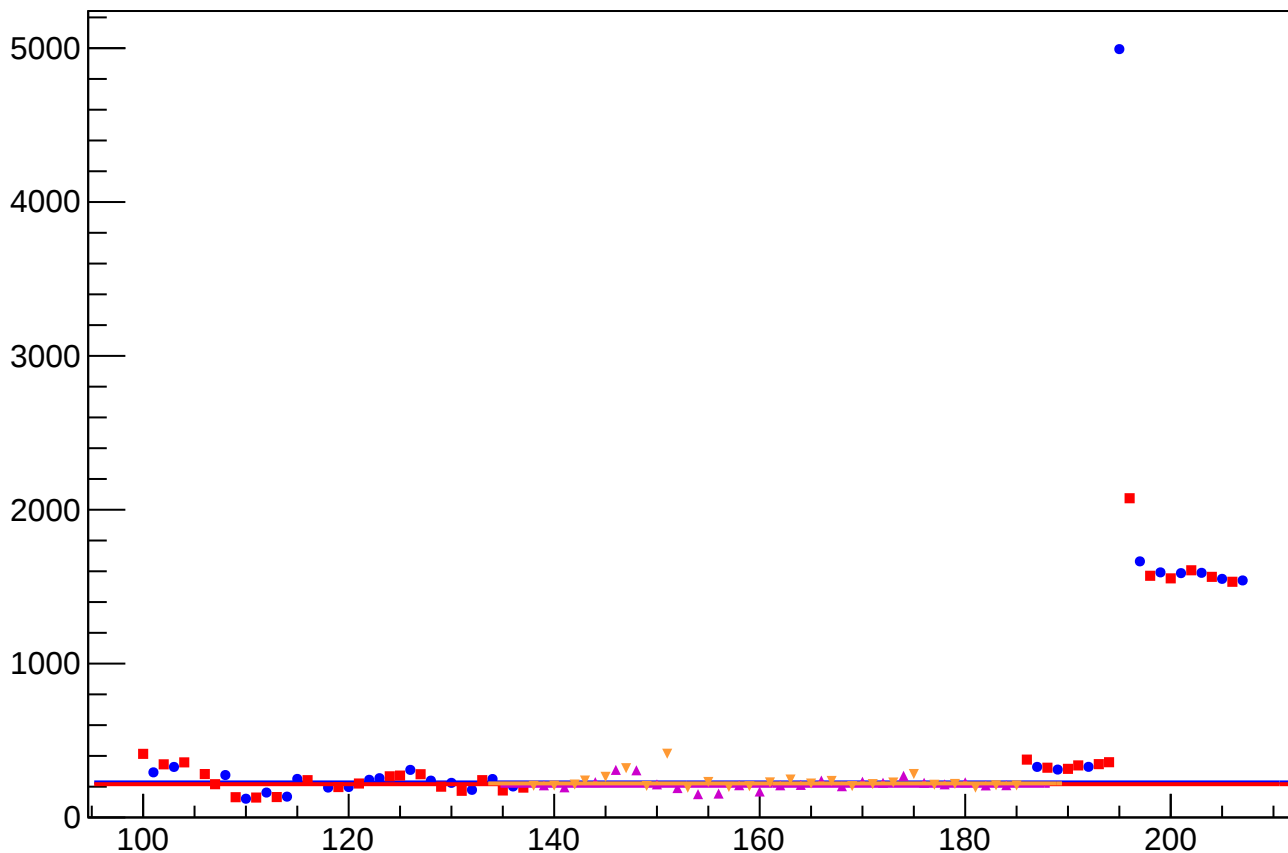
Right:  $-248.433 \pm 51.441$   $\chi^2/\text{NDF}$ : 4001.2/57

In:  $98.780 \pm 42.587$   $\chi^2/\text{NDF}$ : 2211.0/49

Out:  $403.754 \pm 41.848$   $\chi^2/\text{NDF}$ : 5017.1/55

All:  $253.936 \pm 29.849$   $\chi^2/\text{NDF}$ : 7254.3/105

# asym\_bpm0l09WS\_rms vs Slug, Sign Corrected



Right In: 227.675+/-0.055  $\chi^2/\text{NDF}$ : 9876208.4/26

Left Out: 221.398+/-0.037  $\chi^2/\text{NDF}$ : 777833.8/24

Right Out: 216.184+/-0.049  $\chi^2/\text{NDF}$ : 9103255.4/30

Left In: 205.803+/-0.036  $\chi^2/\text{NDF}$ : 994903.5/22

Left: 213.343+/-0.026  $\chi^2/\text{NDF}$ : 1863169.5/47

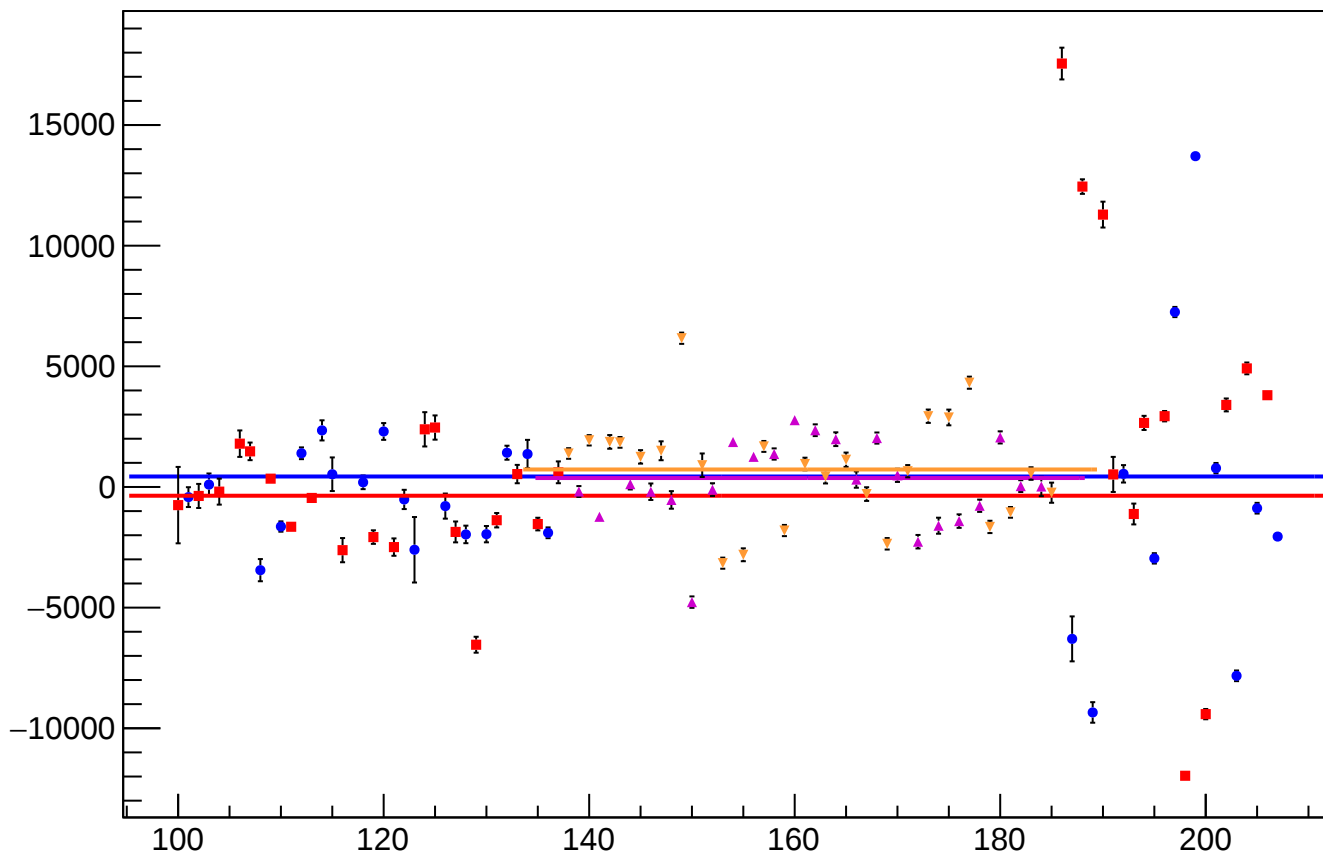
Right: 221.257+/-0.036  $\chi^2/\text{NDF}$ : 19004072.7/57

In: 212.421+/-0.030  $\chi^2/\text{NDF}$ : 10982431.4/49

Out: 219.471+/-0.030  $\chi^2/\text{NDF}$ : 9888323.7/55

All: 216.007+/-0.021  $\chi^2/\text{NDF}$ : 20898640.4/100

# asym\_bpm0l10WS\_mean vs Slug, Sign Corrected



Right In: 434.511+/-56.494  $\chi^2/\text{NDF}$ : 8436.9/26

Left Out: 725.250+/-52.307  $\chi^2/\text{NDF}$ :1883.1/24

Right Out: -362.798+/-54.880  $\chi^2/\text{NDF}$ : 9977.2/30

Left In: 370.408+/-50.884  $\chi^2/\text{NDF}$ :1223.2/22

Left: 542.938+/-36.473  $\chi^2/\text{NDF}$ : 3129.9/47

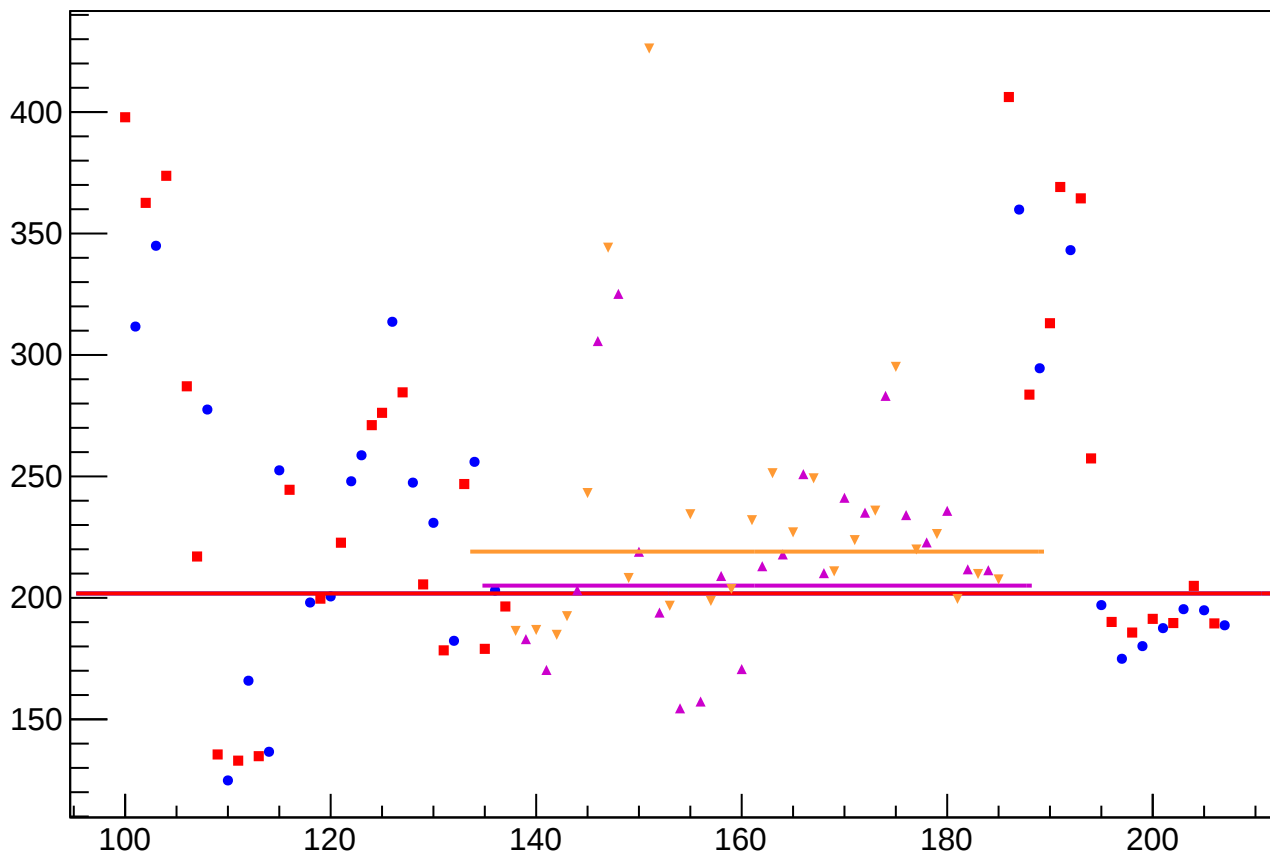
Right: 24.309+/-39.364  $\chi^2/\text{NDF}$ : 18516.6/57

In: 399.120+/-37.809  $\chi^2/\text{NDF}$ :9660.7/49

Out: 207.333+/-37.864  $\chi^2/\text{NDF}$ :12066.3/55

All: 303.366+/-26.754  $\chi^2/\text{NDF}$ : 21739.9/105

# asym\_bpm0l10WS\_rms vs Slug, Sign Corrected



Right In:  $201.812 \pm 0.040$   $\chi^2/\text{NDF}: 1483549.0/26$

Left Out:  $219.049 \pm 0.037$   $\chi^2/\text{NDF}: 975564.4/24$

Right Out:  $201.818 \pm 0.039$   $\chi^2/\text{NDF}: 2295240.5/30$

Left In:  $205.046 \pm 0.036$   $\chi^2/\text{NDF}: 1144197.1/22$

Left:  $211.855 \pm 0.026$   $\chi^2/\text{NDF}: 2193394.9/47$

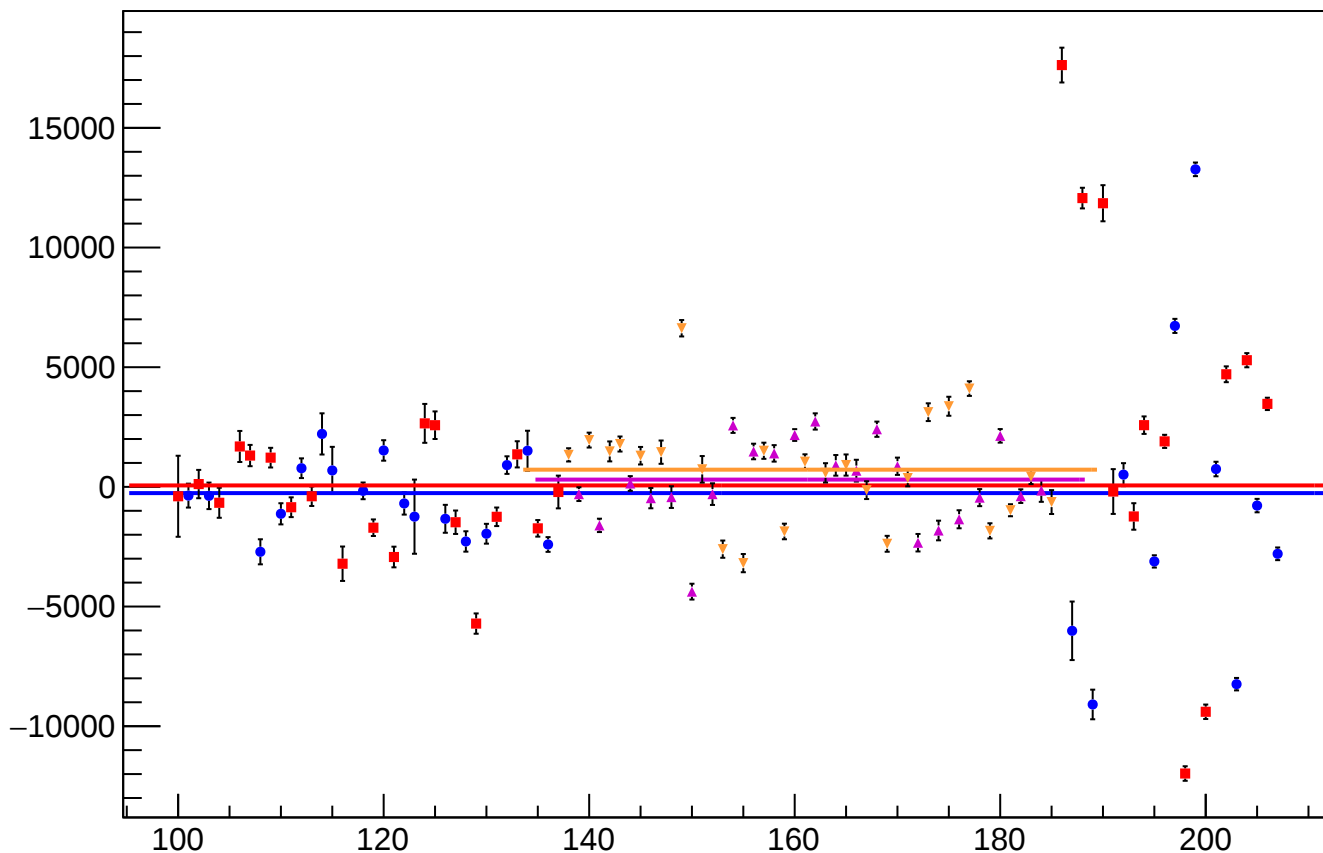
Right:  $201.815 \pm 0.028$   $\chi^2/\text{NDF}: 3778789.5/57$

In:  $203.598 \pm 0.027$   $\chi^2/\text{NDF}: 2631364.5/49$

Out:  $210.847 \pm 0.027$   $\chi^2/\text{NDF}: 3374109.0/55$

All:  $207.217 \pm 0.019$   $\chi^2/\text{NDF}: 6042177.3/105$

# asym\_bpm0r03WS\_mean vs Slug, Sign Corrected



Right In:  $-260.412 \pm 75.413$   $\chi^2/\text{NDF}: 4389.0/26$

Left Out:  $718.705 \pm 69.601$   $\chi^2/\text{NDF}: 1018.5/24$

Right Out:  $60.343 \pm 76.052$   $\chi^2/\text{NDF}: 5322.4/30$

Left In:  $304.161 \pm 70.958$   $\chi^2/\text{NDF}: 643.5/22$

Left:  $515.435 \pm 49.688$   $\chi^2/\text{NDF}: 1679.4/47$

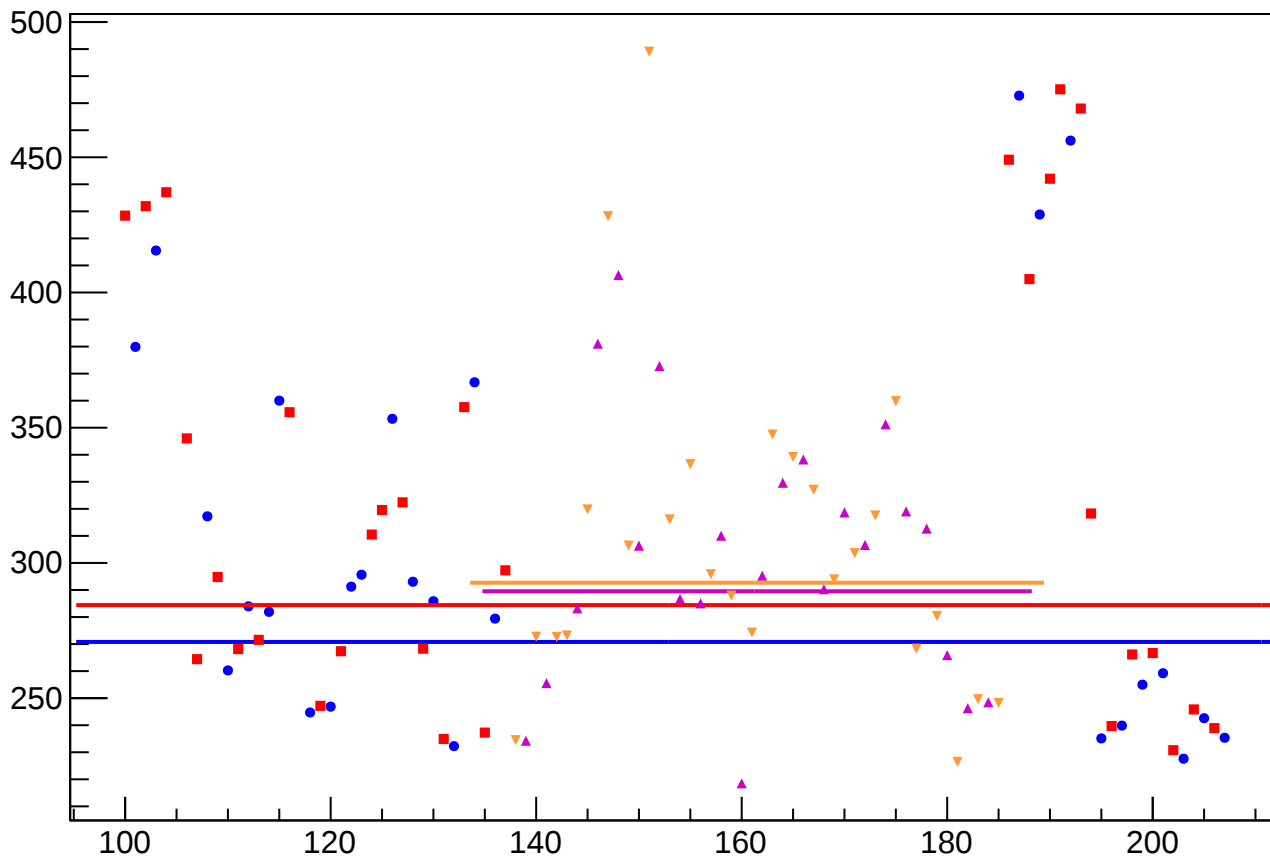
Right:  $-101.387 \pm 53.550$   $\chi^2/\text{NDF}: 9720.4/57$

In:  $39.045 \pm 51.678$   $\chi^2/\text{NDF}: 5062.2/49$

Out:  $418.628 \pm 51.345$   $\chi^2/\text{NDF}: 6381.7/55$

All:  $230.065 \pm 36.423$   $\chi^2/\text{NDF}: 11471.1/105$

# asym\_bpm0r03WS\_rms vs Slug, Sign Corrected



Right In: 270.791 $\pm$ 0.053  $\chi^2/\text{NDF}$ : 1051400.8/26

Left Out: 292.686 $\pm$ 0.049  $\chi^2/\text{NDF}$ : 925193.6/24

Right Out: 284.415 $\pm$ 0.054  $\chi^2/\text{NDF}$ : 1344321.8/30

Left In: 289.522 $\pm$ 0.050  $\chi^2/\text{NDF}$ : 777901.0/22

Left: 291.134 $\pm$ 0.035  $\chi^2/\text{NDF}$ : 1705121.5/47

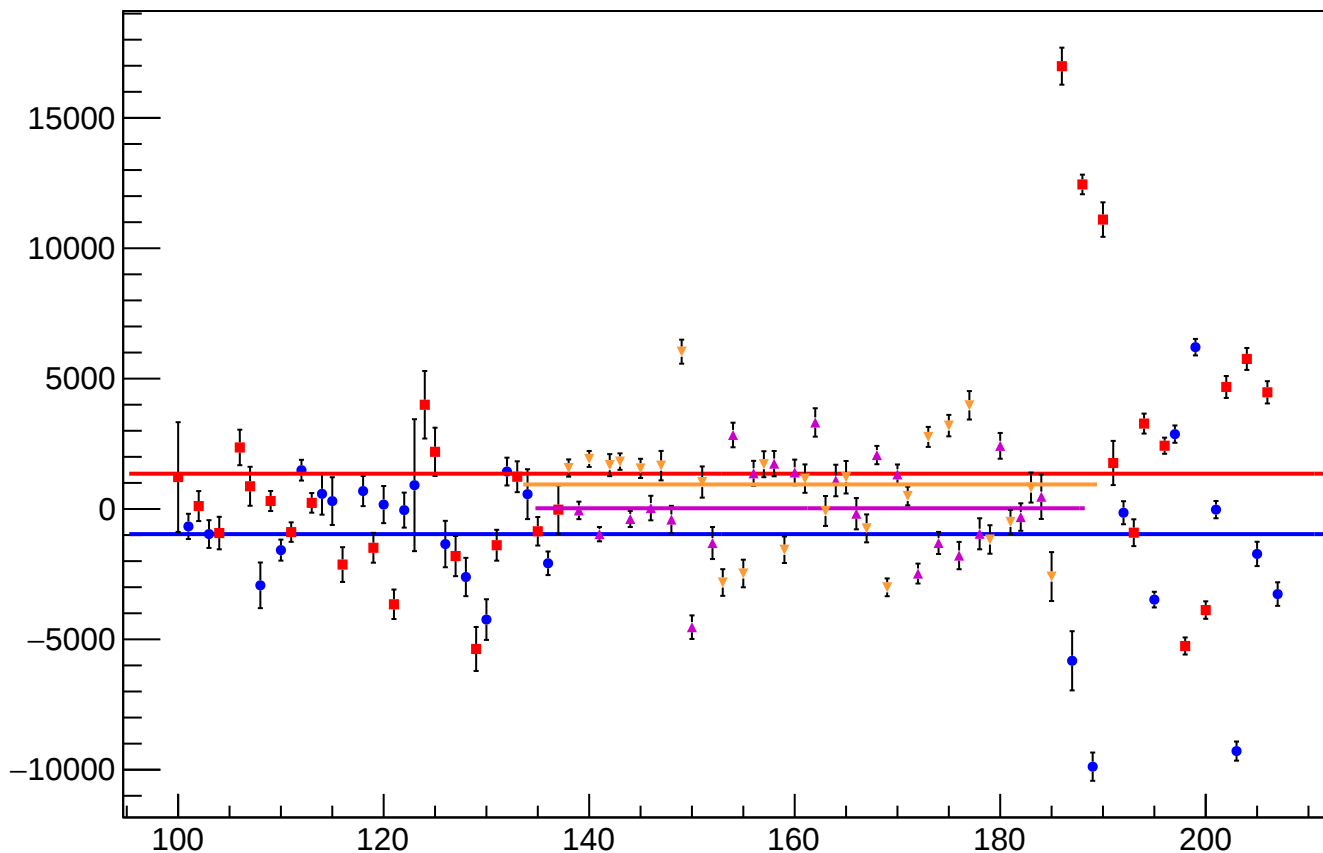
Right: 277.546 $\pm$ 0.038  $\chi^2/\text{NDF}$ : 2428084.1/57

In: 280.726 $\pm$ 0.037  $\chi^2/\text{NDF}$ : 1894739.9/49

Out: 288.916 $\pm$ 0.036  $\chi^2/\text{NDF}$ : 2282387.0/55

All: 284.848 $\pm$ 0.026  $\chi^2/\text{NDF}$ : 4202405.9/105

# asym\_bpm0r05WS\_mean vs Slug, Sign Corrected



Right In:  $-963.670 \pm 94.755$   $\chi^2/\text{NDF}: 1677.8/26$

Left Out:  $941.598 \pm 89.119$   $\chi^2/\text{NDF}: 544.6/24$

Right Out:  $1354.282 \pm 90.137$   $\chi^2/\text{NDF}: 2833.7/30$

Left In:  $27.763 \pm 92.331$   $\chi^2/\text{NDF}: 362.5/22$

Left:  $500.853 \pm 64.122$   $\chi^2/\text{NDF}: 957.8/47$

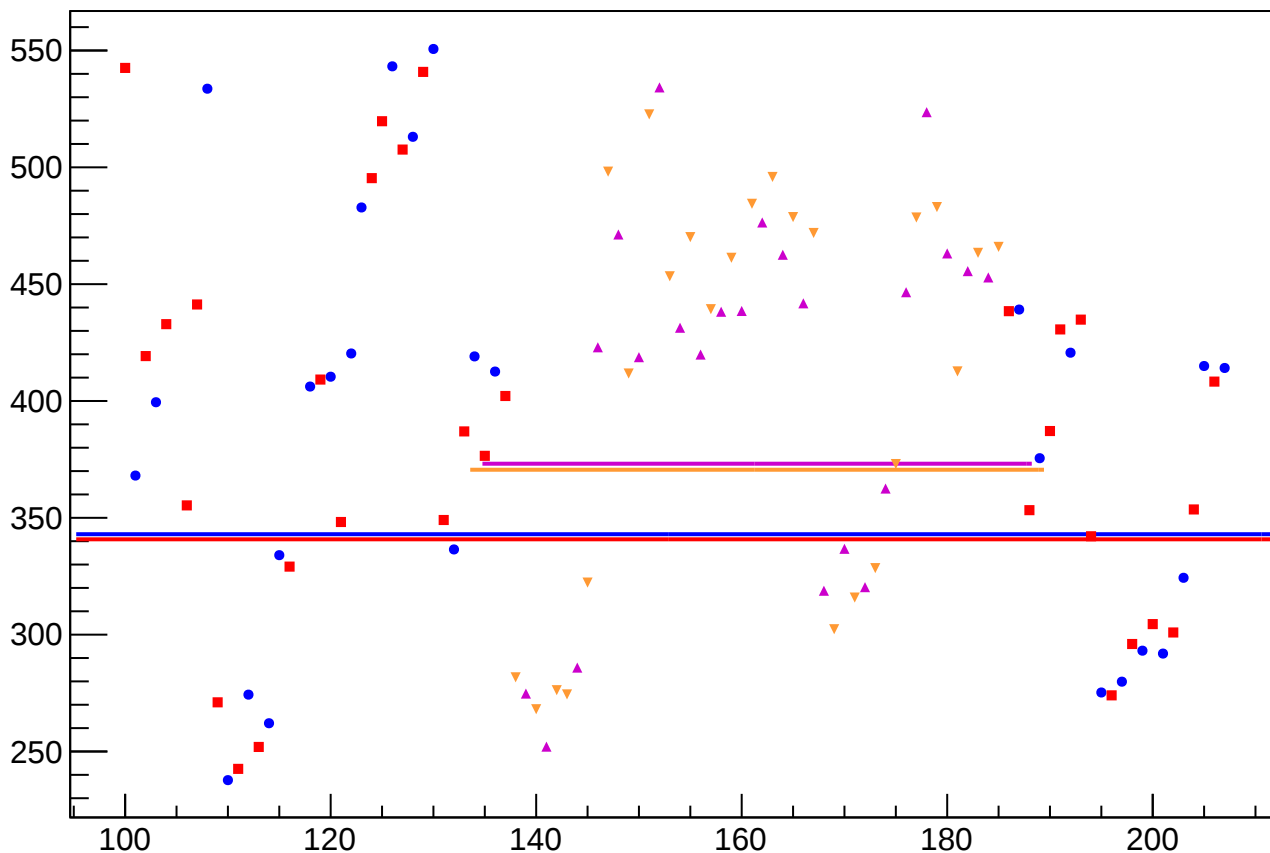
Right:  $253.161 \pm 65.308$   $\chi^2/\text{NDF}: 4825.6/57$

In:  $-455.112 \pm 66.128$   $\chi^2/\text{NDF}: 2096.5/49$

Out:  $1145.597 \pm 63.374$   $\chi^2/\text{NDF}: 3388.9/55$

All:  $379.276 \pm 45.755$   $\chi^2/\text{NDF}: 5790.8/105$

# asym\_bpm0r05WS\_rms vs Slug, Sign Corrected



Right In:  $342.987 \pm 0.067$   $\chi^2/\text{NDF}: 1280730.1/26$

Left Out:  $370.580 \pm 0.063$   $\chi^2/\text{NDF}: 1878118.9/24$

Right Out:  $340.803 \pm 0.064$   $\chi^2/\text{NDF}: 1183650.4/30$

Left In:  $373.161 \pm 0.065$   $\chi^2/\text{NDF}: 1636244.2/22$

Left:  $371.824 \pm 0.045$   $\chi^2/\text{NDF}: 3515172.3/47$

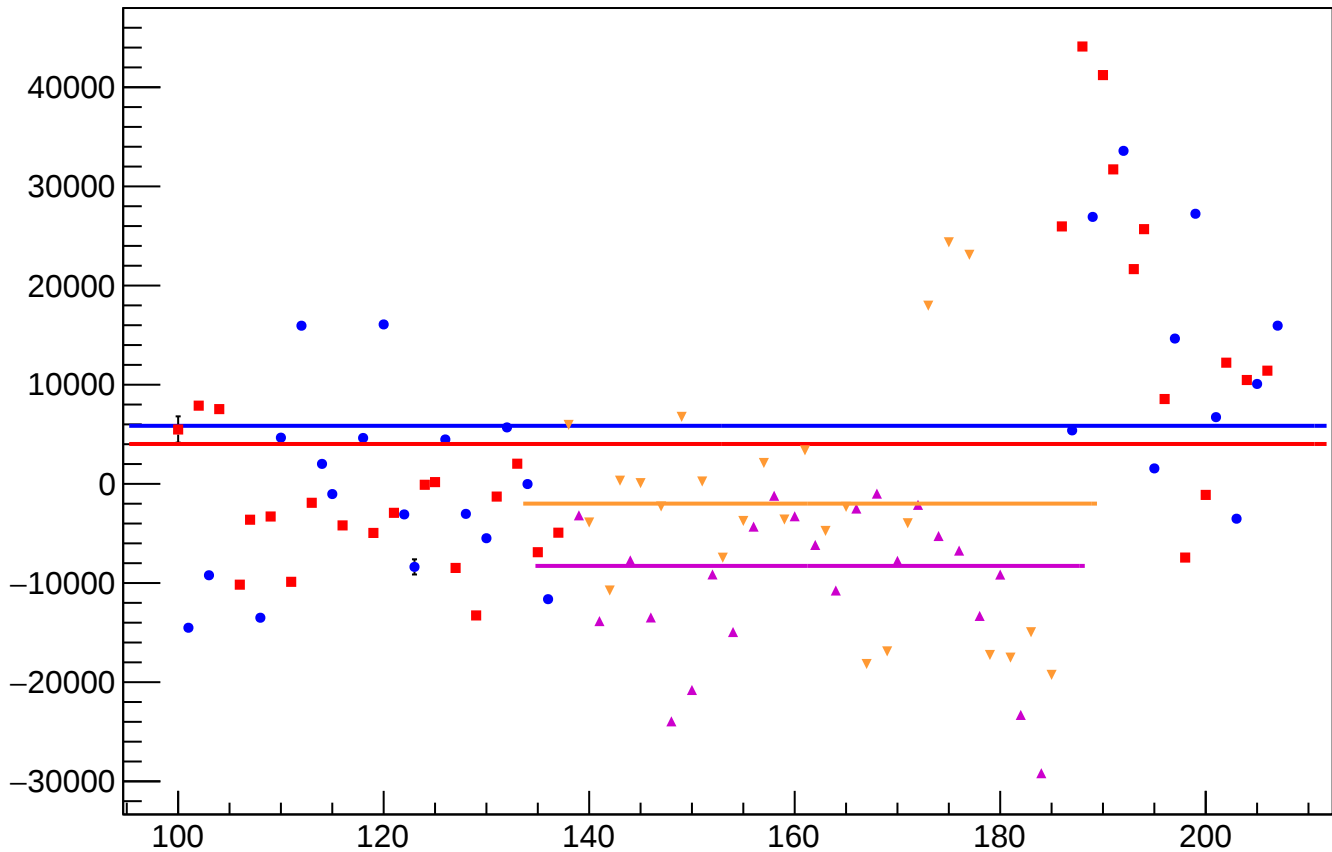
Right:  $341.841 \pm 0.046$   $\chi^2/\text{NDF}: 2464938.4/57$

In:  $358.465 \pm 0.047$   $\chi^2/\text{NDF}: 3021002.3/49$

Out:  $355.861 \pm 0.045$   $\chi^2/\text{NDF}: 3172136.9/55$

All:  $357.107 \pm 0.032$   $\chi^2/\text{NDF}: 6194756.2/105$

# asym\_bpm0i02WS\_mean vs Slug, Sign Corrected



Right In: 5855.175 $\pm$ 42.640  $\chi^2$ /NDF: 89176.6/26

Left Out: -1991.788 $\pm$ 42.427  $\chi^2$ /NDF:63766.6/24

Right Out: 4023.041 $\pm$ 40.528  $\chi^2$ /NDF: 134262.5/30

Left In: -8273.228 $\pm$ 44.301  $\chi^2$ /NDF:22870.2/22

Left: -4996.810 $\pm$ 30.641  $\chi^2$ /NDF: 97123.2/47

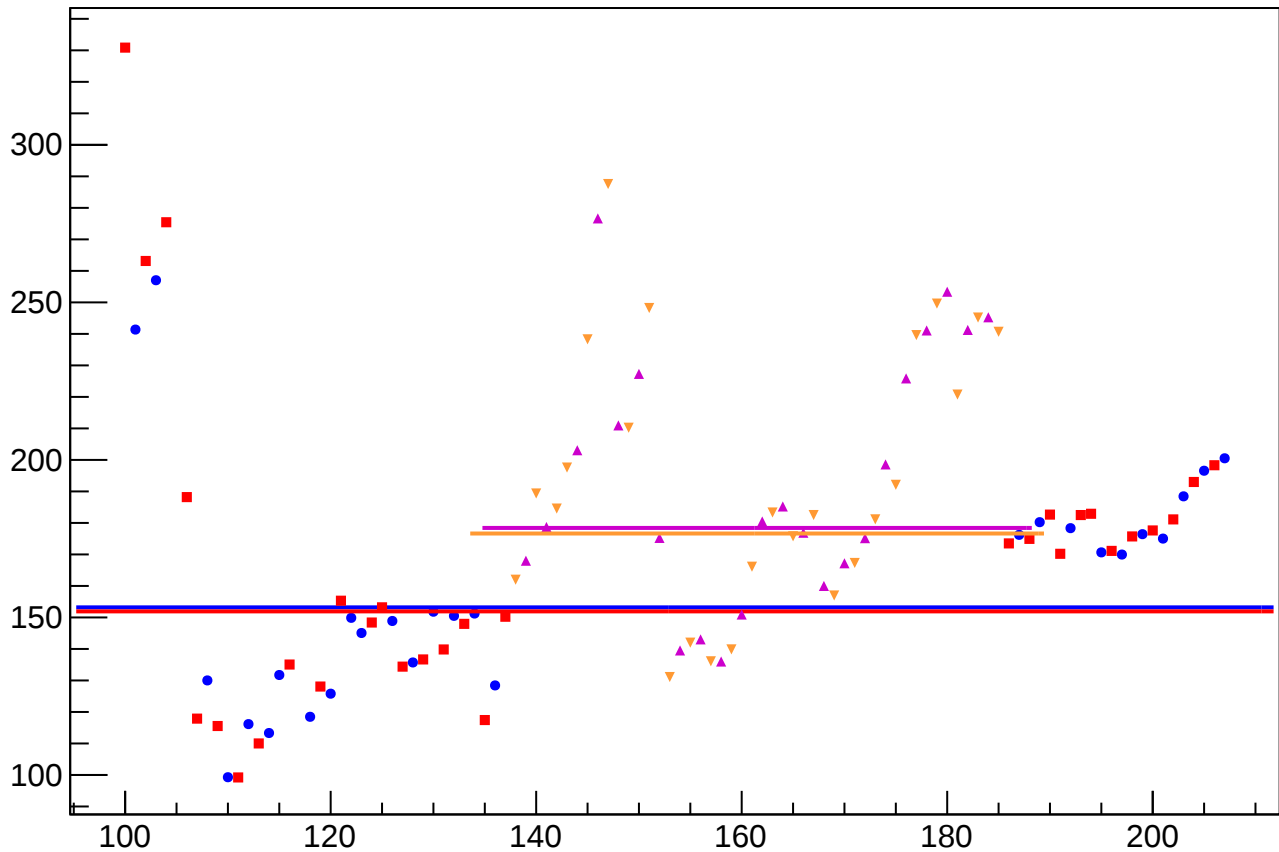
Right: 4892.599 $\pm$ 29.376  $\chi^2$ /NDF: 224409.1/57

In: -939.215 $\pm$ 30.722  $\chi^2$ /NDF:164843.1/49

Out: 1153.250 $\pm$ 29.306  $\chi^2$ /NDF:208538.3/55

All: 156.345 $\pm$ 21.205  $\chi^2$ /NDF: 375810.3/105

# asym\_bpm0i02WS\_rms vs Slug, Sign Corrected



Right In: 153.201+/-0.030  $\chi^2/\text{NDF}$ : 1250066.0/26

Left Out: 176.641+/-0.030  $\chi^2/\text{NDF}$ :1551048.8/24

Right Out: 151.924+/-0.029  $\chi^2/\text{NDF}$ : 1530358.7/30

Left In: 178.413+/-0.031  $\chi^2/\text{NDF}$ :1293736.2/22

Left: 177.489+/-0.022  $\chi^2/\text{NDF}$ : 2846455.0/47

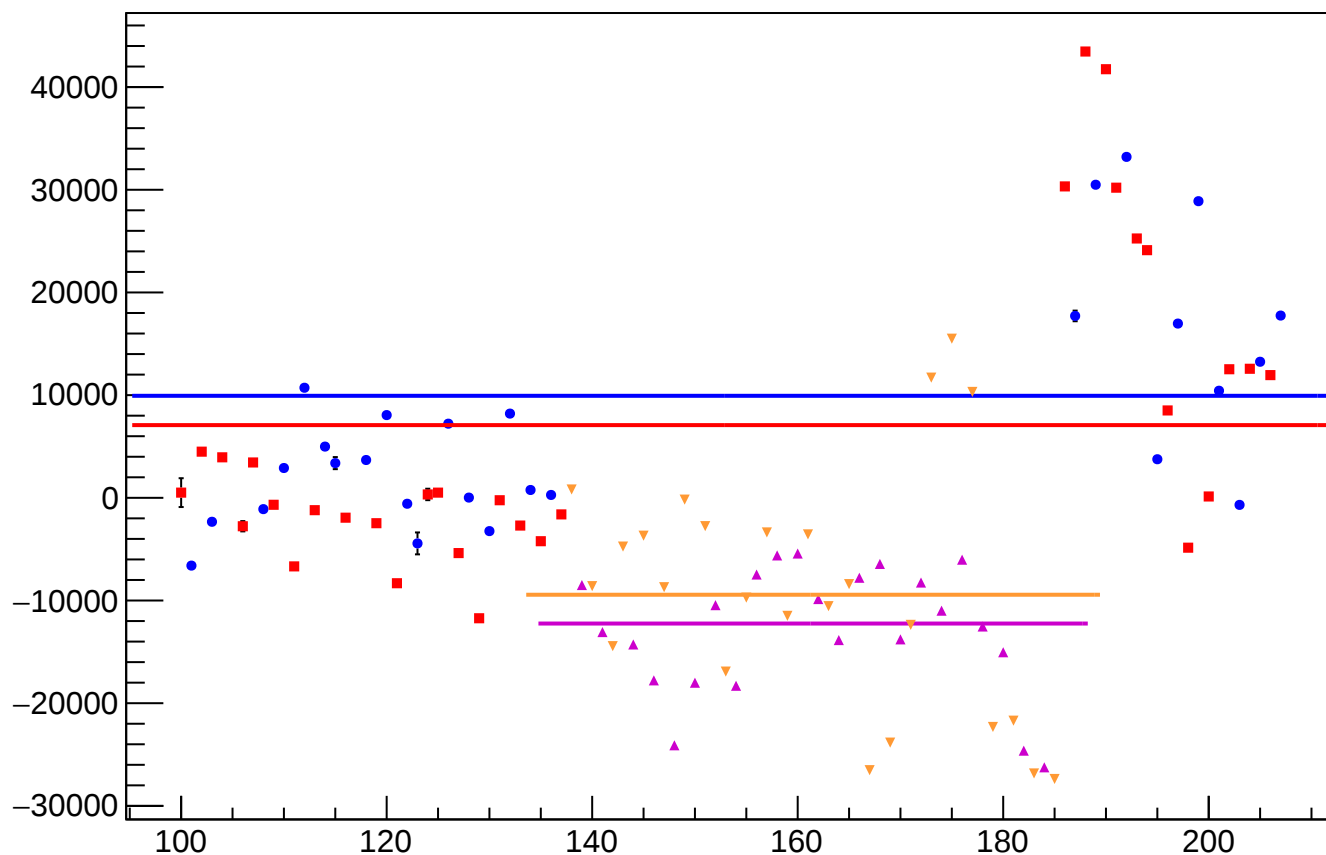
Right: 152.530+/-0.021  $\chi^2/\text{NDF}$ : 2781366.0/57

In: 165.326+/-0.022  $\chi^2/\text{NDF}$ :2880068.2/49

Out: 163.717+/-0.021  $\chi^2/\text{NDF}$ :3436318.3/55

All: 164.483+/-0.015  $\chi^2/\text{NDF}$ : 6319256.8/105

# asym\_bpm0i02aWS\_mean vs Slug, Sign Corrected



Right In: 9935.457+/-48.147  $\chi^2/\text{NDF}$ : 50419.6/26

Left Out: -9437.408+/-45.534  $\chi^2/\text{NDF}$ : 62220.4/24

Right Out: 7081.240+/-45.710  $\chi^2/\text{NDF}$ : 103613.1/30

Left In: -12242.226+/-43.944  $\chi^2/\text{NDF}$ : 16615.8/22

Left: -10889.638+/-31.621  $\chi^2/\text{NDF}$ : 80800.7/47

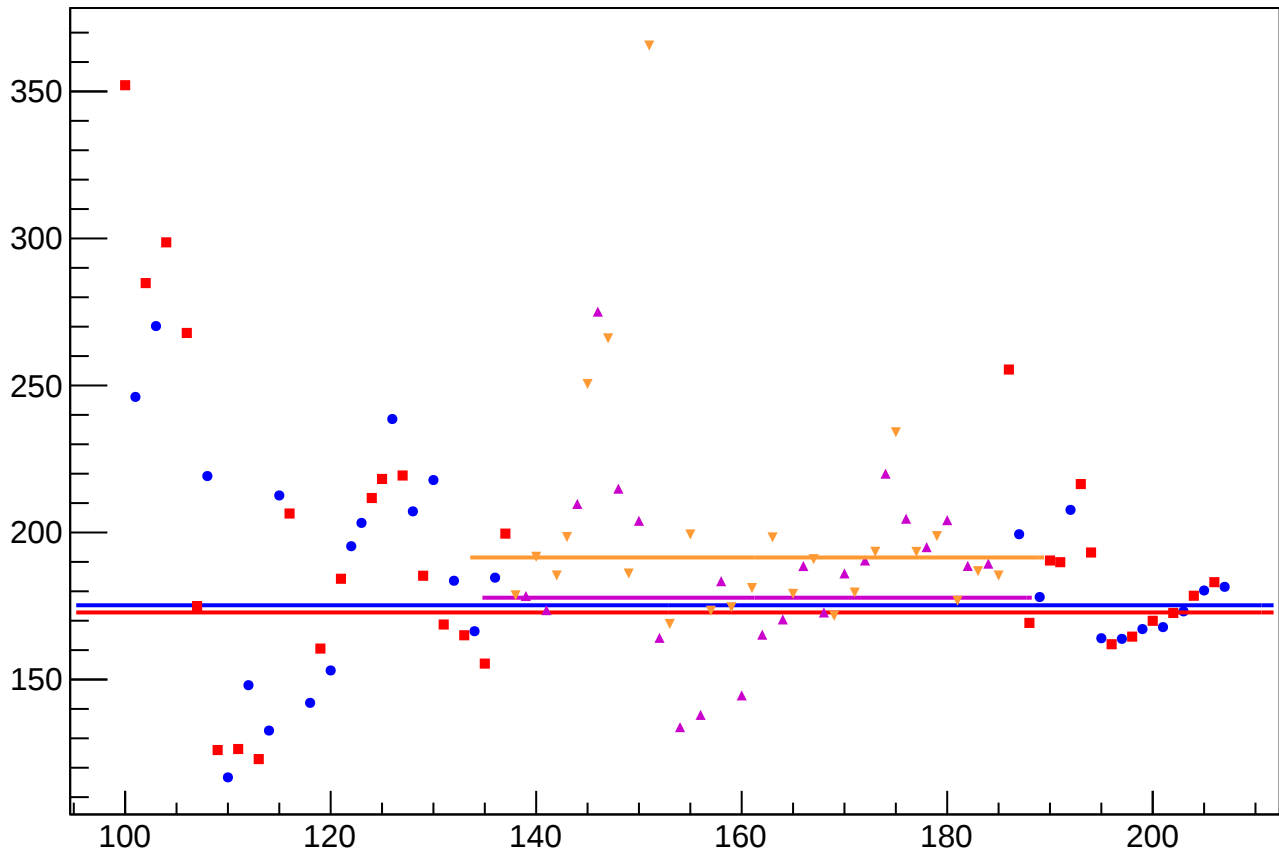
Right: 8434.318+/-33.150  $\chi^2/\text{NDF}$ : 155881.0/57

In: -2163.243+/-32.458  $\chi^2/\text{NDF}$ : 182786.5/49

Out: -1209.972+/-32.260  $\chi^2/\text{NDF}$ : 231381.8/55

All: -1683.695+/-22.881  $\chi^2/\text{NDF}$ : 414602.2/100

# asym\_bpm0i02aWS\_rms vs Slug, Sign Corrected



Right In: 175.250+/-0.034  $\chi^2/\text{NDF}$ : 761824.9/26

Left Out: 191.507+/-0.032  $\chi^2/\text{NDF}$ : 727251.6/24

Right Out: 172.808+/-0.032  $\chi^2/\text{NDF}$ : 1131650.6/30

Left In: 177.821+/-0.031  $\chi^2/\text{NDF}$ : 862494.4/22

Left: 184.421+/-0.022  $\chi^2/\text{NDF}$ : 1683284.8/47

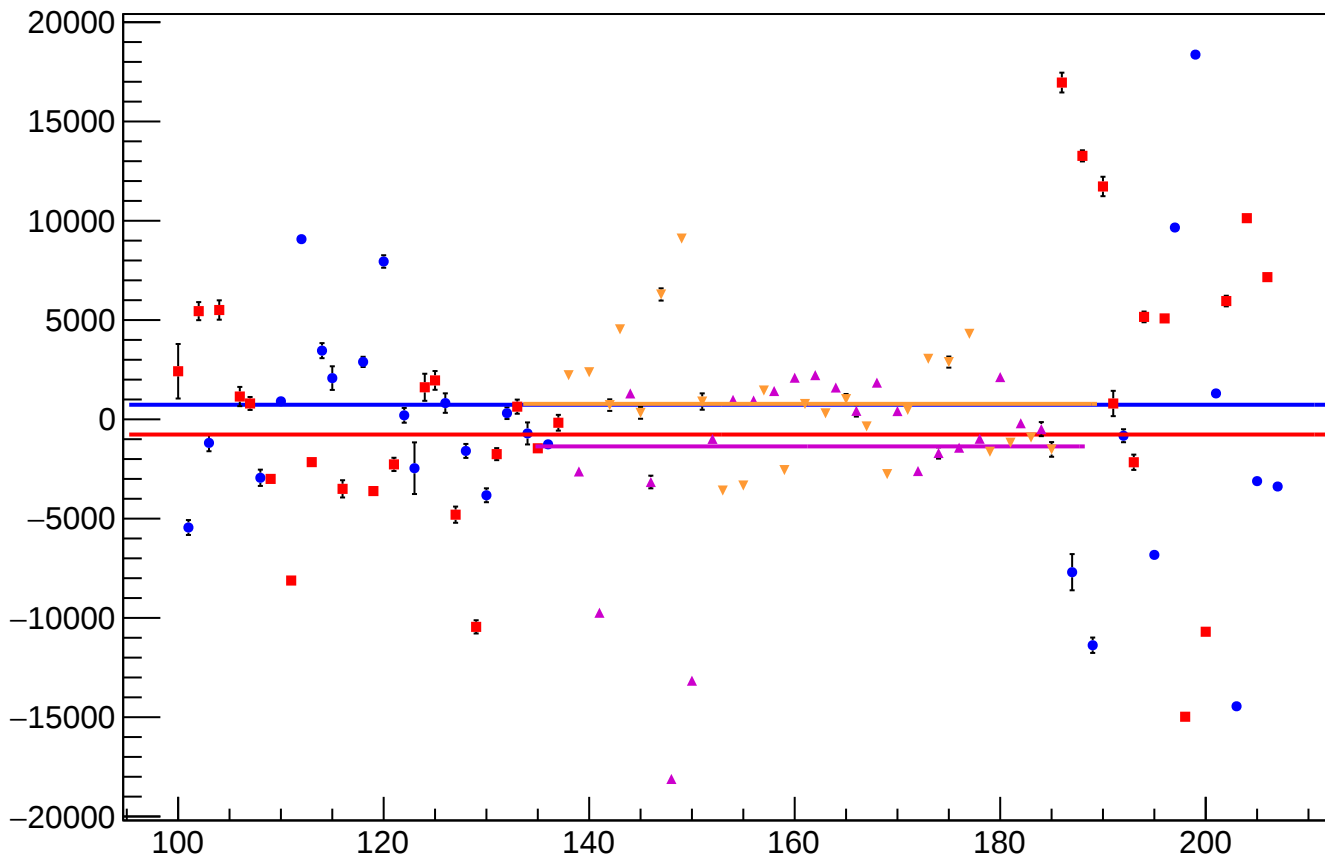
Right: 173.966+/-0.023  $\chi^2/\text{NDF}$ : 1896183.0/57

In: 176.653+/-0.023  $\chi^2/\text{NDF}$ : 1627430.6/49

Out: 182.193+/-0.023  $\chi^2/\text{NDF}$ : 2026891.0/55

All: 179.440+/-0.016  $\chi^2/\text{NDF}$ : 3683636.4/105

asym\_bpm0i05WS\_mean vs Slug, Sign Corrected



Right In: 734.473+/-54.145  $\chi^2/\text{NDF}$ : 20337.9/26

Left Out: 779.983+/-47.457  $\chi^2/\text{NDF}$ : 4260.8/24

Right Out: -765.096+/-51.727  $\chi^2/\text{NDF}$ : 20346.1/30

Left In: -1363.043+/-45.807  $\chi^2/\text{NDF}$ : 11632.9/22

Left: -329.448+/-32.958  $\chi^2/\text{NDF}$ : 16949.3/47

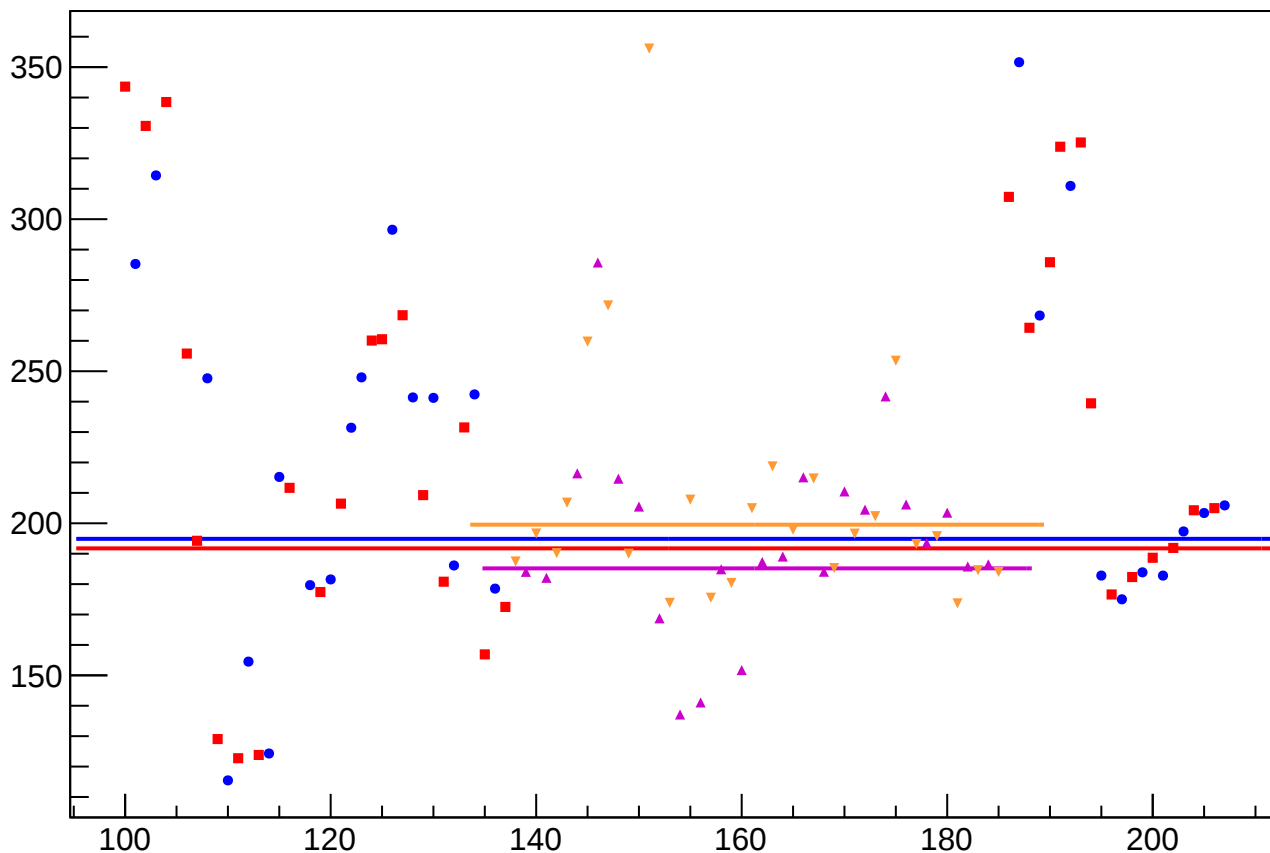
Right: -49.539+/-37.402  $\chi^2/\text{NDF}$ : 41085.0/57

In: -488.064+/-34.971  $\chi^2/\text{NDF}$ : 32845.4/49

Out: 73.839+/-34.970  $\chi^2/\text{NDF}$ : 25091.3/55

All: -207.103+/-24.728  $\chi^2/\text{NDF}$ : 58065.8/105

# asym\_bpm0i05WS\_rms vs Slug, Sign Corrected



Right In:  $194.885 \pm 0.038$   $\chi^2/\text{NDF}$ : 1415381.8/26

Left Out:  $199.547 \pm 0.034$   $\chi^2/\text{NDF}$ : 729356.3/24

Right Out:  $191.752 \pm 0.037$   $\chi^2/\text{NDF}$ : 2142233.6/30

Left In:  $185.171 \pm 0.032$   $\chi^2/\text{NDF}$ : 882752.2/22

Left:  $192.104 \pm 0.023$   $\chi^2/\text{NDF}$ : 1707122.0/47

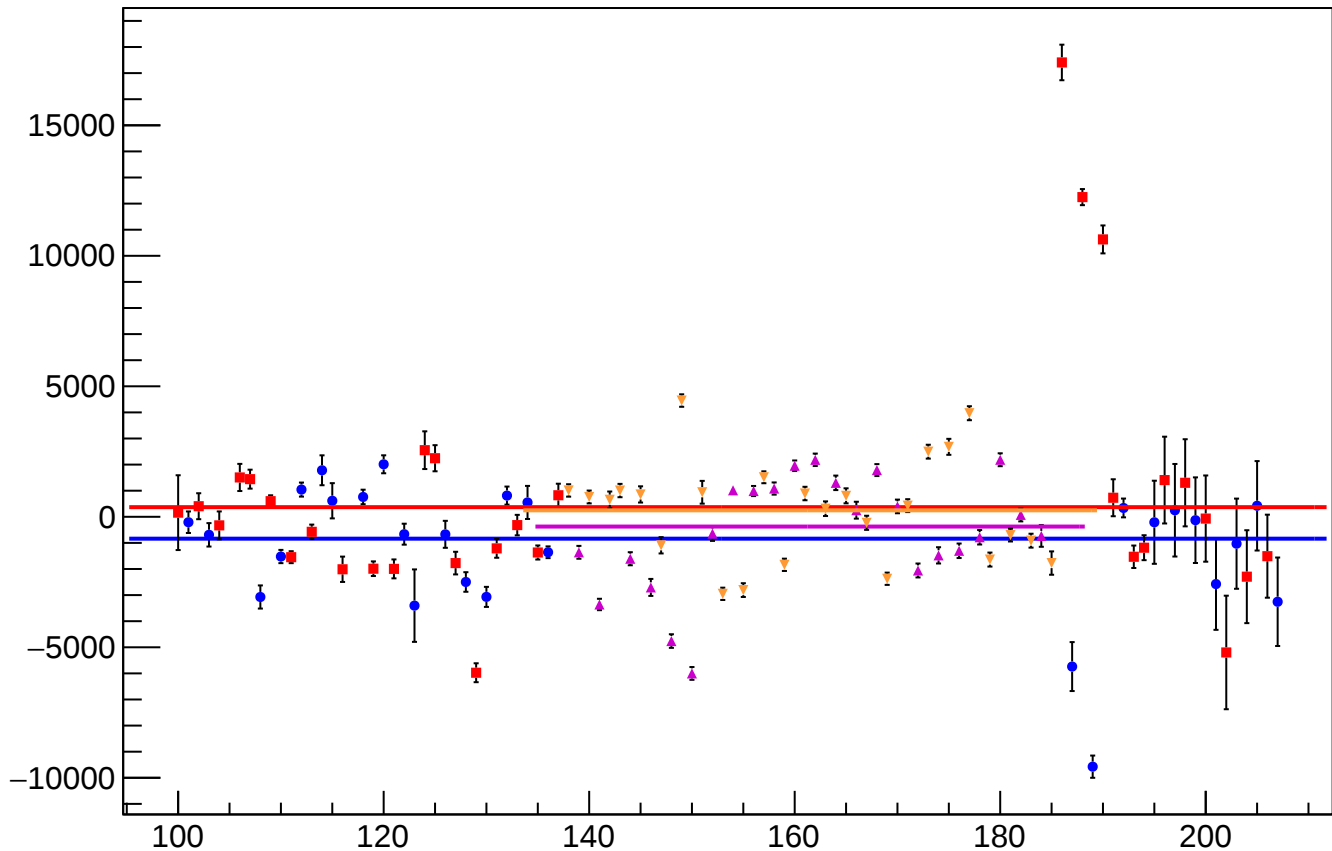
Right:  $193.247 \pm 0.026$   $\chi^2/\text{NDF}$ : 3561115.8/57

In:  $189.223 \pm 0.025$   $\chi^2/\text{NDF}$ : 2335658.0/49

Out:  $195.985 \pm 0.025$   $\chi^2/\text{NDF}$ : 2896246.5/55

All:  $192.604 \pm 0.017$   $\chi^2/\text{NDF}$ : 5269289.0/105

# asym\_bpm0i07WS\_mean vs Slug, Sign Corrected



Right In: -838.236+/-83.440  $\chi^2/\text{NDF}$ : 763.7/26

Left Out: 247.844+/-53.555  $\chi^2/\text{NDF}$ :1355.1/24

Right Out: 368.996+/-74.990  $\chi^2/\text{NDF}$ : 3172.8/30

Left In: -374.122+/-52.049  $\chi^2/\text{NDF}$ :1801.0/22

Left: -72.006+/-37.325  $\chi^2/\text{NDF}$ : 3225.5/47

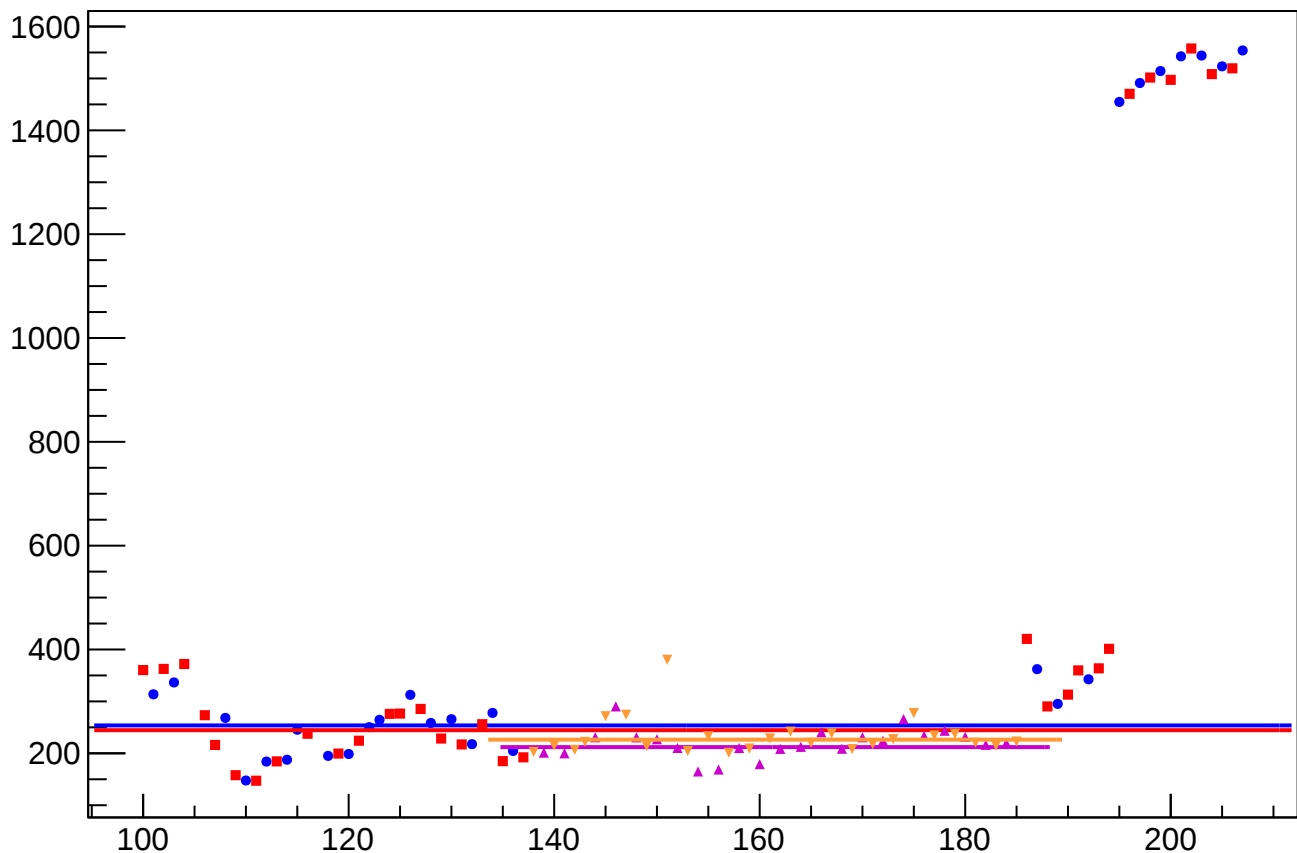
Right: -170.411+/-55.775  $\chi^2/\text{NDF}$ : 4052.3/57

In: -504.128+/-44.161  $\chi^2/\text{NDF}$ :2587.0/49

Out: 288.764+/-43.582  $\chi^2/\text{NDF}$ :4529.6/55

All: -102.445+/-31.020  $\chi^2/\text{NDF}$ : 7279.9/105

# asym\_bpm0i07WS\_rms vs Slug, Sign Corrected



Right In: 253.726+/-0.059  $\chi^2/\text{NDF}$ : 8842640.0/26

Left Out: 226.322+/-0.038  $\chi^2/\text{NDF}$ :521041.8/24

Right Out: 244.547+/-0.053  $\chi^2/\text{NDF}$ : 8269831.4/30

Left In: 211.970+/-0.037  $\chi^2/\text{NDF}$ :584344.5/22

Left: 218.941+/-0.026  $\chi^2/\text{NDF}$ : 1179246.7/47

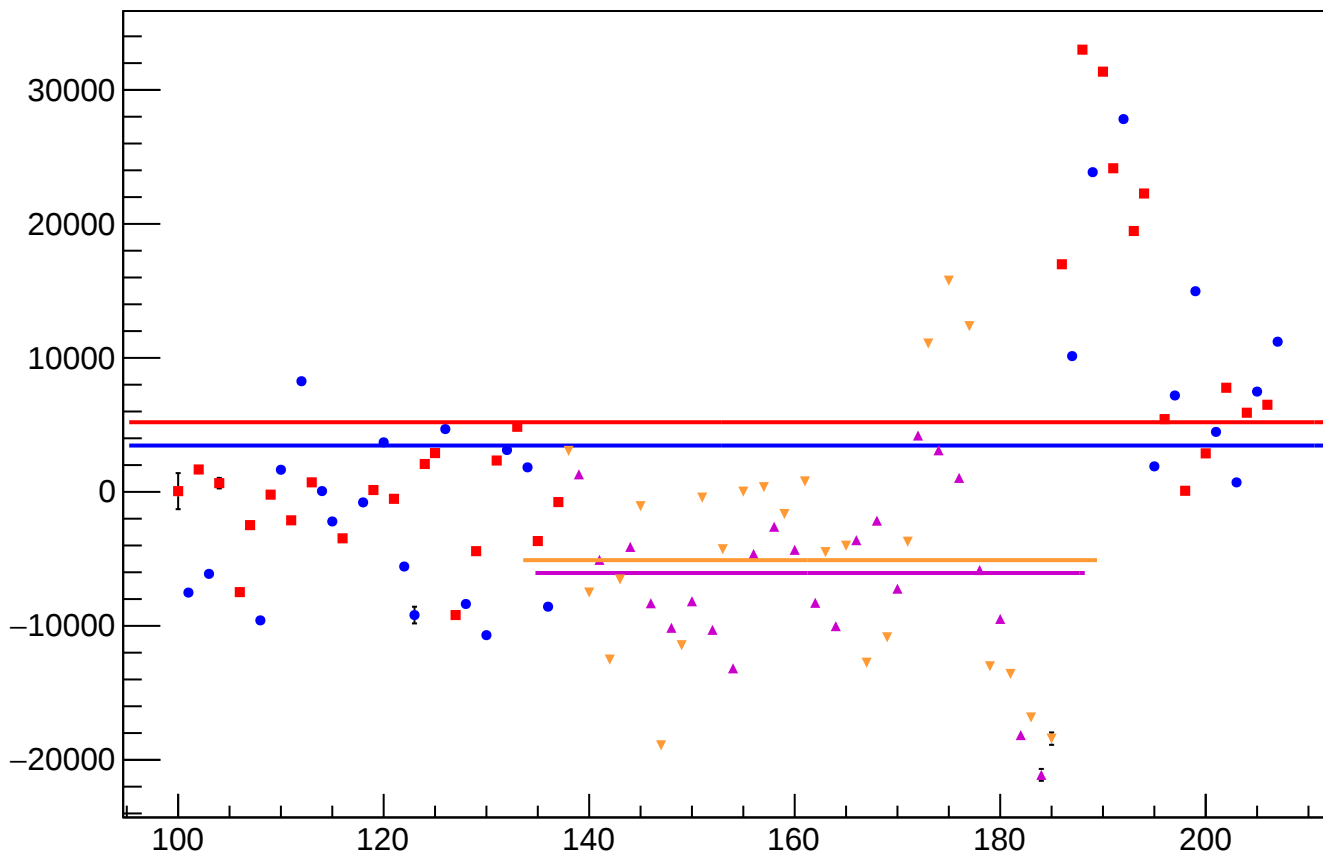
Right: 248.648+/-0.039  $\chi^2/\text{NDF}$ : 17125862.4/57

In: 223.667+/-0.031  $\chi^2/\text{NDF}$ :9787552.1/49

Out: 232.477+/-0.031  $\chi^2/\text{NDF}$ :8869103.4/55

All: 228.130+/-0.022  $\chi^2/\text{NDF}$ : 18696985.5/100

# asym\_bpm1i02WS\_mean vs Slug, Sign Corrected



Right In: 3458.637+/-36.240  $\chi^2/\text{NDF}$ : 75753.4/26

Left Out: -5095.305+/-33.703  $\chi^2/\text{NDF}$ :54395.4/24

Right Out: 5198.497+/-34.151  $\chi^2/\text{NDF}$ : 101070.7/30

Left In: -6053.569+/-34.998  $\chi^2/\text{NDF}$ :17590.3/22

Left: -5556.386+/-24.277  $\chi^2/\text{NDF}$ : 72374.6/47

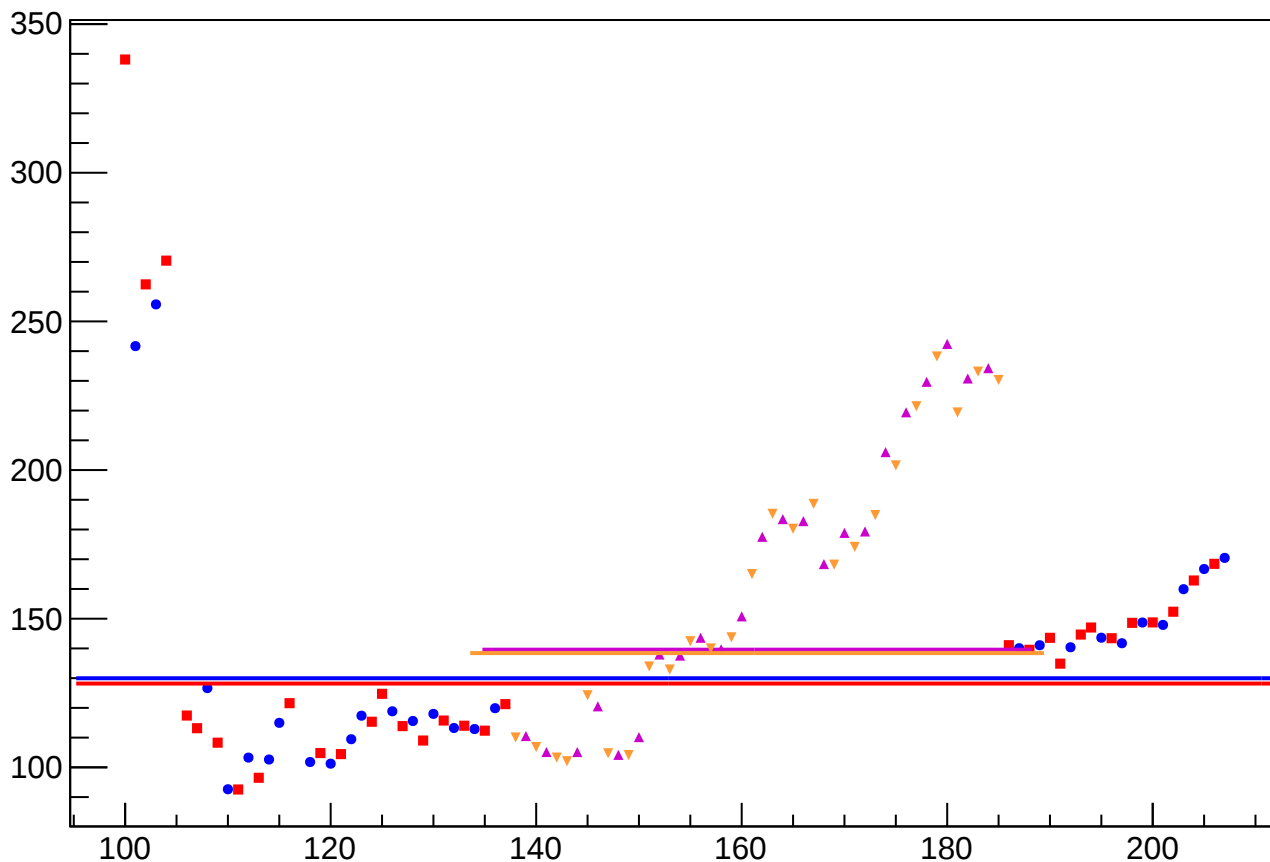
Right: 4380.147+/-24.854  $\chi^2/\text{NDF}$ : 178044.9/57

In: -1463.255+/-25.175  $\chi^2/\text{NDF}$ :128991.8/49

Out: -16.349+/-23.989  $\chi^2/\text{NDF}$ :201491.9/55

All: -704.910+/-17.367  $\chi^2/\text{NDF}$ : 332214.9/10

# asym\_bpm1i02WS\_rms vs Slug, Sign Corrected



Right In: 129.969 $\pm$ 0.026  $\chi^2$ /NDF: 1244211.1/26

Left Out: 138.436 $\pm$ 0.024  $\chi^2$ /NDF: 2549435.8/24

Right Out: 128.185 $\pm$ 0.024  $\chi^2$ /NDF: 1360974.7/30

Left In: 139.578 $\pm$ 0.025  $\chi^2$ /NDF: 2413658.9/22

Left: 138.985 $\pm$ 0.017  $\chi^2$ /NDF: 4964199.7/47

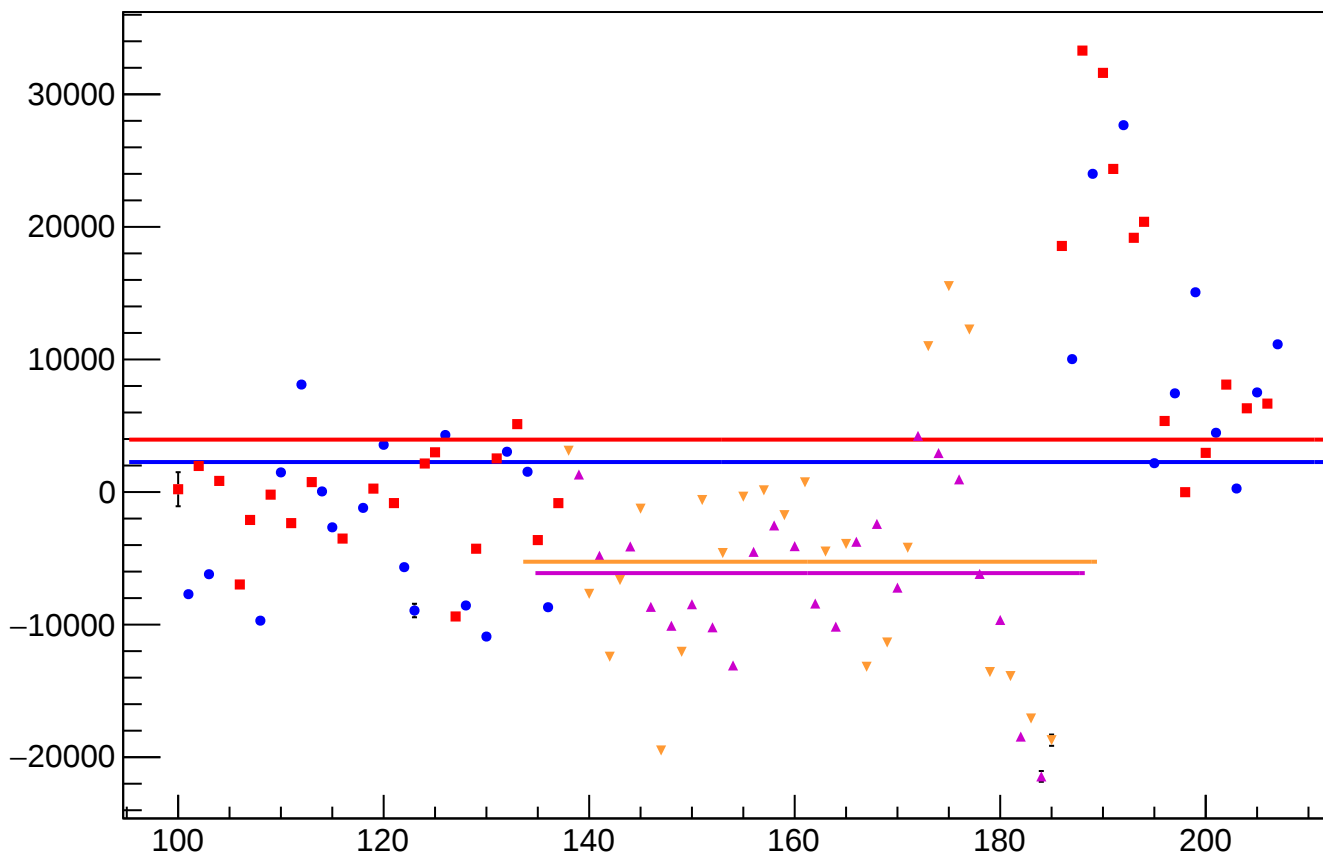
Right: 129.024 $\pm$ 0.018  $\chi^2$ /NDF: 2607752.2/57

In: 134.941 $\pm$ 0.018  $\chi^2$ /NDF: 3730621.3/49

Out: 133.378 $\pm$ 0.017  $\chi^2$ /NDF: 4001689.7/55

All: 134.122 $\pm$ 0.012  $\chi^2$ /NDF: 7736350.2/105

asym\_bpm1i04WS\_mean vs Slug, Sign Corrected



Right In: 2262.928+/-32.315  $\chi^2/\text{NDF}$ : 84400.9/26

Left Out: -5255.652+/-30.622  $\chi^2/\text{NDF}$ : 64324.6/24

Right Out: 3954.318+/-30.647  $\chi^2/\text{NDF}$ : 108585.0/30

Left In: -6114.901+/-32.126  $\chi^2/\text{NDF}$ : 21260.9/22

Left: -5664.697+/-22.166  $\chi^2/\text{NDF}$ : 85960.3/47

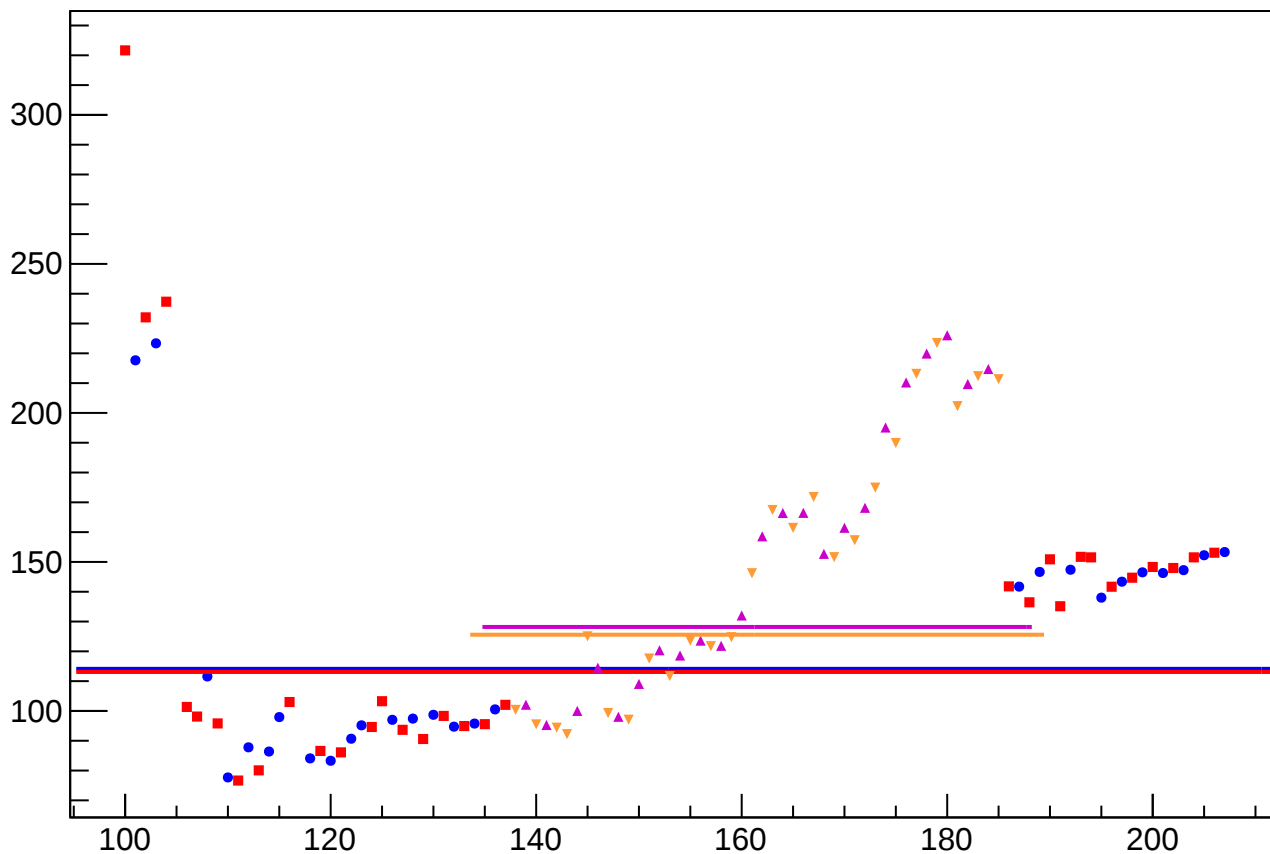
Right: 3153.402+/-22.237  $\chi^2/\text{NDF}$ : 194428.2/57

In: -1950.565+/-22.783  $\chi^2/\text{NDF}$ : 139466.3/49

Out: -654.373+/-21.662  $\chi^2/\text{NDF}$ : 218102.6/55

All: -1269.794+/-15.699  $\chi^2/\text{NDF}$ : 359268.9/1

# asym\_bpm1i04WS\_rms vs Slug, Sign Corrected



Right In: 114.126+/-0.023  $\chi^2/\text{NDF}$ : 1897047.0/26

Left Out: 125.577+/-0.022  $\chi^2/\text{NDF}$ : 2595752.6/24

Right Out: 113.086+/-0.022  $\chi^2/\text{NDF}$ : 2156137.7/30

Left In: 128.184+/-0.023  $\chi^2/\text{NDF}$ : 2332977.5/22

Left: 126.818+/-0.016  $\chi^2/\text{NDF}$ : 4935627.6/47

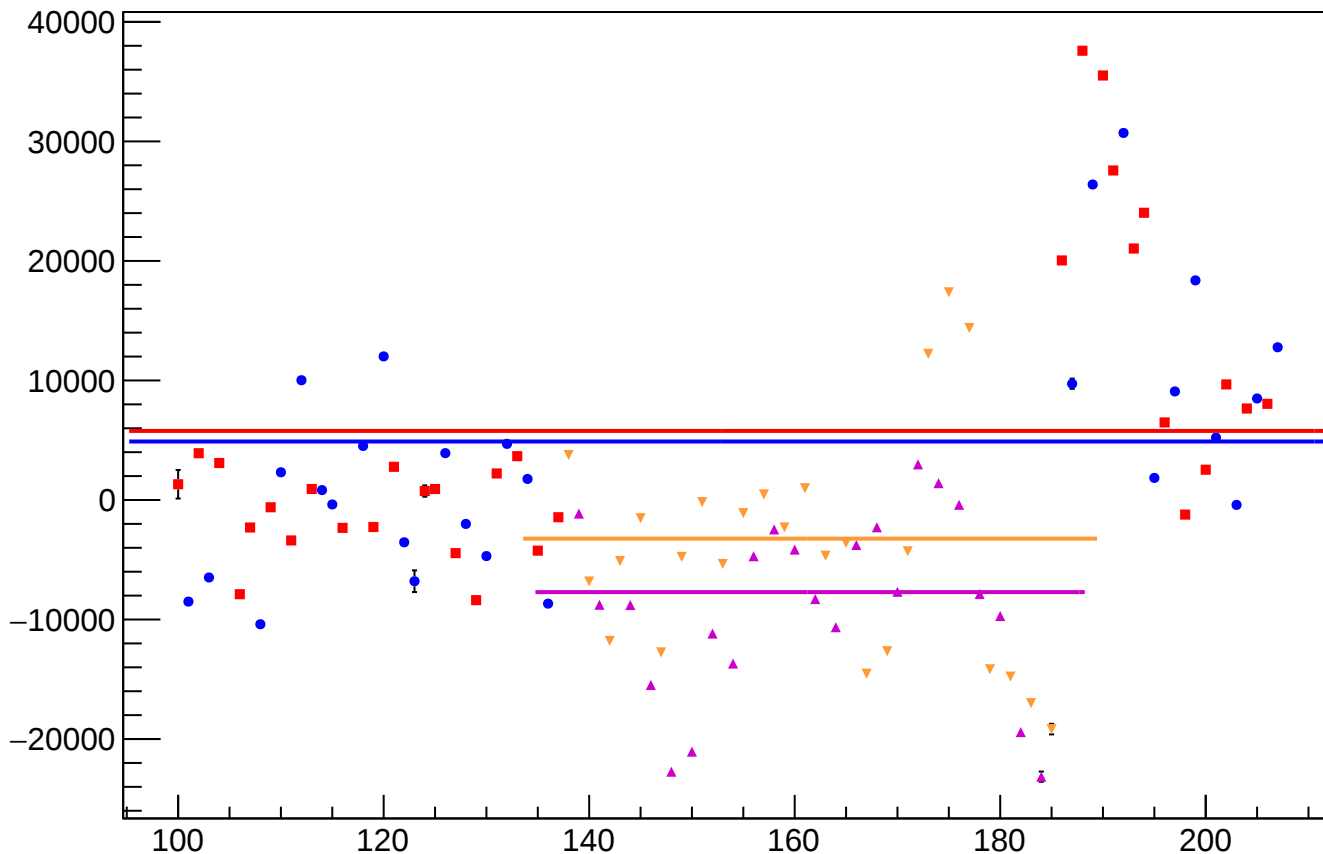
Right: 113.578+/-0.016  $\chi^2/\text{NDF}$ : 4054274.0/57

In: 121.196+/-0.016  $\chi^2/\text{NDF}$ : 4420390.5/49

Out: 119.337+/-0.015  $\chi^2/\text{NDF}$ : 4918146.4/55

All: 120.219+/-0.011  $\chi^2/\text{NDF}$ : 9345531.2/105

asym\_bpm1i06WS\_mean vs Slug, Sign Corrected



Right In: 4893.931+/-42.869  $\chi^2/\text{NDF}$ : 60029.8/26

Left Out: -3234.922+/-40.583  $\chi^2/\text{NDF}$ : 36739.9/24

Right Out: 5778.378+/-40.523  $\chi^2/\text{NDF}$ : 90553.8/30

Left In: -7707.068+/-42.990  $\chi^2/\text{NDF}$ : 21268.3/22

Left: -5342.284+/-29.511  $\chi^2/\text{NDF}$ : 63730.6/47

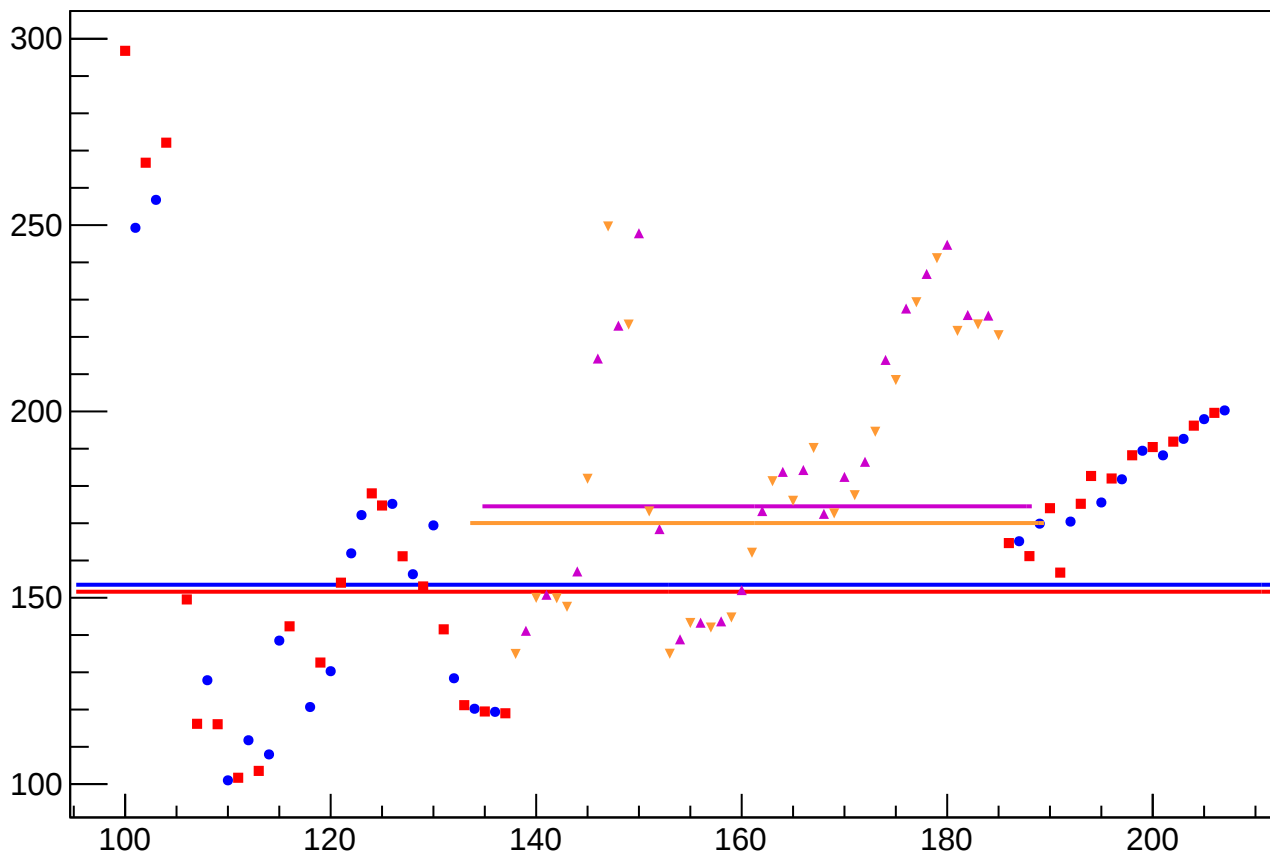
Right: 5361.013+/-29.449  $\chi^2/\text{NDF}$ : 150808.4/57

In: -1388.804+/-30.356  $\chi^2/\text{NDF}$ : 124377.6/49

Out: 1278.336+/-28.675  $\chi^2/\text{NDF}$ : 151993.5/55

All: 20.626+/-20.845  $\chi^2/\text{NDF}$ : 280450.6/105

# asym\_bpm1i06WS\_rms vs Slug, Sign Corrected



Right In: 153.496 $\pm$ 0.030  $\chi^2/\text{NDF}$ : 1475903.9/26

Left Out: 170.050 $\pm$ 0.029  $\chi^2/\text{NDF}$ :1240866.9/24

Right Out: 151.623 $\pm$ 0.029  $\chi^2/\text{NDF}$ : 1639459.5/30

Left In: 174.539 $\pm$ 0.030  $\chi^2/\text{NDF}$ :1210071.2/22

Left: 172.165 $\pm$ 0.021  $\chi^2/\text{NDF}$ : 2462472.2/47

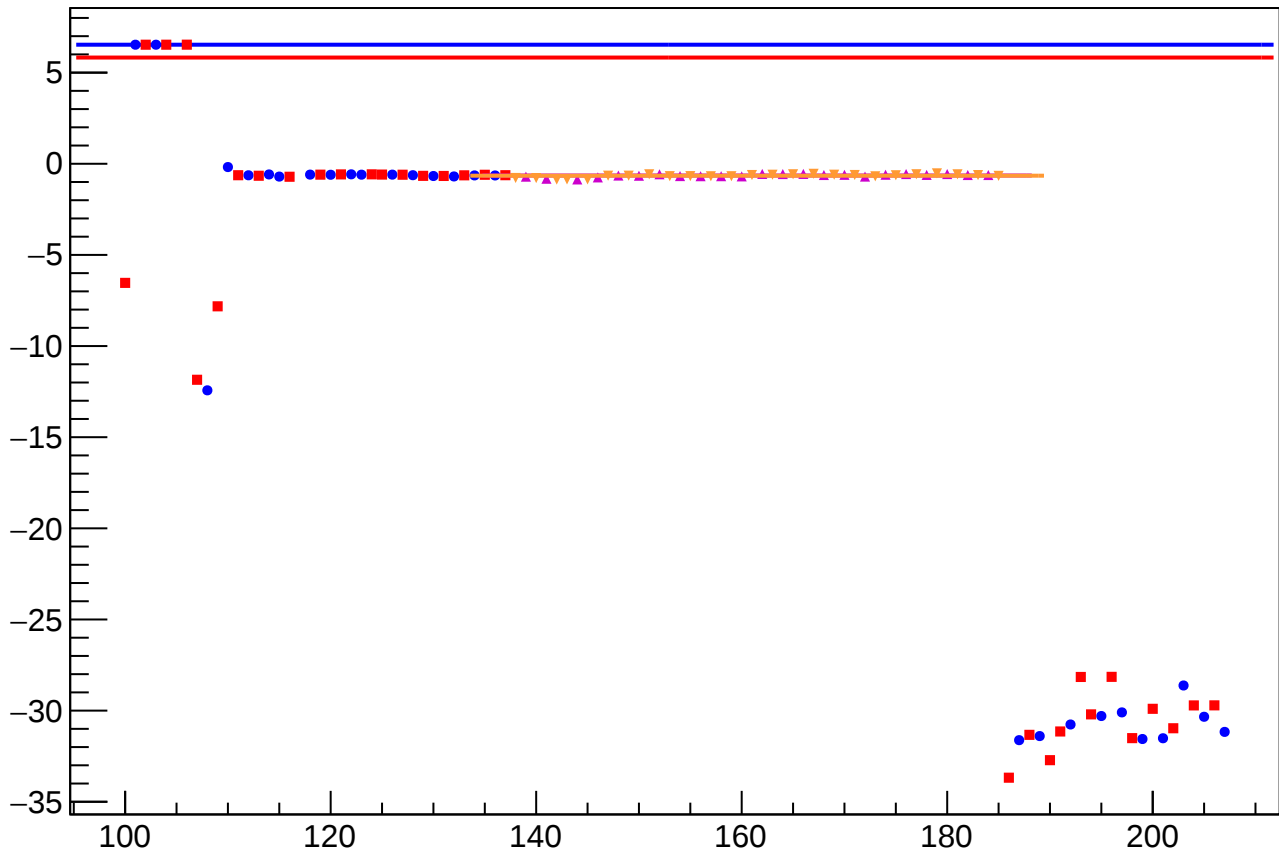
Right: 152.507 $\pm$ 0.021  $\chi^2/\text{NDF}$ : 3117379.4/57

In: 163.988 $\pm$ 0.021  $\chi^2/\text{NDF}$ :2926257.2/49

Out: 160.823 $\pm$ 0.020  $\chi^2/\text{NDF}$ :3086793.5/55

All: 162.315 $\pm$ 0.015  $\chi^2/\text{NDF}$ : 6024540.6/105

# yield\_cav4bX\_mean vs Slug, Sign Corrected



Right In: 6.532+/-0.000  $\chi^2/\text{NDF}$ : 128087176863.3/26

Left Out: -0.654+/-0.000  $\chi^2/\text{NDF}$ : 179109810.4/24

Right Out: 5.827+/-0.000  $\chi^2/\text{NDF}$ : 755947893243945.9/30

Left In: -0.644+/-0.000  $\chi^2/\text{NDF}$ : 122913584.0/22

Left: -0.649+/-0.000  $\chi^2/\text{NDF}$ : 302910331.9/47

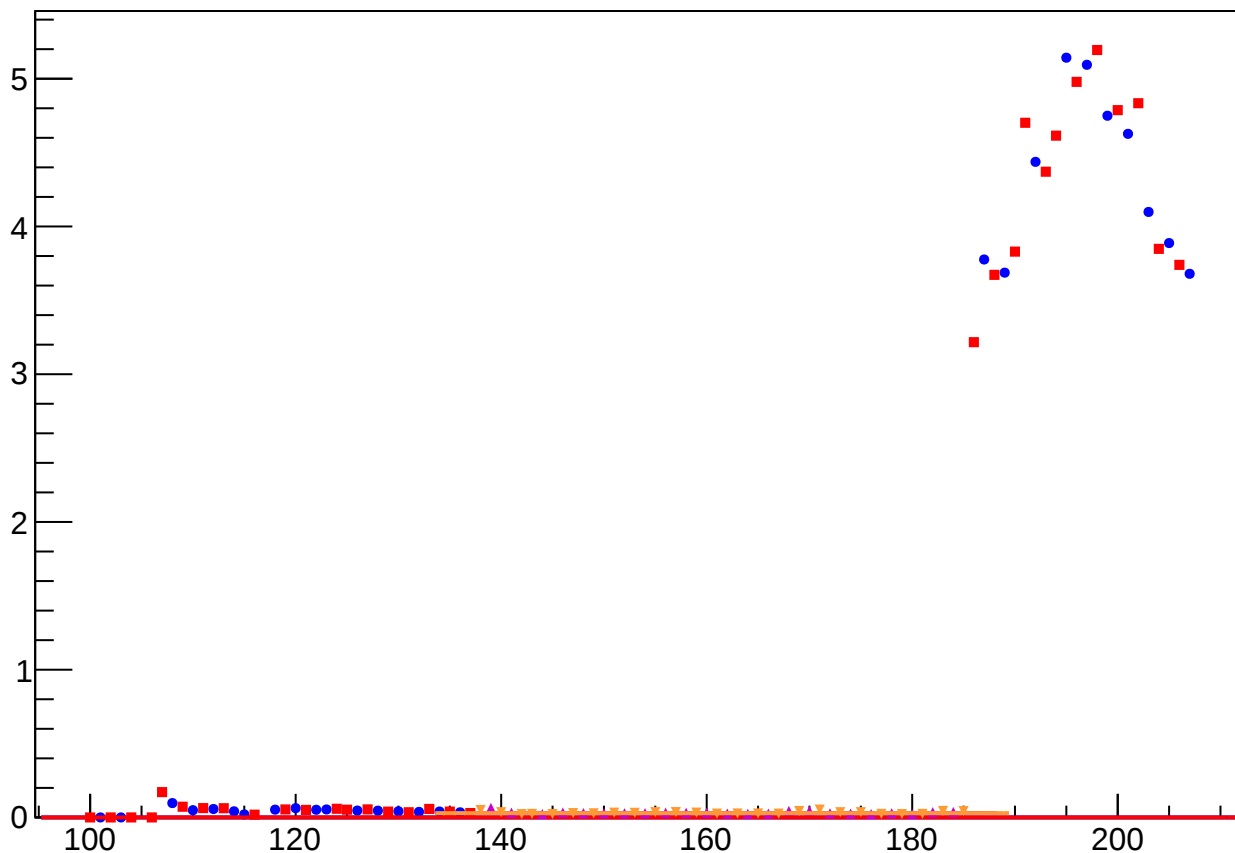
Right: 6.155+/-0.000  $\chi^2/\text{NDF}$ : 776079147668868.1/47

In: 6.530+/-0.000  $\chi^2/\text{NDF}$ : 953434551929.9/49

Out: 5.826+/-0.000  $\chi^2/\text{NDF}$ : 756656921882324.6/50

All: 6.153+/-0.000  $\chi^2/\text{NDF}$ : 77760251740012.0/97

# yield\_cav4bX\_rms vs Slug, Sign Corrected



Right In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 22948538.4/26

Left Out: 0.029+/-0.000  $\chi^2/\text{NDF}$ :1487017.7/24

Right Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 24929397.8/30

Left In: 0.029+/-0.000  $\chi^2/\text{NDF}$ :1164030.9/22

Left: 0.029+/-0.000  $\chi^2/\text{NDF}$ : 2651180.7/47

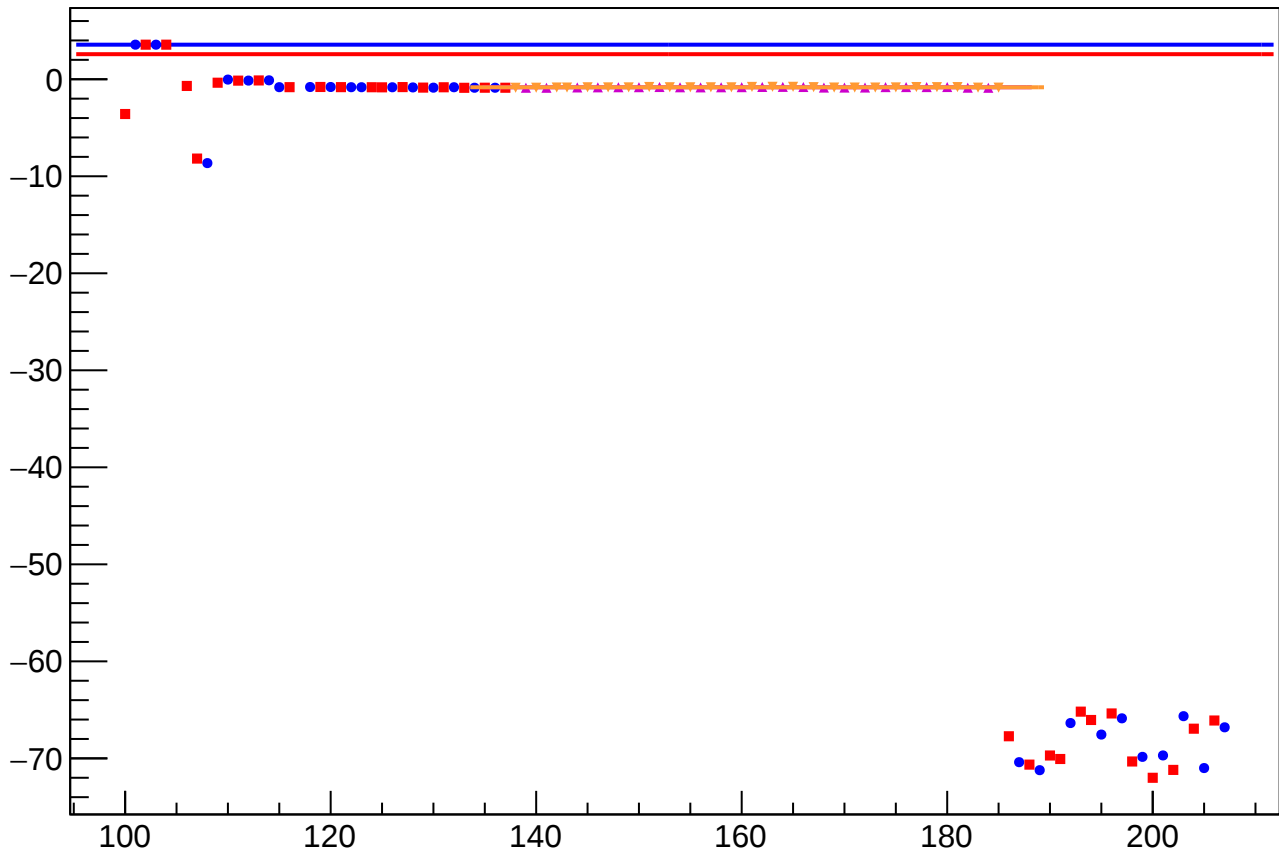
Right: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 47878186.5/57

In: 0.000+/-0.000  $\chi^2/\text{NDF}$ :50910204.7/49

Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ :54805058.9/55

All: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 105715679.7/105

# yield\_cav4bY\_mean vs Slug, Sign Corrected



Right In: 3.563+/-0.000  $\chi^2/\text{NDF}$ : 511547691936.0/26

Left Out: -0.828+/-0.000  $\chi^2/\text{NDF}$ : 168178464.8/24

Right Out: 2.583+/-0.000  $\chi^2/\text{NDF}$ : 1253533783353776.2/30

Left In: -0.827+/-0.000  $\chi^2/\text{NDF}$ : 172640246.1/22

Left: -0.827+/-0.000  $\chi^2/\text{NDF}$ : 340927693.4/47

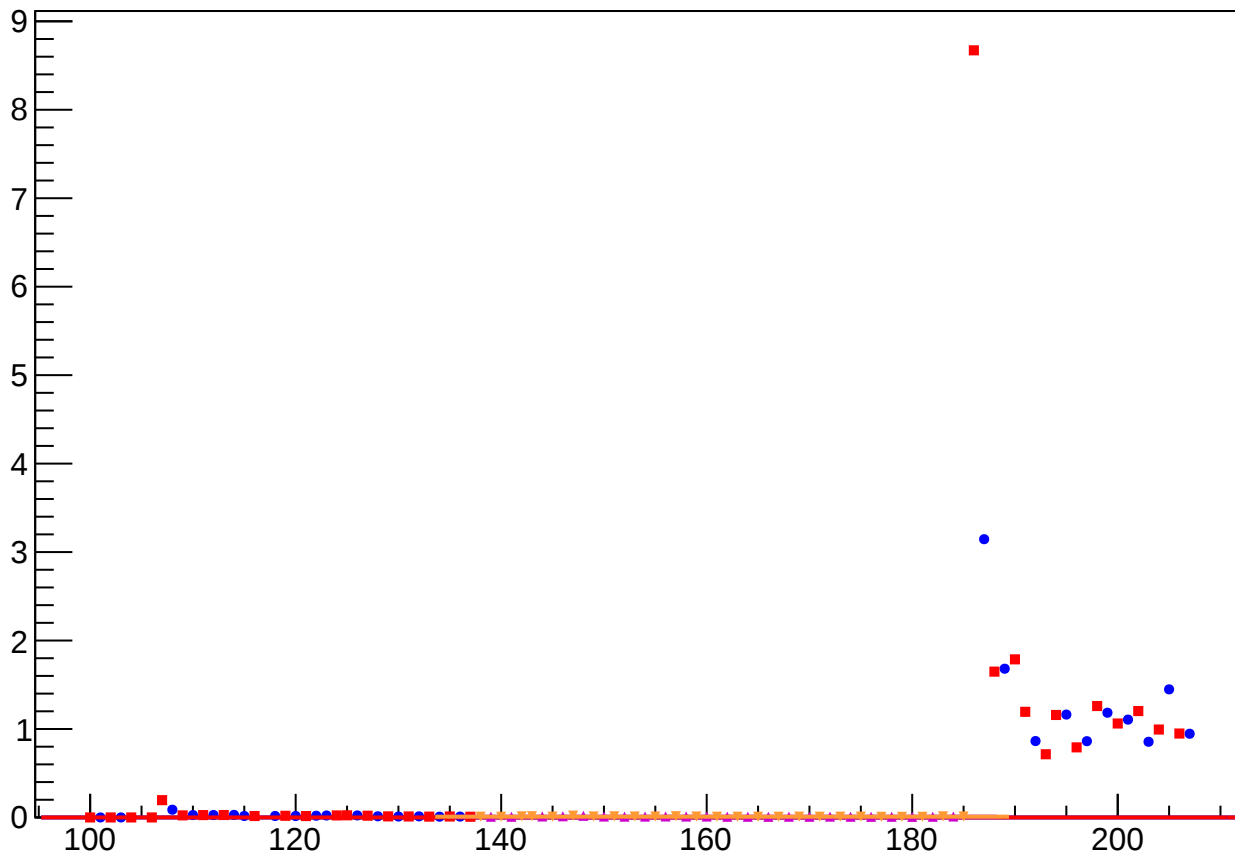
Right: 3.040+/-0.000  $\chi^2/\text{NDF}$ : 1382316511558029.1

In: 3.560+/-0.000  $\chi^2/\text{NDF}$ : 4157298639665.2/49

Out: 2.581+/-0.000  $\chi^2/\text{NDF}$ : 1255756114057365.5

All: 3.038+/-0.000  $\chi^2/\text{NDF}$ : 13880029828768.1

# yield\_cav4bY\_rms vs Slug, Sign Corrected



Right In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 21339912.3/26

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1454710.9/24

Right Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 23066551.2/30

Left In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1041524.9/22

Left: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 2502231.5/47

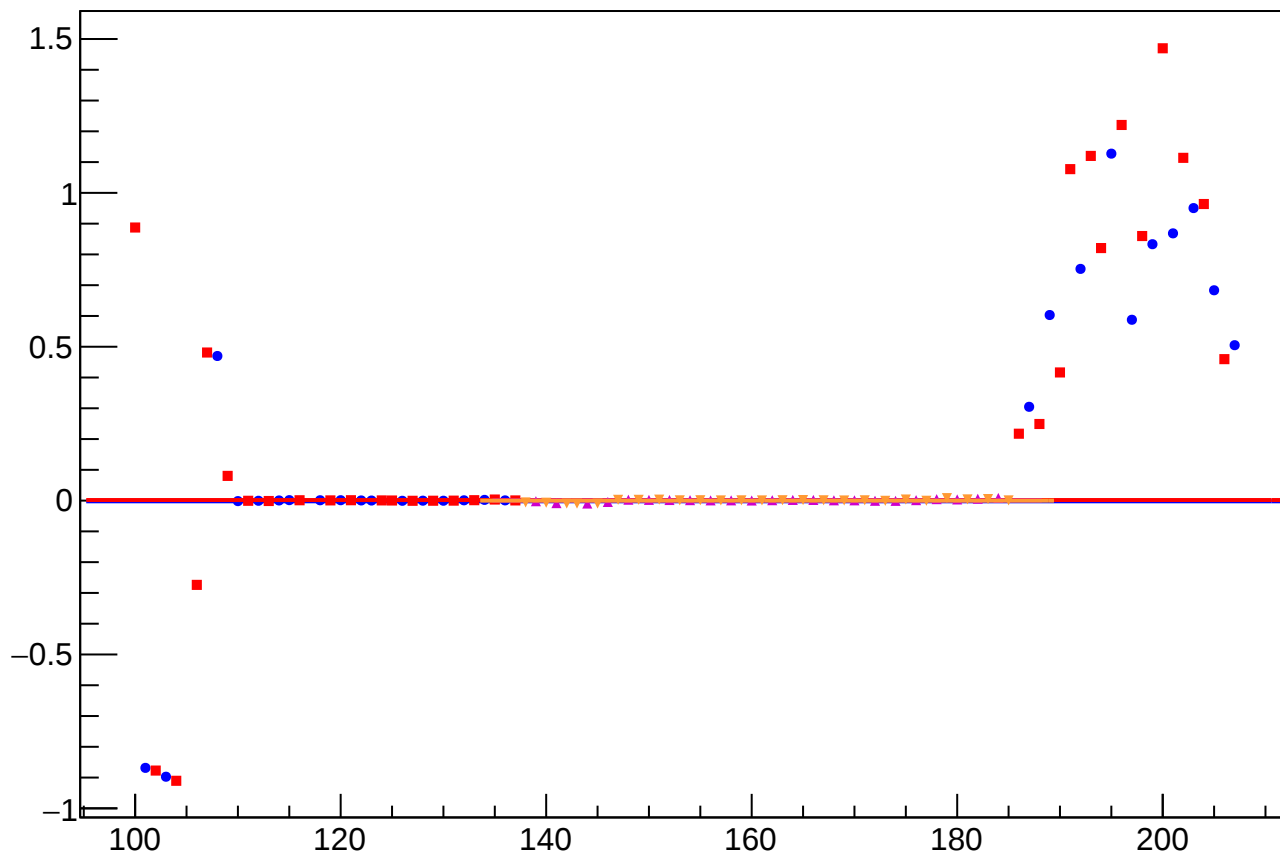
Right: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 44406745.1/57

In: 0.000+/-0.000  $\chi^2/\text{NDF}$ :50875926.4/49

Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ :54485126.6/55

All: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 105361808.1/105

# yield\_cav4cX\_mean vs Slug, Sign Corrected



Right In: -0.002+/-0.000

$\chi^2/\text{NDF}$ : 9797097969.7/26

Left: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 254436385.6/47

Left Out: -0.000+/-0.000

$\chi^2/\text{NDF}$ : 151482851.1/24

Right: -0.000+/-0.000  $\chi^2/\text{NDF}$ : 12854546666.7/57

Right Out: 0.002+/-0.000

$\chi^2/\text{NDF}$ : 3043679398.6/30

In: -0.000+/-0.000  $\chi^2/\text{NDF}$ : 9909548007.7/49

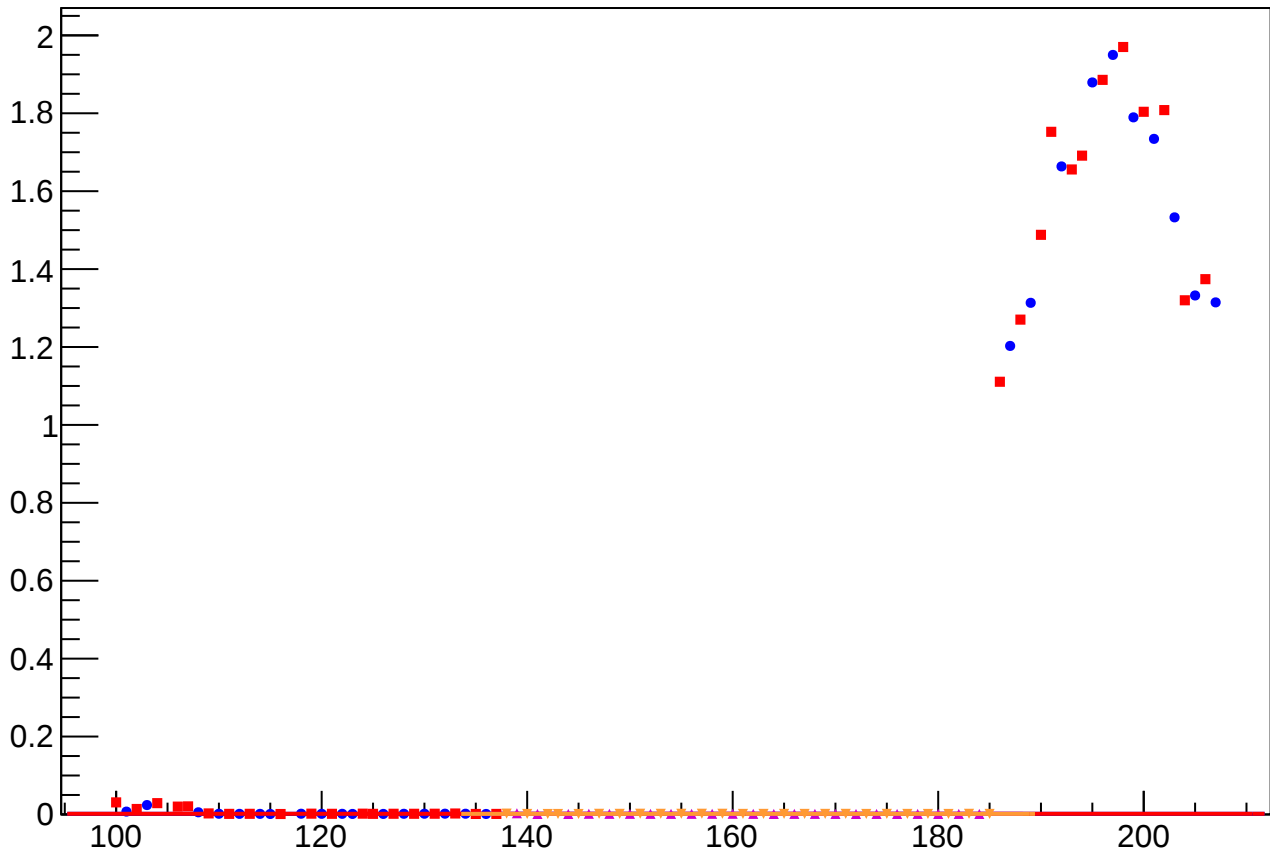
Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 3199896250.7/55

Left In: 0.001+/-0.000

$\chi^2/\text{NDF}$ : 101439617.3/22

All: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 13109781285.2/131

# yield\_cav4cX\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 15828361.6/26

Left Out: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 539817.3/24

Right Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 18561242.3/30

Left In: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 626044.8/22

Left: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 1169603.9/47

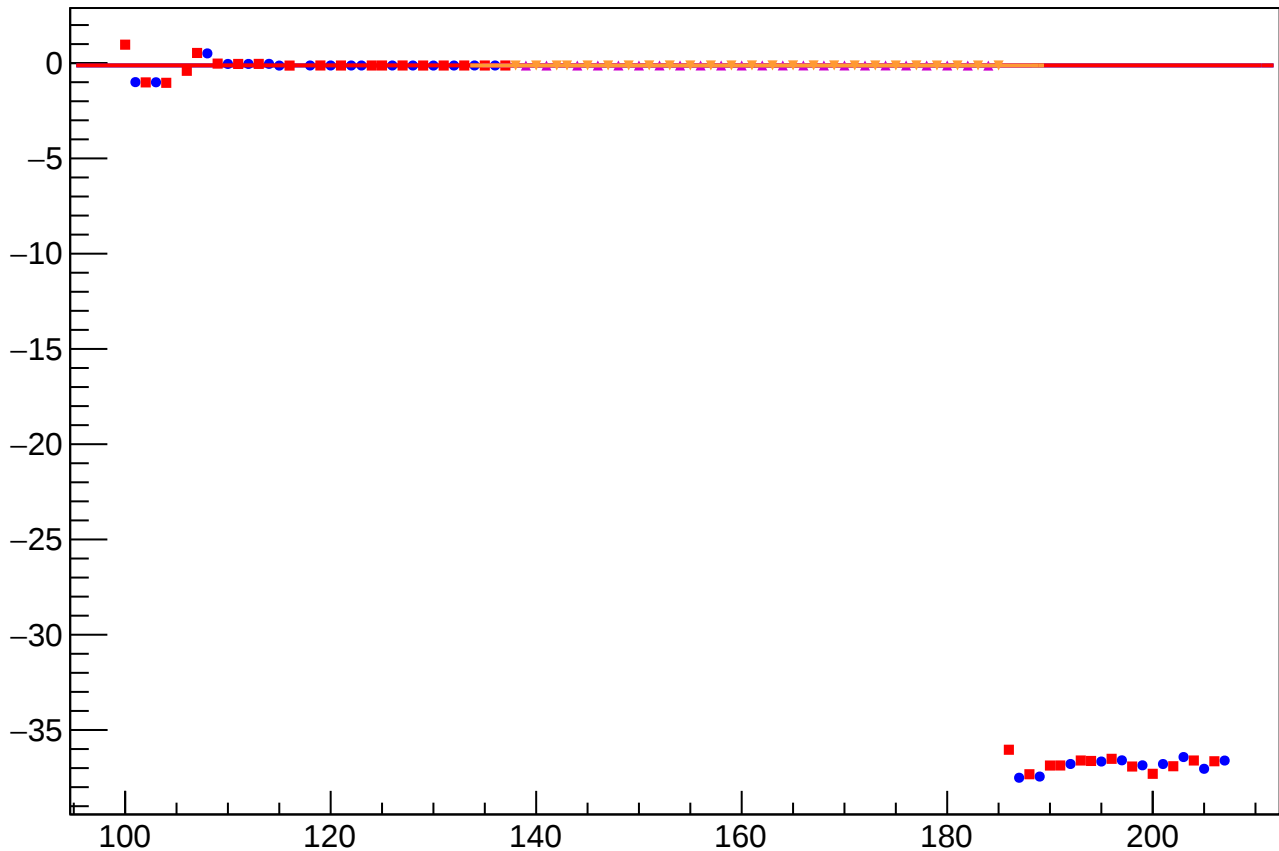
Right: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 34398125.3/57

In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 16506222.1/49

Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 19240306.2/55

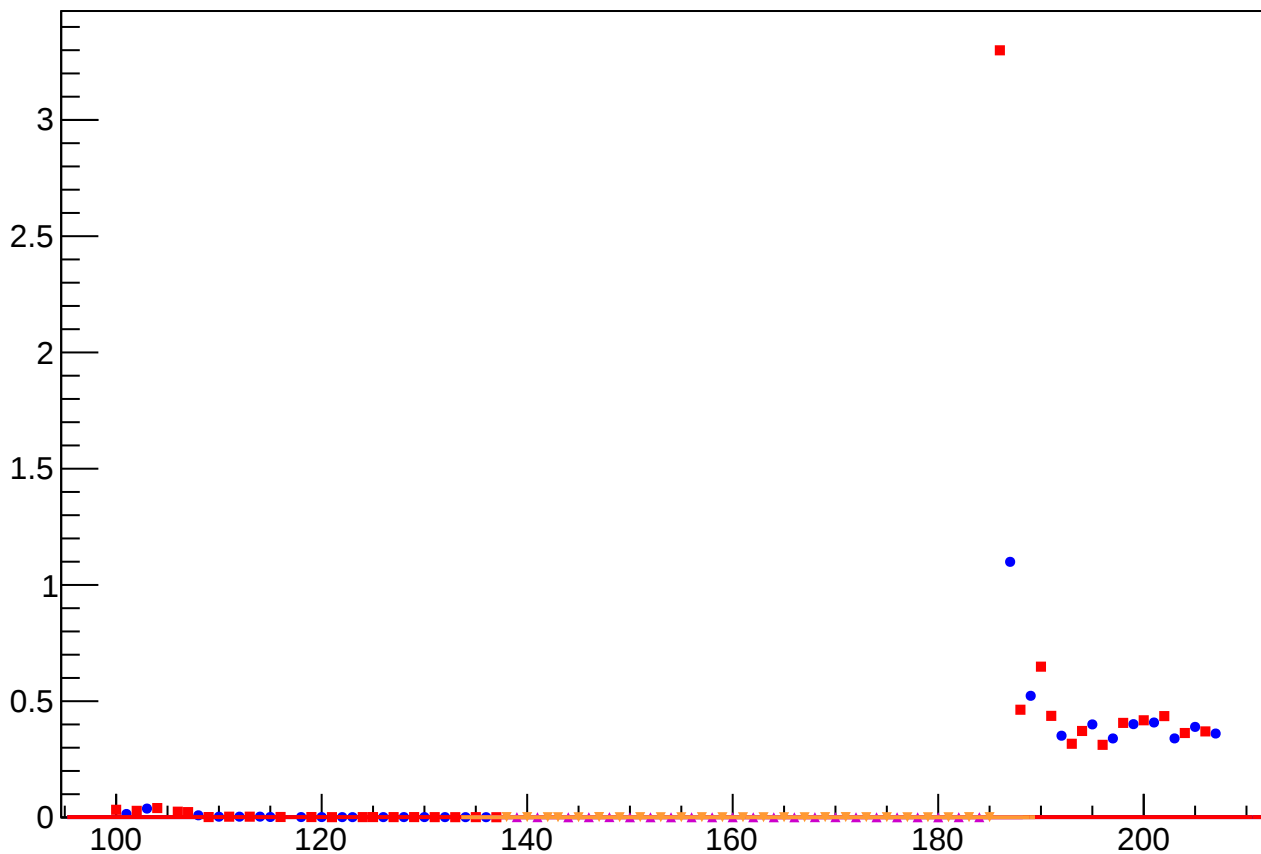
All: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 35747439.9/105

# yield\_cav4cY\_mean vs Slug, Sign Corrected



Right In:  $-0.121 \pm 0.000$   $\chi^2/\text{NDF}$ : 65558581879.4/26 Left:  $-0.121 \pm 0.000$   $\chi^2/\text{NDF}$ : 110482905.6/47  
Left Out:  $-0.121 \pm 0.000$   $\chi^2/\text{NDF}$ : 58120109.3/24 Right:  $-0.119 \pm 0.000$   $\chi^2/\text{NDF}$ : 134000307886.3/57  
Right Out:  $-0.116 \pm 0.000$   $\chi^2/\text{NDF}$ : 68419227911.5/30 In:  $-0.121 \pm 0.000$   $\chi^2/\text{NDF}$ : 65610861822.1/49  
Left In:  $-0.121 \pm 0.000$   $\chi^2/\text{NDF}$ : 52113932.9/22 Out:  $-0.121 \pm 0.000$   $\chi^2/\text{NDF}$ : 68515652800.5/55  
All:  $-0.121 \pm 0.000$   $\chi^2/\text{NDF}$ : 134127466722.3

# yield\_cav4cY\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 16169493.1/26

Left Out: 0.001+/-0.000  $\chi^2/\text{NDF}$ :1363316.8/24

Right Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 18510045.9/30

Left In: 0.001+/-0.000  $\chi^2/\text{NDF}$ :970801.8/22

Left: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 2335161.7/47

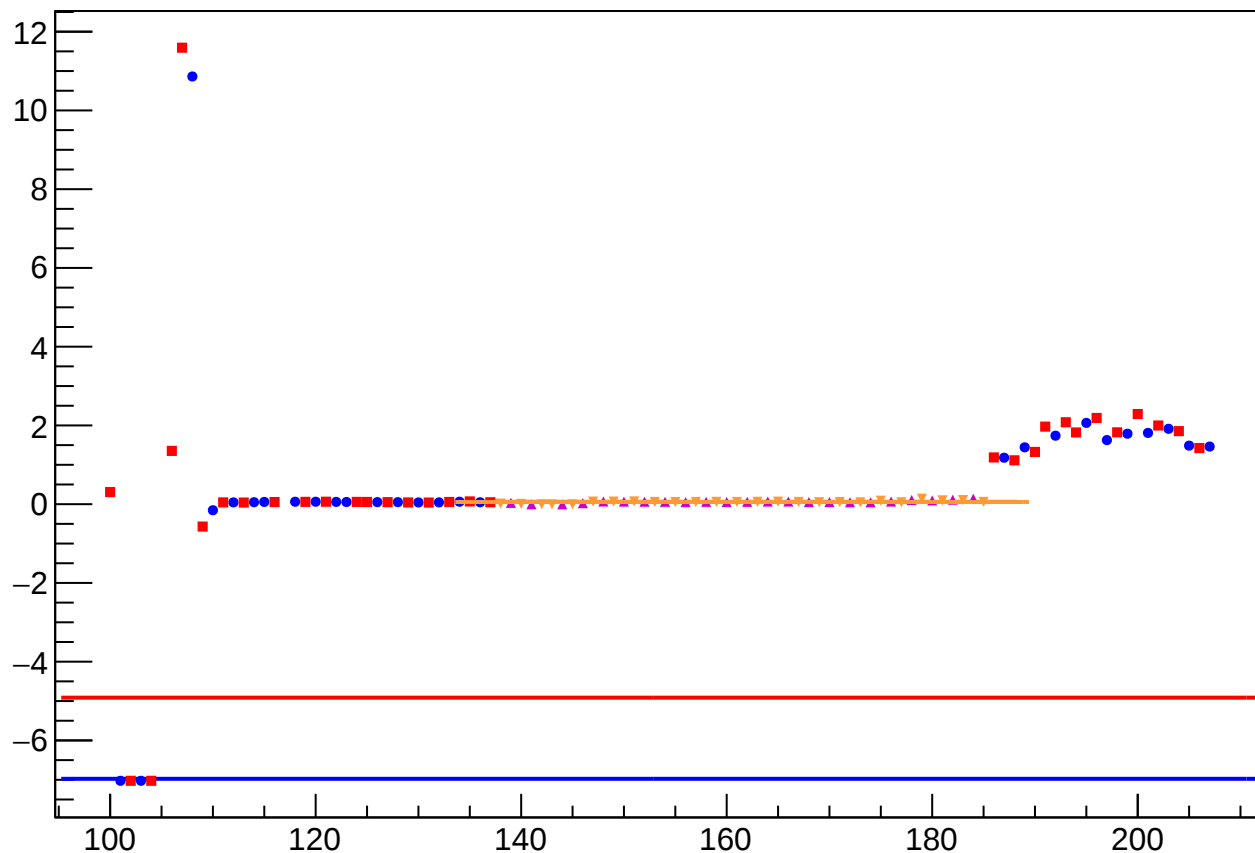
Right: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 34679655.1/57

In: 0.001+/-0.000  $\chi^2/\text{NDF}$ :18316571.0/49

Out: 0.001+/-0.000  $\chi^2/\text{NDF}$ :21055646.8/55

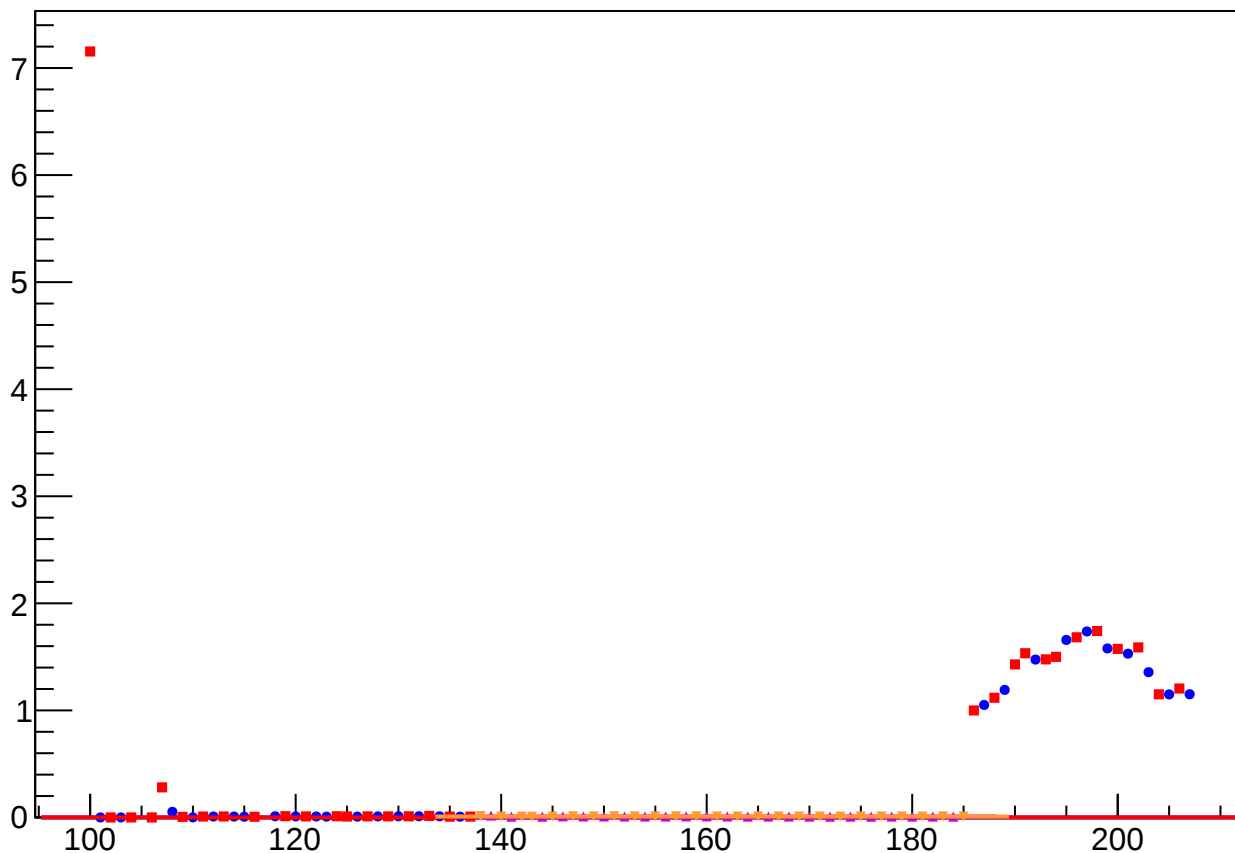
All: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 39374775.3/105

# yield\_cav4dX\_mean vs Slug, Sign Corrected



Right In:  $-6.975 \pm 0.000$   $\chi^2/\text{NDF}: 8797632100596.0/26$  Left:  $0.057 \pm 0.000$   $\chi^2/\text{NDF}: 423736513.4/47$   
 Left Out:  $0.055 \pm 0.000$   $\chi^2/\text{NDF}: 243682351.4/24$  Right:  $-5.900 \pm 0.000$   $\chi^2/\text{NDF}: 430333717735062.1$   
 Right Out:  $-4.914 \pm 0.000$   $\chi^2/\text{NDF}: 365352838958624.2/30$  In:  $-6.926 \pm 0.000$   $\chi^2/\text{NDF}: 17553149440477.2/49$   
 Left In:  $0.059 \pm 0.000$   $\chi^2/\text{NDF}: 178541521.9/22$  Out:  $-4.879 \pm 0.000$   $\chi^2/\text{NDF}: 370165401777381.2/27$   
 All:  $-5.858 \pm 0.000$   $\chi^2/\text{NDF}: 4435290072246$

# yield\_cav4dX\_rms vs Slug, Sign Corrected



Right In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 22282376.1/26

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 514432.8/24

Right Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 24348700.8/30

Left In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 602517.2/22

Left: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1122225.0/47

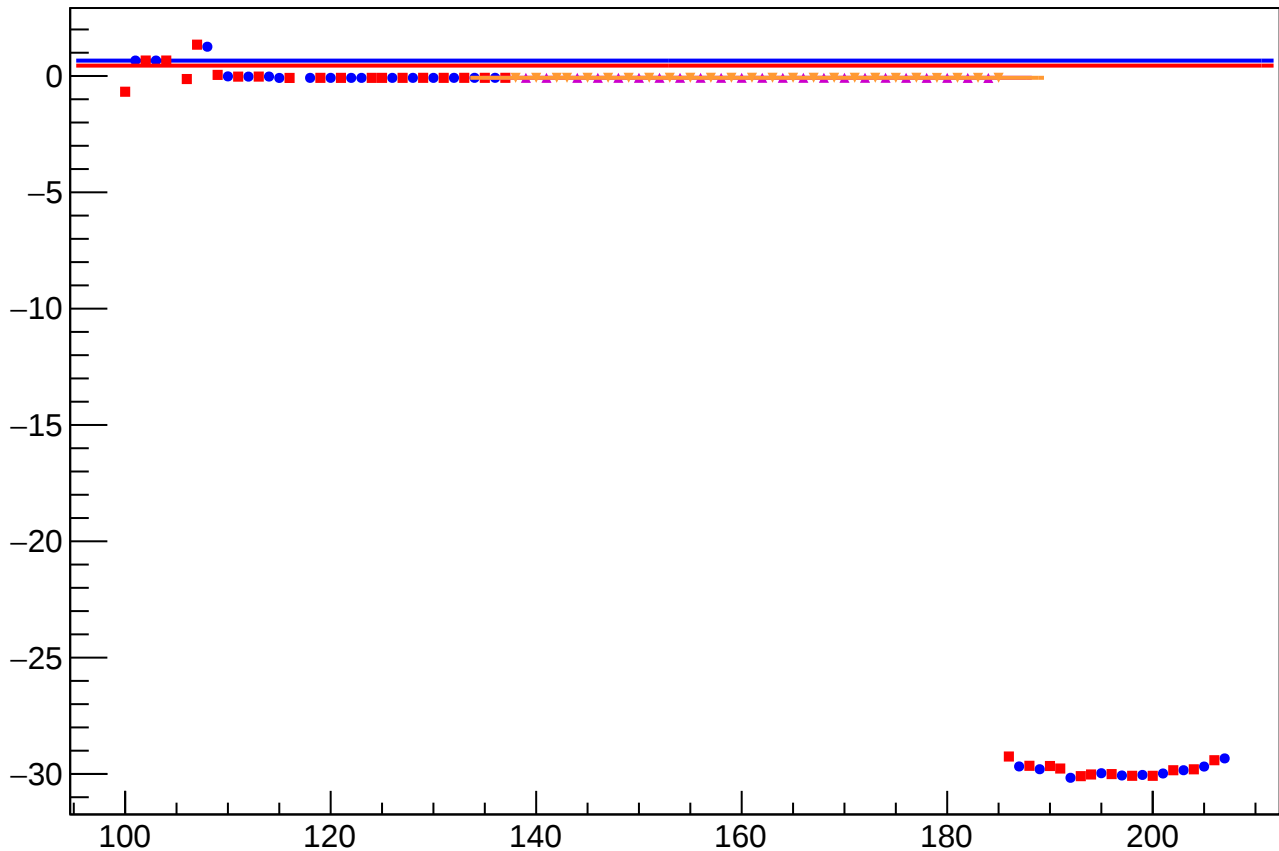
Right: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 46631426.6/57

In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 49700137.6/49

Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 53292650.3/55

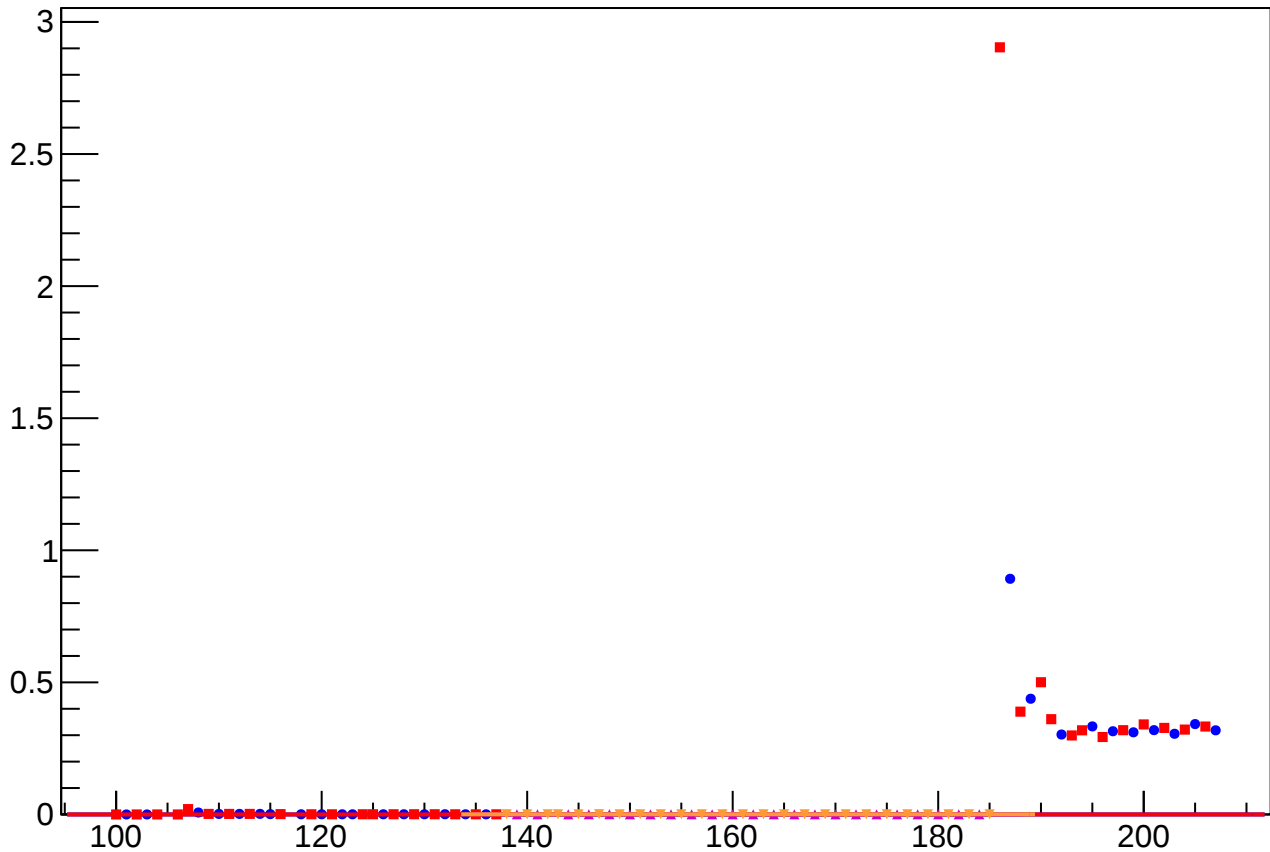
All: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 102993254.6/105

# yield\_cav4dY\_mean vs Slug, Sign Corrected



|                          |                                            |                      |                                           |
|--------------------------|--------------------------------------------|----------------------|-------------------------------------------|
| Right In: 0.661+/-0.000  | $\chi^2/\text{NDF}$ : 5719216055575.1/26   | Left: -0.078+/-0.000 | $\chi^2/\text{NDF}$ : 267206251.1/47      |
| Left Out: -0.078+/-0.000 | $\chi^2/\text{NDF}$ : 156404795.7/24       | Right: 0.549+/-0.000 | $\chi^2/\text{NDF}$ : 474122973446559.3   |
| Right Out: 0.446+/-0.000 | $\chi^2/\text{NDF}$ : 405490492449847.8/30 | In: 0.647+/-0.000    | $\chi^2/\text{NDF}$ : 33759893514871.8/49 |
| Left In: -0.077+/-0.000  | $\chi^2/\text{NDF}$ : 110762924.1/22       | Out: 0.436+/-0.000   | $\chi^2/\text{NDF}$ : 420651569717103.6/5 |
|                          |                                            | All: 0.537+/-0.000   | $\chi^2/\text{NDF}$ : 51596735728490      |

# yield\_cav4dY\_rms vs Slug, Sign Corrected



Right In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 23697899.5/26

Left Out: 0.001+/-0.000  $\chi^2/\text{NDF}$ :465981.8/24

Right Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 24886158.2/30

Left In: 0.001+/-0.000  $\chi^2/\text{NDF}$ :355509.7/22

Left: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 822503.5/47

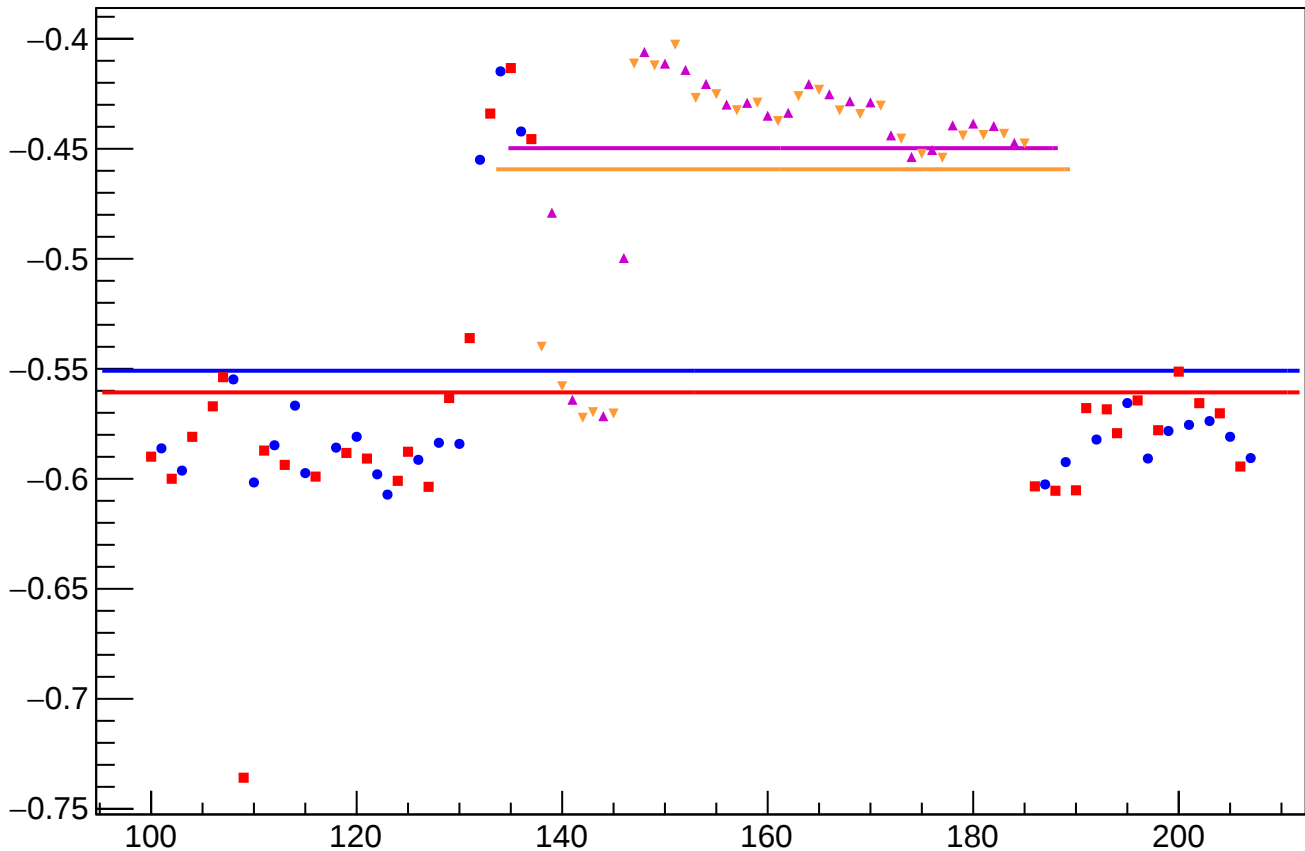
Right: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 48584073.5/57

In: 0.000+/-0.000  $\chi^2/\text{NDF}$ :54430138.7/49

Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ :57507259.7/55

All: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 111937734.7/105

# yield\_bpm4aX\_mean vs Slug, Sign Corrected



Right In: -0.551 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 48482981.6/26

Left Out: -0.459 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 113602161.0/24

Right Out: -0.561 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 65999245.2/30

Left In: -0.450 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 76117957.8/22

Left: -0.455 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 191493218.8/47

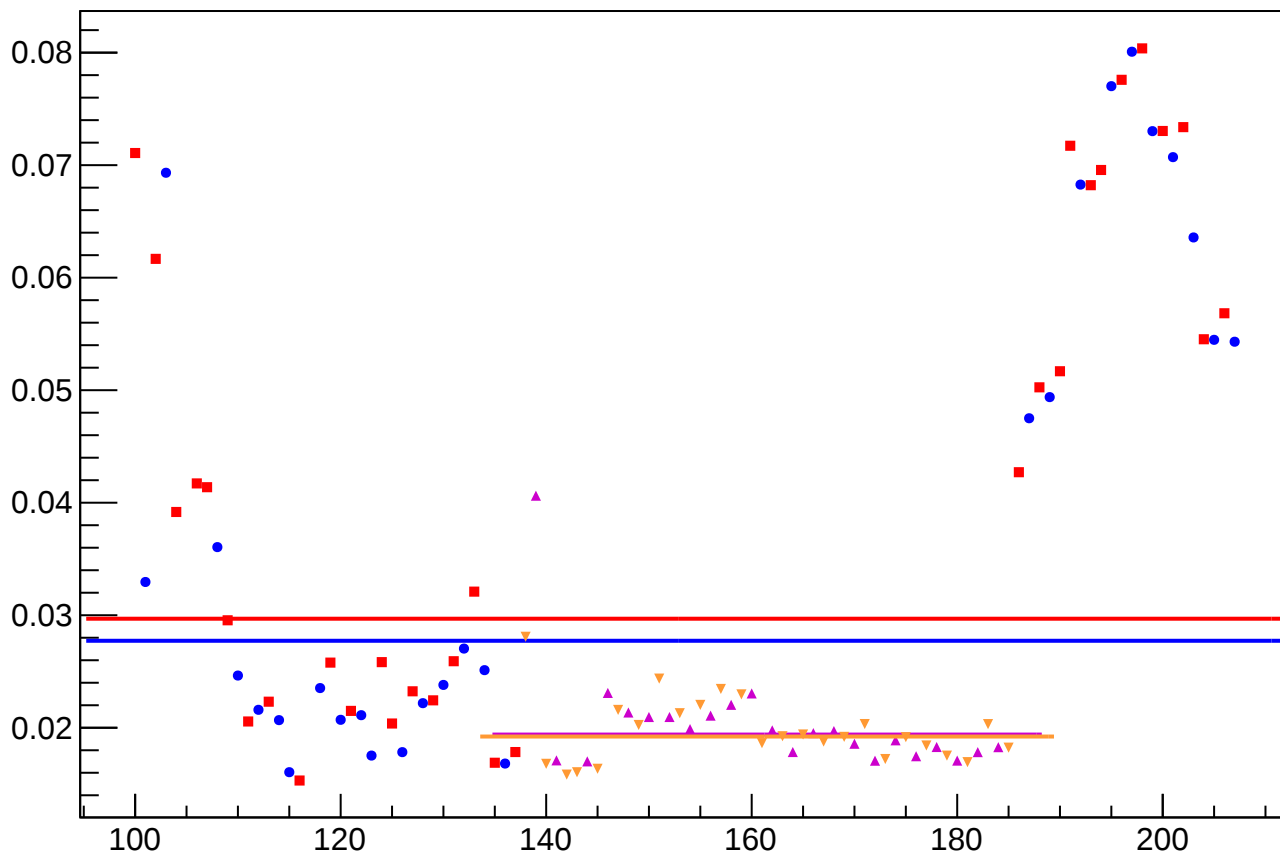
Right: -0.556 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 115064694.6/57

In: -0.475 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 218900834.4/49

Out: -0.482 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 273722514.6/55

All: -0.479 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 494073309.5/10

# yield\_bpm4aX\_rms vs Slug, Sign Corrected



Right In: 0.028 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 6229287.3/26

Left Out: 0.019 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 501711.6/24

Right Out: 0.030 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 6446511.5/30

Left In: 0.019 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 626443.5/22

Left: 0.019 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1129330.7/47

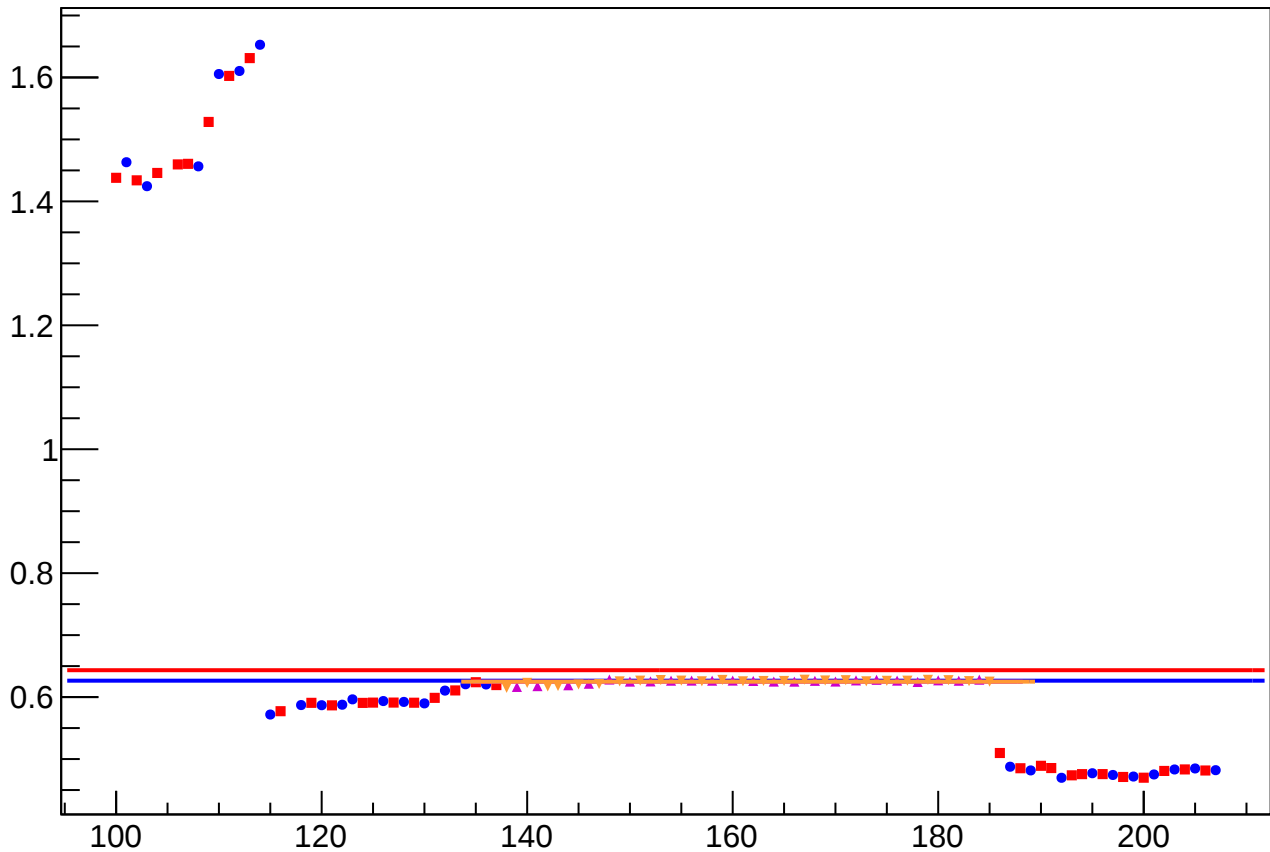
Right: 0.029 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 12722128.6/57

In: 0.021 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 8136479.9/49

Out: 0.022 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 8955639.4/55

All: 0.022 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 17093124.7/105

# yield\_bpm4aY\_mean vs Slug, Sign Corrected



Right In: 0.626 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 5019260625.5/26

Left Out: 0.625 $\pm$ 0.000  $\chi^2/\text{NDF}$ :1445169.1/24

Right Out: 0.643 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 6048670824.8/30

Left In: 0.625 $\pm$ 0.000  $\chi^2/\text{NDF}$ :1143954.1/22

Left: 0.625 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 2589565.7/47

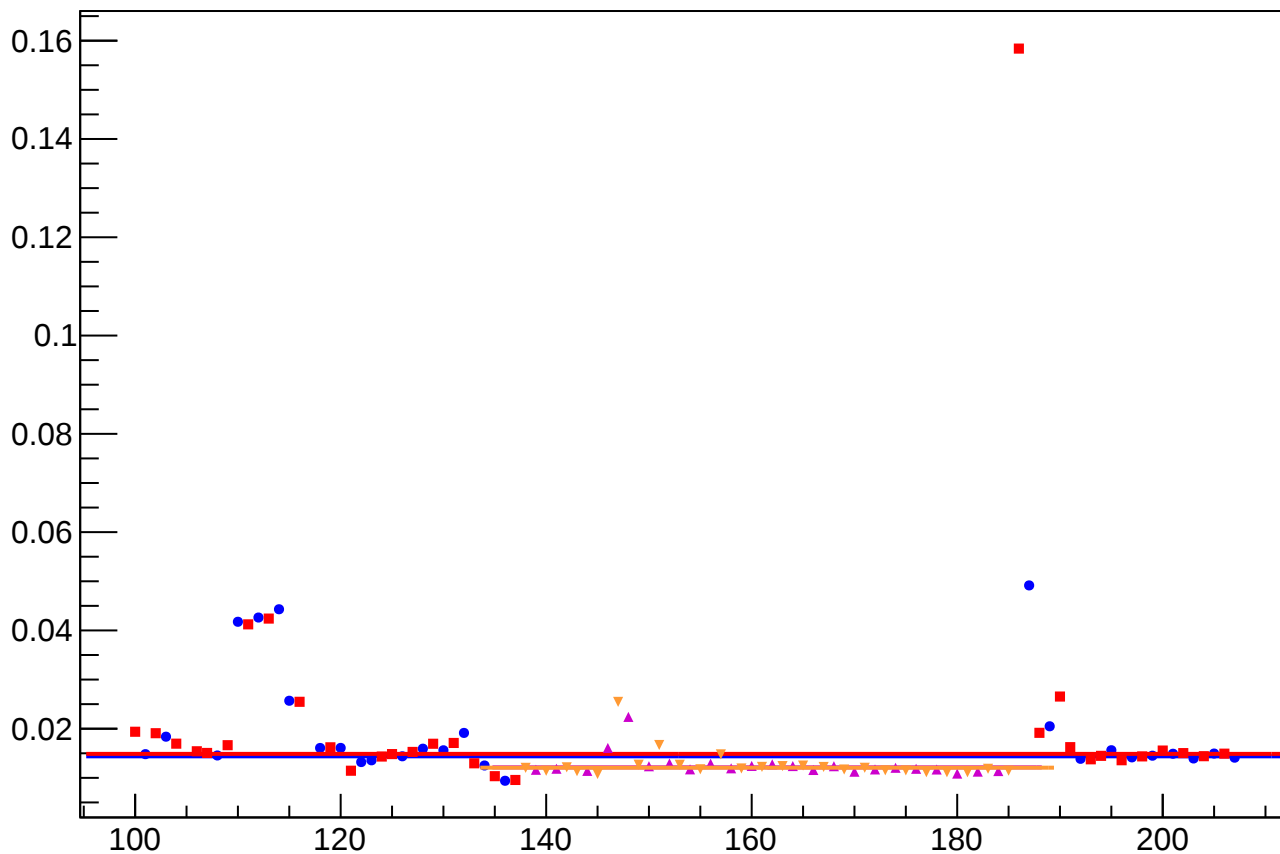
Right: 0.635 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 11076483639.6/57

In: 0.625 $\pm$ 0.000  $\chi^2/\text{NDF}$ :5020511862.7/49

Out: 0.631 $\pm$ 0.000  $\chi^2/\text{NDF}$ :6063787538.7/55

All: 0.628 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 11087104551.3/31

# yield\_bpm4aY\_rms vs Slug, Sign Corrected



Right In: 0.014 $\pm$ 0.000  $\chi^2$ /NDF: 1641166.9/26

Left Out: 0.012 $\pm$ 0.000  $\chi^2$ /NDF:657199.9/24

Right Out: 0.015 $\pm$ 0.000  $\chi^2$ /NDF: 2079154.5/30

Left In: 0.012 $\pm$ 0.000  $\chi^2$ /NDF:488363.6/22

Left: 0.012 $\pm$ 0.000  $\chi^2$ /NDF: 1146061.0/47

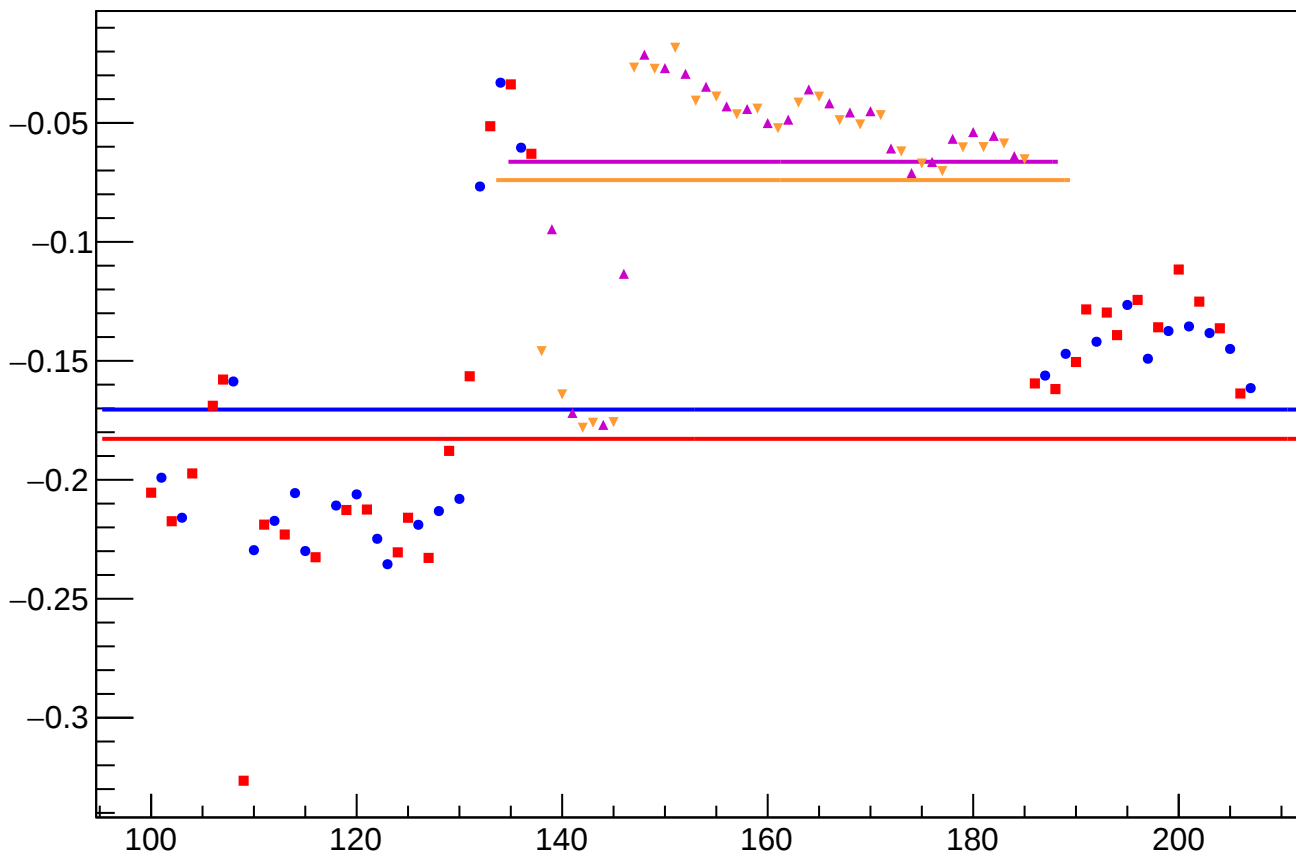
Right: 0.015 $\pm$ 0.000  $\chi^2$ /NDF: 3735103.8/57

In: 0.013 $\pm$ 0.000  $\chi^2$ /NDF:2524532.3/49

Out: 0.013 $\pm$ 0.000  $\chi^2$ /NDF:3368290.1/55

All: 0.013 $\pm$ 0.000  $\chi^2$ /NDF: 5894206.4/105

# yield\_bpm4eX\_mean vs Slug, Sign Corrected



Right In: -0.170+/-0.000  $\chi^2/\text{NDF}$ : 68361482.9/26

Left Out: -0.074+/-0.000  $\chi^2/\text{NDF}$ : 107676601.9/24

Right Out: -0.183+/-0.000  $\chi^2/\text{NDF}$ : 86383098.2/30

Left In: -0.066+/-0.000  $\chi^2/\text{NDF}$ : 76243051.8/22

Left: -0.070+/-0.000  $\chi^2/\text{NDF}$ : 185076997.5/47

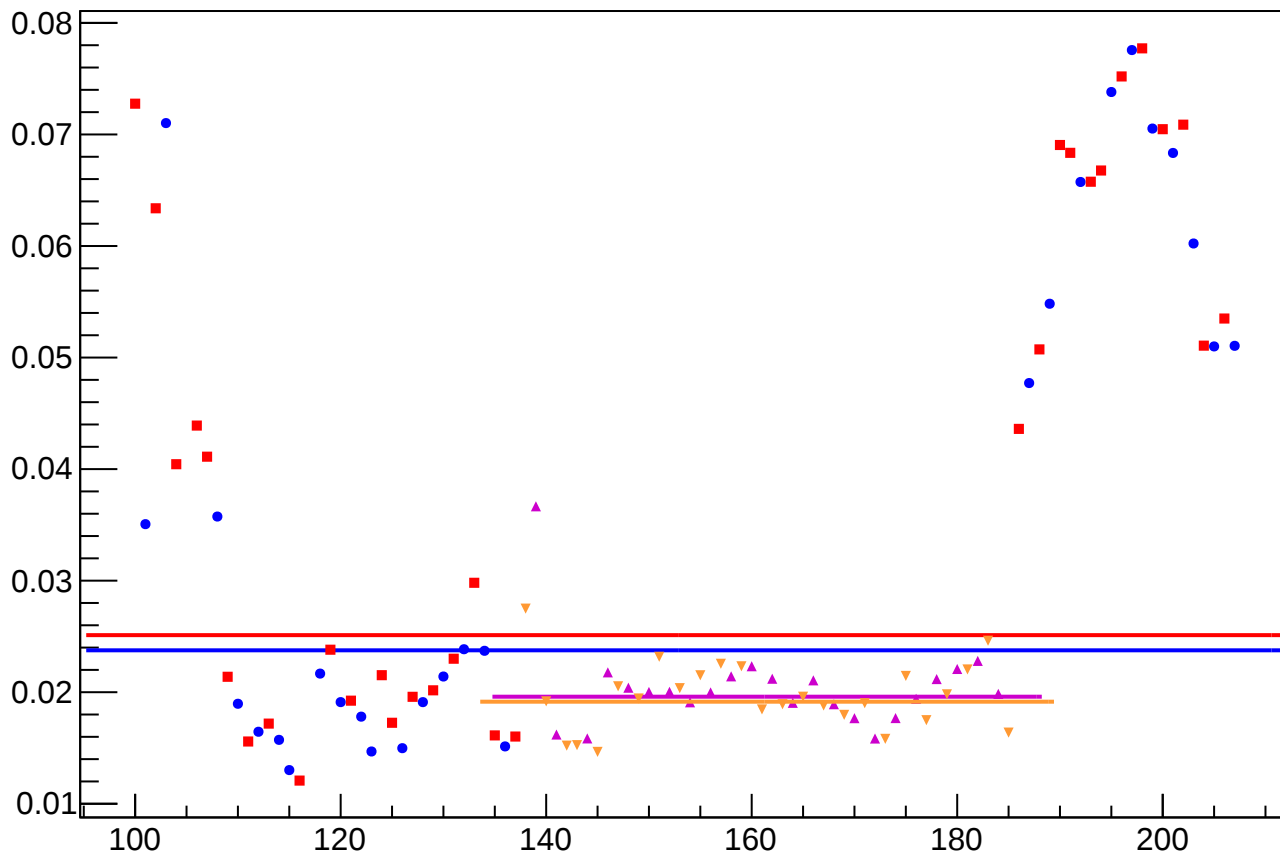
Right: -0.177+/-0.000  $\chi^2/\text{NDF}$ : 155933170.6/57

In: -0.097+/-0.000  $\chi^2/\text{NDF}$ : 265116548.2/49

Out: -0.104+/-0.000  $\chi^2/\text{NDF}$ : 327212380.6/55

All: -0.101+/-0.000  $\chi^2/\text{NDF}$ : 593417433.4/10

# yield\_bpm4eX\_rms vs Slug, Sign Corrected



Right In: 0.024 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 7246576.8/26

Left Out: 0.019 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 641277.0/24

Right Out: 0.025 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 7838095.5/30

Left In: 0.020 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 623148.2/22

Left: 0.019 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1272240.9/47

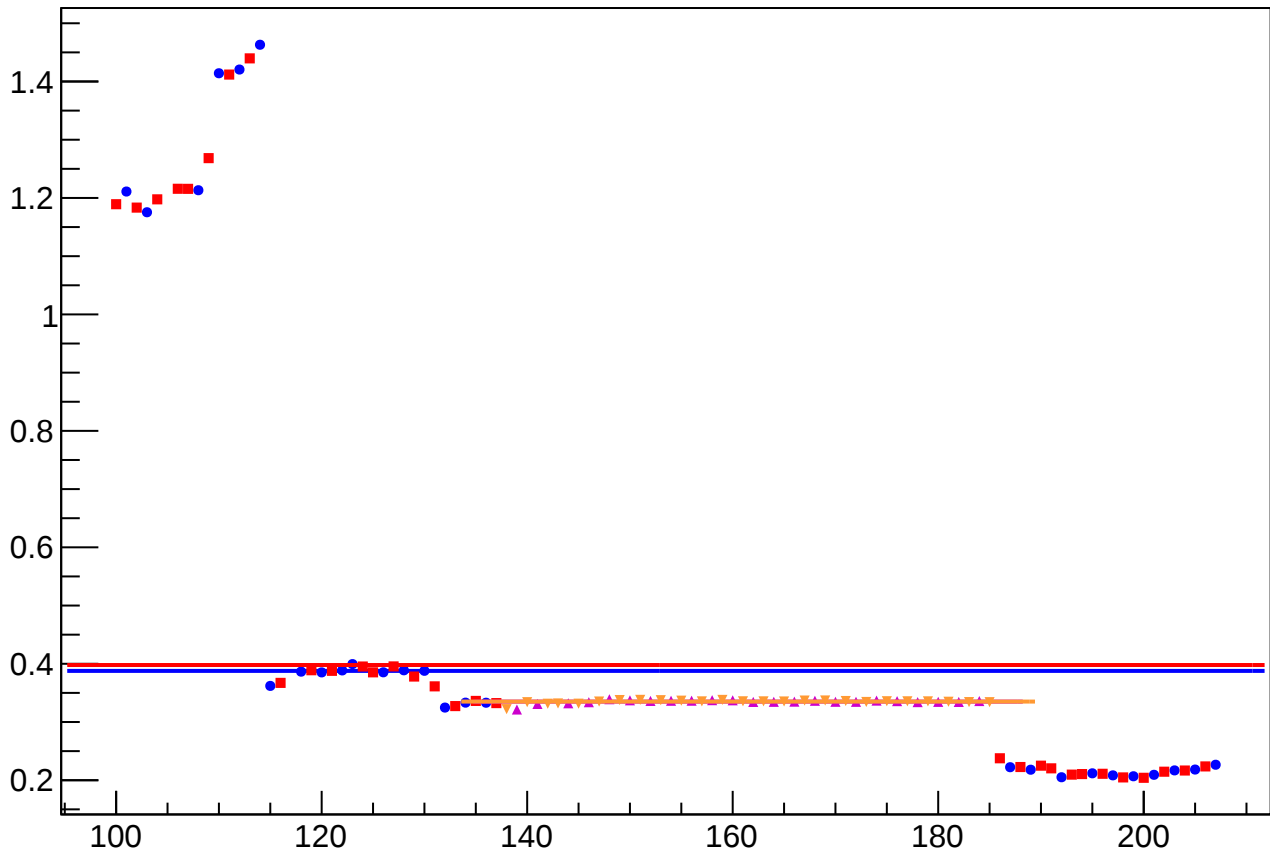
Right: 0.024 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 15113682.7/57

In: 0.021 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 8253889.2/49

Out: 0.021 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 9280662.6/55

All: 0.021 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 17534740.7/105

# yield\_bpm4eY\_mean vs Slug, Sign Corrected



Right In: 0.388+/-0.000  $\chi^2/\text{NDF}$ : 7414289294.1/26

Left Out: 0.335+/-0.000  $\chi^2/\text{NDF}$ :1154310.3/24

Right Out: 0.398+/-0.000  $\chi^2/\text{NDF}$ : 8528846047.6/30

Left In: 0.335+/-0.000  $\chi^2/\text{NDF}$ :1202194.8/22

Left: 0.335+/-0.000  $\chi^2/\text{NDF}$ : 2356931.1/47

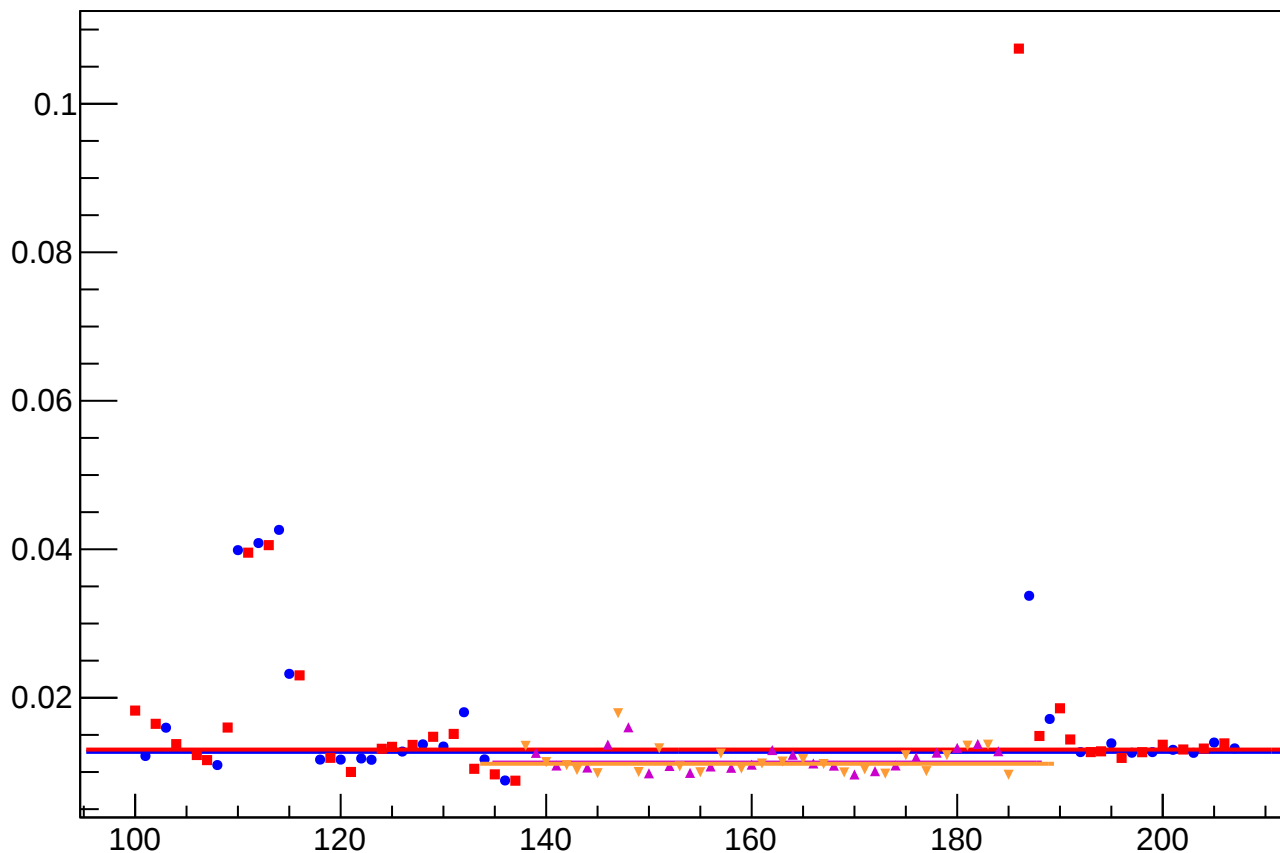
Right: 0.393+/-0.000  $\chi^2/\text{NDF}$ : 15947077022.2/57

In: 0.355+/-0.000  $\chi^2/\text{NDF}$ :7549829092.5/49

Out: 0.357+/-0.000  $\chi^2/\text{NDF}$ :8728257102.4/55

All: 0.356+/-0.000  $\chi^2/\text{NDF}$ : 16278917333.3/102

# yield\_bpm4eY\_rms vs Slug, Sign Corrected



Right In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 1524729.8/26

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 607532.0/24

Right Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 1944397.4/30

Left In: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 502455.5/22

Left: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 1113465.5/47

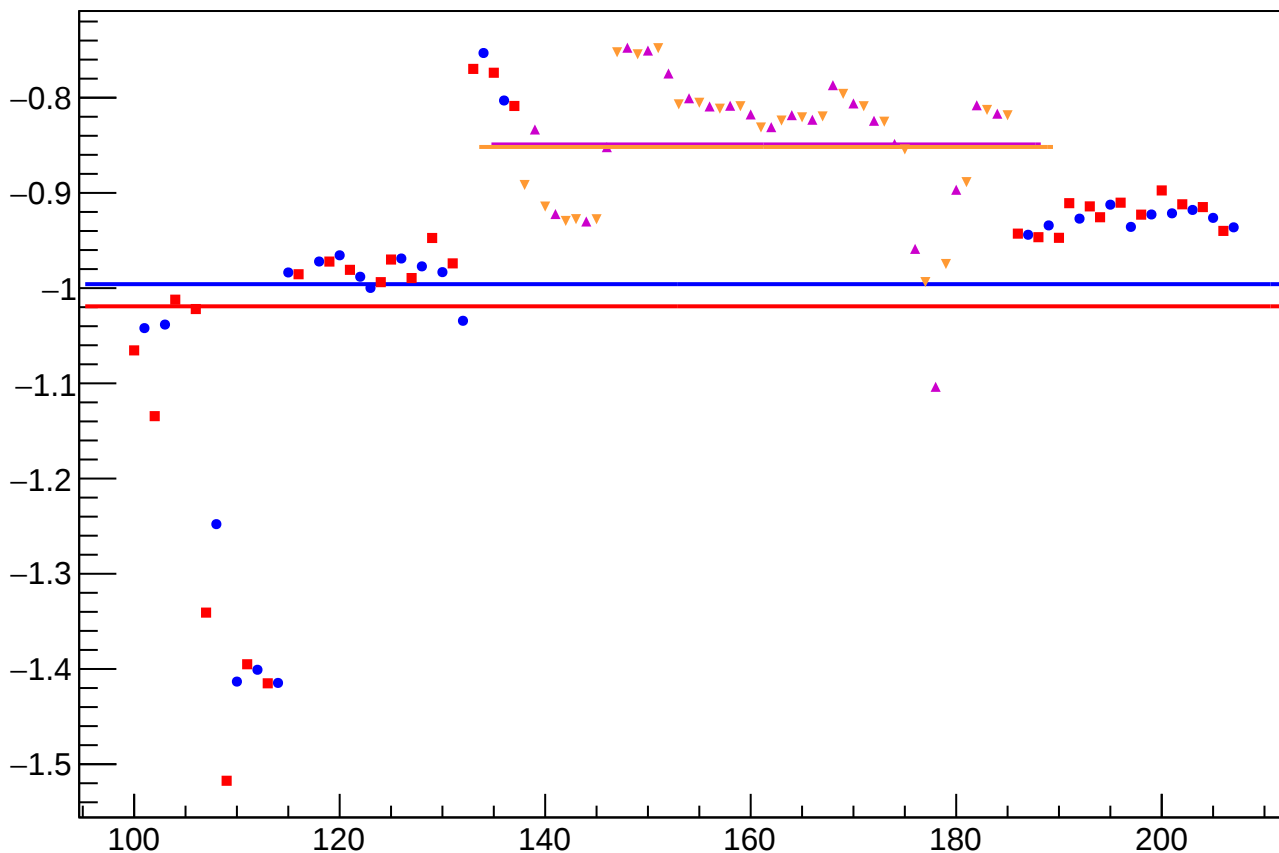
Right: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 3476536.4/57

In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 2228040.6/49

Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 2919887.3/55

All: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 5147984.9/105

# yield\_bpm4acX\_mean vs Slug, Sign Corrected



Right In: -0.996 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 403691777.9/26

Left Out: -0.852 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 189103962.4/24

Right Out: -1.019 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 557820123.3/30

Left In: -0.849 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 256391274.4/22

Left: -0.850 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 445636655.2/47

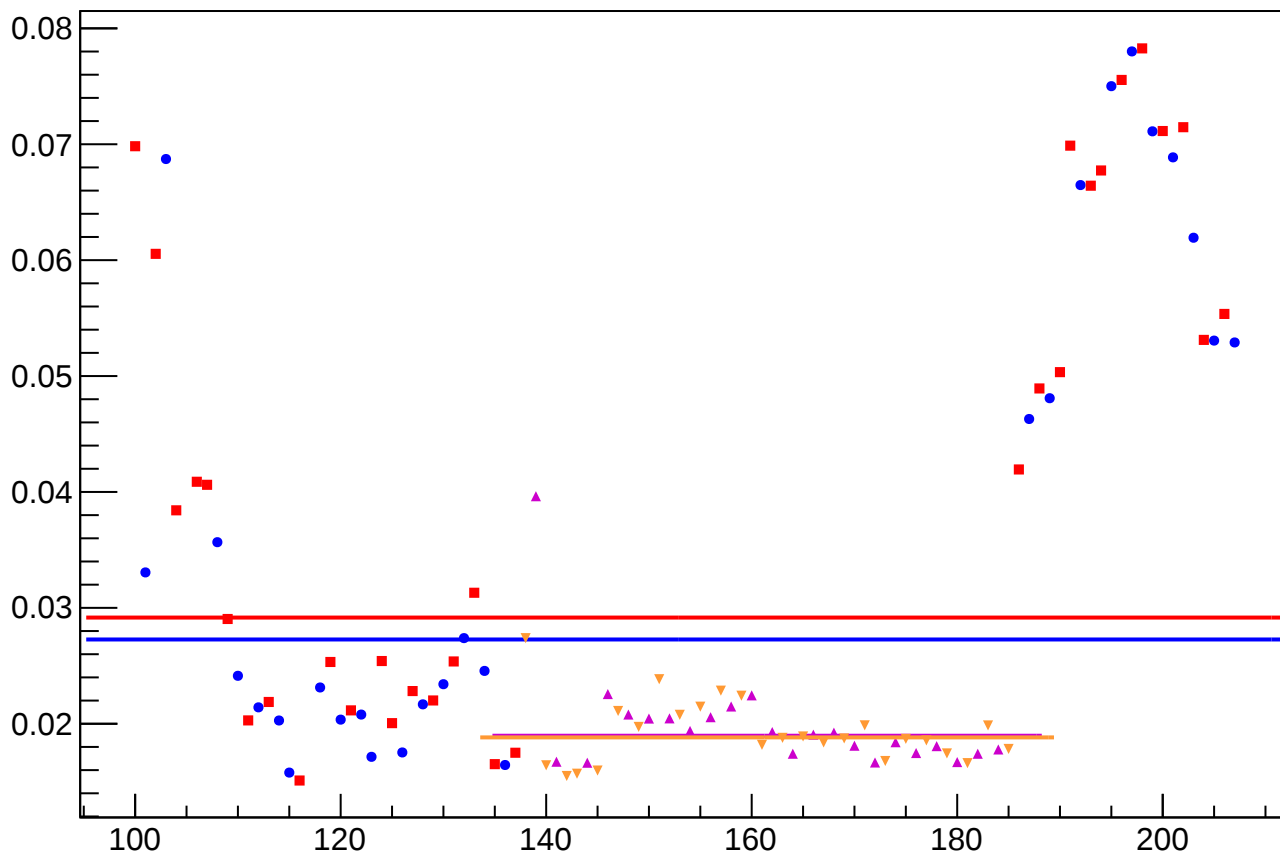
Right: -1.007 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 964898777.9/57

In: -0.885 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 866191793.2/49

Out: -0.890 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1013368510.6/55

All: -0.888 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1880094830.7/1

# yield\_bpm4acX\_rms vs Slug, Sign Corrected



Right In: 0.027+/-0.000  $\chi^2/\text{NDF}$ : 6192176.5/26

Left Out: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 490509.4/24

Right Out: 0.029+/-0.000  $\chi^2/\text{NDF}$ : 6383170.3/30

Left In: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 615173.8/22

Left: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 1106521.0/47

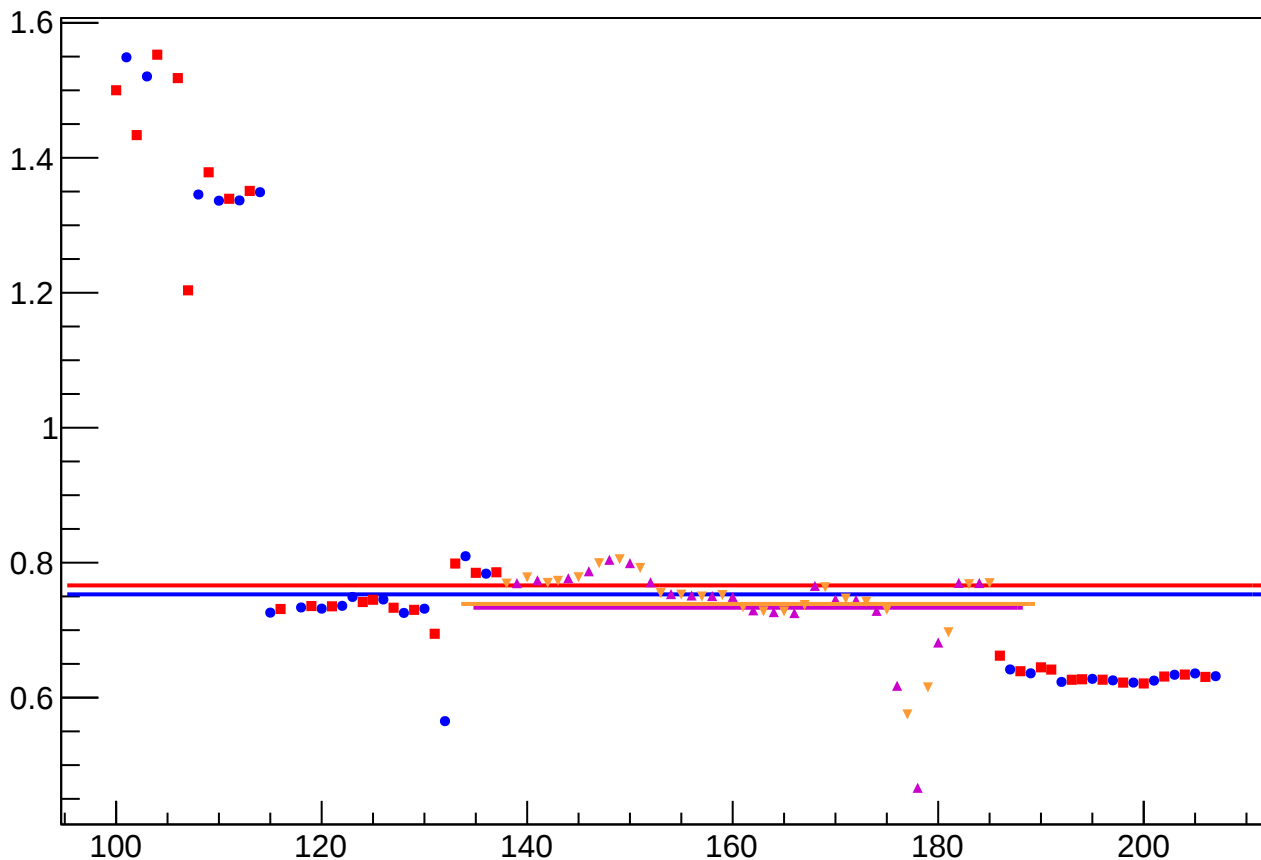
Right: 0.028+/-0.000  $\chi^2/\text{NDF}$ : 12620068.4/57

In: 0.021+/-0.000  $\chi^2/\text{NDF}$ : 8127604.6/49

Out: 0.021+/-0.000  $\chi^2/\text{NDF}$ : 8907646.8/55

All: 0.021+/-0.000  $\chi^2/\text{NDF}$ : 17036566.1/105

# yield\_bpm4acY\_mean vs Slug, Sign Corrected



Right In: 0.753+/-0.000  $\chi^2/\text{NDF}$ : 3439183000.4/26

Left Out: 0.739+/-0.000  $\chi^2/\text{NDF}$ :333013236.5/24

Right Out: 0.766+/-0.000  $\chi^2/\text{NDF}$ : 3760876329.4/30

Left In: 0.733+/-0.000  $\chi^2/\text{NDF}$ :569611347.7/22

Left: 0.736+/-0.000  $\chi^2/\text{NDF}$ : 904456968.5/47

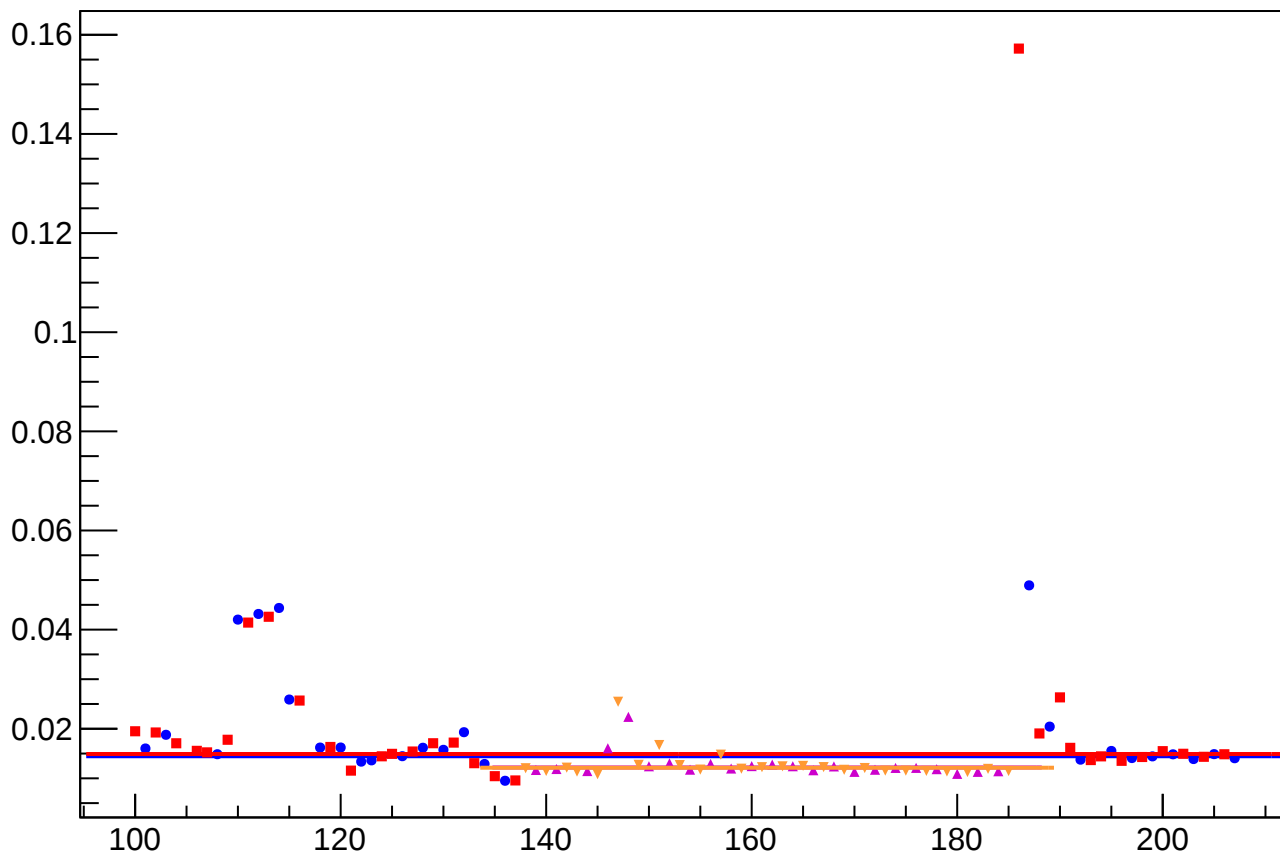
Right: 0.760+/-0.000  $\chi^2/\text{NDF}$ : 7205290442.7/57

In: 0.740+/-0.000  $\chi^2/\text{NDF}$ :4023989092.6/49

Out: 0.748+/-0.000  $\chi^2/\text{NDF}$ :4123877403.5/55

All: 0.744+/-0.000  $\chi^2/\text{NDF}$ : 8153381719.5/100

# yield\_bpm4acY\_rms vs Slug, Sign Corrected



Right In: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 1642066.7/26

Left Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 637986.2/24

Right Out: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 2082931.2/30

Left In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 481830.1/22

Left: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 1120125.6/47

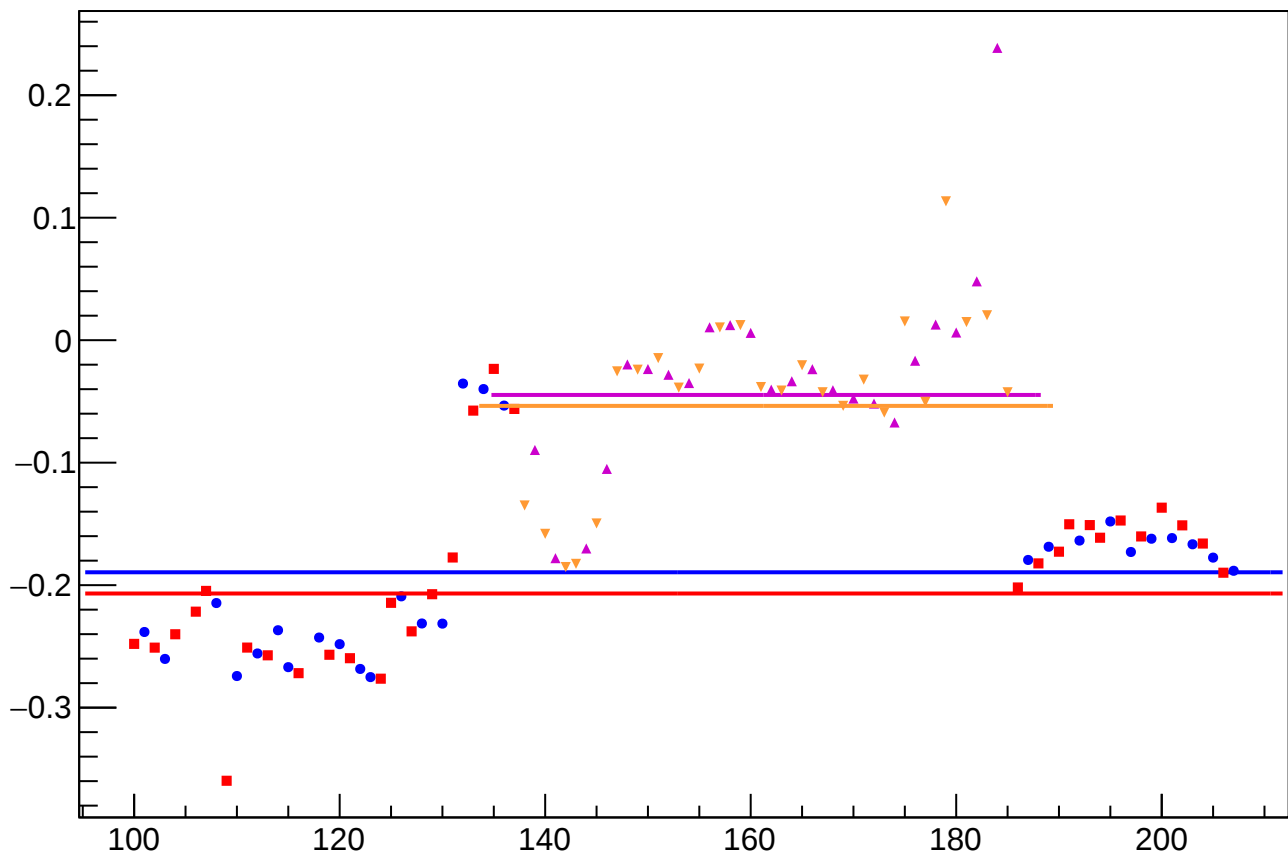
Right: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 3736923.9/57

In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 2521905.3/49

Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 3329969.3/55

All: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 5853218.0/105

# yield\_bpm4ecX\_mean vs Slug, Sign Corrected



Right In:  $-0.189 \pm 0.000$   $\chi^2/\text{NDF}: 107170238.1/26$

Left Out:  $-0.054 \pm 0.000$   $\chi^2/\text{NDF}: 167834173.6/24$

Right Out:  $-0.207 \pm 0.000$   $\chi^2/\text{NDF}: 114680081.9/30$

Left In:  $-0.045 \pm 0.000$   $\chi^2/\text{NDF}: 127192425.2/22$

Left:  $-0.049 \pm 0.000$   $\chi^2/\text{NDF}: 296566503.6/47$

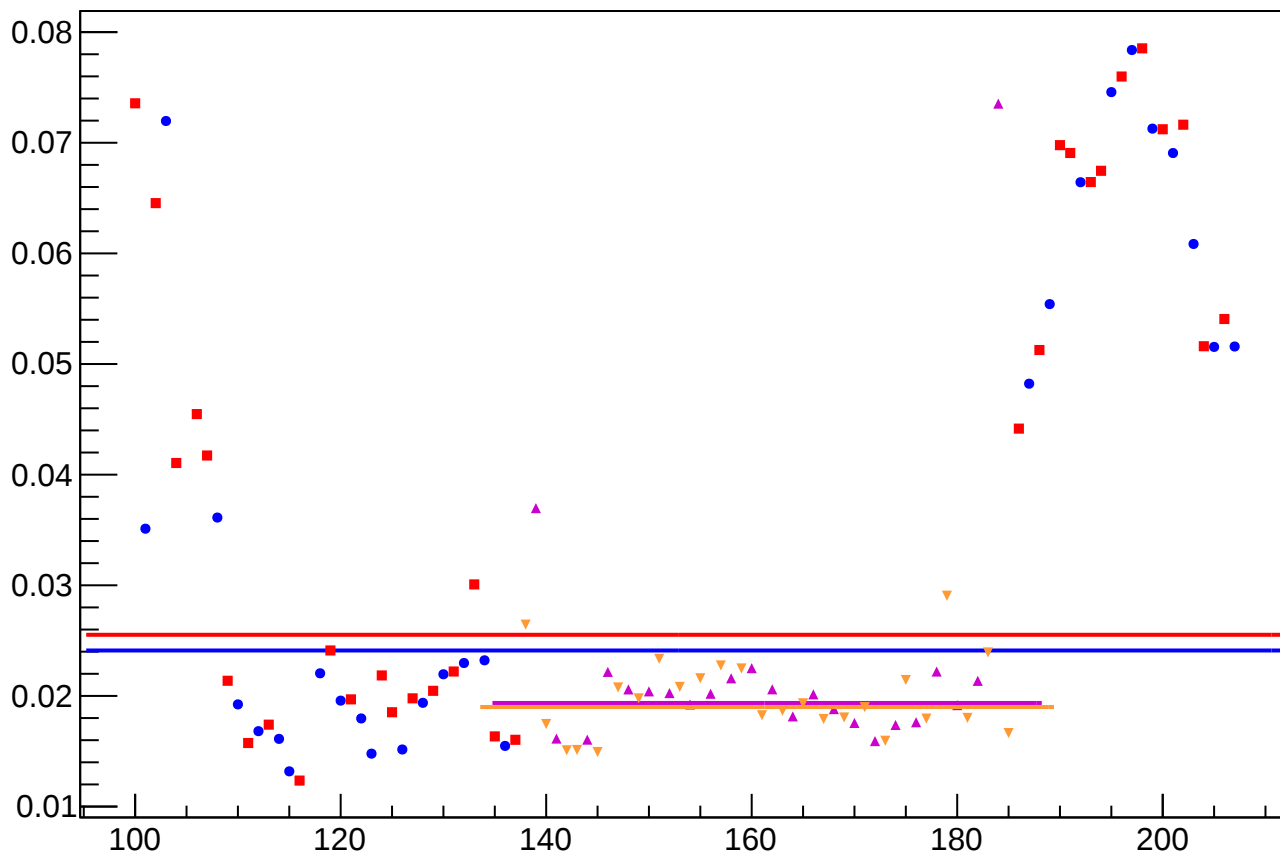
Right:  $-0.198 \pm 0.000$   $\chi^2/\text{NDF}: 224135518.5/57$

In:  $-0.087 \pm 0.000$   $\chi^2/\text{NDF}: 462497154.1/49$

Out:  $-0.095 \pm 0.000$   $\chi^2/\text{NDF}: 539561365.8/55$

All:  $-0.091 \pm 0.000$   $\chi^2/\text{NDF}: 1003668255.9/1$

# yield\_bpm4ecX\_rms vs Slug, Sign Corrected



Right In: 0.024 $\pm$ 0.000  $\chi^2$ /NDF: 7191348.4/26

Left Out: 0.019 $\pm$ 0.000  $\chi^2$ /NDF: 700229.7/24

Right Out: 0.026 $\pm$ 0.000  $\chi^2$ /NDF: 7790861.9/30

Left In: 0.019 $\pm$ 0.000  $\chi^2$ /NDF: 858216.8/22

Left: 0.019 $\pm$ 0.000  $\chi^2$ /NDF: 1563699.1/47

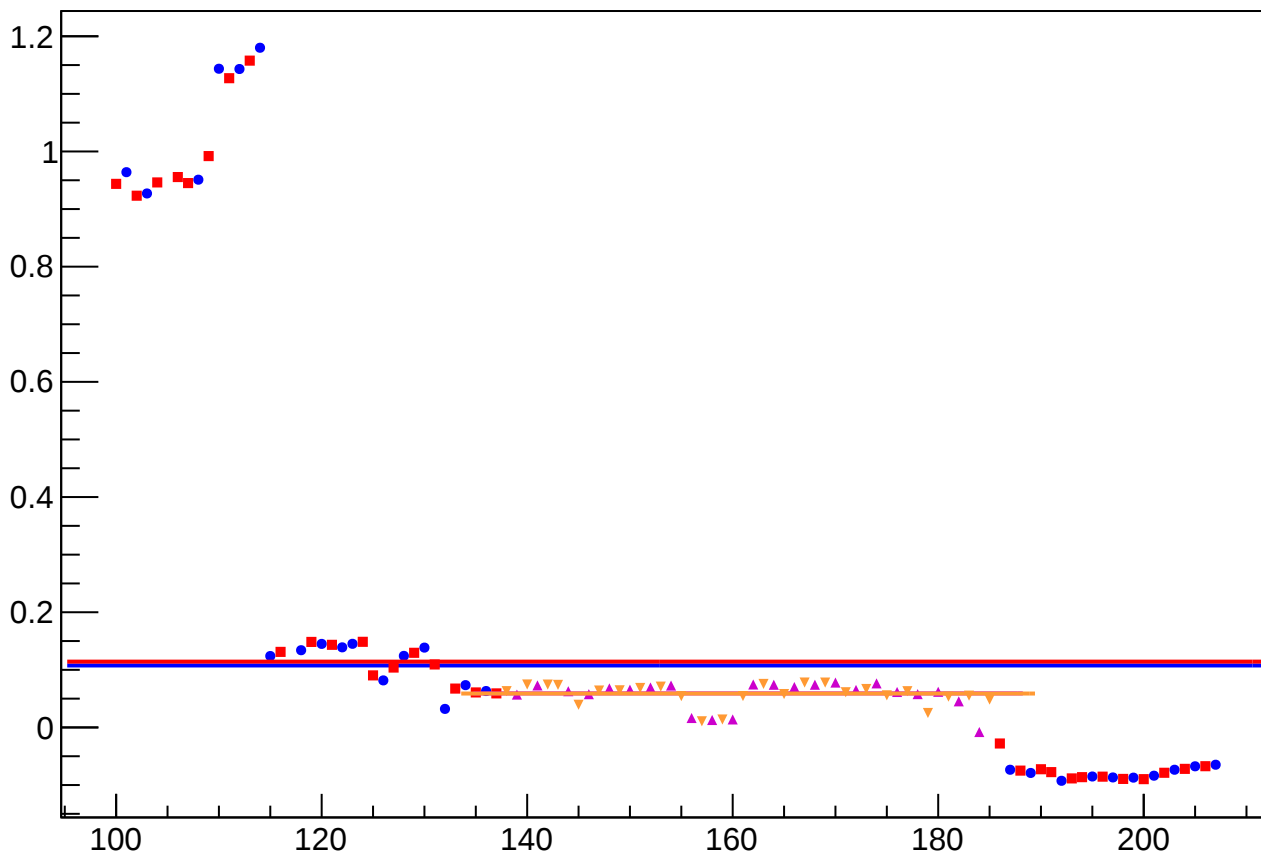
Right: 0.025 $\pm$ 0.000  $\chi^2$ /NDF: 15012837.8/57

In: 0.021 $\pm$ 0.000  $\chi^2$ /NDF: 8539305.6/49

Out: 0.021 $\pm$ 0.000  $\chi^2$ /NDF: 9425531.7/55

All: 0.021 $\pm$ 0.000  $\chi^2$ /NDF: 17964837.3/105

# yield\_bpm4ecY\_mean vs Slug, Sign Corrected



Right In: 0.108+/-0.000  $\chi^2/\text{NDF}$ : 7995583307.3/26

Left Out: 0.059+/-0.000  $\chi^2/\text{NDF}$ : 46821236.8/24

Right Out: 0.114+/-0.000  $\chi^2/\text{NDF}$ : 8984057615.2/30

Left In: 0.059+/-0.000  $\chi^2/\text{NDF}$ : 58518655.0/22

Left: 0.059+/-0.000  $\chi^2/\text{NDF}$ : 105343775.2/47

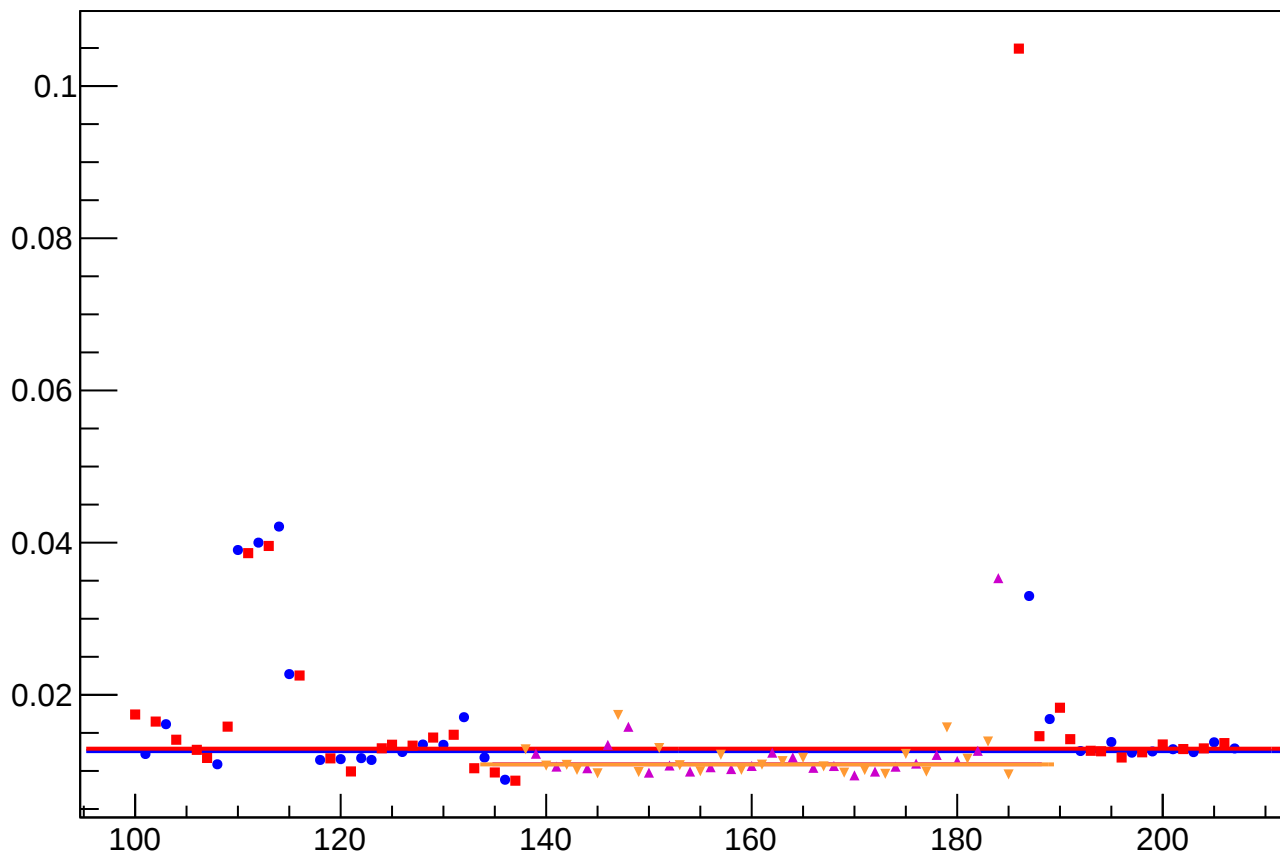
Right: 0.111+/-0.000  $\chi^2/\text{NDF}$ : 16981403740.7/57

In: 0.077+/-0.000  $\chi^2/\text{NDF}$ : 8170837378.7/49

Out: 0.079+/-0.000  $\chi^2/\text{NDF}$ : 9187965293.1/55

All: 0.078+/-0.000  $\chi^2/\text{NDF}$ : 17359133203.8/102

# yield\_bpm4ecY\_rms vs Slug, Sign Corrected



Right In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 1488620.9/26

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :604787.9/24

Right Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 1898427.4/30

Left In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :530077.5/22

Left: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 1134994.9/47

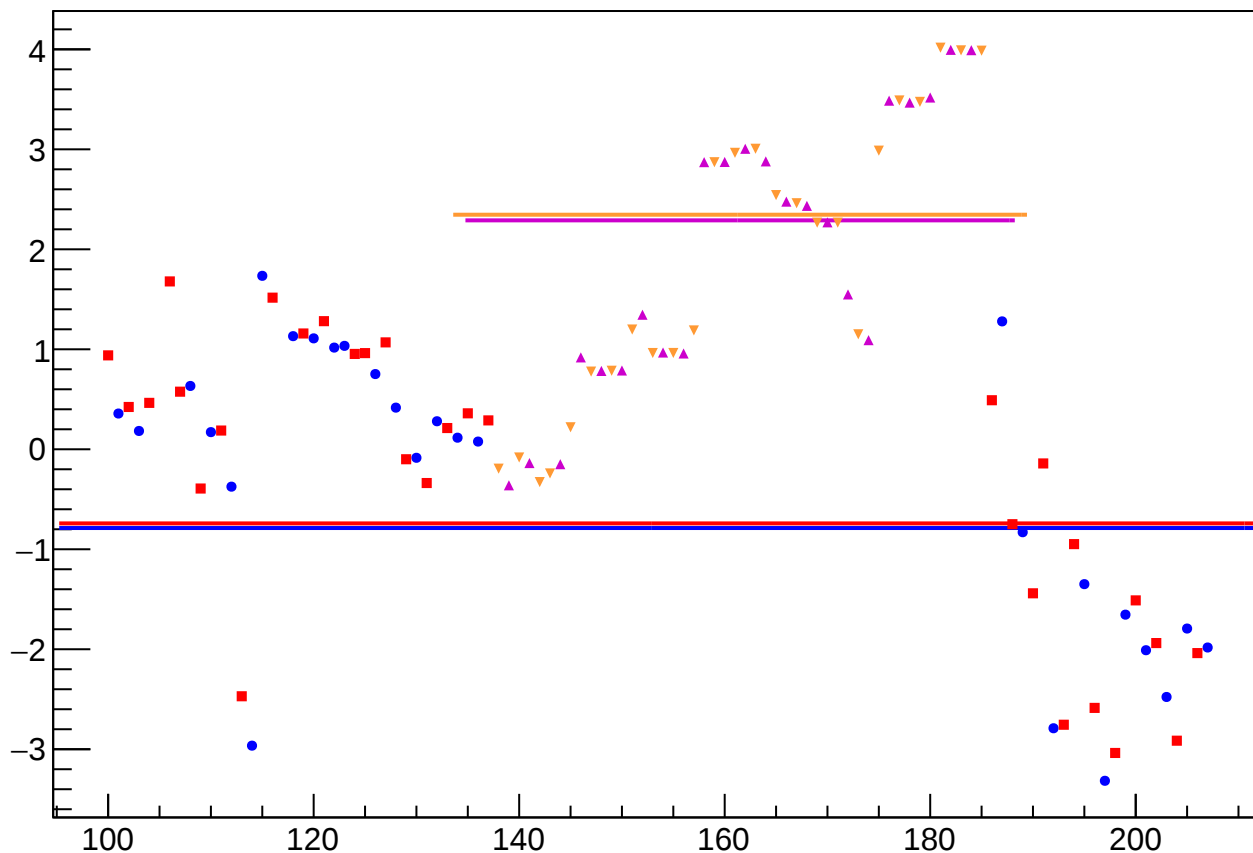
Right: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 3395118.8/57

In: 0.012+/-0.000  $\chi^2/\text{NDF}$ :2310035.6/49

Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ :2938805.6/55

All: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 5250135.1/105

# yield\_bpm1X\_mean vs Slug, Sign Corrected



Right In: -0.788+/-0.000  $\chi^2/\text{NDF}$ : 6339698603.3/26

Left Out: 2.346+/-0.000  $\chi^2/\text{NDF}$ : 63481331015.4/24

Right Out: -0.741+/-0.000  $\chi^2/\text{NDF}$ : 7592120533.9/30

Left In: 2.290+/-0.000  $\chi^2/\text{NDF}$ : 60875537647.3/22

Left: 2.318+/-0.000  $\chi^2/\text{NDF}$ : 124438674298.4/47

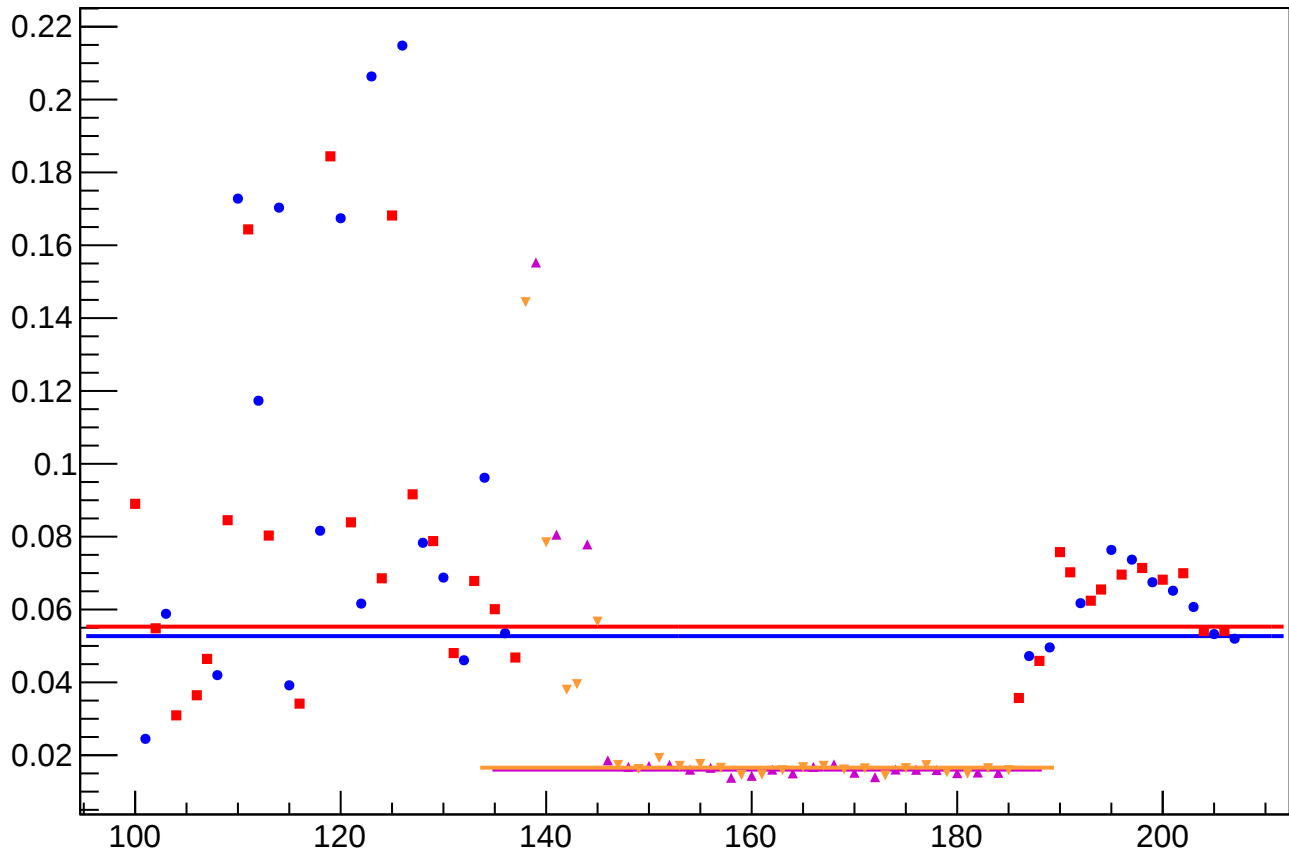
Right: -0.764+/-0.000  $\chi^2/\text{NDF}$ : 13935714649.9/57

In: 2.090+/-0.000  $\chi^2/\text{NDF}$ : 99034962124.3/49

Out: 2.136+/-0.000  $\chi^2/\text{NDF}$ : 104048856442.0/55

All: 2.113+/-0.000  $\chi^2/\text{NDF}$ : 203142670068.3

# yield\_bpm1X\_rms vs Slug, Sign Corrected



Right In: 0.053+/-0.000  $\chi^2/\text{NDF}$ : 3500232.7/26

Left Out: 0.017+/-0.000  $\chi^2/\text{NDF}$ :2621162.1/24

Right Out: 0.055+/-0.000  $\chi^2/\text{NDF}$ : 2837186.3/30

Left In: 0.016+/-0.000  $\chi^2/\text{NDF}$ :2394376.5/22

Left: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 5030430.5/47

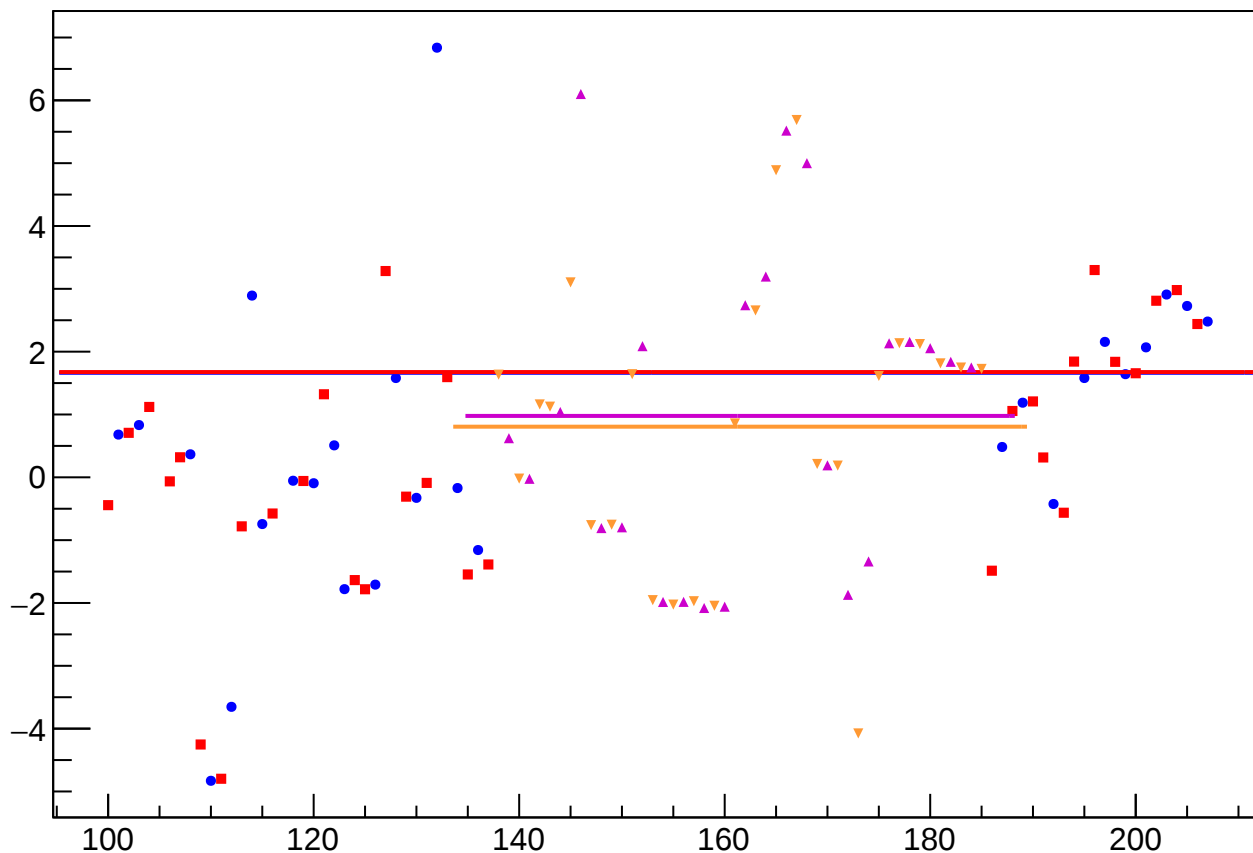
Right: 0.054+/-0.000  $\chi^2/\text{NDF}$ : 6362104.1/57

In: 0.018+/-0.000  $\chi^2/\text{NDF}$ :14920391.0/49

Out: 0.019+/-0.000  $\chi^2/\text{NDF}$ :15824656.1/55

All: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 30779517.5/105

# yield\_bpm1Y\_mean vs Slug, Sign Corrected



Right In: 1.664 $\pm$ 0.000

$\chi^2$ /NDF: 32570339833.1/26

Left: 0.892 $\pm$ 0.000

$\chi^2$ /NDF: 1077036497291.8/47

Left Out: 0.806 $\pm$ 0.000

$\chi^2$ /NDF: 507578952196.2/24

Right: 1.670 $\pm$ 0.000

$\chi^2$ /NDF: 65917531917.2/57

Right Out: 1.675 $\pm$ 0.000

$\chi^2$ /NDF: 33345815951.1/30

In: 1.117 $\pm$ 0.000

$\chi^2$ /NDF: 608919077104.3/49

Out: 0.984 $\pm$ 0.000

$\chi^2$ /NDF: 554031512711.7/55

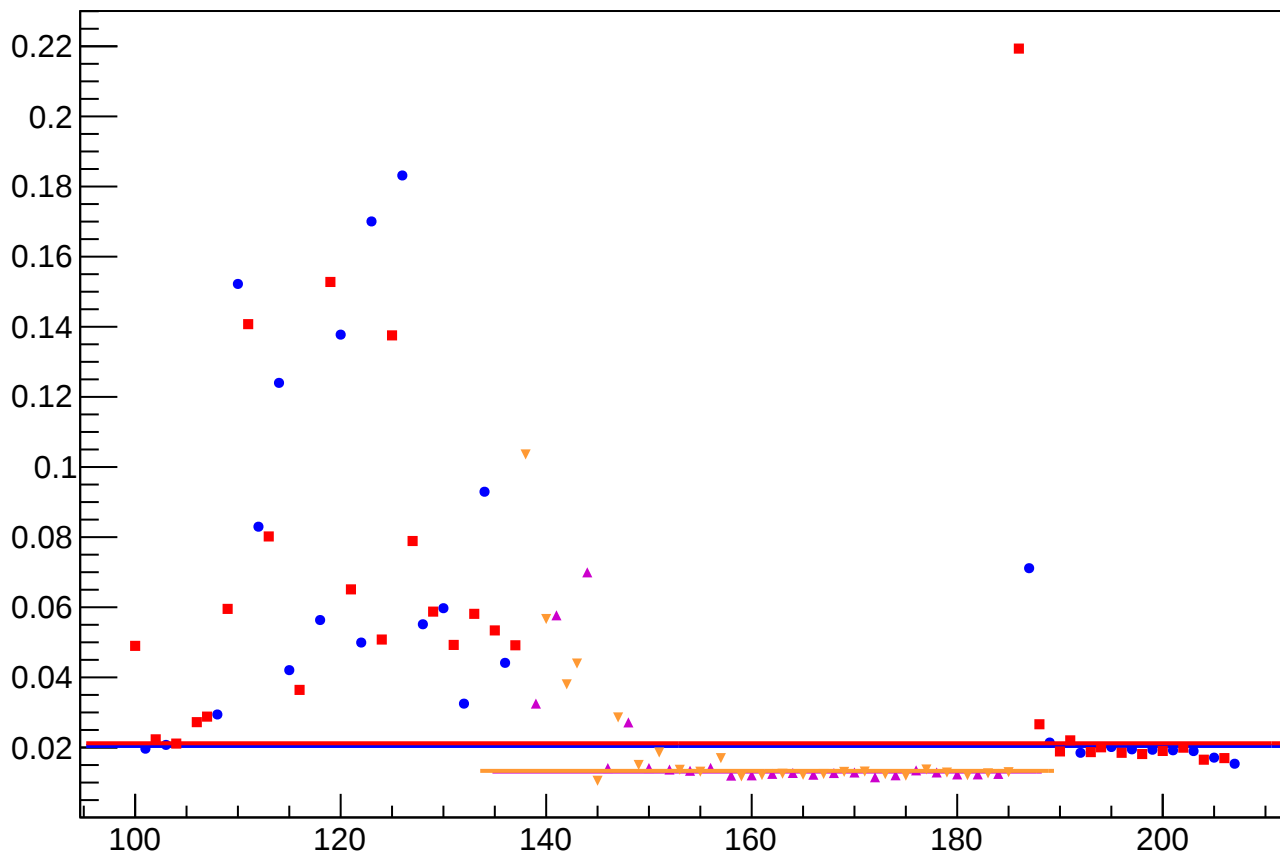
Left In: 0.977 $\pm$ 0.000

$\chi^2$ /NDF: 568209676597.4/22

All: 1.050 $\pm$ 0.000

$\chi^2$ /NDF: 1163894808994.0/100

# yield\_bpm1Y\_rms vs Slug, Sign Corrected



Right In: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 4061822.2/26

Left Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ :2829753.9/24

Right Out: 0.021+/-0.000  $\chi^2/\text{NDF}$ : 5029909.7/30

Left In: 0.013+/-0.000  $\chi^2/\text{NDF}$ :1946693.6/22

Left: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 4779900.3/47

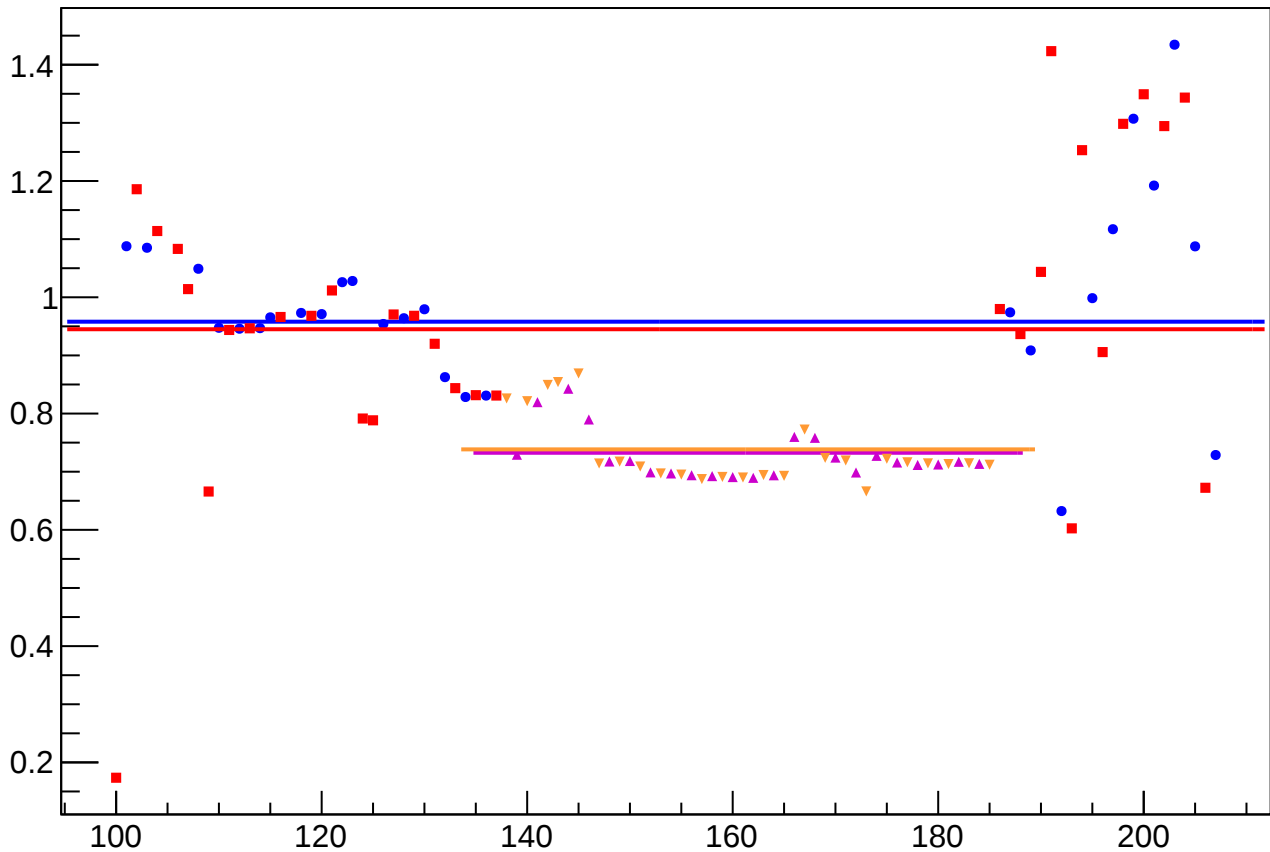
Right: 0.021+/-0.000  $\chi^2/\text{NDF}$ : 9104550.1/57

In: 0.015+/-0.000  $\chi^2/\text{NDF}$ :7851561.1/49

Out: 0.015+/-0.000  $\chi^2/\text{NDF}$ :10009559.3/55

All: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 17872609.4/105

# yield\_bpm11X\_mean vs Slug, Sign Corrected



Right In: 0.958 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 622066721.2/26

Left Out: 0.738 $\pm$ 0.000  $\chi^2/\text{NDF}$ :310195180.4/24

Right Out: 0.945 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1053147885.9/30

Left In: 0.733 $\pm$ 0.000  $\chi^2/\text{NDF}$ :170102394.7/22

Left: 0.736 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 481708989.2/47

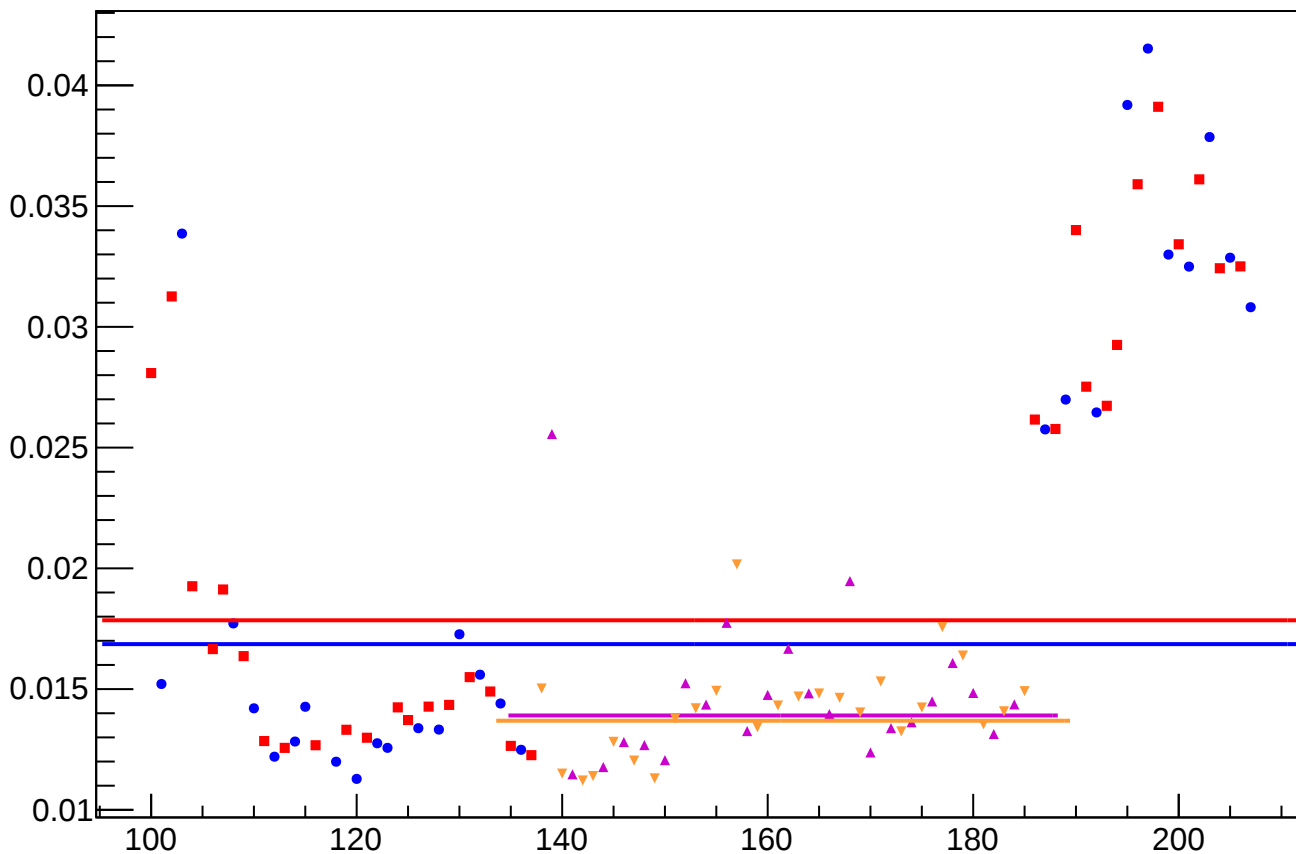
Right: 0.952 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1678351637.7/57

In: 0.804 $\pm$ 0.000  $\chi^2/\text{NDF}$ :2084164006.4/49

Out: 0.801 $\pm$ 0.000  $\chi^2/\text{NDF}$ :2471755389.1/55

All: 0.802 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 4556785976.4/100

# yield\_bpm11X\_rms vs Slug, Sign Corrected



Right In: 0.017 $\pm$ 0.000  $\chi^2$ /NDF: 4356376.7/26

Left Out: 0.014 $\pm$ 0.000  $\chi^2$ /NDF:528480.6/24

Right Out: 0.018 $\pm$ 0.000  $\chi^2$ /NDF: 4037262.0/30

Left In: 0.014 $\pm$ 0.000  $\chi^2$ /NDF:768161.9/22

Left: 0.014 $\pm$ 0.000  $\chi^2$ /NDF: 1300553.4/47

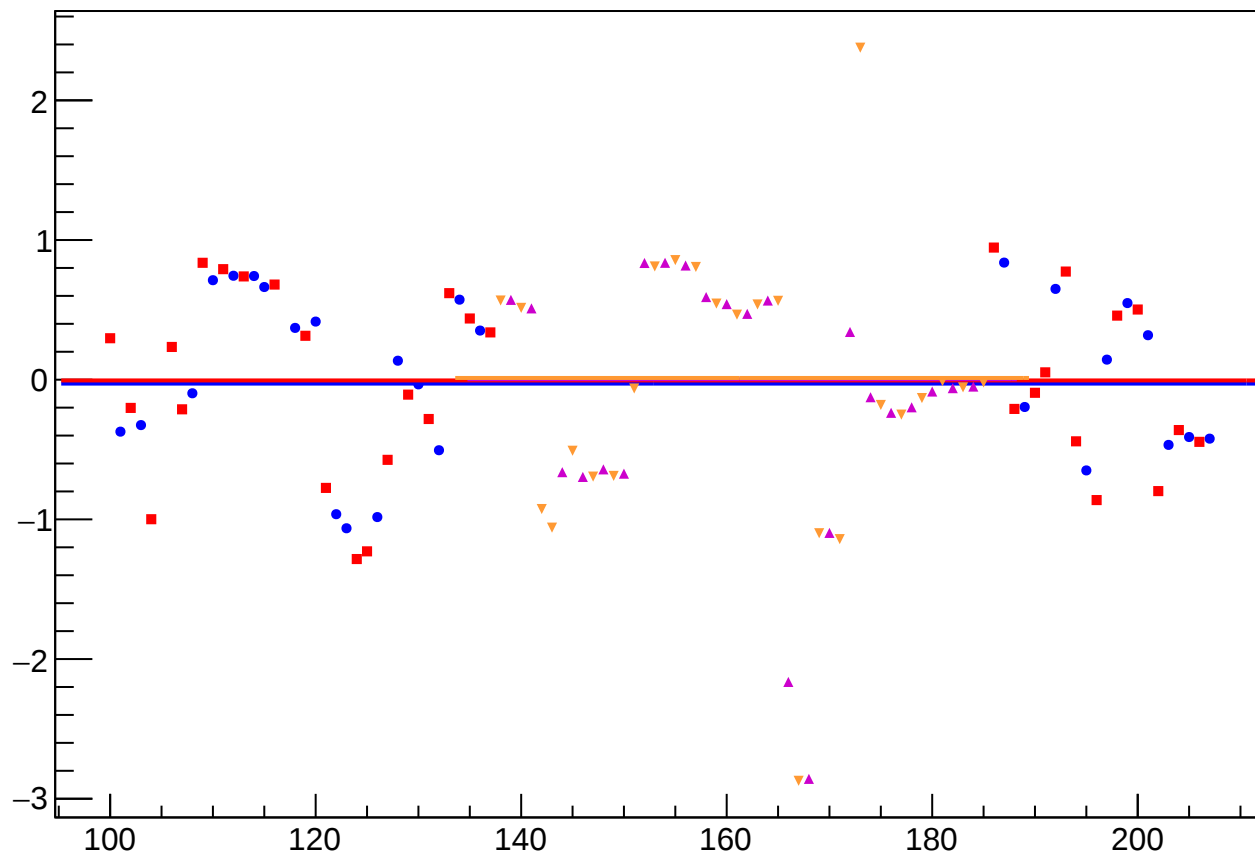
Right: 0.017 $\pm$ 0.000  $\chi^2$ /NDF: 8429882.6/57

In: 0.015 $\pm$ 0.000  $\chi^2$ /NDF:5568427.5/49

Out: 0.015 $\pm$ 0.000  $\chi^2$ /NDF:5463823.9/55

All: 0.015 $\pm$ 0.000  $\chi^2$ /NDF: 11033289.4/105

# yield\_bpm11Y\_mean vs Slug, Sign Corrected



Right In:  $-0.028 \pm 0.000$   $\chi^2/\text{NDF}: 19308083907.5/26$

Left Out:  $0.012 \pm 0.000$   $\chi^2/\text{NDF}: 96383858927.1/24$

Right Out:  $-0.005 \pm 0.000$   $\chi^2/\text{NDF}: 29568576866.4/30$

Left In:  $0.003 \pm 0.000$   $\chi^2/\text{NDF}: 78826489573.0/22$

Left:  $0.008 \pm 0.000$   $\chi^2/\text{NDF}: 175214894006.3/47$

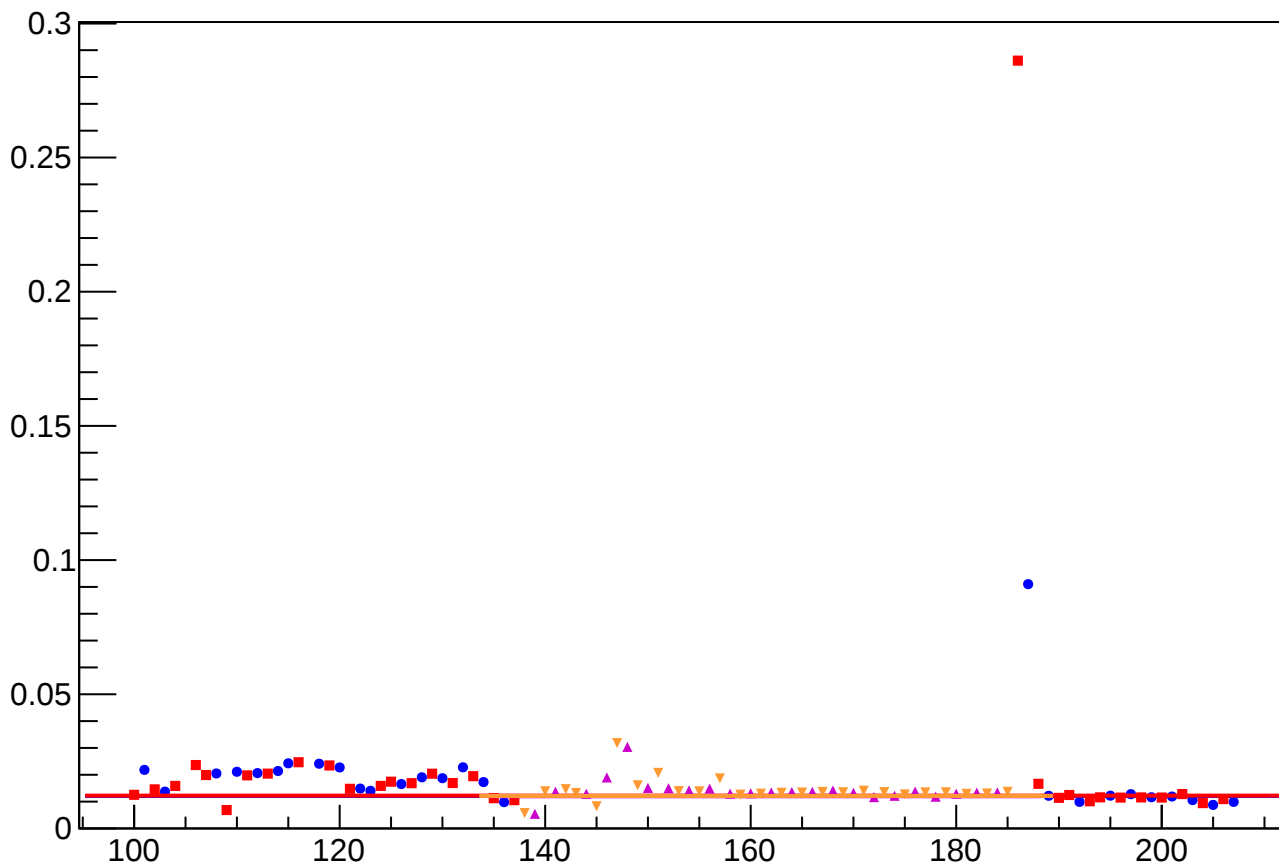
Right:  $-0.016 \pm 0.000$   $\chi^2/\text{NDF}: 48897069459.2/57$

In:  $-0.010 \pm 0.000$   $\chi^2/\text{NDF}: 98177703374.1/49$

Out:  $0.005 \pm 0.000$   $\chi^2/\text{NDF}: 125967035025.5/55$

All:  $-0.003 \pm 0.000$   $\chi^2/\text{NDF}: 224165767871.9$

# yield\_bpm11Y\_rms vs Slug, Sign Corrected



Right In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 2318184.4/26

Left Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ :3105238.9/24

Right Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 2679968.5/30

Left In: 0.012+/-0.000  $\chi^2/\text{NDF}$ :3003502.9/22

Left: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 6110012.2/47

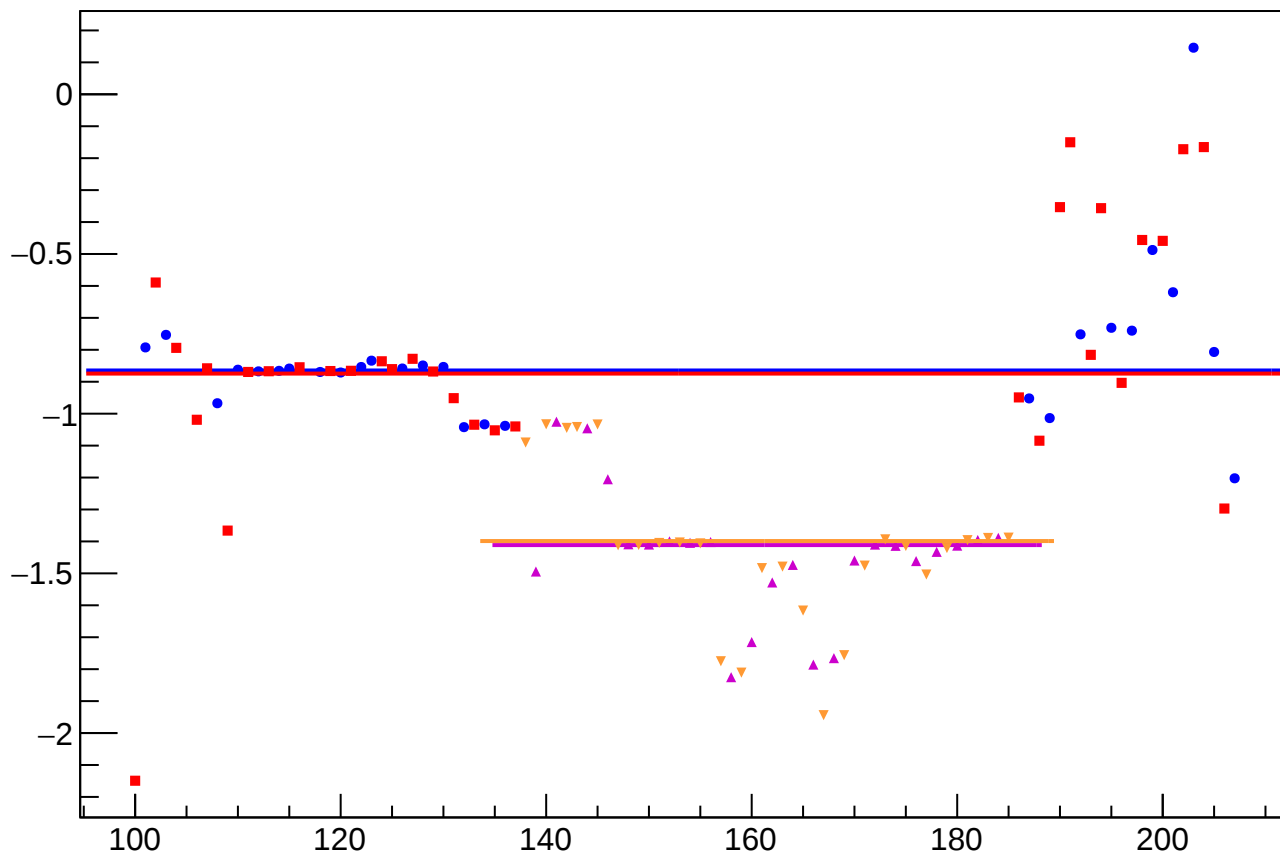
Right: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 4999937.8/57

In: 0.012+/-0.000  $\chi^2/\text{NDF}$ :5322433.1/49

Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ :5786809.8/55

All: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 11112215.4/105

# yield\_bpm12X\_mean vs Slug, Sign Corrected



Right In:  $-0.865 \pm 0.000$   $\chi^2/\text{NDF}: 187027252.4/26$

Left Out:  $-1.399 \pm 0.000$   $\chi^2/\text{NDF}: 738251911.1/24$

Right Out:  $-0.874 \pm 0.000$   $\chi^2/\text{NDF}: 394036492.1/30$

Left In:  $-1.411 \pm 0.000$   $\chi^2/\text{NDF}: 512547995.0/22$

Left:  $-1.405 \pm 0.000$   $\chi^2/\text{NDF}: 1251791467.1/47$

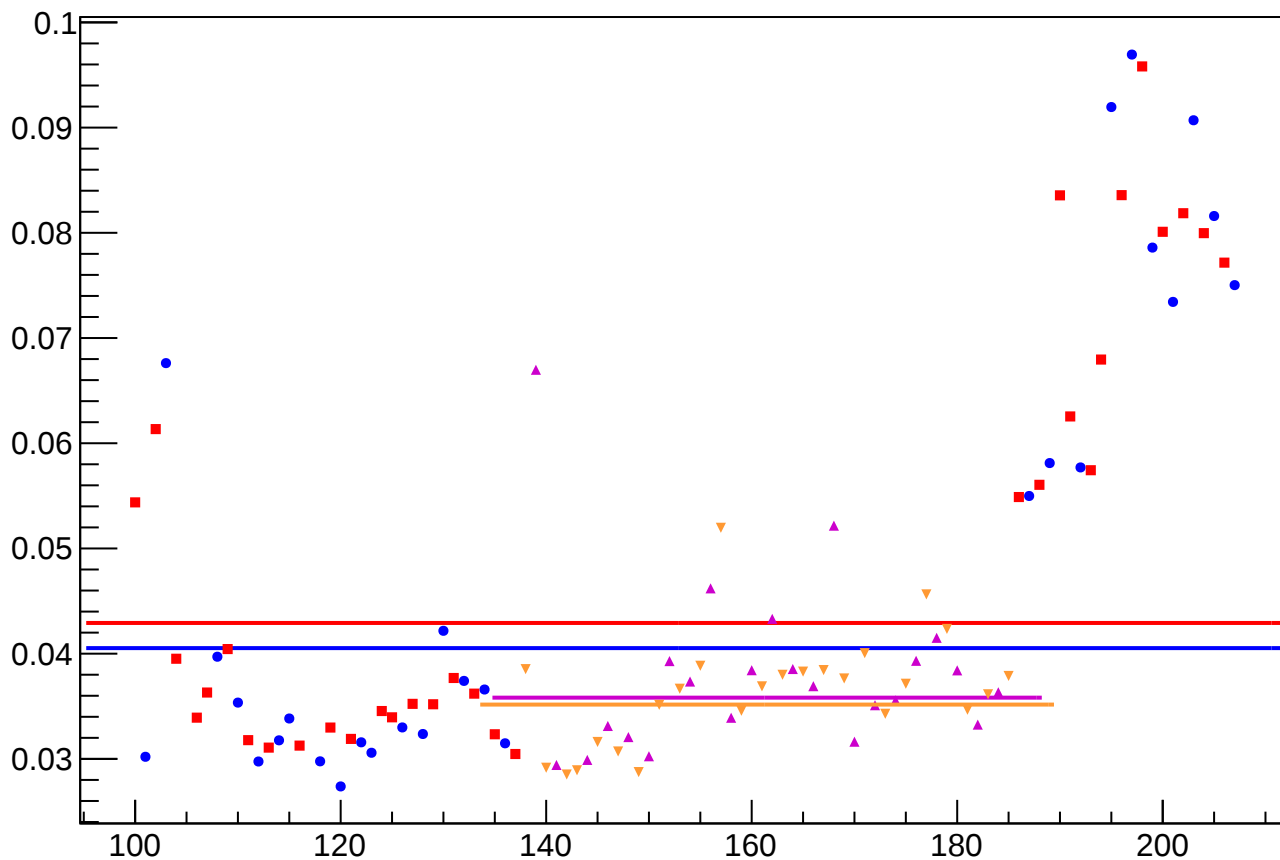
Right:  $-0.870 \pm 0.000$   $\chi^2/\text{NDF}: 581372669.5/57$

In:  $-1.217 \pm 0.000$   $\chi^2/\text{NDF}: 1964590775.0/49$

Out:  $-1.223 \pm 0.000$   $\chi^2/\text{NDF}: 2328620403.3/55$

All:  $-1.220 \pm 0.000$   $\chi^2/\text{NDF}: 4293526741.8/1$

# yield\_bpm12X\_rms vs Slug, Sign Corrected



Right In: 0.041 $\pm$ 0.000  $\chi^2$ /NDF: 4029304.8/26

Left Out: 0.035 $\pm$ 0.000  $\chi^2$ /NDF:595219.5/24

Right Out: 0.043 $\pm$ 0.000  $\chi^2$ /NDF: 3543048.9/30

Left In: 0.036 $\pm$ 0.000  $\chi^2$ /NDF:864147.6/22

Left: 0.035 $\pm$ 0.000  $\chi^2$ /NDF: 1464751.5/47

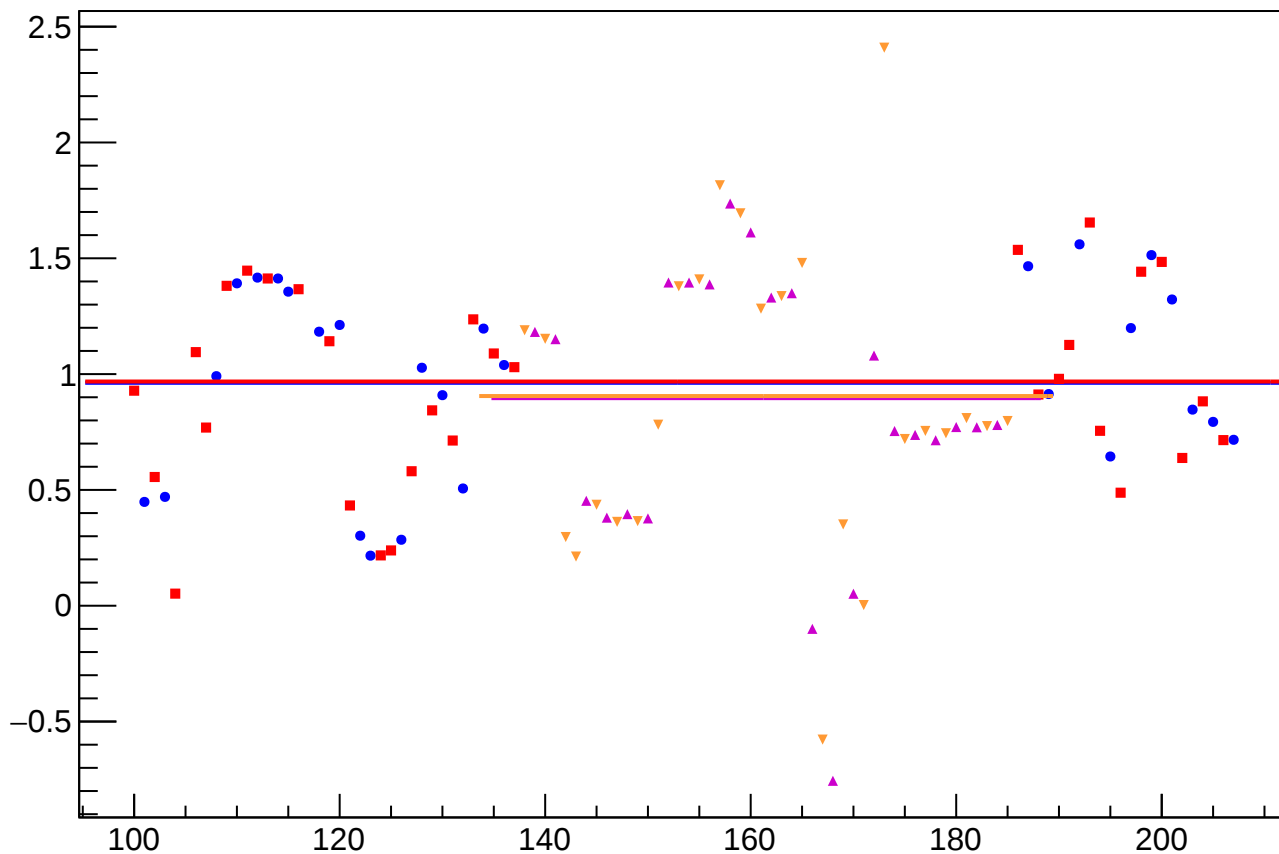
Right: 0.042 $\pm$ 0.000  $\chi^2$ /NDF: 7609836.6/57

In: 0.037 $\pm$ 0.000  $\chi^2$ /NDF:5081127.3/49

Out: 0.038 $\pm$ 0.000  $\chi^2$ /NDF:4662006.5/55

All: 0.038 $\pm$ 0.000  $\chi^2$ /NDF: 9744526.4/105

# yield\_bpm12Y\_mean vs Slug, Sign Corrected



Right In: 0.962 $\pm$ 0.000

$\chi^2$ /NDF: 22383639209.2/26

Left: 0.901 $\pm$ 0.000  $\chi^2$ /NDF: 150868618084.6/47

Right: 0.965 $\pm$ 0.000  $\chi^2$ /NDF: 49586005328.4/57

Left Out: 0.905 $\pm$ 0.000

$\chi^2$ /NDF: 84265726513.8/24

In: 0.929 $\pm$ 0.000  $\chi^2$ /NDF: 89416839939.5/49

Right Out: 0.968 $\pm$ 0.000

$\chi^2$ /NDF: 27199449704.6/30

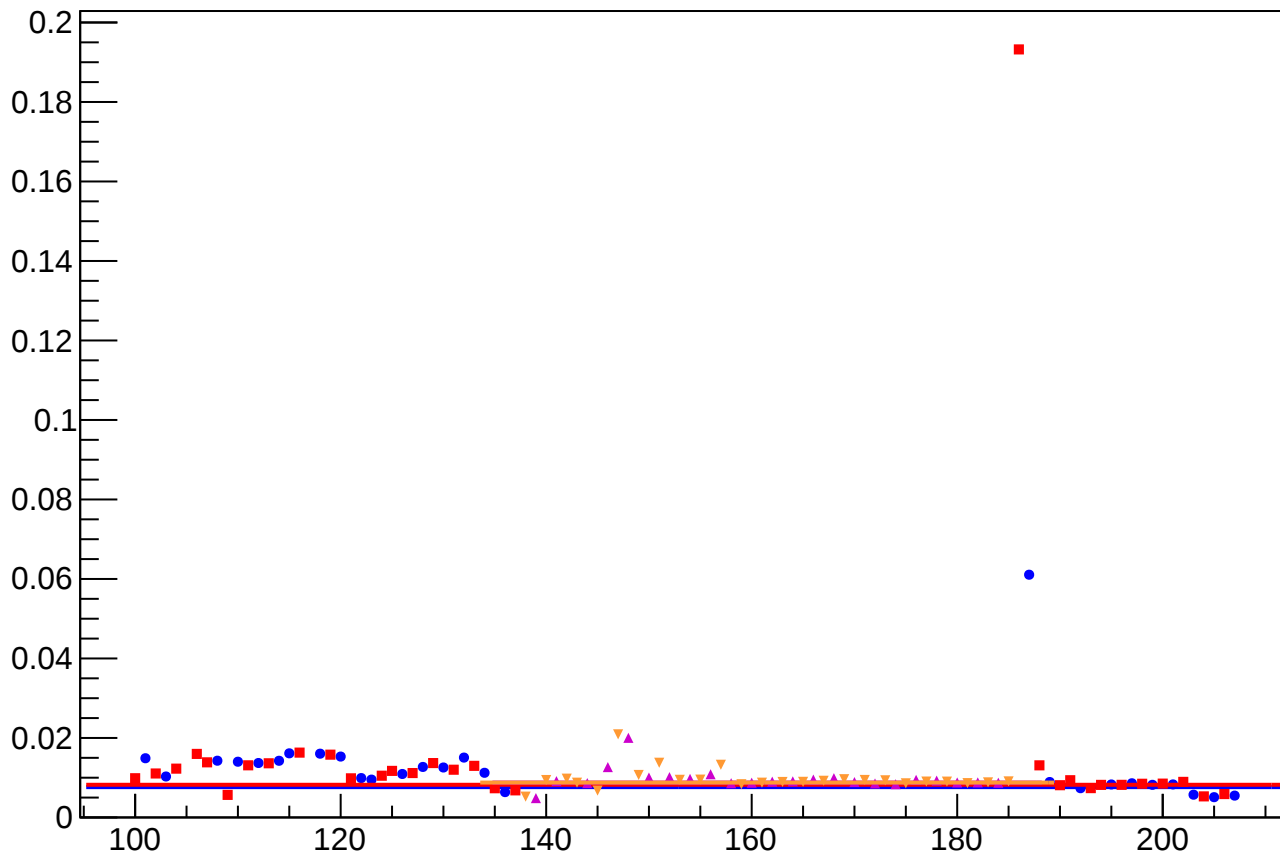
Out: 0.934 $\pm$ 0.000  $\chi^2$ /NDF: 111856722680.7/55

Left In: 0.896 $\pm$ 0.000

$\chi^2$ /NDF: 66594200889.6/22

All: 0.931 $\pm$ 0.000  $\chi^2$ /NDF: 201279038547.3

# yield\_bpm12Y\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 3046930.6/26

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1697568.1/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 3111694.5/30

Left In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1607939.0/22

Left: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 3305514.2/47

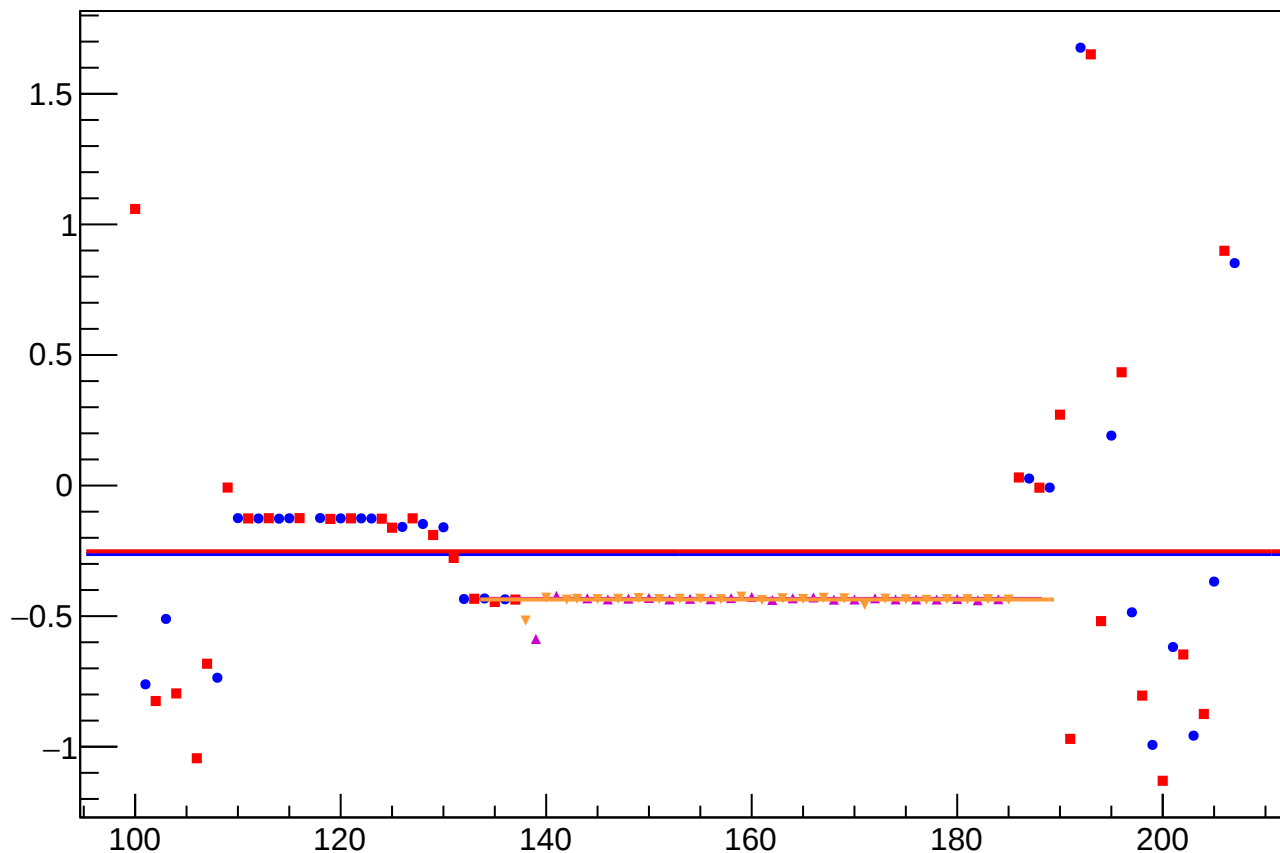
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 6224608.8/57

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :4916243.8/49

Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :4871077.0/55

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 9825991.1/105

# yield\_bpm16X\_mean vs Slug, Sign Corrected



Right In:  $-0.262 \pm 0.000$   $\chi^2/\text{NDF}: 2632355956.7/26$

Left Out:  $-0.436 \pm 0.000$   $\chi^2/\text{NDF}: 28774660.0/24$

Right Out:  $-0.252 \pm 0.000$   $\chi^2/\text{NDF}: 2660983279.4/30$

Left In:  $-0.434 \pm 0.000$   $\chi^2/\text{NDF}: 23984173.0/22$

Left:  $-0.435 \pm 0.000$   $\chi^2/\text{NDF}: 53122221.7/47$

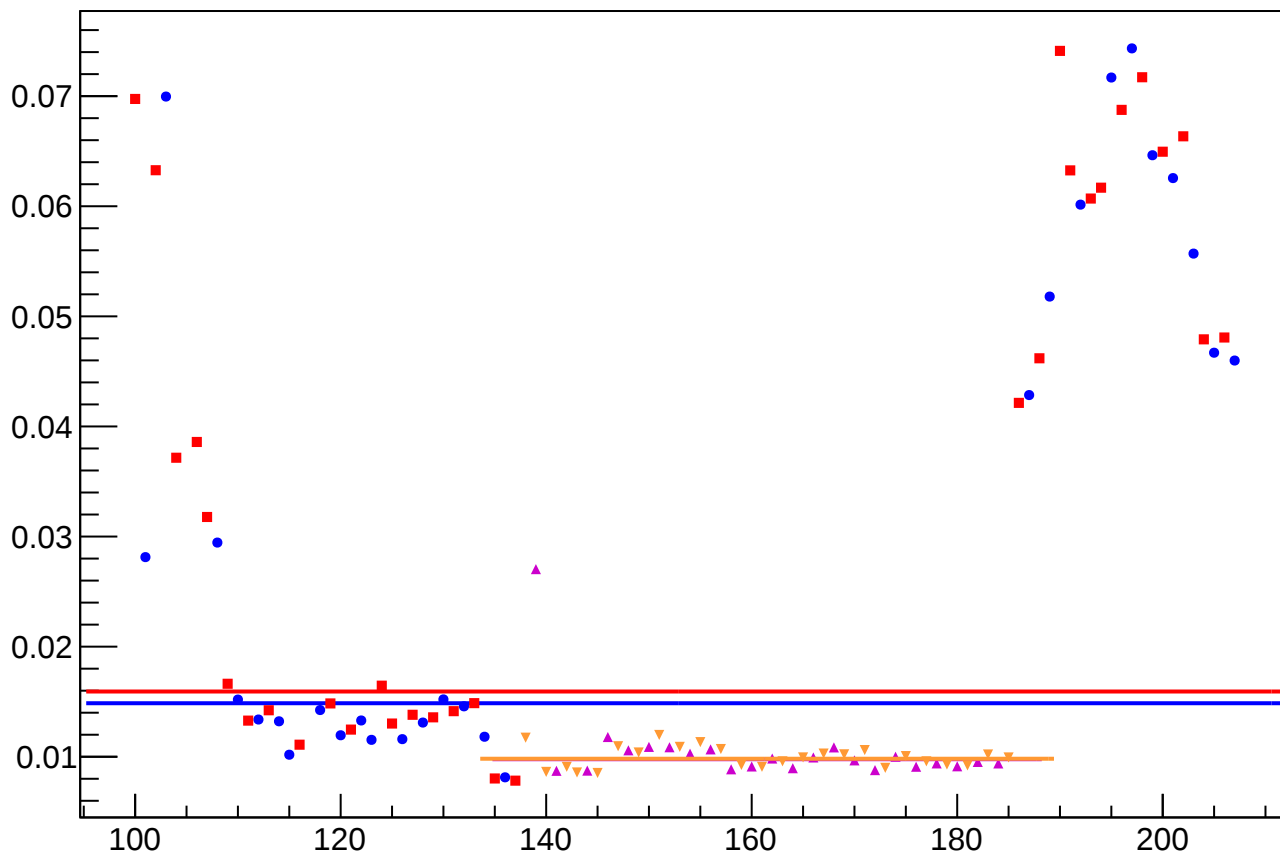
Right:  $-0.257 \pm 0.000$   $\chi^2/\text{NDF}: 5295193654.4/57$

In:  $-0.403 \pm 0.000$   $\chi^2/\text{NDF}: 3479076975.7/49$

Out:  $-0.406 \pm 0.000$   $\chi^2/\text{NDF}: 3604670043.7/55$

All:  $-0.404 \pm 0.000$   $\chi^2/\text{NDF}: 7084603065.5/1$

# yield\_bpm16X\_rms vs Slug, Sign Corrected



Right In: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 9747834.7/26

Left Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 269242.6/24

Right Out: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 10615049.1/30

Left In: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 747550.0/22

Left: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 1017115.3/47

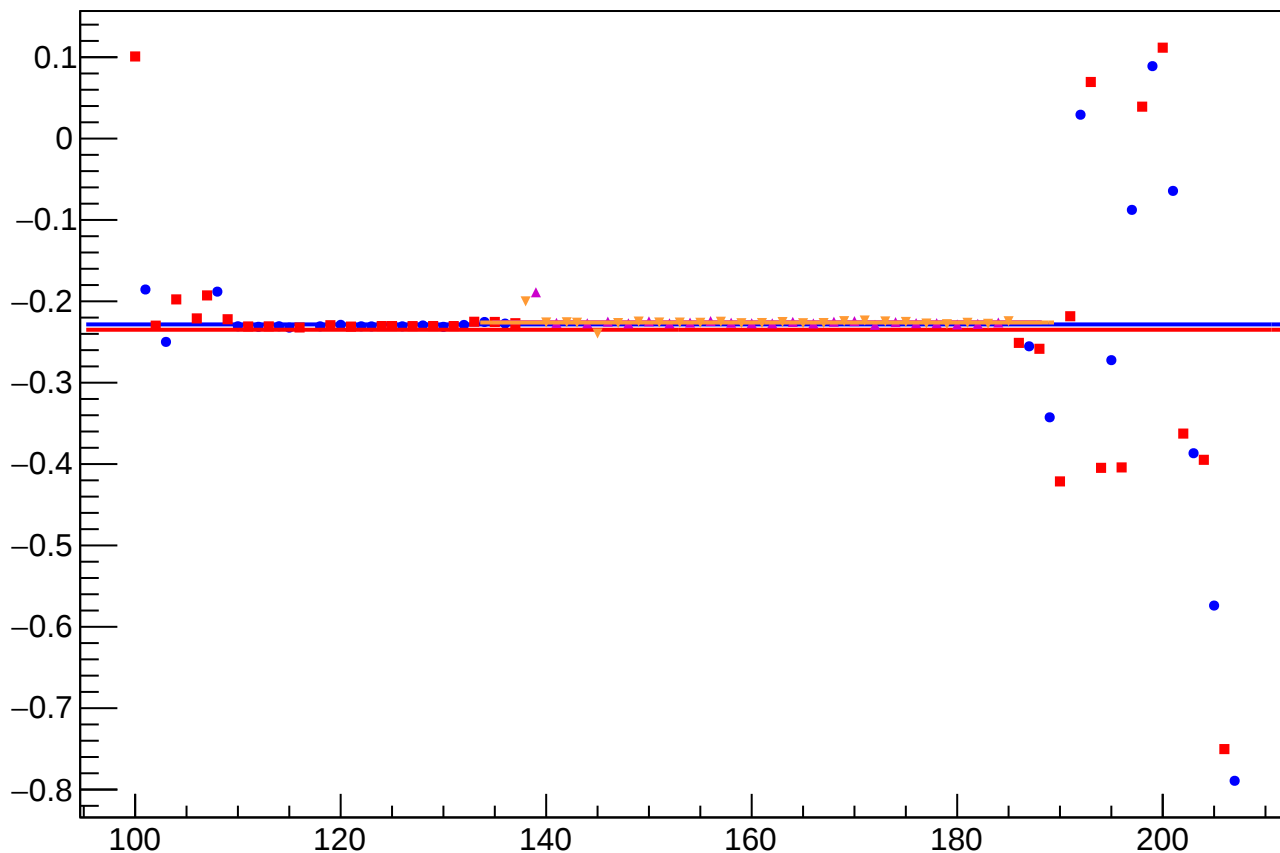
Right: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 20400448.5/57

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 11937404.3/49

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 12887208.3/55

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 24827670.8/105

# yield\_bpm16Y\_mean vs Slug, Sign Corrected



Right In: -0.228+/-0.000  $\chi^2/NDF$ : 14046992931.2/26

Left Out: -0.226+/-0.000  $\chi^2/NDF$ : 21205667.4/24

Right Out: -0.235+/-0.000  $\chi^2/NDF$ : 13480447369.2/30

Left In: -0.226+/-0.000  $\chi^2/NDF$ : 15245251.1/22

Left: -0.226+/-0.000  $\chi^2/NDF$ : 36480793.2/47

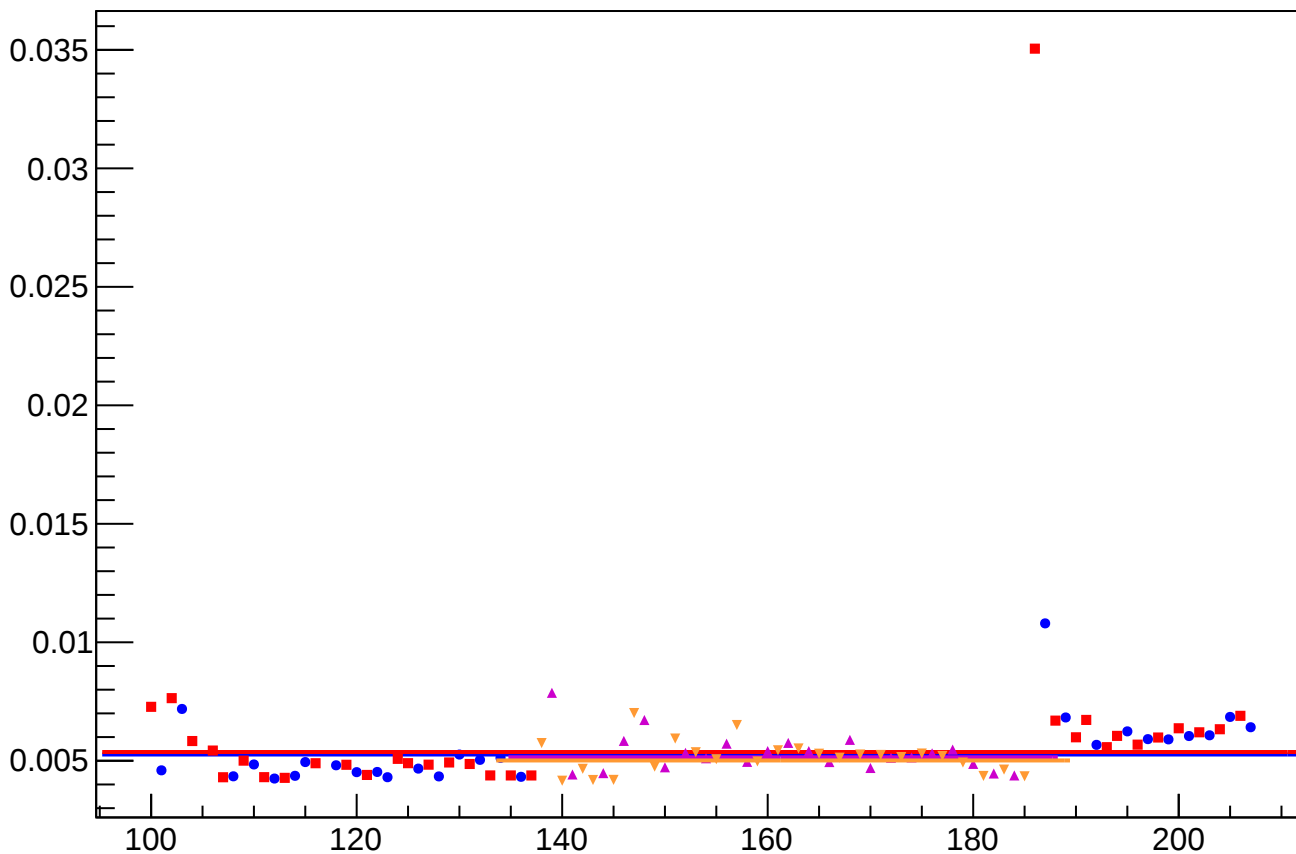
Right: -0.232+/-0.000  $\chi^2/NDF$ : 27537314754.7/57

In: -0.227+/-0.000  $\chi^2/NDF$ : 14064082984.2/49

Out: -0.230+/-0.000  $\chi^2/NDF$ : 13523725079.2/55

All: -0.228+/-0.000  $\chi^2/NDF$ : 27592134924.2/...

# yield\_bpm16Y\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 756708.1/26

Left Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 530632.6/24

Right Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1255335.4/30

Left In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 493107.7/22

Left: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1035156.6/47

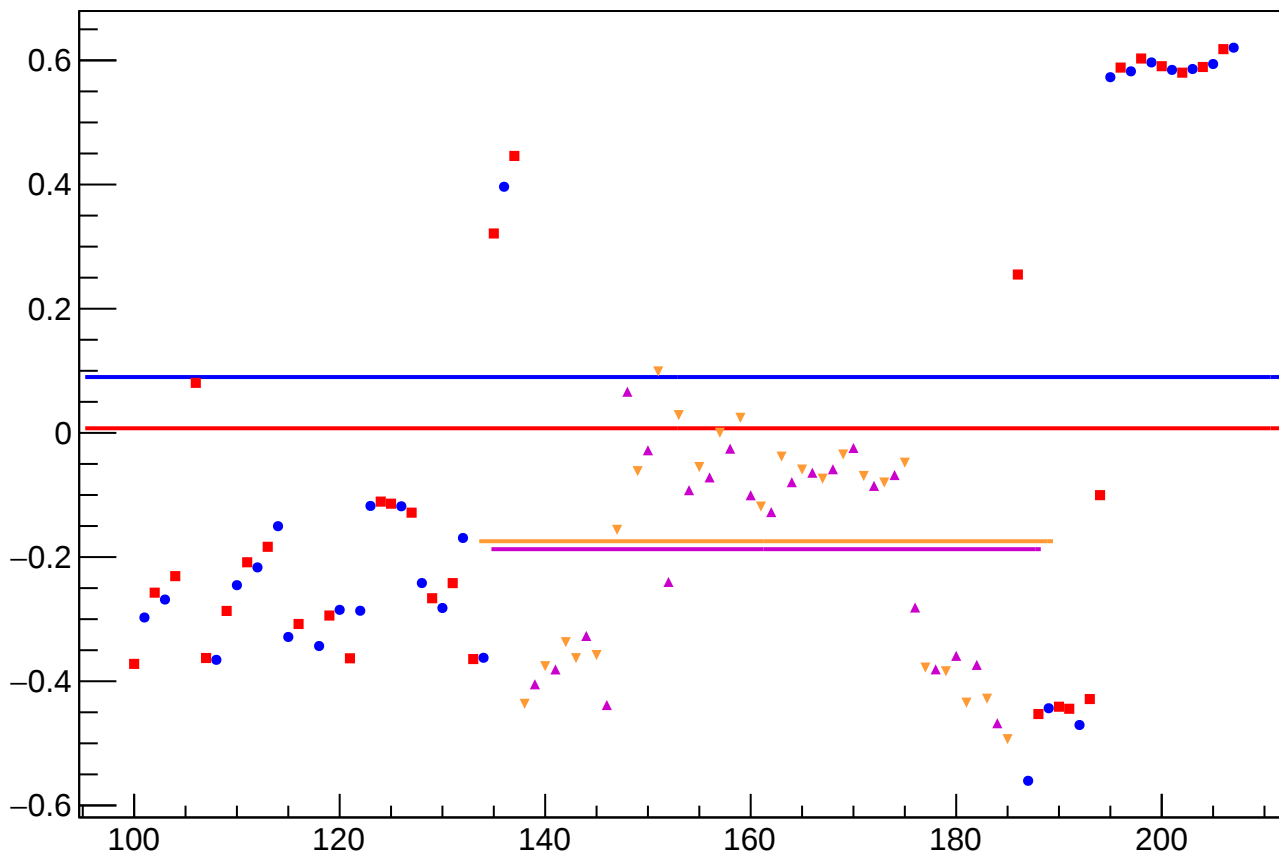
Right: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2017145.5/57

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1257120.4/49

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1856651.3/55

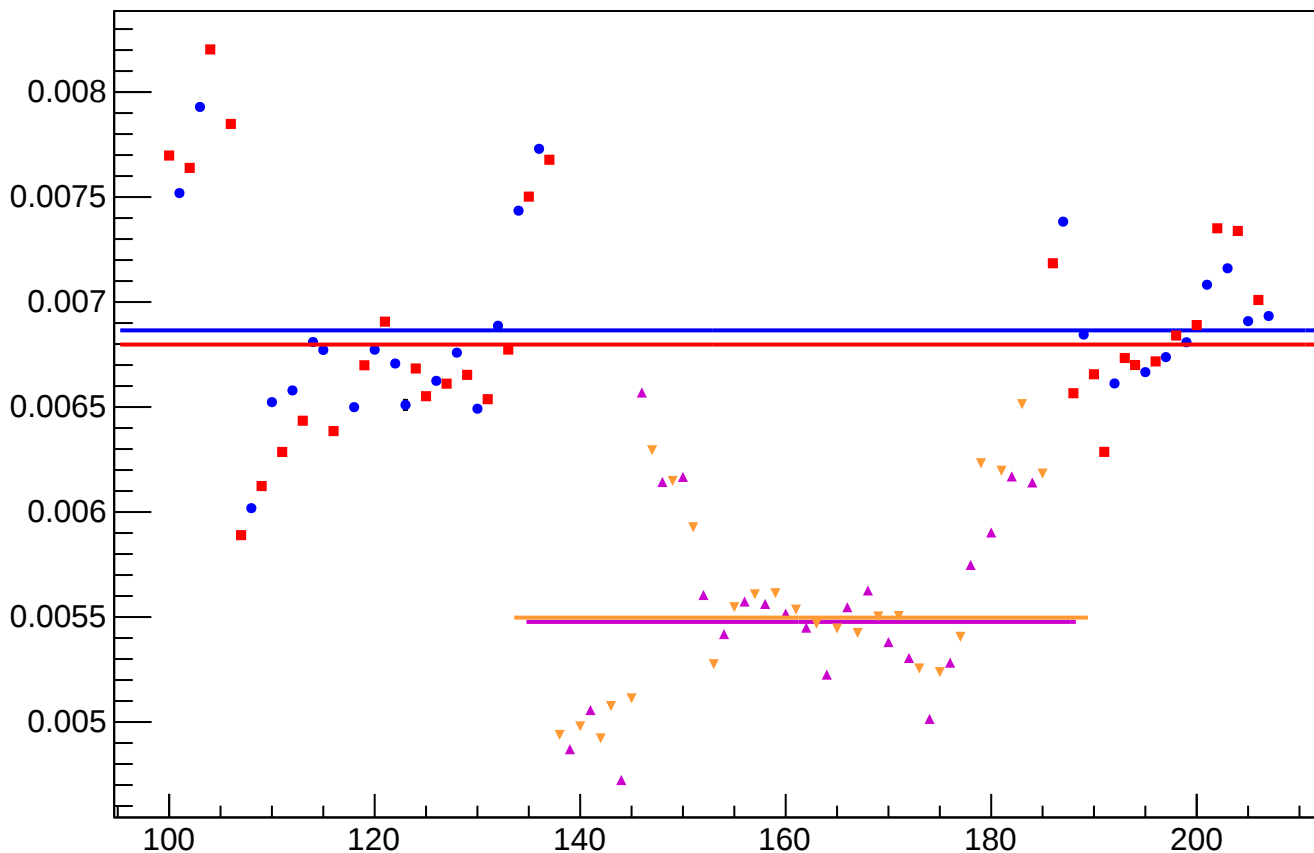
All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 3115385.2/105

# yield\_bpm0i02X\_mean vs Slug, Sign Corrected



Left: -0.181 +/- 0.000  $\chi^2/\text{NDF}$ : 30888184231.6/47  
 Right: 0.047 +/- 0.000  $\chi^2/\text{NDF}$ : 113280732587.3/57  
 In: -0.091 +/- 0.000  $\chi^2/\text{NDF}$ : 84985495734.9/49  
 Out: -0.110 +/- 0.000  $\chi^2/\text{NDF}$ : 79458530445.7/55  
 All: -0.101 +/- 0.000  $\chi^2/\text{NDF}$ : 164589617407.9

# yield\_bpm0i02X\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 89263.1/26

Left Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ :198746.4/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 130089.3/30

Left In: 0.005+/-0.000  $\chi^2/\text{NDF}$ :202181.4/22

Left: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 401165.3/47

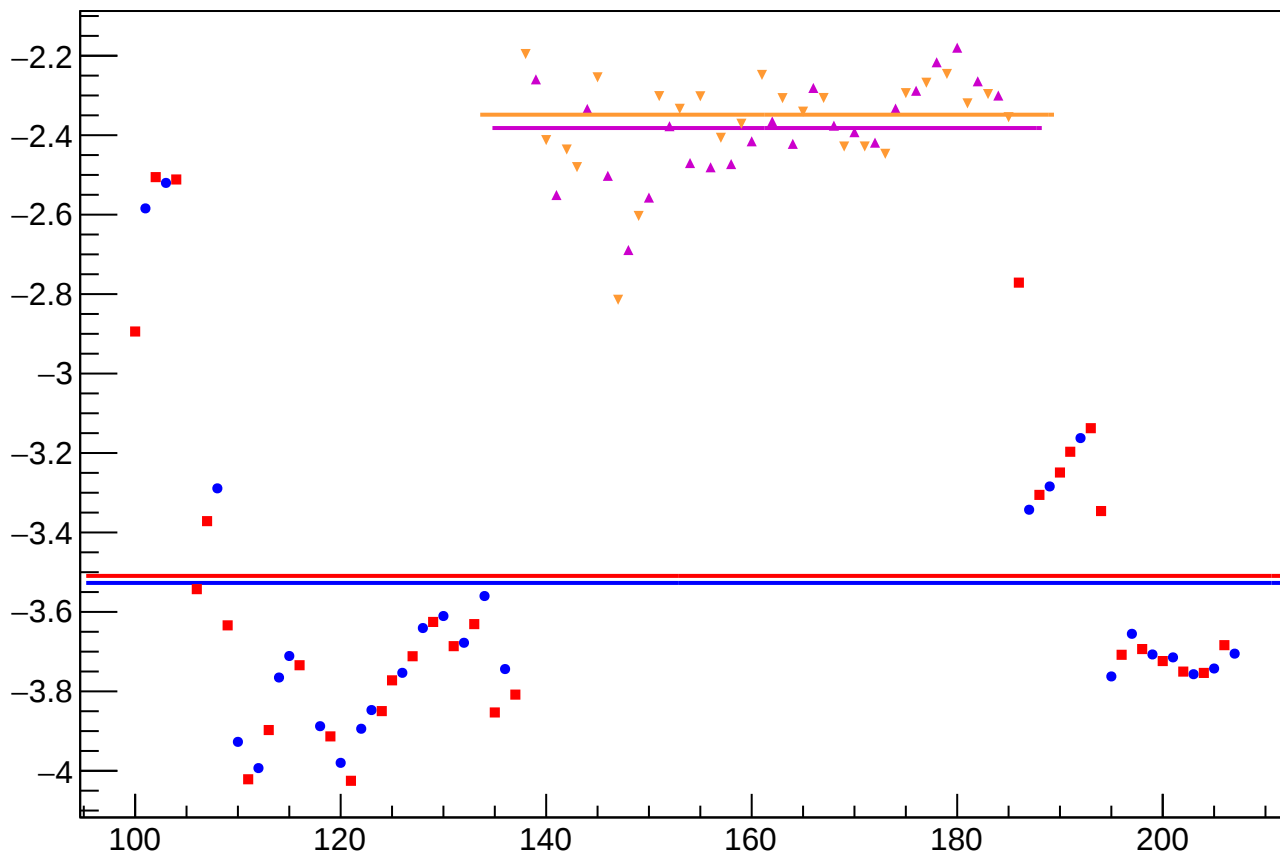
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 220735.2/57

In: 0.006+/-0.000  $\chi^2/\text{NDF}$ :1021133.3/49

Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ :1024478.7/55

All: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 2045620.8/105

# yield\_bpm0i02Y\_mean vs Slug, Sign Corrected



Right In: -3.527 $\pm$ 0.000  $\chi^2$ /NDF: 29945343950.2/26

Left Out: -2.348 $\pm$ 0.000  $\chi^2$ /NDF: 2158686333.4/24

Right Out: -3.509 $\pm$ 0.000  $\chi^2$ /NDF: 30813075038.6/30

Left In: -2.382 $\pm$ 0.000  $\chi^2$ /NDF: 2318395228.4/22

Left: -2.365 $\pm$ 0.000  $\chi^2$ /NDF: 4600738143.2/47

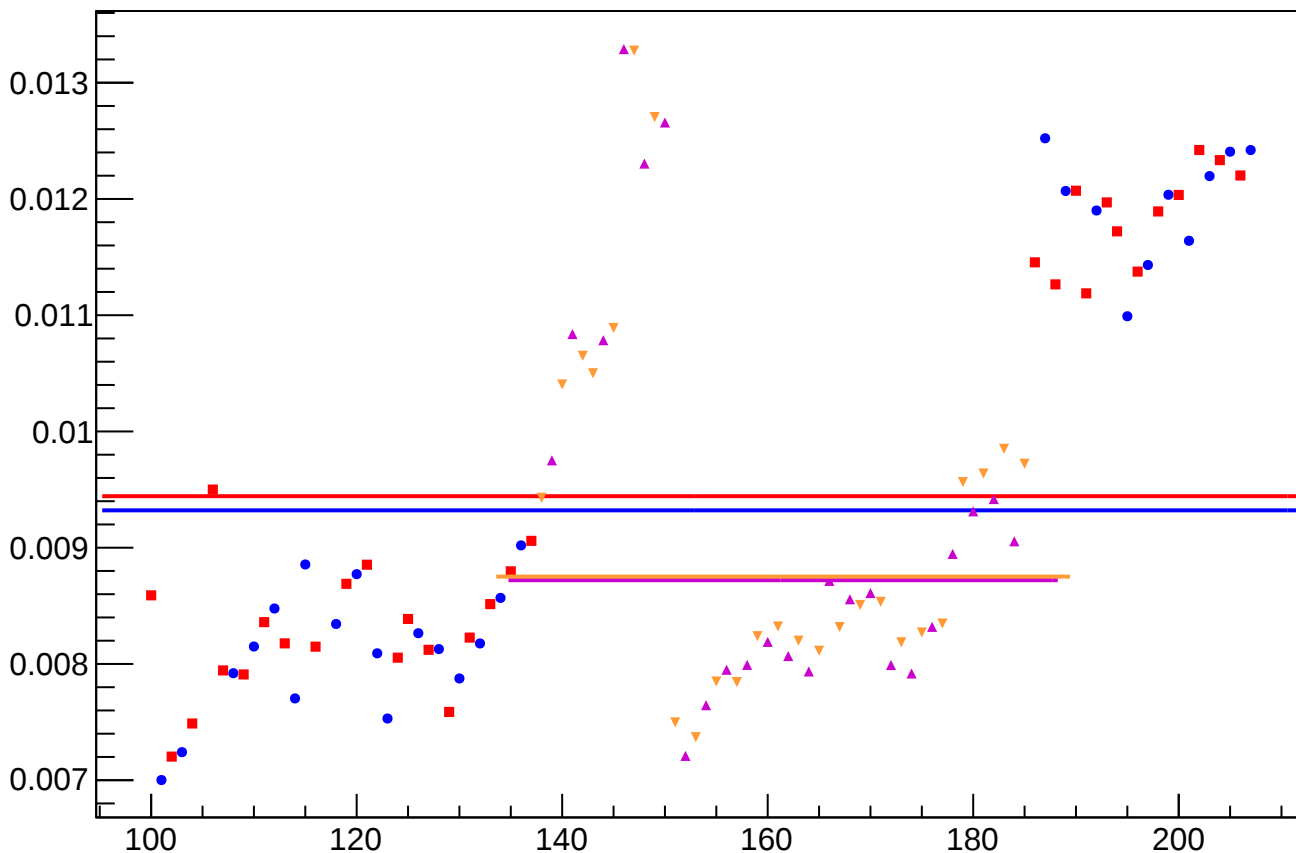
Right: -3.518 $\pm$ 0.000  $\chi^2$ /NDF: 60782589619.7/57

In: -2.855 $\pm$ 0.000  $\chi^2$ /NDF: 147713946460.7/49

Out: -2.828 $\pm$ 0.000  $\chi^2$ /NDF: 158318256935.5/55

All: -2.841 $\pm$ 0.000  $\chi^2$ /NDF: 306159606112.1

# yield\_bpm0i02Y\_rms vs Slug, Sign Corrected



Right In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1069022.5/26

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :663672.8/24

Right Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1066242.5/30

Left In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :747867.0/22

Left: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1411749.0/47

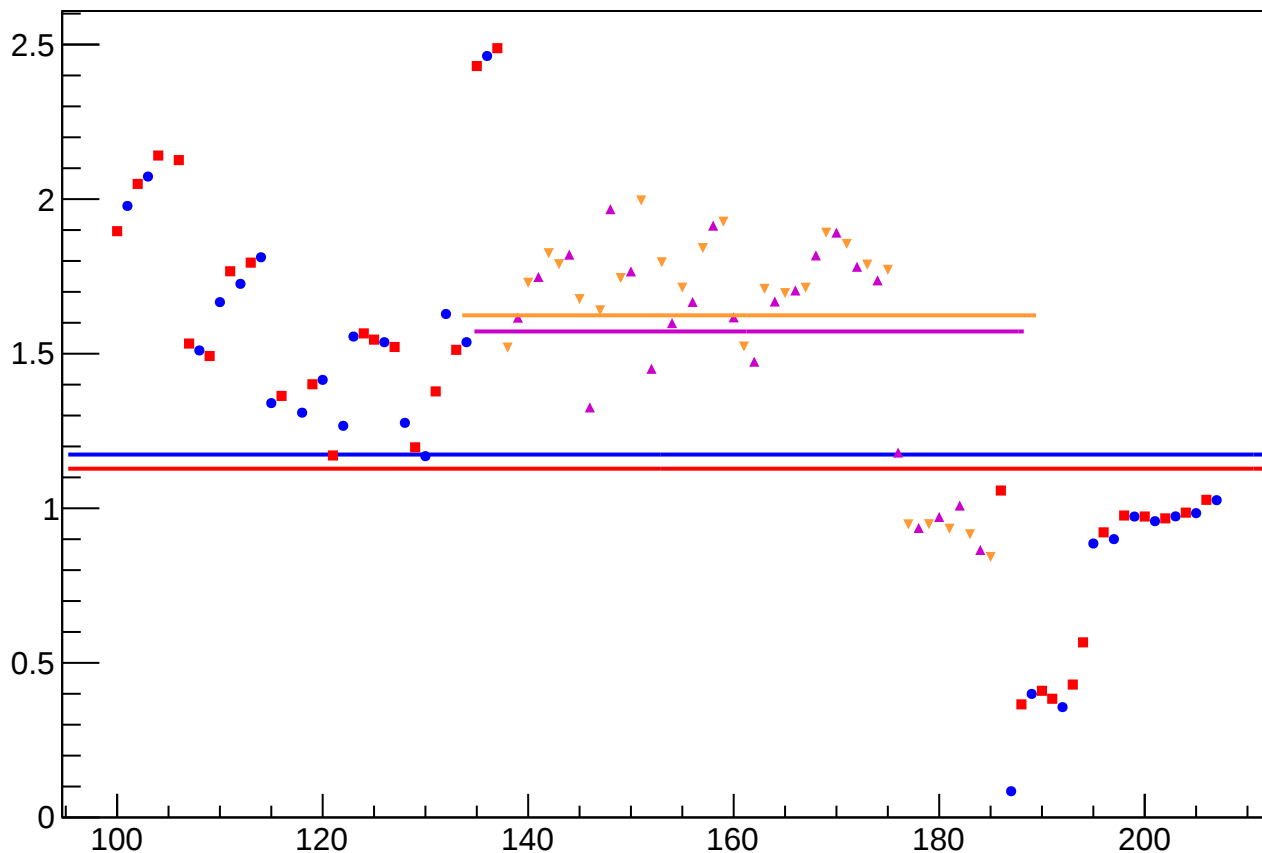
Right: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 2137548.9/57

In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1880452.4/49

Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1818882.5/55

All: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 3701107.9/105

# yield\_bpm0i02aX\_mean vs Slug, Sign Corrected



Right In: 1.174+/-0.000  $\chi^2/\text{NDF}$ : 27448020662.6/26

Left Out: 1.624+/-0.000  $\chi^2/\text{NDF}$ : 16631112386.4/24

Right Out: 1.128+/-0.000  $\chi^2/\text{NDF}$ : 32644225397.5/30

Left In: 1.572+/-0.000  $\chi^2/\text{NDF}$ : 14230484809.4/22

Left: 1.599+/-0.000  $\chi^2/\text{NDF}$ : 31067753064.6/47

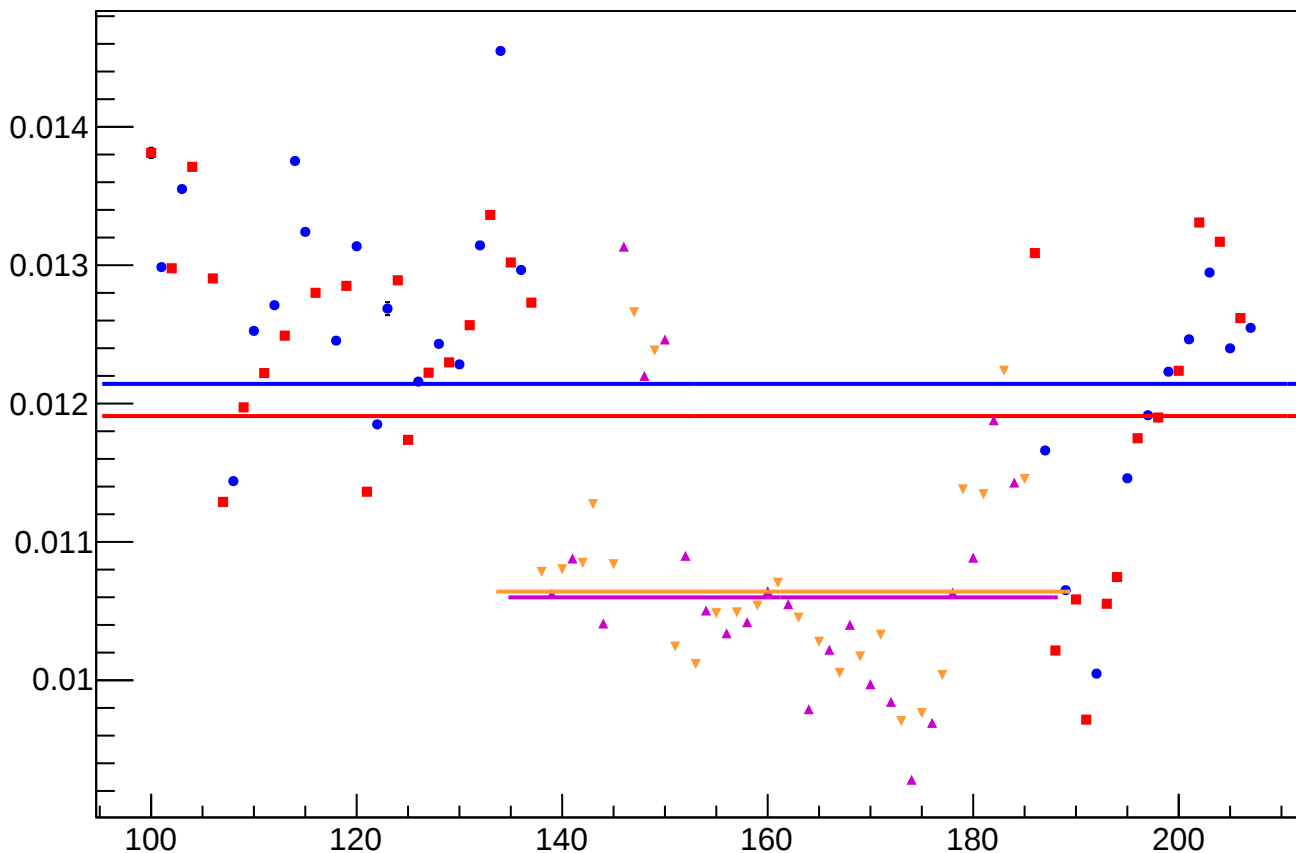
Right: 1.150+/-0.000  $\chi^2/\text{NDF}$ : 60193680235.6/57

In: 1.419+/-0.000  $\chi^2/\text{NDF}$ : 50652929067.0/49

Out: 1.427+/-0.000  $\chi^2/\text{NDF}$ : 64556309789.6/55

All: 1.423+/-0.000  $\chi^2/\text{NDF}$ : 115215732747.4

# yield\_bpm0i02aX\_rms vs Slug, Sign Corrected



Right In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 167073.9/26

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :159760.9/24

Right Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 231027.0/30

Left In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :204531.5/22

Left: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 364556.9/47

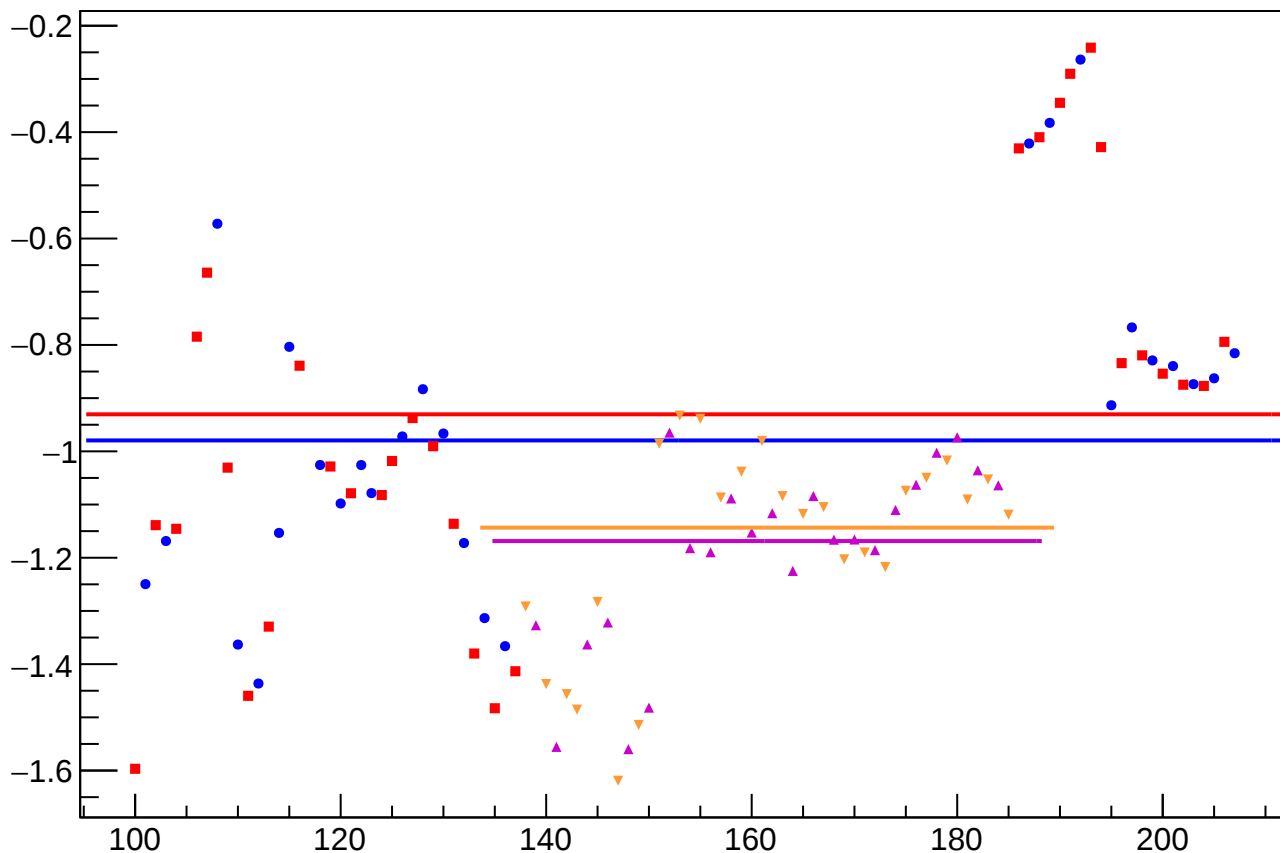
Right: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 403352.4/57

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :641167.7/49

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :590788.3/55

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 1232445.8/105

# yield\_bpm0i02aY\_mean vs Slug, Sign Corrected



Right In: -0.979+/-0.000  $\chi^2/\text{NDF}$ : 11010741993.0/26

Left Out: -1.143+/-0.000  $\chi^2/\text{NDF}$ : 7976364534.0/24

Right Out: -0.930+/-0.000  $\chi^2/\text{NDF}$ : 15873891621.5/30

Left In: -1.169+/-0.000  $\chi^2/\text{NDF}$ : 6362643368.6/22

Left: -1.156+/-0.000  $\chi^2/\text{NDF}$ : 14424995220.9/47

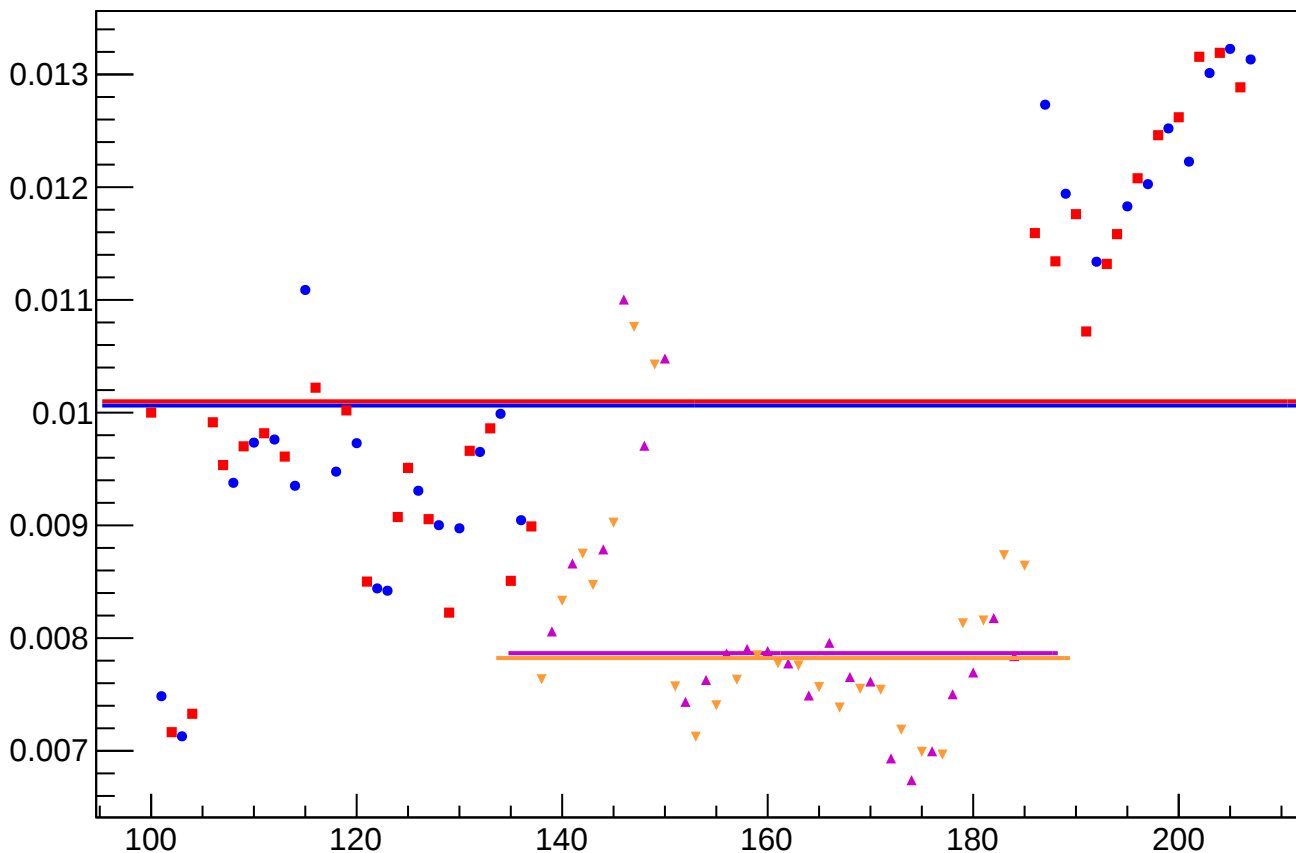
Right: -0.954+/-0.000  $\chi^2/\text{NDF}$ : 27044521039.6/57

In: -1.107+/-0.000  $\chi^2/\text{NDF}$ : 20448435968.8/49

Out: -1.073+/-0.000  $\chi^2/\text{NDF}$ : 28040329849.9/55

All: -1.089+/-0.000  $\chi^2/\text{NDF}$ : 48714184653.0/100

# yield\_bpm0i02aY\_rms vs Slug, Sign Corrected



Right In: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 917987.4/26

Left Out: 0.008 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 336387.6/24

Right Out: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 907845.7/30

Left In: 0.008 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 379901.3/22

Left: 0.008 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 716803.8/47

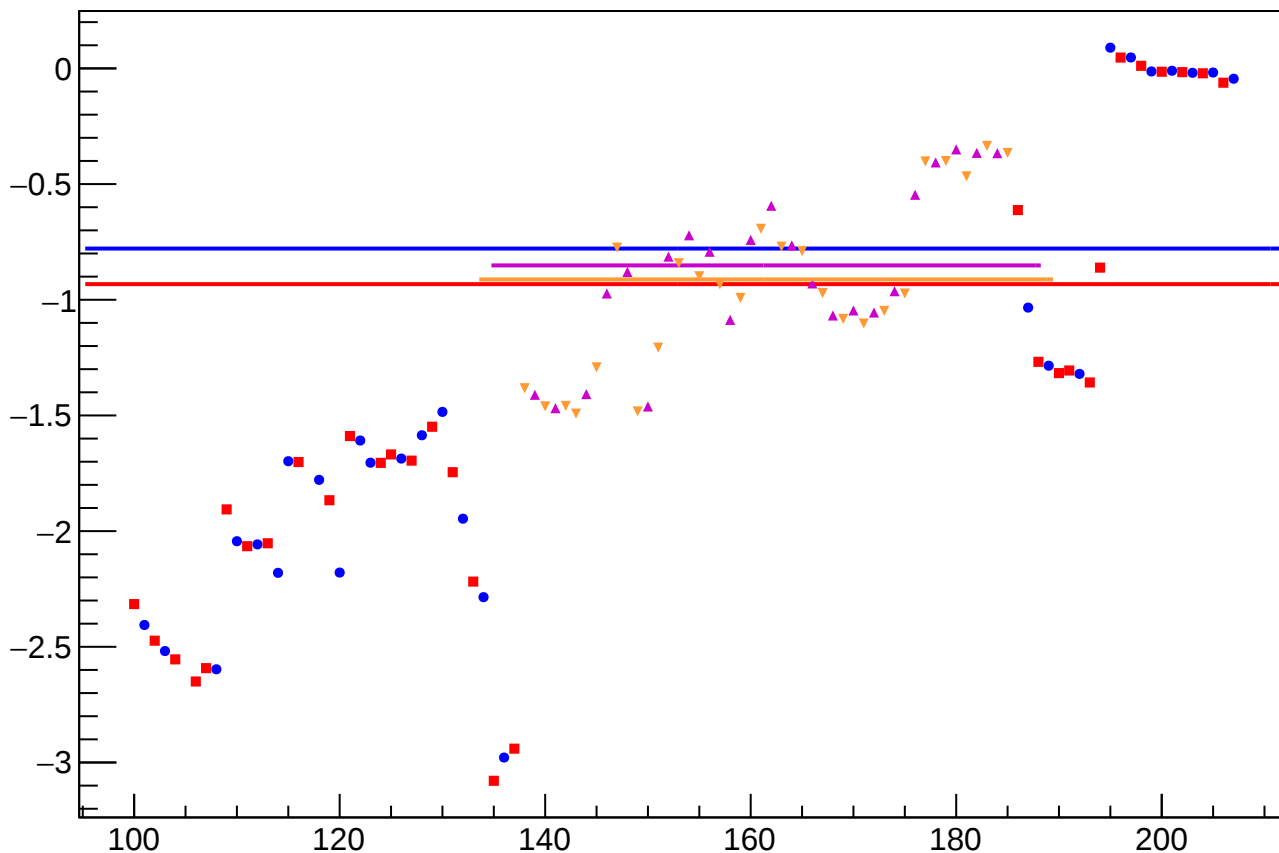
Right: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1826020.9/57

In: 0.009 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 2127559.2/49

Out: 0.009 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 2202660.5/55

All: 0.009 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 4330285.9/105

# yield\_bpm0i05X\_mean vs Slug, Sign Corrected



Left: -0.882  $\pm$  0.000  $\chi^2/\text{NDF}$ : 96285672564.6/47  
 Right: -0.861  $\pm$  0.000  $\chi^2/\text{NDF}$ : 709237320340.7/57  
 In: -0.820  $\pm$  0.000  $\chi^2/\text{NDF}$ : 397913717003.3/49  
 Out: -0.922  $\pm$  0.000  $\chi^2/\text{NDF}$ : 403608464539.7/55  
 All: -0.873  $\pm$  0.000  $\chi^2/\text{NDF}$ : 805698245592.6

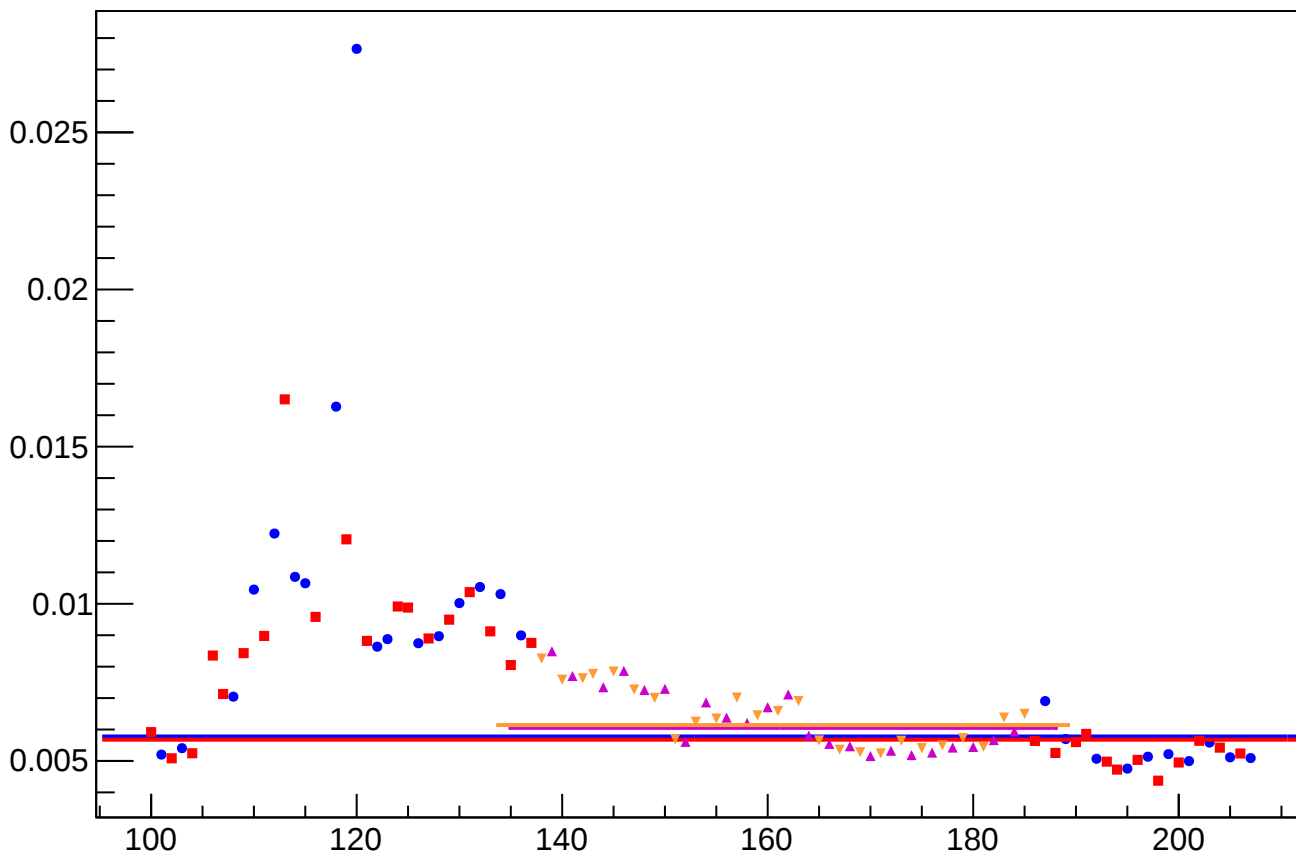
Right In: -0.779  $\pm$  0.000  $\chi^2/\text{NDF}$ : 350466975949.2/26

Left Out: -0.912  $\pm$  0.000  $\chi^2/\text{NDF}$ : 49039425818.1/24

Right Out: -0.932  $\pm$  0.000  $\chi^2/\text{NDF}$ : 354482618170.5/30

Left In: -0.851  $\pm$  0.000  $\chi^2/\text{NDF}$ : 46438446008.2/22

# yield\_bpm0i05X\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 2008400.8/26

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 637765.4/24

Right Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1895294.4/30

Left In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 697577.8/22

Left: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1338871.2/47

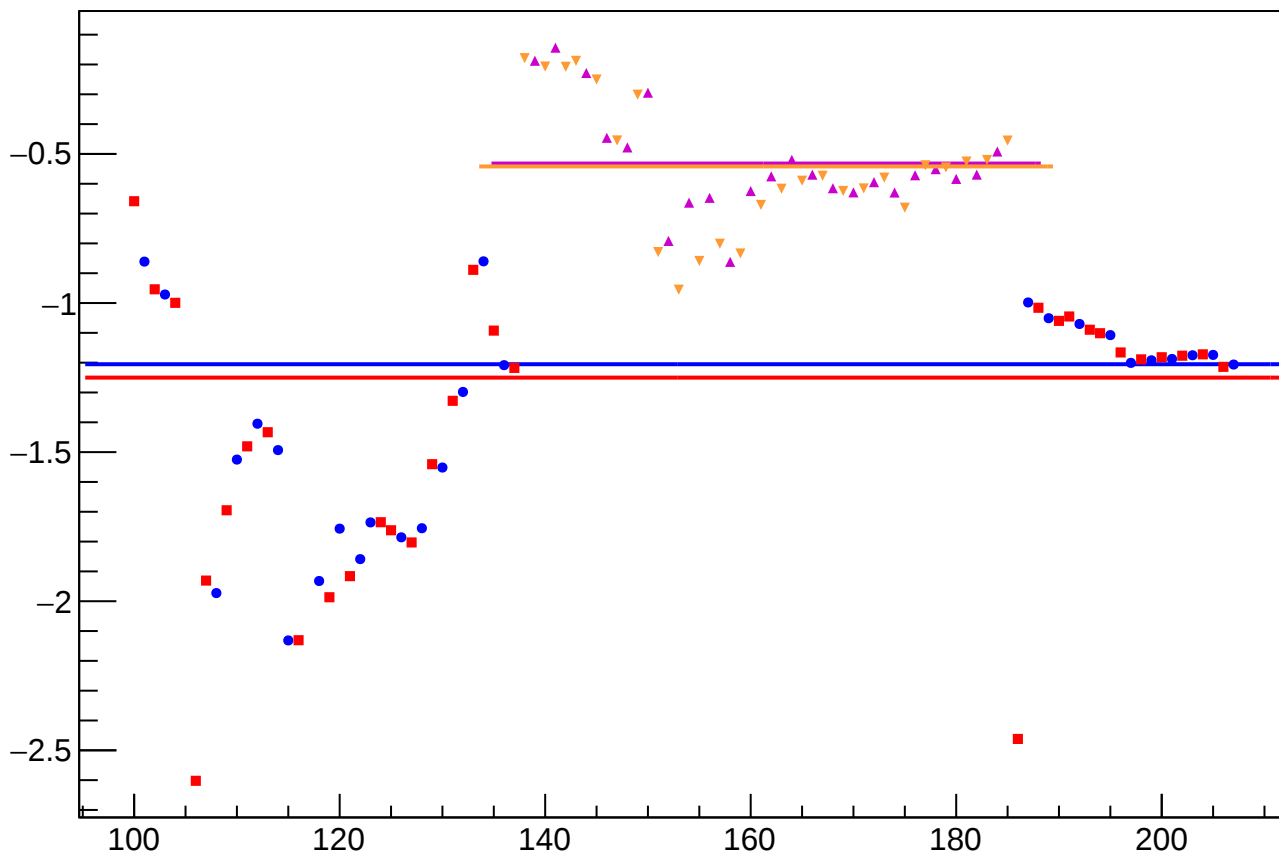
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 3907462.8/57

In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 2734577.9/49

Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 2623356.6/55

All: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 5357990.5/105

# yield\_bpm0i05Y\_mean vs Slug, Sign Corrected



Right In: -1.205+/-0.000

$\chi^2/\text{NDF}$ : 26333866135.0/26

Left: -0.537+/-0.000

$\chi^2/\text{NDF}$ : 78028833870.1/47

Left Out: -0.542+/-0.000

$\chi^2/\text{NDF}$ : 47268284910.3/24

Right: -1.229+/-0.000

$\chi^2/\text{NDF}$ : 105818185817.7/57

Right Out: -1.250+/-0.000

$\chi^2/\text{NDF}$ : 78867915905.6/30

In: -0.787+/-0.000

$\chi^2/\text{NDF}$ : 217718622011.0/49

Out: -0.824+/-0.000

$\chi^2/\text{NDF}$ : 324374208491.5/55

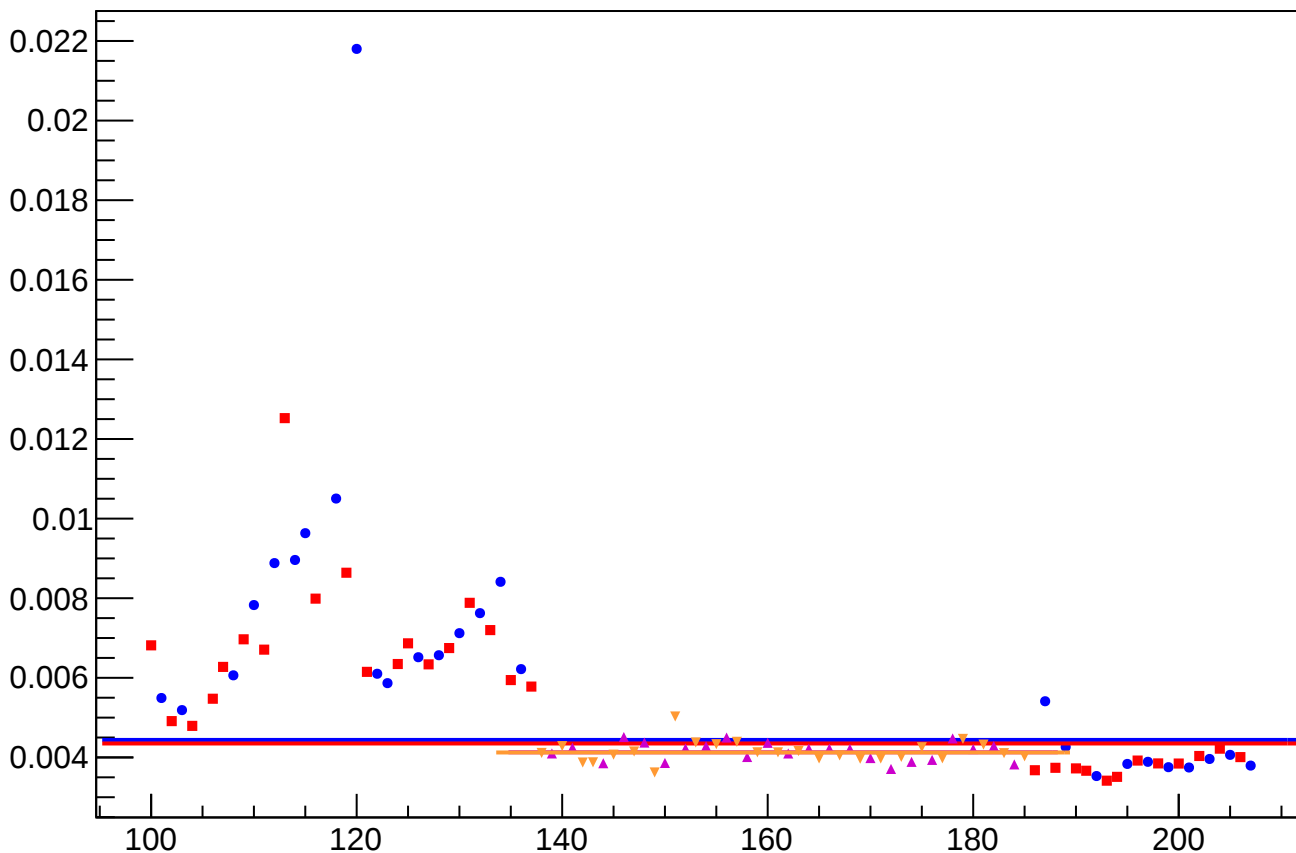
Left In: -0.532+/-0.000

$\chi^2/\text{NDF}$ : 30715235426.8/22

All: -0.806+/-0.000

$\chi^2/\text{NDF}$ : 543170229235.7

# yield\_bpm0i05Y\_rms vs Slug, Sign Corrected



Right In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 2004629.8/26

Left Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :113033.9/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 1841968.1/30

Left In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :93111.2/22

Left: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 206172.1/47

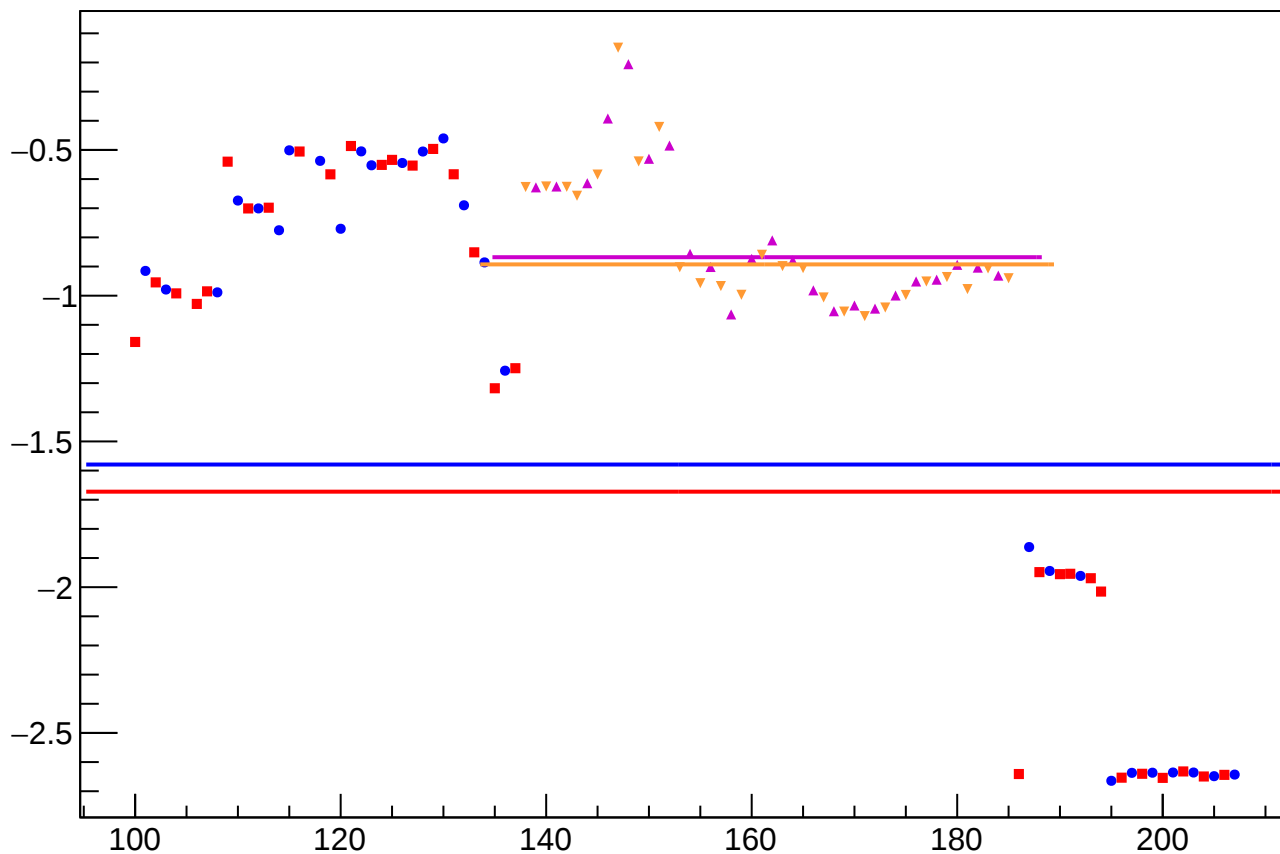
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 3851469.0/57

In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :2165839.4/49

Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :1995315.4/55

All: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 4162835.5/105

# yield\_bpm0i07X\_mean vs Slug, Sign Corrected



Right In: -1.579+/-0.000

$\chi^2/\text{NDF}$ : 245473998768.3/26

Left: -0.880+/-0.000

$\chi^2/\text{NDF}$ : 84980637247.0/47

Left Out: -0.893+/-0.000

$\chi^2/\text{NDF}$ : 40787012603.8/24

Right: -1.634+/-0.000

$\chi^2/\text{NDF}$ : 552165312186.8/57

Right Out: -1.672+/-0.000

$\chi^2/\text{NDF}$ : 304439397227.0/30

In: -1.070+/-0.000

$\chi^2/\text{NDF}$ : 449405727378.1/49

Out: -1.172+/-0.000

$\chi^2/\text{NDF}$ : 590823125228.1/55

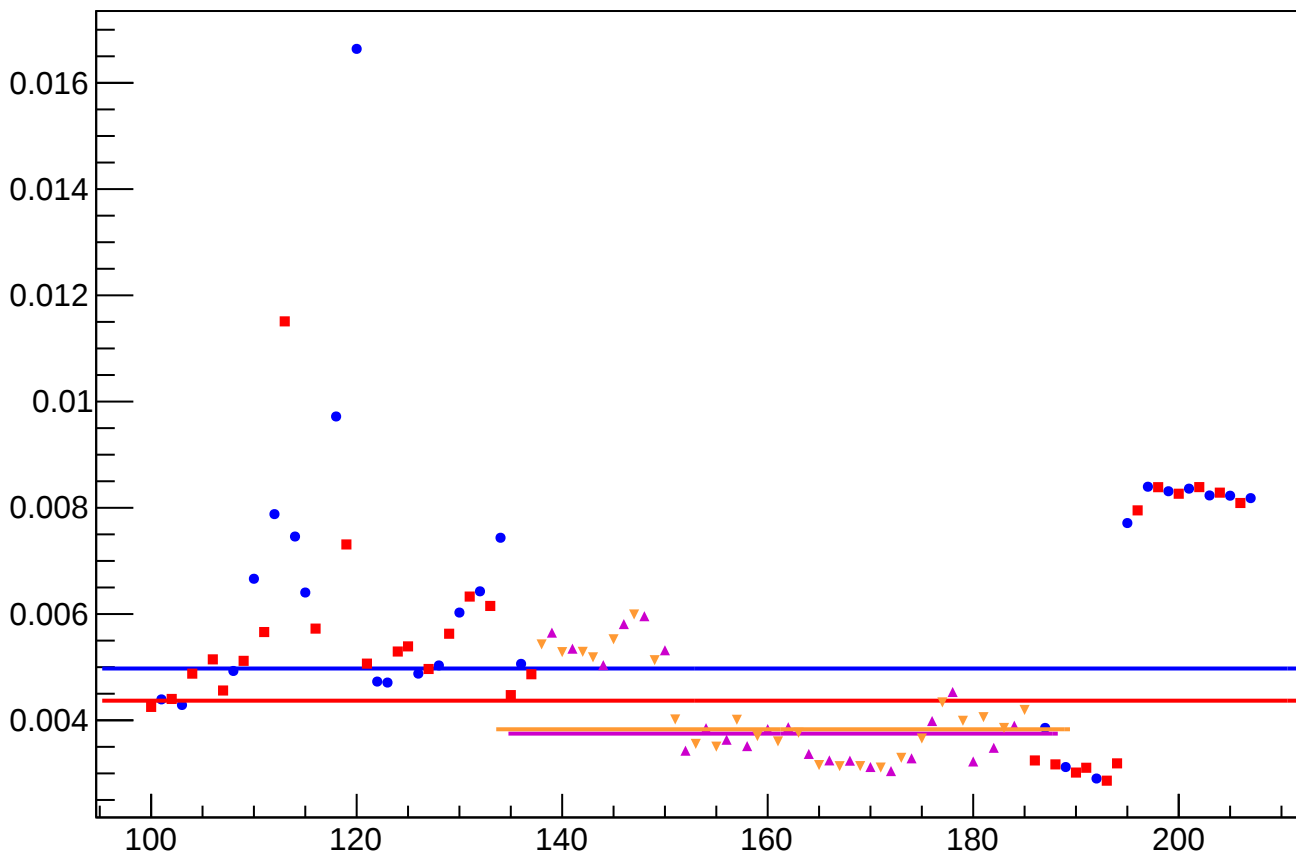
Left In: -0.868+/-0.000

$\chi^2/\text{NDF}$ : 43853190177.2/22

All: -1.124+/-0.000

$\chi^2/\text{NDF}$ : 1048956299594

# yield\_bpm0i07X\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 3673274.5/26

Left Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :1179801.7/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 3789801.6/30

Left In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :1288490.4/22

Left: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 2475792.1/47

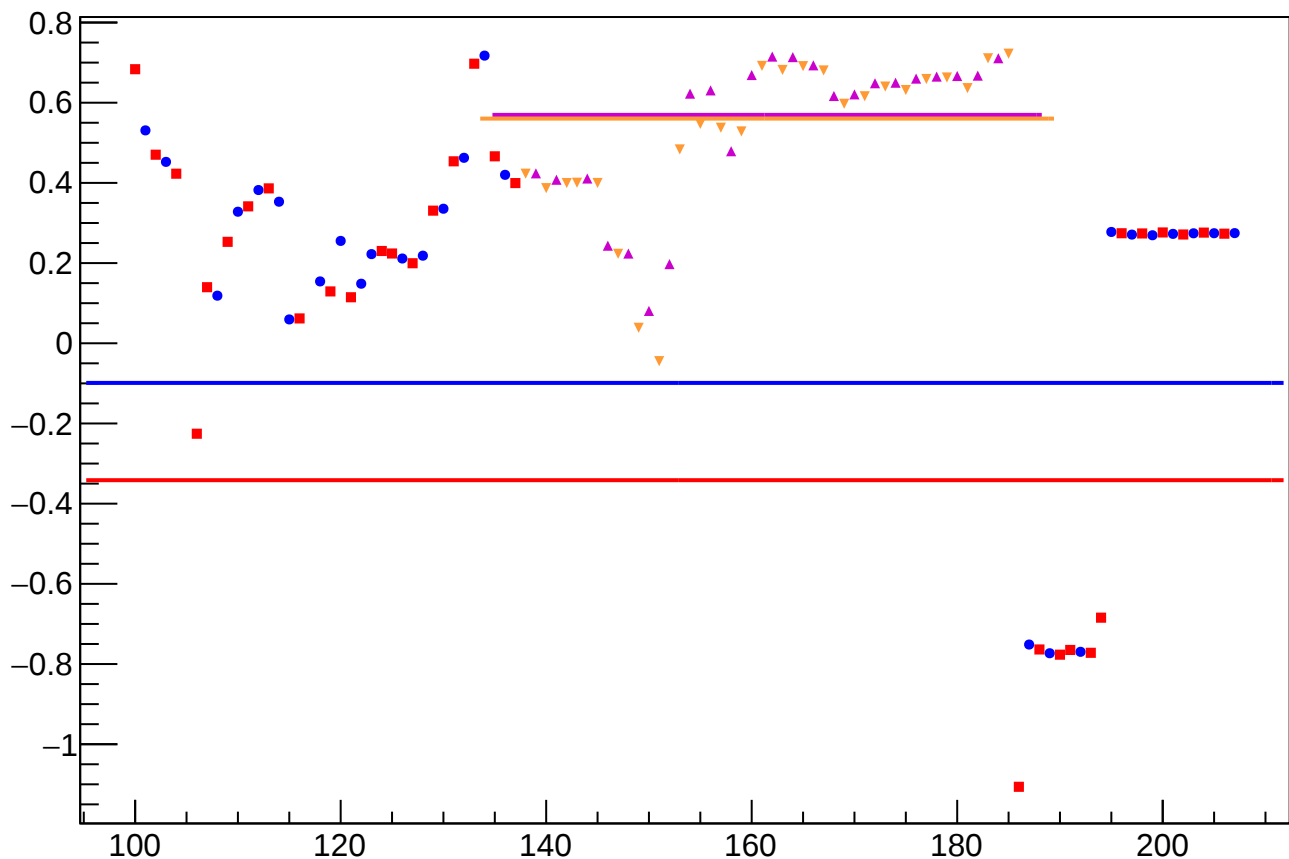
Right: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 7653603.0/57

In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :5912756.9/49

Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :5203717.5/55

All: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 11125163.2/105

# yield\_bpm0i07Y\_mean vs Slug, Sign Corrected



Right In:  $-0.099 \pm 0.000$   $\chi^2/\text{NDF}: 282482356051.1/26$

Left Out:  $0.560 \pm 0.000$   $\chi^2/\text{NDF}: 45205806387.2/24$

Right Out:  $-0.341 \pm 0.000$   $\chi^2/\text{NDF}: 452868098043.7/30$

Left In:  $0.570 \pm 0.000$   $\chi^2/\text{NDF}: 42104067973.0/22$

Left:  $0.565 \pm 0.000$   $\chi^2/\text{NDF}: 87378176036.1/47$

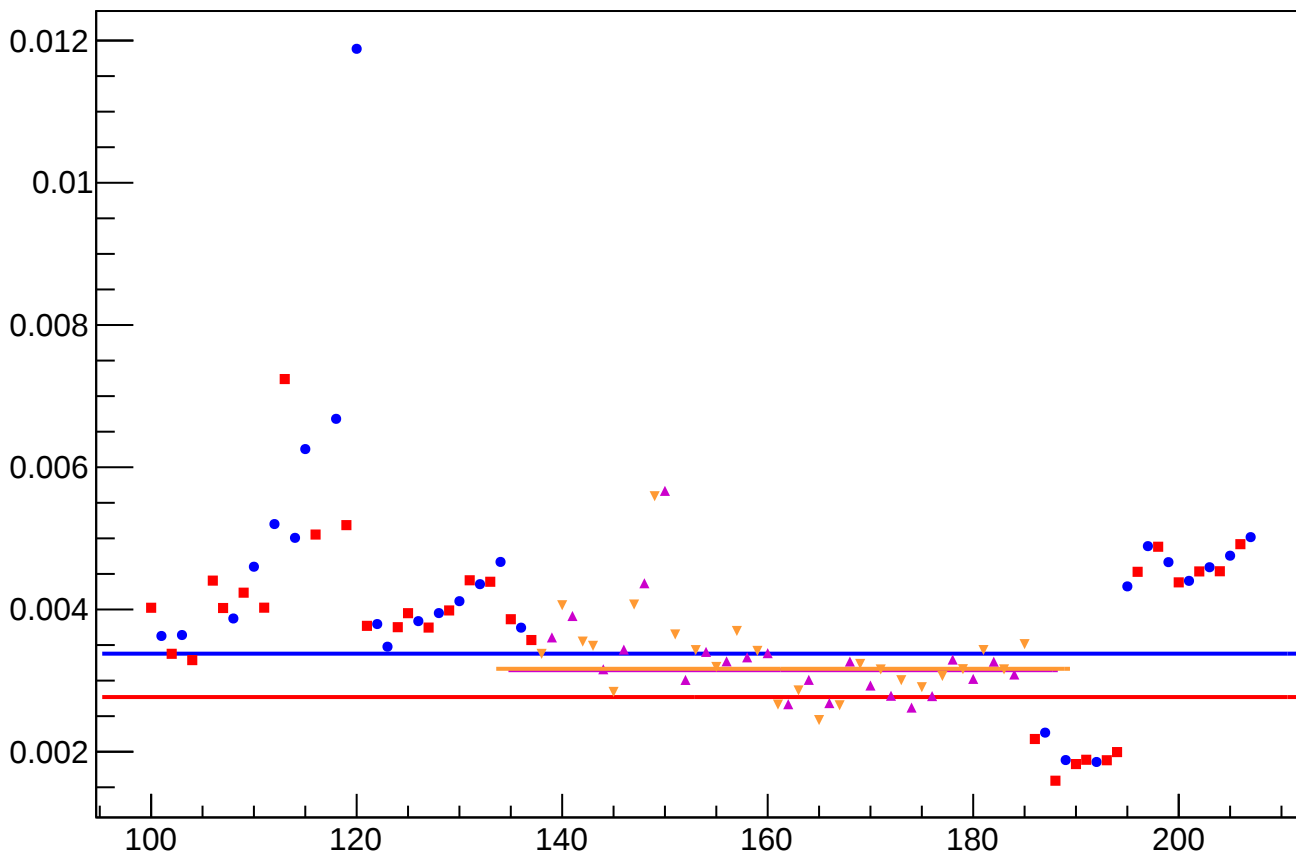
Right:  $-0.246 \pm 0.000$   $\chi^2/\text{NDF}: 770352561494.7/57$

In:  $0.311 \pm 0.000$   $\chi^2/\text{NDF}: 593531756317.9/49$

Out:  $0.125 \pm 0.000$   $\chi^2/\text{NDF}: 1133271359172.8/55$

All:  $0.209 \pm 0.000$   $\chi^2/\text{NDF}: 1775358276785.$

# yield\_bpm0i07Y\_rms vs Slug, Sign Corrected



Right In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 3295139.2/26

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 744886.7/24

Right Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 4508033.4/30

Left In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 716402.8/22

Left: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 1461906.1/47

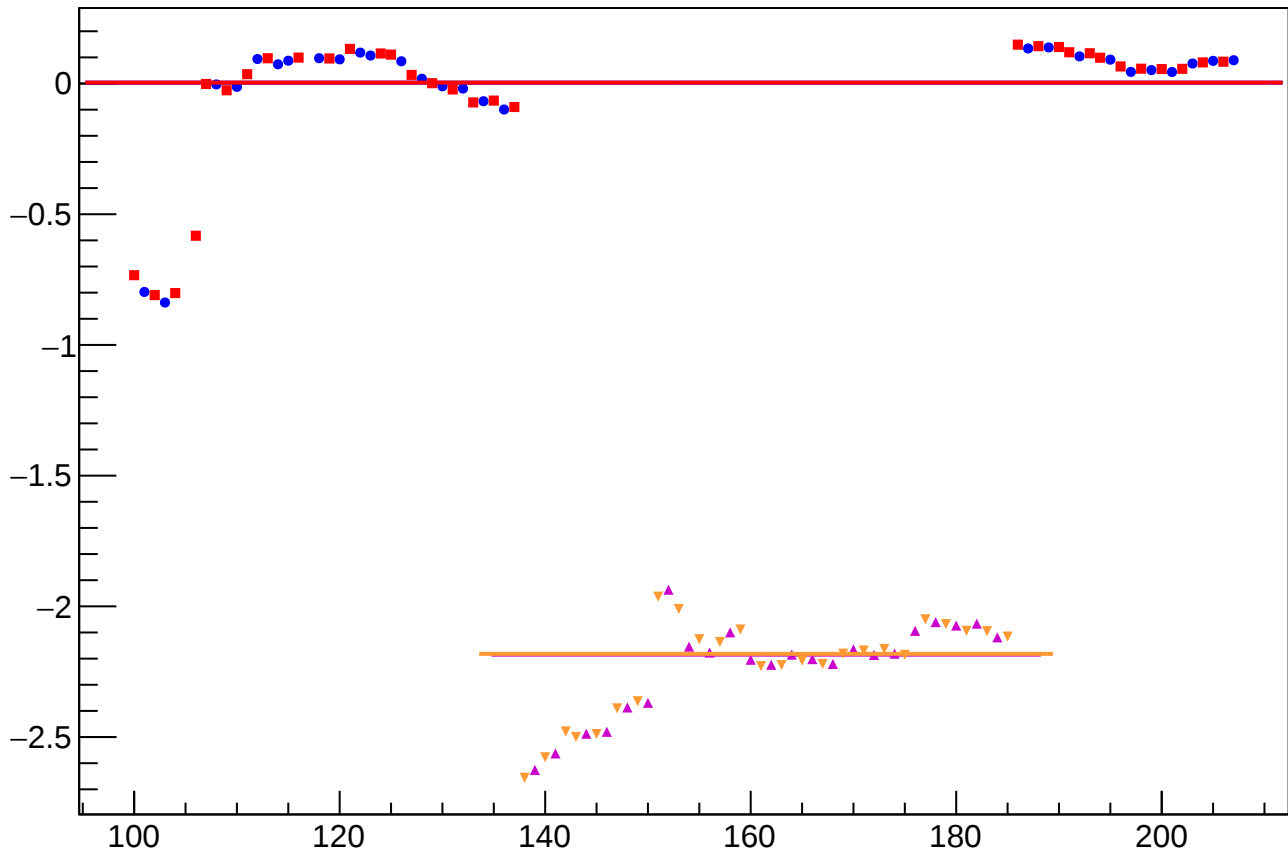
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 8245784.4/57

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 4076564.9/49

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 5499664.0/55

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 9768375.5/105

# yield\_bpm1i02X\_mean vs Slug, Sign Corrected



Right In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 5884563220.4/26

Left Out: -2.182+/-0.000  $\chi^2/\text{NDF}$ : 4008829567.0/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 6953879443.2/30

Left In: -2.185+/-0.000  $\chi^2/\text{NDF}$ : 3372742534.3/22

Left: -2.183+/-0.000  $\chi^2/\text{NDF}$ : 7382310821.5/47

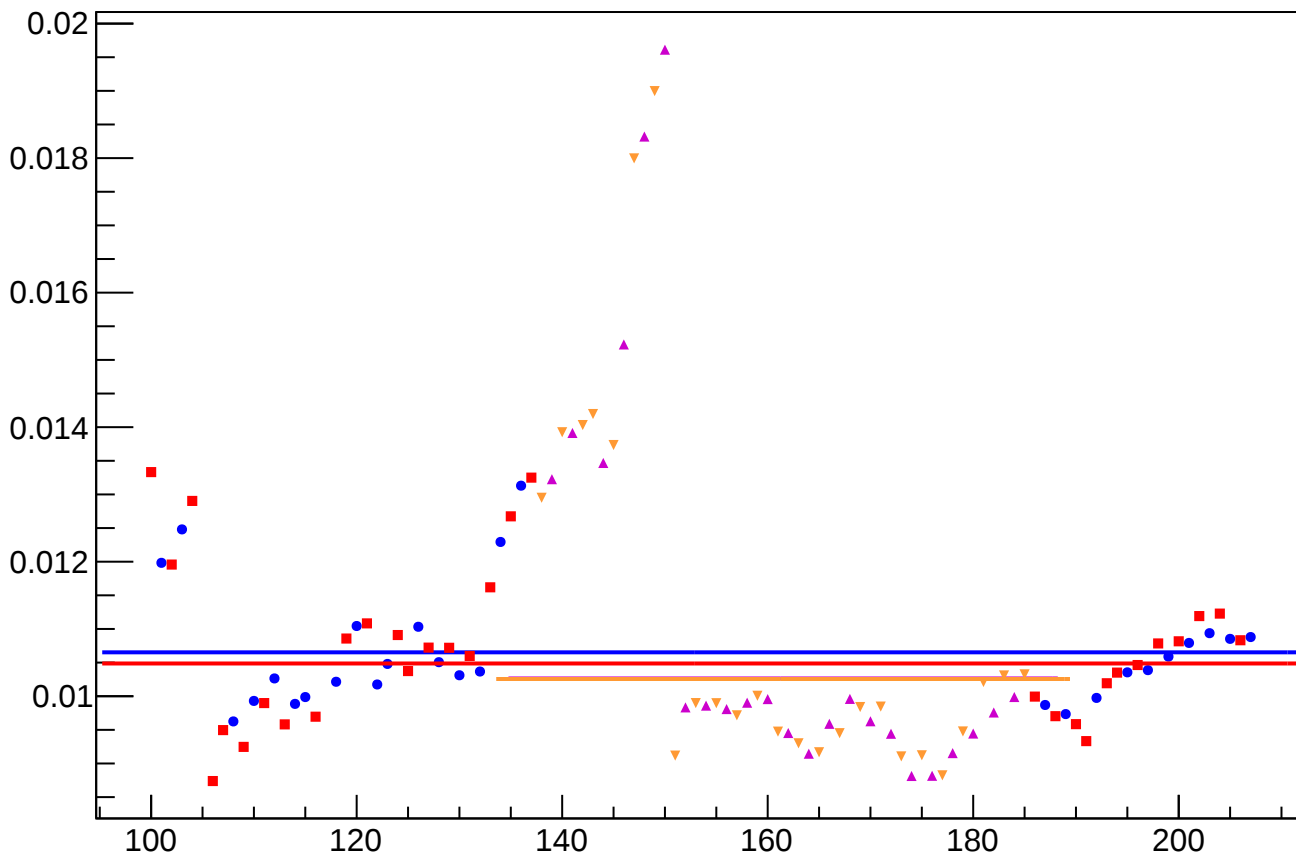
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 12838448794.1/57

In: -1.234+/-0.000  $\chi^2/\text{NDF}$ : 336722946492.6/49

Out: -1.204+/-0.000  $\chi^2/\text{NDF}$ : 369547659856.1/55

All: -1.218+/-0.000  $\chi^2/\text{NDF}$ : 706403400296.0

# yield\_bpm1i02X\_rms vs Slug, Sign Corrected



Right In: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 152021.3/26

Left Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ :1270617.6/24

Right Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 223320.3/30

Left In: 0.010+/-0.000  $\chi^2/\text{NDF}$ :1340264.2/22

Left: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 2610893.2/47

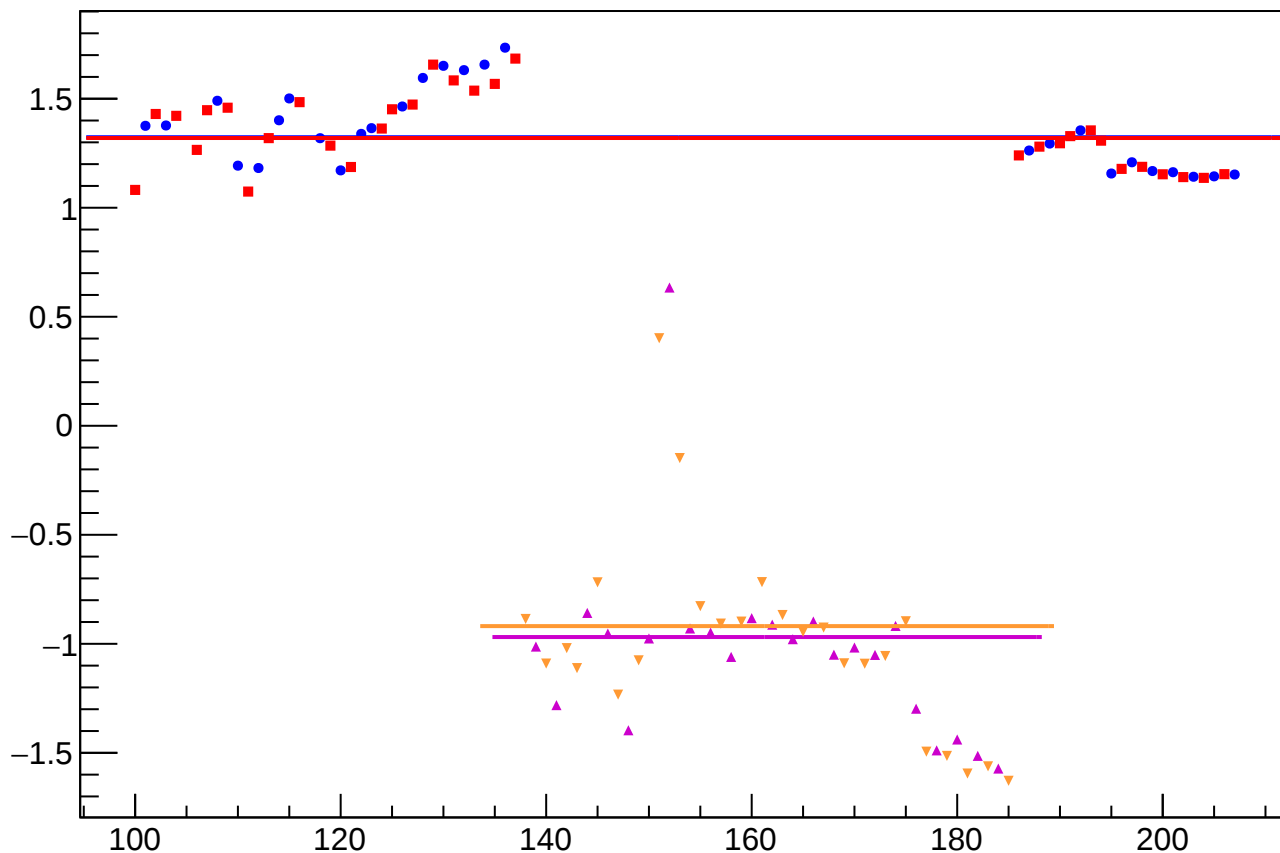
Right: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 378861.8/57

In: 0.010+/-0.000  $\chi^2/\text{NDF}$ :1512894.1/49

Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ :1501928.6/55

All: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 3016404.8/105

# yield\_bpm1i02Y\_mean vs Slug, Sign Corrected



Right In: 1.323+/-0.000

$\chi^2/\text{NDF}$ : 7455867687.3/26

Left: -0.943+/-0.000

$\chi^2/\text{NDF}$ : 110825900215.1/47

Left Out: -0.919+/-0.000

$\chi^2/\text{NDF}$ : 55622252895.8/24

Right: 1.321+/-0.000

$\chi^2/\text{NDF}$ : 13258835255.1/57

Right Out: 1.320+/-0.000

$\chi^2/\text{NDF}$ : 5801417115.6/30

In: 0.173+/-0.000

$\chi^2/\text{NDF}$ : 689078515506.4/49

Out: 0.225+/-0.000

$\chi^2/\text{NDF}$ : 707298510960.9/55

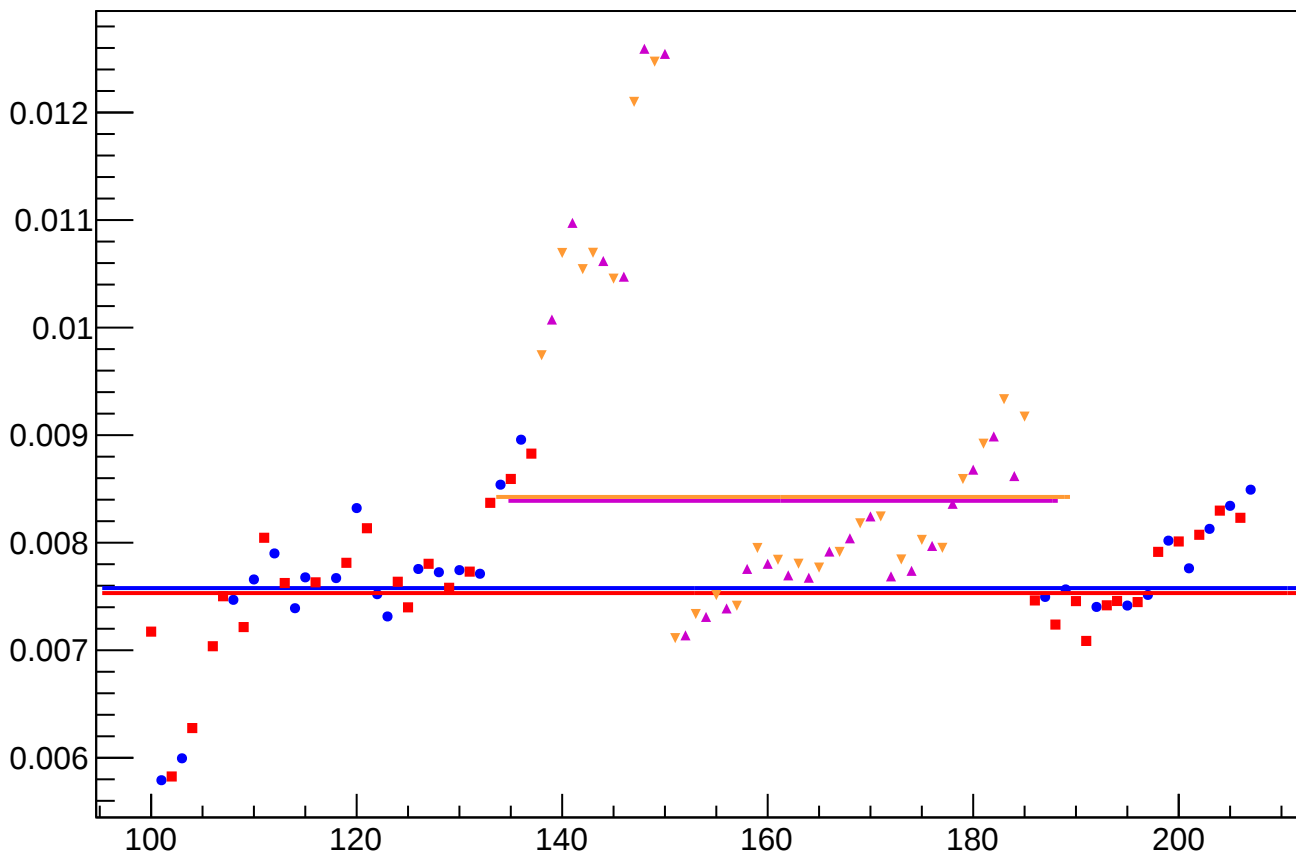
Left In: -0.969+/-0.000

$\chi^2/\text{NDF}$ : 54895002535.8/22

All: 0.200+/-0.000

$\chi^2/\text{NDF}$ : 1397062766940.

# yield\_bpm1i02Y\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 289662.2/26

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 792337.0/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 224744.9/30

Left In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 839880.4/22

Left: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1632536.0/47

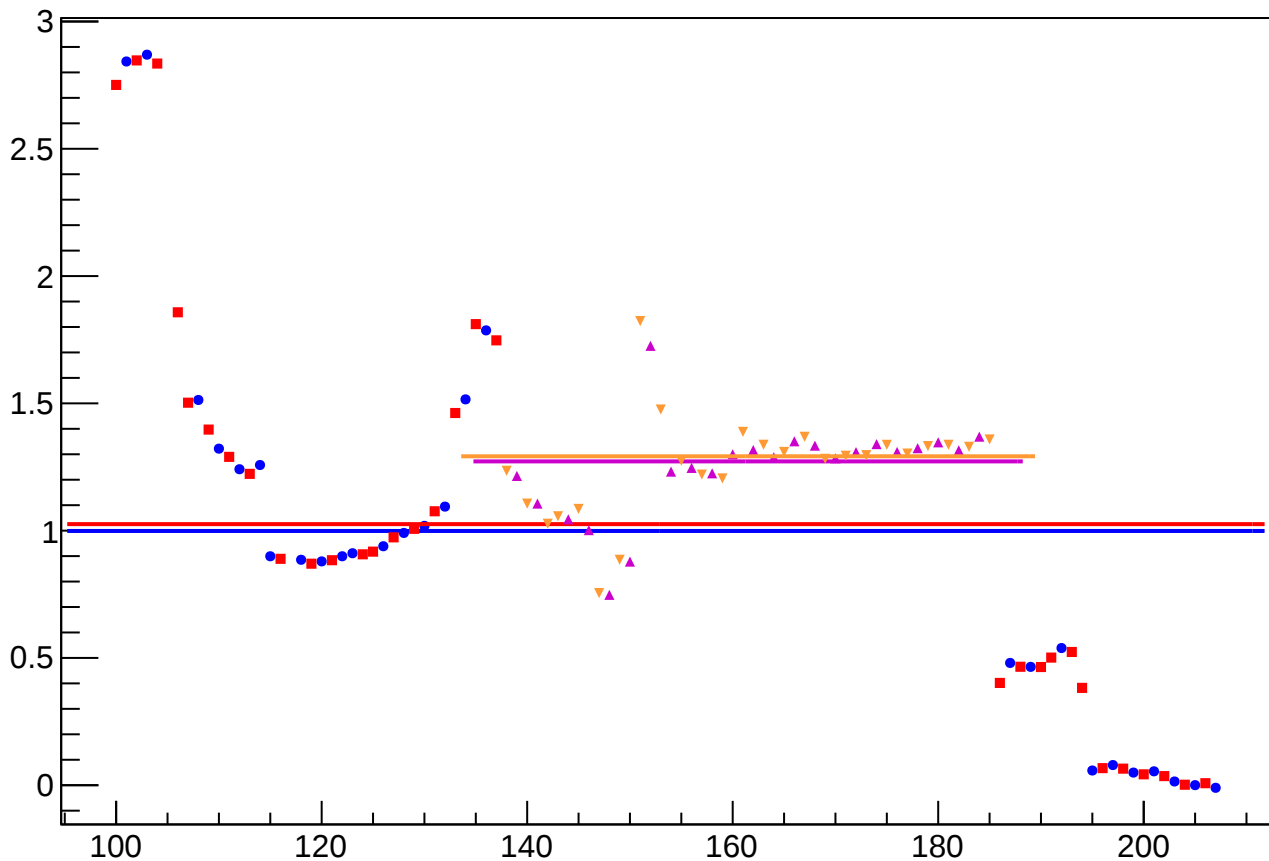
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 514946.0/57

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1286602.4/49

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1223033.1/55

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 2509773.9/105

# yield\_bpm1i04X\_mean vs Slug, Sign Corrected



Right In:  $0.999 \pm 0.000$   $\chi^2/\text{NDF}: 122042395123.8/26$

Left Out:  $1.292 \pm 0.000$   $\chi^2/\text{NDF}: 9305298695.5/24$

Right Out:  $1.026 \pm 0.000$   $\chi^2/\text{NDF}: 117960675988.9/30$

Left In:  $1.272 \pm 0.000$   $\chi^2/\text{NDF}: 7573930981.2/22$

Left:  $1.282 \pm 0.000$   $\chi^2/\text{NDF}: 16930321584.4/47$

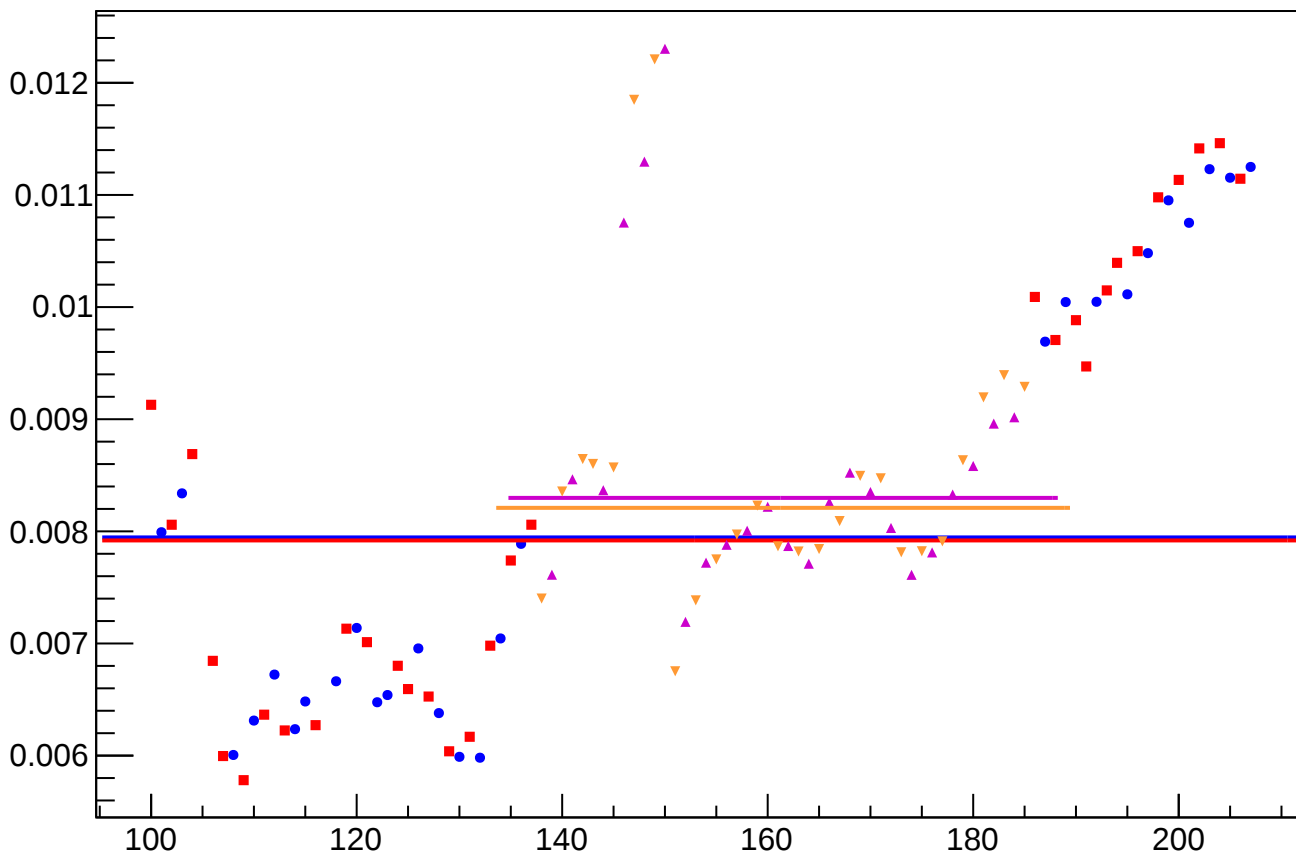
Right:  $1.013 \pm 0.000$   $\chi^2/\text{NDF}: 240081133624.7/57$

In:  $1.146 \pm 0.000$   $\chi^2/\text{NDF}: 137968878240.1/49$

Out:  $1.169 \pm 0.000$   $\chi^2/\text{NDF}: 135911670204.4/55$

All:  $1.158 \pm 0.000$   $\chi^2/\text{NDF}: 273996124972.1$

# yield\_bpm1i04X\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1494283.7/26

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :478864.9/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1691699.6/30

Left In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :462022.1/22

Left: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 942877.3/47

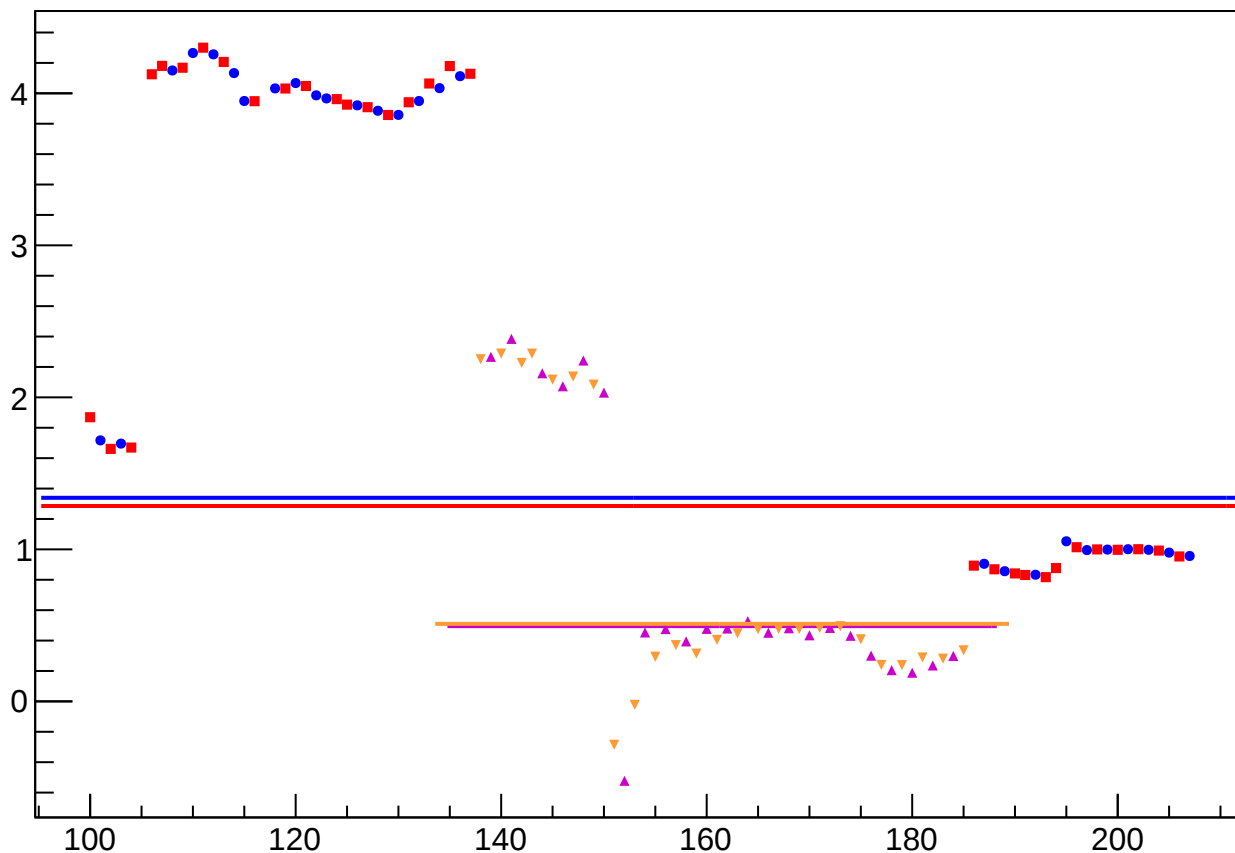
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 3186139.1/57

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :1984111.4/49

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :2191129.8/55

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 4177010.0/105

# yield\_bpm1i04Y\_mean vs Slug, Sign Corrected



Right In: 1.339+/-0.000

$\chi^2/\text{NDF}$ : 1474649705754.8/26

Left Out: 0.510+/-0.000

$\chi^2/\text{NDF}$ : 274818814912.4/24

Right Out: 1.285+/-0.000

$\chi^2/\text{NDF}$ : 1683971163203.7/30

Left In: 0.495+/-0.000

$\chi^2/\text{NDF}$ : 268863202792.4/22

Left: 0.503+/-0.000  $\chi^2/\text{NDF}$ : 543767842878.3/47

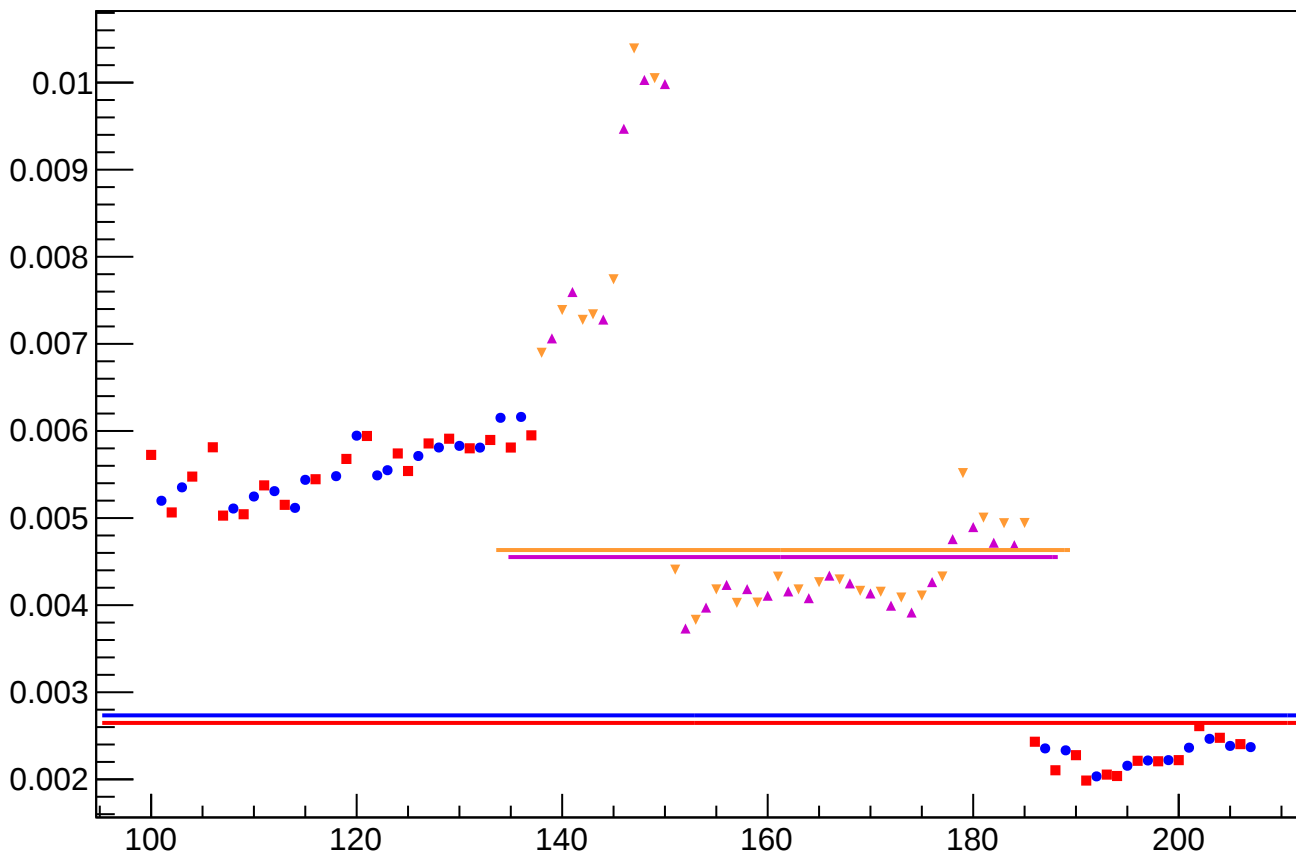
Right: 1.310+/-0.000  $\chi^2/\text{NDF}$ : 3160970428792.8/57

In: 1.057+/-0.000  $\chi^2/\text{NDF}$ : 2102756058800.5/49

Out: 1.046+/-0.000  $\chi^2/\text{NDF}$ : 2281836908965.6/55

All: 1.051+/-0.000  $\chi^2/\text{NDF}$ : 4384713515203.0/106

# yield\_bpm1i04Y\_rms vs Slug, Sign Corrected



Right In: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 4115844.2/26

Left Out: 0.005 $\pm$ 0.000  $\chi^2$ /NDF:2114007.7/24

Right Out: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 4438535.5/30

Left In: 0.005 $\pm$ 0.000  $\chi^2$ /NDF:2237666.9/22

Left: 0.005 $\pm$ 0.000  $\chi^2$ /NDF: 4356682.7/47

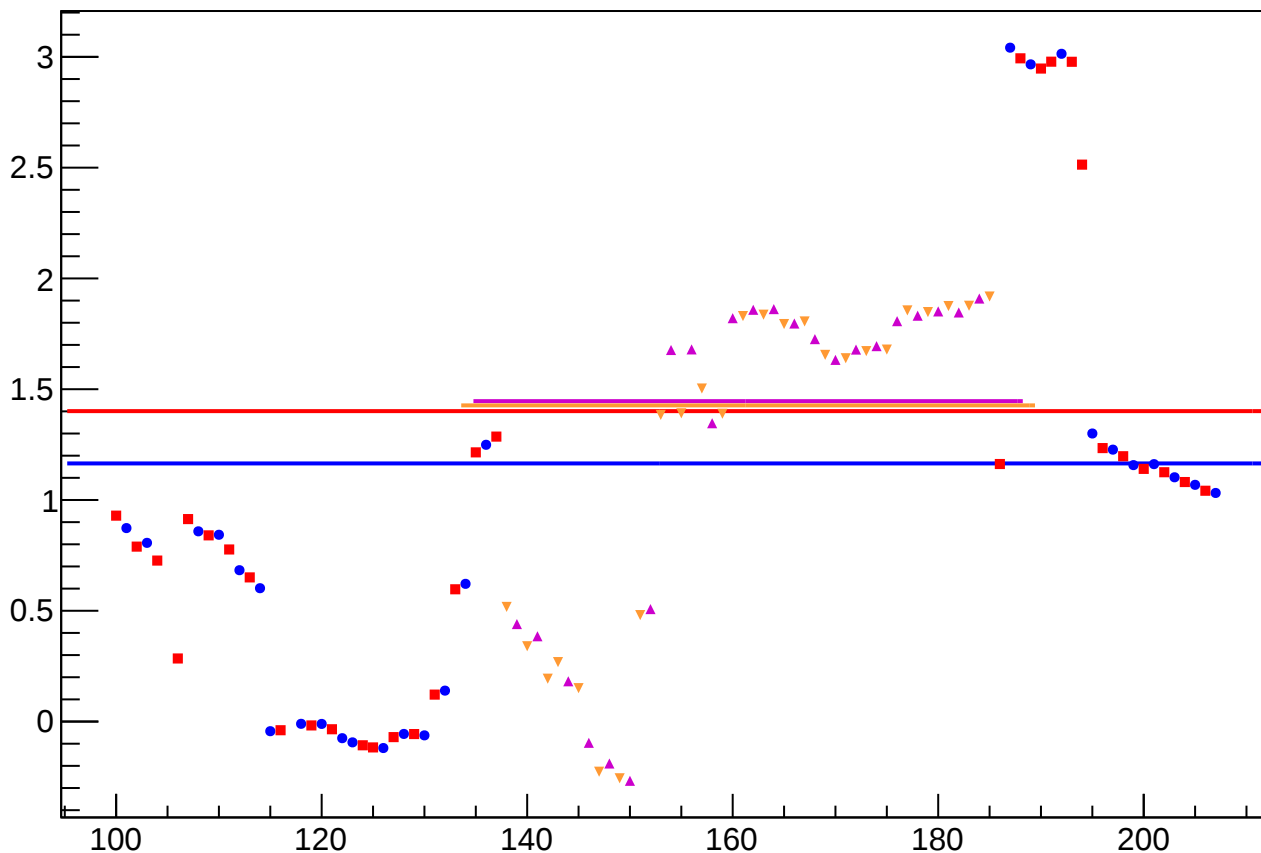
Right: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 8566525.9/57

In: 0.003 $\pm$ 0.000  $\chi^2$ /NDF:9684063.7/49

Out: 0.003 $\pm$ 0.000  $\chi^2$ /NDF:10787904.1/55

All: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 20488742.6/105

# yield\_bpm1i06X\_mean vs Slug, Sign Corrected



Right In: 1.165+/-0.000  $\chi^2/\text{NDF}$ : 72778199175.8/26

Left Out: 1.427+/-0.000  $\chi^2/\text{NDF}$ : 49990787038.3/24

Right Out: 1.401+/-0.000  $\chi^2/\text{NDF}$ : 100090758171.1/30

Left In: 1.446+/-0.000  $\chi^2/\text{NDF}$ : 53752493130.3/22

Left: 1.436+/-0.000  $\chi^2/\text{NDF}$ : 103768857952.7/47

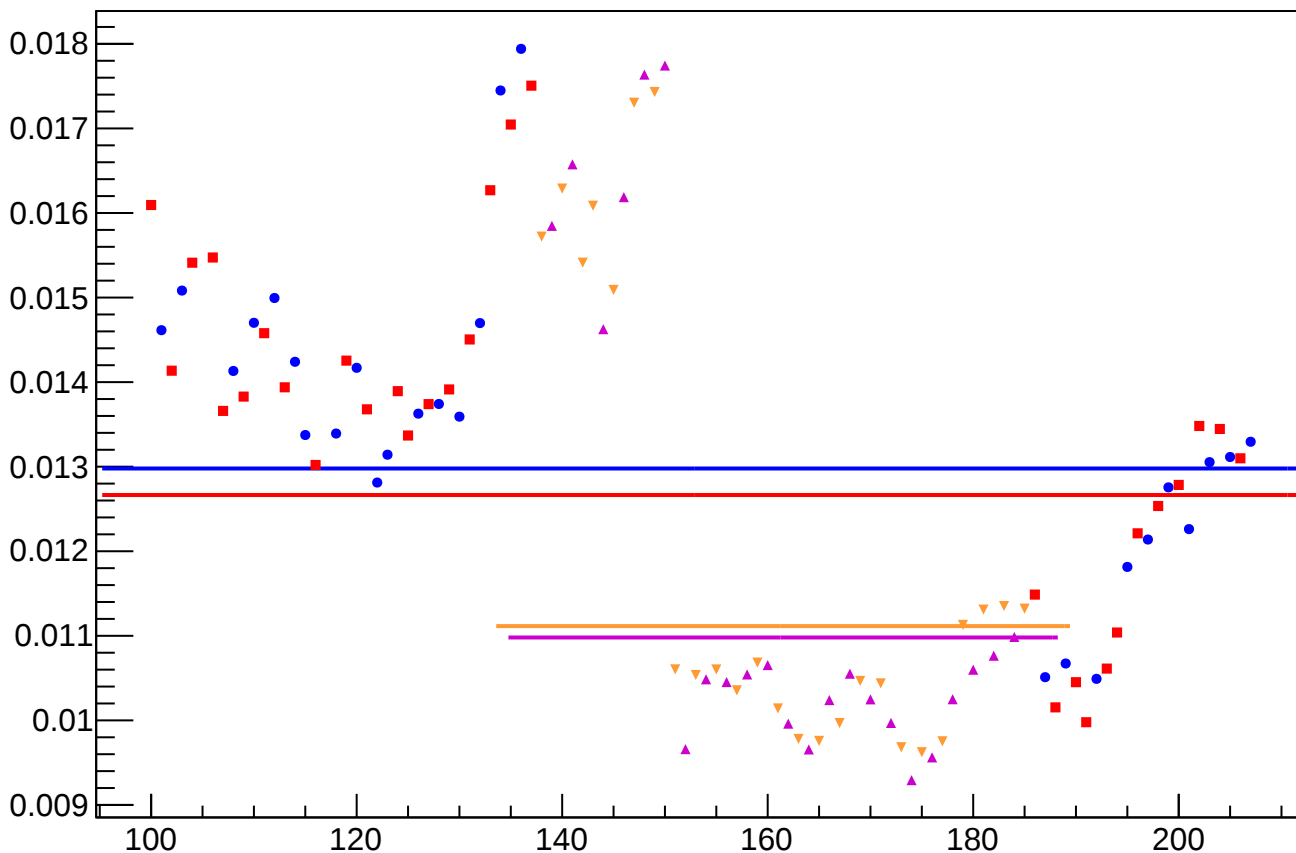
Right: 1.291+/-0.000  $\chi^2/\text{NDF}$ : 175245742104.0/57

In: 1.342+/-0.000  $\chi^2/\text{NDF}$ : 130532561988.2/49

Out: 1.417+/-0.000  $\chi^2/\text{NDF}$ : 150118805423.1/55

All: 1.381+/-0.000  $\chi^2/\text{NDF}$ : 281274449648.1

# yield\_bpm1i06X\_rms vs Slug, Sign Corrected



Right In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 436038.7/26

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :1227493.2/24

Right Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 560512.1/30

Left In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :1264827.0/22

Left: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 2494847.1/47

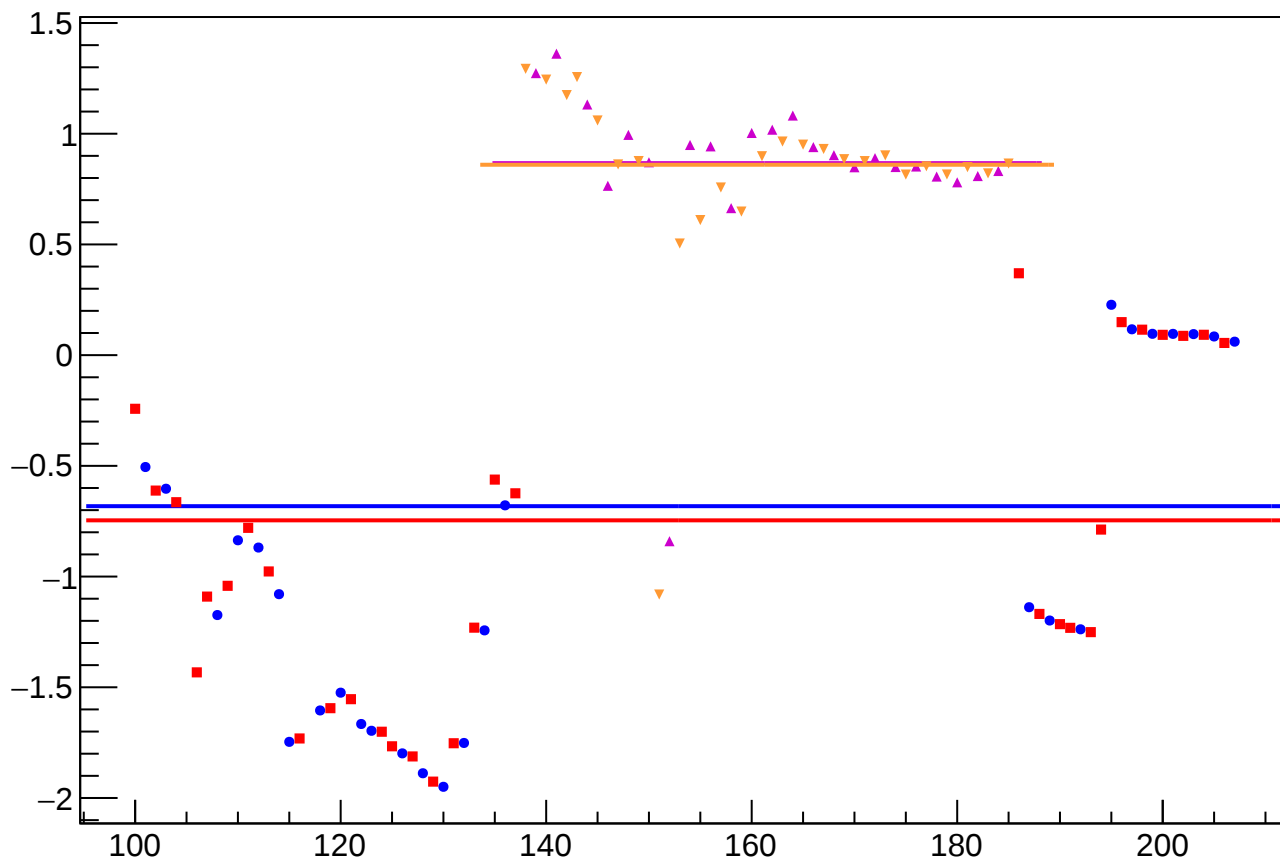
Right: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 1004932.5/57

In: 0.012+/-0.000  $\chi^2/\text{NDF}$ :2105295.4/49

Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ :2054850.2/55

All: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 4160147.5/105

# yield\_bpm1i06Y\_mean vs Slug, Sign Corrected



Right In:  $-0.682 \pm 0.000$   $\chi^2/\text{NDF}: 172077997538.5/26$

Left Out:  $0.860 \pm 0.000$   $\chi^2/\text{NDF}: 126335891175.4/24$

Right Out:  $-0.746 \pm 0.000$   $\chi^2/\text{NDF}: 156567645063.5/30$

Left In:  $0.867 \pm 0.000$   $\chi^2/\text{NDF}: 147039402944.6/22$

Left:  $0.863 \pm 0.000$   $\chi^2/\text{NDF}: 273407894621.9/47$

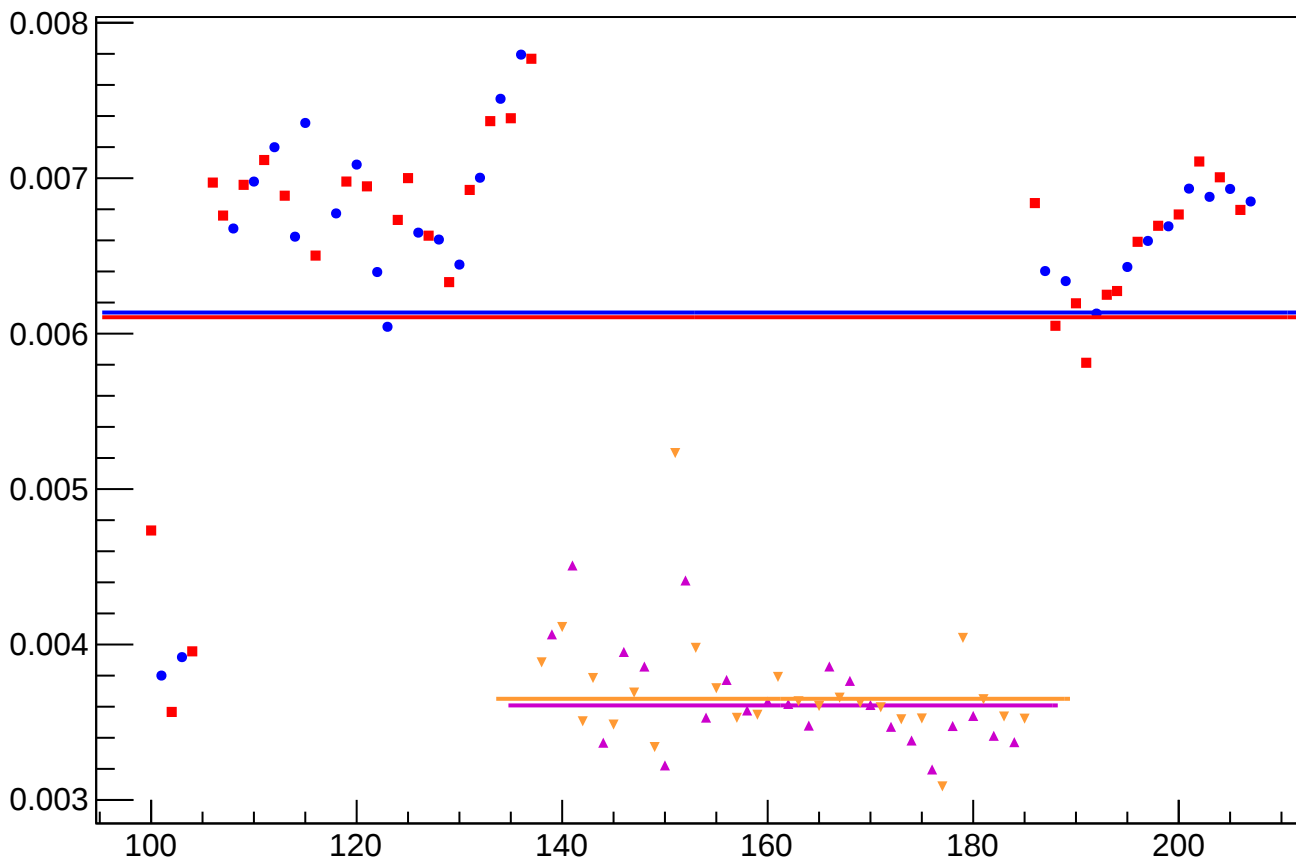
Right:  $-0.716 \pm 0.000$   $\chi^2/\text{NDF}: 329369359657.1/57$

In:  $0.528 \pm 0.000$   $\chi^2/\text{NDF}: 952585624860.7/49$

Out:  $0.494 \pm 0.000$   $\chi^2/\text{NDF}: 1020298484170.4/55$

All:  $0.511 \pm 0.000$   $\chi^2/\text{NDF}: 1973847312085.$

# yield\_bpm1i06Y\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1000242.7/26

Left Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :237262.6/24

Right Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1088818.2/30

Left In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :227861.4/22

Left: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 467360.2/47

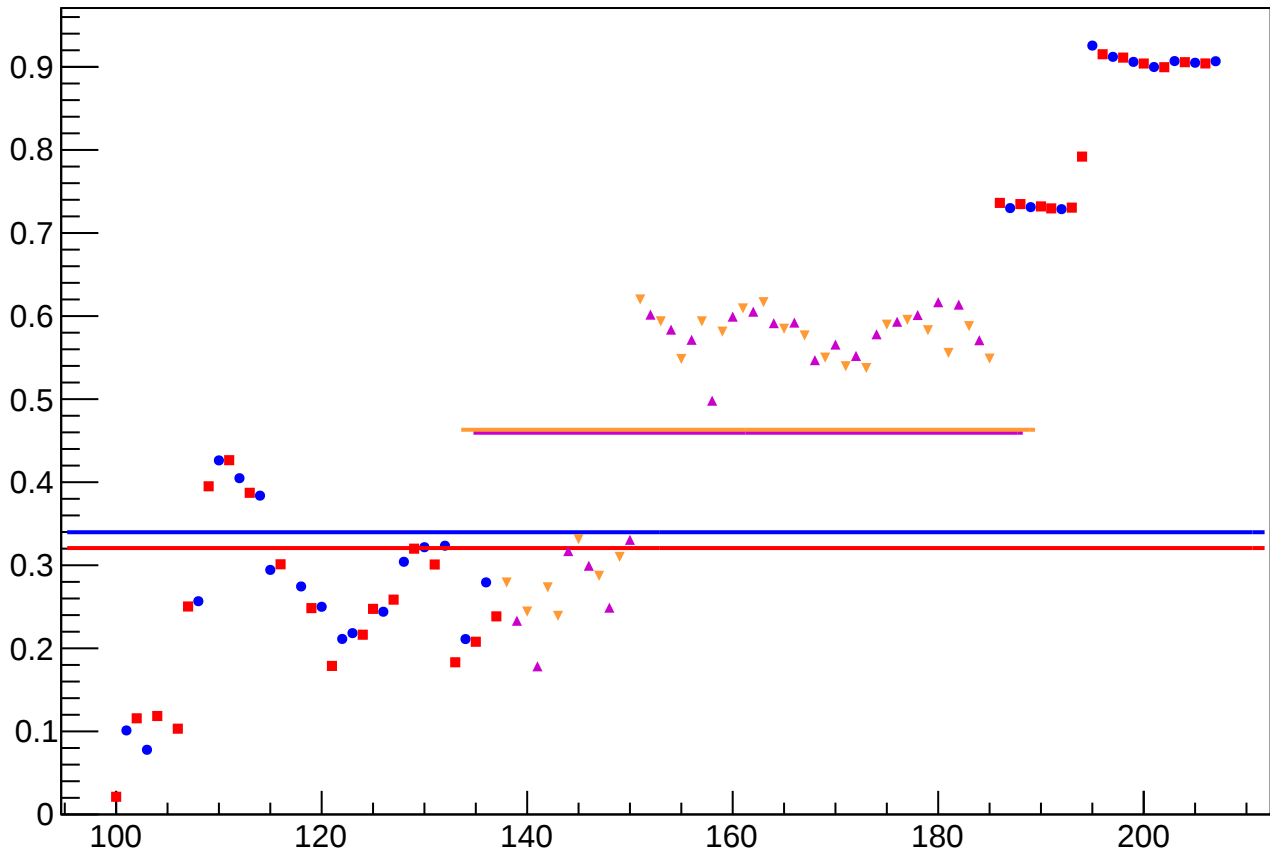
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 2089386.5/57

In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :4600672.2/49

Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :4771550.6/55

All: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 9376166.7/105

# yield\_bpm2i01X\_mean vs Slug, Sign Corrected



Right In: 0.340 $\pm$ 0.000  $\chi^2$ /NDF: 148801794222.9/26

Left Out: 0.463 $\pm$ 0.000  $\chi^2$ /NDF:102506270538.7/24

Right Out: 0.321 $\pm$ 0.000  $\chi^2$ /NDF: 163148228291.5/30

Left In: 0.460 $\pm$ 0.000  $\chi^2$ /NDF:104559088628.4/22

Left: 0.461 $\pm$ 0.000  $\chi^2$ /NDF: 207093695005.5/47

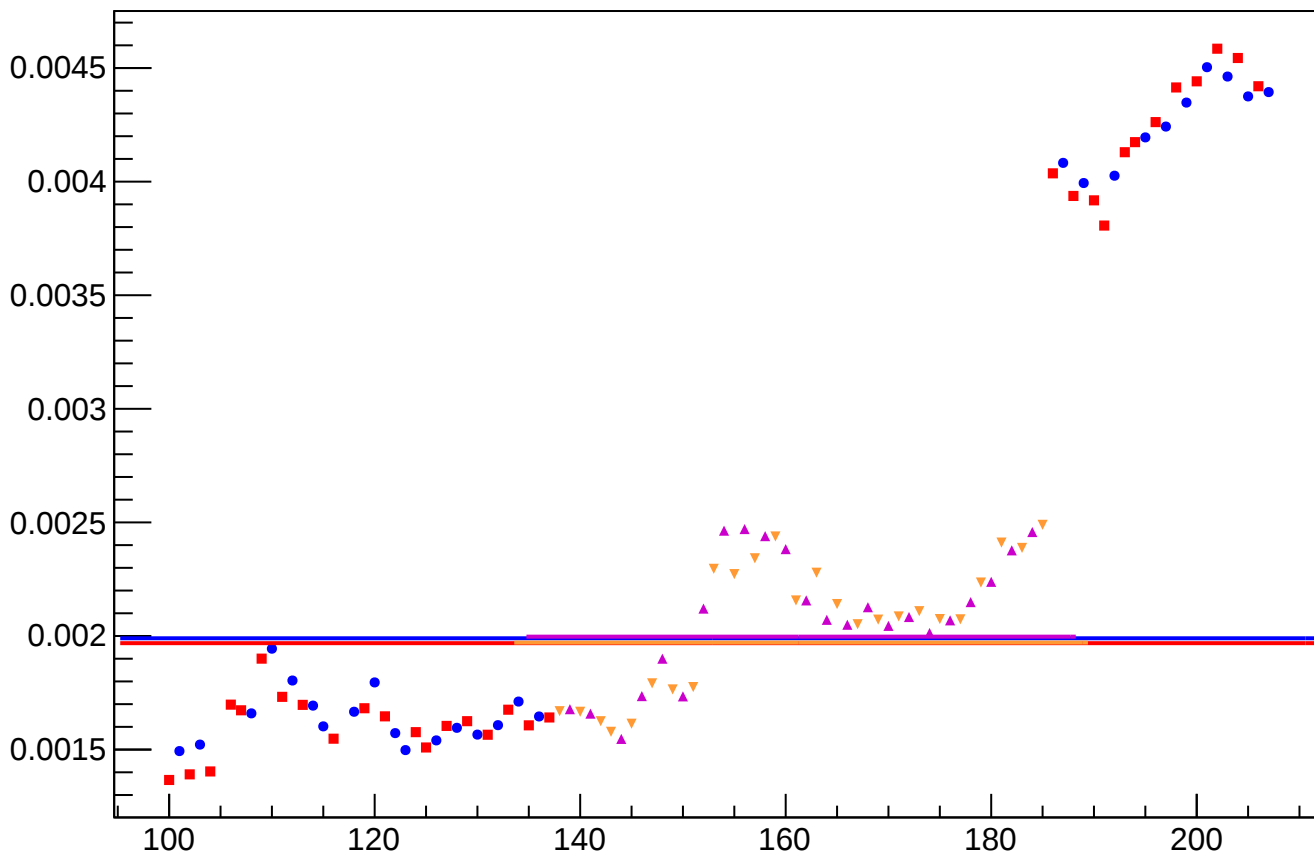
Right: 0.330 $\pm$ 0.000  $\chi^2$ /NDF: 312491232741.9/57

In: 0.411 $\pm$ 0.000  $\chi^2$ /NDF:277608016616.2/49

Out: 0.405 $\pm$ 0.000  $\chi^2$ /NDF:303638157197.9/55

All: 0.408 $\pm$ 0.000  $\chi^2$ /NDF: 581391238688.7

# yield\_bpm2i01X\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 4798383.6/26

Left Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 730203.8/24

Right Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 5448723.4/30

Left In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 666404.2/22

Left: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 1399578.1/47

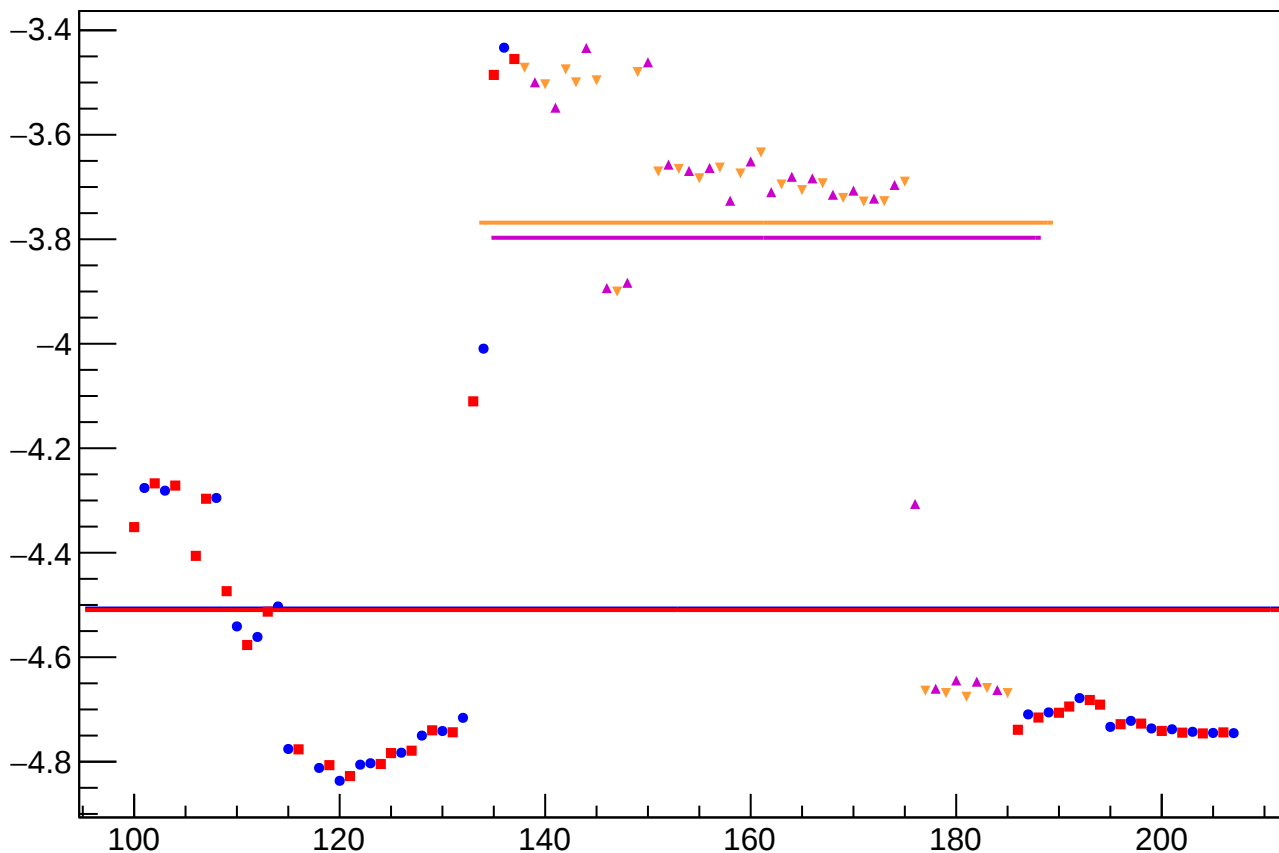
Right: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 10248480.9/57

In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 5464962.4/49

Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 6178953.5/55

All: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 11648232.6/105

# yield\_bpm2i01Y\_mean vs Slug, Sign Corrected



Right In: -4.507+/-0.000

$\chi^2/\text{NDF}$ : 433559256671.8/26

Left Out: -3.768+/-0.000

$\chi^2/\text{NDF}$ : 516780173940.8/24

Right Out: -4.510+/-0.000

$\chi^2/\text{NDF}$ : 370111469083.7/30

Left In: -3.797+/-0.000

$\chi^2/\text{NDF}$ : 444886272608.9/22

Left: -3.782+/-0.000

$\chi^2/\text{NDF}$ : 963205684454.6/47

Right: -4.508+/-0.000

$\chi^2/\text{NDF}$ : 803682872685.3/57

In: -4.099+/-0.000

$\chi^2/\text{NDF}$ : 1639365332385.4/49

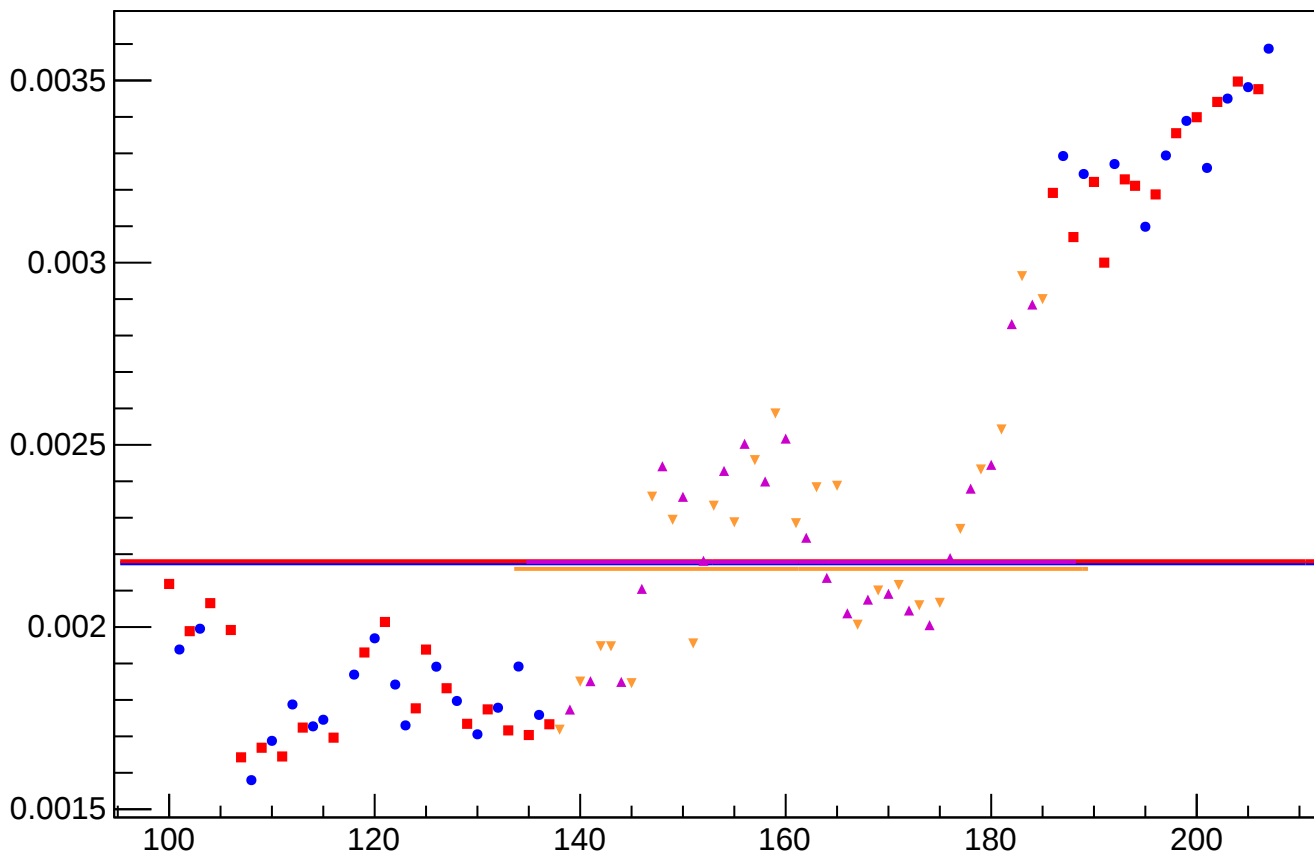
Out: -4.086+/-0.000

$\chi^2/\text{NDF}$ : 1785928395633.3/55

All: -4.092+/-0.000

$\chi^2/\text{NDF}$ : 3425836101696

# yield\_bpm2i01Y\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 2335654.6/26

Left Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :547831.5/24

Right Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 2524687.9/30

Left In: 0.002+/-0.000  $\chi^2/\text{NDF}$ :463279.7/22

Left: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 1012449.5/47

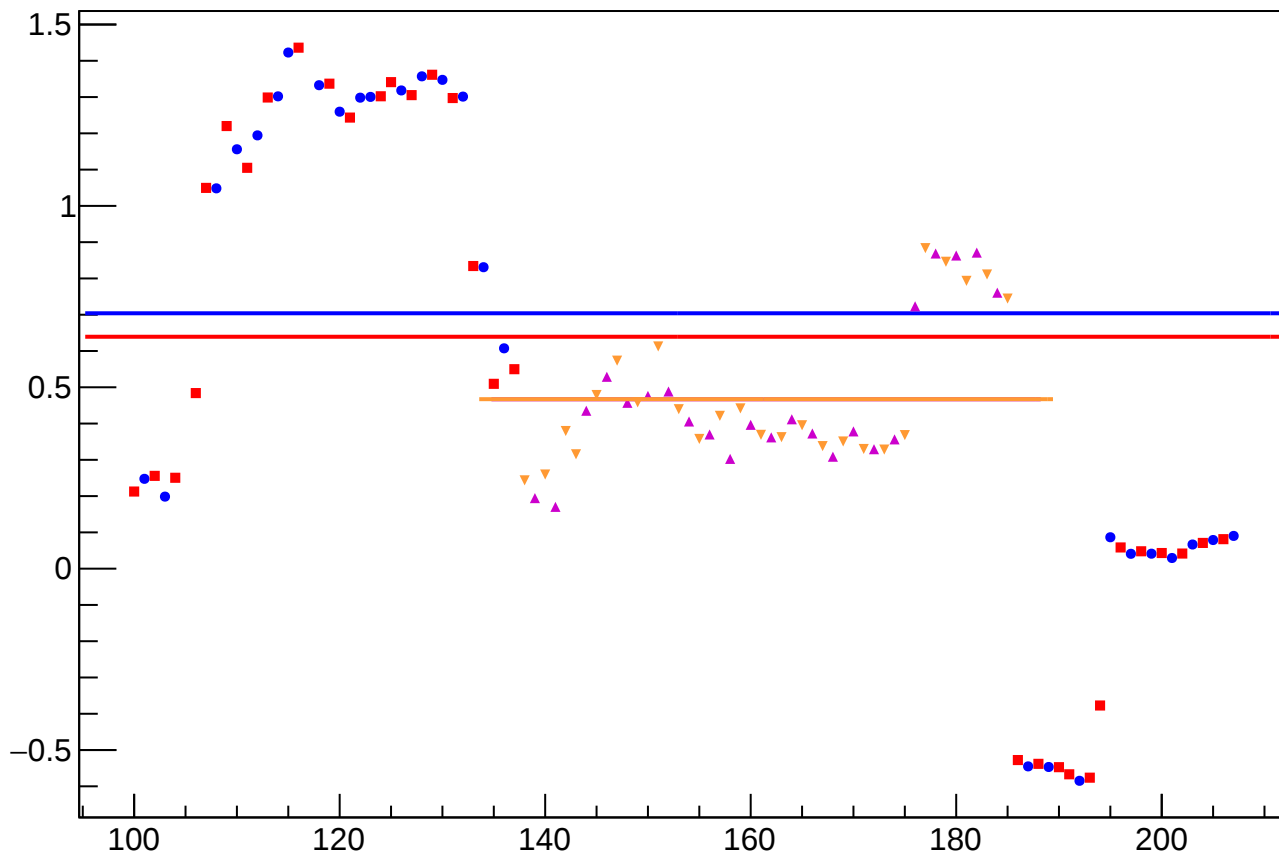
Right: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 4860430.4/57

In: 0.002+/-0.000  $\chi^2/\text{NDF}$ :2798976.6/49

Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :3073961.0/55

All: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 5873399.4/105

# yield\_bpm2i02X\_mean vs Slug, Sign Corrected



Right In: 0.704 $\pm$ 0.000  $\chi^2$ /NDF: 75431243887.4/26

Left Out: 0.467 $\pm$ 0.000  $\chi^2$ /NDF: 7359344143.3/24

Right Out: 0.639 $\pm$ 0.000  $\chi^2$ /NDF: 95846651044.8/30

Left In: 0.467 $\pm$ 0.000  $\chi^2$ /NDF: 8036741308.0/22

Left: 0.467 $\pm$ 0.000  $\chi^2$ /NDF: 15396100488.4/47

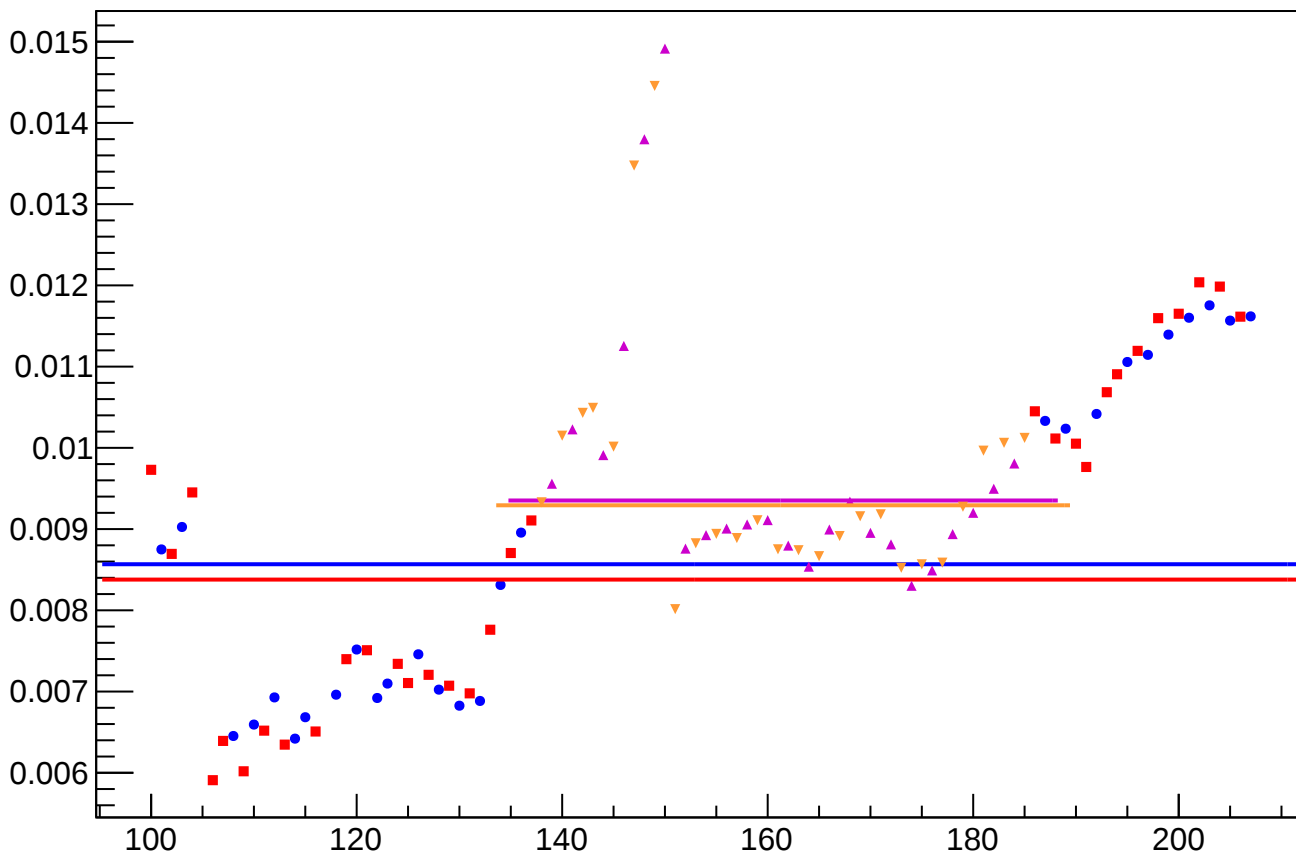
Right: 0.670 $\pm$ 0.000  $\chi^2$ /NDF: 171675798559.6/57

In: 0.581 $\pm$ 0.000  $\chi^2$ /NDF: 88708298771.6/49

Out: 0.552 $\pm$ 0.000  $\chi^2$ /NDF: 106252262111.9/55

All: 0.566 $\pm$ 0.000  $\chi^2$ /NDF: 195121116213.0

# yield\_bpm2i02X\_rms vs Slug, Sign Corrected



Right In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1345228.4/26

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :528279.5/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1686297.9/30

Left In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :557555.2/22

Left: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1086539.3/47

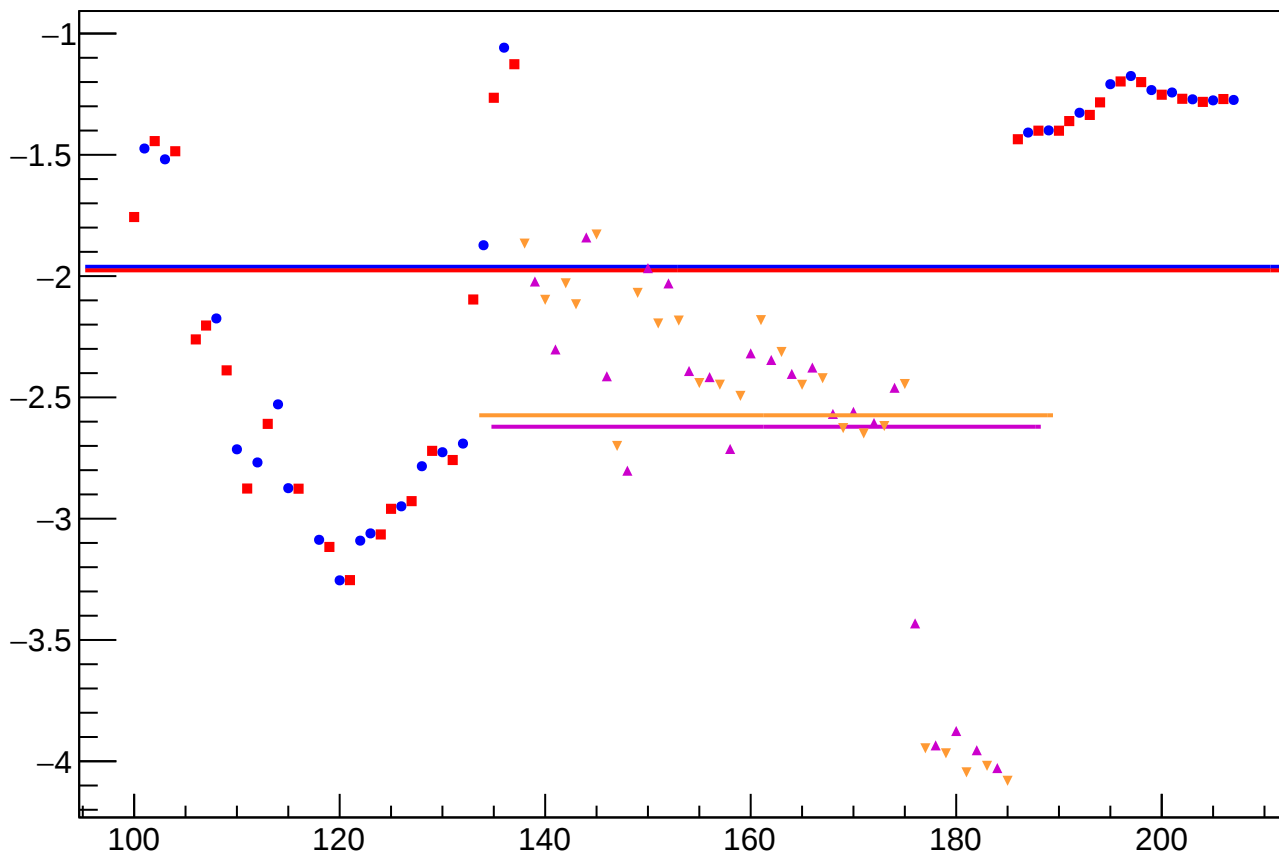
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 3038311.1/57

In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :2017516.4/49

Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :2386628.2/55

All: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 4411073.6/105

# yield\_bpm2i02Y\_mean vs Slug, Sign Corrected



Right In: -1.962+/-0.000

$\chi^2/\text{NDF}$ : 124160068629.2/26

Left: -2.597+/-0.000

$\chi^2/\text{NDF}$ : 180296288698.4/47

Left Out: -2.574+/-0.000

$\chi^2/\text{NDF}$ : 99176112704.9/24

Right: -1.969+/-0.000

$\chi^2/\text{NDF}$ : 245807232862.7/57

Right Out: -1.976+/-0.000

$\chi^2/\text{NDF}$ : 121622901333.7/30

In: -2.299+/-0.000

$\chi^2/\text{NDF}$ : 252554009540.8/49

Left In: -2.621+/-0.000

$\chi^2/\text{NDF}$ : 80862402796.4/22

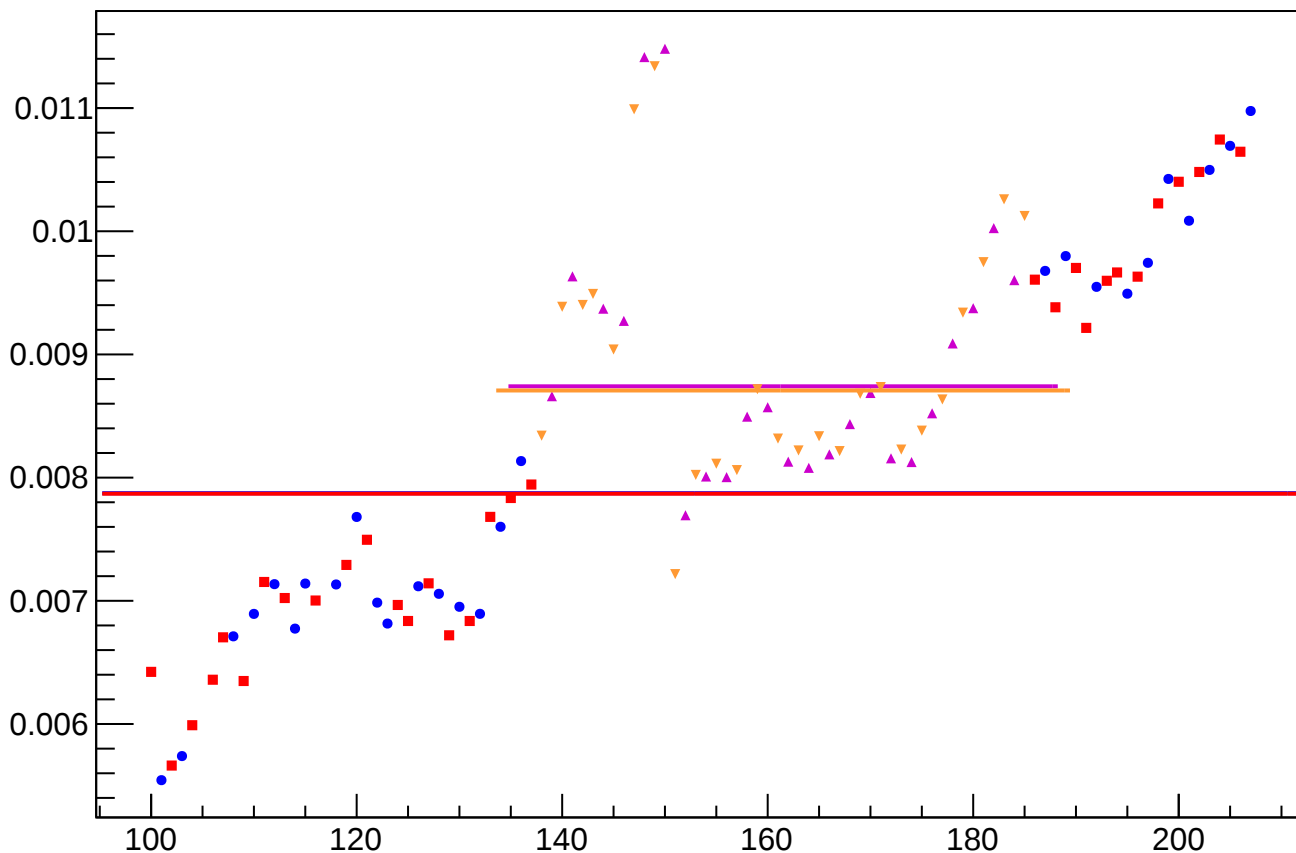
Out: -2.278+/-0.000

$\chi^2/\text{NDF}$ : 263055336124.8/55

All: -2.289+/-0.000

$\chi^2/\text{NDF}$ : 515709103873.5/108

# yield\_bpm2i02Y\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1228558.2/26

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 369376.5/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1233184.9/30

Left In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 353750.0/22

Left: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 723390.7/47

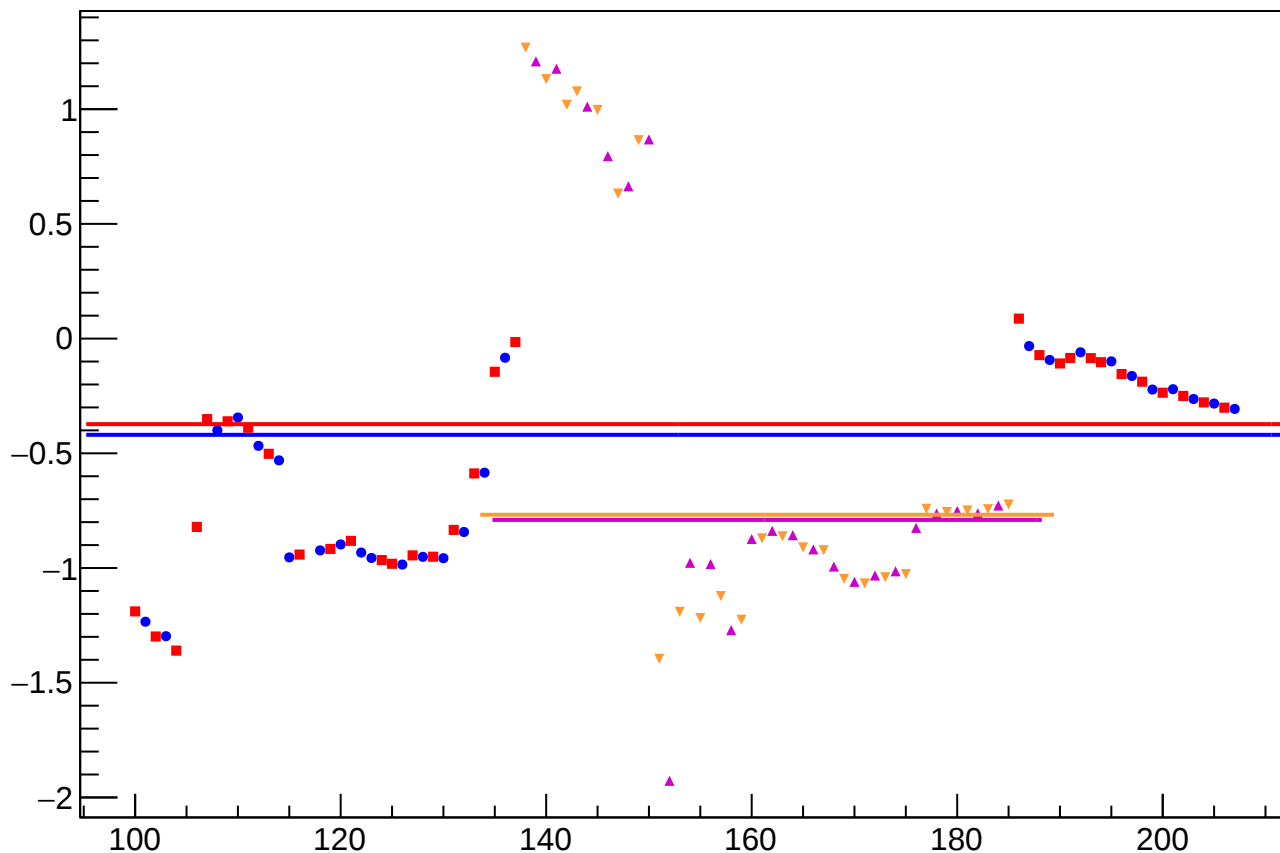
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 2461746.9/57

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1746907.0/49

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1768839.3/55

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 3516027.9/105

# yield\_bpm0i01X\_mean vs Slug, Sign Corrected



Right In: -0.419+/-0.000  $\chi^2/\text{NDF}$ : 22487257396.6/26

Left Out: -0.768+/-0.000  $\chi^2/\text{NDF}$ : 120774855982.9/24

Right Out: -0.373+/-0.000  $\chi^2/\text{NDF}$ : 25076139288.6/30

Left In: -0.790+/-0.000  $\chi^2/\text{NDF}$ : 123452478408.2/22

Left: -0.779+/-0.000  $\chi^2/\text{NDF}$ : 244297726249.8/47

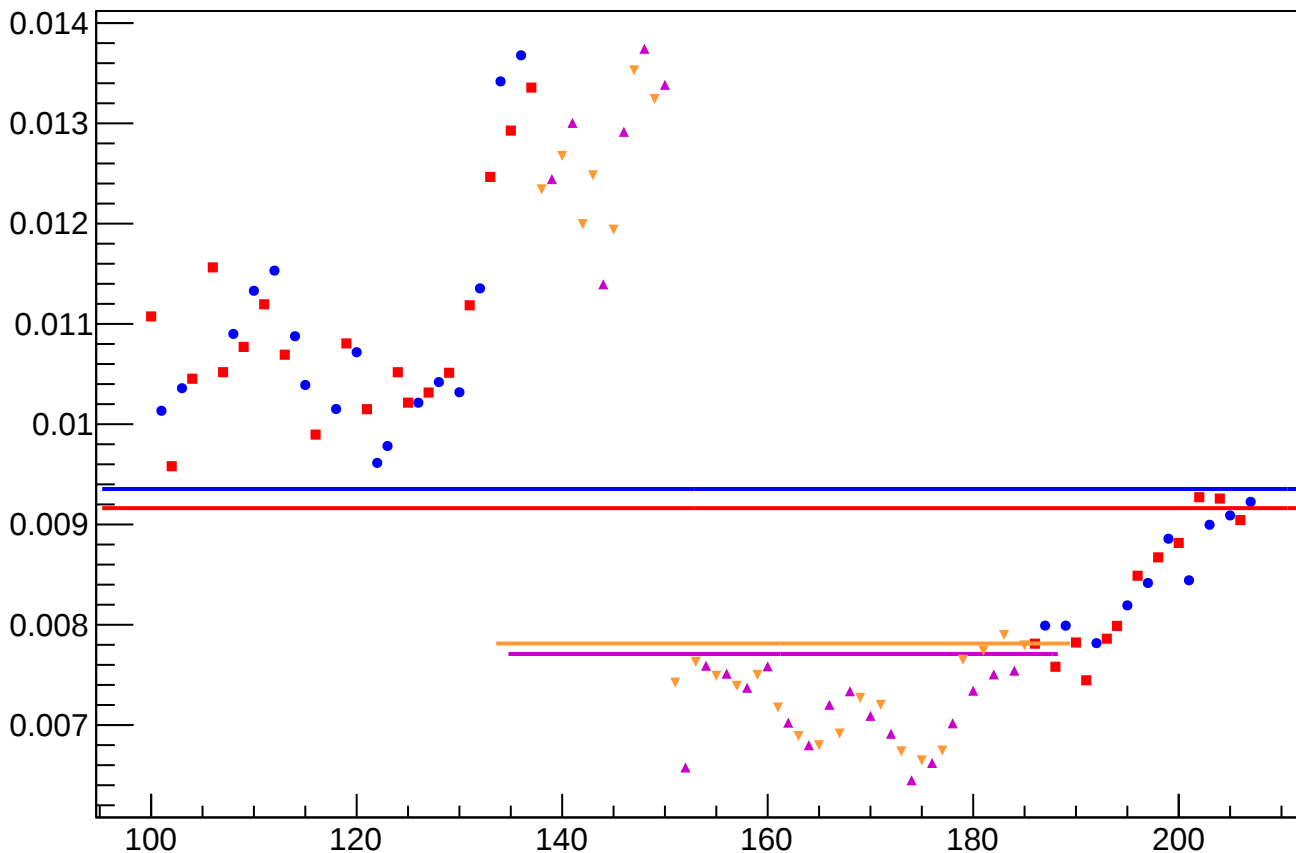
Right: -0.395+/-0.000  $\chi^2/\text{NDF}$ : 47739574878.9/57

In: -0.657+/-0.000  $\chi^2/\text{NDF}$ : 159407510336.5/49

Out: -0.618+/-0.000  $\chi^2/\text{NDF}$ : 162562099444.9/55

All: -0.637+/-0.000  $\chi^2/\text{NDF}$ : 322308633265.1

# yield\_bpm0i01X\_rms vs Slug, Sign Corrected



Right In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 541041.1/26

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :1705997.6/24

Right Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 628464.8/30

Left In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :1746653.6/22

Left: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 3455681.9/47

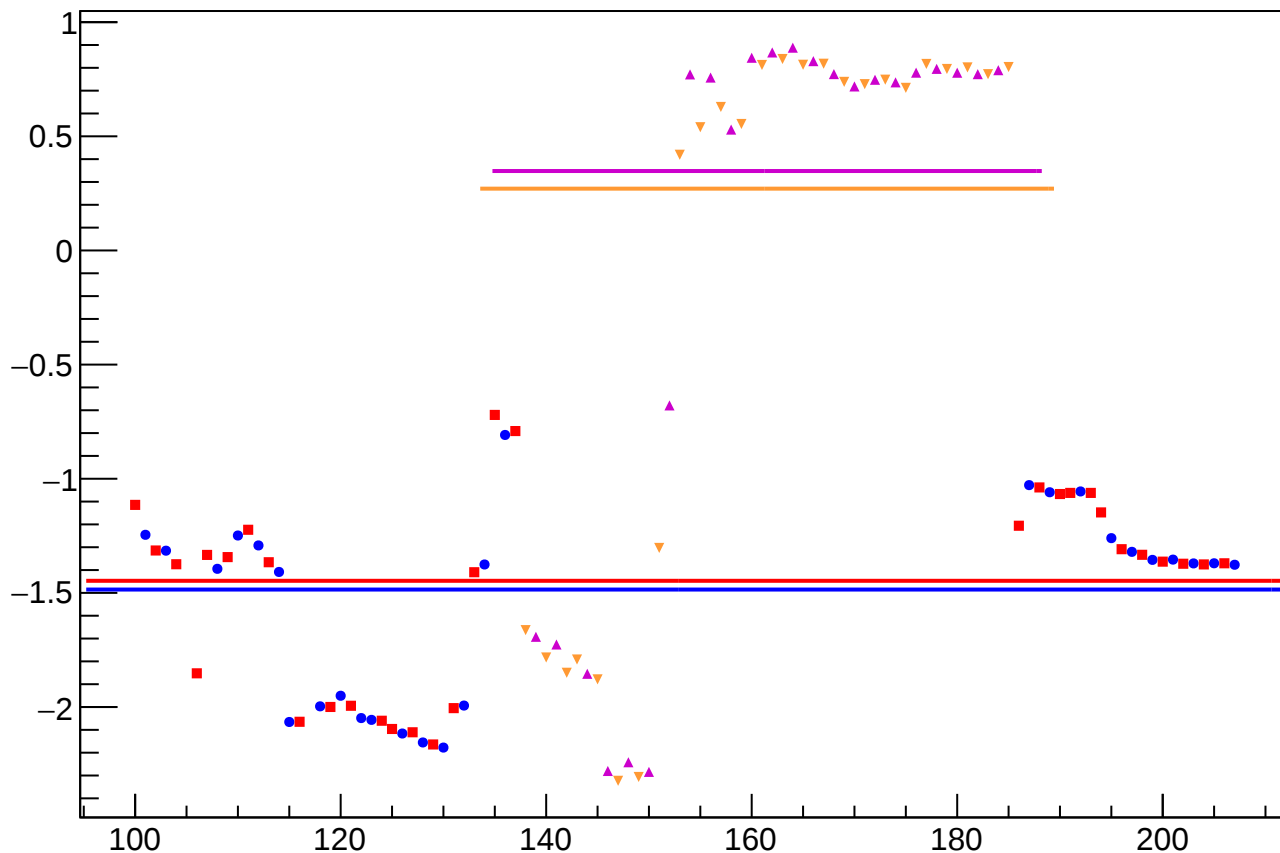
Right: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1175435.9/57

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :2817799.9/49

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :2724734.1/55

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 5542827.7/105

# yield\_bpm0i01Y\_mean vs Slug, Sign Corrected



Right In: -1.485+/-0.000  $\chi^2/\text{NDF}$ : 174317216620.2/26

Left Out: 0.271+/-0.000  $\chi^2/\text{NDF}$ : 2583233987355.9/24

Right Out: -1.447+/-0.000  $\chi^2/\text{NDF}$ : 164143041521.6/30

Left In: 0.348+/-0.000  $\chi^2/\text{NDF}$ : 2274004426513.8/22

Left: 0.308+/-0.000  $\chi^2/\text{NDF}$ : 4864843200778.2/47

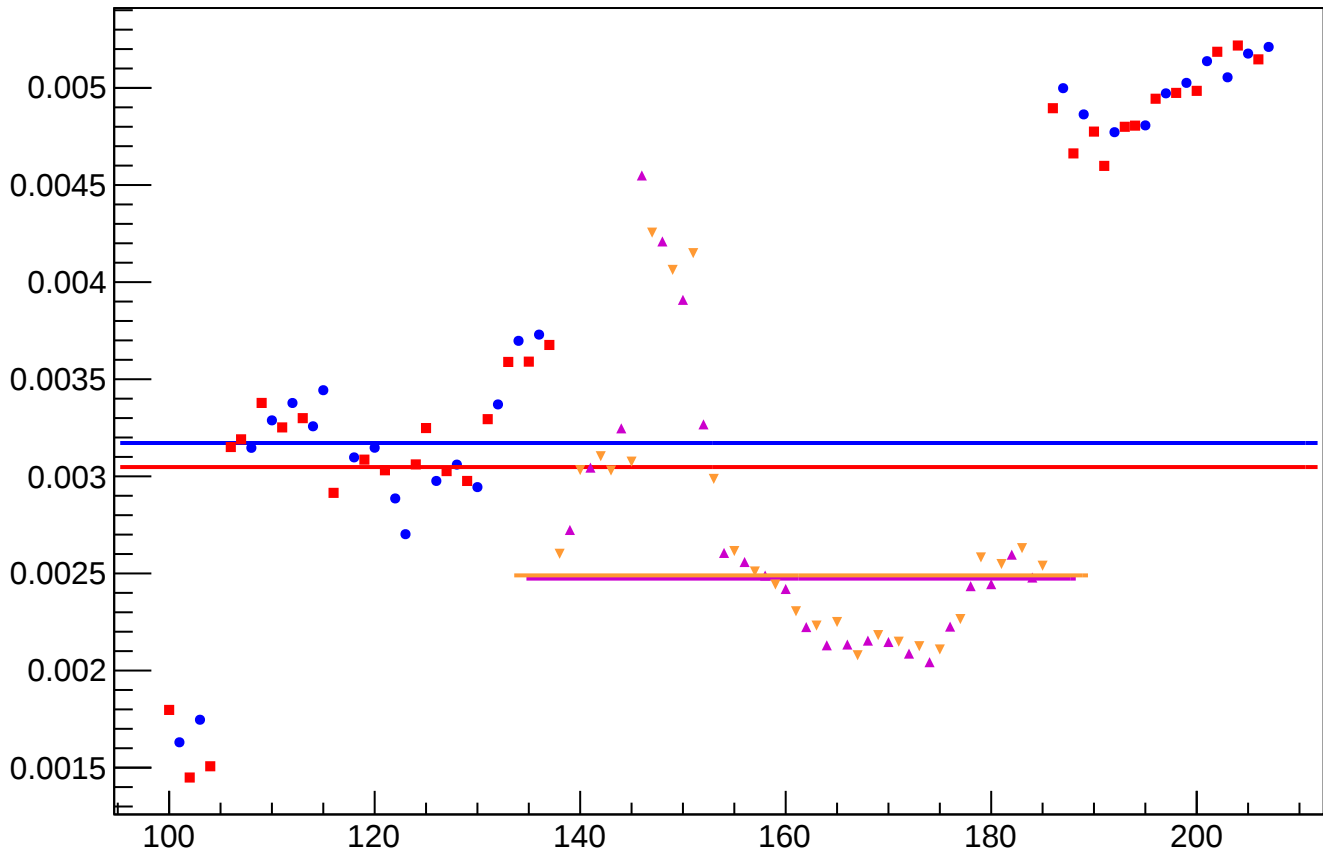
Right: -1.465+/-0.000  $\chi^2/\text{NDF}$ : 339342861156.1/57

In: -0.225+/-0.000  $\chi^2/\text{NDF}$ : 5055089345719.1/49

Out: -0.295+/-0.000  $\chi^2/\text{NDF}$ : 5295706580172.9/55

All: -0.261+/-0.000  $\chi^2/\text{NDF}$ : 1036005702920

# yield\_bpm0i01Y\_rms vs Slug, Sign Corrected



Right In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 3485866.1/26

Left Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :1070282.7/24

Right Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 4531840.1/30

Left In: 0.002+/-0.000  $\chi^2/\text{NDF}$ :1135279.8/22

Left: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 2206266.8/47

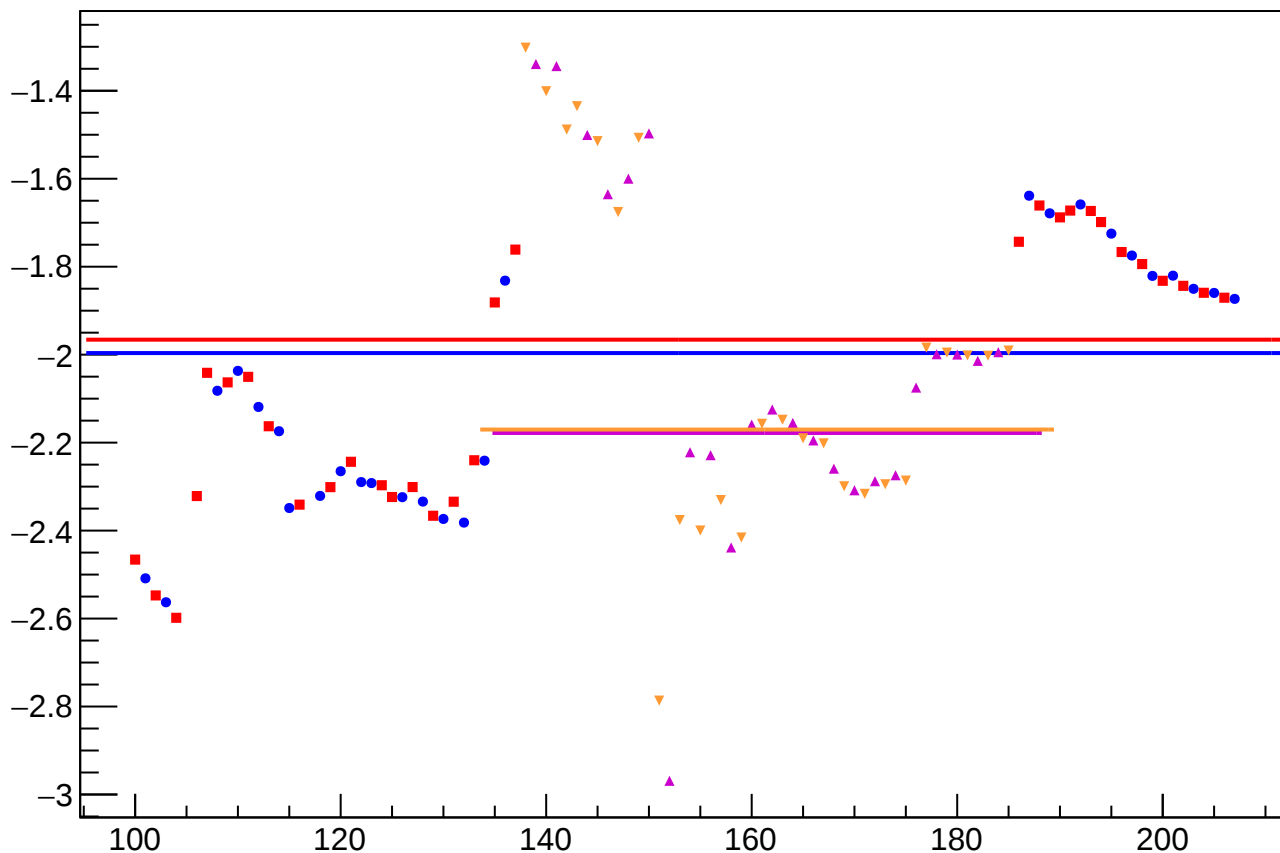
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 8036167.8/57

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :5377474.9/49

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :6139447.2/55

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 11518115.5/105

# yield\_bpm0i01aX\_mean vs Slug, Sign Corrected



Right In: -1.996+/-0.000  $\chi^2/\text{NDF}$ : 30532310557.1/26

Left Out: -2.170+/-0.000  $\chi^2/\text{NDF}$ : 59967315241.9/24

Right Out: -1.966+/-0.000  $\chi^2/\text{NDF}$ : 34760034398.0/30

Left In: -2.178+/-0.000  $\chi^2/\text{NDF}$ : 73402051113.3/22

Left: -2.174+/-0.000  $\chi^2/\text{NDF}$ : 133392029481.5/47

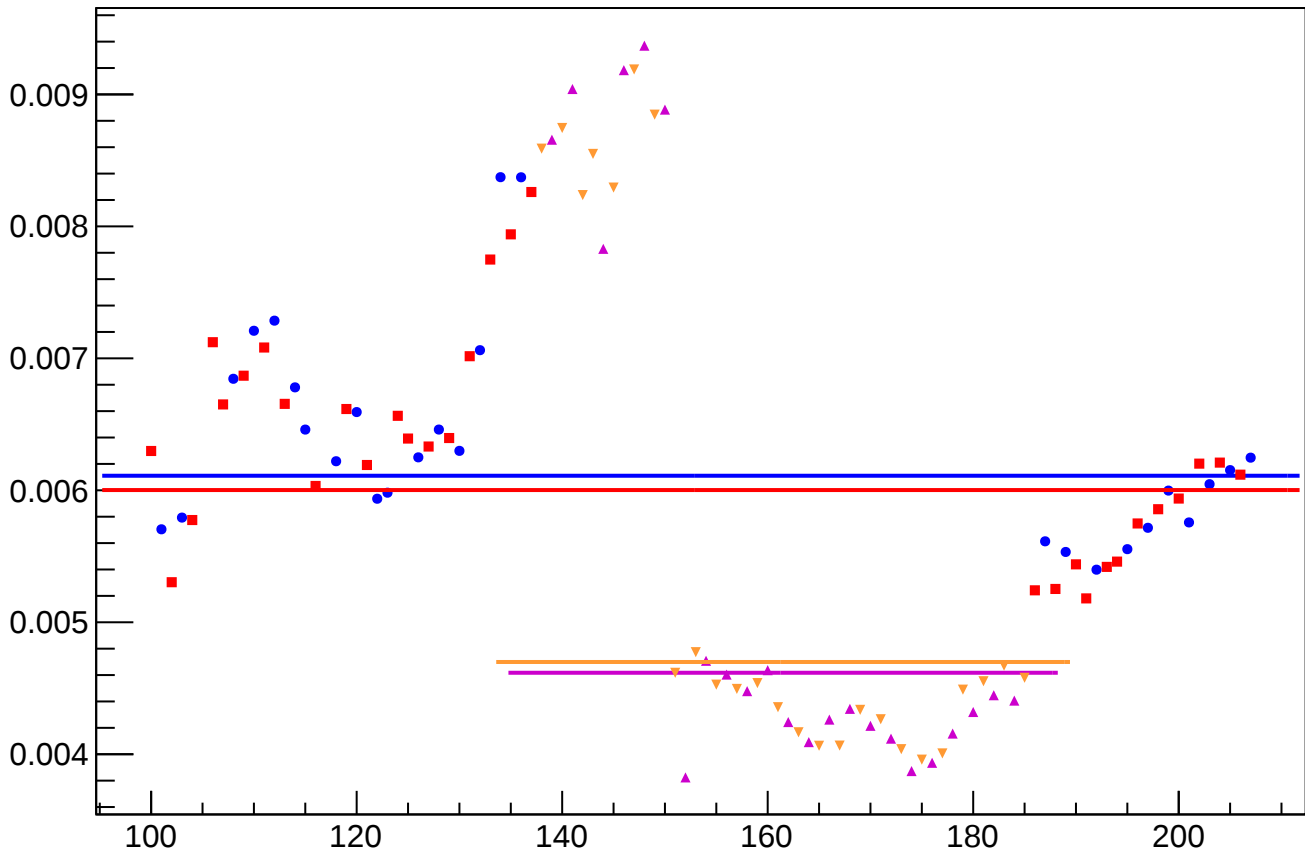
Right: -1.980+/-0.000  $\chi^2/\text{NDF}$ : 65468570567.5/57

In: -2.118+/-0.000  $\chi^2/\text{NDF}$ : 111875038545.0/49

Out: -2.099+/-0.000  $\chi^2/\text{NDF}$ : 105711057201.3/55

All: -2.108+/-0.000  $\chi^2/\text{NDF}$ : 217795912555.1

# yield\_bpm0i01aX\_rms vs Slug, Sign Corrected



Right In: 0.006 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 302737.6/26

Left Out: 0.005 $\pm$ 0.000  $\chi^2/\text{NDF}$ :2319588.7/24

Right Out: 0.006 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 353470.1/30

Left In: 0.005 $\pm$ 0.000  $\chi^2/\text{NDF}$ :2367440.9/22

Left: 0.005 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 4691984.4/47

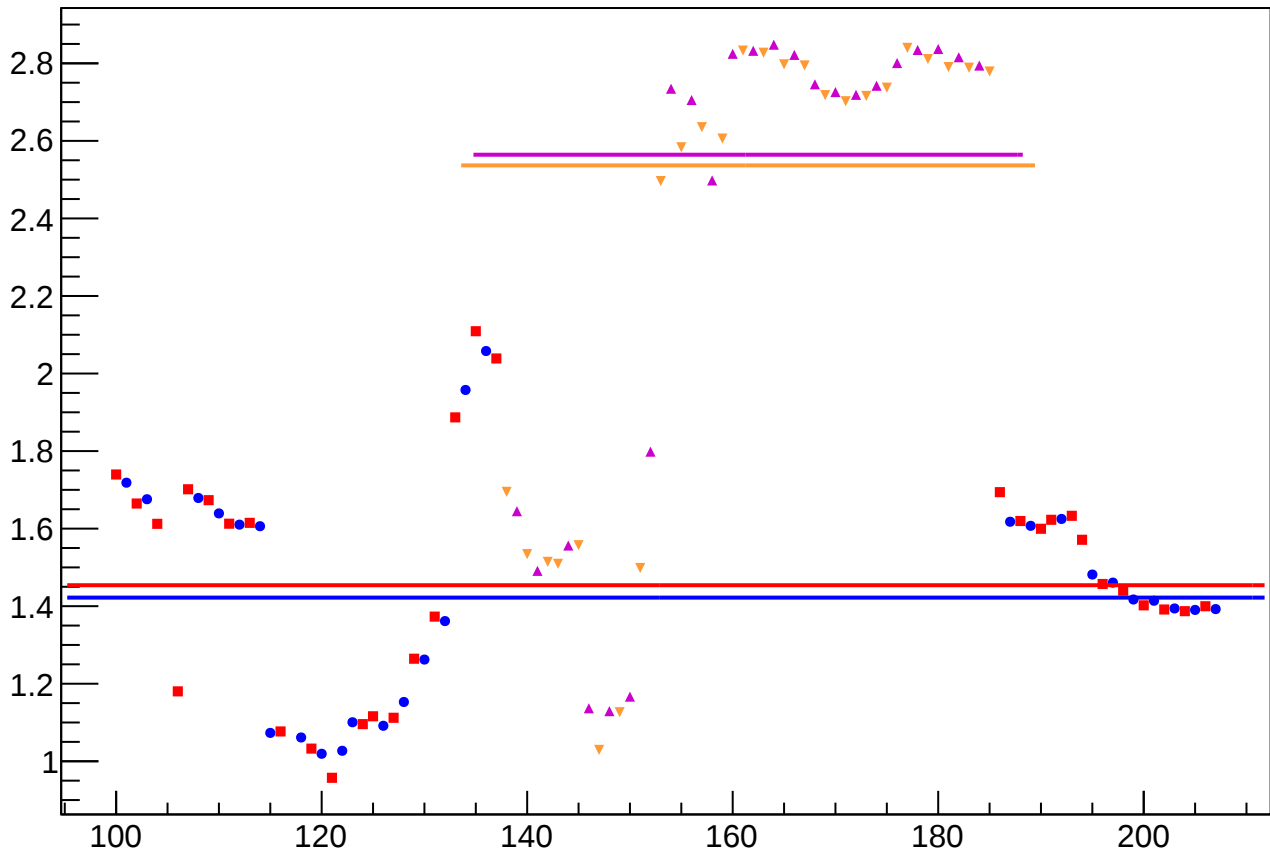
Right: 0.006 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 660674.3/57

In: 0.005 $\pm$ 0.000  $\chi^2/\text{NDF}$ :3742653.3/49

Out: 0.005 $\pm$ 0.000  $\chi^2/\text{NDF}$ :3566158.2/55

All: 0.005 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 7311099.8/105

# yield\_bpm0i01aY\_mean vs Slug, Sign Corrected



Right In: 1.422+/-0.000  $\chi^2/\text{NDF}$ : 174156893794.9/26

Left Out: 2.537+/-0.000  $\chi^2/\text{NDF}$ : 269554948115.3/24

Right Out: 1.454+/-0.000  $\chi^2/\text{NDF}$ : 176981848754.9/30

Left In: 2.564+/-0.000  $\chi^2/\text{NDF}$ : 260287937727.8/22

Left: 2.550+/-0.000  $\chi^2/\text{NDF}$ : 530319507083.6/47

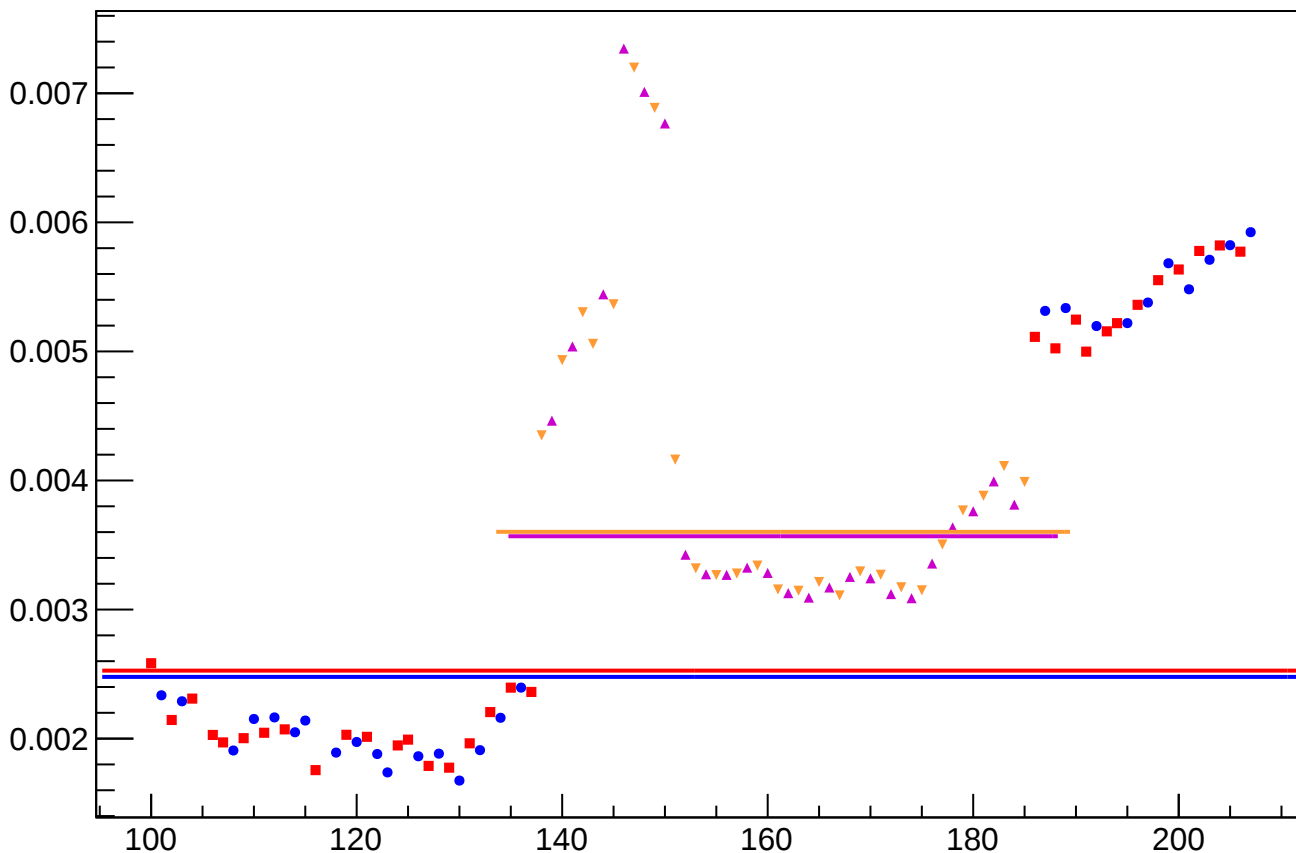
Right: 1.438+/-0.000  $\chi^2/\text{NDF}$ : 352056984718.5/57

In: 1.893+/-0.000  $\chi^2/\text{NDF}$ : 1375160457601.4/49

Out: 1.899+/-0.000  $\chi^2/\text{NDF}$ : 1335878615510.6/55

All: 1.896+/-0.000  $\chi^2/\text{NDF}$ : 2711103681508.

# yield\_bpm0i01aY\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 5117496.7/26

Left Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :1410717.8/24

Right Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 5425055.8/30

Left In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :1563028.0/22

Left: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 2975225.3/47

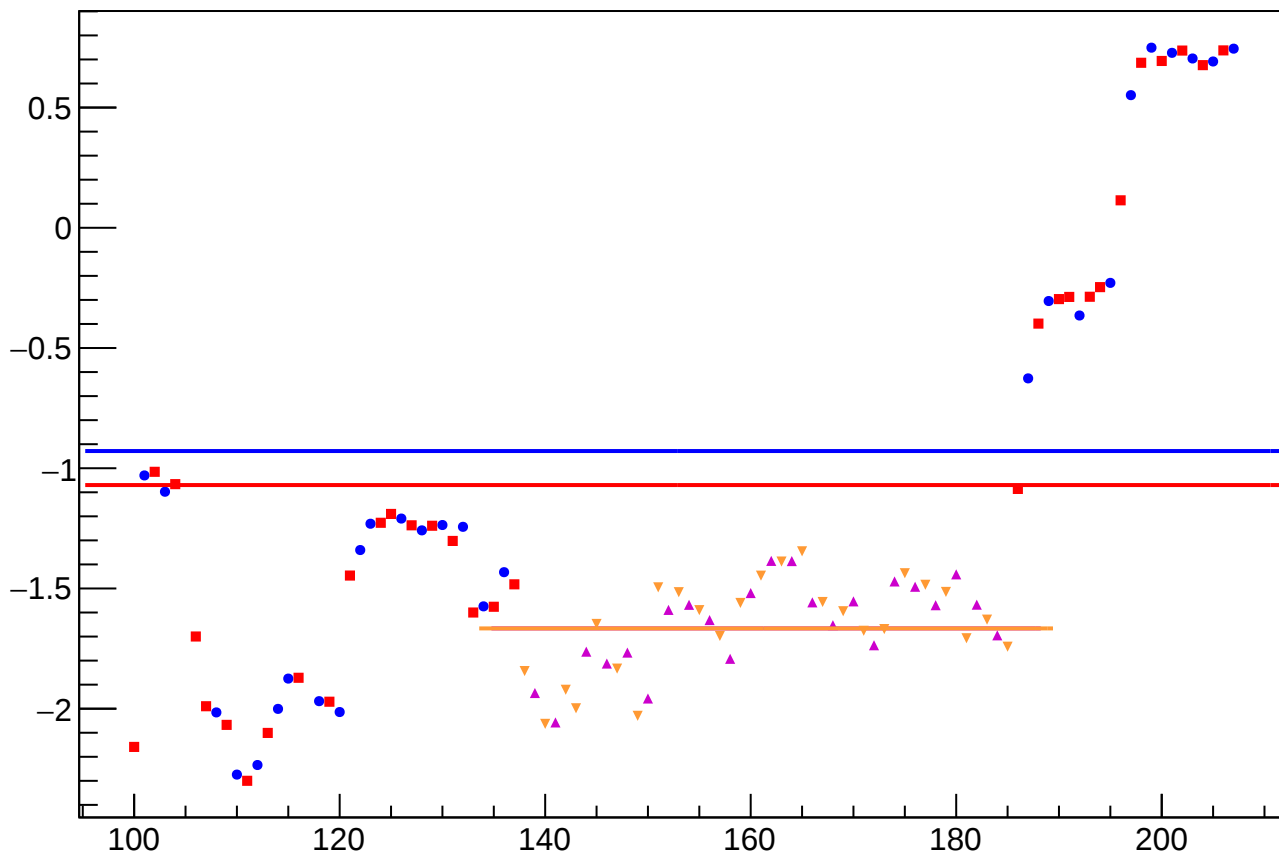
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 10546816.3/57

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :8393019.6/49

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :8590325.2/55

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 16988689.7/105

# yield\_bpm0l01X\_mean vs Slug, Sign Corrected



Right In: -0.928+/-0.000

χ²/NDF: 181106772870.7/26

Left: -1.666+/-0.000

χ²/NDF: 32617732948.1/47

Left Out: -1.666+/-0.000

χ²/NDF: 18325162131.2/24

Right: -1.005+/-0.000

χ²/NDF: 384855688096.3/57

Right Out: -1.070+/-0.000

χ²/NDF: 201579527002.6/30

In: -1.424+/-0.000

χ²/NDF: 268700349700.9/49

Out: -1.458+/-0.000

χ²/NDF: 274499806397.4/55

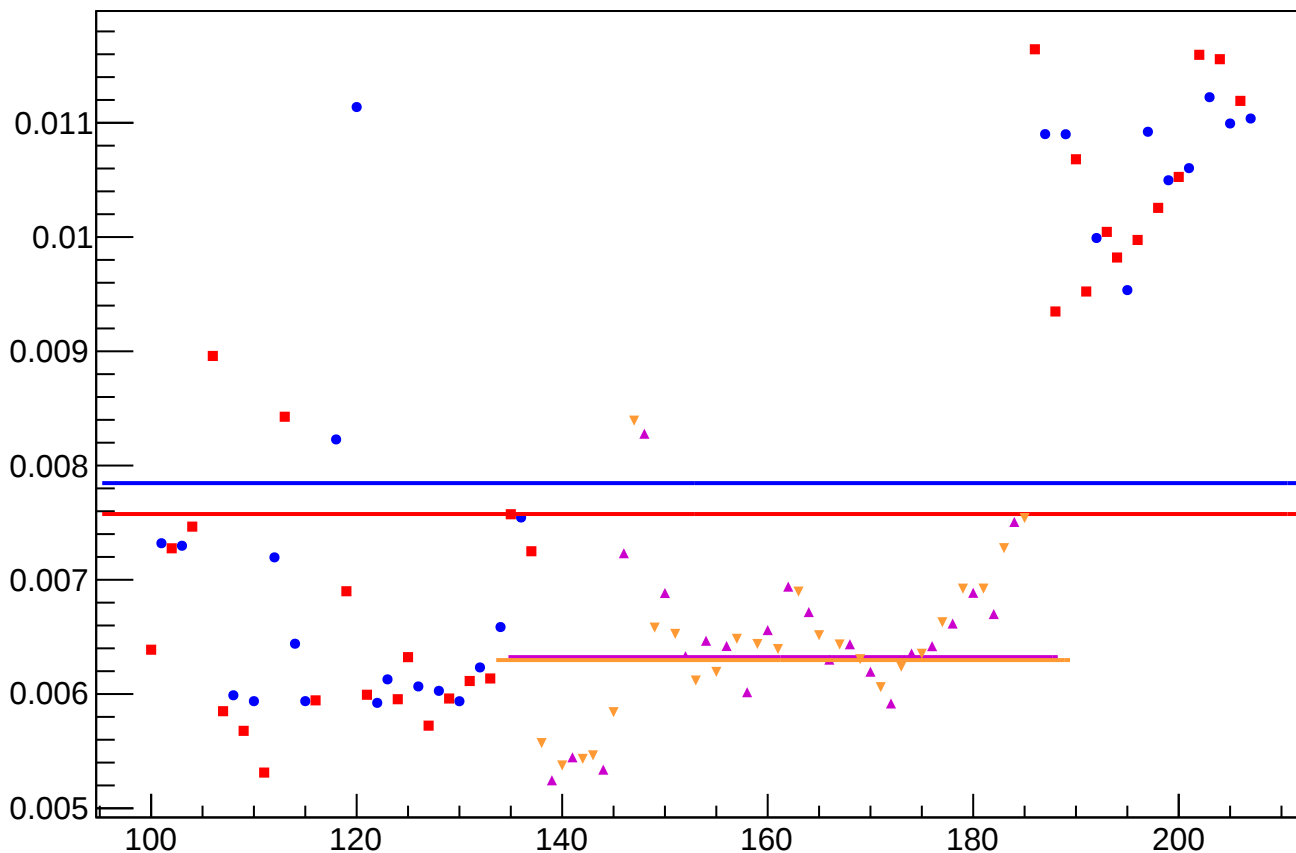
Left In: -1.666+/-0.000

χ²/NDF: 14292570816.9/22

All: -1.442+/-0.000

χ²/NDF: 543585119430.8

# yield\_bpm0l01X\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1595022.2/26

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 310757.0/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1913205.4/30

Left In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 330859.7/22

Left: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 641901.9/47

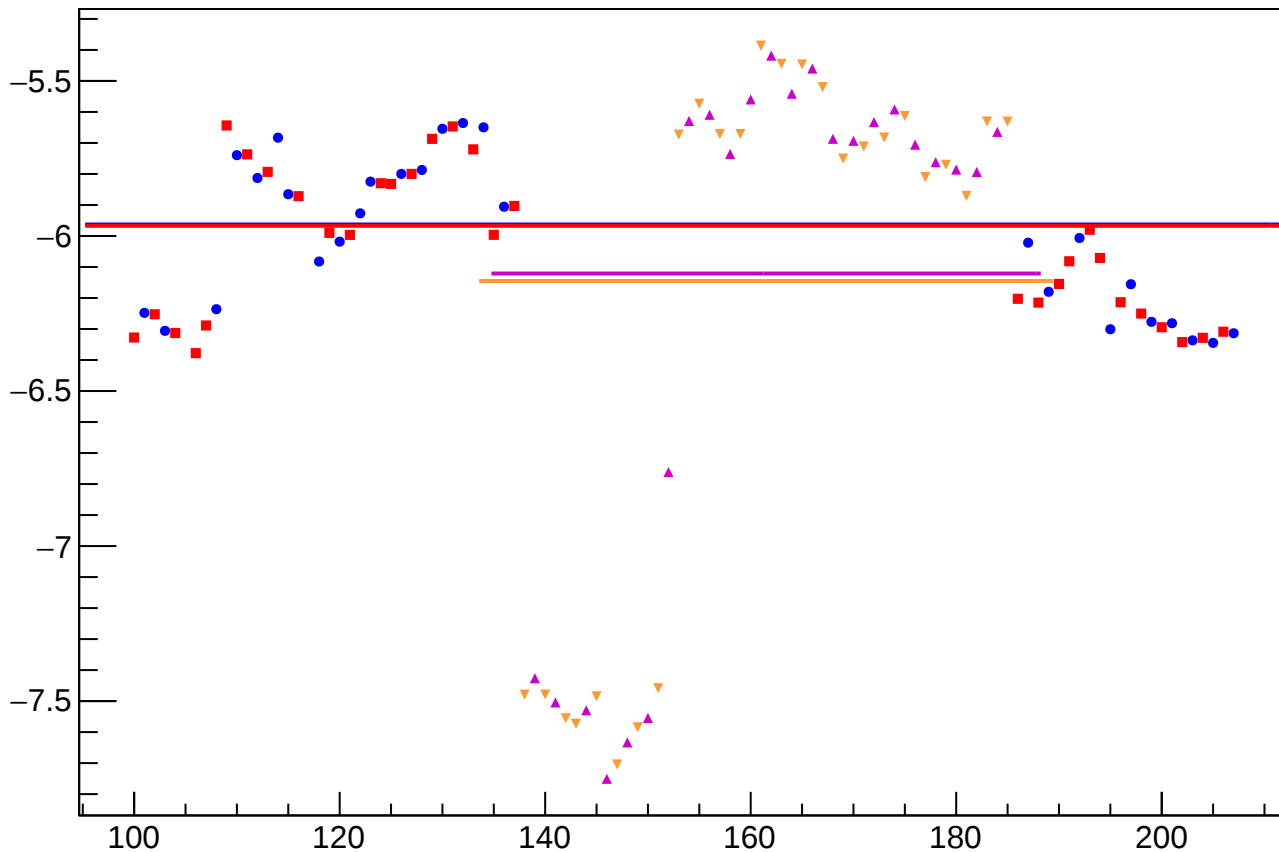
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 3524104.5/57

In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 2550833.2/49

Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 2725956.0/55

All: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 5280991.1/105

# yield\_bpm0l01Y\_mean vs Slug, Sign Corrected



Right In: -5.963+/-0.000  $\chi^2/\text{NDF}$ : 15051391734.2/26

Left Out: -6.145+/-0.000  $\chi^2/\text{NDF}$ : 185364150237.7/24

Right Out: -5.967+/-0.000  $\chi^2/\text{NDF}$ : 16350539656.5/30

Left In: -6.121+/-0.000  $\chi^2/\text{NDF}$ : 158315913062.3/22

Left: -6.133+/-0.000  $\chi^2/\text{NDF}$ : 343753122832.9/47

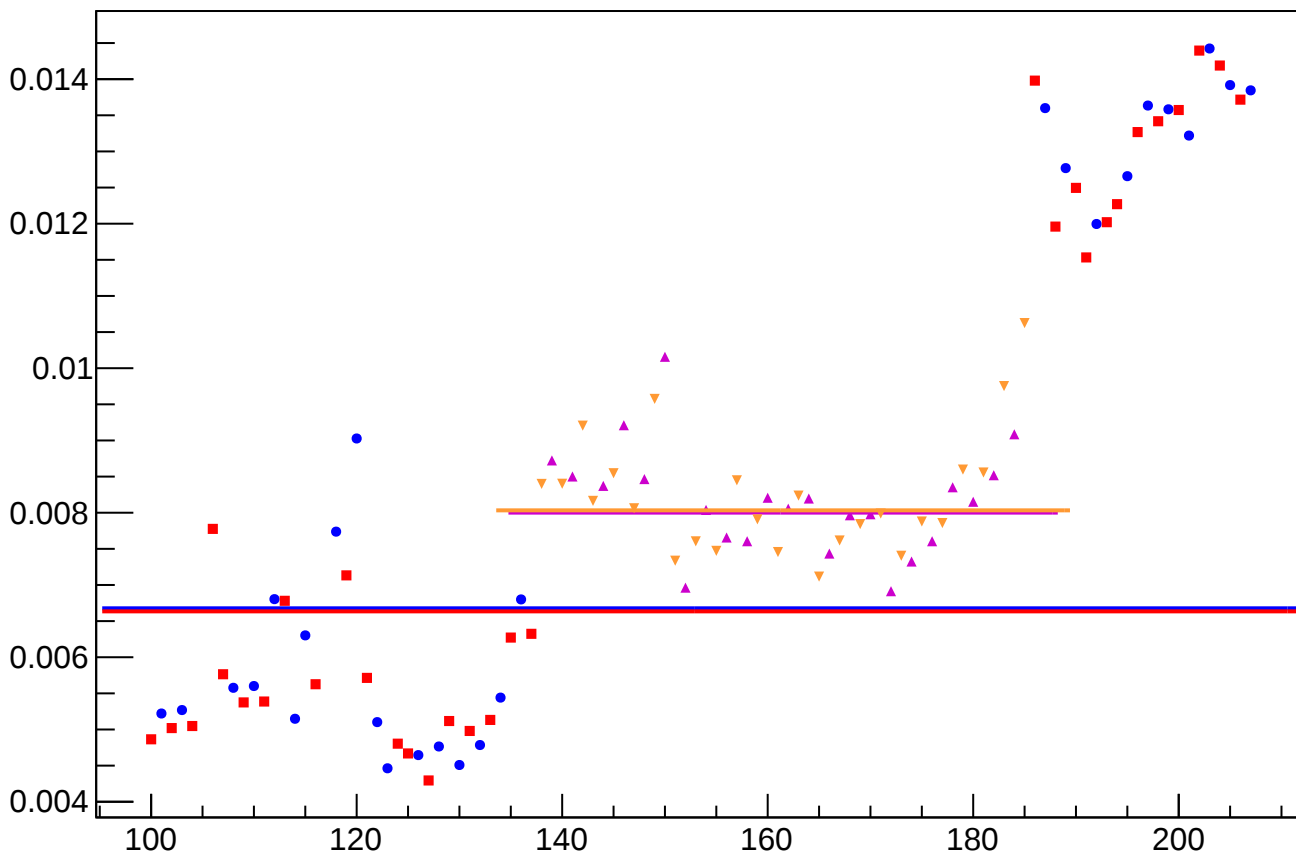
Right: -5.965+/-0.000  $\chi^2/\text{NDF}$ : 31403973421.0/57

In: -6.043+/-0.000  $\chi^2/\text{NDF}$ : 176411383170.1/49

Out: -6.054+/-0.000  $\chi^2/\text{NDF}$ : 205878468968.2/55

All: -6.049+/-0.000  $\chi^2/\text{NDF}$ : 382321984899.9

# yield\_bpm0l01Y\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 4471513.1/26

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :205762.2/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 4730167.4/30

Left In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :220756.1/22

Left: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 426763.2/47

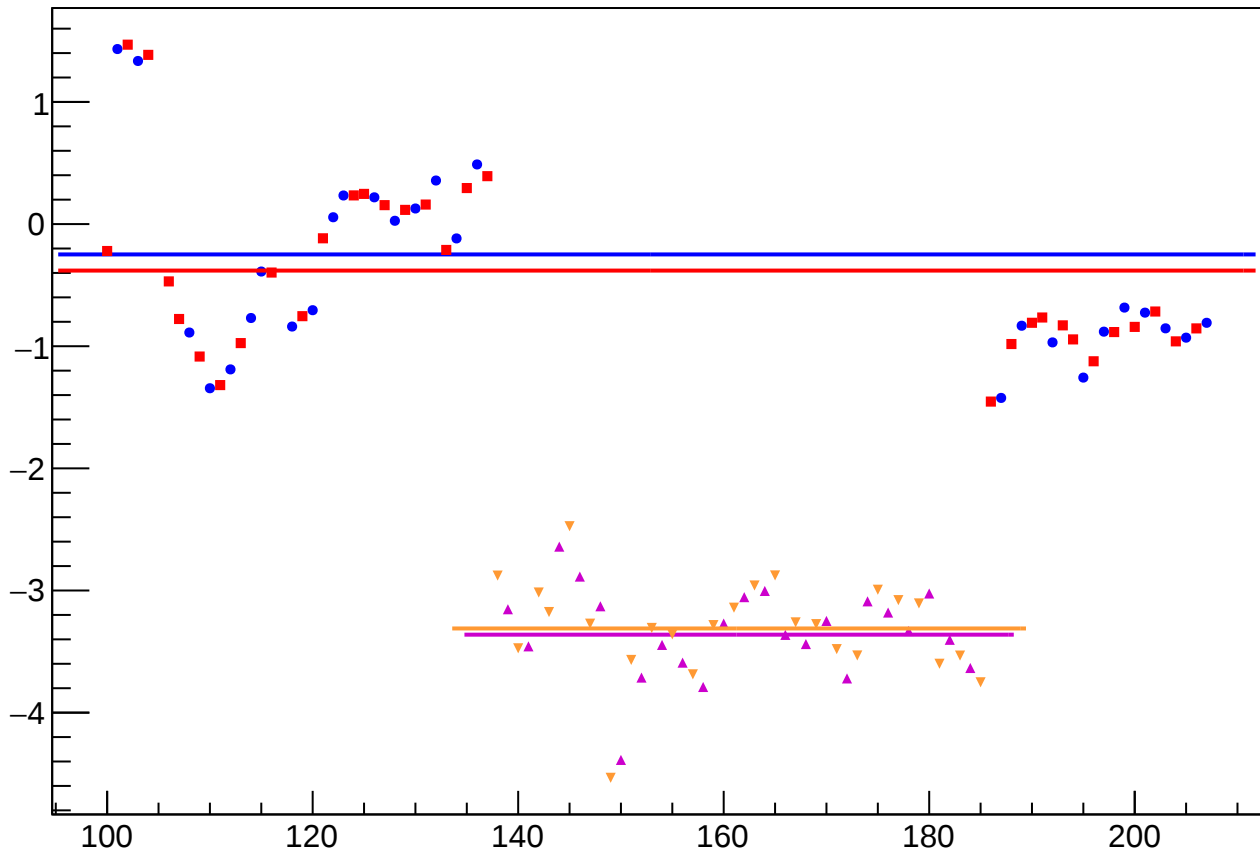
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 9202131.5/57

In: 0.007+/-0.000  $\chi^2/\text{NDF}$ :5119972.8/49

Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ :5448856.4/55

All: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 10569219.0/105

# yield\_bpm0l02X\_mean vs Slug, Sign Corrected



Right In:  $-0.248 \pm 0.000$   $\chi^2/\text{NDF}$ : 30923075610.4/26

Left Out:  $-3.311 \pm 0.000$   $\chi^2/\text{NDF}$ : 9354397456.2/24

Right Out:  $-0.381 \pm 0.000$   $\chi^2/\text{NDF}$ : 32434745862.3/30

Left In:  $-3.362 \pm 0.000$   $\chi^2/\text{NDF}$ : 8171803777.4/22

Left:  $-3.336 \pm 0.000$   $\chi^2/\text{NDF}$ : 17613895190.9/47

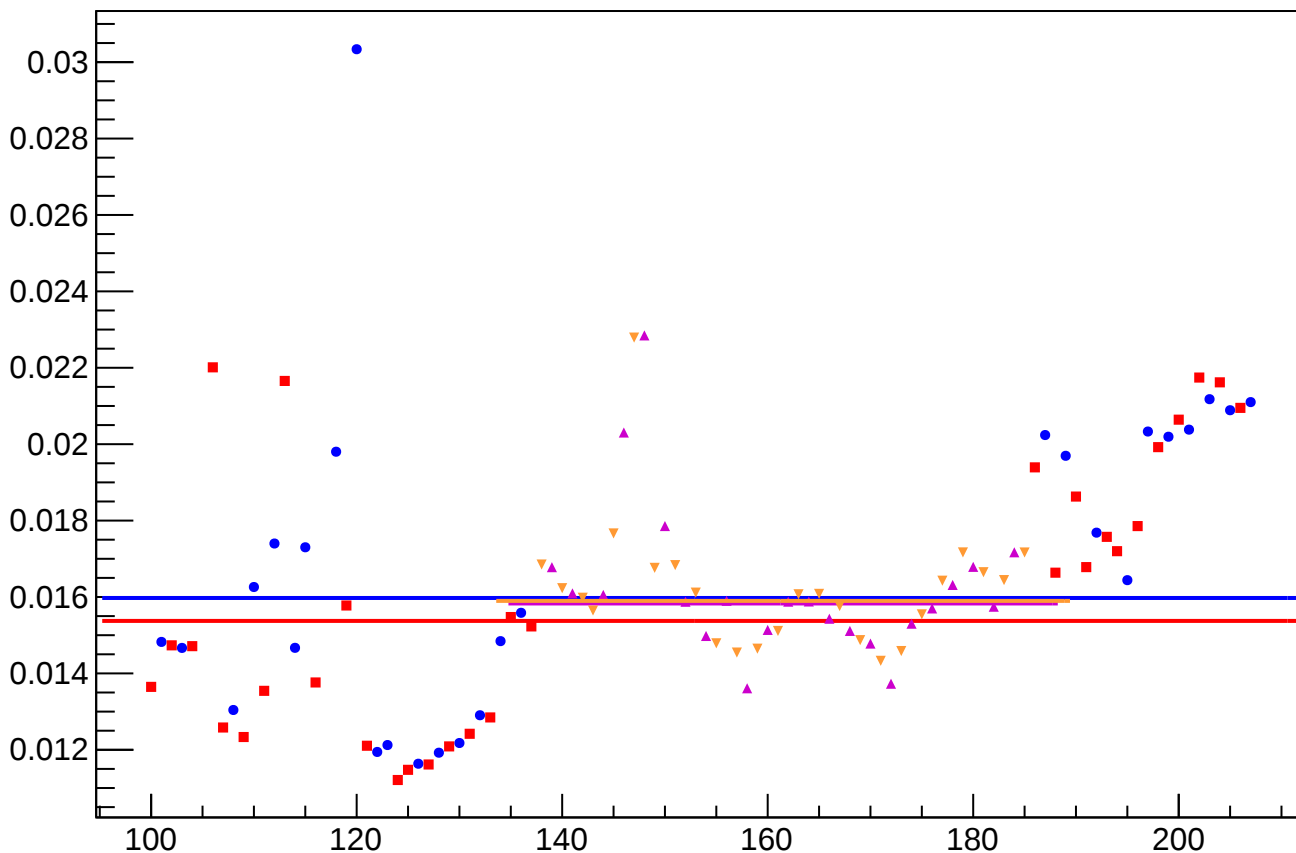
Right:  $-0.320 \pm 0.000$   $\chi^2/\text{NDF}$ : 63823275648.9/57

In:  $-2.039 \pm 0.000$   $\chi^2/\text{NDF}$ : 311940833974.3/49

Out:  $-1.978 \pm 0.000$   $\chi^2/\text{NDF}$ : 314872288663.6/55

All:  $-2.007 \pm 0.000$   $\chi^2/\text{NDF}$ : 627036720012.3

# yield\_bpm0l02X\_rms vs Slug, Sign Corrected



Right In: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 1217765.7/26

Left Out: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 251912.7/24

Right Out: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 1262556.7/30

Left In: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 339542.1/22

Left: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 591766.7/47

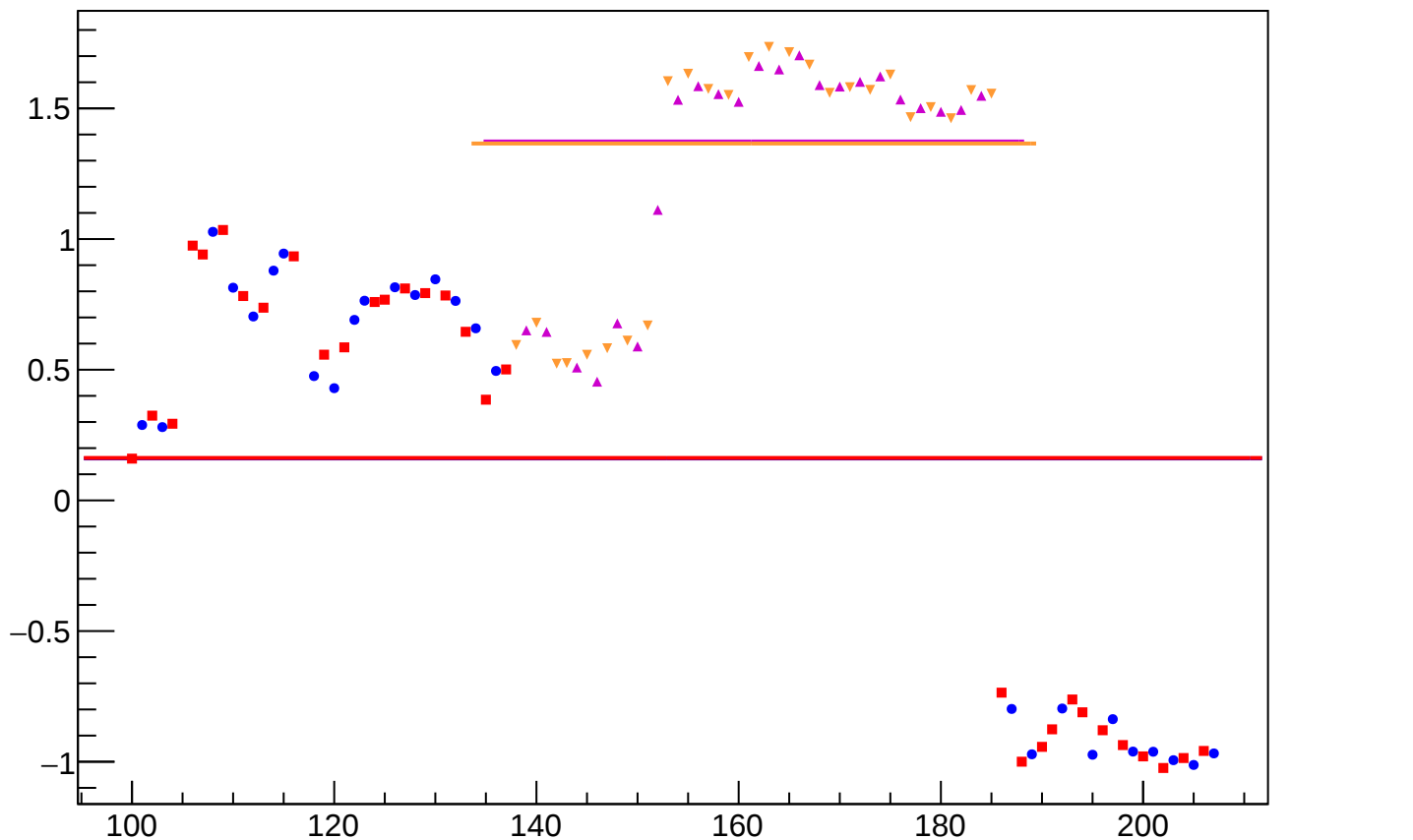
Right: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 2499509.5/57

In: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 1558471.1/49

Out: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 1531958.5/55

All: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 3096953.2/105

# yield\_bpm0l02Y\_mean vs Slug, Sign Corrected



Right In: 0.161+/-0.000

$\chi^2/\text{NDF}$ : 72892887514.2/26

Left: 1.369+/-0.000  $\chi^2/\text{NDF}$ : 138167468300.7/47

Right: 0.162+/-0.000  $\chi^2/\text{NDF}$ : 157020366487.3/57

Left Out: 1.366+/-0.000

$\chi^2/\text{NDF}$ : 74741956067.9/24

In: 1.082+/-0.000  $\chi^2/\text{NDF}$ : 286996225746.2/49

Right Out: 0.162+/-0.000

$\chi^2/\text{NDF}$ : 84127248221.3/30

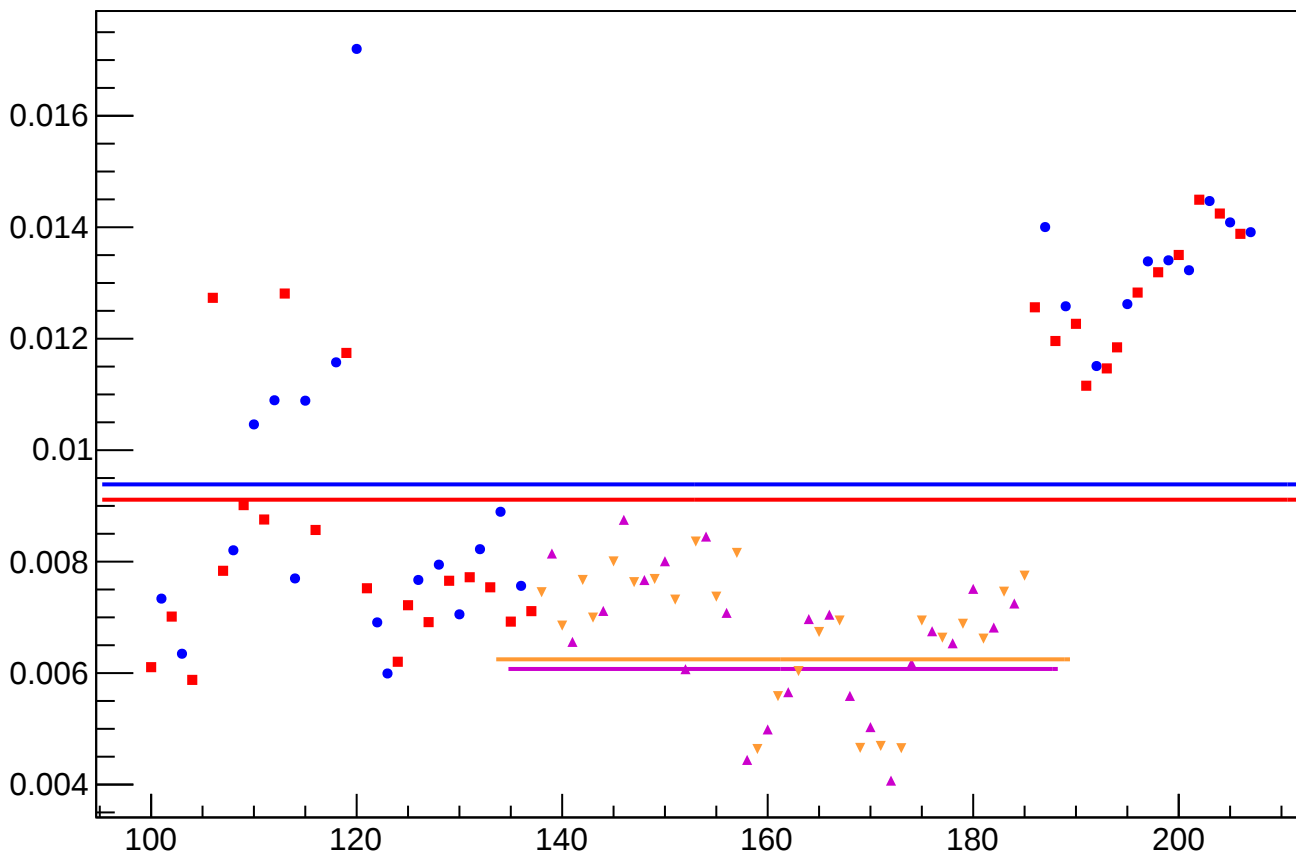
Out: 1.043+/-0.000  $\chi^2/\text{NDF}$ : 324031004173.9/55

Left In: 1.373+/-0.000

$\chi^2/\text{NDF}$ : 63413151416.3/22

All: 1.062+/-0.000  $\chi^2/\text{NDF}$ : 611464023716.3

# yield\_bpm0l02Y\_rms vs Slug, Sign Corrected



Right In:  $0.009 \pm 0.000$   $\chi^2/\text{NDF}: 2129161.8/26$

Left Out:  $0.006 \pm 0.000$   $\chi^2/\text{NDF}: 1330867.5/24$

Right Out:  $0.009 \pm 0.000$   $\chi^2/\text{NDF}: 2301552.2/30$

Left In:  $0.006 \pm 0.000$   $\chi^2/\text{NDF}: 1431986.5/22$

Left:  $0.006 \pm 0.000$   $\chi^2/\text{NDF}: 2775615.7/47$

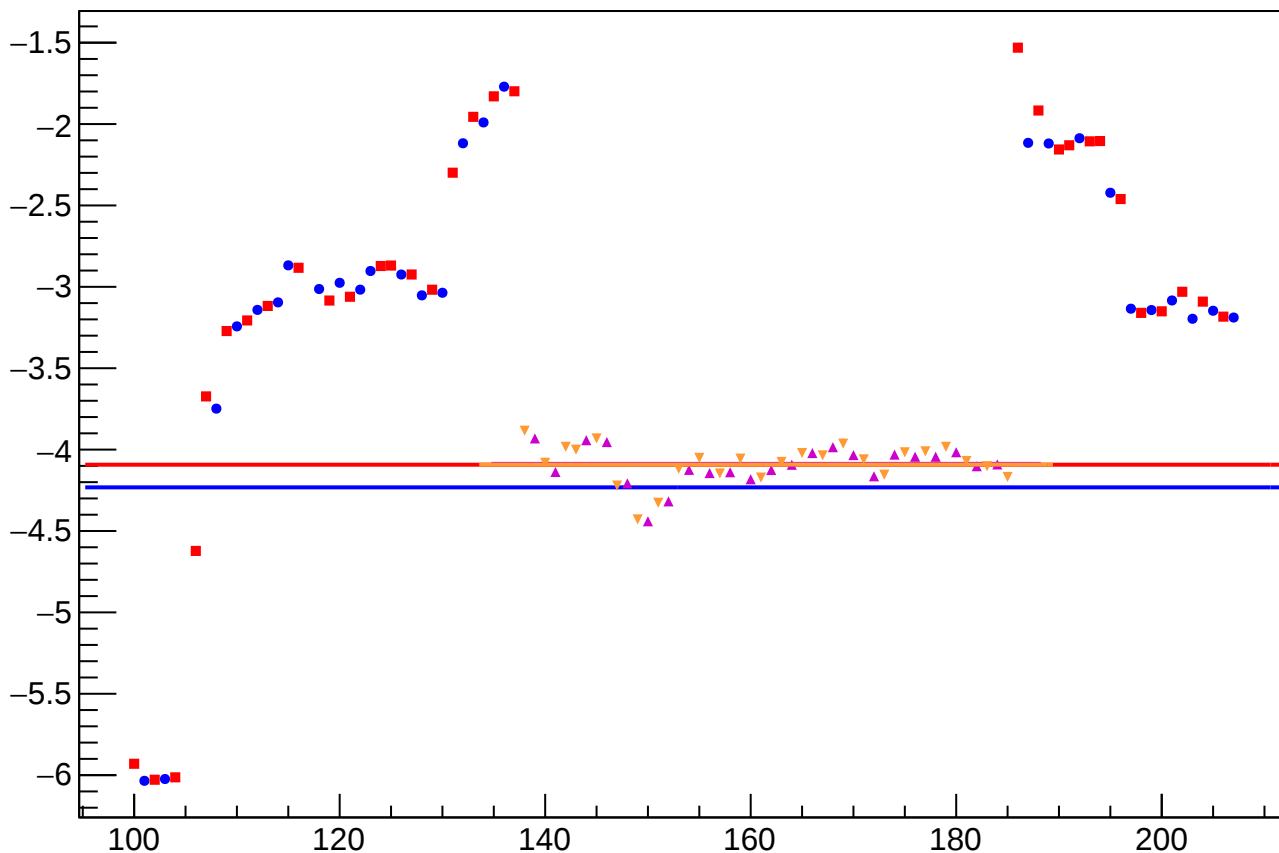
Right:  $0.009 \pm 0.000$   $\chi^2/\text{NDF}: 4441615.0/57$

In:  $0.007 \pm 0.000$   $\chi^2/\text{NDF}: 5809342.0/49$

Out:  $0.007 \pm 0.000$   $\chi^2/\text{NDF}: 5504441.8/55$

All:  $0.007 \pm 0.000$   $\chi^2/\text{NDF}: 11325956.8/105$

# yield\_bpm0l03X\_mean vs Slug, Sign Corrected



Right In:  $-4.232 \pm 0.000$

$\chi^2/\text{NDF}: 274030391190.1/26$

Left:  $-4.089 \pm 0.000$

$\chi^2/\text{NDF}: 74248792.8/47$

Left Out:  $-4.092 \pm 0.000$

$\chi^2/\text{NDF}: 39806766.7/24$

Right:  $-4.173 \pm 0.000$

$\chi^2/\text{NDF}: 543446554319.0/57$

Right Out:  $-4.093 \pm 0.000$

$\chi^2/\text{NDF}: 268536086077.6/30$

In:  $-4.226 \pm 0.000$

$\chi^2/\text{NDF}: 274150131394.4/49$

Out:  $-4.093 \pm 0.000$

$\chi^2/\text{NDF}: 268575895478.8/55$

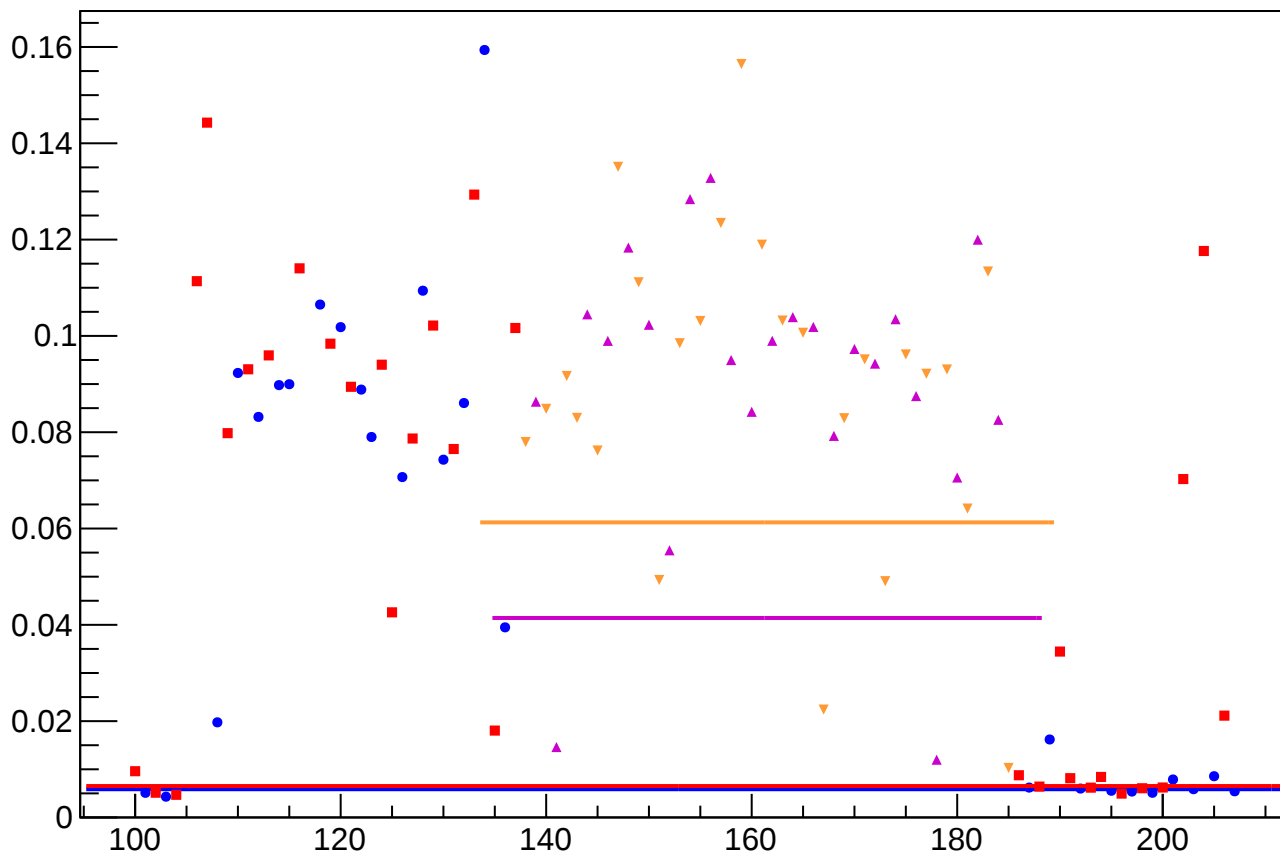
Left In:  $-4.088 \pm 0.000$

$\chi^2/\text{NDF}: 34412880.7/22$

All:  $-4.170 \pm 0.000$

$\chi^2/\text{NDF}: 543569333730.5$

# yield\_bpm0l03X\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 8069890.9/26

Left Out: 0.061+/-0.000  $\chi^2/\text{NDF}$ :8355266.0/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 10329314.0/30

Left In: 0.041+/-0.000  $\chi^2/\text{NDF}$ :13124468.7/22

Left: 0.050+/-0.000  $\chi^2/\text{NDF}$ : 22855159.2/47

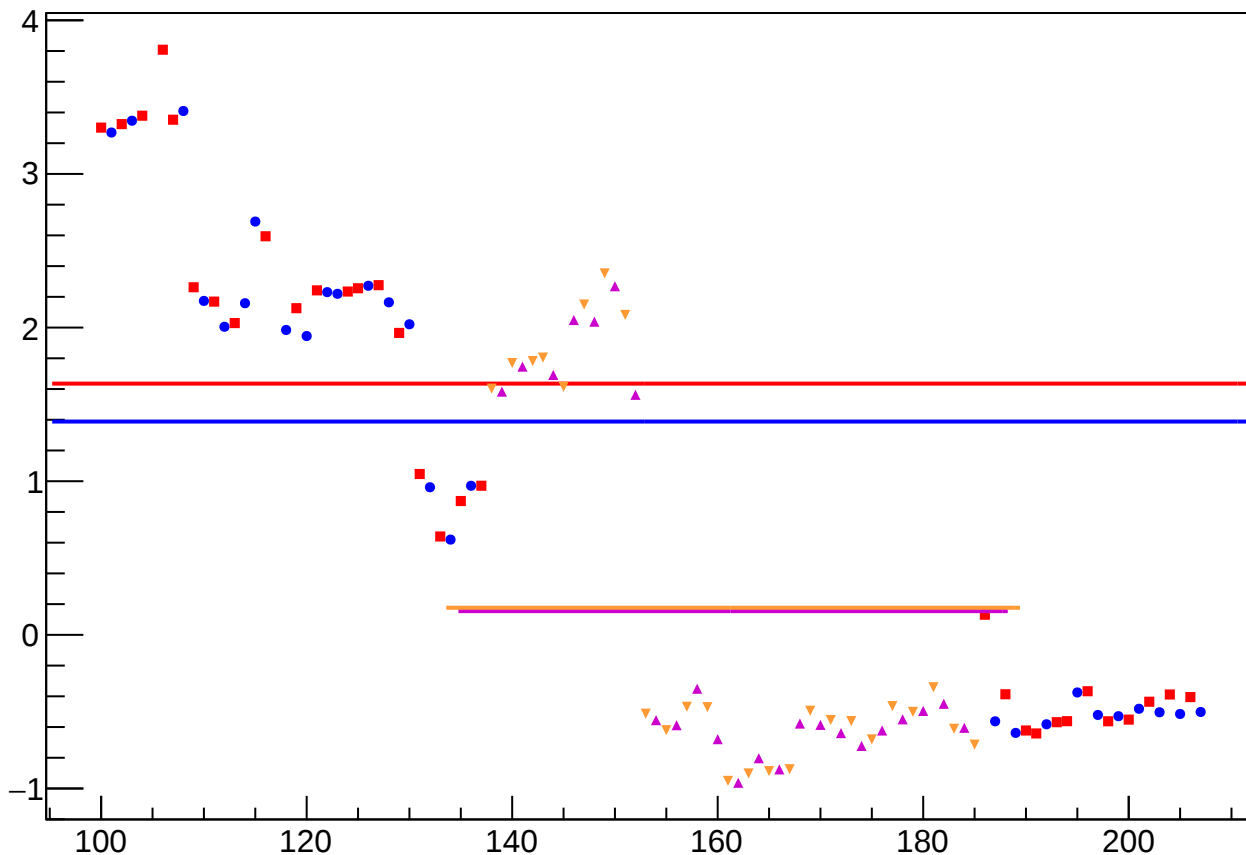
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 18438639.3/57

In: 0.007+/-0.000  $\chi^2/\text{NDF}$ :31567032.5/49

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :35750324.5/55

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 67470684.0/105

# yield\_bpm0l03Y\_mean vs Slug, Sign Corrected



Right In: 1.388 $\pm$ 0.000  $\chi^2$ /NDF: 205684176352.5/26

Left Out: 0.177 $\pm$ 0.000  $\chi^2$ /NDF: 3275313367.7/24

Right Out: 1.635 $\pm$ 0.000  $\chi^2$ /NDF: 167700675622.8/30

Left In: 0.154 $\pm$ 0.000  $\chi^2$ /NDF: 3163553595.0/22

Left: 0.165 $\pm$ 0.000  $\chi^2$ /NDF: 6439465655.5/47

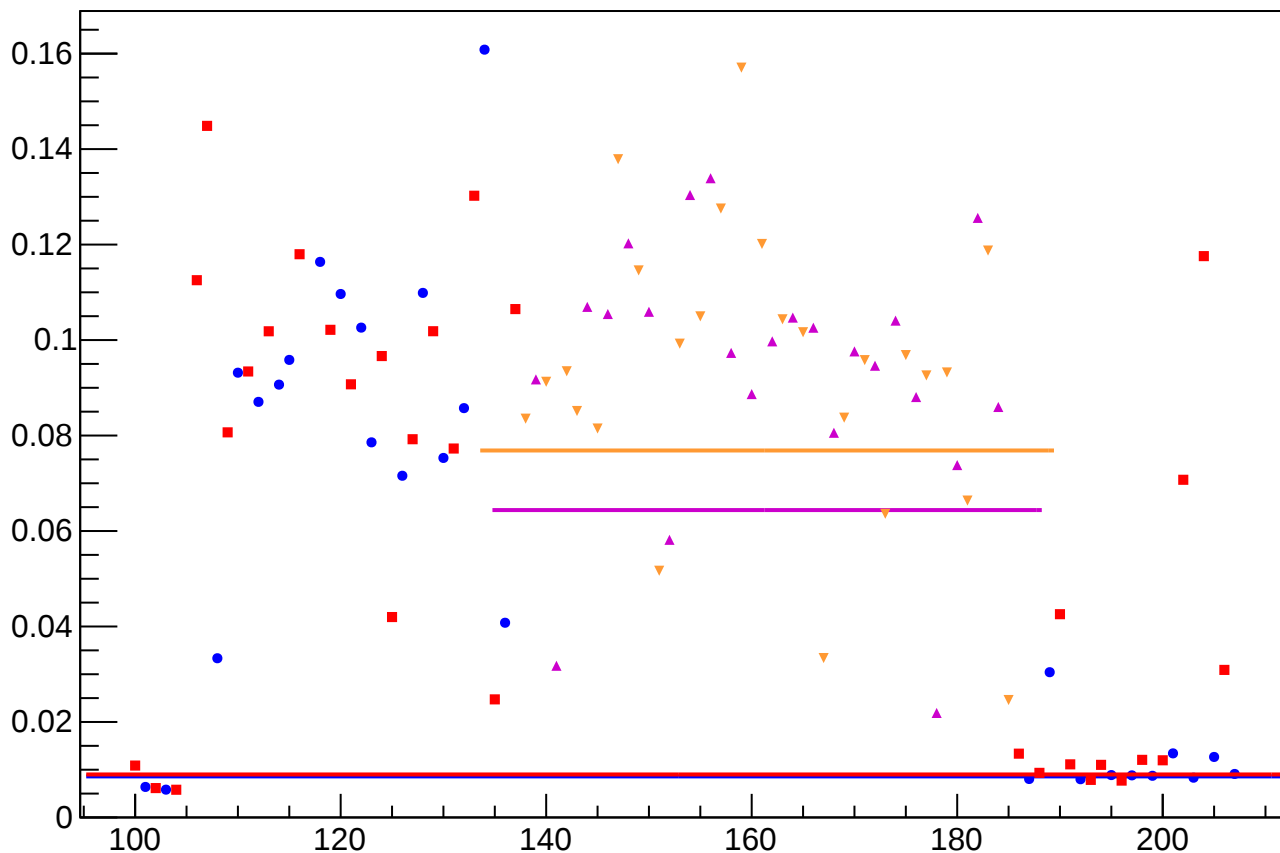
Right: 1.500 $\pm$ 0.000  $\chi^2$ /NDF: 374967015558.0/57

In: 1.335 $\pm$ 0.000  $\chi^2$ /NDF: 212606390885.3/49

Out: 1.569 $\pm$ 0.000  $\chi^2$ /NDF: 175580368003.9/55

All: 1.441 $\pm$ 0.000  $\chi^2$ /NDF: 389669734778.3

# yield\_bpm0l03Y\_rms vs Slug, Sign Corrected



Right In: 0.009 $\pm$ 0.000  $\chi^2$ /NDF: 8029309.0/26

Left Out: 0.077 $\pm$ 0.000  $\chi^2$ /NDF:4217954.3/24

Right Out: 0.009 $\pm$ 0.000  $\chi^2$ /NDF: 10280460.0/30

Left In: 0.064 $\pm$ 0.000  $\chi^2$ /NDF:6990231.5/22

Left: 0.070 $\pm$ 0.000  $\chi^2$ /NDF: 11584112.3/47

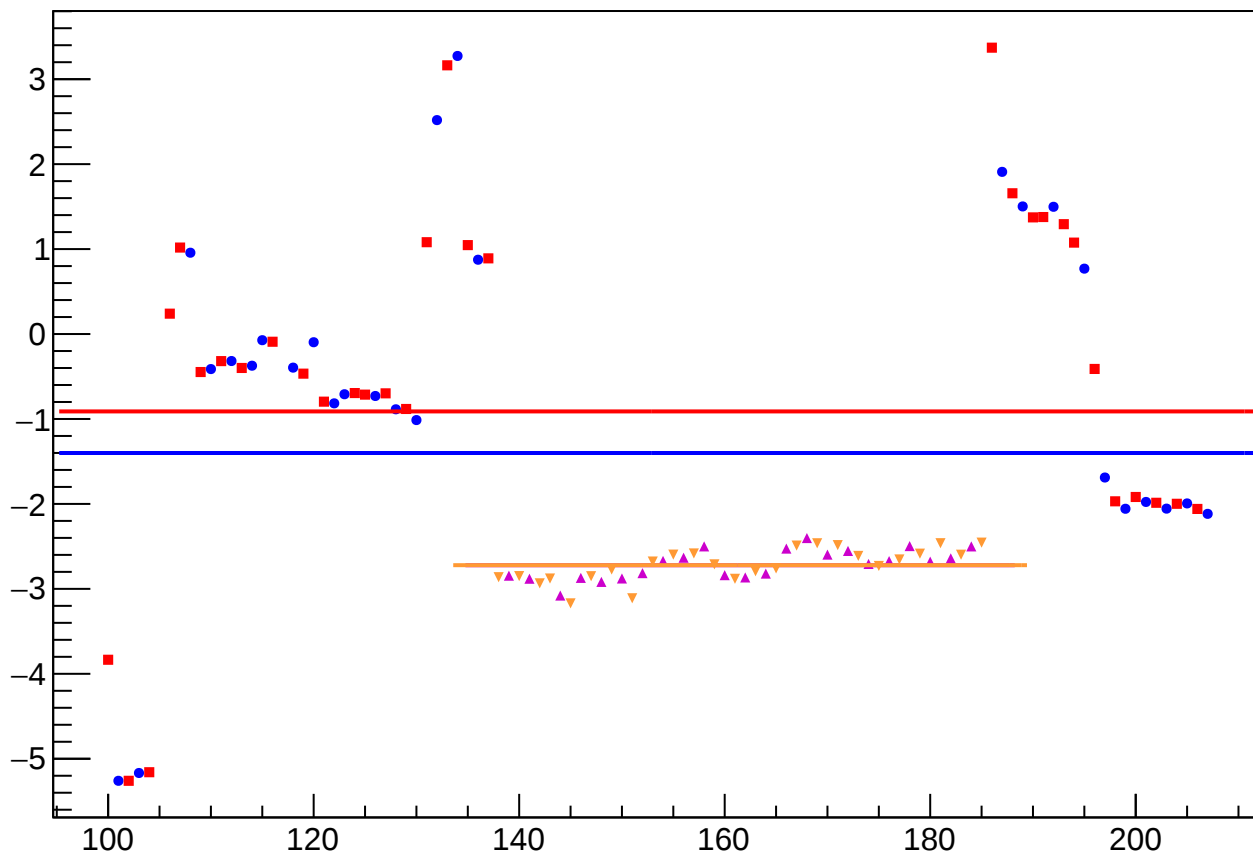
Right: 0.009 $\pm$ 0.000  $\chi^2$ /NDF: 18318339.1/57

In: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:30381577.0/49

Out: 0.012 $\pm$ 0.000  $\chi^2$ /NDF:34427836.2/55

All: 0.012 $\pm$ 0.000  $\chi^2$ /NDF: 64874226.1/105

# yield\_bpm0l04X\_mean vs Slug, Sign Corrected



Right In: -1.401+/-0.000  $\chi^2/\text{NDF}$ : 205723987113.4/26

Left Out: -2.721+/-0.000  $\chi^2/\text{NDF}$ : 10397156971.6/24

Right Out: -0.911+/-0.000  $\chi^2/\text{NDF}$ : 235670216105.3/30

Left In: -2.722+/-0.000  $\chi^2/\text{NDF}$ : 8146484592.1/22

Left: -2.722+/-0.000  $\chi^2/\text{NDF}$ : 18543711860.5/47

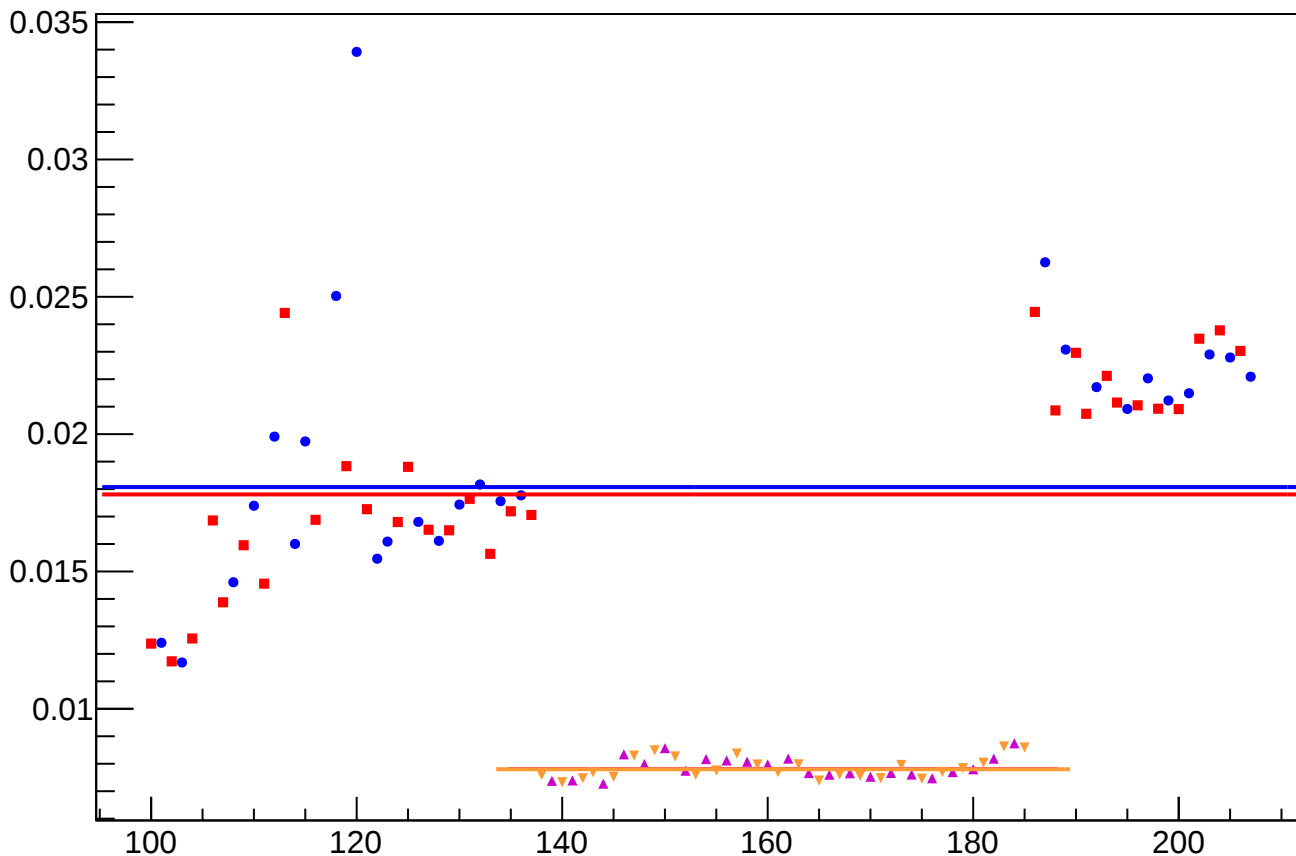
Right: -1.139+/-0.000  $\chi^2/\text{NDF}$ : 446154791583.8/57

In: -2.564+/-0.000  $\chi^2/\text{NDF}$ : 271136969834.1/49

Out: -2.490+/-0.000  $\chi^2/\text{NDF}$ : 367795444859.0/55

All: -2.526+/-0.000  $\chi^2/\text{NDF}$ : 639801886525.4

# yield\_bpm0l04X\_rms vs Slug, Sign Corrected



Right In: 0.018+/-0.000  $\chi^2/\text{NDF}$ : 1308092.6/26

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 71164.4/24

Right Out: 0.018+/-0.000  $\chi^2/\text{NDF}$ : 1238634.6/30

Left In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 67610.2/22

Left: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 138804.4/47

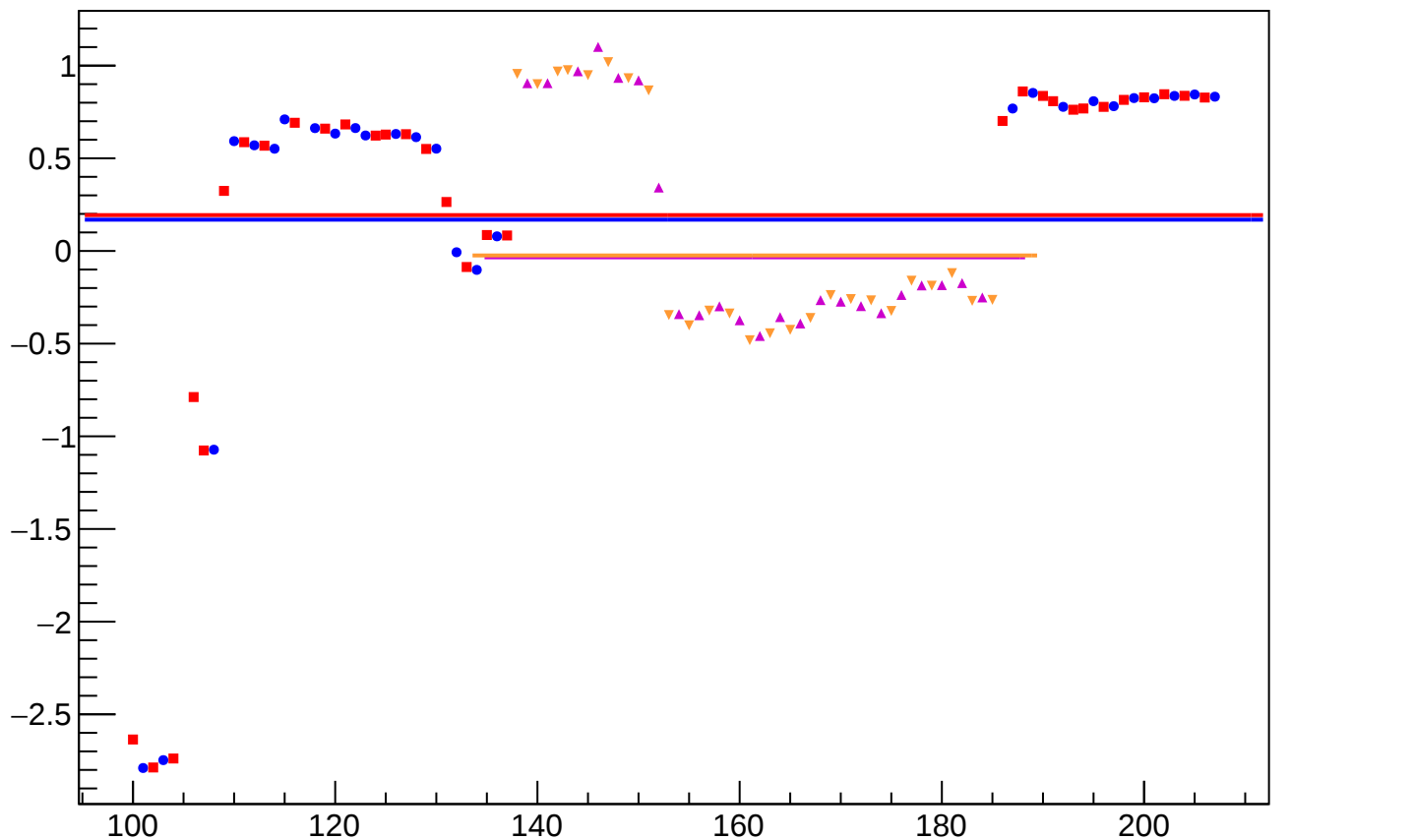
Right: 0.018+/-0.000  $\chi^2/\text{NDF}$ : 2549583.2/57

In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 8283421.4/49

Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 8746461.3/55

All: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 17030336.6/105

# yield\_bpm0l04Y\_mean vs Slug, Sign Corrected



Right In: 0.169+/-0.000  $\chi^2/\text{NDF}$ : 865746651037.1/26

Left Out: -0.024+/-0.000  $\chi^2/\text{NDF}$ : 135451649275.0/24

Right Out: 0.193+/-0.000  $\chi^2/\text{NDF}$ : 928260843896.2/30

Left In: -0.034+/-0.000  $\chi^2/\text{NDF}$ : 113929060918.1/22

Left: -0.029+/-0.000  $\chi^2/\text{NDF}$ : 249405201350.6/47

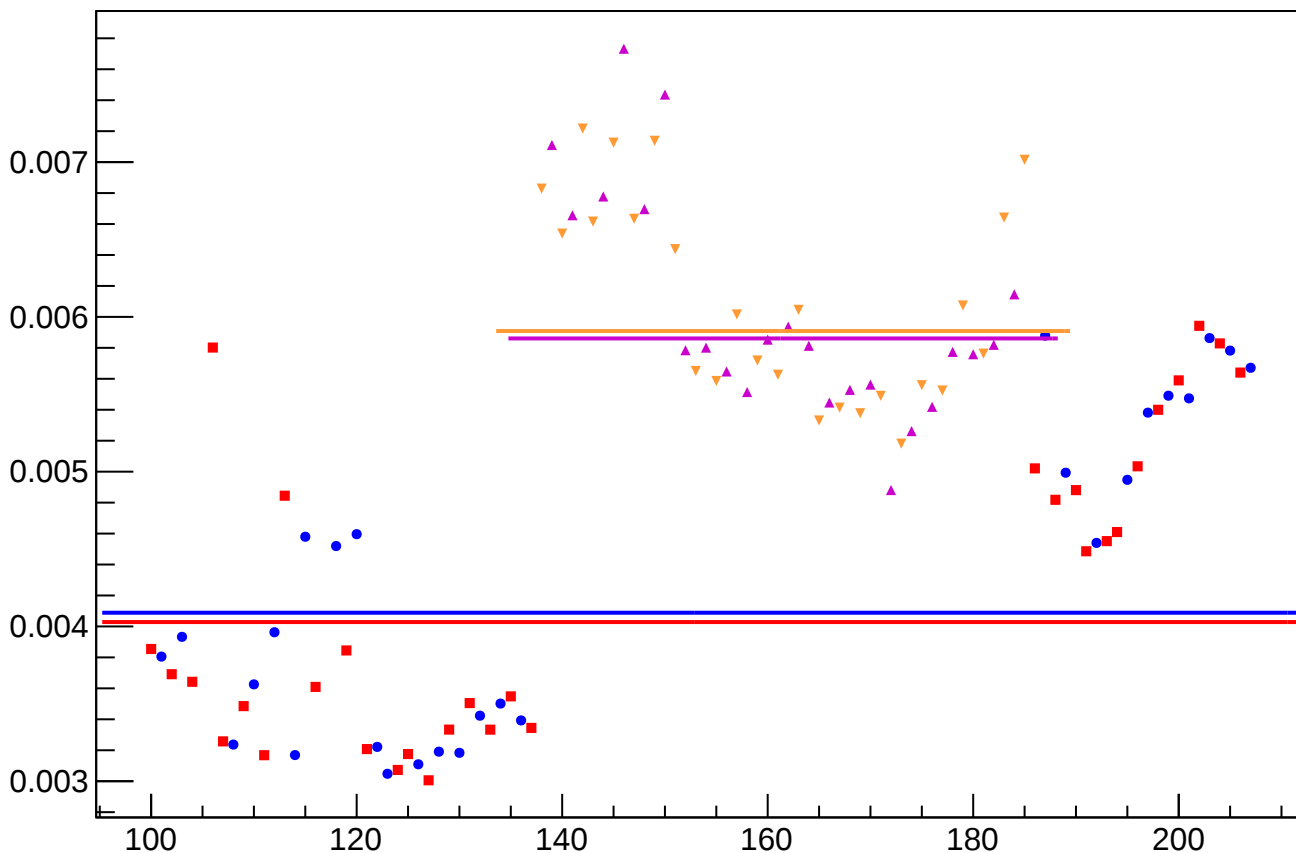
Right: 0.182+/-0.000  $\chi^2/\text{NDF}$ : 1794250089337.9/57

In: 0.091+/-0.000  $\chi^2/\text{NDF}$ : 991570298189.8/49

Out: 0.115+/-0.000  $\chi^2/\text{NDF}$ : 1078301807968.9/55

All: 0.104+/-0.000  $\chi^2/\text{NDF}$ : 2070217526845.0/100

# yield\_bpm0l04Y\_rms vs Slug, Sign Corrected



Right In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 1323494.8/26

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ :314309.7/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 1379905.9/30

Left In: 0.006+/-0.000  $\chi^2/\text{NDF}$ :364512.1/22

Left: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 679905.3/47

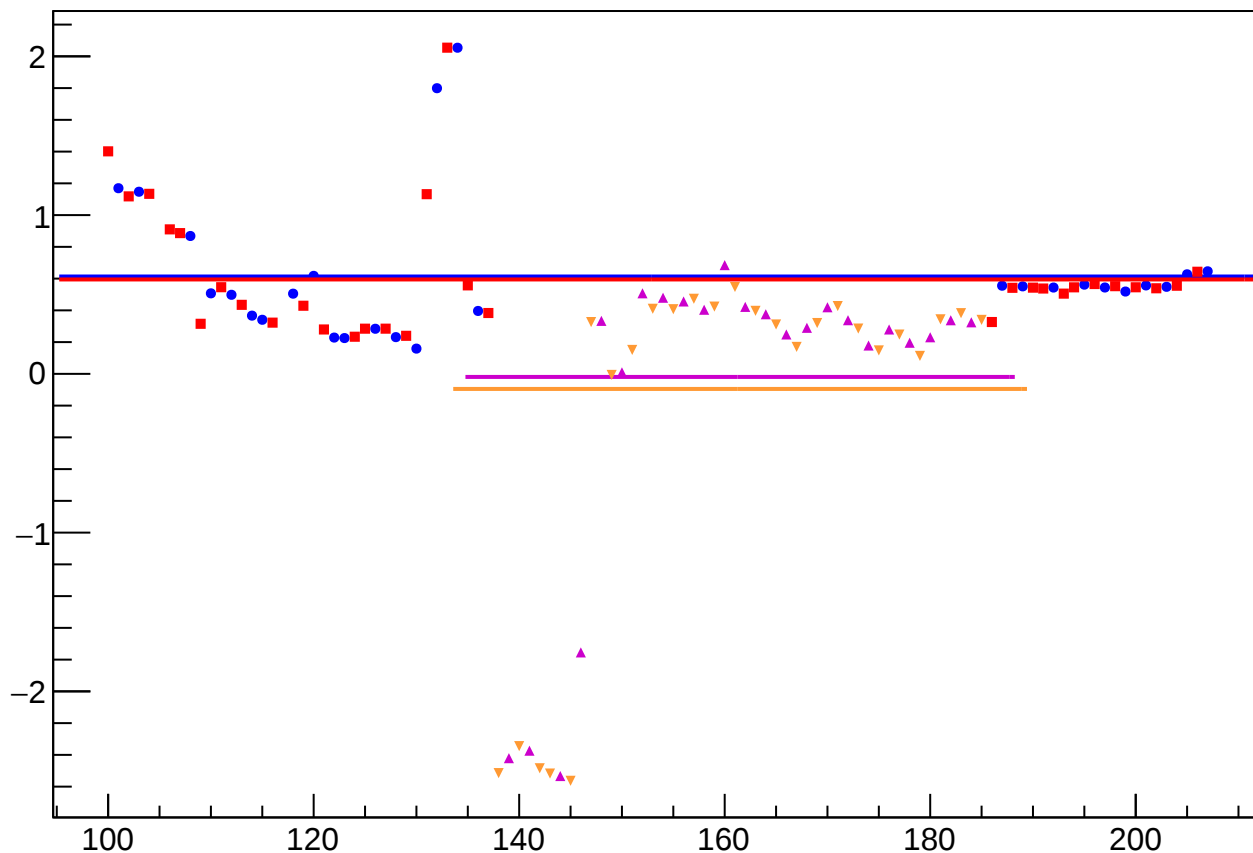
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 2706314.3/57

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ :3497869.5/49

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ :3872238.6/55

All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 7373981.6/105

# yield\_bpm0l05X\_mean vs Slug, Sign Corrected



Right In: 0.613+/-0.000

$\chi^2/\text{NDF}$ : 40541423806.1/26

Left: -0.058+/-0.000

$\chi^2/\text{NDF}$ : 924153662333.7/47

Left Out: -0.095+/-0.000

$\chi^2/\text{NDF}$ : 505606573631.9/24

Right: 0.603+/-0.000

$\chi^2/\text{NDF}$ : 86681929796.8/57

Right Out: 0.595+/-0.000

$\chi^2/\text{NDF}$ : 45999523469.7/30

In: 0.366+/-0.000

$\chi^2/\text{NDF}$ : 577790508968.1/49

Out: 0.339+/-0.000

$\chi^2/\text{NDF}$ : 705868184093.4/55

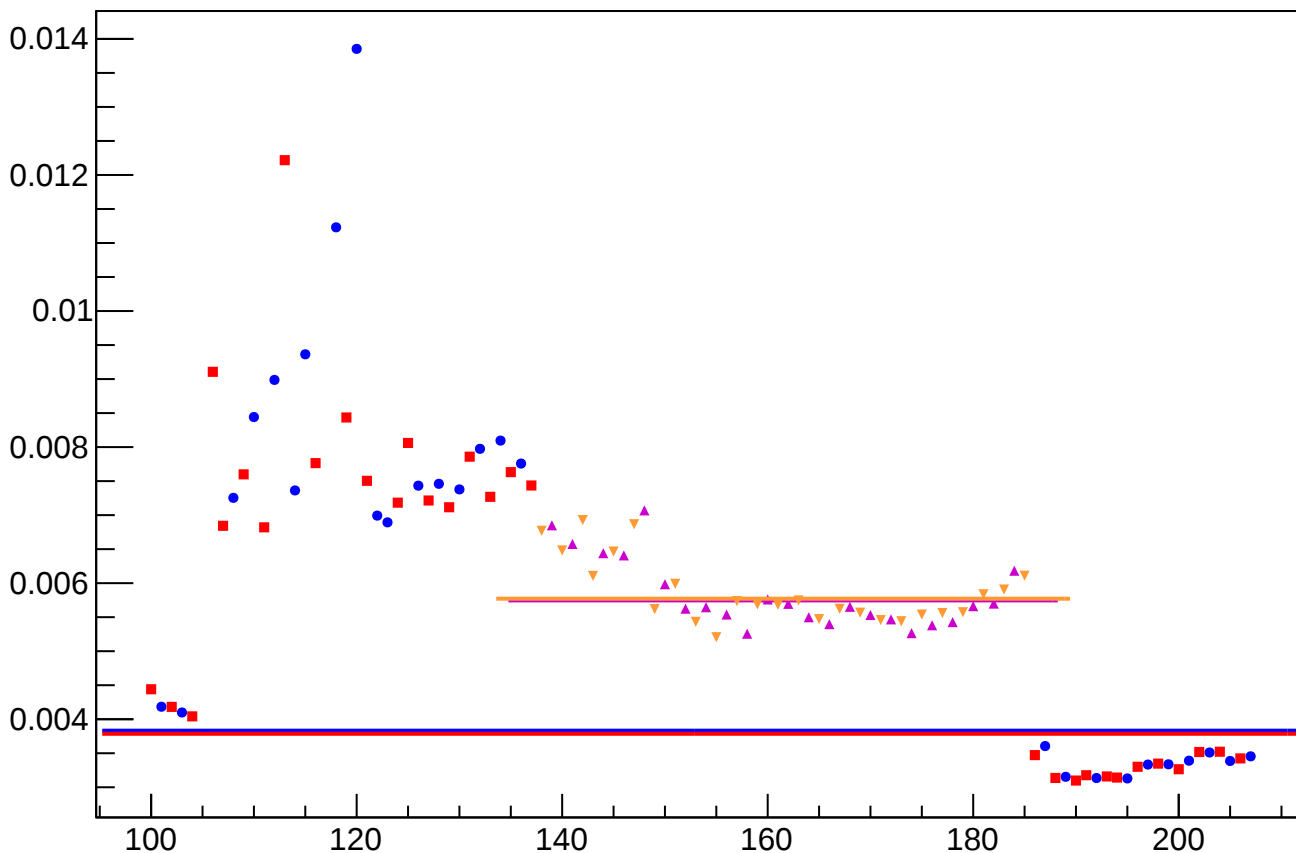
Left In: -0.019+/-0.000

$\chi^2/\text{NDF}$ : 417104863944.5/22

All: 0.352+/-0.000

$\chi^2/\text{NDF}$ : 1284120675732.1/128

# yield\_bpm0l05X\_rms vs Slug, Sign Corrected



Right In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 3112559.4/26

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ :177680.7/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 3151286.3/30

Left In: 0.006+/-0.000  $\chi^2/\text{NDF}$ :204066.4/22

Left: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 382076.8/47

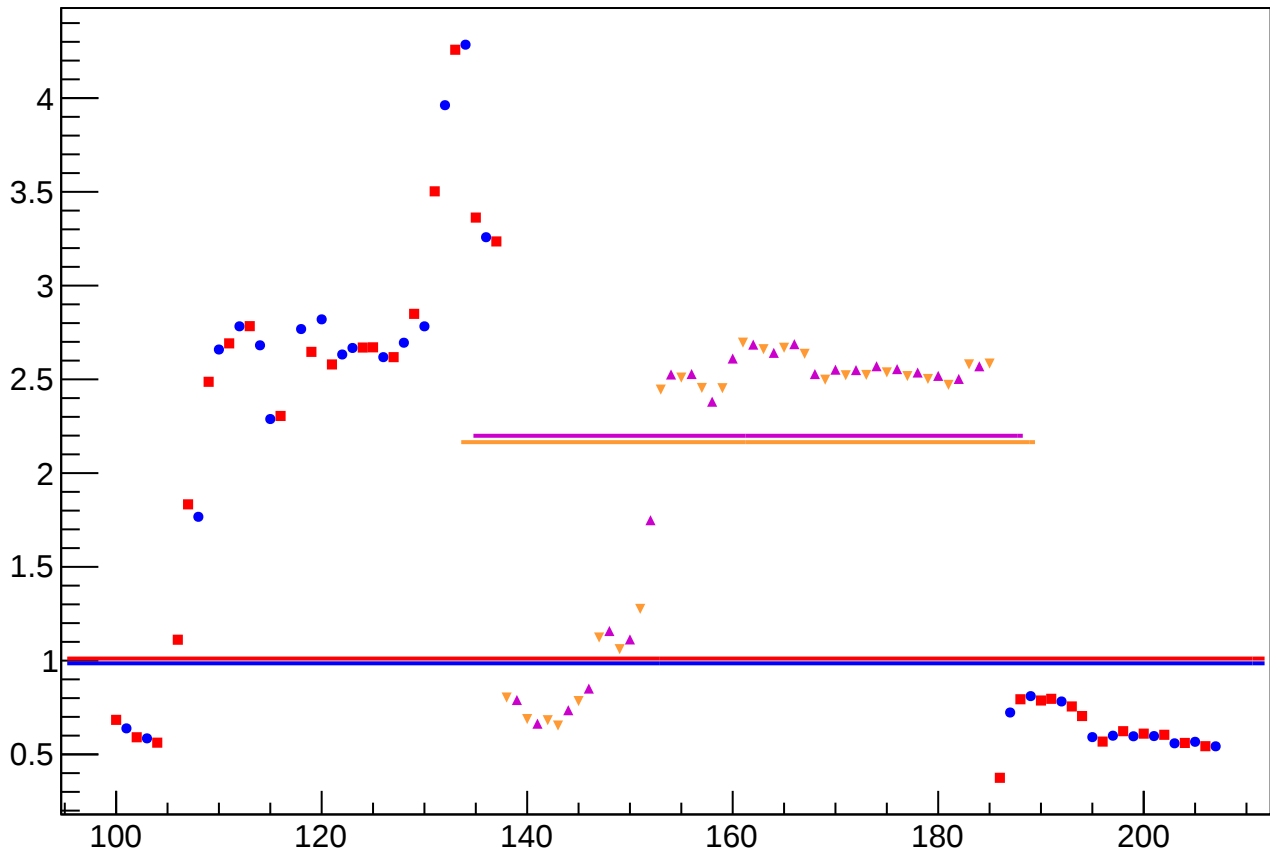
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 6265534.0/57

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ :5518645.9/49

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ :5887372.0/55

All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 11410673.7/105

# yield\_bpm0l05Y\_mean vs Slug, Sign Corrected



Right In: 0.986 $\pm$ 0.000  $\chi^2$ /NDF: 293607538653.5/26

Left Out: 2.165 $\pm$ 0.000  $\chi^2$ /NDF: 292800056899.6/24

Right Out: 1.011 $\pm$ 0.000  $\chi^2$ /NDF: 340796673715.9/30

Left In: 2.199 $\pm$ 0.000  $\chi^2$ /NDF: 253166239065.4/22

Left: 2.182 $\pm$ 0.000  $\chi^2$ /NDF: 546302258971.9/47

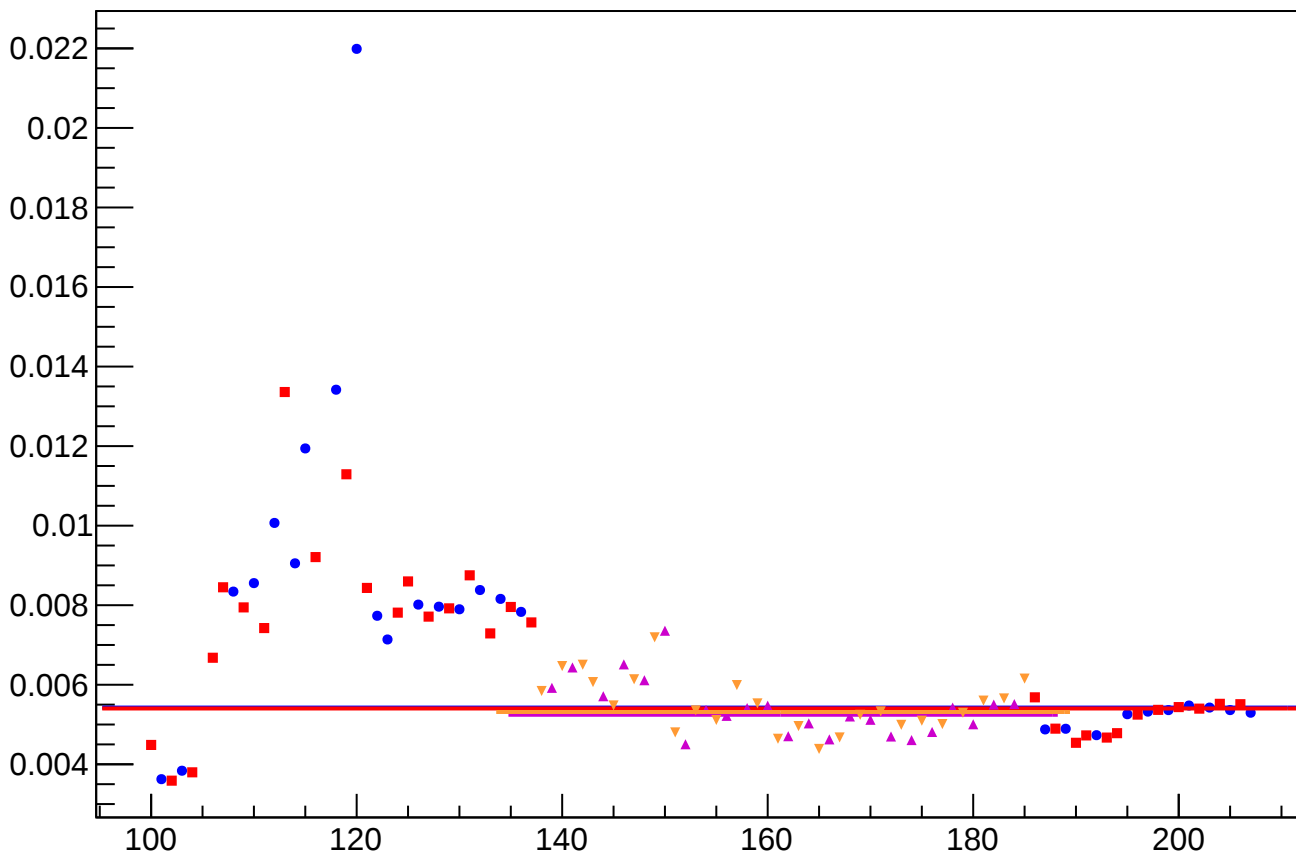
Right: 0.999 $\pm$ 0.000  $\chi^2$ /NDF: 634539376361.7/57

In: 1.702 $\pm$ 0.000  $\chi^2$ /NDF: 891830310653.0/49

Out: 1.667 $\pm$ 0.000  $\chi^2$ /NDF: 970976821788.9/55

All: 1.684 $\pm$ 0.000  $\chi^2$ /NDF: 1863419720024.

# yield\_bpm0l05Y\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2006159.7/26

Left Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 398795.0/24

Right Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1877587.4/30

Left In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 425864.8/22

Left: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 827475.4/47

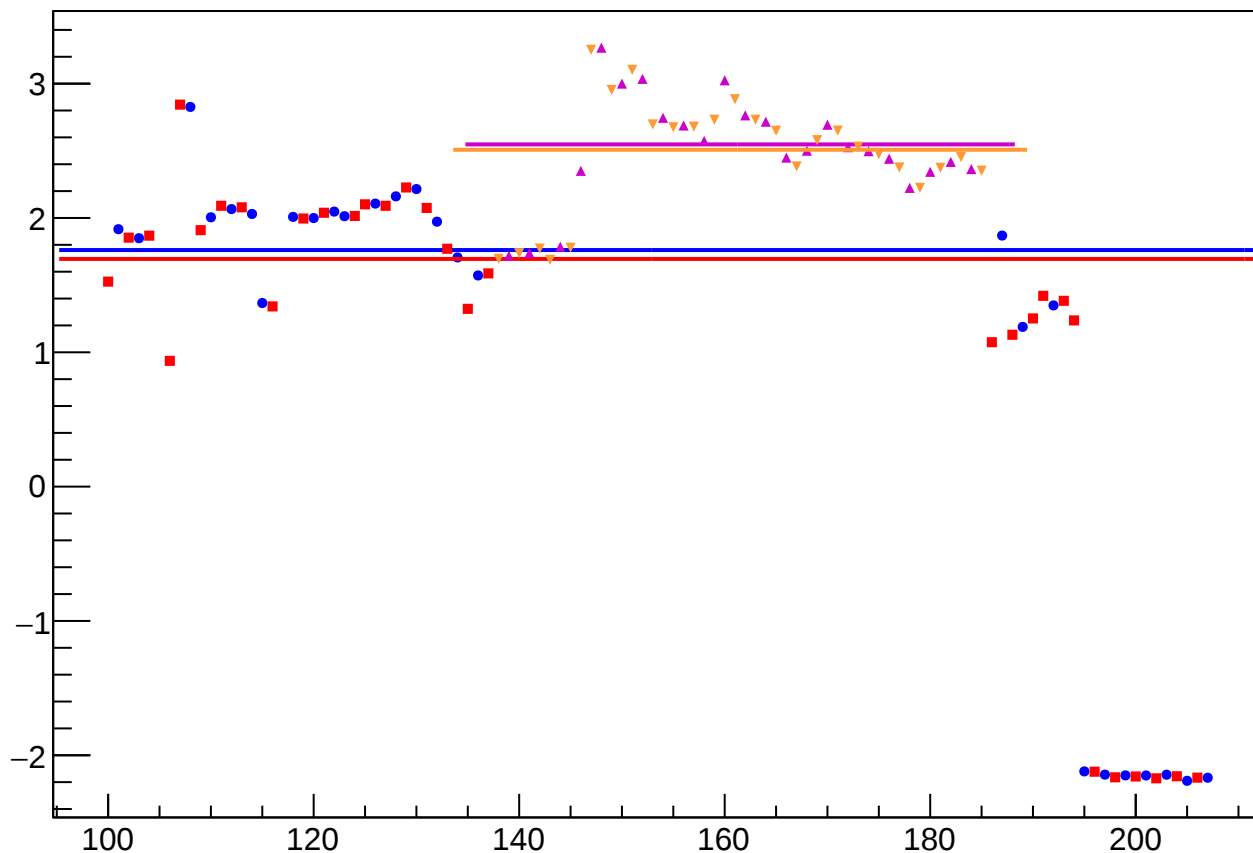
Right: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 3883971.3/57

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2447349.8/49

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2280309.0/55

All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 4728789.6/105

# yield\_bpm0l06X\_mean vs Slug, Sign Corrected



Right In: 1.761+/-0.000  $\chi^2/\text{NDF}$ : 134254235566.4/26

Left Out: 2.508+/-0.000  $\chi^2/\text{NDF}$ : 52355332406.0/24

Right Out: 1.695+/-0.000  $\chi^2/\text{NDF}$ : 124567020173.7/30

Left In: 2.548+/-0.000  $\chi^2/\text{NDF}$ : 45350336058.7/22

Left: 2.527+/-0.000  $\chi^2/\text{NDF}$ : 97963993742.3/47

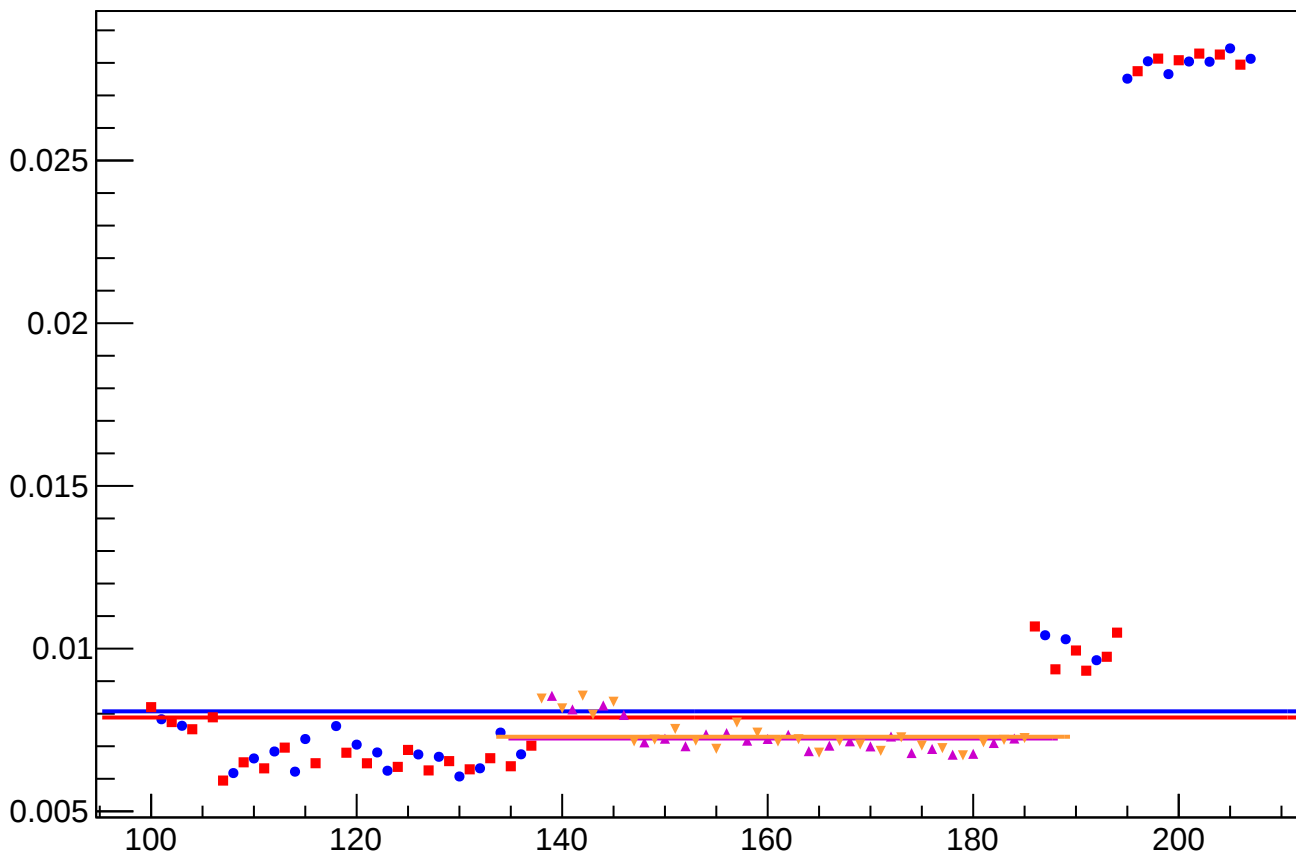
Right: 1.725+/-0.000  $\chi^2/\text{NDF}$ : 259201135790.6/57

In: 2.285+/-0.000  $\chi^2/\text{NDF}$ : 245035011893.2/49

Out: 2.209+/-0.000  $\chi^2/\text{NDF}$ : 256742013737.7/55

All: 2.245+/-0.000  $\chi^2/\text{NDF}$ : 503229912745.9

# yield\_bpm0l06X\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 6310395.1/26

Left Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ :140788.4/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 5539148.0/30

Left In: 0.007+/-0.000  $\chi^2/\text{NDF}$ :125233.2/22

Left: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 266945.6/47

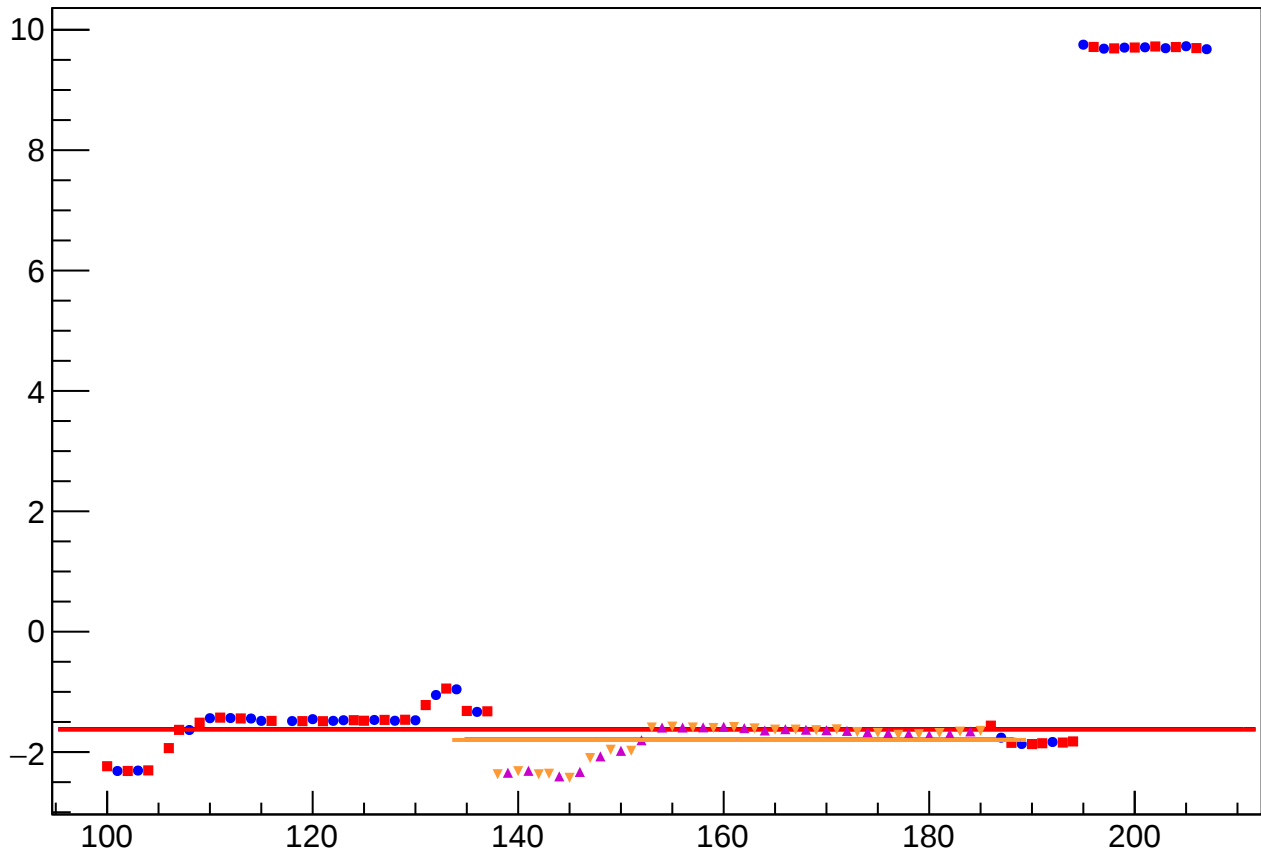
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 11855737.8/57

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :6582920.5/49

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :5764633.7/55

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 12347580.0/105

# yield\_bpm0l06Y\_mean vs Slug, Sign Corrected



Right In: -1.619+/-0.000  $\chi^2/\text{NDF}$ : 339019019581.7/26

Left Out: -1.799+/-0.000  $\chi^2/\text{NDF}$ : 185362087438.8/24

Right Out: -1.628+/-0.000  $\chi^2/\text{NDF}$ : 315395462203.2/30

Left In: -1.790+/-0.000  $\chi^2/\text{NDF}$ : 159648935510.8/22

Left: -1.795+/-0.000  $\chi^2/\text{NDF}$ : 345099435201.4/47

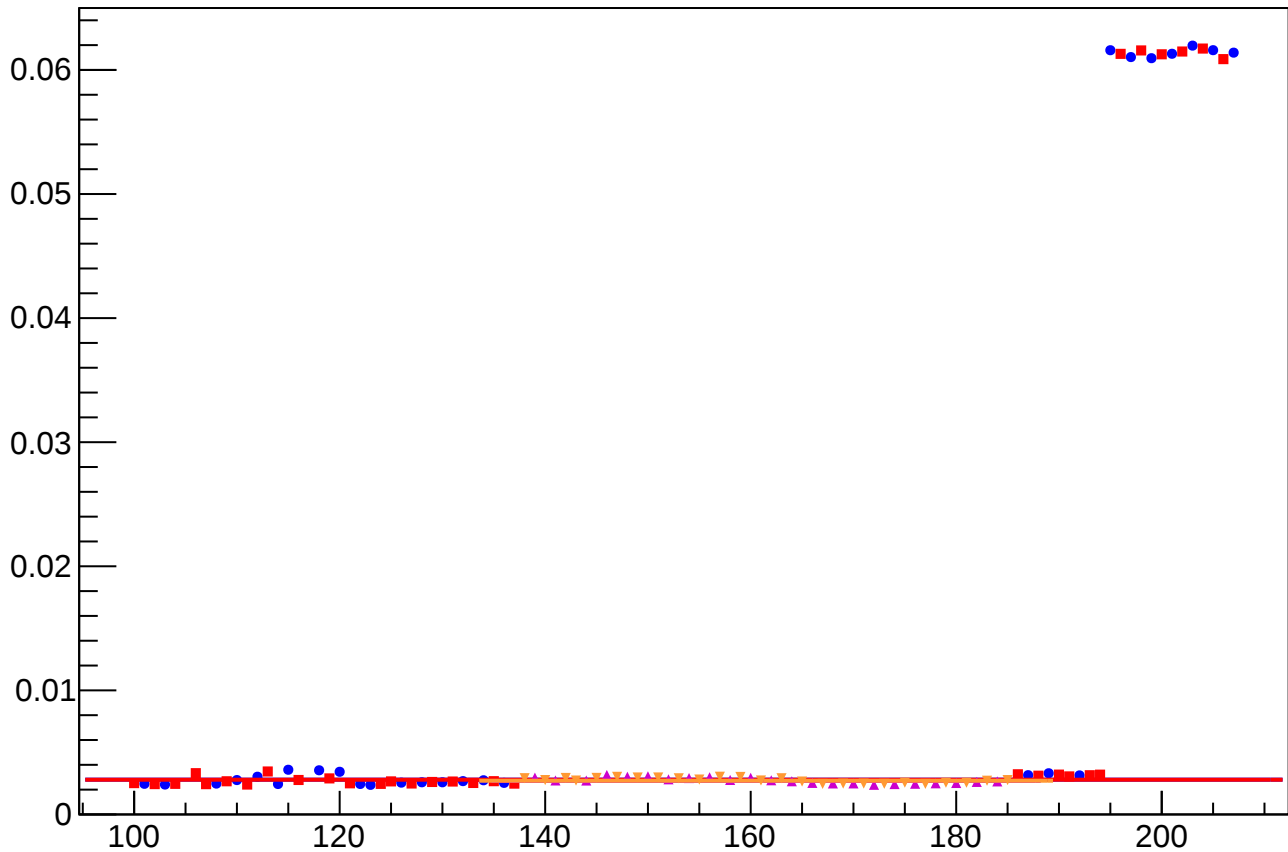
Right: -1.624+/-0.000  $\chi^2/\text{NDF}$ : 654470511769.8/57

In: -1.736+/-0.000  $\chi^2/\text{NDF}$ : 519742326921.3/49

Out: -1.739+/-0.000  $\chi^2/\text{NDF}$ : 525056187175.7/55

All: -1.737+/-0.000  $\chi^2/\text{NDF}$ : 1044809969442

# yield\_bpm0l06Y\_rms vs Slug, Sign Corrected



Right In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 10505638.6/26

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :199695.2/24

Right Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 8614346.6/30

Left In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :220327.9/22

Left: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 420716.9/47

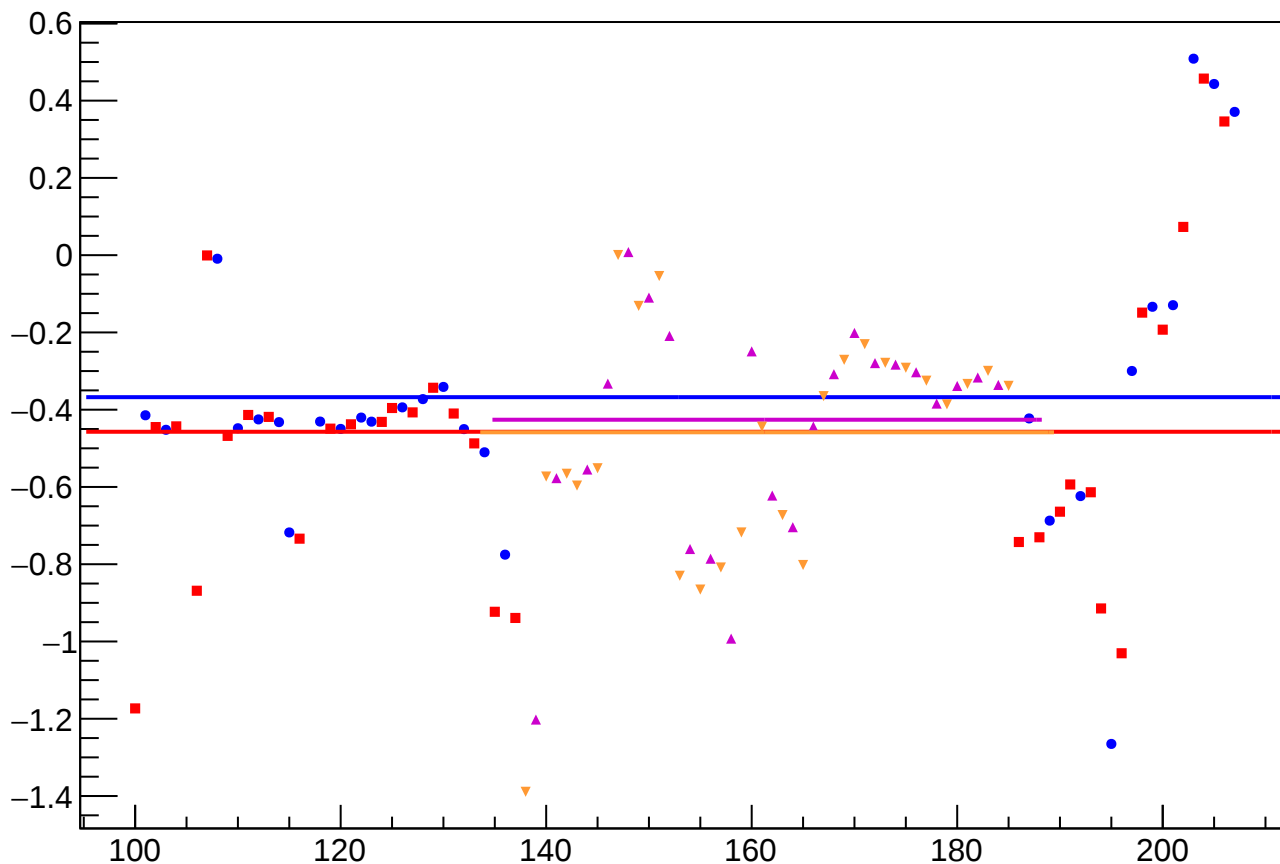
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 19120008.1/57

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :10741139.8/49

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :8825066.8/55

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 19566845.5/105

# yield\_bpm0l07X\_mean vs Slug, Sign Corrected



Right In:  $-0.368 \pm 0.000$   $\chi^2/\text{NDF}: 9262518611.0/26$

Left Out:  $-0.459 \pm 0.000$   $\chi^2/\text{NDF}: 9916462814.9/24$

Right Out:  $-0.457 \pm 0.000$   $\chi^2/\text{NDF}: 8773684520.8/30$

Left In:  $-0.426 \pm 0.000$   $\chi^2/\text{NDF}: 8424222576.0/22$

Left:  $-0.443 \pm 0.000$   $\chi^2/\text{NDF}: 18401926676.9/47$

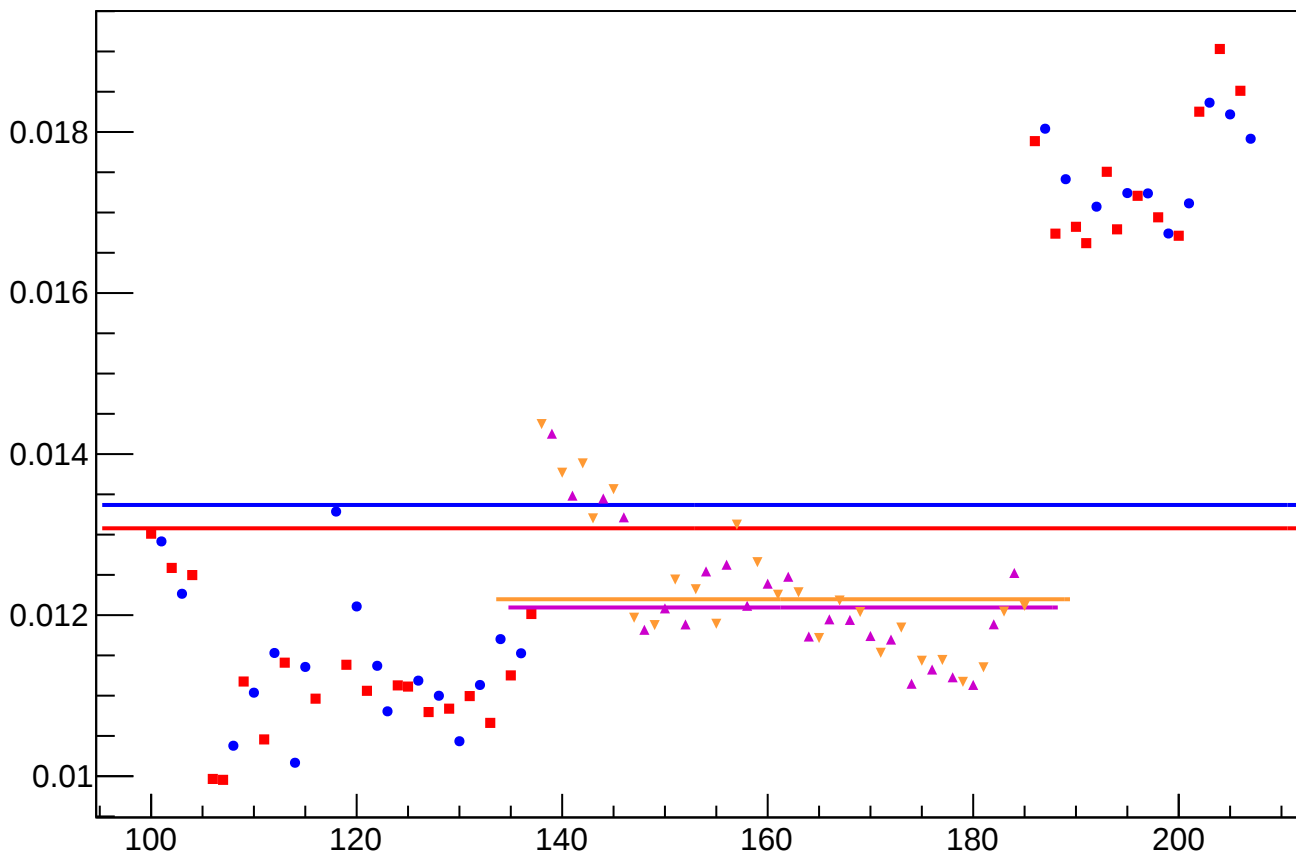
Right:  $-0.415 \pm 0.000$   $\chi^2/\text{NDF}: 18344076286.5/57$

In:  $-0.403 \pm 0.000$   $\chi^2/\text{NDF}: 17837130276.4/49$

Out:  $-0.458 \pm 0.000$   $\chi^2/\text{NDF}: 18690240231.2/55$

All:  $-0.432 \pm 0.000$   $\chi^2/\text{NDF}: 36815092241.7/100$

# yield\_bpm0l07X\_rms vs Slug, Sign Corrected



Right In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 1200026.2/26

Left Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ :141850.9/24

Right Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 1474444.5/30

Left In: 0.012+/-0.000  $\chi^2/\text{NDF}$ :127308.3/22

Left: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 270367.5/47

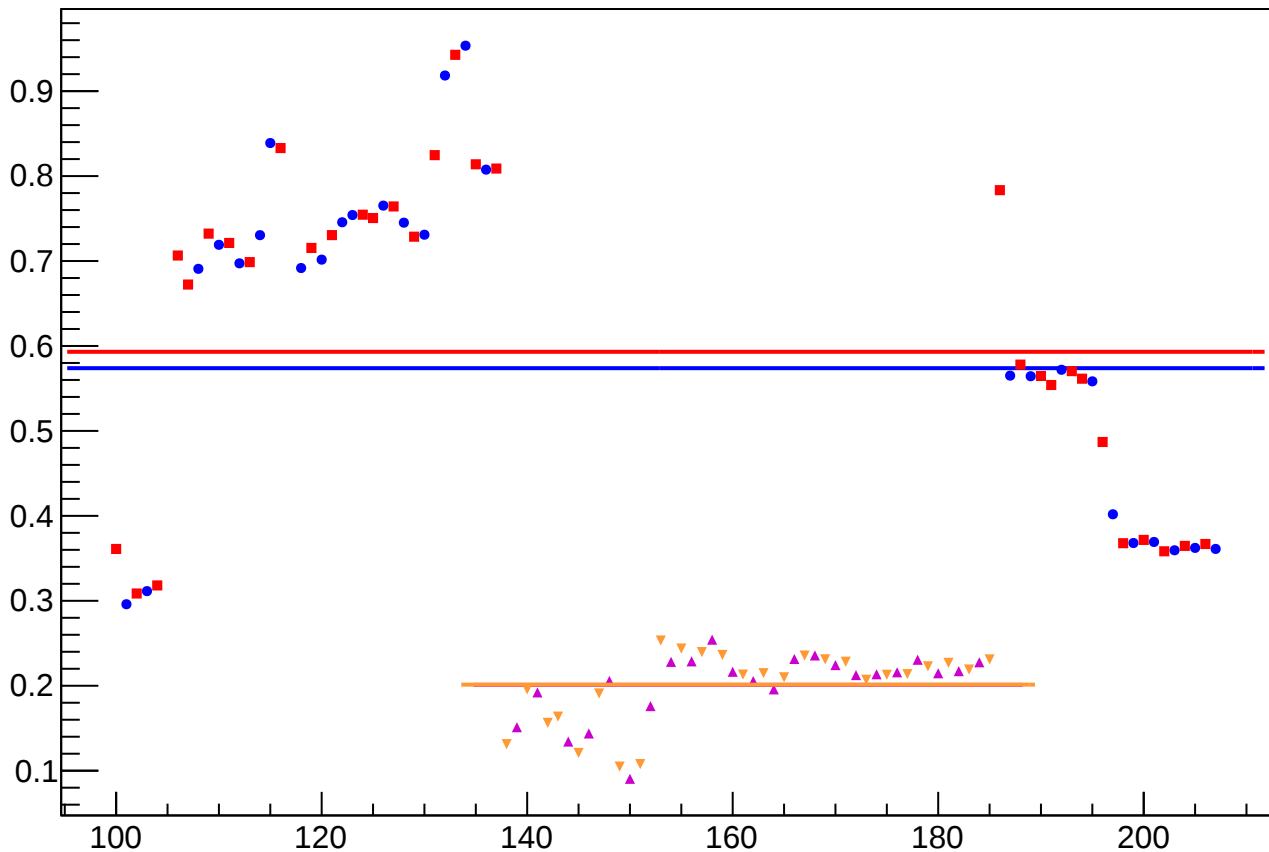
Right: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 2680917.0/57

In: 0.013+/-0.000  $\chi^2/\text{NDF}$ :1470213.1/49

Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ :1691490.9/55

All: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 3161891.5/105

# yield\_bpm0l07Y\_mean vs Slug, Sign Corrected



Right In: 0.574+/-0.000  $\chi^2/\text{NDF}$ : 70559179746.4/26

Left Out: 0.201+/-0.000  $\chi^2/\text{NDF}$ : 7090760823.7/24

Right Out: 0.593+/-0.000  $\chi^2/\text{NDF}$ : 67616445298.7/30

Left In: 0.201+/-0.000  $\chi^2/\text{NDF}$ : 5671770181.2/22

Left: 0.201+/-0.000  $\chi^2/\text{NDF}$ : 12762673178.0/47

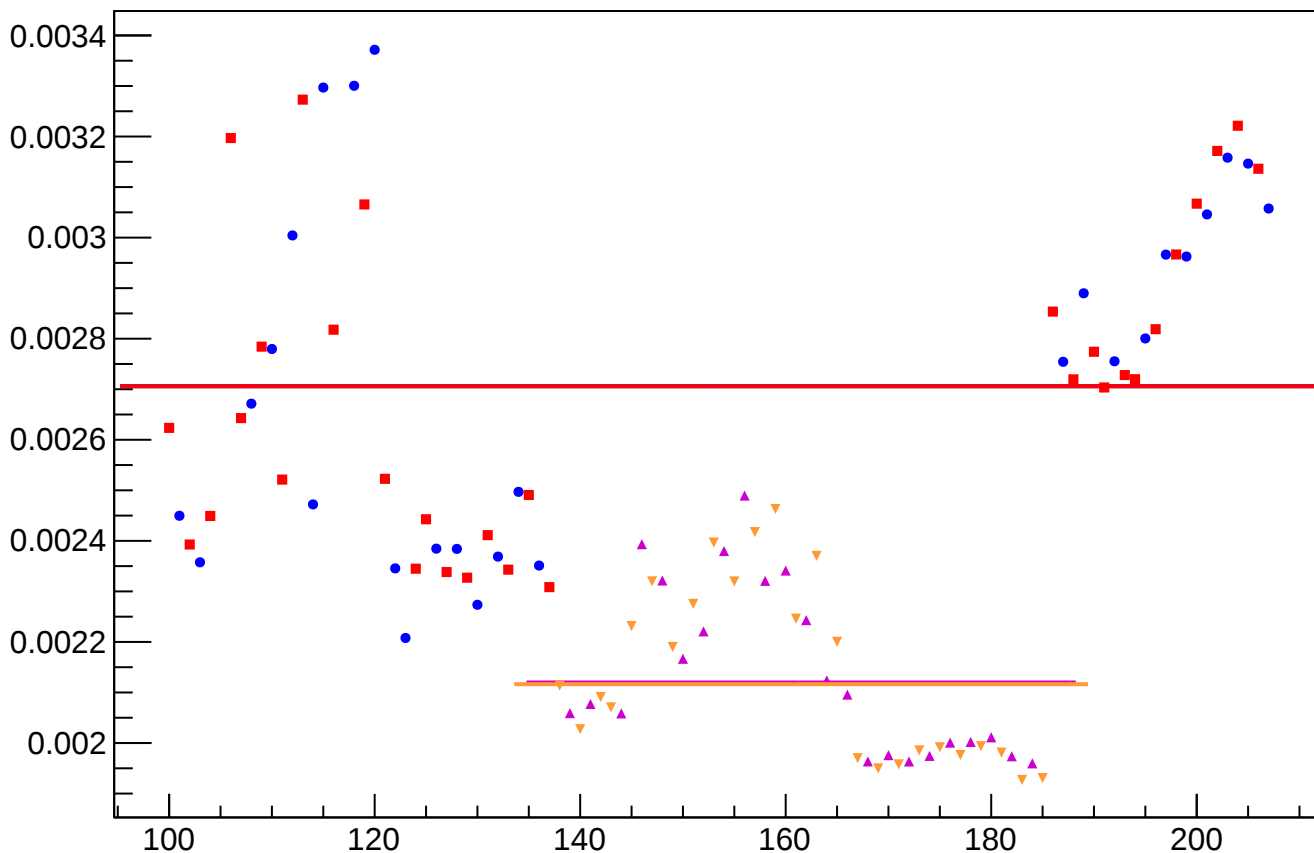
Right: 0.584+/-0.000  $\chi^2/\text{NDF}$ : 138525854772.4/57

In: 0.321+/-0.000  $\chi^2/\text{NDF}$ : 246713492053.1/49

Out: 0.330+/-0.000  $\chi^2/\text{NDF}$ : 278148961416.2/55

All: 0.325+/-0.000  $\chi^2/\text{NDF}$ : 525073442831.1

# yield\_bpm0l07Y\_rms vs Slug, Sign Corrected



Right In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 388104.6/26

Left Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :224498.3/24

Right Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 323516.7/30

Left In: 0.002+/-0.000  $\chi^2/\text{NDF}$ :189228.6/22

Left: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 413772.2/47

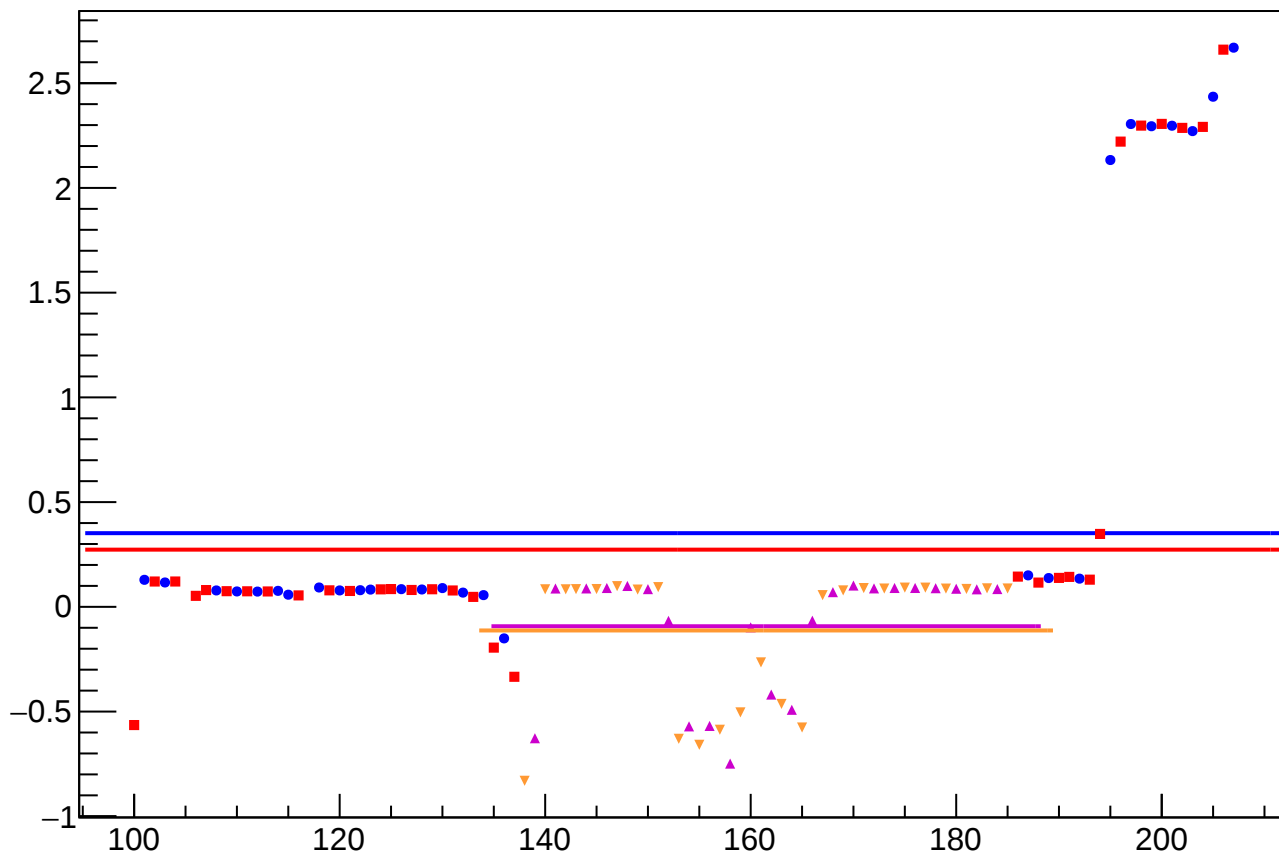
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 711621.4/57

In: 0.002+/-0.000  $\chi^2/\text{NDF}$ :1420338.5/49

Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :1468988.6/55

All: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 2889331.5/105

# yield\_bpm0l08X\_mean vs Slug, Sign Corrected



Right In: 0.352 $\pm$ 0.000

$\chi^2$ /NDF: 49323988955.0/26

Left: -0.103 $\pm$ 0.000

$\chi^2$ /NDF: 24747894543.0/47

Left Out: -0.113 $\pm$ 0.000

$\chi^2$ /NDF: 13667354077.1/24

Right: 0.309 $\pm$ 0.000

$\chi^2$ /NDF: 93810448271.1/57

Right Out: 0.273 $\pm$ 0.000

$\chi^2$ /NDF: 44204470779.7/30

In: 0.075 $\pm$ 0.000

$\chi^2$ /NDF: 70706219402.4/49

Out: 0.044 $\pm$ 0.000

$\chi^2$ /NDF: 66655588270.9/55

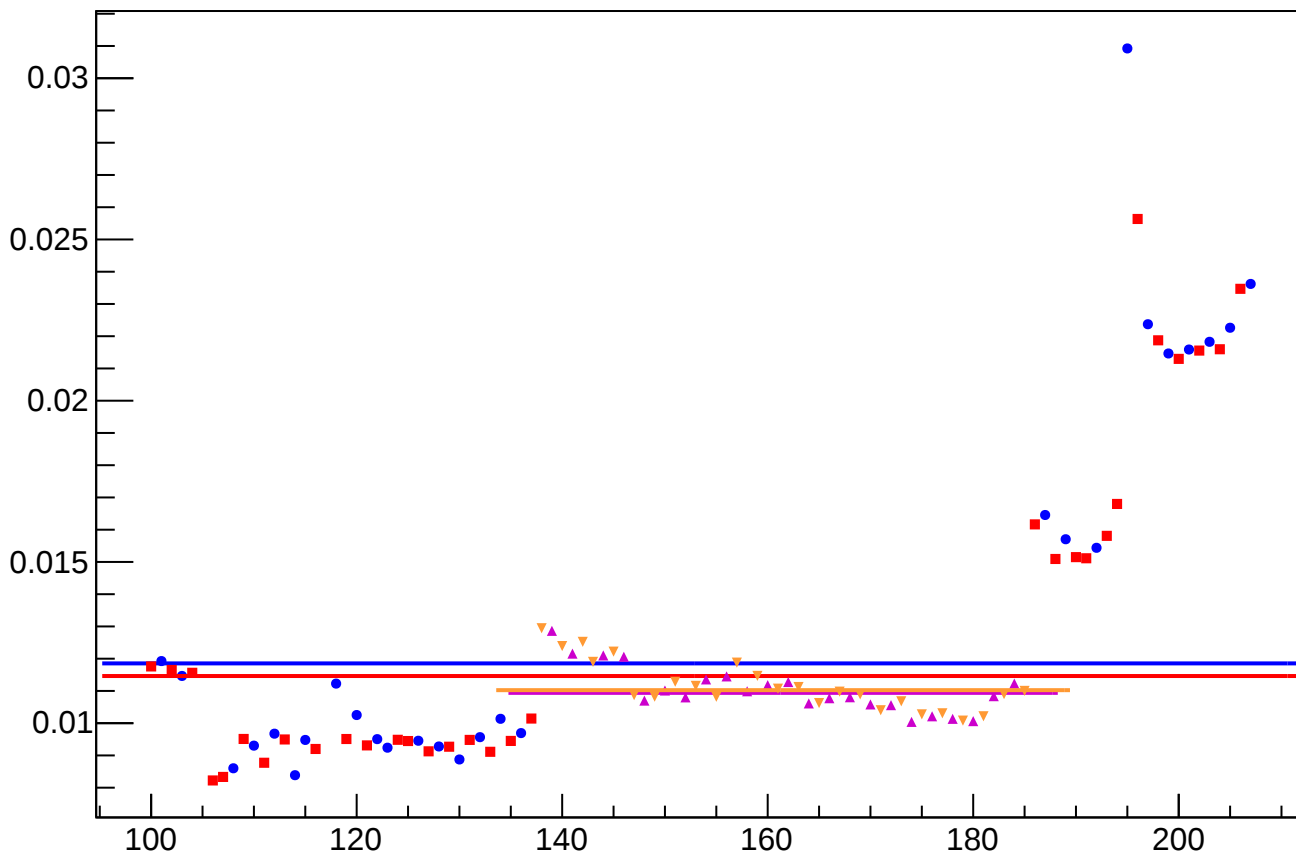
Left In: -0.093 $\pm$ 0.000

$\chi^2$ /NDF: 11051944893.7/22

All: 0.059 $\pm$ 0.000

$\chi^2$ /NDF: 137469965694.9

# yield\_bpm0l08X\_rms vs Slug, Sign Corrected



Right In: 0.012 $\pm$ 0.000  $\chi^2$ /NDF: 3581544.3/26

Left Out: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:141501.7/24

Right Out: 0.011 $\pm$ 0.000  $\chi^2$ /NDF: 3450502.6/30

Left In: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:128914.2/22

Left: 0.011 $\pm$ 0.000  $\chi^2$ /NDF: 271400.1/47

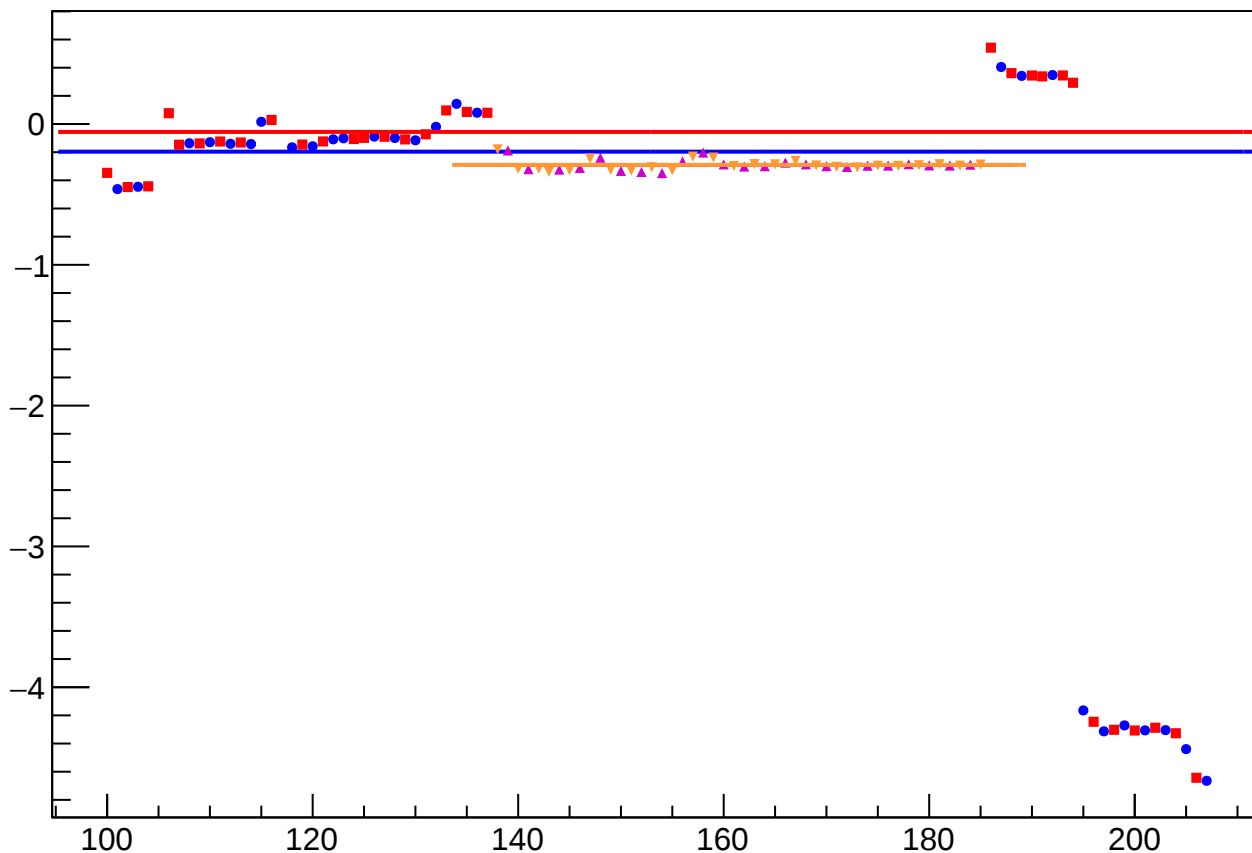
Right: 0.012 $\pm$ 0.000  $\chi^2$ /NDF: 7046031.0/57

In: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:3797771.0/49

Out: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:3614694.3/55

All: 0.011 $\pm$ 0.000  $\chi^2$ /NDF: 7414051.6/105

# yield\_bpm0l08Y\_mean vs Slug, Sign Corrected



Right In: -0.196+/-0.000

$\chi^2/\text{NDF}$ : 307729985080.8/26

Left: -0.291+/-0.000

$\chi^2/\text{NDF}$ : 6003615293.4/47

Left Out: -0.290+/-0.000

$\chi^2/\text{NDF}$ : 2877519093.0/24

Right: -0.119+/-0.000

$\chi^2/\text{NDF}$ : 605623206007.0/57

Right Out: -0.056+/-0.000

$\chi^2/\text{NDF}$ : 293243949339.9/30

In: -0.276+/-0.000

$\chi^2/\text{NDF}$ : 314057870509.8/49

Out: -0.247+/-0.000

$\chi^2/\text{NDF}$ : 319865630660.6/55

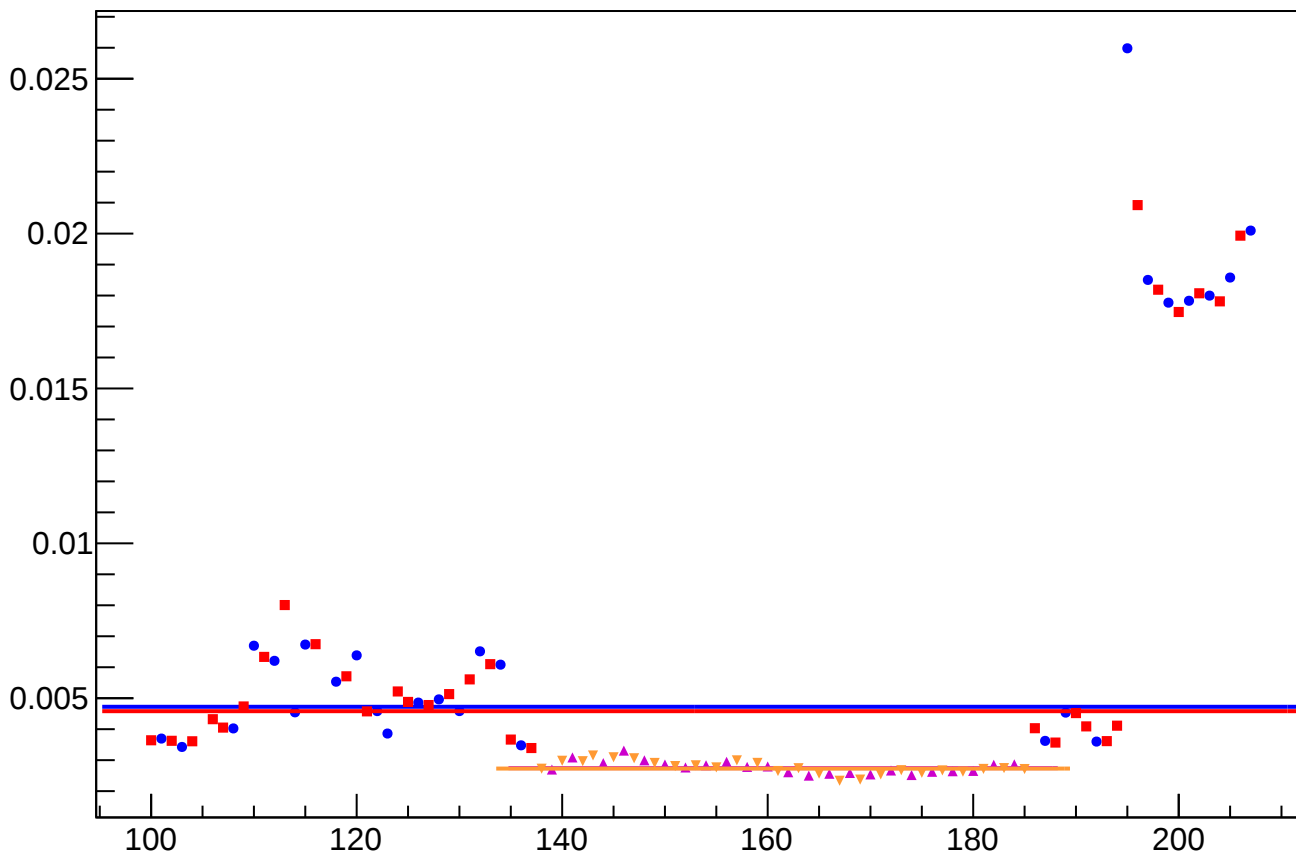
Left In: -0.291+/-0.000

$\chi^2/\text{NDF}$ : 3125402243.3/22

All: -0.261+/-0.000

$\chi^2/\text{NDF}$ : 635029392657.6

# yield\_bpm0l08Y\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 7316761.7/26

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :206527.1/24

Right Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 6106123.6/30

Left In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :147778.8/22

Left: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 354733.7/47

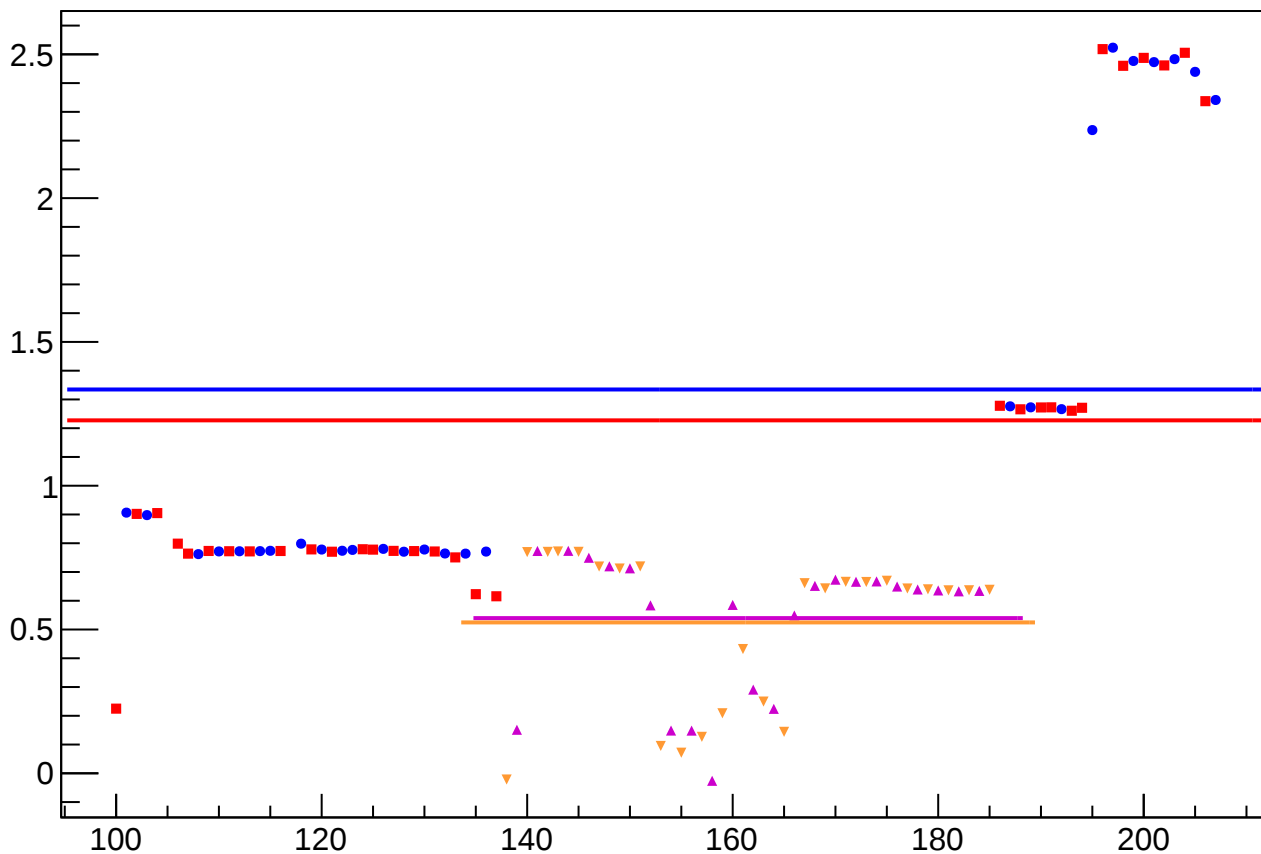
Right: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 13432384.9/57

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :10266550.0/49

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :9284411.5/55

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 19551017.1/105

# yield\_bpm0l09X\_mean vs Slug, Sign Corrected



Right In: 1.335+/-0.000

$\chi^2/\text{NDF}$ : 49081569922.7/26

Left: 0.532+/-0.000

$\chi^2/\text{NDF}$ : 17500739852.2/47

Left Out: 0.525+/-0.000

$\chi^2/\text{NDF}$ : 9623503169.9/24

Right: 1.277+/-0.000

$\chi^2/\text{NDF}$ : 97301045680.6/57

Right Out: 1.227+/-0.000

$\chi^2/\text{NDF}$ : 47683675613.4/30

In: 0.836+/-0.000

$\chi^2/\text{NDF}$ : 91373435629.9/49

Out: 0.803+/-0.000

$\chi^2/\text{NDF}$ : 87115238335.4/55

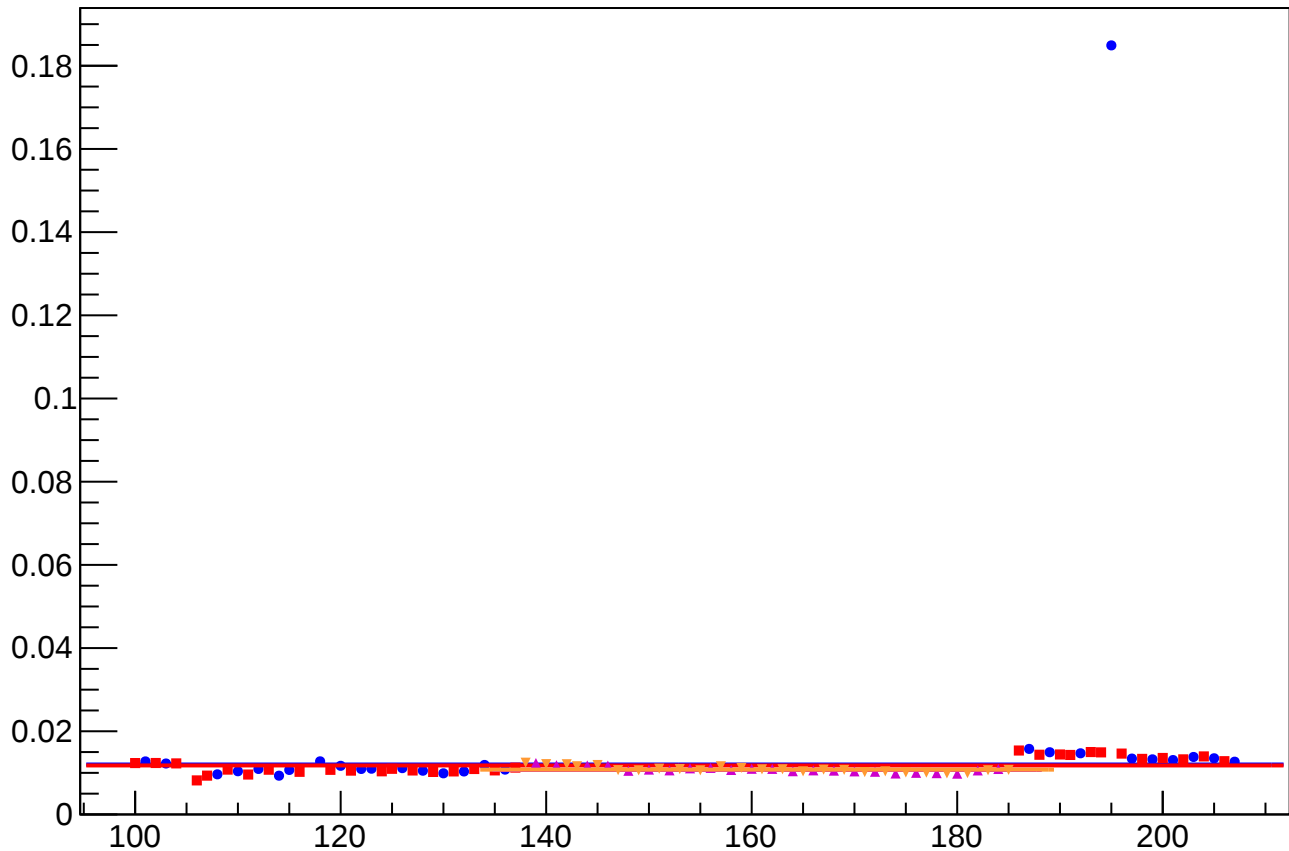
Left In: 0.540+/-0.000

$\chi^2/\text{NDF}$ : 7860539135.5/22

All: 0.819+/-0.000

$\chi^2/\text{NDF}$ : 178624740065.1

# yield\_bpm0l09X\_rms vs Slug, Sign Corrected



Right In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 1890088.9/26

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :131630.9/24

Right Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 720714.7/30

Left In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :119273.2/22

Left: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 251802.6/47

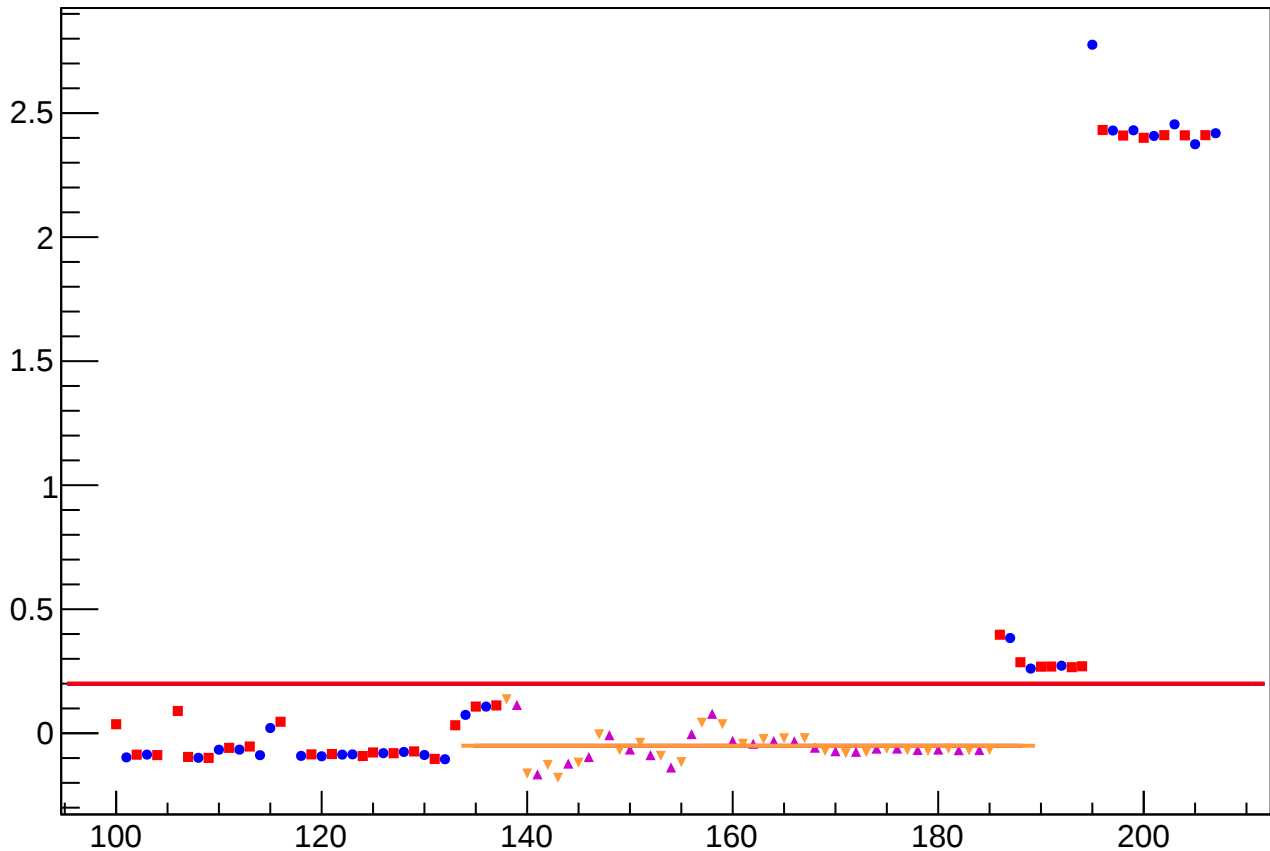
Right: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 2615684.1/57

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :2198541.6/49

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :975774.1/55

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 3174362.7/105

# yield\_bpm0l09Y\_mean vs Slug, Sign Corrected



Right In: 0.199 $\pm$ 0.000  $\chi^2$ /NDF: 159760138394.9/26

Left Out: -0.050 $\pm$ 0.000  $\chi^2$ /NDF: 7271496478.6/24

Right Out: 0.200 $\pm$ 0.000  $\chi^2$ /NDF: 137461815590.4/30

Left In: -0.051 $\pm$ 0.000  $\chi^2$ /NDF: 6128769990.8/22

Left: -0.050 $\pm$ 0.000  $\chi^2$ /NDF: 13400329490.2/47

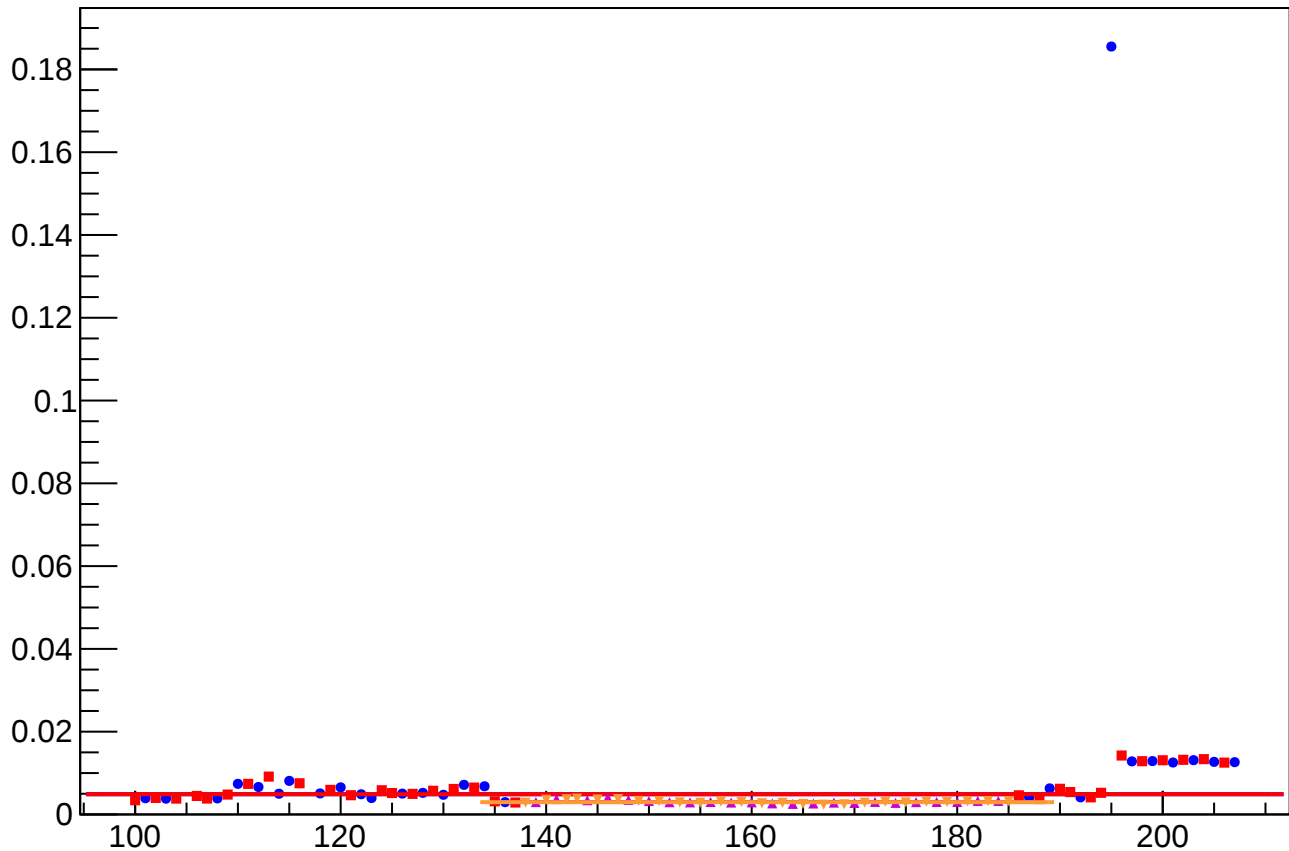
Right: 0.200 $\pm$ 0.000  $\chi^2$ /NDF: 297222179743.9/57

In: -0.005 $\pm$ 0.000  $\chi^2$ /NDF: 186359988421.6/49

Out: -0.002 $\pm$ 0.000  $\chi^2$ /NDF: 168249966858.9/55

All: -0.003 $\pm$ 0.000  $\chi^2$ /NDF: 354617669656.2

# yield\_bpm0l09Y\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 6408606.4/26

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 499039.1/24

Right Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 4559312.5/30

Left In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 329068.1/22

Left: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 831077.6/47

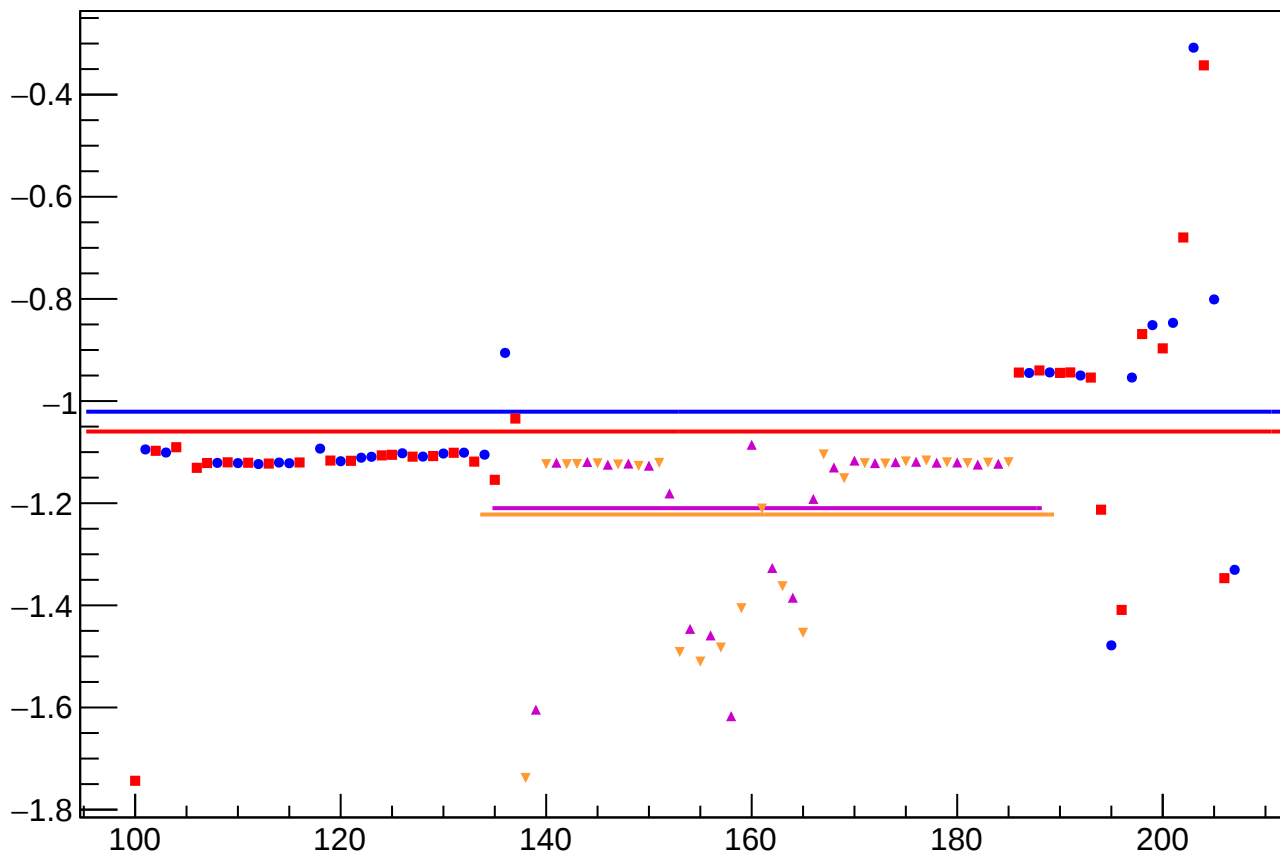
Right: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 10967925.1/57

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 9072636.2/49

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 7827672.2/55

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 16900929.8/105

# yield\_bpm0l10X\_mean vs Slug, Sign Corrected



Right In: -1.021+/-0.000

$\chi^2/\text{NDF}$ : 4468953690.7/26

Left: -1.216+/-0.000

$\chi^2/\text{NDF}$ : 9796254294.5/47

Left Out: -1.222+/-0.000

$\chi^2/\text{NDF}$ : 5279548861.3/24

Right: -1.042+/-0.000

$\chi^2/\text{NDF}$ : 8632086468.1/57

Right Out: -1.060+/-0.000

$\chi^2/\text{NDF}$ : 4094157306.8/30

In: -1.149+/-0.000

$\chi^2/\text{NDF}$ : 11040852097.6/49

Out: -1.166+/-0.000

$\chi^2/\text{NDF}$ : 11089232365.5/55

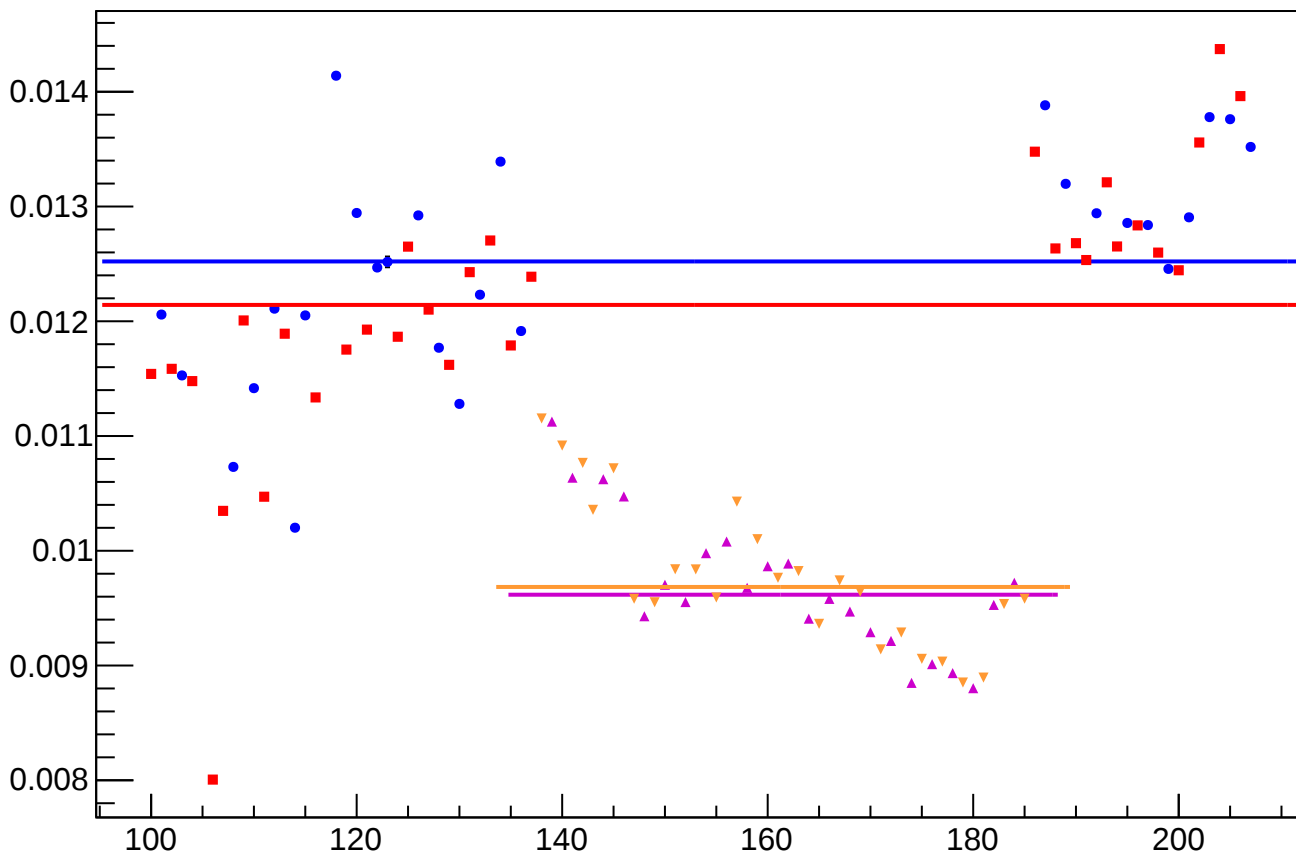
Left In: -1.210+/-0.000

$\chi^2/\text{NDF}$ : 4502367902.8/22

All: -1.158+/-0.000

$\chi^2/\text{NDF}$ : 22170878844.1/100

# yield\_bpm0l10X\_rms vs Slug, Sign Corrected



Right In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 129282.1/26

Left Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ :134863.6/24

Right Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 319826.7/30

Left In: 0.010+/-0.000  $\chi^2/\text{NDF}$ :119823.1/22

Left: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 255532.7/47

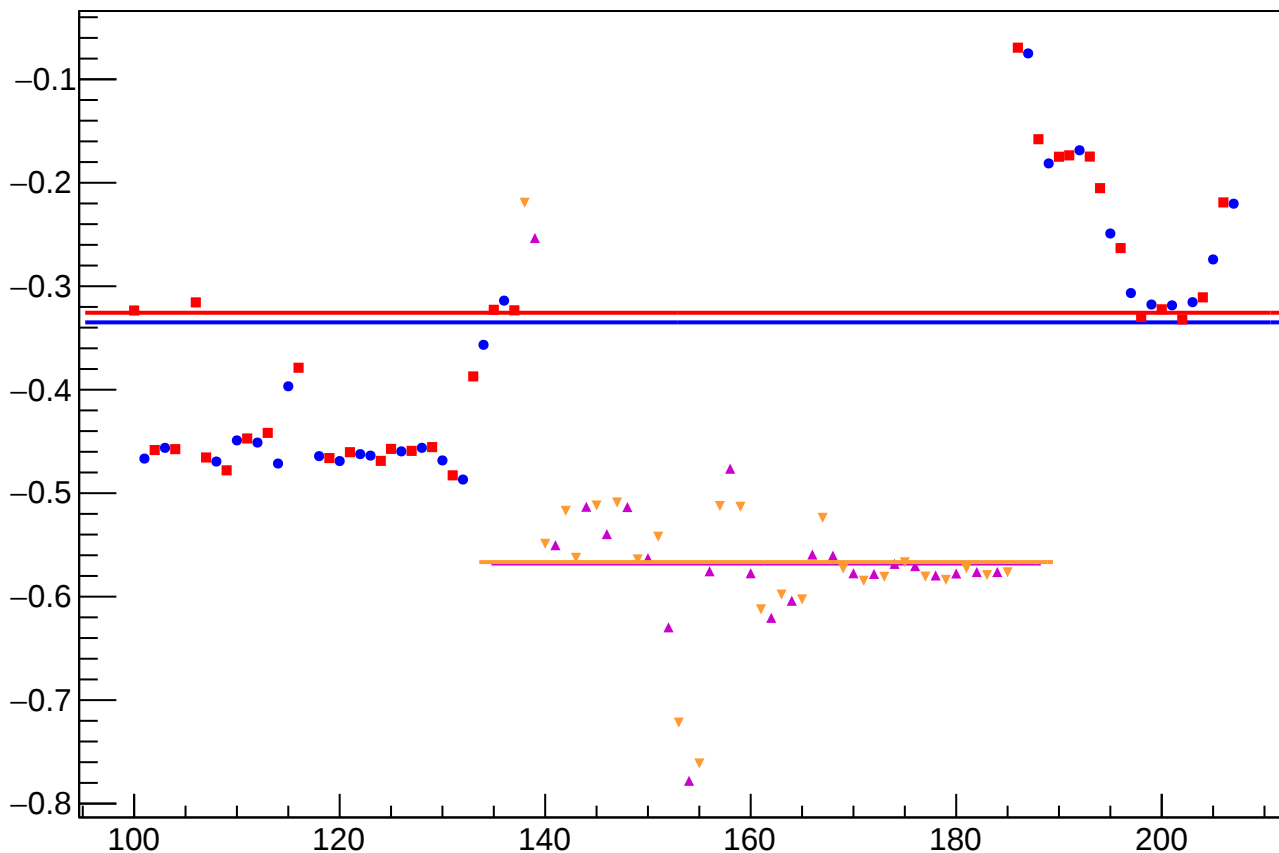
Right: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 462259.8/57

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :1228028.4/49

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :1239746.3/55

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 2467875.6/105

# yield\_bpm0l10Y\_mean vs Slug, Sign Corrected



Right In: -0.335+/-0.000

$\chi^2/\text{NDF}$ : 9075585810.3/26

Left: -0.567+/-0.000

$\chi^2/\text{NDF}$ : 23829000396.4/47

Left Out: -0.567+/-0.000

$\chi^2/\text{NDF}$ : 13368458519.3/24

Right: -0.330+/-0.000

$\chi^2/\text{NDF}$ : 20375776360.7/57

Right Out: -0.326+/-0.000

$\chi^2/\text{NDF}$ : 11258824622.0/30

In: -0.477+/-0.000

$\chi^2/\text{NDF}$ : 51023099457.0/49

Out: -0.476+/-0.000

$\chi^2/\text{NDF}$ : 59412991831.6/55

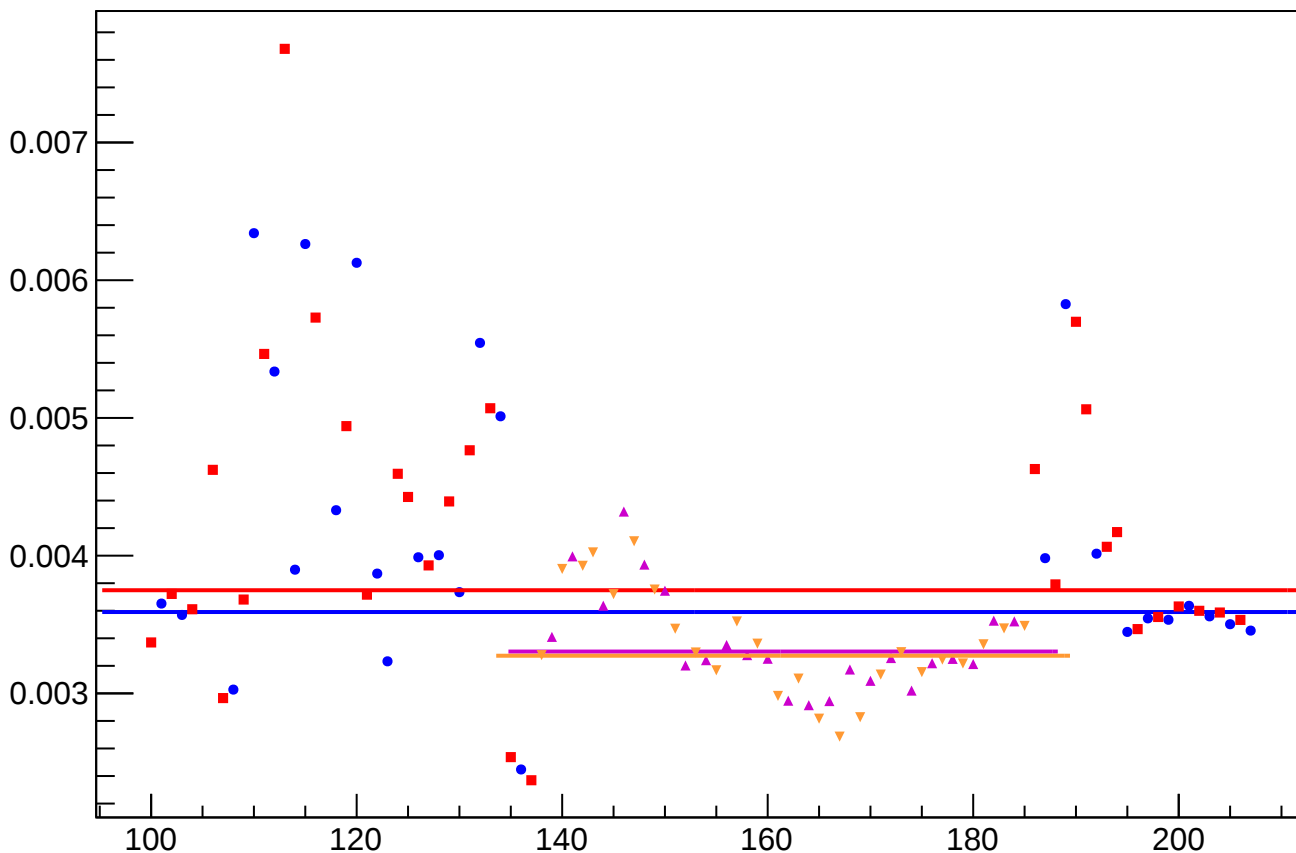
Left In: -0.568+/-0.000

$\chi^2/\text{NDF}$ : 10458990019.9/22

All: -0.477+/-0.000

$\chi^2/\text{NDF}$ : 110436131145.8

# yield\_bpm0l10Y\_rms vs Slug, Sign Corrected



Right In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 997173.4/26

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :394865.4/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 1071370.3/30

Left In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :286064.1/22

Left: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 682340.4/47

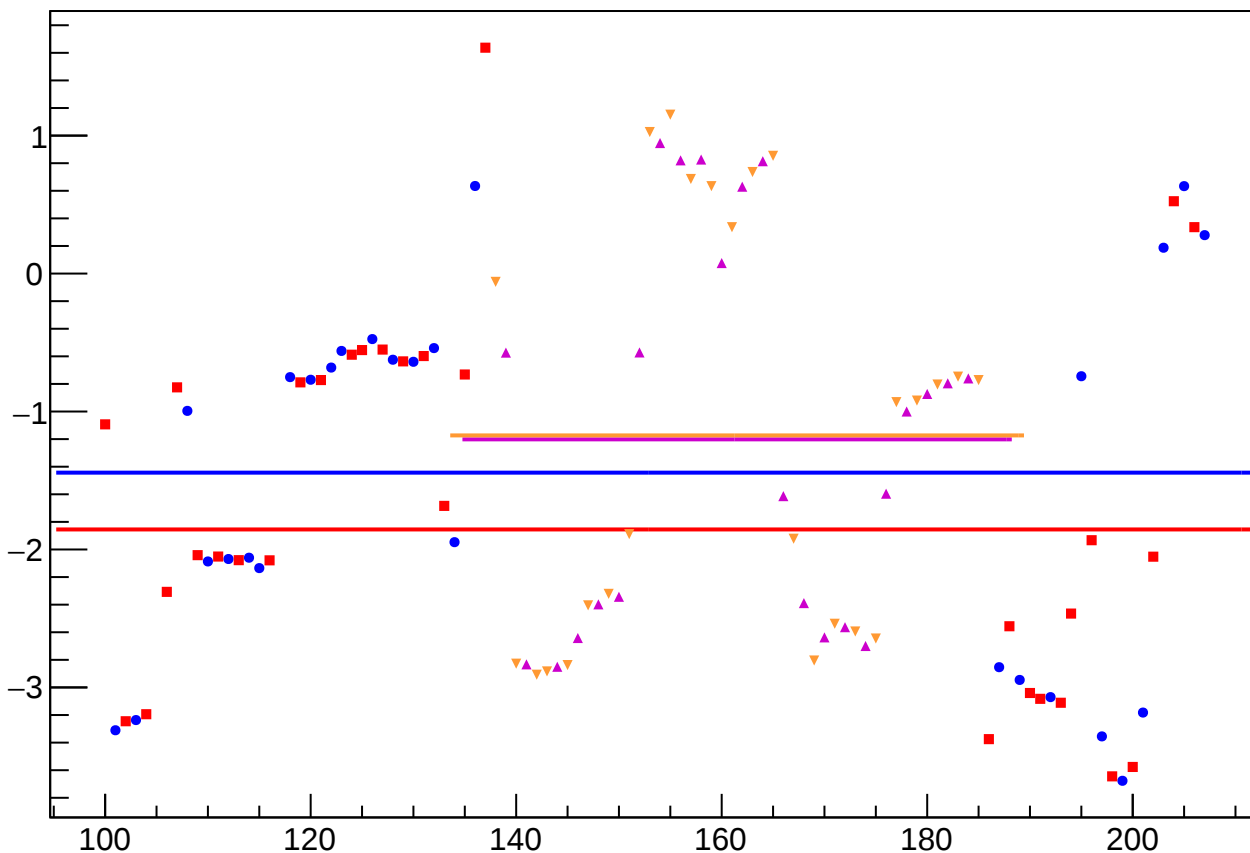
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 2092450.6/57

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :1378746.8/49

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :1737174.3/55

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 3118985.3/105

# yield\_bpm0r03X\_mean vs Slug, Sign Corrected



Right In: -1.443+/-0.000

$\chi^2/\text{NDF}$ : 5524345076.0/26

Left: -1.187+/-0.000

$\chi^2/\text{NDF}$ : 12490828303.3/47

Left Out: -1.173+/-0.000

$\chi^2/\text{NDF}$ : 6882684653.2/24

Right: -1.657+/-0.000

$\chi^2/\text{NDF}$ : 10378792074.8/57

Right Out: -1.855+/-0.000

$\chi^2/\text{NDF}$ : 4636093338.0/30

In: -1.307+/-0.000

$\chi^2/\text{NDF}$ : 11212387806.3/49

Out: -1.471+/-0.000

$\chi^2/\text{NDF}$ : 12220580904.6/55

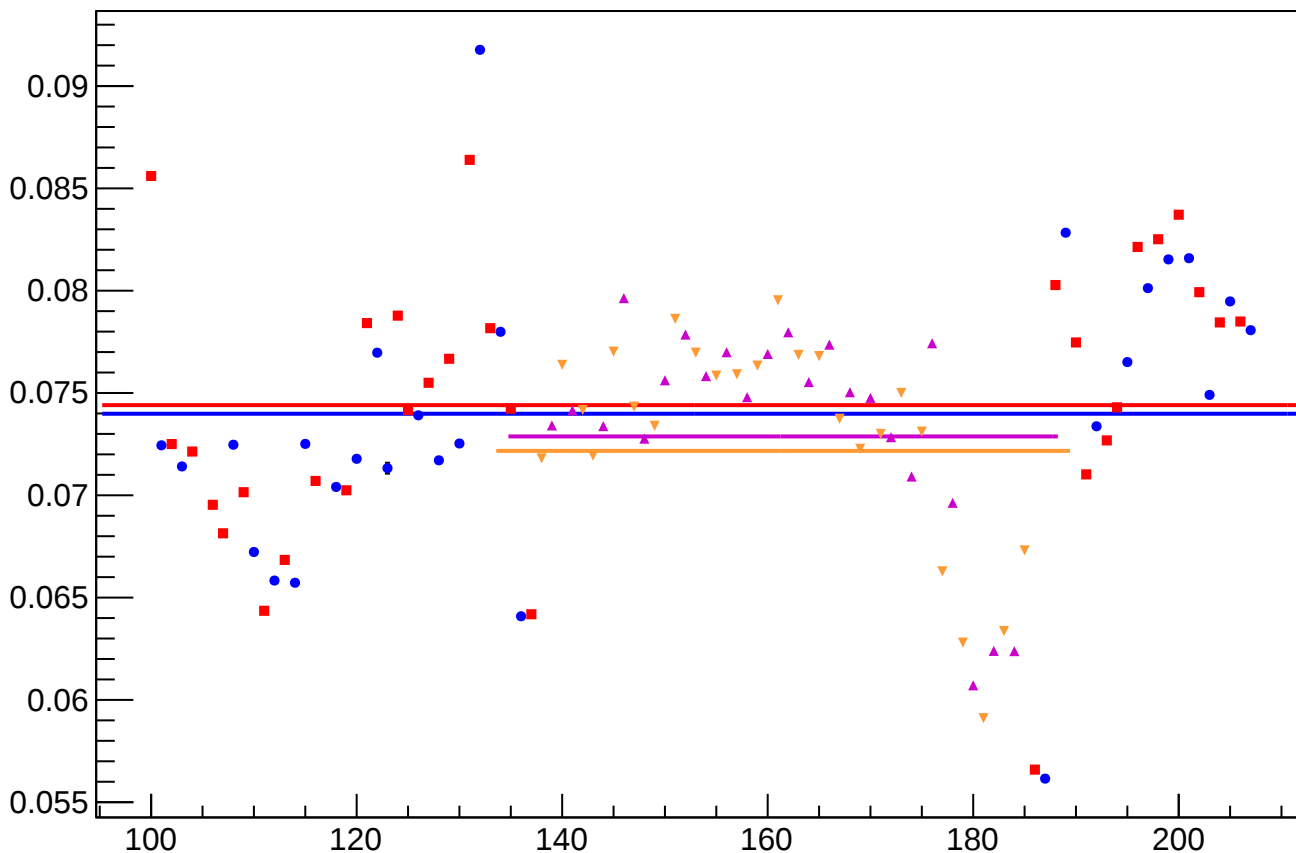
Left In: -1.202+/-0.000

$\chi^2/\text{NDF}$ : 5606782515.9/22

All: -1.392+/-0.000

$\chi^2/\text{NDF}$ : 23511670930.4/100

# yield\_bpm0r03X\_rms vs Slug, Sign Corrected



Right In: 0.074 $\pm$ 0.000  $\chi^2$ /NDF: 190037.0/26

Left Out: 0.072 $\pm$ 0.000  $\chi^2$ /NDF:222263.8/24

Right Out: 0.074 $\pm$ 0.000  $\chi^2$ /NDF: 231533.6/30

Left In: 0.073 $\pm$ 0.000  $\chi^2$ /NDF:183503.0/22

Left: 0.073 $\pm$ 0.000  $\chi^2$ /NDF: 407423.5/47

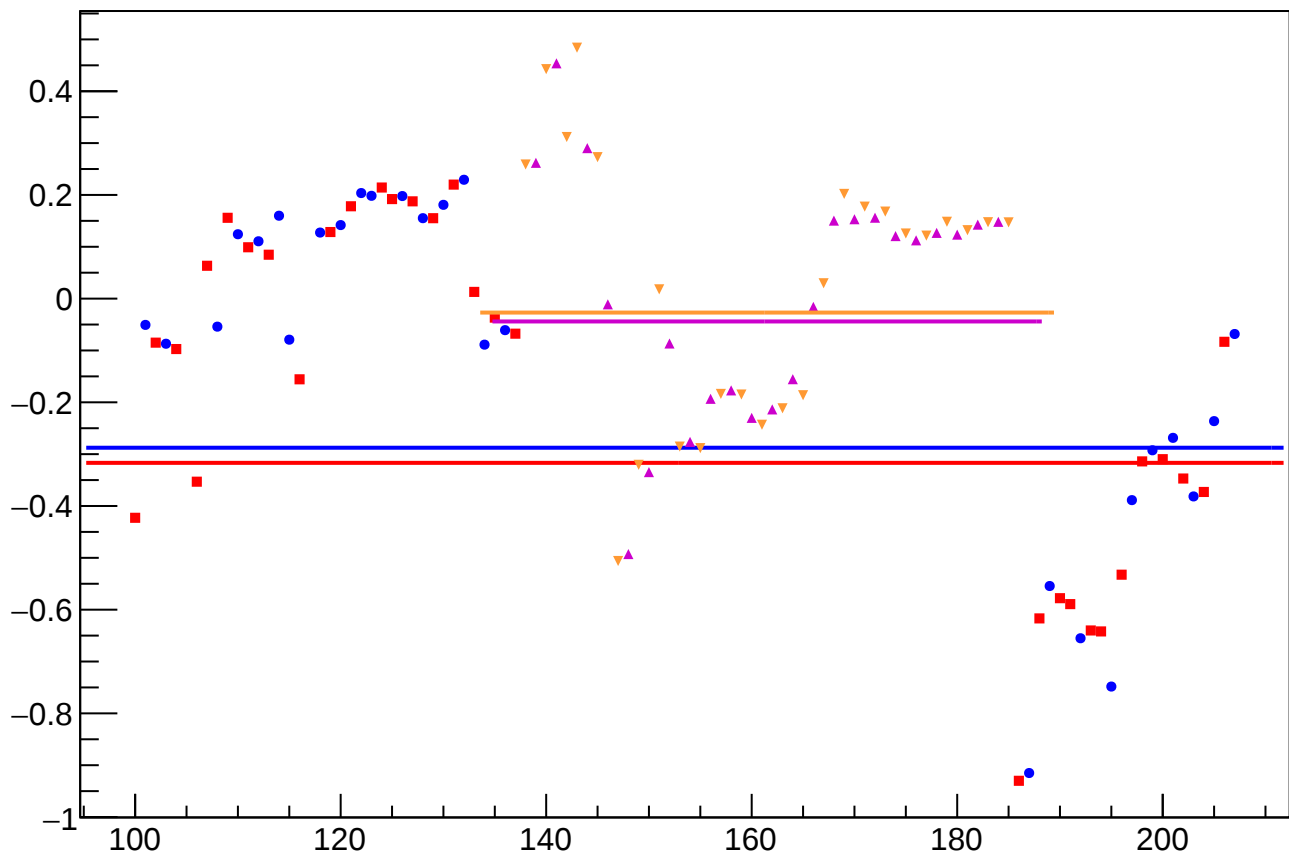
Right: 0.074 $\pm$ 0.000  $\chi^2$ /NDF: 422026.4/57

In: 0.073 $\pm$ 0.000  $\chi^2$ /NDF:376970.3/49

Out: 0.073 $\pm$ 0.000  $\chi^2$ /NDF:468891.8/55

All: 0.073 $\pm$ 0.000  $\chi^2$ /NDF: 846135.5/105

# yield\_bpm0r03Y\_mean vs Slug, Sign Corrected



Right In: -0.288±/0.000  $\chi^2/\text{NDF}$ : 13341361154.8/26

Left Out: -0.027±/0.000  $\chi^2/\text{NDF}$ : 20376761328.6/24

Right Out: -0.317±/0.000  $\chi^2/\text{NDF}$ : 12221142271.7/30

Left In: -0.044±/0.000  $\chi^2/\text{NDF}$ : 15718556282.1/22

Left: -0.035±/0.000  $\chi^2/\text{NDF}$ : 36148383394.4/47

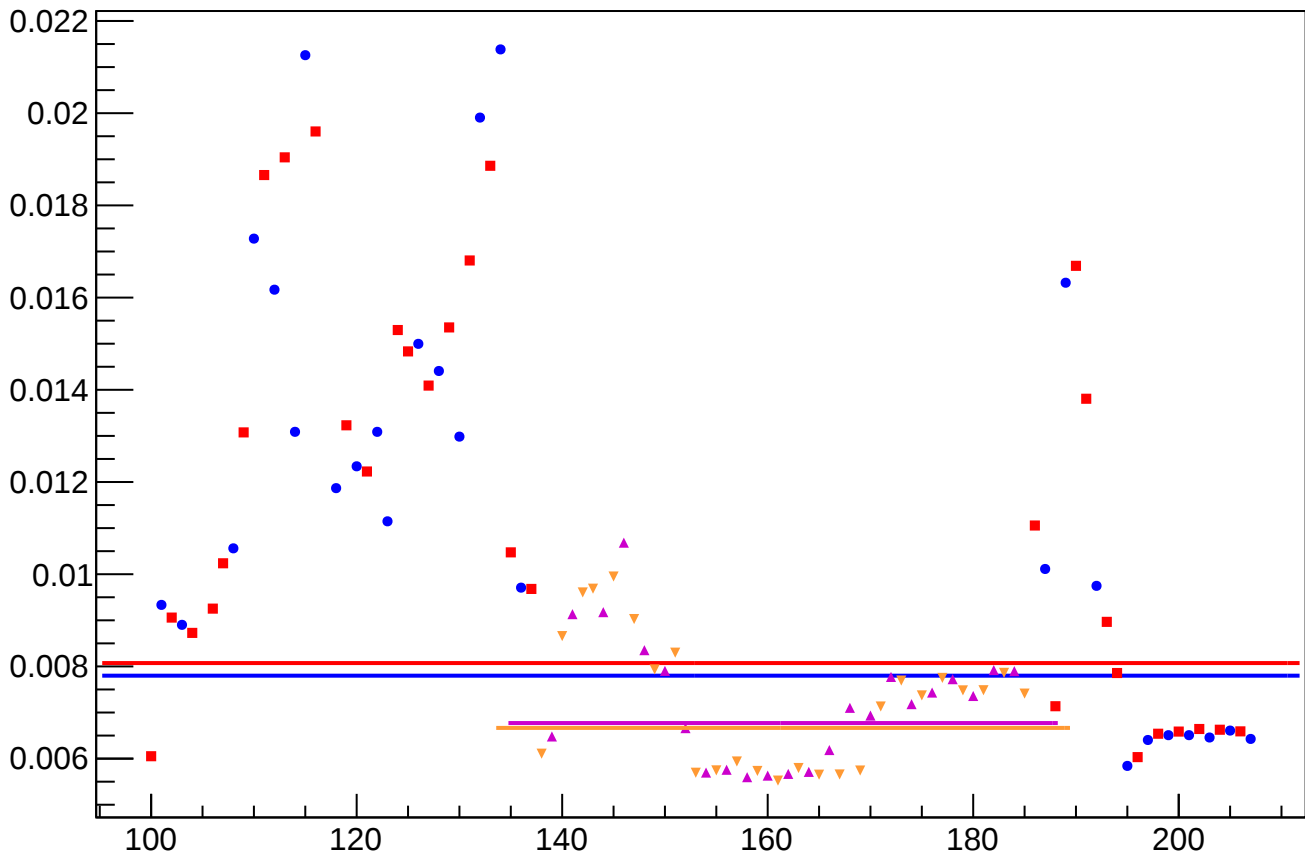
Right: -0.302±/0.000  $\chi^2/\text{NDF}$ : 25644050288.3/57

In: -0.131±/0.000  $\chi^2/\text{NDF}$ : 36382619668.9/49

Out: -0.124±/0.000  $\chi^2/\text{NDF}$ : 43252702033.5/55

All: -0.128±/0.000  $\chi^2/\text{NDF}$ : 79648975759.6/100

# yield\_bpm0r03Y\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 2735885.7/26

Left Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ :1143768.6/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 2949064.6/30

Left In: 0.007+/-0.000  $\chi^2/\text{NDF}$ :934050.3/22

Left: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 2081836.1/47

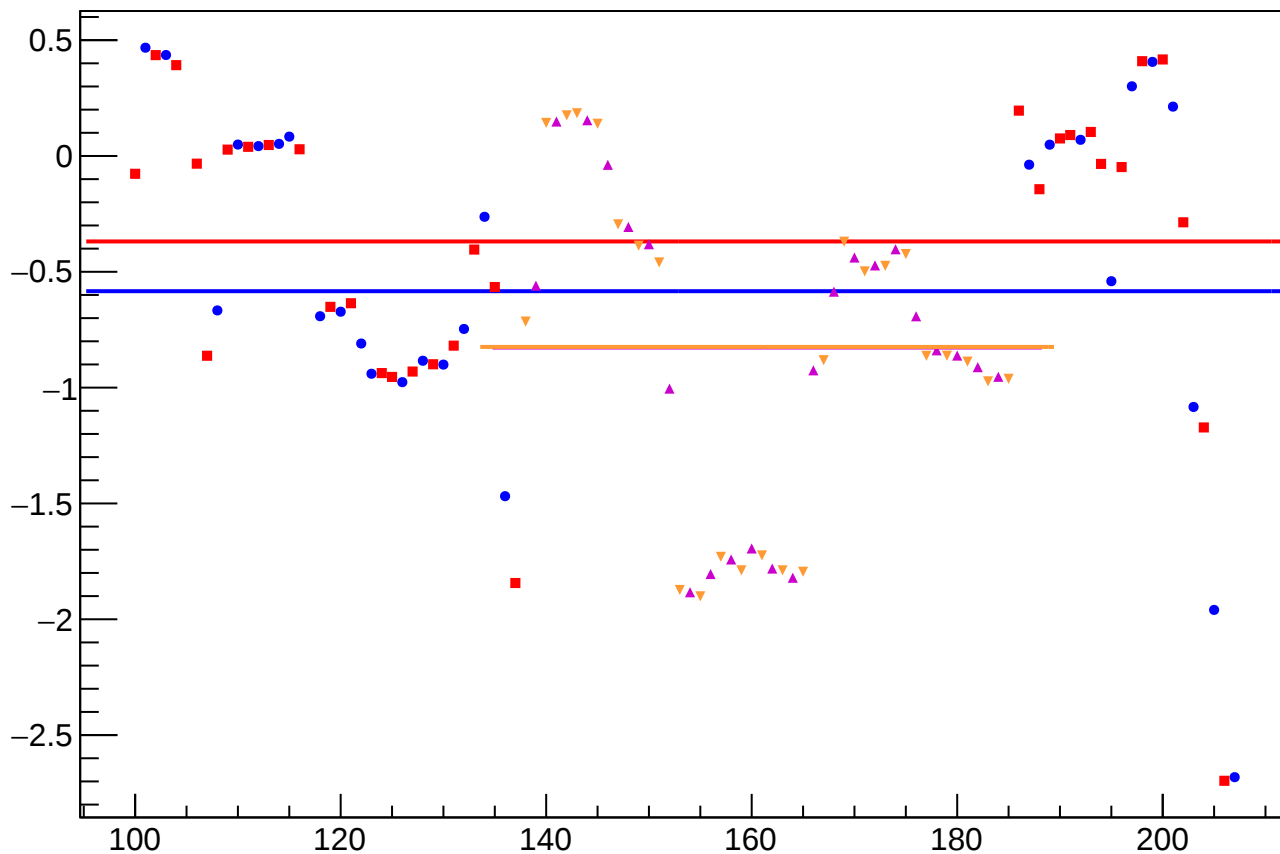
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 5699291.0/57

In: 0.007+/-0.000  $\chi^2/\text{NDF}$ :3930582.2/49

Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ :4594578.1/55

All: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 8525161.0/105

# yield\_bpm0r05X\_mean vs Slug, Sign Corrected



Right In:  $-0.584 \pm 0.000$

$\chi^2/\text{NDF}$ : 1200830077.5/26

Left:  $-0.826 \pm 0.000$

$\chi^2/\text{NDF}$ : 2025270716.0/47

Left Out:  $-0.824 \pm 0.000$

$\chi^2/\text{NDF}$ : 1103610806.5/24

Right:  $-0.472 \pm 0.000$

$\chi^2/\text{NDF}$ : 2301667923.1/57

Right Out:  $-0.369 \pm 0.000$

$\chi^2/\text{NDF}$ : 1061262447.5/30

In:  $-0.727 \pm 0.000$

$\chi^2/\text{NDF}$ : 2179829722.6/49

Out:  $-0.636 \pm 0.000$

$\chi^2/\text{NDF}$ : 2383323228.8/55

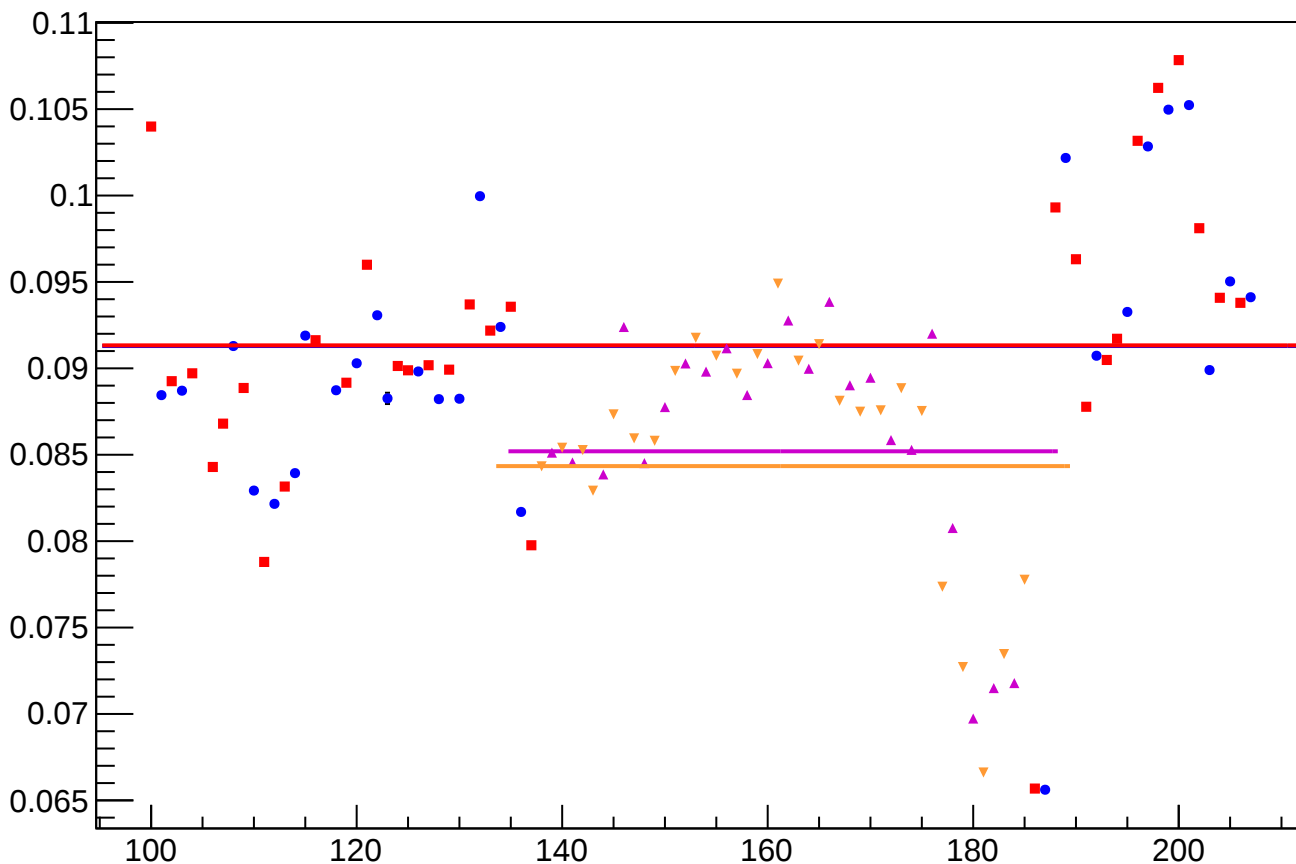
Left In:  $-0.827 \pm 0.000$

$\chi^2/\text{NDF}$ : 921651117.3/22

All:  $-0.680 \pm 0.000$

$\chi^2/\text{NDF}$ : 4580239809.4/1

# yield\_bpm0r05X\_rms vs Slug, Sign Corrected



Right In: 0.091 $\pm$ 0.000  $\chi^2$ /NDF: 190707.4/26

Left Out: 0.084 $\pm$ 0.000  $\chi^2$ /NDF:288312.6/24

Right Out: 0.091 $\pm$ 0.000  $\chi^2$ /NDF: 281544.4/30

Left In: 0.085 $\pm$ 0.000  $\chi^2$ /NDF:238313.9/22

Left: 0.085 $\pm$ 0.000  $\chi^2$ /NDF: 528427.1/47

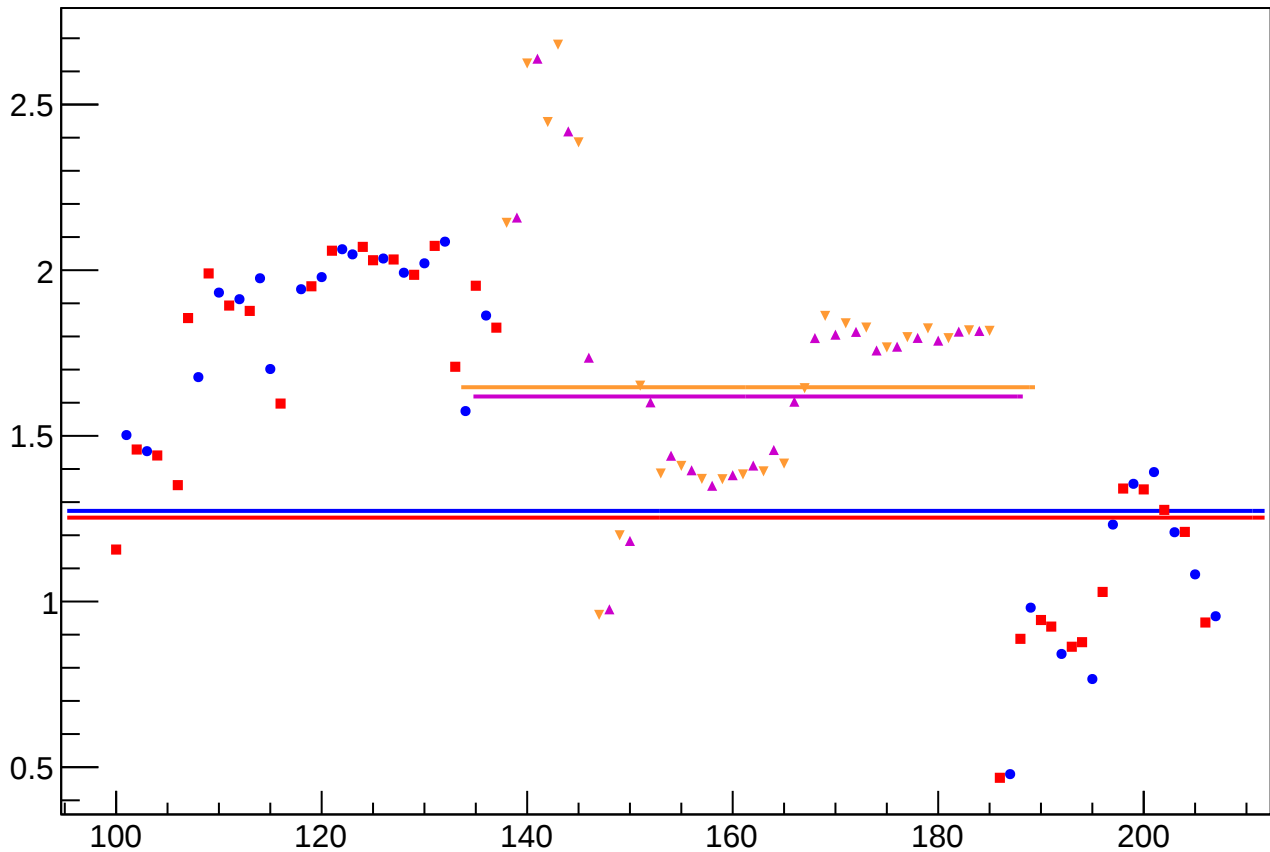
Right: 0.091 $\pm$ 0.000  $\chi^2$ /NDF: 472254.4/57

In: 0.088 $\pm$ 0.000  $\chi^2$ /NDF:500955.3/49

Out: 0.087 $\pm$ 0.000  $\chi^2$ /NDF:672763.5/55

All: 0.087 $\pm$ 0.000  $\chi^2$ /NDF: 1174671.0/105

# yield\_bpm0r05Y\_mean vs Slug, Sign Corrected



Right In: 1.274 $\pm$ 0.000  $\chi^2$ /NDF: 14568557868.0/26

Left Out: 1.647 $\pm$ 0.000  $\chi^2$ /NDF: 26535241545.7/24

Right Out: 1.253 $\pm$ 0.000  $\chi^2$ /NDF: 13360921156.7/30

Left In: 1.619 $\pm$ 0.000  $\chi^2$ /NDF: 20618198188.1/22

Left: 1.633 $\pm$ 0.000  $\chi^2$ /NDF: 47231460201.8/47

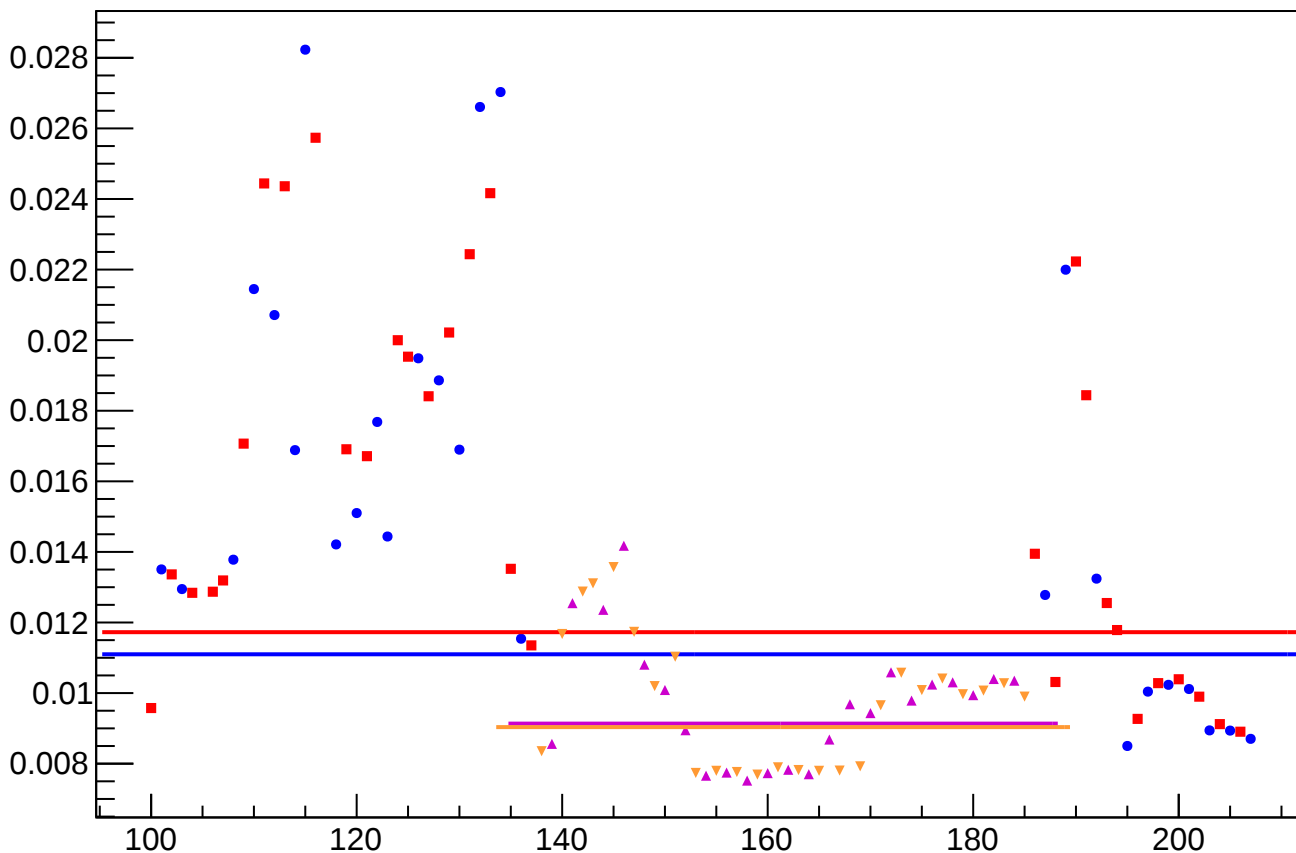
Right: 1.264 $\pm$ 0.000  $\chi^2$ /NDF: 27949139927.2/57

In: 1.503 $\pm$ 0.000  $\chi^2$ /NDF: 42867360939.7/49

Out: 1.525 $\pm$ 0.000  $\chi^2$ /NDF: 49860025898.1/55

All: 1.514 $\pm$ 0.000  $\chi^2$ /NDF: 92802136832.1/100

# yield\_bpm0r05Y\_rms vs Slug, Sign Corrected



Right In:  $0.011 \pm 0.000$   $\chi^2/\text{NDF}: 2165292.6/26$

Left Out:  $0.009 \pm 0.000$   $\chi^2/\text{NDF}: 1042871.8/24$

Right Out:  $0.012 \pm 0.000$   $\chi^2/\text{NDF}: 2309749.9/30$

Left In:  $0.009 \pm 0.000$   $\chi^2/\text{NDF}: 878356.2/22$

Left:  $0.009 \pm 0.000$   $\chi^2/\text{NDF}: 1923188.0/47$

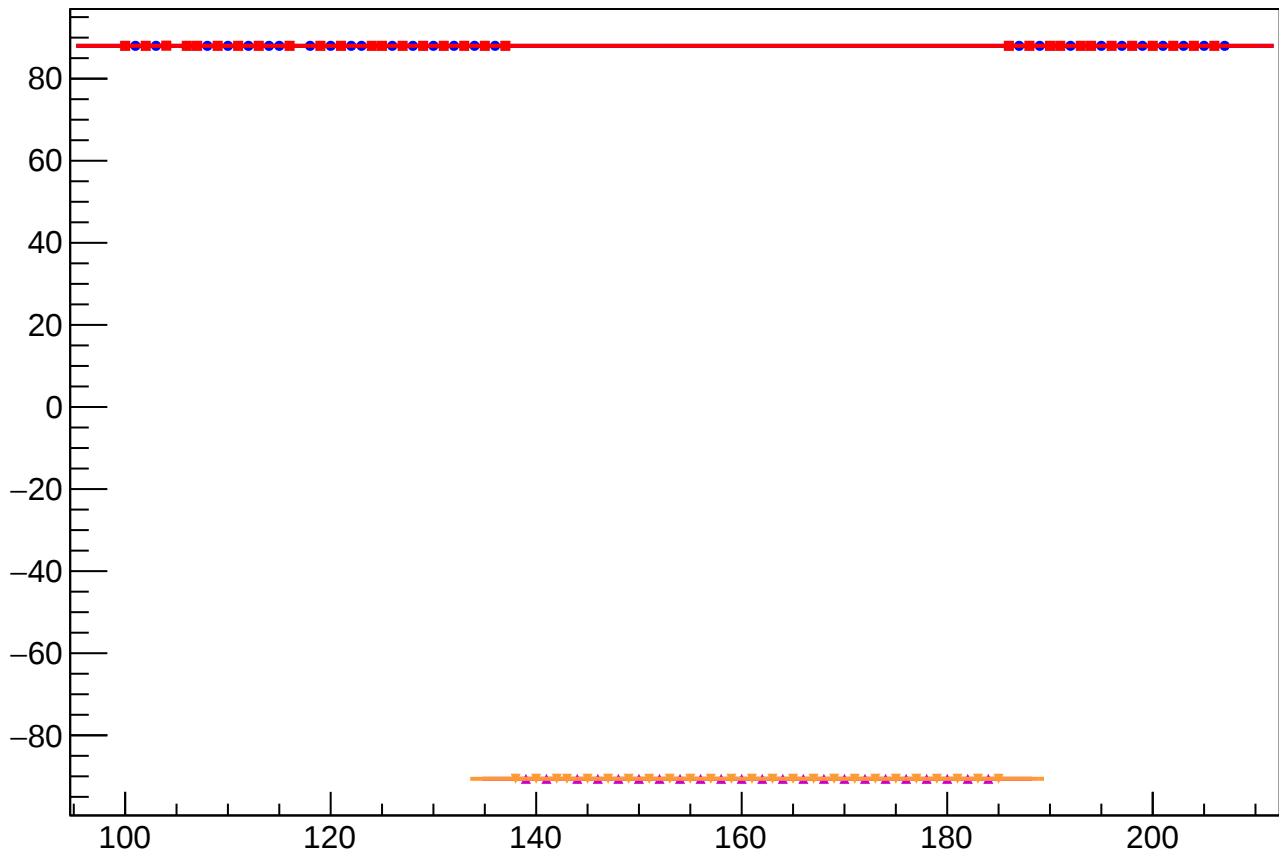
Right:  $0.011 \pm 0.000$   $\chi^2/\text{NDF}: 4512362.1/57$

In:  $0.010 \pm 0.000$   $\chi^2/\text{NDF}: 3540860.0/49$

Out:  $0.010 \pm 0.000$   $\chi^2/\text{NDF}: 4283555.0/55$

All:  $0.010 \pm 0.000$   $\chi^2/\text{NDF}: 7825909.6/105$

# epics\_VWienAngles\_mean vs Slug, Sign Corrected



Right In: 88.001+/-0.000  $\chi^2/\text{NDF}$ : 2969449.2/26

Left Out: -90.599+/-0.000  $\chi^2/\text{NDF}$ : 5785821.4/24

Right Out: 88.002+/-0.000  $\chi^2/\text{NDF}$ : 80690855910129779772655403008.0/30

Left In: -90.599+/-0.000  $\chi^2/\text{NDF}$ : 7134230.8/22

Left: -90.599+/-0.000  $\chi^2/\text{NDF}$ : 11903242.1/47

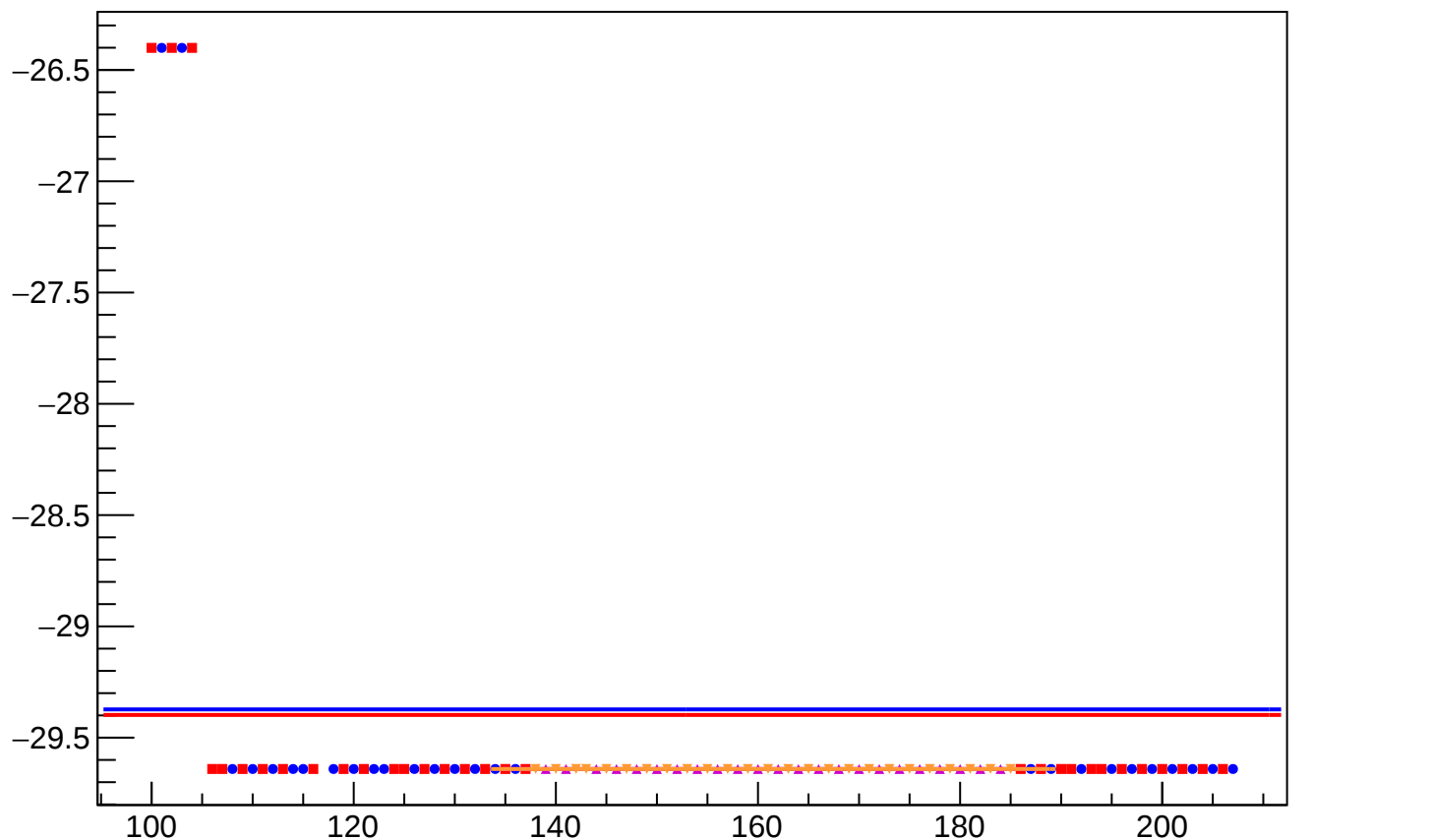
Right: 88.001+/-0.000  $\chi^2/\text{NDF}$ : 8200992632117722

In: -11.492+/-0.000  $\chi^2/\text{NDF}$ : 25374787604367218

Out: -10.531+/-0.000  $\chi^2/\text{NDF}$ : 2724198498669370

All: -10.995+/-0.000  $\chi^2/\text{NDF}$ : 526183125867

# epics\_HWienAngles\_mean vs Slug, Sign Corrected



Right In: -29.373+/-0.000

$\chi^2/\text{NDF}$ : 1136357848739490362612746240917504.0/26

Left Out: -29.641+/-0.000

$\chi^2/\text{NDF}$ : 530354.3/24

Right Out: -29.398+/-0.000

$\chi^2/\text{NDF}$ : 1126471144186035324568812212191232.0/30

Left In: -29.641+/-0.000

$\chi^2/\text{NDF}$ : 382603.8/22

Left: -29.641+/-0.000  $\chi^2/\text{NDF}$ : 741150.6/47

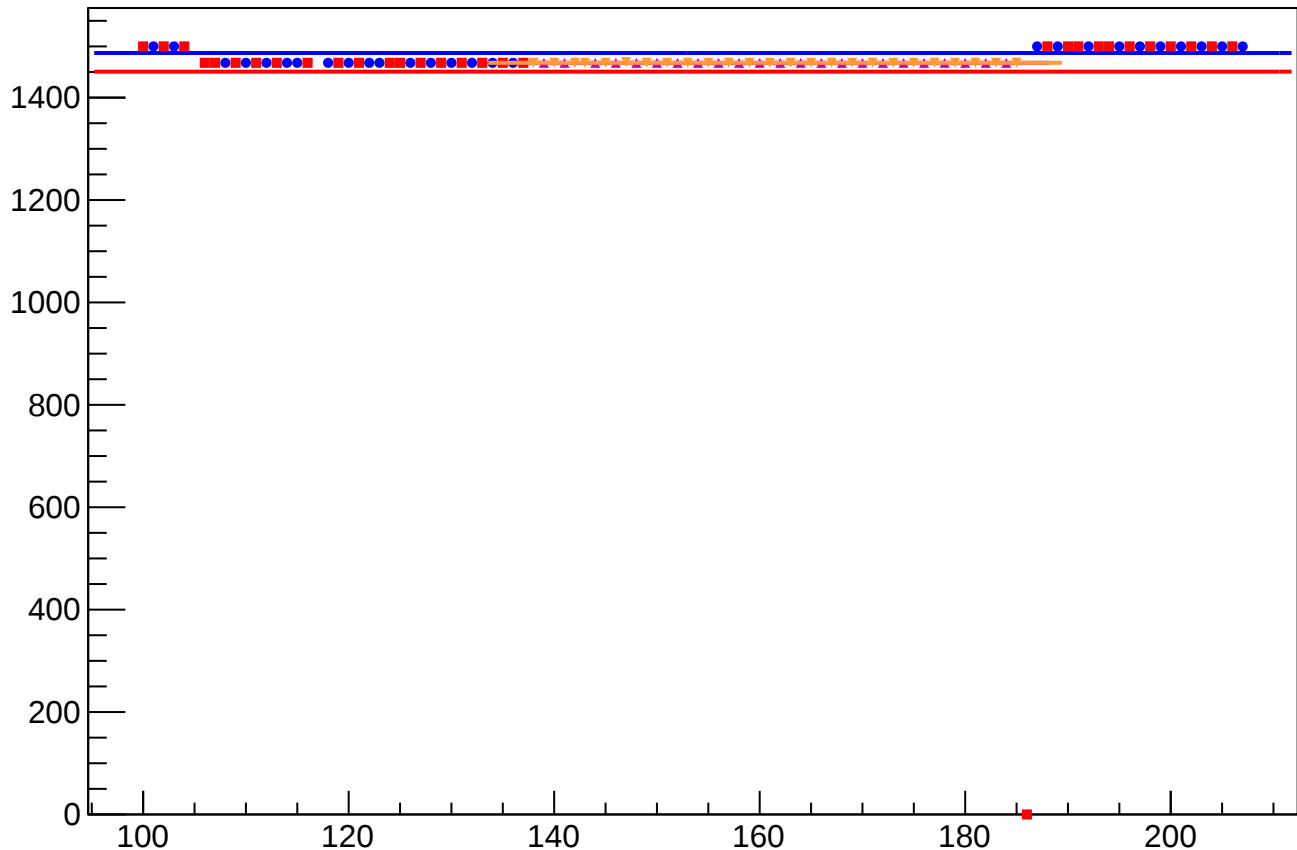
Right: -29.386+/-0.000  $\chi^2/\text{NDF}$ : 226329102580643

In: -29.522+/-0.000  $\chi^2/\text{NDF}$ : 11933791503721921

Out: -29.532+/-0.000  $\chi^2/\text{NDF}$ : 1176813489487375

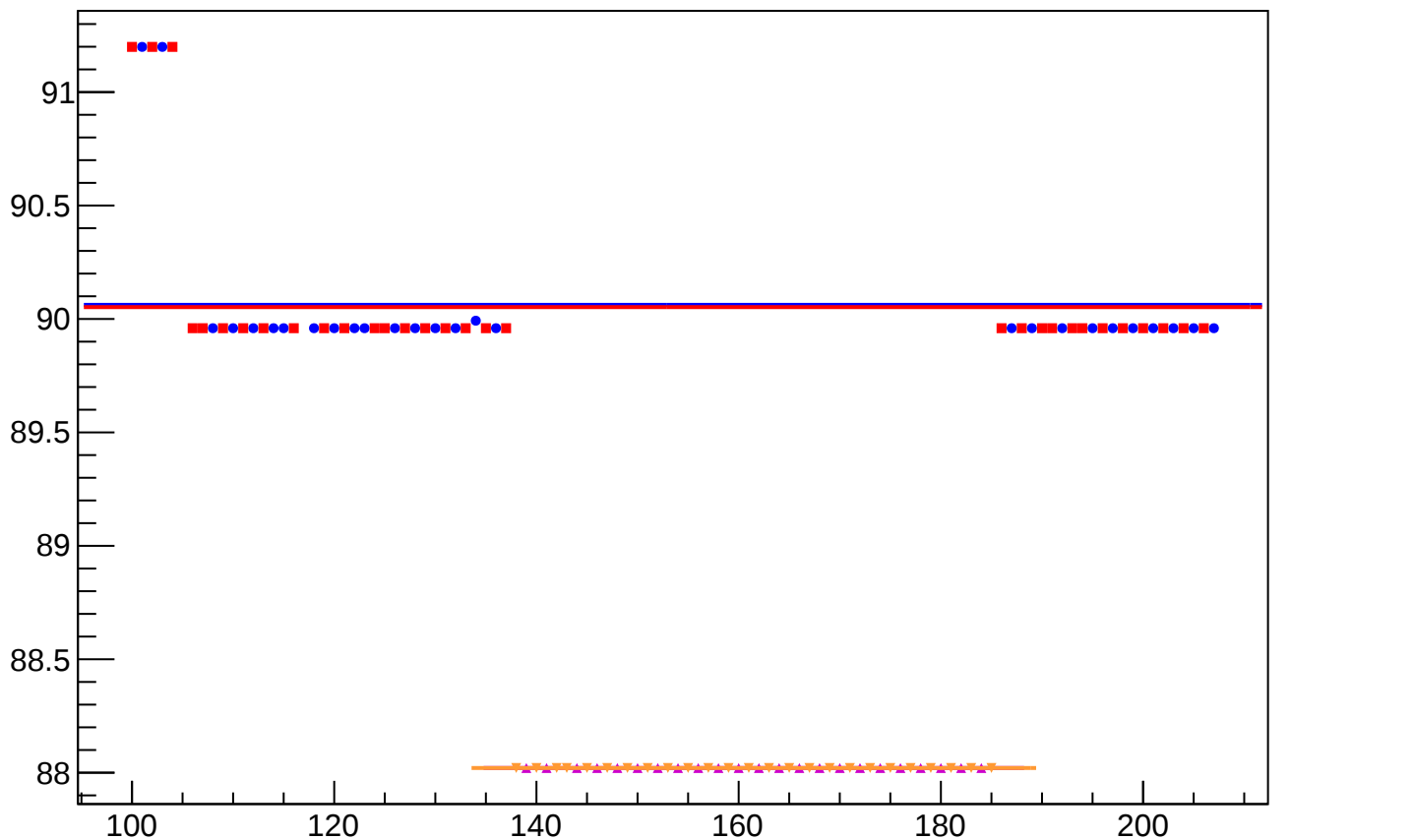
All: -29.527+/-0.000  $\chi^2/\text{NDF}$ : 237035084786

# epics\_psub\_pl\_pos\_mean vs Slug, Sign Corrected



|                             |                                                                   |                                   |                                        |
|-----------------------------|-------------------------------------------------------------------|-----------------------------------|----------------------------------------|
| Right In: 1487.152+/-0.000  | $\chi^2/\text{NDF}$ : 351795212929475098173981384419311616.0/26   | Left: 1468.022+/-0.000            | $\chi^2/\text{NDF}$ : 13080781775346   |
| Left Out: 1468.048+/-0.000  | $\chi^2/\text{NDF}$ : 127949199501977668488138456039424.0/24      | Right: 1468.183+/-0.000           | $\chi^2/\text{NDF}$ : 83693143197164   |
| Right Out: 1450.685+/-0.000 | $\chi^2/\text{NDF}$ : 82353550162967505288878990526532026368.0/30 | In: 1476.480+/-0.000              | $\chi^2/\text{NDF}$ : 6437794257253327 |
| Left In: 1467.994+/-0.000   | $\chi^2/\text{NDF}$ : 144497772795444989723550941184.0/22         | Out: 1460.264+/-0.000             | $\chi^2/\text{NDF}$ : 826111385373064  |
|                             | All: 1468.094+/-0.000                                             | $\chi^2/\text{NDF}$ : 83693317176 |                                        |

# epics\_Phi\_FGs\_mean vs Slug, Sign Corrected



Right In: 90.062+/-0.000

$\chi^2/\text{NDF}$ : 166324495367516386408806005866496.0/26

Left: 88.021+/-0.000  $\chi^2/\text{NDF}$ : 13134723.4/47

Right: 90.057+/-0.000

$\chi^2/\text{NDF}$ : 3313952392760205

Left Out: 88.021+/-0.000

$\chi^2/\text{NDF}$ : 5679798.5/24

Right Out: 90.052+/-0.000

$\chi^2/\text{NDF}$ : 164996002067225251639100472033280.0/30

In: 88.925+/-0.000

$\chi^2/\text{NDF}$ : 348188773036122507

Out: 88.931+/-0.000

$\chi^2/\text{NDF}$ : 36895879609672090

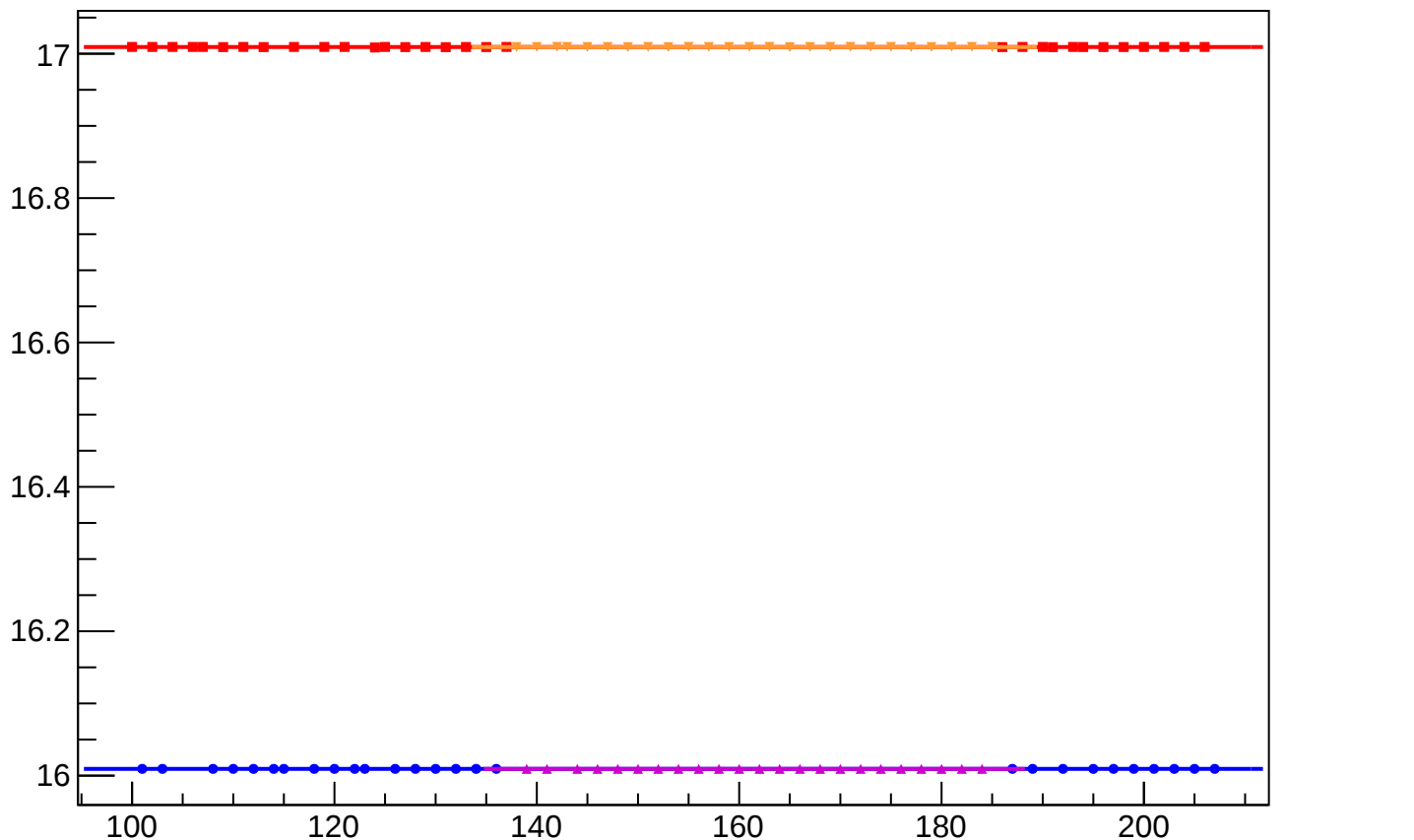
Left In: 88.021+/-0.000

$\chi^2/\text{NDF}$ : 6257169.0/22

All: 88.928+/-0.000

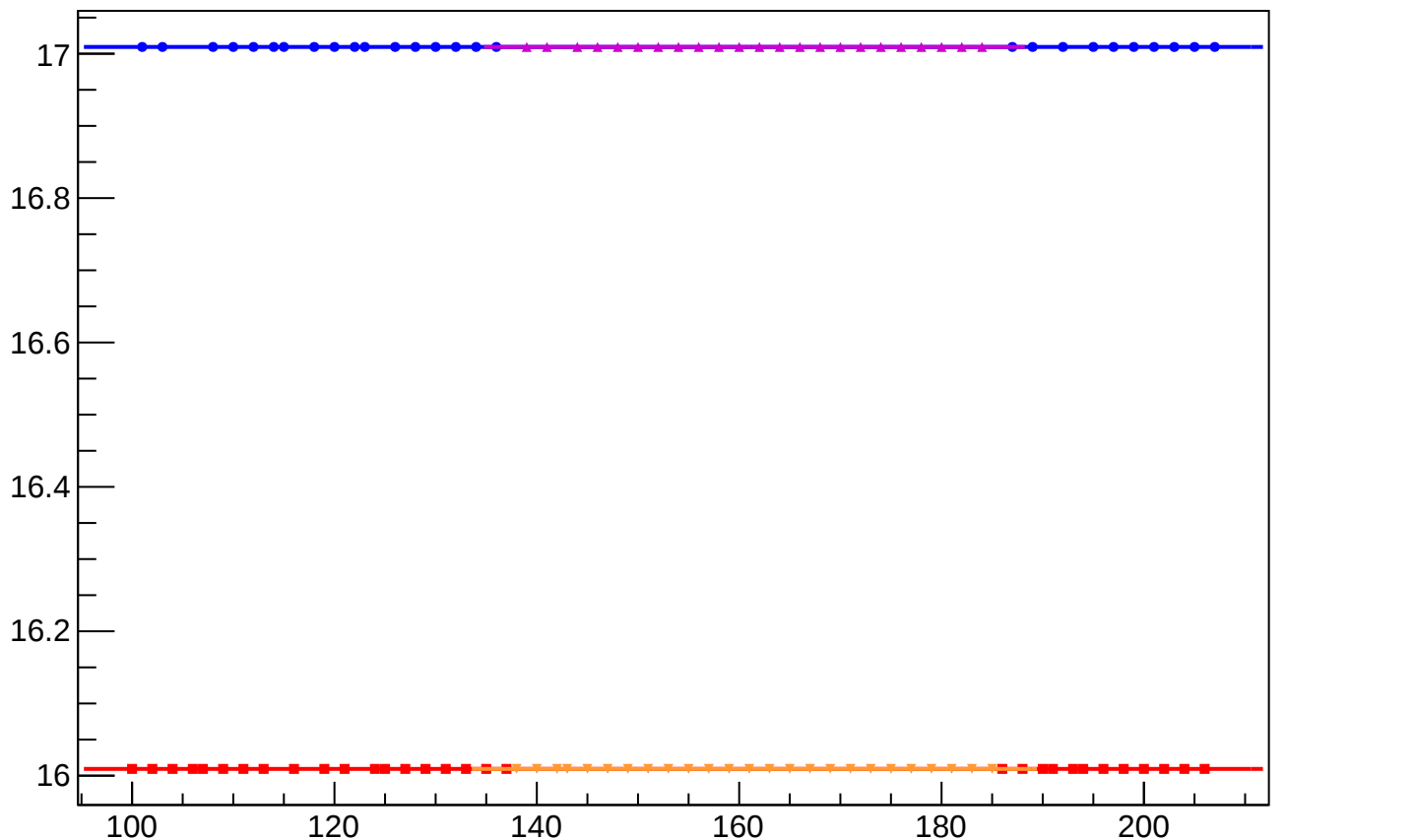
$\chi^2/\text{NDF}$ : 7171545744112

epics\_IGL1I00DI24\_24Ms\_mean vs Slug, Sign Corrected



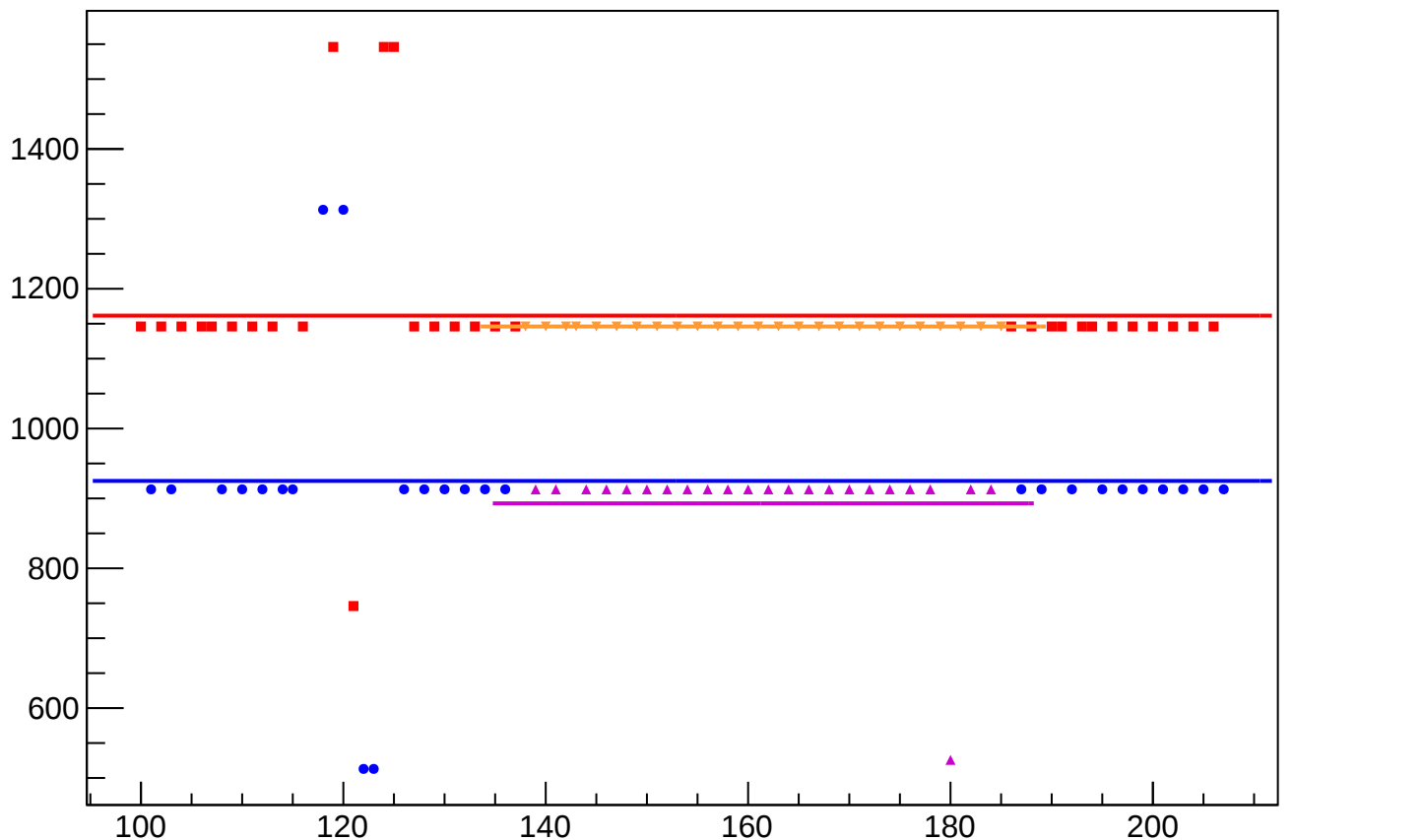
|                               |                                                |                           |                                   |
|-------------------------------|------------------------------------------------|---------------------------|-----------------------------------|
| Right In: 16.009 $\pm$ 0.000  | $\chi^2$ /NDF: 113567838267970007597056.0/26   | Left: 16.524 $\pm$ 0.000  | $\chi^2$ /NDF: 85855870772921272  |
| Left Out: 17.009 $\pm$ 0.000  | $\chi^2$ /NDF: 26194929080144976634970112.0/24 | Right: 16.524 $\pm$ 0.000 | $\chi^2$ /NDF: 7185177558624162   |
| Right Out: 17.009 $\pm$ 0.000 | $\chi^2$ /NDF: 18638069557053823345754112.0/30 | In: 16.009 $\pm$ 0.000    | $\chi^2$ /NDF: 241590098859578630 |
| Left In: 16.009 $\pm$ 0.000   | $\chi^2$ /NDF: 127920993667935400624128.0/22   | Out: 17.009 $\pm$ 0.000   | $\chi^2$ /NDF: 45795854524745944  |
|                               |                                                | All: 16.524 $\pm$ 0.000   | $\chi^2$ /NDF: 1577076466659      |

epics\_IGL1I00OD16\_16s\_mean vs Slug, Sign Corrected



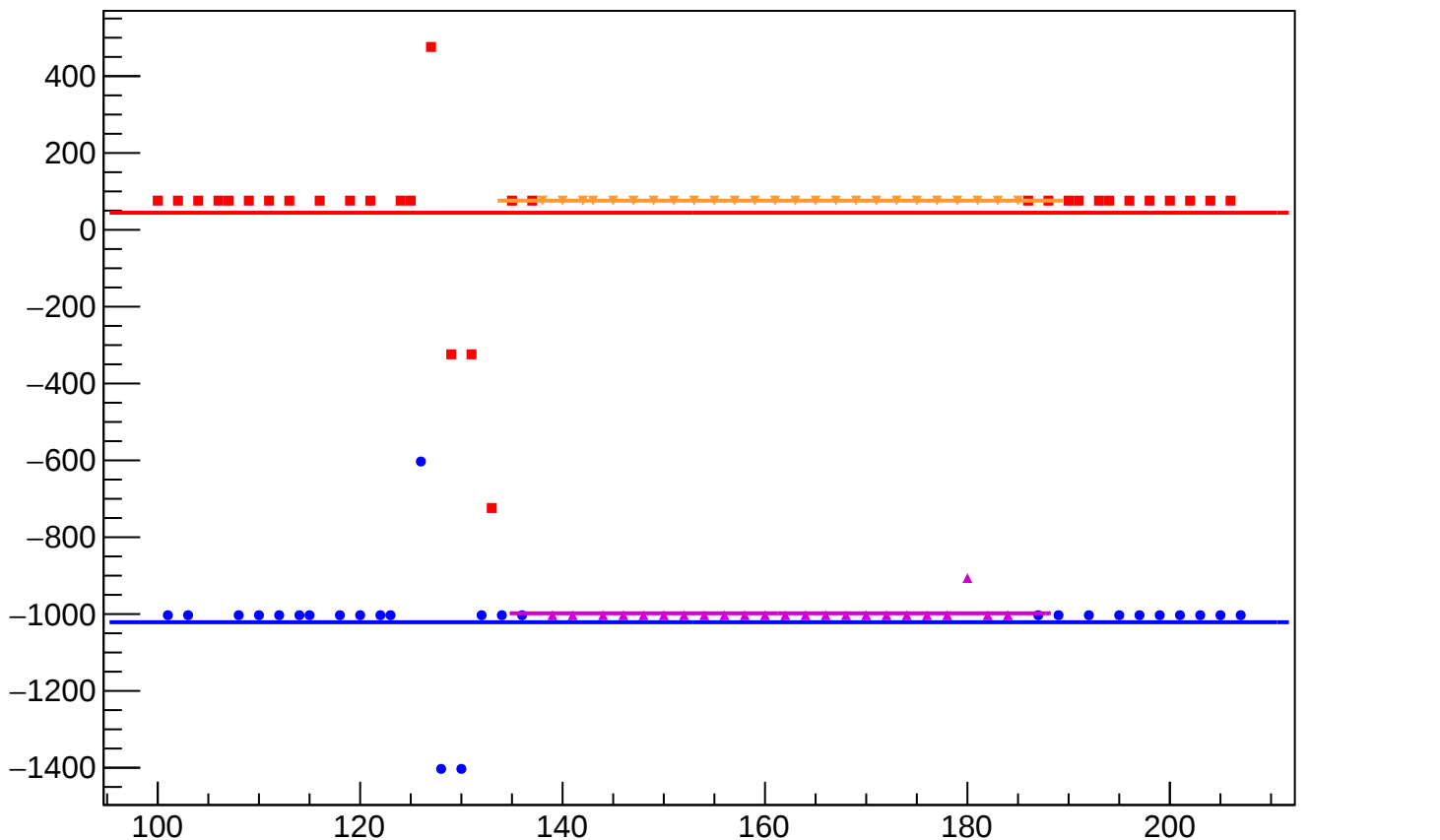
|                               |                                              |                           |                                   |
|-------------------------------|----------------------------------------------|---------------------------|-----------------------------------|
| Right In: 17.009 $\pm$ 0.000  | $\chi^2$ /NDF: 113567838313540063592448.0/26 | Left: 16.491 $\pm$ 0.000  | $\chi^2$ /NDF: 90683349233974450  |
| Left Out: 16.009 $\pm$ 0.000  | $\chi^2$ /NDF: 61253.5/24                    | Right: 16.485 $\pm$ 0.000 | $\chi^2$ /NDF: 7324570545094423   |
| Right Out: 16.009 $\pm$ 0.000 | $\chi^2$ /NDF: 323041.7/30                   | In: 17.009 $\pm$ 0.000    | $\chi^2$ /NDF: 228713928114858130 |
| Left In: 17.009 $\pm$ 0.000   | $\chi^2$ /NDF: 114986101427233622065152.0/22 | Out: 16.009 $\pm$ 0.000   | $\chi^2$ /NDF: 550183.1/55        |
|                               |                                              | All: 16.488 $\pm$ 0.000   | $\chi^2$ /NDF: 1639365386899      |

epics\_RTPAPOSUCNTs\_mean vs Slug, Sign Corrected



Left: 1023.207+/-0.000  $\chi^2/\text{NDF}$ : 724152114185977  
 Right In: 925.040+/-0.000  $\chi^2/\text{NDF}$ : 21074170969527461812964599747458367488.0/26  
 Right: 1048.044+/-0.000  $\chi^2/\text{NDF}$ : 84319511918999  
 Left Out: 1146.011+/-0.000  $\chi^2/\text{NDF}$ : 8056834670270133849999540224.0/24  
 In: 907.164+/-0.000  $\chi^2/\text{NDF}$ : 35107174432695347  
 Right Out: 1161.514+/-0.000  $\chi^2/\text{NDF}$ : 21708635884446722157874273853770825728.0/30  
 Out: 1152.961+/-0.000  $\chi^2/\text{NDF}$ : 219138801047818  
 Left In: 892.950+/-0.000  $\chi^2/\text{NDF}$ : 13213852485930520518972295012897783808.0/22  
 All: 1034.277+/-0.000  $\chi^2/\text{NDF}$ : 15775230930

epics\_RTPAPOSVCNTs\_mean vs Slug, Sign Corrected



Right In:  $-1021.197 \pm 0.000$   $\chi^2/\text{NDF}: 22726273102489838620501188704364134400.0/26$   
 Left Out:  $76.011 \pm 0.000$   $\chi^2/\text{NDF}: 11479003589933272170007363584.0/24$   
 Right Out:  $44.486 \pm 0.000$   $\chi^2/\text{NDF}: 45501363450063733880445875935160303616.0/30$   
 Left In:  $-997.979 \pm 0.000$   $\chi^2/\text{NDF}: 825858066518991041870194619245920256.0/22$   
 All:  $-454.841 \pm 0.000$   $\chi^2/\text{NDF}: 19797094706$