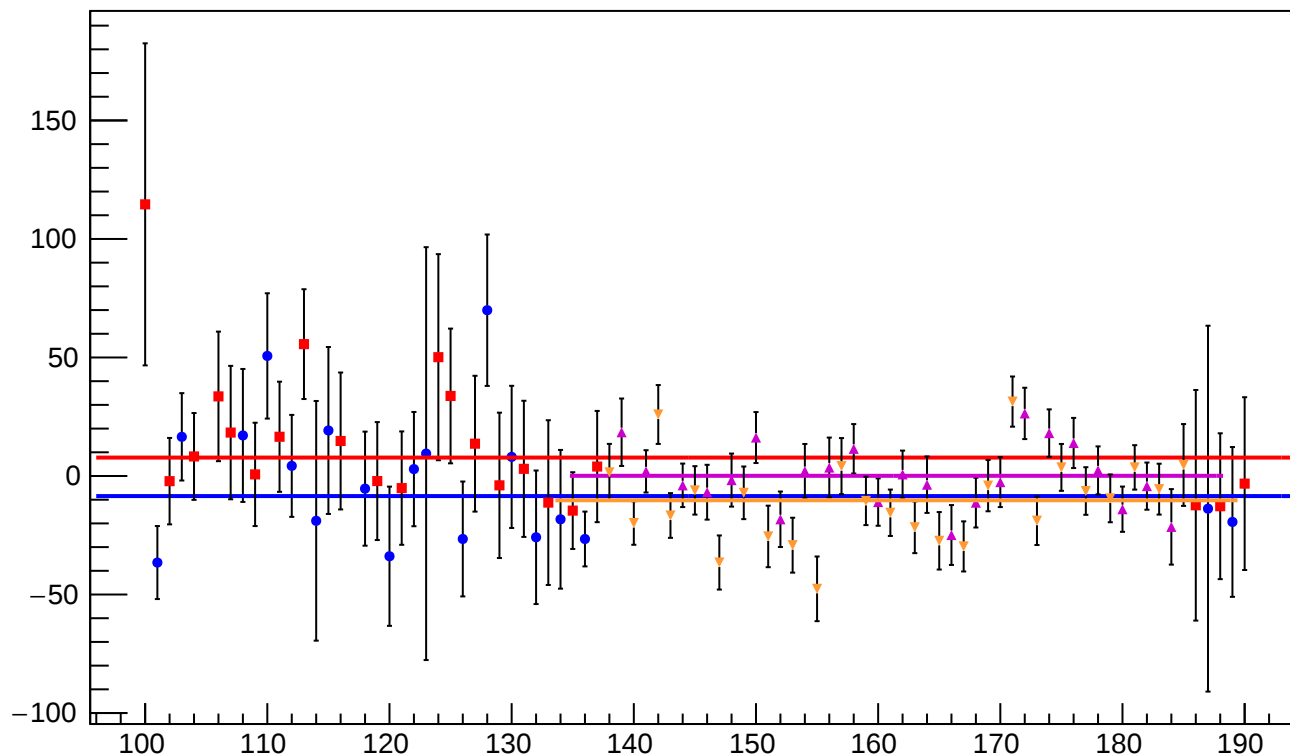


# diff\_bpm4aX\_mean vs Slug, Sign Corrected



Right In:  $-8.470 \pm 5.519$

$\chi^2/\text{NDF}: 23.0/18$

Left Out:  $-10.238 \pm 2.170$

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

Right Out:  $7.771 \pm 5.492$

$\chi^2/\text{NDF}: 13.8/21$

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:  $-0.311 \pm 3.893$

$\chi^2/\text{NDF}: 41.1/40$

In:  $-1.139 \pm 2.084$

$\chi^2/\text{NDF}: 54.9/41$

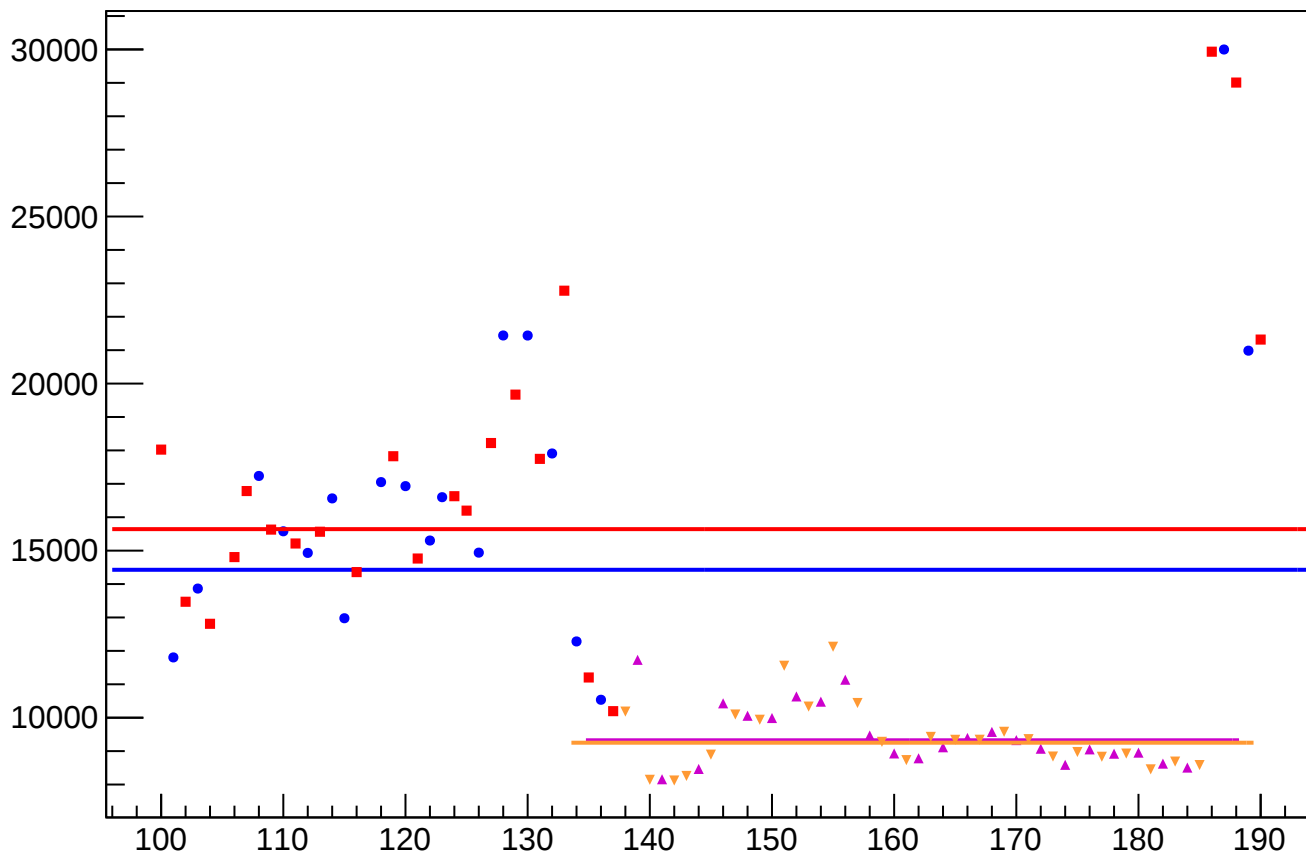
Out:  $-7.806 \pm 2.018$

$\chi^2/\text{NDF}: 81.2/46$

All:  $-4.579 \pm 1.450$

$\chi^2/\text{NDF}: 141.4/88$

# diff\_bpm4aX\_rms vs Slug, Sign Corrected



Right In: 14427.000 $\pm$ 3.902  $\chi^2$ /NDF: 775923.0/18

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

Right Out: 15643.702 $\pm$ 3.884  $\chi^2$ /NDF: 1111067.8/21

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

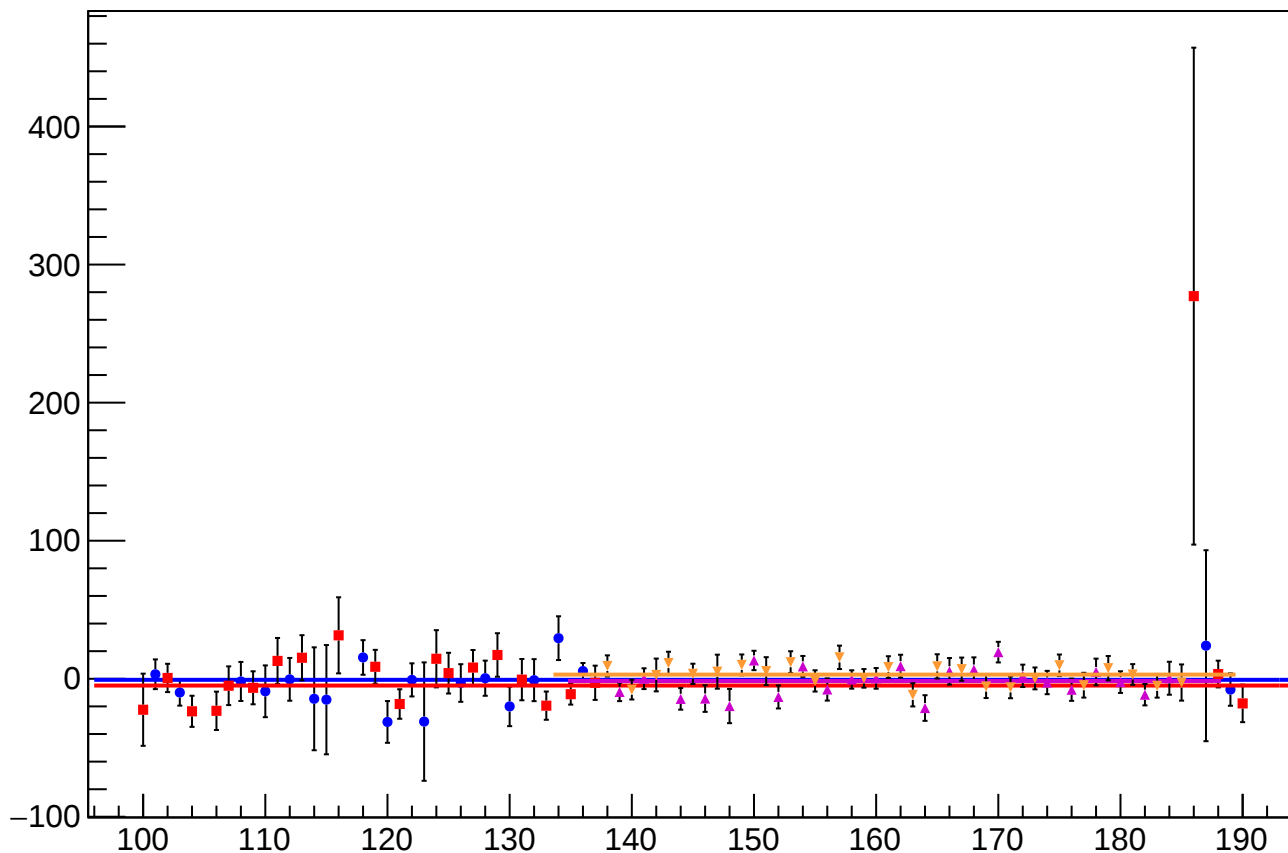
Right: 15038.228 $\pm$ 2.753  $\chi^2$ /NDF: 1935830.6/40

In: 10051.665 $\pm$ 1.474  $\chi^2$ /NDF: 2517947.1/41

Out: 10114.991 $\pm$ 1.427  $\chi^2$ /NDF: 3786255.3/46

All: 10084.340 $\pm$ 1.025  $\chi^2$ /NDF: 6305155.3/86

# diff\_bpm4aY\_mean vs Slug, Sign Corrected



Right In: -0.751 $\pm$ 2.973     $\chi^2/\text{NDF}$ : 14.9/18

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

Right Out: -4.890 $\pm$ 2.756     $\chi^2/\text{NDF}$ : 23.6/21

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

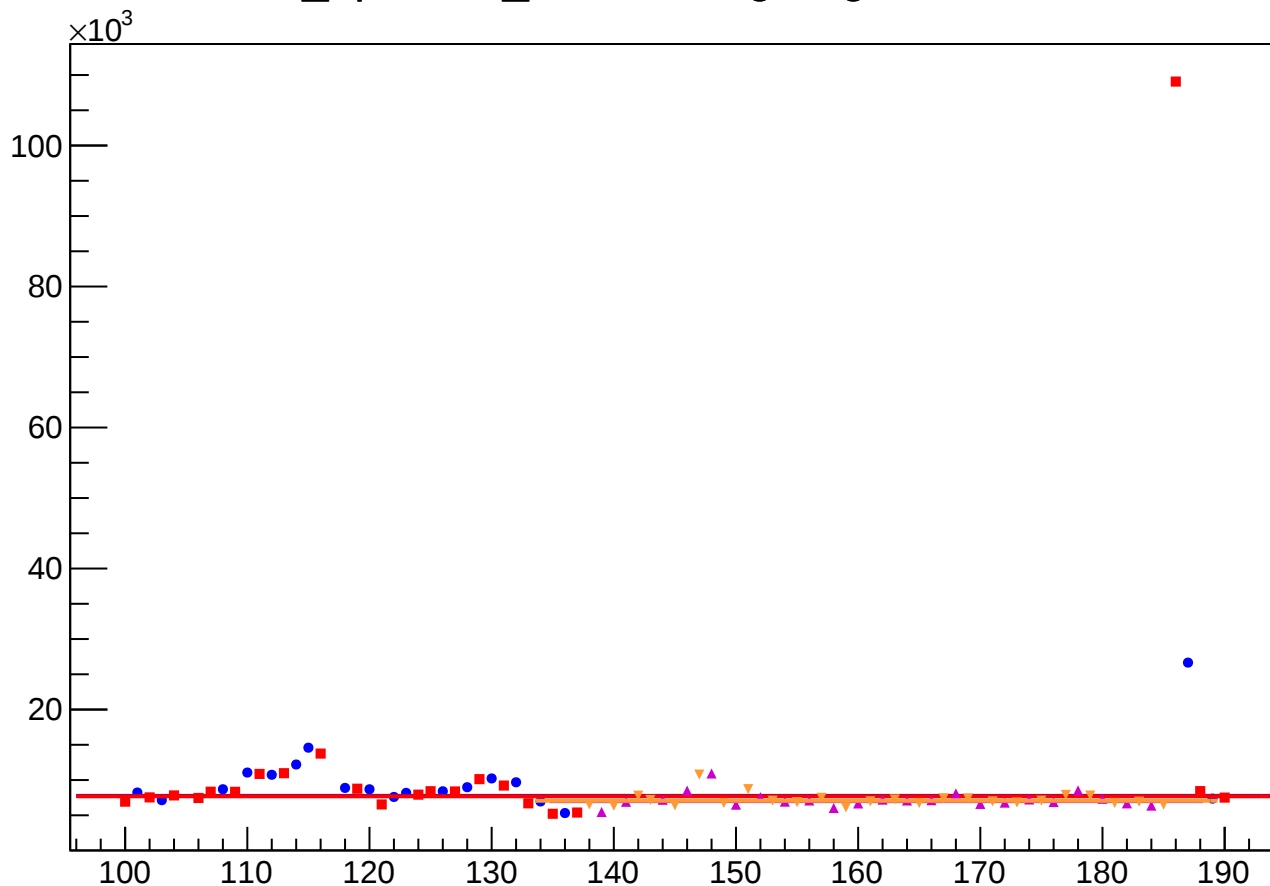
Right: -2.977 $\pm$ 2.021     $\chi^2/\text{NDF}$ : 39.6/40

In: -1.382 $\pm$ 1.478     $\chi^2/\text{NDF}$ : 50.5/41

Out: 0.918 $\pm$ 1.422     $\chi^2/\text{NDF}$ : 48.3/46

All: -0.188 $\pm$ 1.025     $\chi^2/\text{NDF}$ : 100.0/88

# diff\_bpm4aY\_rms vs Slug, Sign Corrected



Right In: 7749.938 $\pm$ 2.102  $\chi^2/\text{NDF}$ : 892577.0/18

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

Right Out: 7697.245 $\pm$ 1.949  $\chi^2/\text{NDF}$ : 1331454.7/21

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

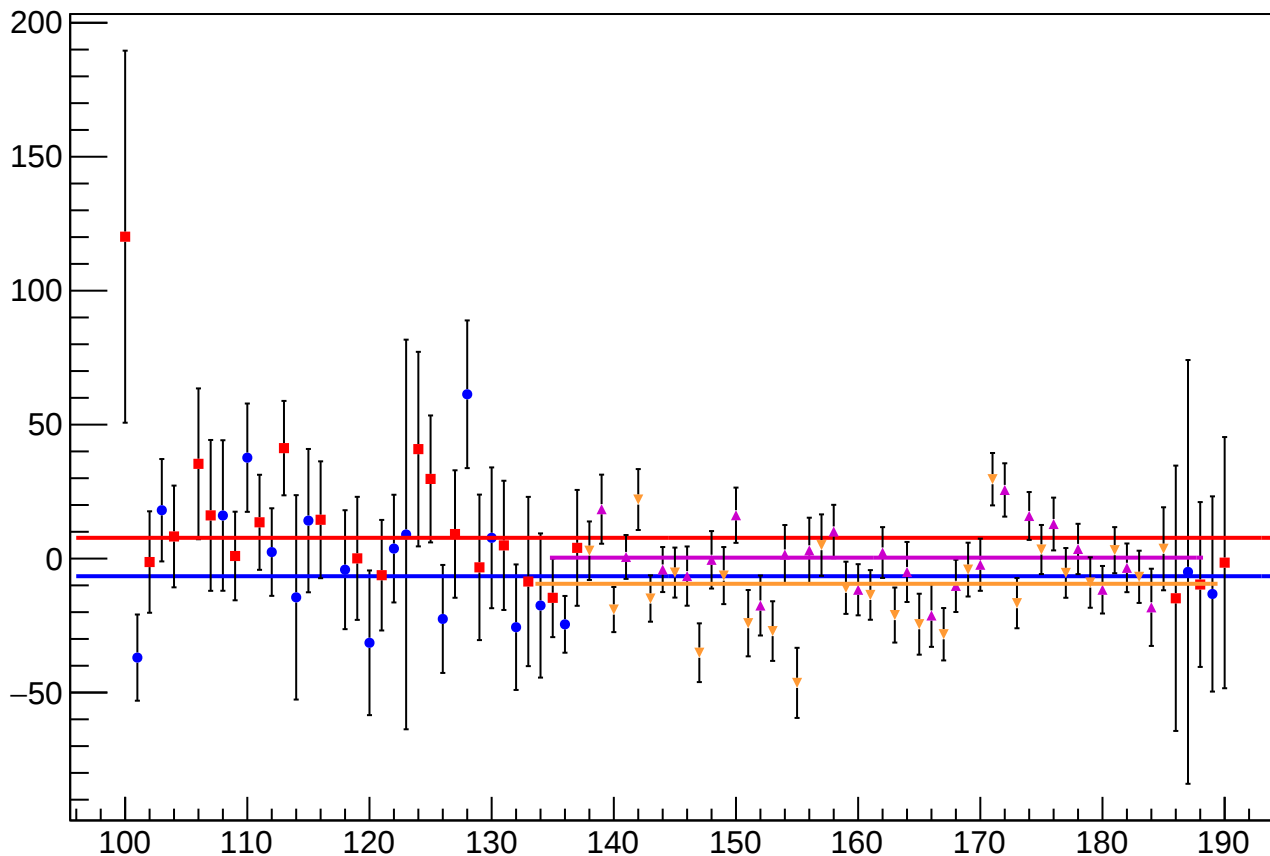
Right: 7721.597 $\pm$ 1.429  $\chi^2/\text{NDF}$ : 2224369.5/40

In: 7196.151 $\pm$ 1.045  $\chi^2/\text{NDF}$ : 1510016.4/41

Out: 7232.987 $\pm$ 1.006  $\chi^2/\text{NDF}$ : 1795617.1/46

All: 7215.269 $\pm$ 0.725  $\chi^2/\text{NDF}$ : 3306278.7/88

# diff\_bpm4eX\_mean vs Slug, Sign Corrected



Right In:  $-6.583 \pm 4.971$   $\chi^2/\text{NDF}$ : 23.5/18

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

Right Out:  $7.749 \pm 4.892$   $\chi^2/\text{NDF}$ : 13.5/21

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

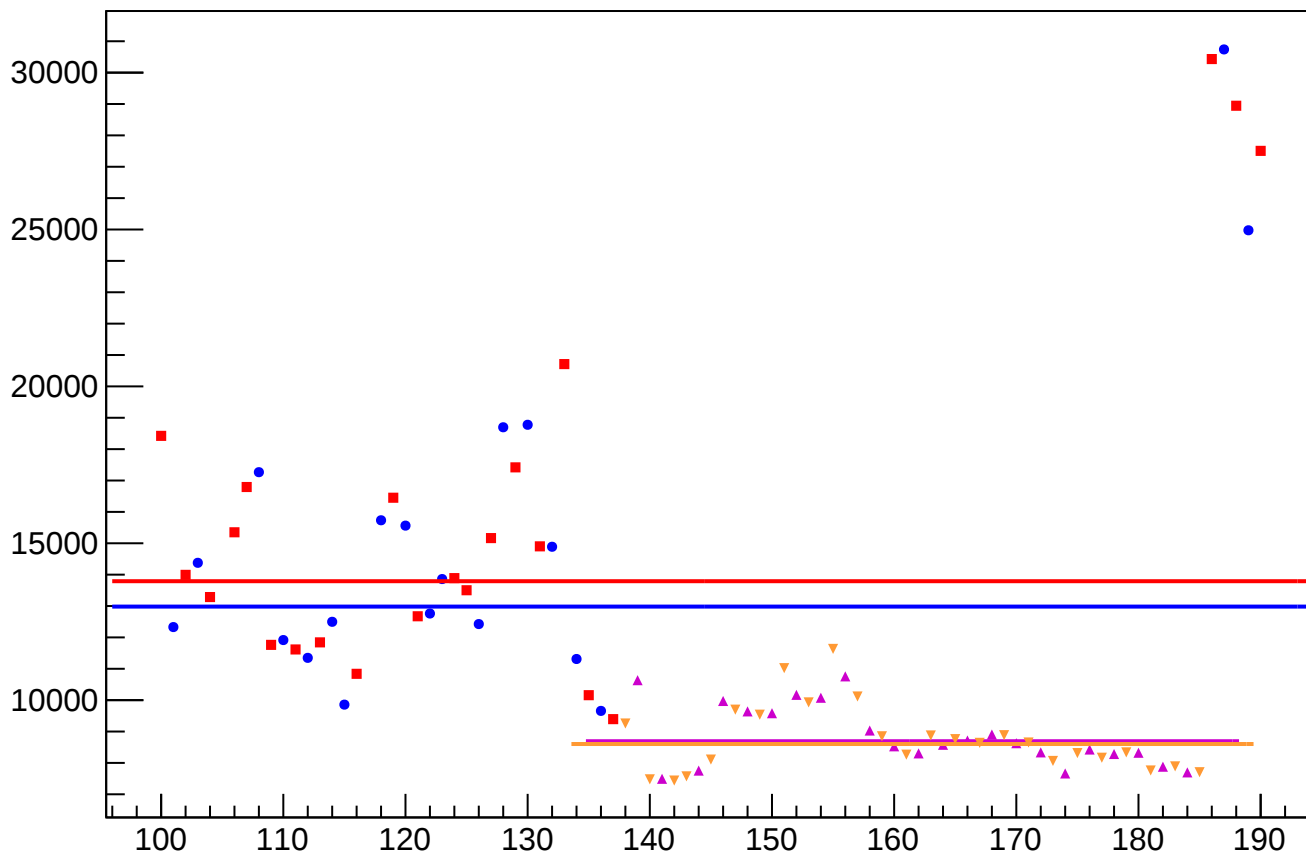
Right:  $0.698 \pm 3.487$   $\chi^2/\text{NDF}$ : 41.2/40

In:  $-0.705 \pm 1.935$   $\chi^2/\text{NDF}$ : 55.1/41

Out:  $-6.910 \pm 1.868$   $\chi^2/\text{NDF}$ : 82.8/46

All:  $-3.917 \pm 1.344$   $\chi^2/\text{NDF}$ : 143.2/88

# diff\_bpm4eX\_rms vs Slug, Sign Corrected



Right In:  $12982.065 \pm 3.515$   $\chi^2/\text{NDF}: 883264.5/18$

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

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

Right:  $13393.024 \pm 2.466$   $\chi^2/\text{NDF}: 2333795.6/40$

Right Out:  $13791.009 \pm 3.459$   $\chi^2/\text{NDF}: 1423629.3/21$

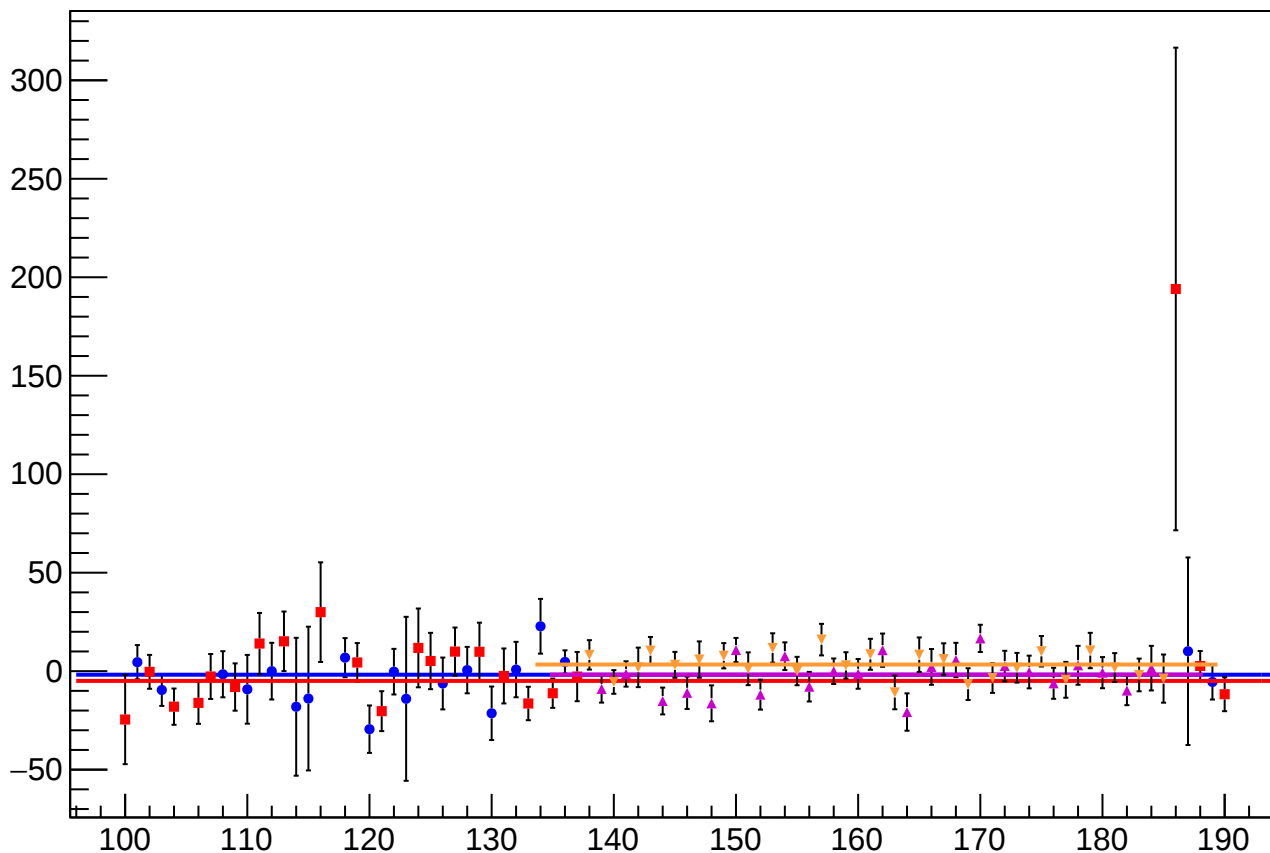
In:  $9341.163 \pm 1.368$   $\chi^2/\text{NDF}: 2512724.2/41$

Out:  $9358.594 \pm 1.321$   $\chi^2/\text{NDF}: 3784208.1/46$

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

All:  $9350.185 \pm 0.950$   $\chi^2/\text{NDF}: 6297016.3/88$

# diff\_bpm4eY\_mean vs Slug, Sign Corrected



Right In:  $-1.799 \pm 2.663$   $\chi^2/\text{NDF}$ : 15.0/18

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

Right Out:  $-4.937 \pm 2.398$   $\chi^2/\text{NDF}$ : 23.2/21

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

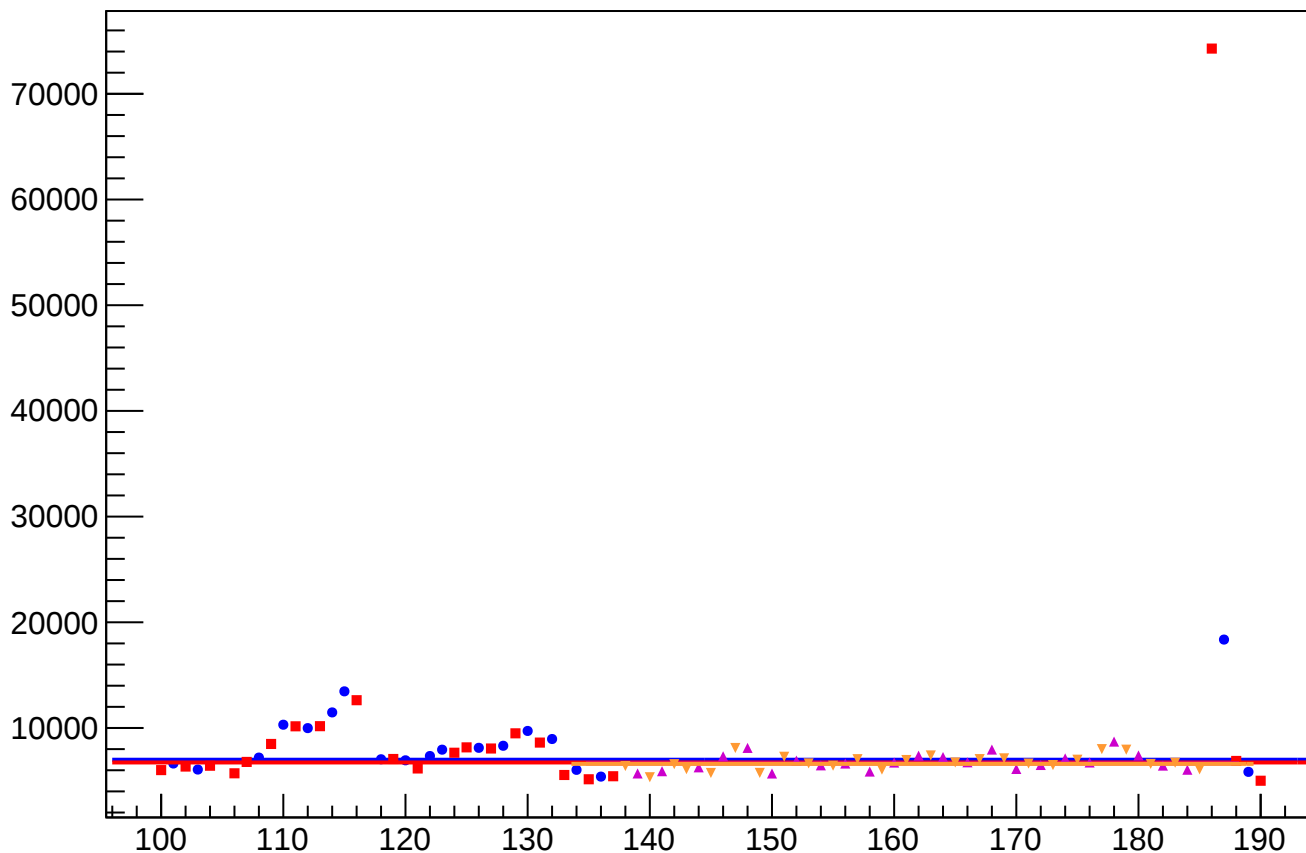
Right:  $-3.531 \pm 1.782$   $\chi^2/\text{NDF}$ : 38.9/40

In:  $-1.767 \pm 1.376$   $\chi^2/\text{NDF}$ : 48.5/41

Out:  $0.922 \pm 1.303$   $\chi^2/\text{NDF}$ : 48.8/46

All:  $-0.350 \pm 0.946$   $\chi^2/\text{NDF}$ : 99.3/88

# diff\_bpm4eY\_rms vs Slug, Sign Corrected



Right In:  $6996.304 \pm 1.883$   $\chi^2/\text{NDF}: 749530.5/18$

Left Out:  $6603.953 \pm 1.097$   $\chi^2/\text{NDF}: 395247.5/24$

Right Out:  $6737.480 \pm 1.696$   $\chi^2/\text{NDF}: 1381397.5/21$

Left In:  $6637.155 \pm 1.136$   $\chi^2/\text{NDF}: 415547.5/22$

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

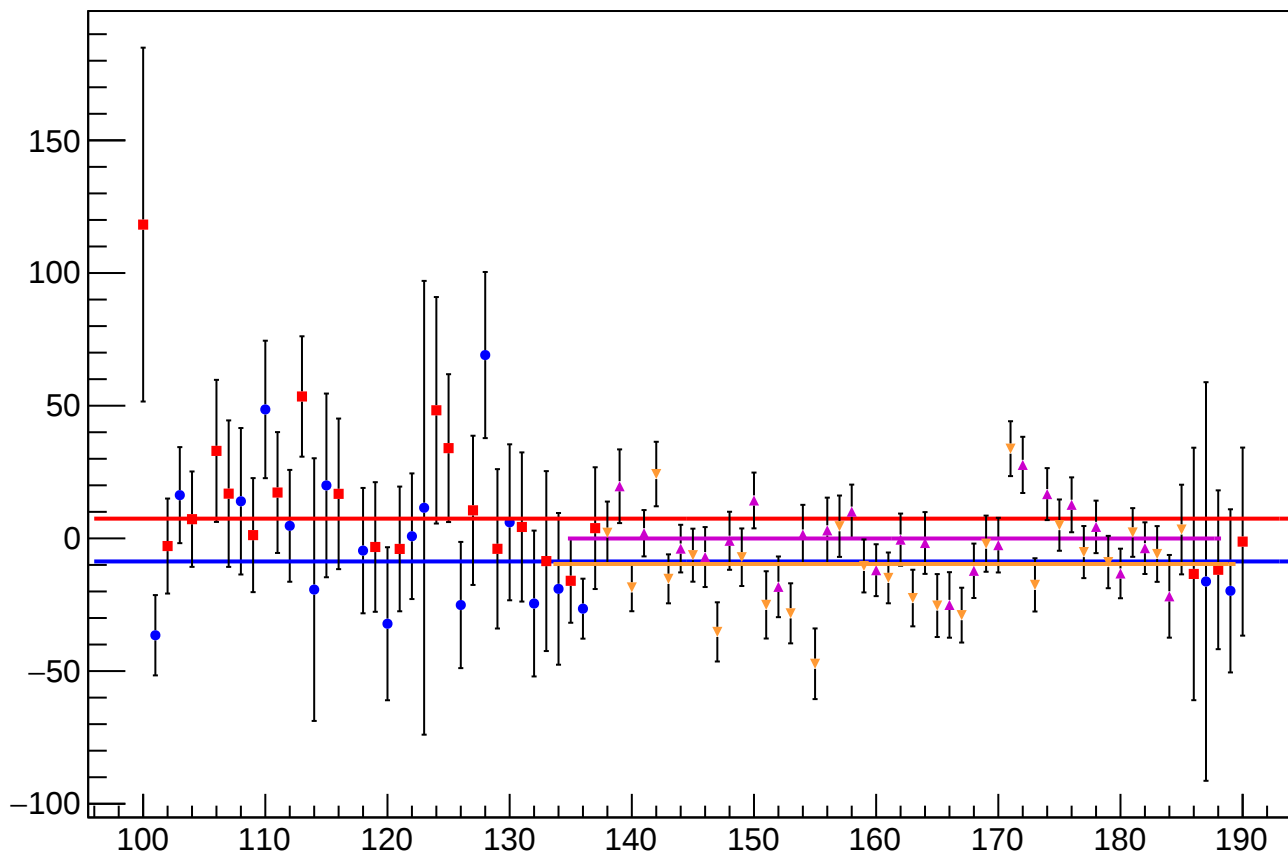
Right:  $6853.397 \pm 1.260$   $\chi^2/\text{NDF}: 2141360.5/40$

In:  $6733.035 \pm 0.973$   $\chi^2/\text{NDF}: 1191746.8/41$

Out:  $6643.359 \pm 0.921$   $\chi^2/\text{NDF}: 1781015.1/46$

All:  $6685.755 \pm 0.669$   $\chi^2/\text{NDF}: 2977241.4/88$

# diff\_bpm4acX\_mean vs Slug, Sign Corrected



Right In:  $-8.688 \pm 5.407$   $\chi^2/\text{NDF}$ : 22.9/18

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

Right Out:  $7.445 \pm 5.382$   $\chi^2/\text{NDF}$ : 14.1/21

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

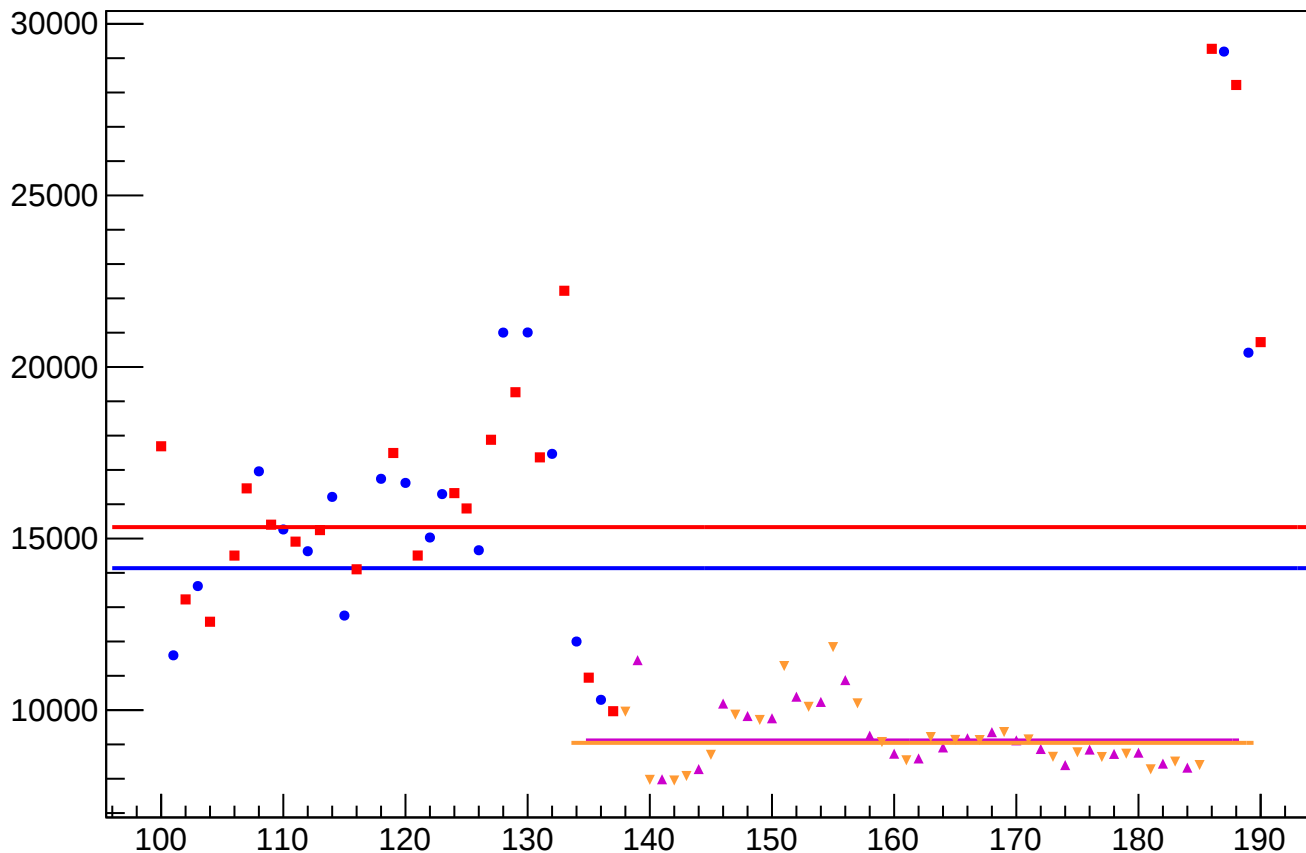
Right:  $-0.584 \pm 3.815$   $\chi^2/\text{NDF}$ : 41.5/40

In:  $-1.270 \pm 2.038$   $\chi^2/\text{NDF}$ : 55.8/41

Out:  $-7.342 \pm 1.974$   $\chi^2/\text{NDF}$ : 82.8/46

All:  $-4.403 \pm 1.418$   $\chi^2/\text{NDF}$ : 143.2/88

# diff\_bpm4acX\_rms vs Slug, Sign Corrected



Right In:  $14137.092 \pm 3.824$   $\chi^2/\text{NDF}: 775312.9/18$

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

Right Out:  $15333.372 \pm 3.806$   $\chi^2/\text{NDF}: 1103014.9/21$

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

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

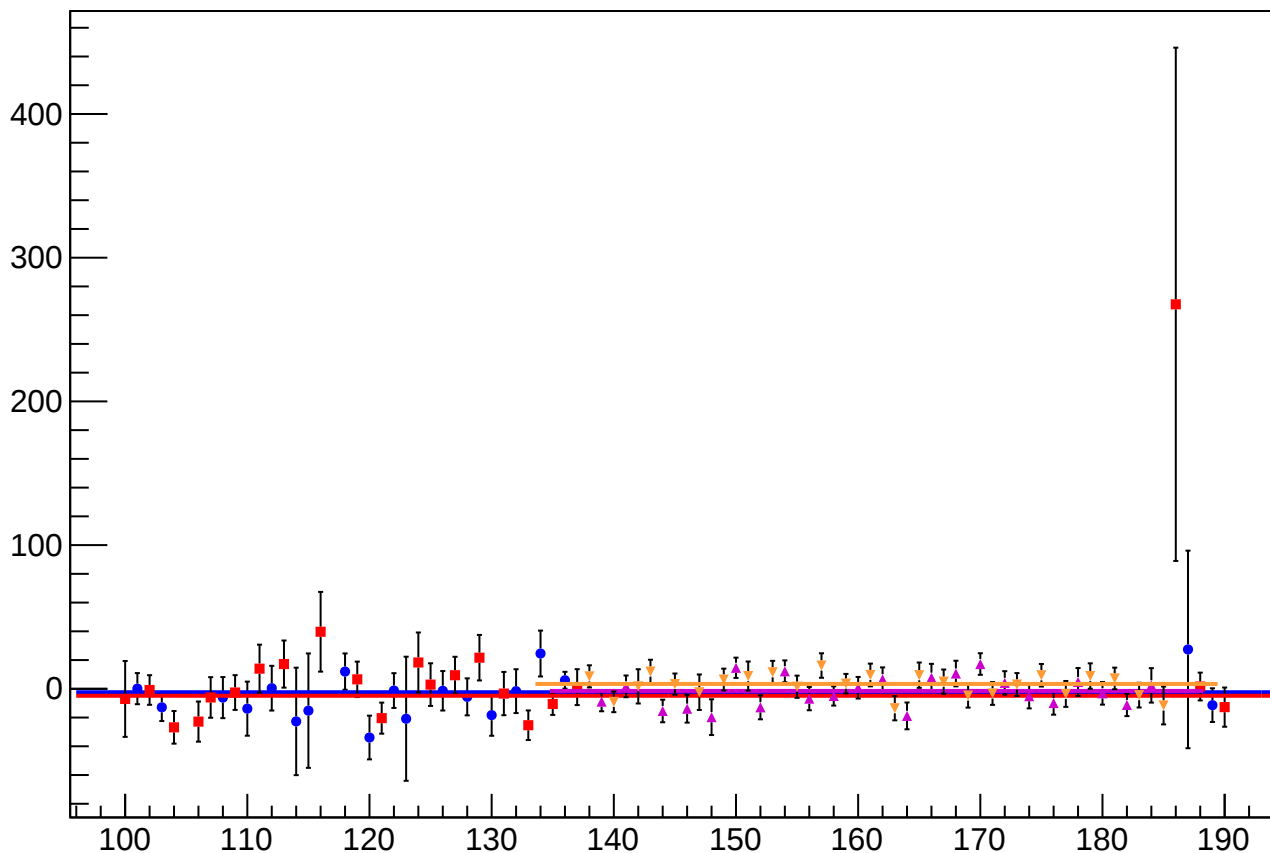
Right:  $14738.040 \pm 2.697$   $\chi^2/\text{NDF}: 1927498.5/40$

In:  $9828.990 \pm 1.441$   $\chi^2/\text{NDF}: 2527361.7/41$

Out:  $9891.562 \pm 1.396$   $\chi^2/\text{NDF}: 3793829.5/46$

All:  $9861.275 \pm 1.003$   $\chi^2/\text{NDF}: 6322164.0/88$

# diff\_bpm4acY\_mean vs Slug, Sign Corrected



Right In:  $-2.394 \pm 2.994$   $\chi^2/\text{NDF}$ : 14.9/18

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

Right Out:  $-4.849 \pm 2.775$   $\chi^2/\text{NDF}$ : 27.6/21

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

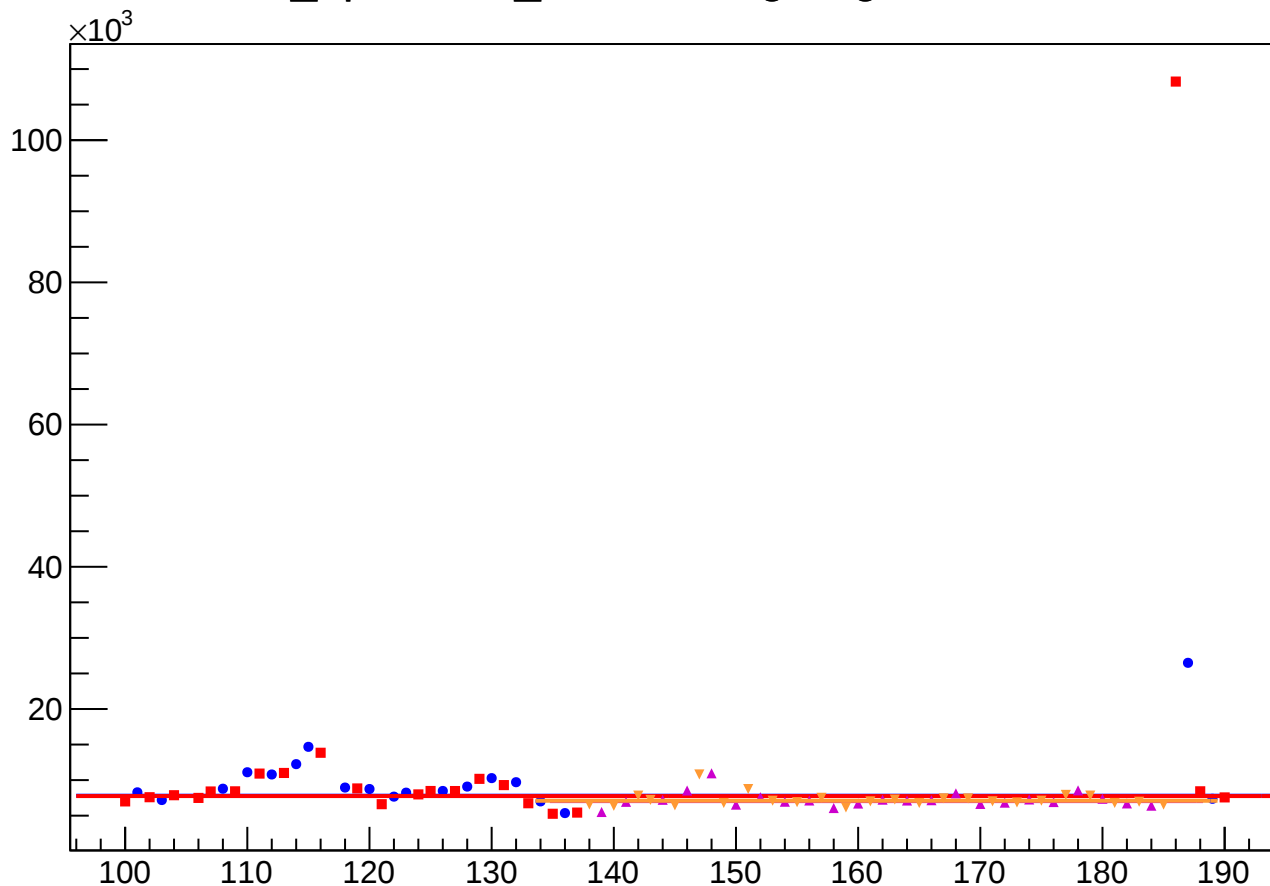
Right:  $-3.715 \pm 2.035$   $\chi^2/\text{NDF}$ : 42.8/40

In:  $-1.705 \pm 1.485$   $\chi^2/\text{NDF}$ : 51.7/41

Out:  $1.201 \pm 1.430$   $\chi^2/\text{NDF}$ : 53.5/46

All:  $-0.196 \pm 1.030$   $\chi^2/\text{NDF}$ : 107.1/88

# diff\_bpm4acY\_rms vs Slug, Sign Corrected



Right In: 7805.716 $\pm$ 2.117  $\chi^2/\text{NDF}$ : 886878.7/18

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

Right Out: 7754.415 $\pm$ 1.962  $\chi^2/\text{NDF}$ : 1321435.8/21

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

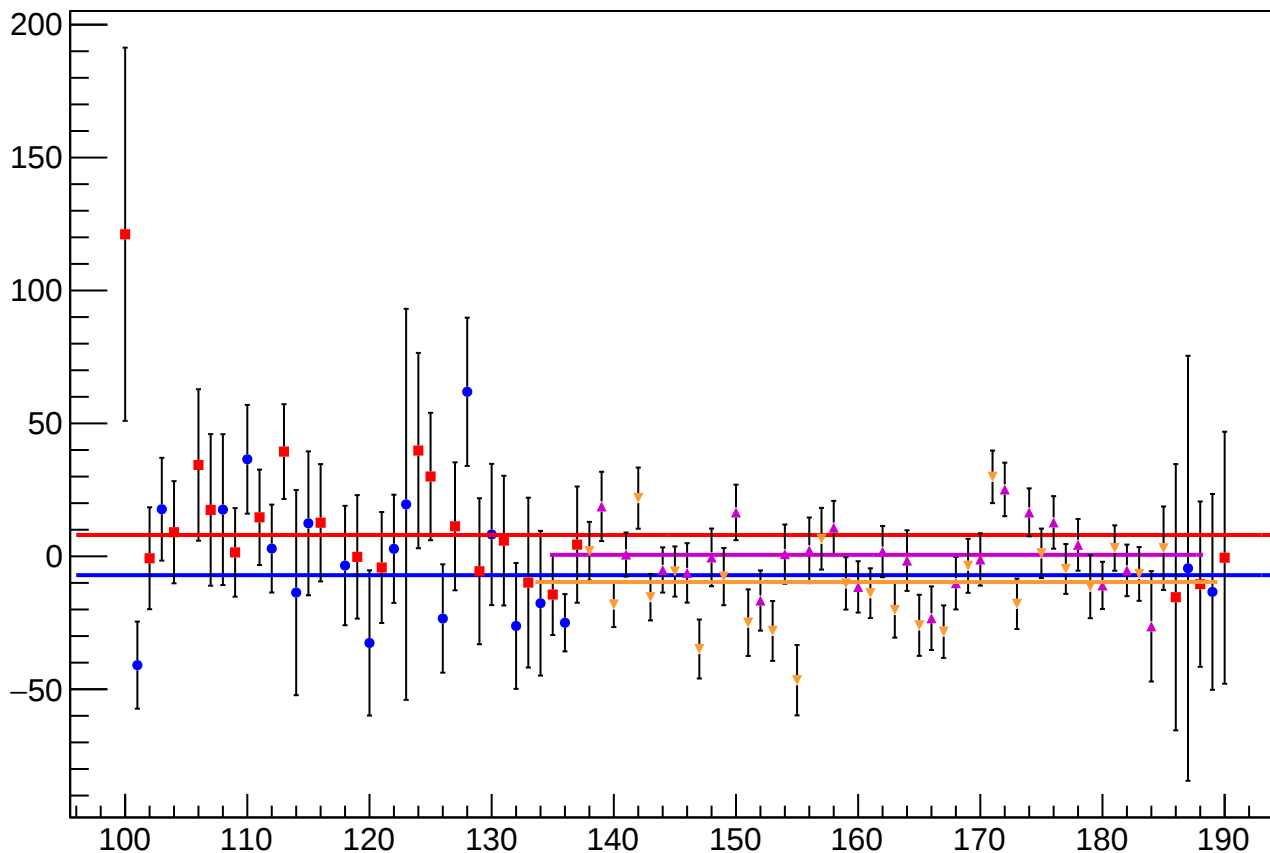
Right: 7778.122 $\pm$ 1.439  $\chi^2/\text{NDF}$ : 2208630.4/40

In: 7233.874 $\pm$ 1.050  $\chi^2/\text{NDF}$ : 1501089.4/41

Out: 7270.980 $\pm$ 1.011  $\chi^2/\text{NDF}$ : 1786002.4/46

All: 7253.133 $\pm$ 0.728  $\chi^2/\text{NDF}$ : 3287739.9/88

# diff\_bpm4ecX\_mean vs Slug, Sign Corrected



Right In:  $-7.085 \pm 5.038$   $\chi^2/\text{NDF}$ : 24.1/18

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

Right Out:  $8.016 \pm 4.961$   $\chi^2/\text{NDF}$ : 12.7/21

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

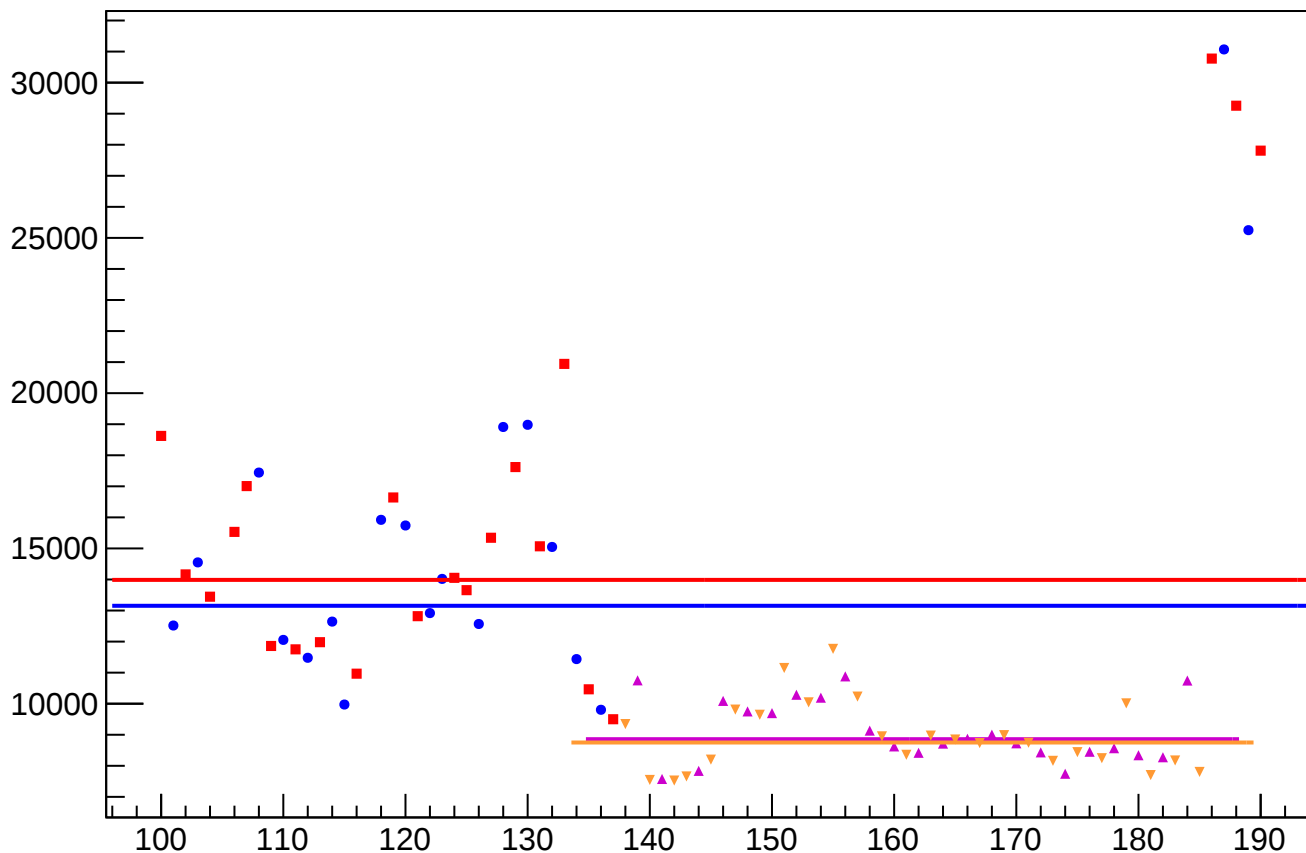
Right:  $0.581 \pm 3.535$   $\chi^2/\text{NDF}$ : 41.3/40

In:  $-0.609 \pm 1.973$   $\chi^2/\text{NDF}$ : 55.8/41

Out:  $-7.068 \pm 1.903$   $\chi^2/\text{NDF}$ : 81.4/46

All:  $-3.954 \pm 1.370$   $\chi^2/\text{NDF}$ : 142.7/88

# diff\_bpm4ecX\_rms vs Slug, Sign Corrected



Right In: 13153.025+/-3.562  $\chi^2/\text{NDF}$ : 875467.2/18

Left Out: 8750.420+/-1.457  $\chi^2/\text{NDF}$ : 463880.1/24

Right Out: 13987.039+/-3.508  $\chi^2/\text{NDF}$ : 1406476.4/21

Left In: 8857.329+/-1.516  $\chi^2/\text{NDF}$ : 361778.8/22

Left: 8801.764+/-1.050  $\chi^2/\text{NDF}$ : 828244.3/47

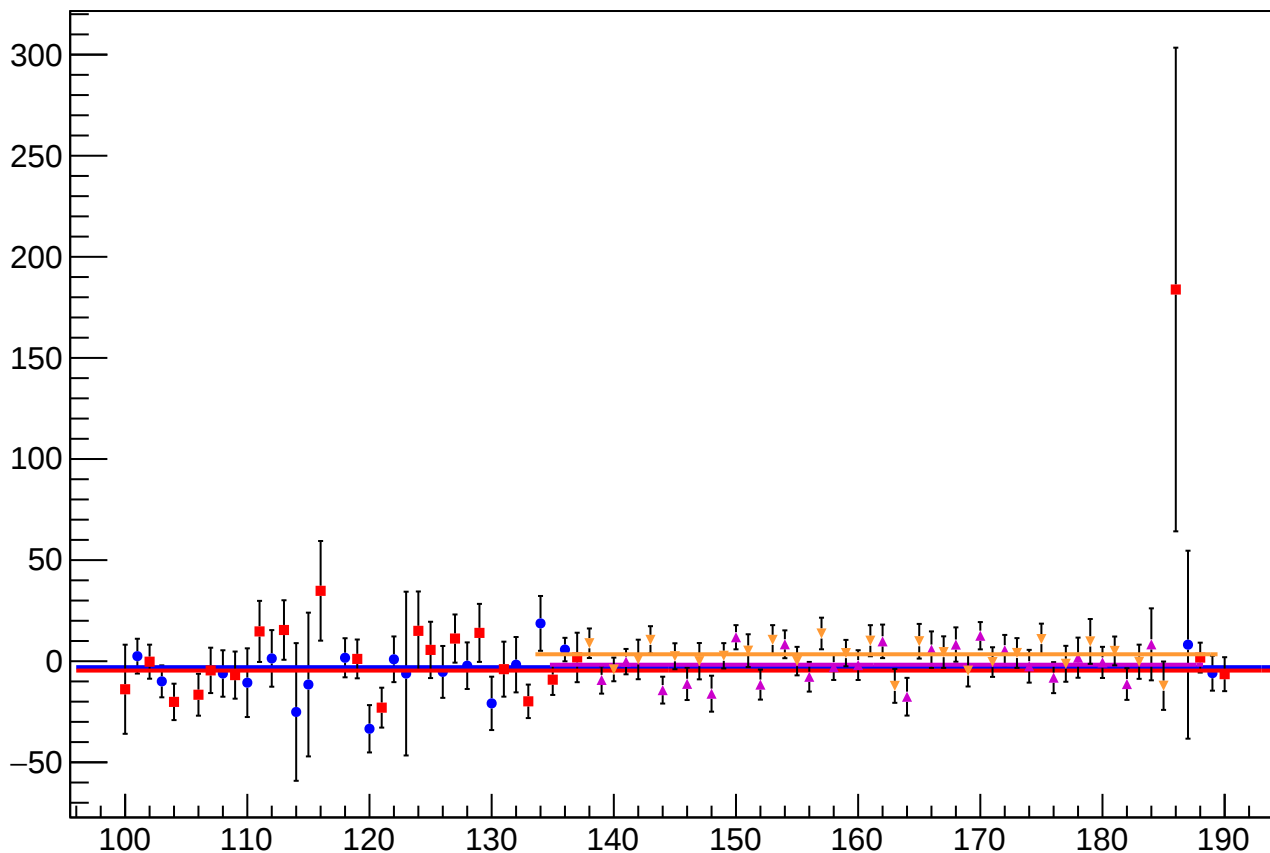
Right: 13576.424+/-2.500  $\chi^2/\text{NDF}$ : 2309770.0/40

In: 9515.868+/-1.395  $\chi^2/\text{NDF}$ : 2468448.5/41

Out: 9520.884+/-1.346  $\chi^2/\text{NDF}$ : 3770706.2/46

All: 9518.466+/-0.968  $\chi^2/\text{NDF}$ : 6239161.4/88

# diff\_bpm4ecY\_mean vs Slug, Sign Corrected



Right In: -2.950 $\pm$ 2.605  $\chi^2/\text{NDF}$ : 16.0/18

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

Right Out: -4.631 $\pm$ 2.348  $\chi^2/\text{NDF}$ : 27.0/21

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

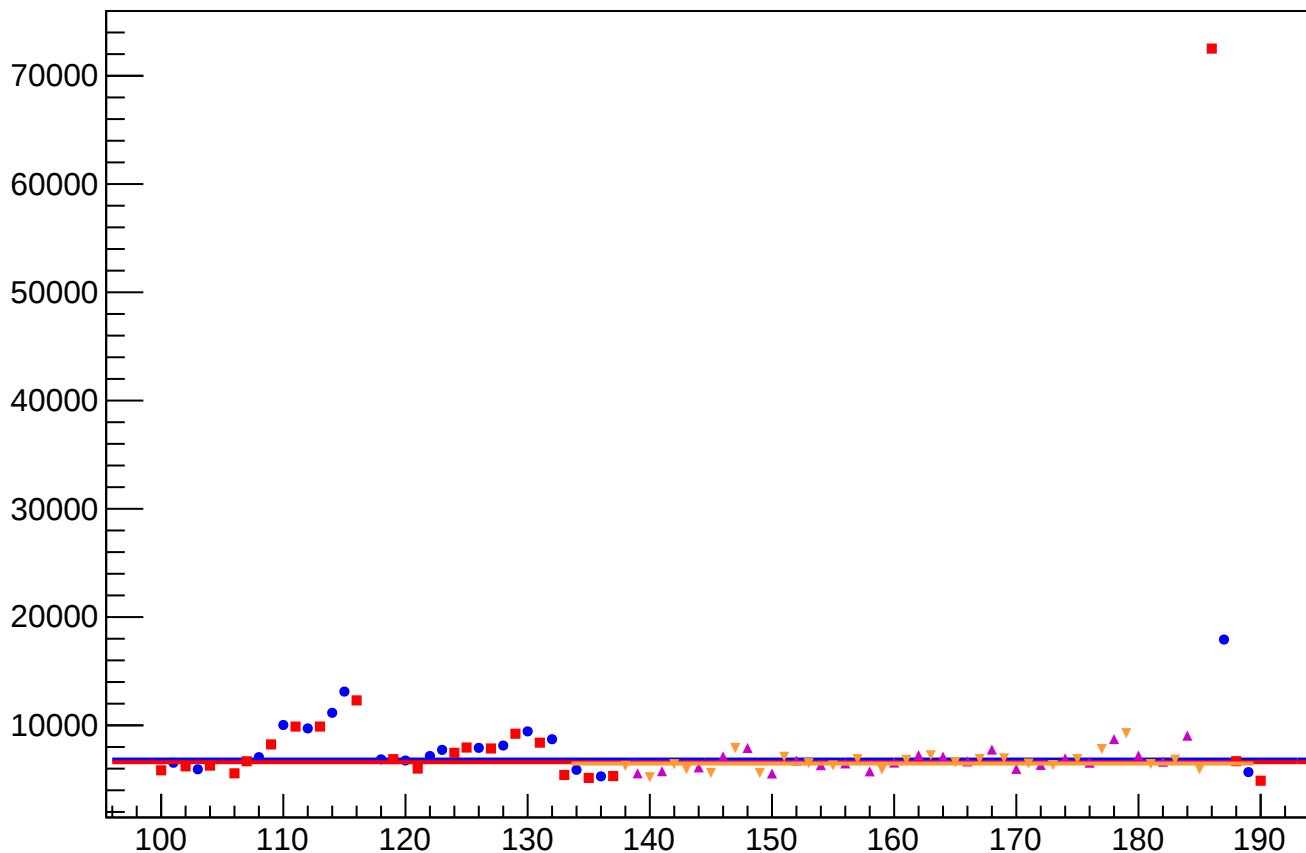
Right: -3.877 $\pm$ 1.744  $\chi^2/\text{NDF}$ : 43.2/40

In: -2.063 $\pm$ 1.355  $\chi^2/\text{NDF}$ :49.8/41

Out: 1.039 $\pm$ 1.279  $\chi^2/\text{NDF}$ :51.5/46

All: -0.423 $\pm$ 0.930  $\chi^2/\text{NDF}$ : 104.0/88

# diff\_bpm4ecY\_rms vs Slug, Sign Corrected



Right In:  $6840.318 \pm 1.842$   $\chi^2/\text{NDF}: 738387.2/18$

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

Right Out:  $6594.424 \pm 1.660$   $\chi^2/\text{NDF}: 1355334.2/21$

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

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

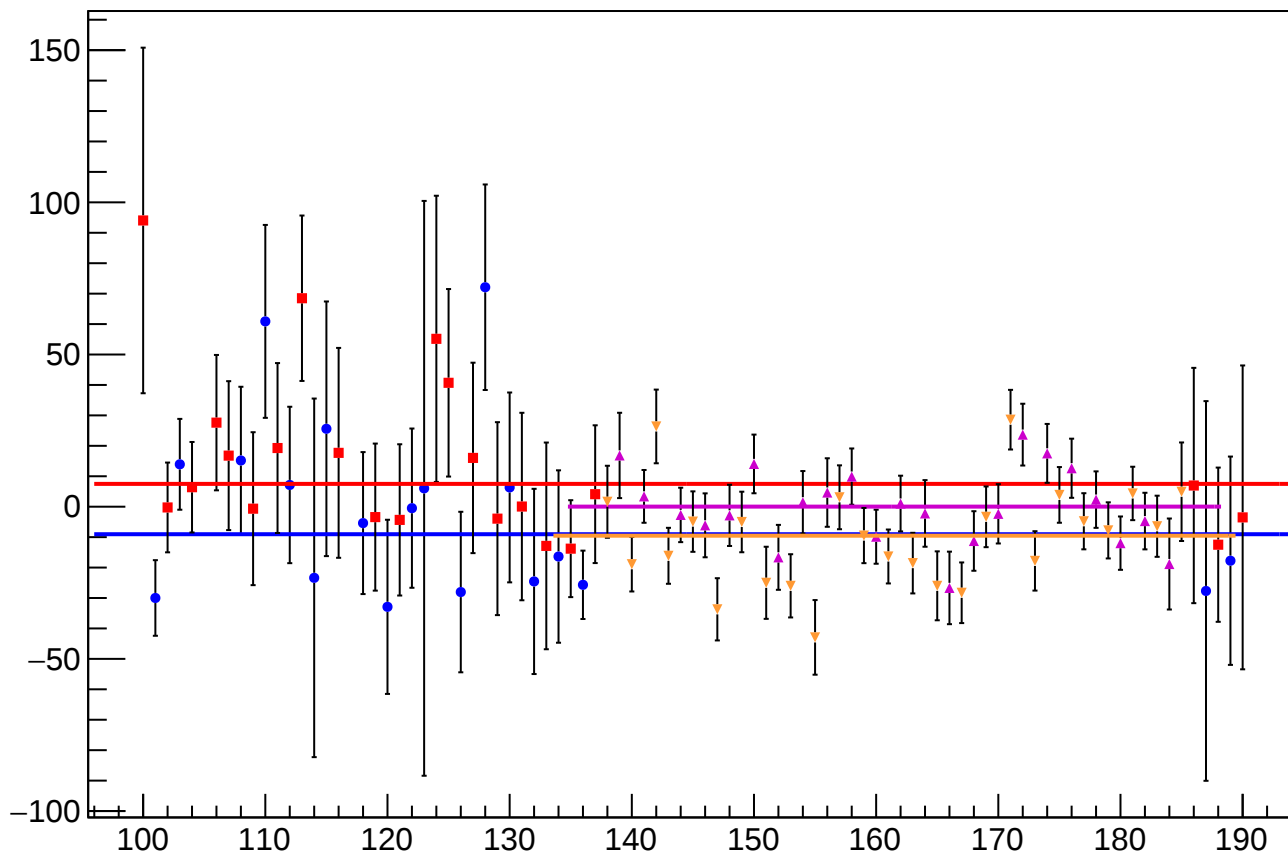
Right:  $6704.644 \pm 1.233$   $\chi^2/\text{NDF}: 2103552.5/40$

In:  $6614.595 \pm 0.958$   $\chi^2/\text{NDF}: 1223633.8/41$

Out:  $6506.141 \pm 0.905$   $\chi^2/\text{NDF}: 1846542.1/46$

All:  $6557.271 \pm 0.658$   $\chi^2/\text{NDF}: 3076952.2/88$

# diff\_bpm1X\_mean vs Slug, Sign Corrected



Right In: -9.042 $\pm$ 5.316  $\chi^2/\text{NDF}$ : 22.3/18

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

Right Out: 7.493 $\pm$ 5.308  $\chi^2/\text{NDF}$ : 14.7/21

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

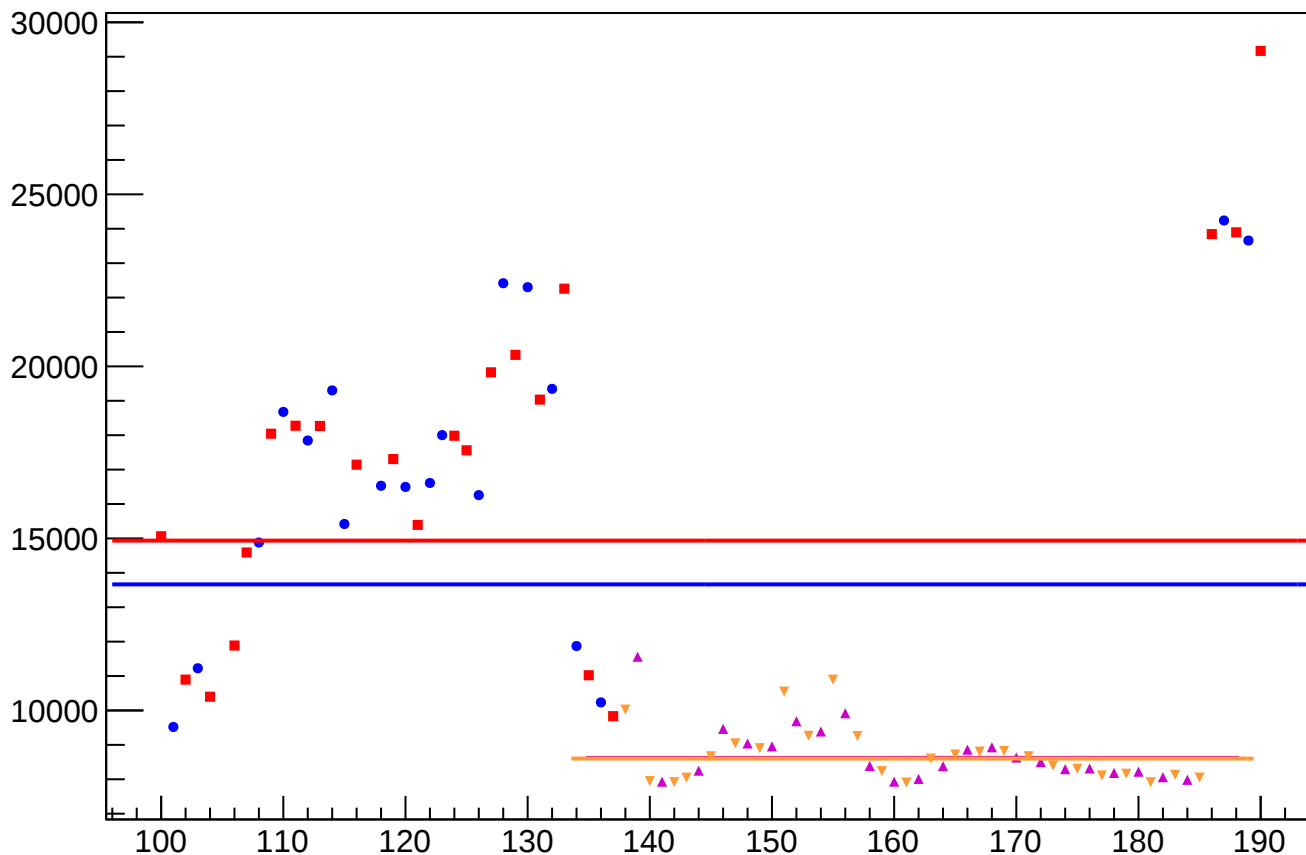
Right: -0.762 $\pm$ 3.756  $\chi^2/\text{NDF}$ : 41.8/40

In: -1.177 $\pm$ 1.937  $\chi^2/\text{NDF}$ : 54.7/41

Out: -7.384 $\pm$ 1.884  $\chi^2/\text{NDF}$ : 83.2/46

All: -4.367 $\pm$ 1.351  $\chi^2/\text{NDF}$ : 143.2/88

# diff\_bpm1X\_rms vs Slug, Sign Corrected



Right In: 13664.063 $\pm$ 3.759  $\chi^2/\text{NDF}$ : 1284658.8/18

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

Right Out: 14935.857 $\pm$ 3.753  $\chi^2/\text{NDF}$ : 1491318.4/21

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

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

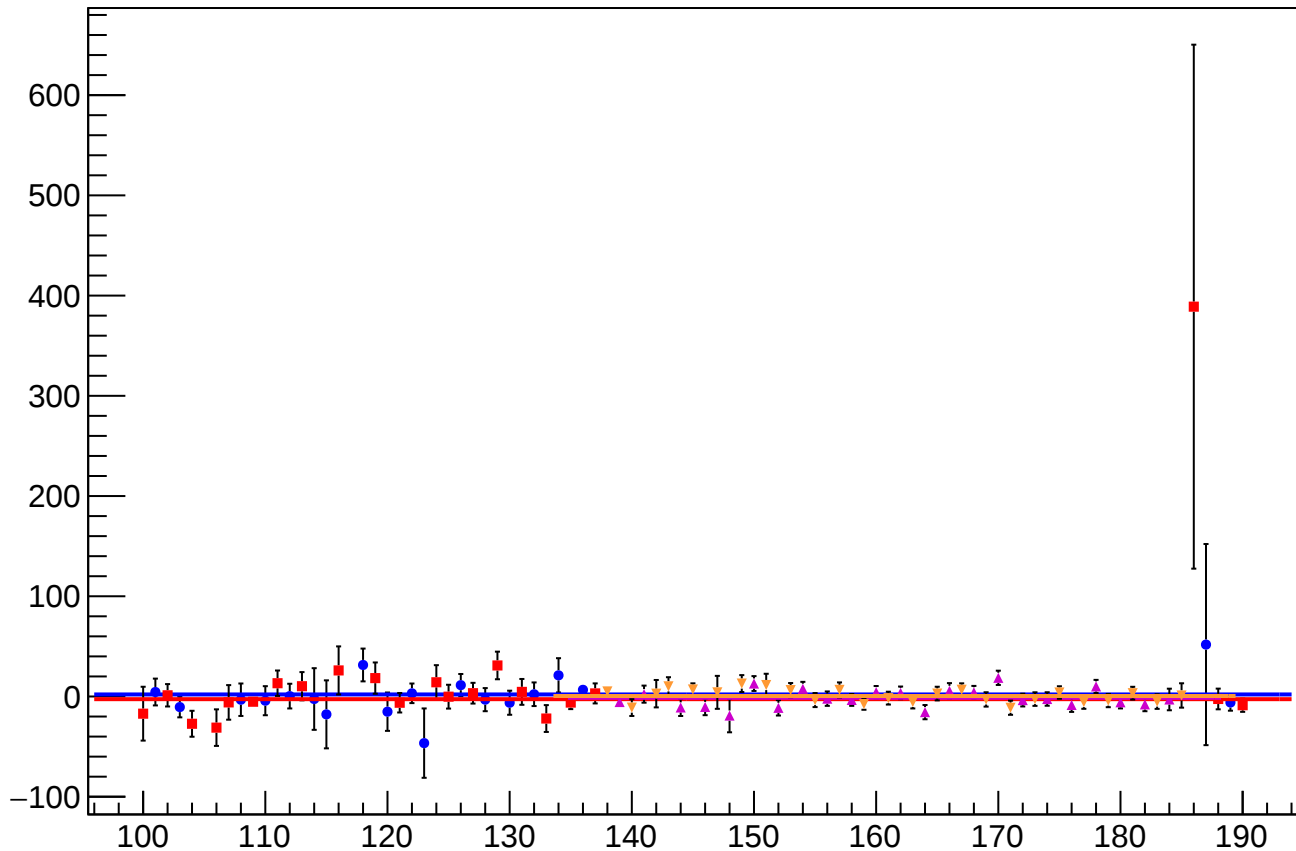
Right: 14300.892 $\pm$ 2.656  $\chi^2/\text{NDF}$ : 2833300.2/40

In: 9291.359 $\pm$ 1.370  $\chi^2/\text{NDF}$ : 3075934.5/41

Out: 9399.877 $\pm$ 1.332  $\chi^2/\text{NDF}$ : 4229249.3/46

All: 9347.119 $\pm$ 0.955  $\chi^2/\text{NDF}$ : 7308409.7/88

# diff\_bpm1Y\_mean vs Slug, Sign Corrected



Right In: 2.037 $\pm$ 2.612     $\chi^2/\text{NDF}$ : 13.1/18

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

Right Out: -2.672 $\pm$ 2.238     $\chi^2/\text{NDF}$ : 26.0/21

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

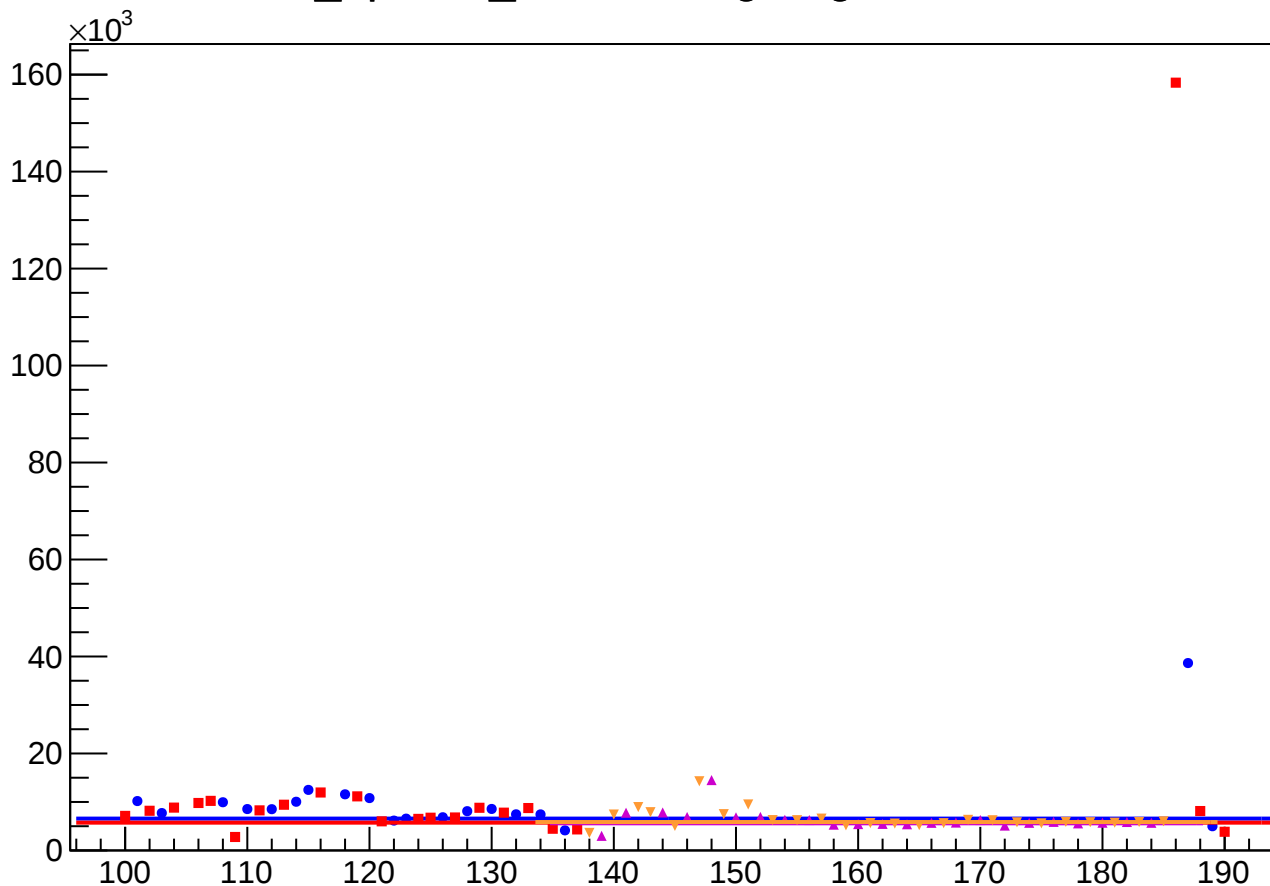
Right: -0.679 $\pm$ 1.699     $\chi^2/\text{NDF}$ : 40.9/40

In: -0.549 $\pm$ 1.238     $\chi^2/\text{NDF}$ : 47.4/41

Out: -0.424 $\pm$ 1.199     $\chi^2/\text{NDF}$ : 46.9/46

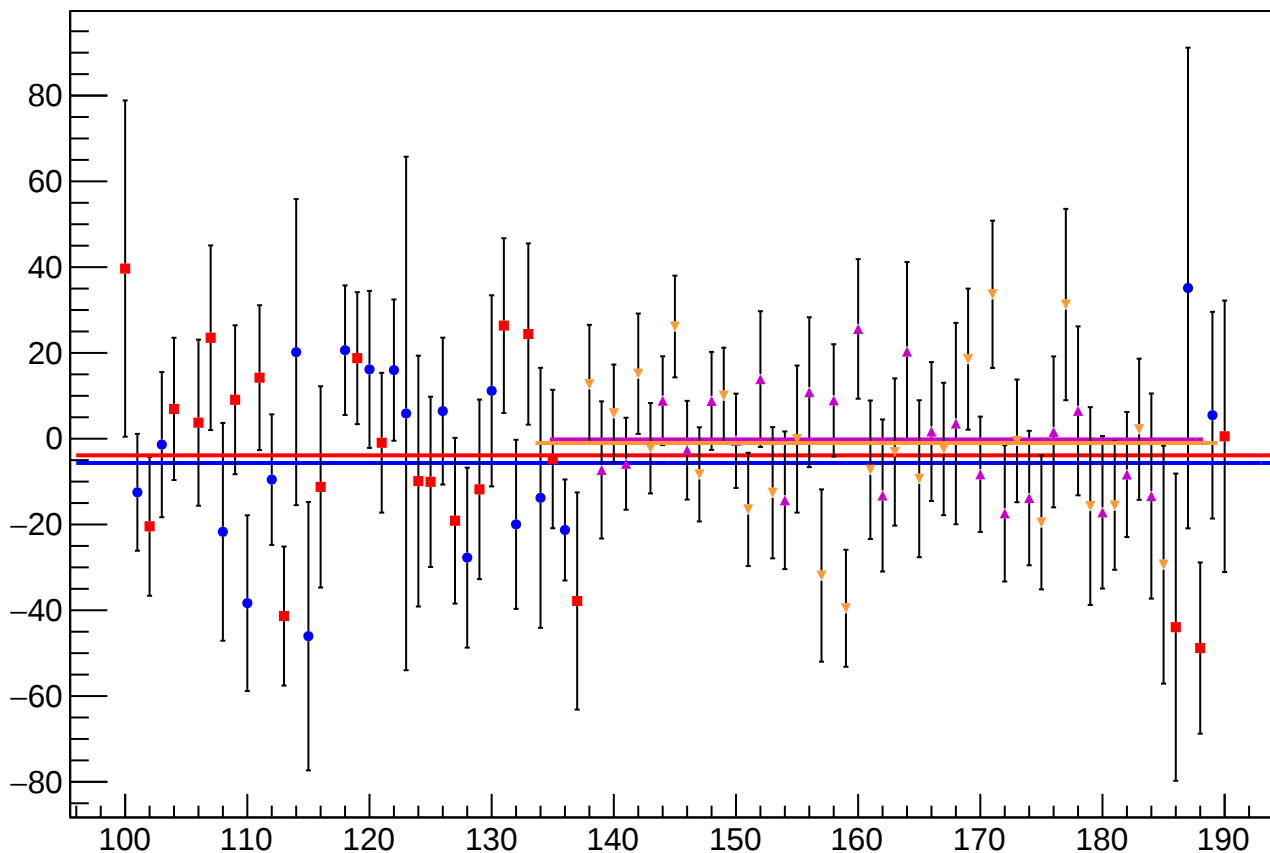
All: -0.484 $\pm$ 0.861     $\chi^2/\text{NDF}$ : 94.3/88

# diff\_bpm1Y\_rms vs Slug, Sign Corrected



|                                 |                                    |                             |                                    |
|---------------------------------|------------------------------------|-----------------------------|------------------------------------|
| Right In: 6569.619 $\pm$ 1.847  | $\chi^2/\text{NDF}$ : 1676544.3/18 | Left: 5726.555 $\pm$ 0.706  | $\chi^2/\text{NDF}$ : 3815425.5/47 |
| Left Out: 5858.642 $\pm$ 1.004  | $\chi^2/\text{NDF}$ : 1691344.1/24 | Right: 6087.300 $\pm$ 1.202 | $\chi^2/\text{NDF}$ : 5030854.7/40 |
| Right Out: 5733.399 $\pm$ 1.582 | $\chi^2/\text{NDF}$ : 3236105.1/21 | In: 5815.425 $\pm$ 0.876    | $\chi^2/\text{NDF}$ : 3981305.9/41 |
| Left In: 5596.879 $\pm$ 0.994   | $\chi^2/\text{NDF}$ : 2089750.1/22 | Out: 5822.714 $\pm$ 0.847   | $\chi^2/\text{NDF}$ : 4931917.2/46 |
|                                 |                                    | All: 5819.188 $\pm$ 0.609   | $\chi^2/\text{NDF}$ : 8913258.9/88 |

# diff\_bpm11X\_mean vs Slug, Sign Corrected



Right In:  $-5.659 \pm 4.433$   $\chi^2/\text{NDF}$ : 17.0/18

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

Right Out:  $-3.877 \pm 4.212$   $\chi^2/\text{NDF}$ : 26.9/21

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

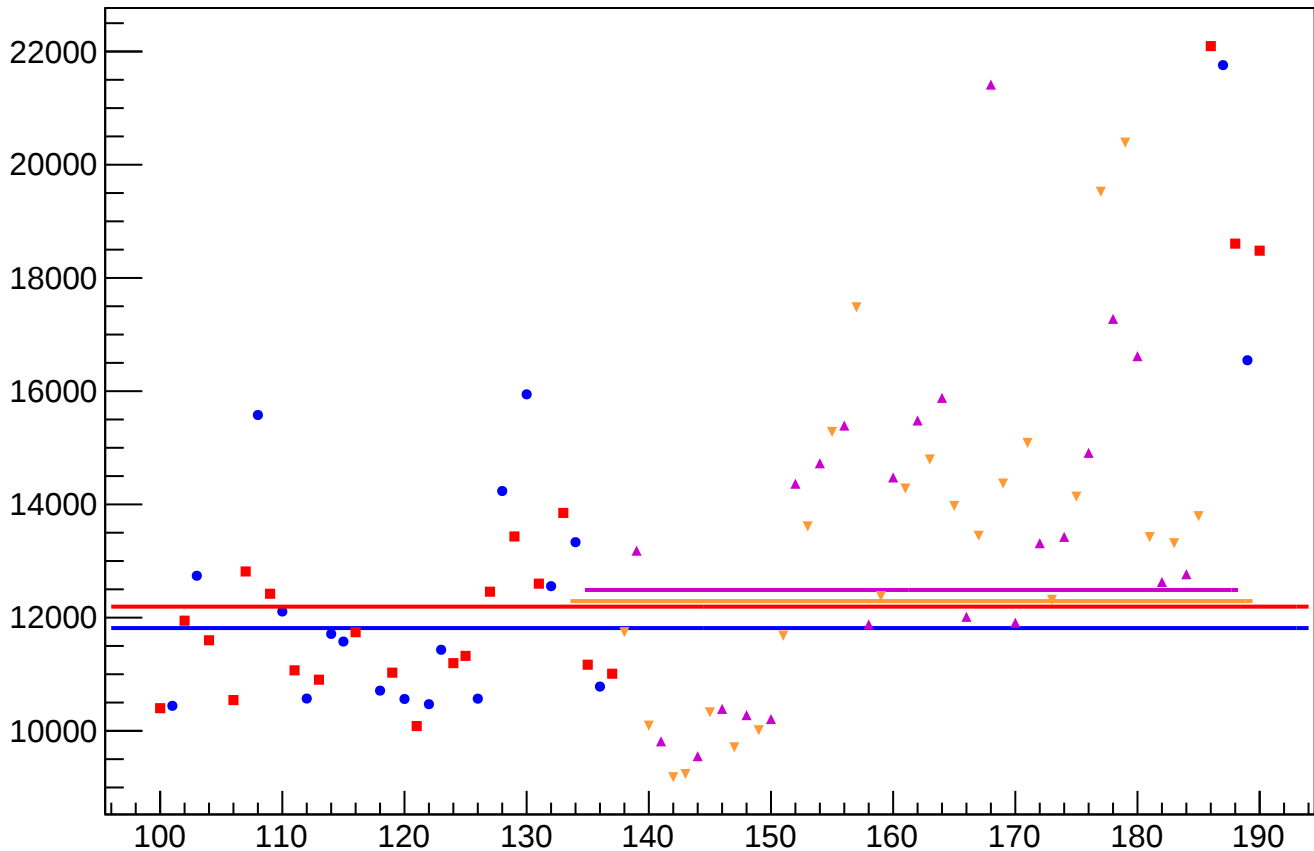
Right:  $-4.722 \pm 3.054$   $\chi^2/\text{NDF}$ : 44.0/40

In:  $-1.948 \pm 2.522$   $\chi^2/\text{NDF}$ : 30.4/41

Out:  $-1.948 \pm 2.412$   $\chi^2/\text{NDF}$ : 60.7/46

All:  $-1.948 \pm 1.743$   $\chi^2/\text{NDF}$ : 91.1/88

# diff\_bpm11X\_rms vs Slug, Sign Corrected



Right In: 11815.628+/-3.135  $\chi^2/\text{NDF}$ : 386821.1/18

Left Out: 12292.583+/-2.080  $\chi^2/\text{NDF}$ : 1502548.3/24

Right Out: 12194.466+/-2.978  $\chi^2/\text{NDF}$ : 568315.5/21

Left In: 12488.821+/-2.169  $\chi^2/\text{NDF}$ : 1354485.4/22

Left: 12386.599+/-1.501  $\chi^2/\text{NDF}$ : 2861298.1/47

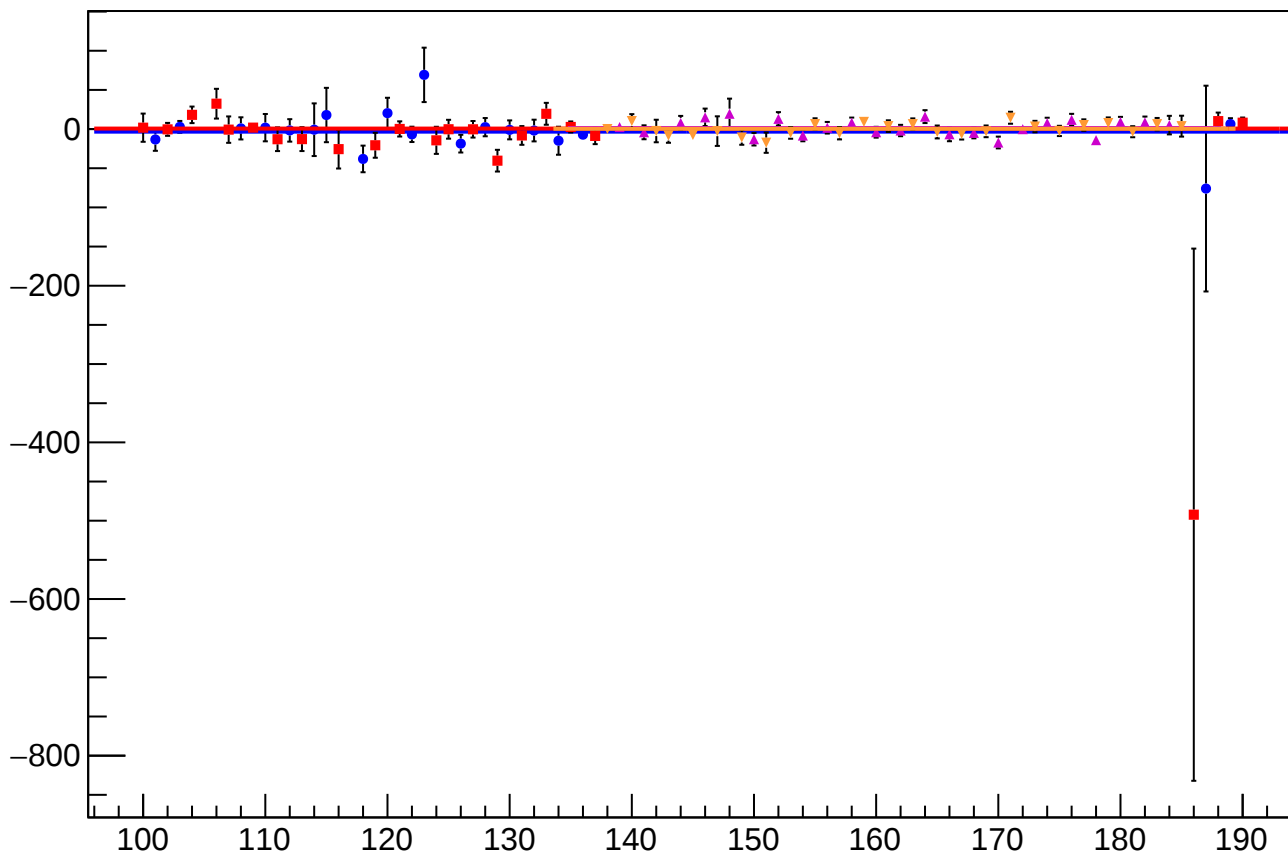
Right: 12014.746+/-2.159  $\chi^2/\text{NDF}$ : 962812.7/40

In: 12270.895+/-1.784  $\chi^2/\text{NDF}$ : 1772493.9/41

Out: 12260.415+/-1.705  $\chi^2/\text{NDF}$ : 2071593.3/46

All: 12265.420+/-1.233  $\chi^2/\text{NDF}$ : 3844105.3/86

# diff\_bpm11Y\_mean vs Slug, Sign Corrected



Right In:  $-3.281 \pm 2.605$   $\chi^2/\text{NDF}$ : 17.1/18

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

Right Out:  $0.637 \pm 2.231$   $\chi^2/\text{NDF}$ : 27.1/21

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

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

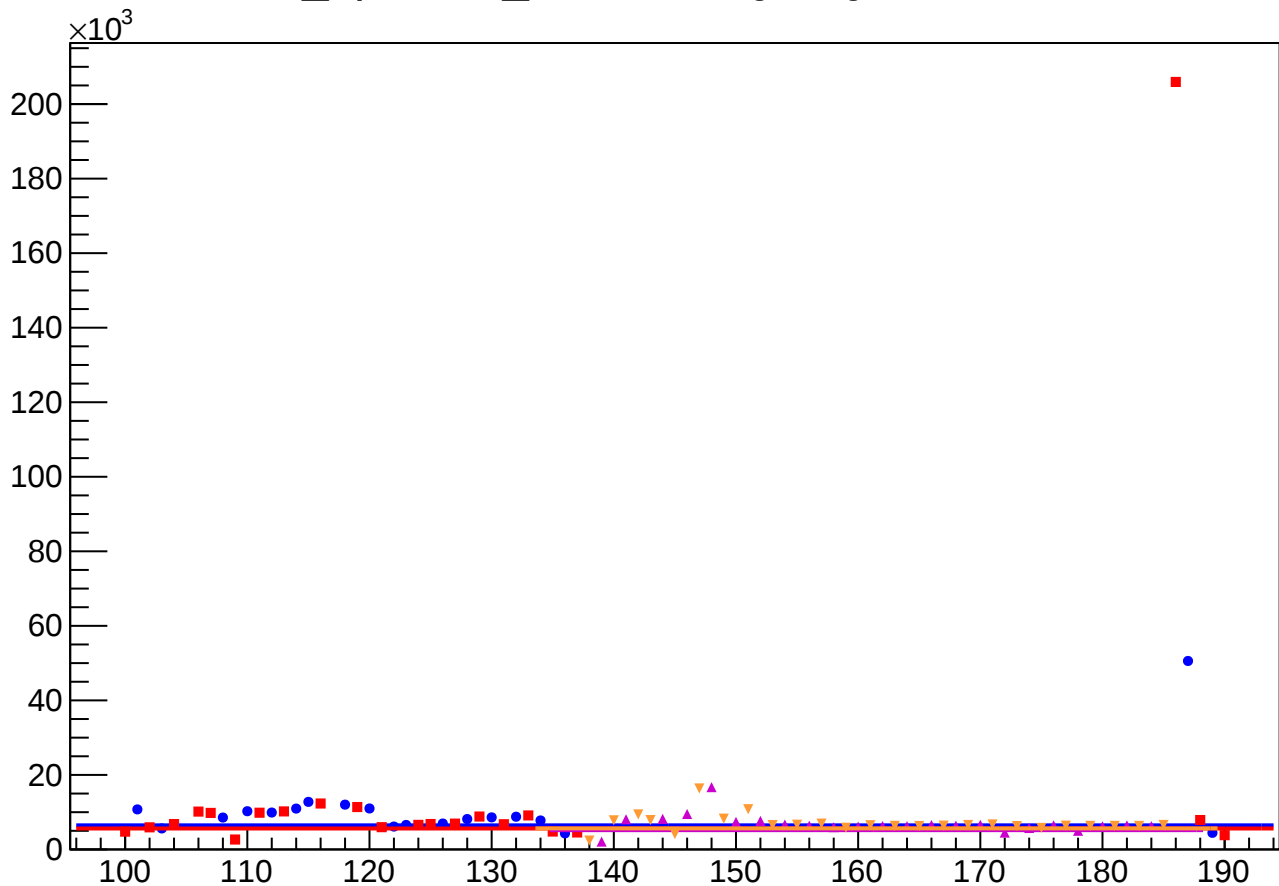
Right:  $-1.021 \pm 1.695$   $\chi^2/\text{NDF}$ : 45.4/40

In:  $0.272 \pm 1.223$   $\chi^2/\text{NDF}$ : 53.4/41

Out:  $0.477 \pm 1.207$   $\chi^2/\text{NDF}$ : 46.4/46

All:  $0.376 \pm 0.859$   $\chi^2/\text{NDF}$ : 99.8/88

# diff\_bpm11Y\_rms vs Slug, Sign Corrected



Right In:  $6468.769 \pm 1.842$   $\chi^2/\text{NDF}: 1834169.2/18$

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

Right Out:  $5623.682 \pm 1.578$   $\chi^2/\text{NDF}: 3101000.9/21$

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

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

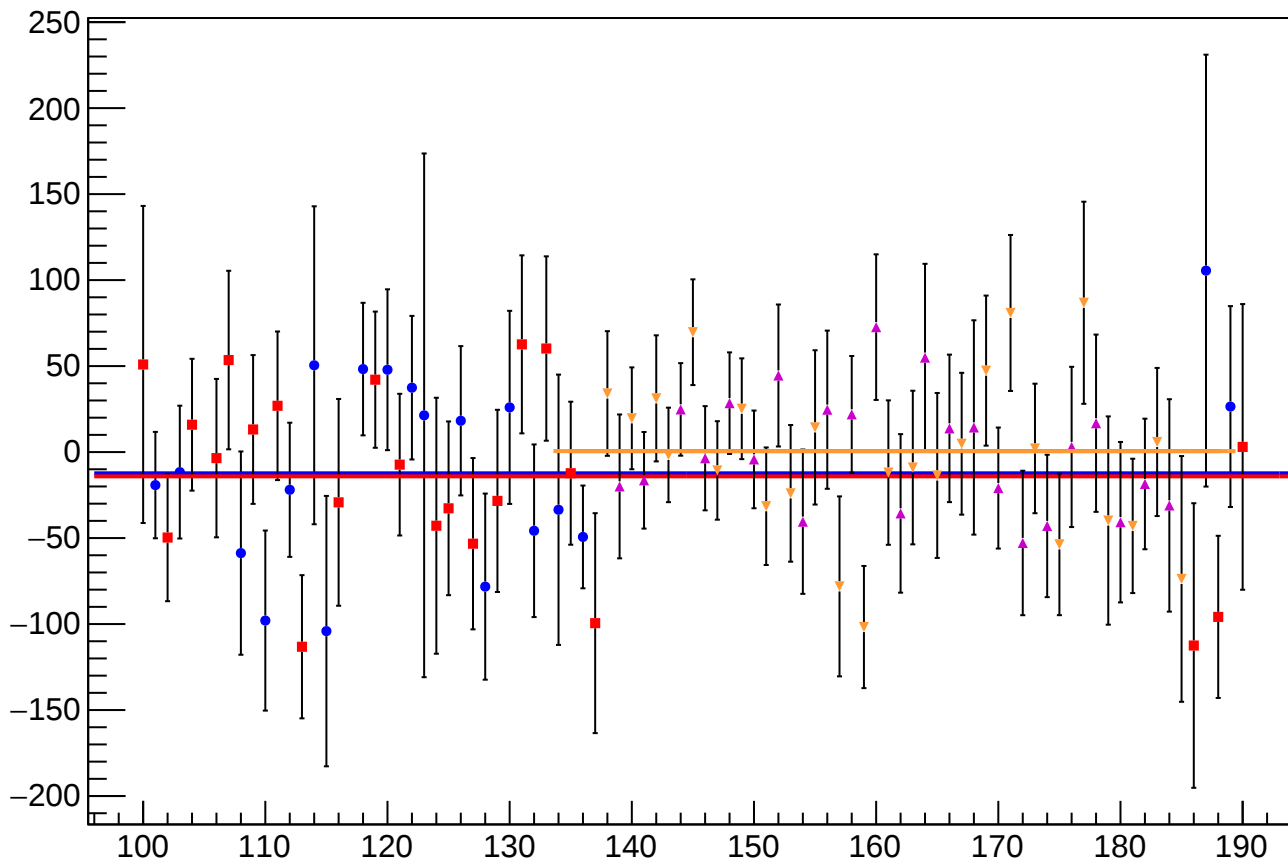
Right:  $5981.405 \pm 1.198$   $\chi^2/\text{NDF}: 5056602.5/40$

In:  $5464.913 \pm 0.865$   $\chi^2/\text{NDF}: 7565443.1/41$

Out:  $5646.293 \pm 0.853$   $\chi^2/\text{NDF}: 7225415.5/46$

All:  $5556.845 \pm 0.607$   $\chi^2/\text{NDF}: 14813142.0/8$

# diff\_bpm12X\_mean vs Slug, Sign Corrected



Right In:  $-12.353 \pm 10.992$   $\chi^2/\text{NDF}$ : 16.6/18

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

Right Out:  $-14.117 \pm 10.461$   $\chi^2/\text{NDF}$ : 24.2/21

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

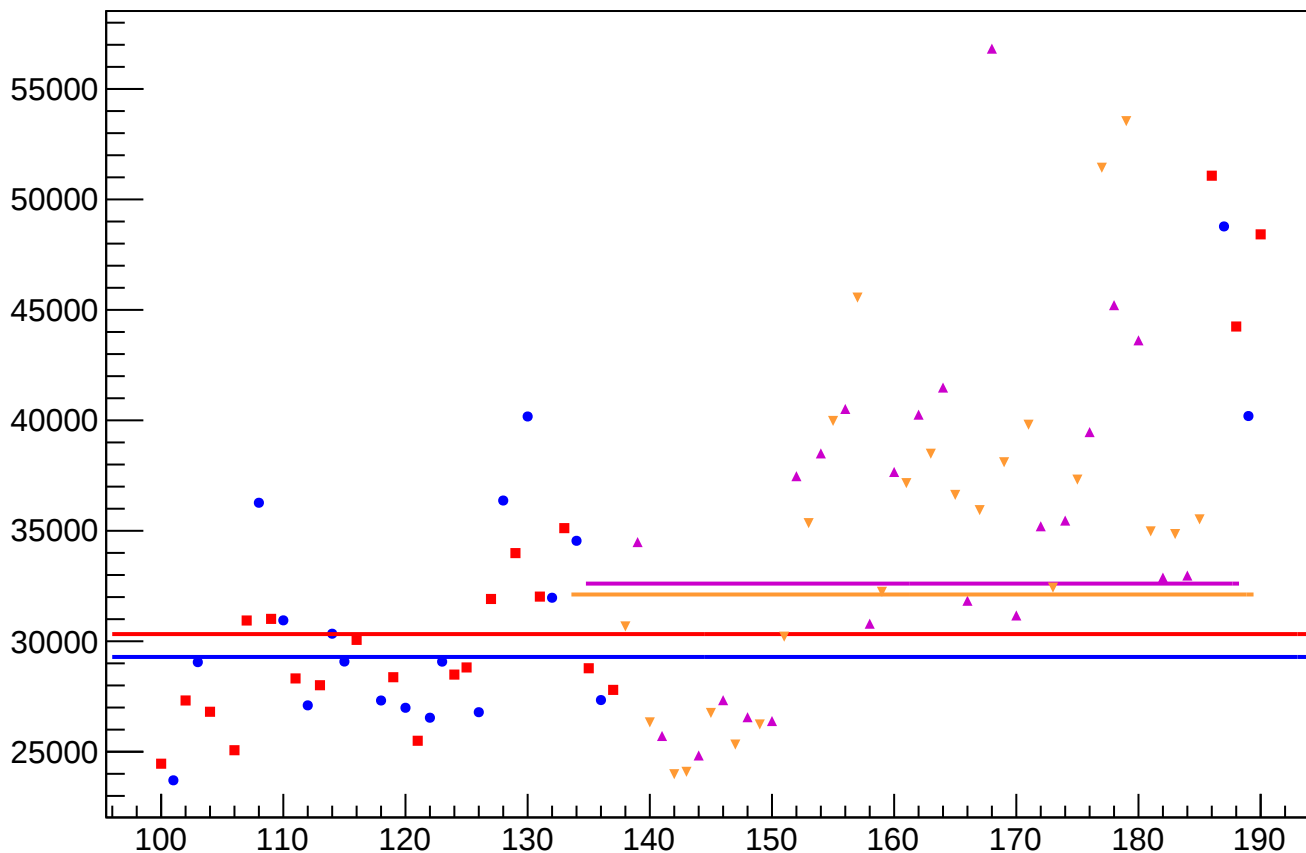
Right:  $-13.279 \pm 7.578$   $\chi^2/\text{NDF}$ : 40.9/40

In:  $-3.919 \pm 6.476$   $\chi^2/\text{NDF}$ : 31.8/41

Out:  $-4.577 \pm 6.196$   $\chi^2/\text{NDF}$ : 56.5/46

All:  $-4.262 \pm 4.477$   $\chi^2/\text{NDF}$ : 88.3/88

# diff\_bpm12X\_rms vs Slug, Sign Corrected



Right In: 29289.703 $\pm$ 7.773

$\chi^2/\text{NDF}$ : 377690.7/18

Left Out: 32117.184 $\pm$ 5.438

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

Right Out: 30324.995 $\pm$ 7.397

$\chi^2/\text{NDF}$ : 541631.6/21

Left In: 32610.108 $\pm$ 5.667

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

Left: 32353.483 $\pm$ 3.924

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

Right: 29832.986 $\pm$ 5.358

$\chi^2/\text{NDF}$ : 928632.4/40

In: 31457.626 $\pm$ 4.579

$\chi^2/\text{NDF}$ : 1895318.6/41

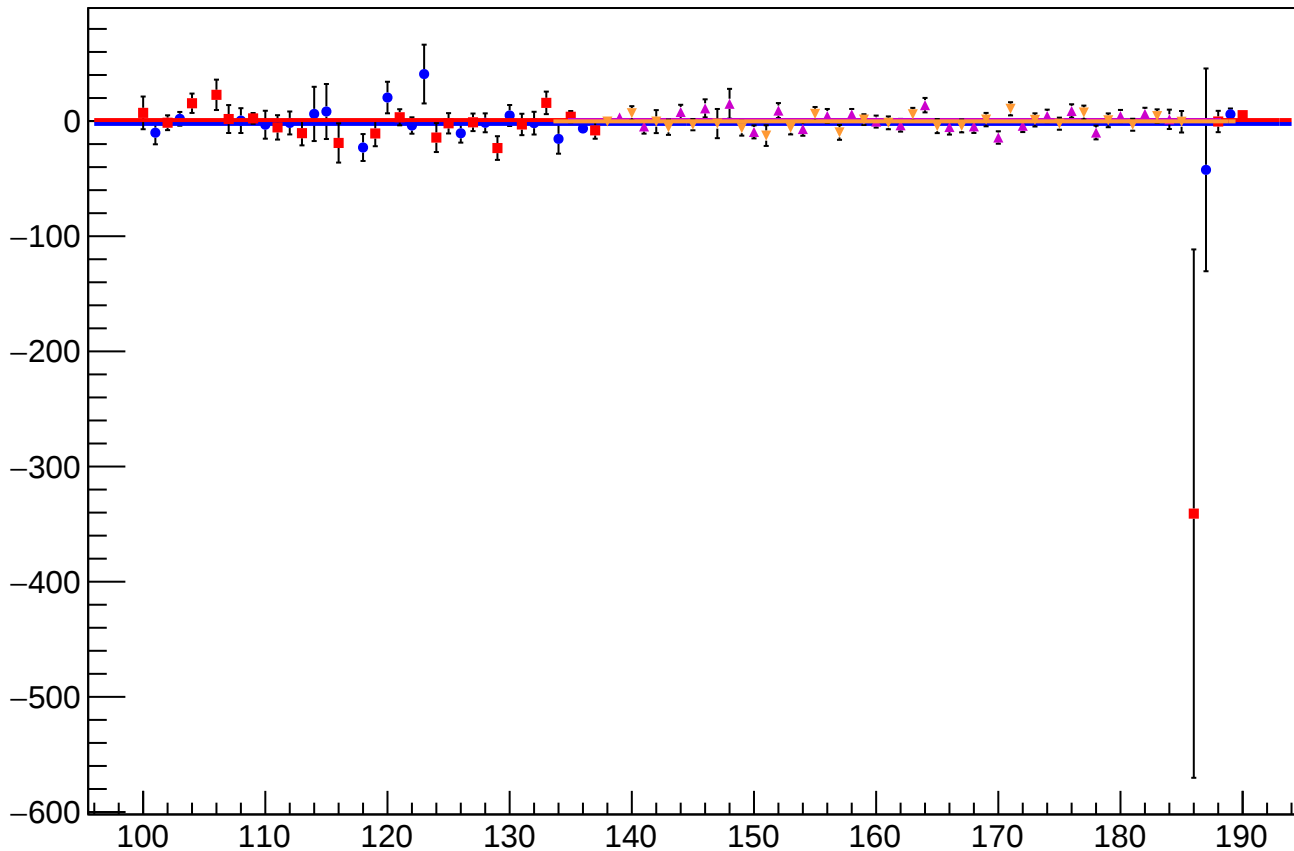
Out: 31488.365 $\pm$ 4.381

$\chi^2/\text{NDF}$ : 2116480.1/46

All: 31473.674 $\pm$ 3.166

$\chi^2/\text{NDF}$ : 4011822.3/8

# diff\_bpm12Y\_mean vs Slug, Sign Corrected



Right In:  $-2.470 \pm 1.867$   $\chi^2/\text{NDF}$ : 17.4/18

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

Right Out:  $0.858 \pm 1.693$   $\chi^2/\text{NDF}$ : 25.2/21

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

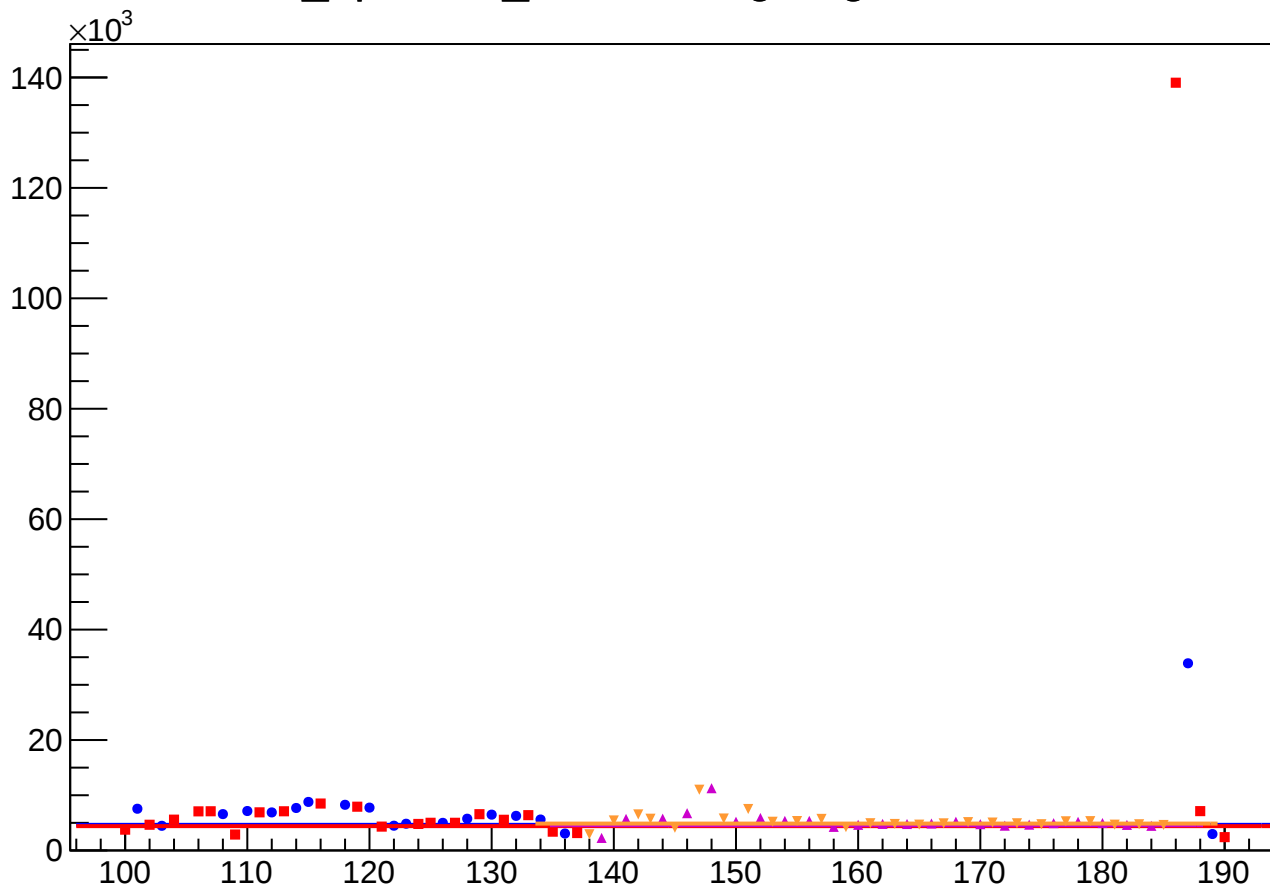
Right:  $-0.644 \pm 1.254$   $\chi^2/\text{NDF}$ : 44.3/40

In:  $-0.013 \pm 0.981$   $\chi^2/\text{NDF}$ : 55.9/41

Out:  $0.106 \pm 0.964$   $\chi^2/\text{NDF}$ : 43.5/46

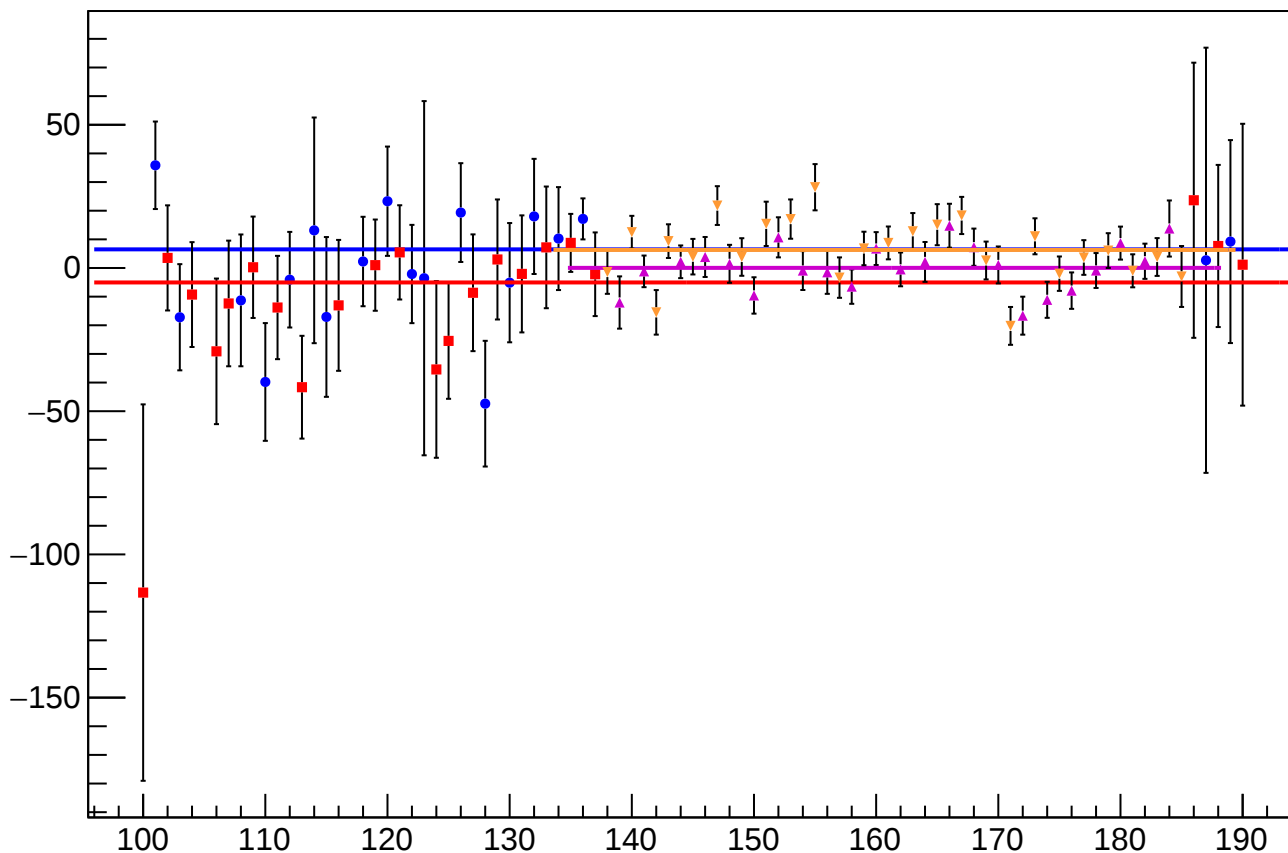
All:  $0.047 \pm 0.688$   $\chi^2/\text{NDF}$ : 99.4/88

# diff\_bpm12Y\_rms vs Slug, Sign Corrected



|                                 |                                    |                             |                                    |
|---------------------------------|------------------------------------|-----------------------------|------------------------------------|
| Right In: 4638.901 $\pm$ 1.320  | $\chi^2/\text{NDF}$ : 1877643.5/18 | Left: 4722.017 $\pm$ 0.582  | $\chi^2/\text{NDF}$ : 4049906.1/47 |
| Left Out: 4866.528 $\pm$ 0.829  | $\chi^2/\text{NDF}$ : 1511486.2/24 | Right: 4510.094 $\pm$ 0.887 | $\chi^2/\text{NDF}$ : 4583705.6/40 |
| Right Out: 4404.123 $\pm$ 1.197 | $\chi^2/\text{NDF}$ : 2688707.5/21 | In: 4597.866 $\pm$ 0.694    | $\chi^2/\text{NDF}$ : 4357659.9/41 |
| Left In: 4582.193 $\pm$ 0.816   | $\chi^2/\text{NDF}$ : 2478681.0/22 | Out: 4716.605 $\pm$ 0.682   | $\chi^2/\text{NDF}$ : 4300984.1/46 |
|                                 |                                    | All: 4658.287 $\pm$ 0.486   | $\chi^2/\text{NDF}$ : 8673541.6/86 |

# diff\_bpm16X\_mean vs Slug, Sign Corrected



Right In: 6.506 $\pm$ 4.040  $\chi^2/\text{NDF}$ : 22.8/18

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

Right Out: -5.049 $\pm$ 4.150  $\chi^2/\text{NDF}$ : 14.1/21

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

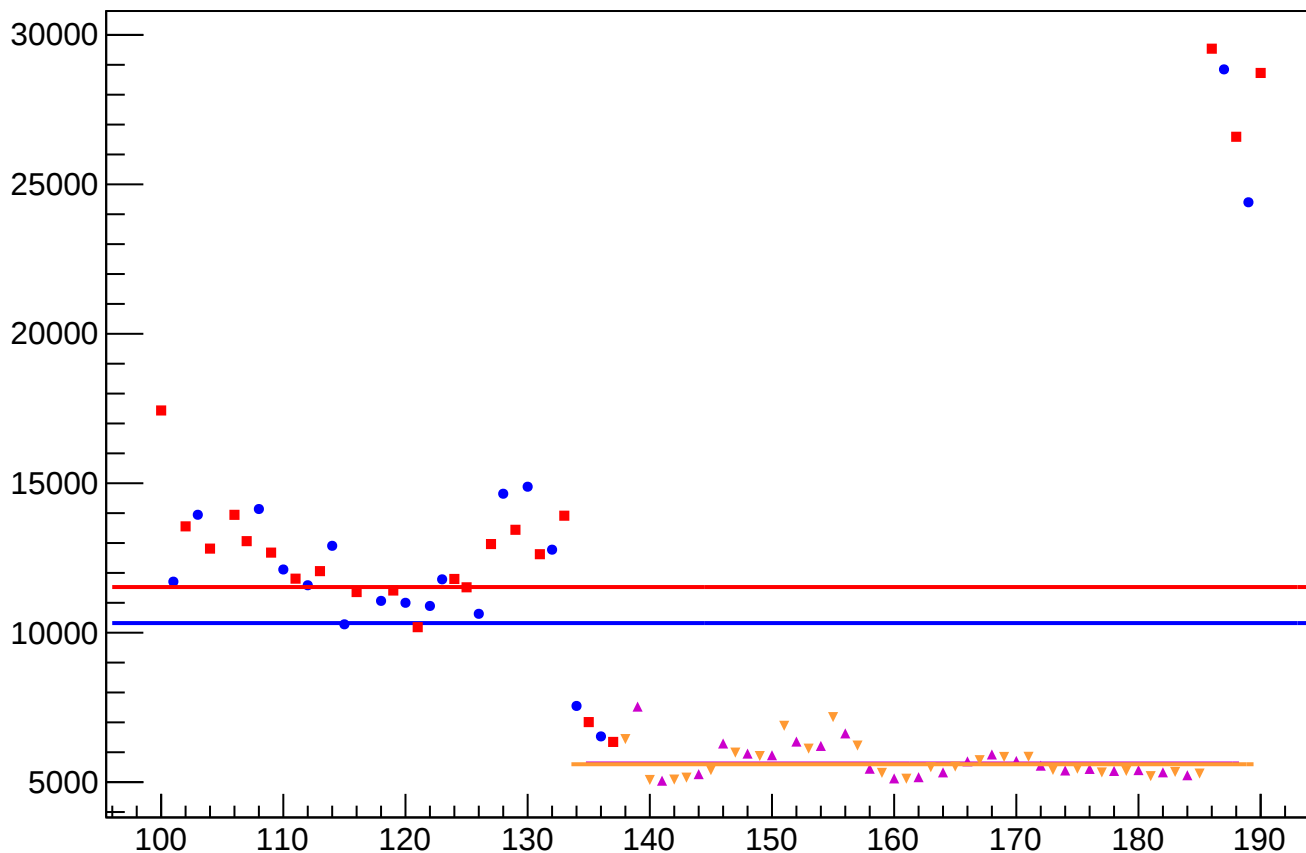
Right: 0.885 $\pm$ 2.895  $\chi^2/\text{NDF}$ : 40.9/40

In: 0.700 $\pm$ 1.287  $\chi^2/\text{NDF}$ : 55.1/41

Out: 5.270 $\pm$ 1.251  $\chi^2/\text{NDF}$ : 77.6/46

All: 3.049 $\pm$ 0.897  $\chi^2/\text{NDF}$ : 139.2/88

# diff\_bpm16X\_rms vs Slug, Sign Corrected



Right In: 10321.631+/-2.856  $\chi^2/\text{NDF}$ : 1446760.2/18

Left Out: 5598.786+/-0.928  $\chi^2/\text{NDF}$ : 283253.4/24

Right Out: 11527.311+/-2.935  $\chi^2/\text{NDF}$ : 1902421.2/21

Left In: 5625.163+/-0.960  $\chi^2/\text{NDF}$ : 272563.5/22

Left: 5611.528+/-0.667  $\chi^2/\text{NDF}$ : 556207.1/47

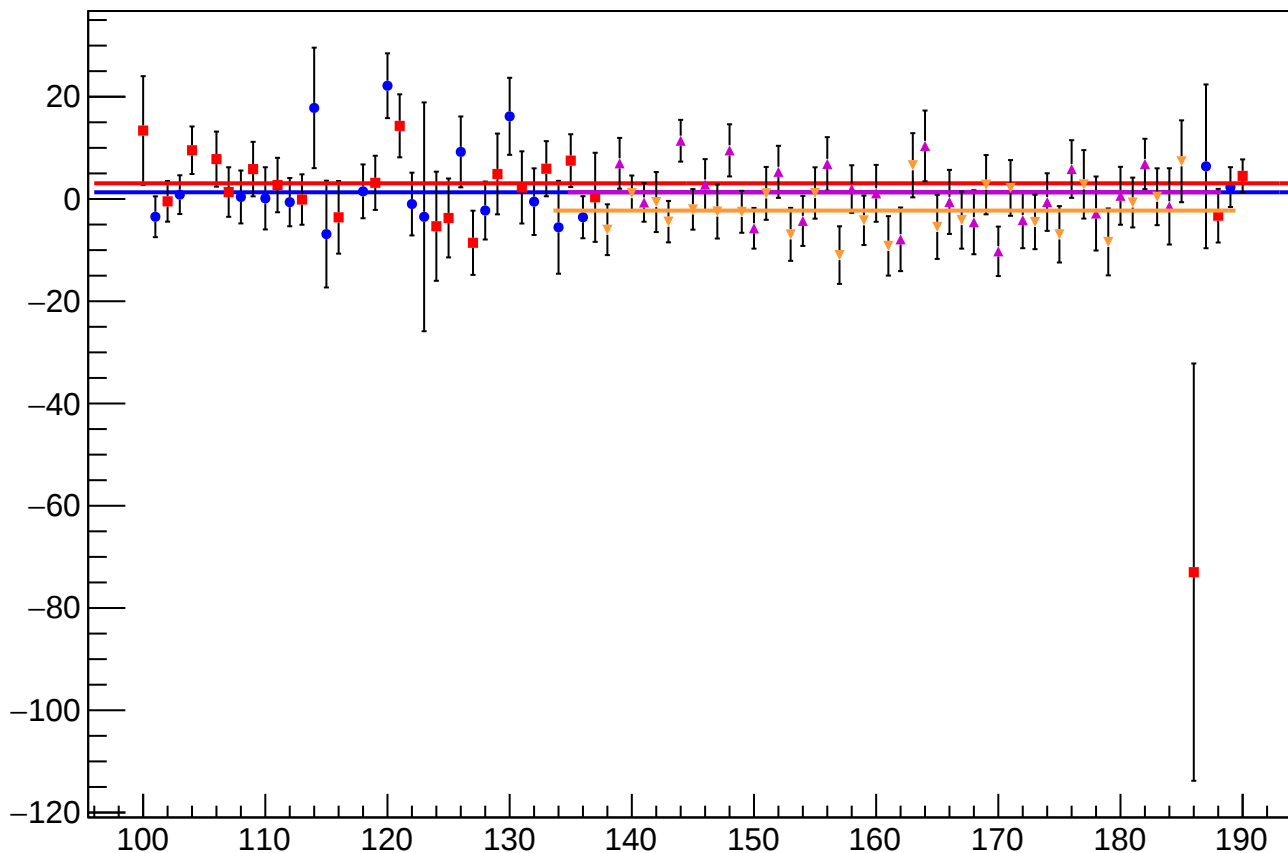
Right: 10908.212+/-2.047  $\chi^2/\text{NDF}$ : 3435862.2/40

In: 6101.867+/-0.910  $\chi^2/\text{NDF}$ : 4148294.7/41

Out: 6137.895+/-0.885  $\chi^2/\text{NDF}$ : 5896059.8/46

All: 6120.385+/-0.634  $\chi^2/\text{NDF}$ : 10045160.1/86

# diff\_bpm16Y\_mean vs Slug, Sign Corrected



Right In:  $1.312 \pm 1.311$   $\chi^2/\text{NDF}: 23.1/18$

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

Right Out:  $3.072 \pm 1.200$   $\chi^2/\text{NDF}: 20.6/21$

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

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

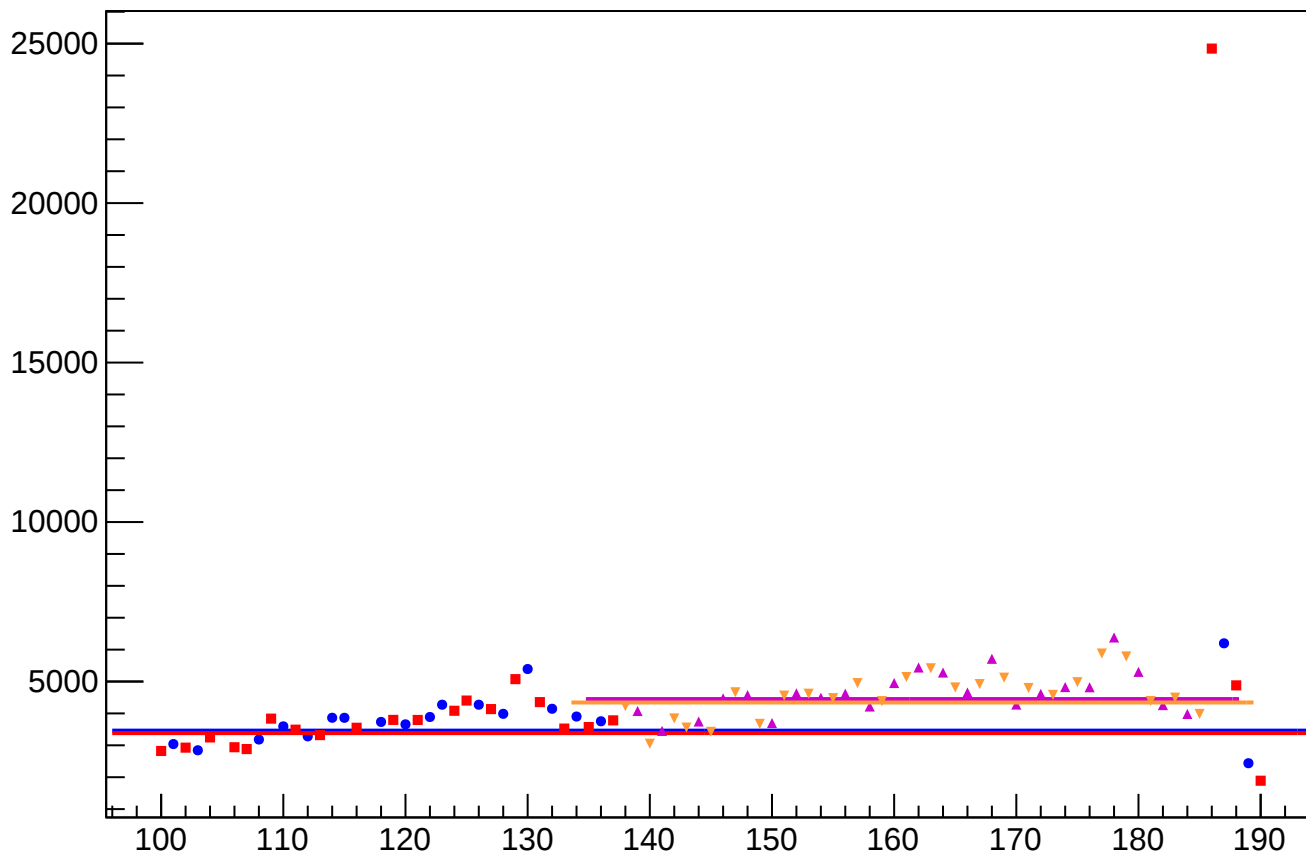
Right:  $2.269 \pm 0.885$   $\chi^2/\text{NDF}: 44.6/40$

In:  $1.322 \pm 0.835$   $\chi^2/\text{NDF}: 53.7/41$

Out:  $0.000 \pm 0.782$   $\chi^2/\text{NDF}: 47.5/46$

All:  $0.618 \pm 0.571$   $\chi^2/\text{NDF}: 102.5/88$

# diff\_bpm16Y\_rms vs Slug, Sign Corrected



Right In: 3460.185 $\pm$ 0.927  $\chi^2/\text{NDF}$ : 518549.1/18

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

Right Out: 3382.116 $\pm$ 0.849  $\chi^2/\text{NDF}$ : 1461243.4/21

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

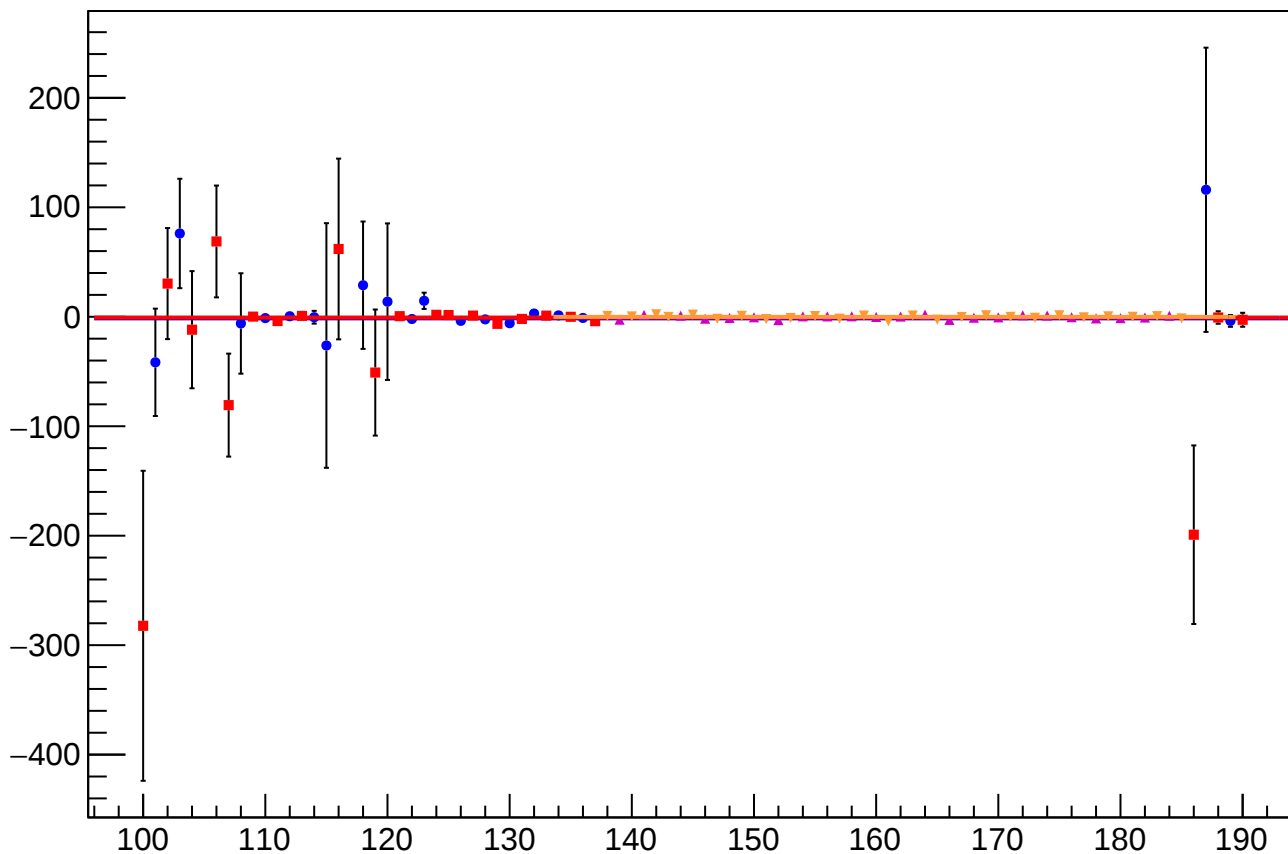
Right: 3417.710 $\pm$ 0.626  $\chi^2/\text{NDF}$ : 1983649.1/40

In: 4049.081 $\pm$ 0.590  $\chi^2/\text{NDF}$ : 1889717.5/41

Out: 3935.279 $\pm$ 0.553  $\chi^2/\text{NDF}$ : 3191697.8/46

All: 3988.464 $\pm$ 0.403  $\chi^2/\text{NDF}$ : 5101222.5/88

# diff\_bpm1p02bX\_mean vs Slug, Sign Corrected



Right In:  $-1.443 \pm 0.743$   $\chi^2/\text{NDF}$ : 17.7/18

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

Right Out:  $-0.704 \pm 0.703$   $\chi^2/\text{NDF}$ : 27.5/21

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

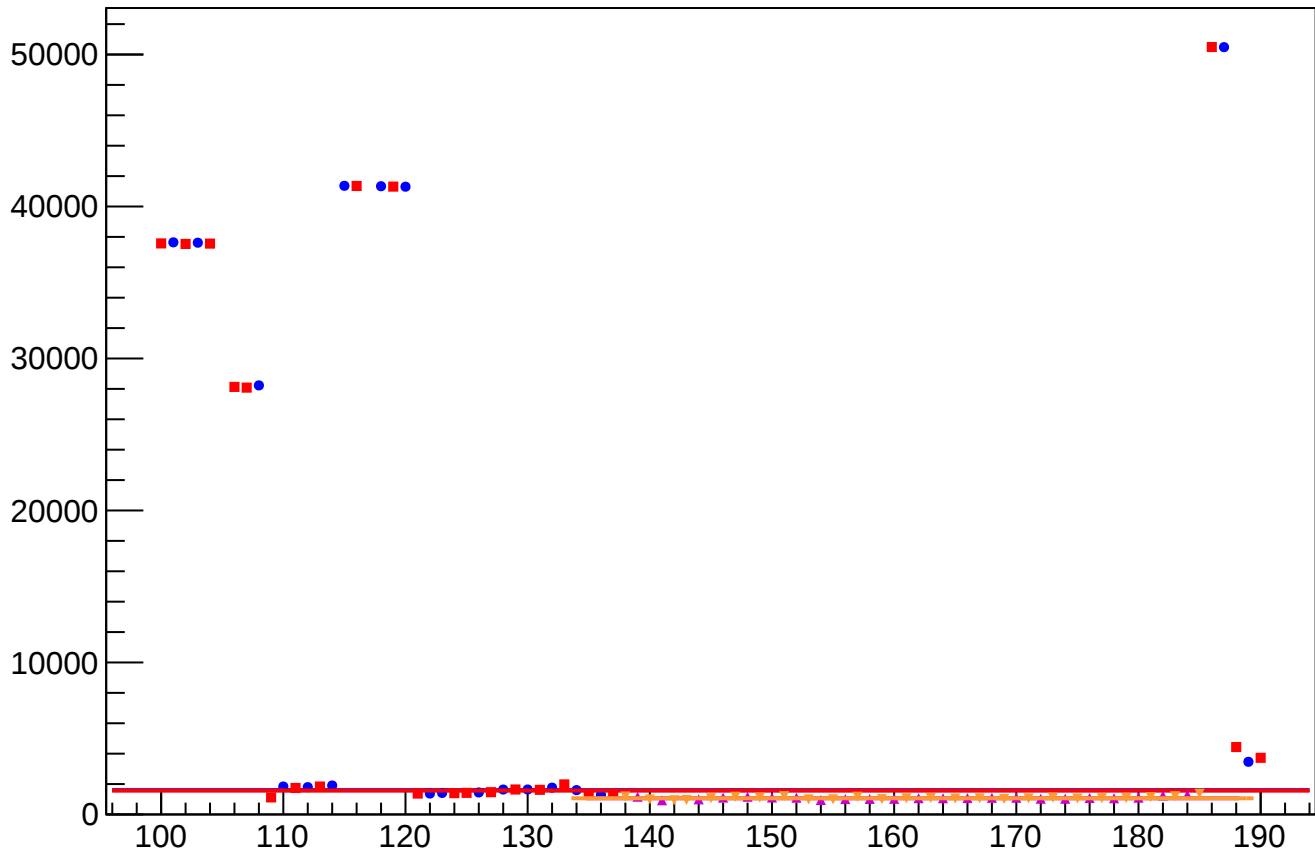
Right:  $-1.053 \pm 0.511$   $\chi^2/\text{NDF}$ : 45.7/40

In:  $-0.386 \pm 0.243$   $\chi^2/\text{NDF}$ : 47.2/41

Out:  $-0.160 \pm 0.235$   $\chi^2/\text{NDF}$ : 62.6/46

All:  $-0.269 \pm 0.169$   $\chi^2/\text{NDF}$ : 110.2/88

# diff\_bpm1p02bX\_rms vs Slug, Sign Corrected



Right In:  $1598.180 \pm 0.526$   $\chi^2/\text{NDF}: 5280355.9/18$

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

Right Out:  $1571.708 \pm 0.497$   $\chi^2/\text{NDF}: 6367236.4/21$

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

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

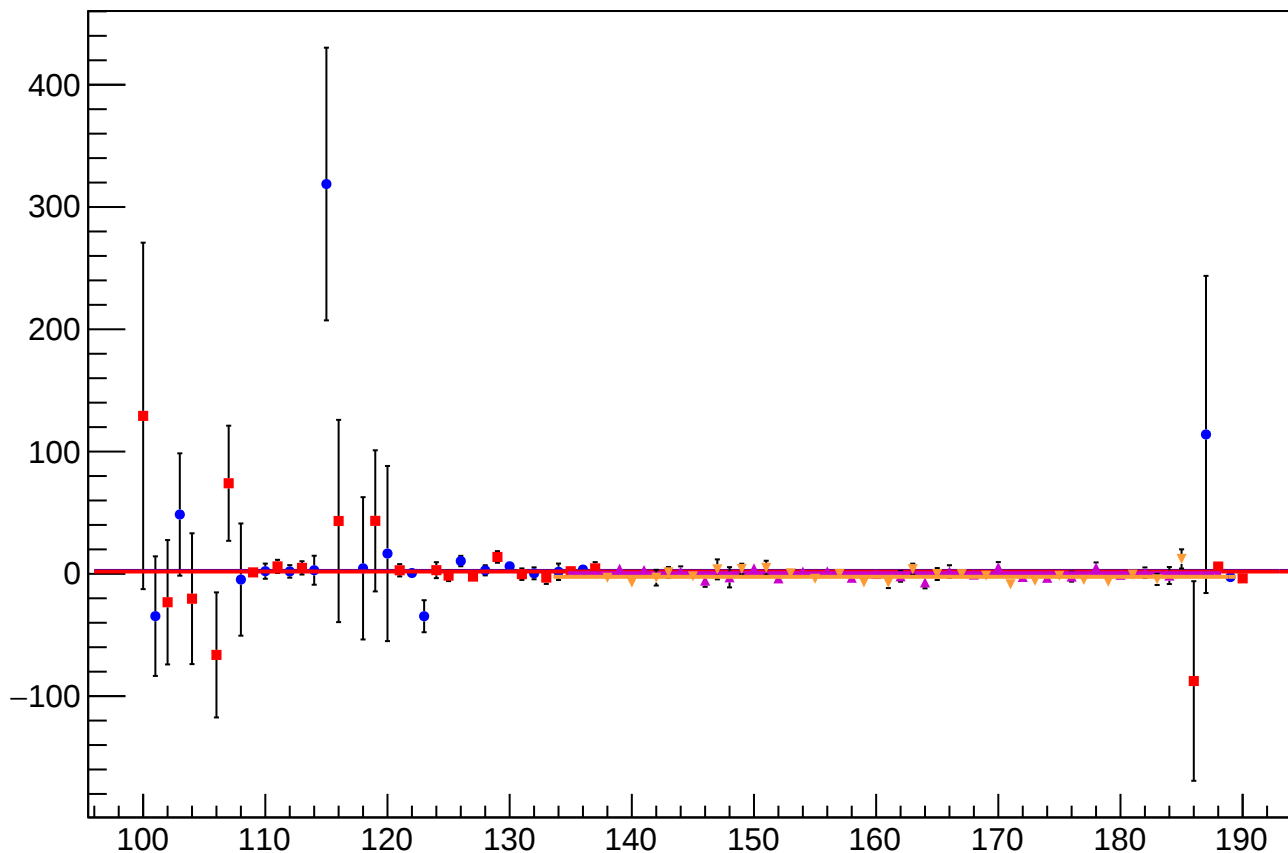
Right:  $1584.208 \pm 0.361$   $\chi^2/\text{NDF}: 11648930.6/40$

In:  $1123.019 \pm 0.172$   $\chi^2/\text{NDF}: 6359135.2/41$

Out:  $1121.205 \pm 0.166$   $\chi^2/\text{NDF}: 7477521.5/46$

All:  $1122.081 \pm 0.119$   $\chi^2/\text{NDF}: 13836714.4/86$

# diff\_bpm1p02bY\_mean vs Slug, Sign Corrected



Right In: 2.365 $\pm$ 1.224  $\chi^2$ /NDF: 25.9/18

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

Right Out: 1.914 $\pm$ 1.117  $\chi^2$ /NDF: 21.4/21

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

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

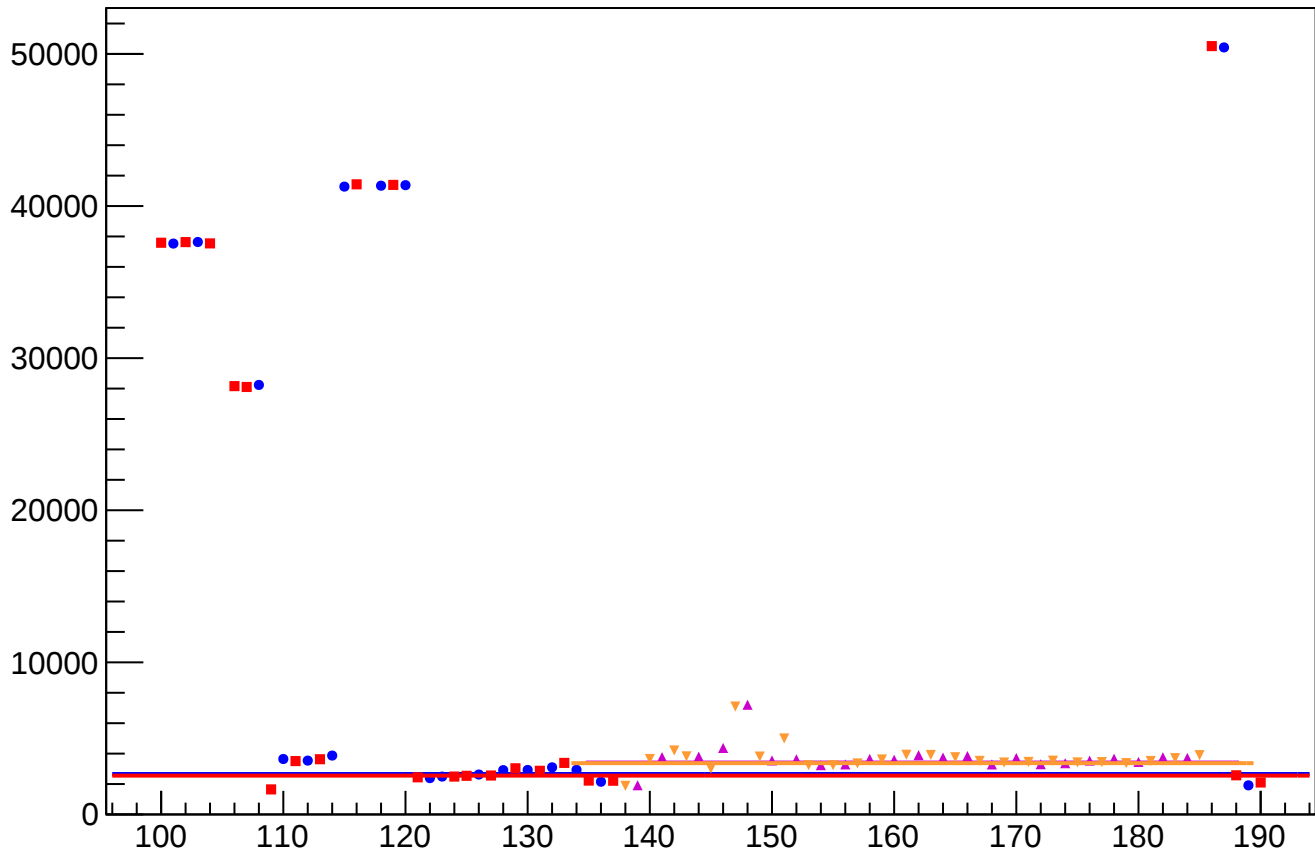
Right: 2.119 $\pm$ 0.825  $\chi^2$ /NDF: 47.3/40

In: 1.078 $\pm$ 0.694  $\chi^2$ /NDF:43.0/41

Out: -0.926 $\pm$ 0.656  $\chi^2$ /NDF:52.5/46

All: 0.019 $\pm$ 0.477  $\chi^2$ /NDF: 99.9/88

# diff\_bpm1p02bY\_rms vs Slug, Sign Corrected



Right In: 2659.830+/-0.866  $\chi^2/\text{NDF}$ : 4977201.2/18

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

Right Out: 2553.722+/-0.790  $\chi^2/\text{NDF}$ : 5572934.2/21

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

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

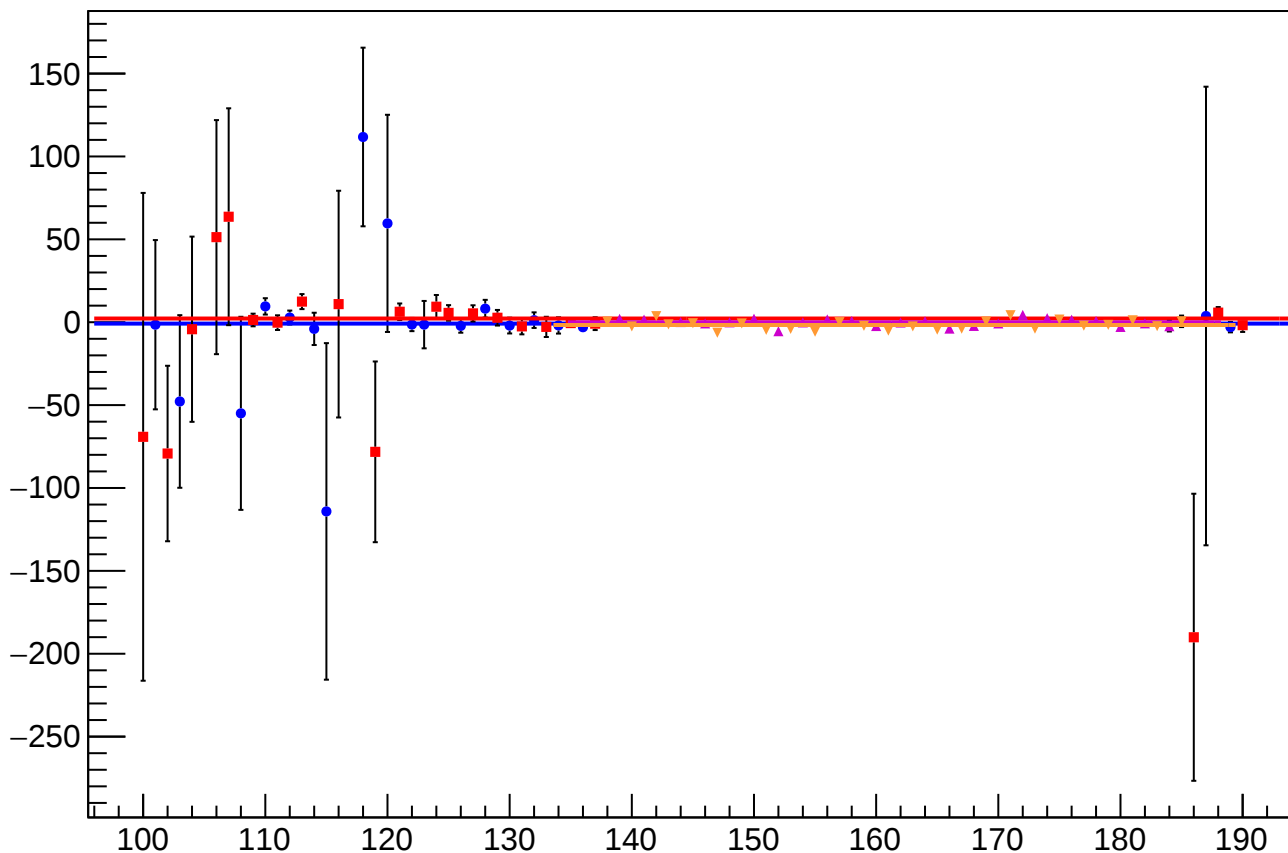
Right: 2601.925+/-0.583  $\chi^2/\text{NDF}$ : 10558334.4/40

In: 3170.074+/-0.491  $\chi^2/\text{NDF}$ : 6923812.8/41

Out: 3090.373+/-0.464  $\chi^2/\text{NDF}$ : 7934550.5/46

All: 3127.970+/-0.337  $\chi^2/\text{NDF}$ : 14872288.7/86

# diff\_bpm1p03aX\_mean vs Slug, Sign Corrected



Right In:  $-0.833 \pm 1.139$   $\chi^2/\text{NDF}$ : 18.5/18

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

Right Out:  $2.229 \pm 1.126$   $\chi^2/\text{NDF}$ : 24.6/21

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

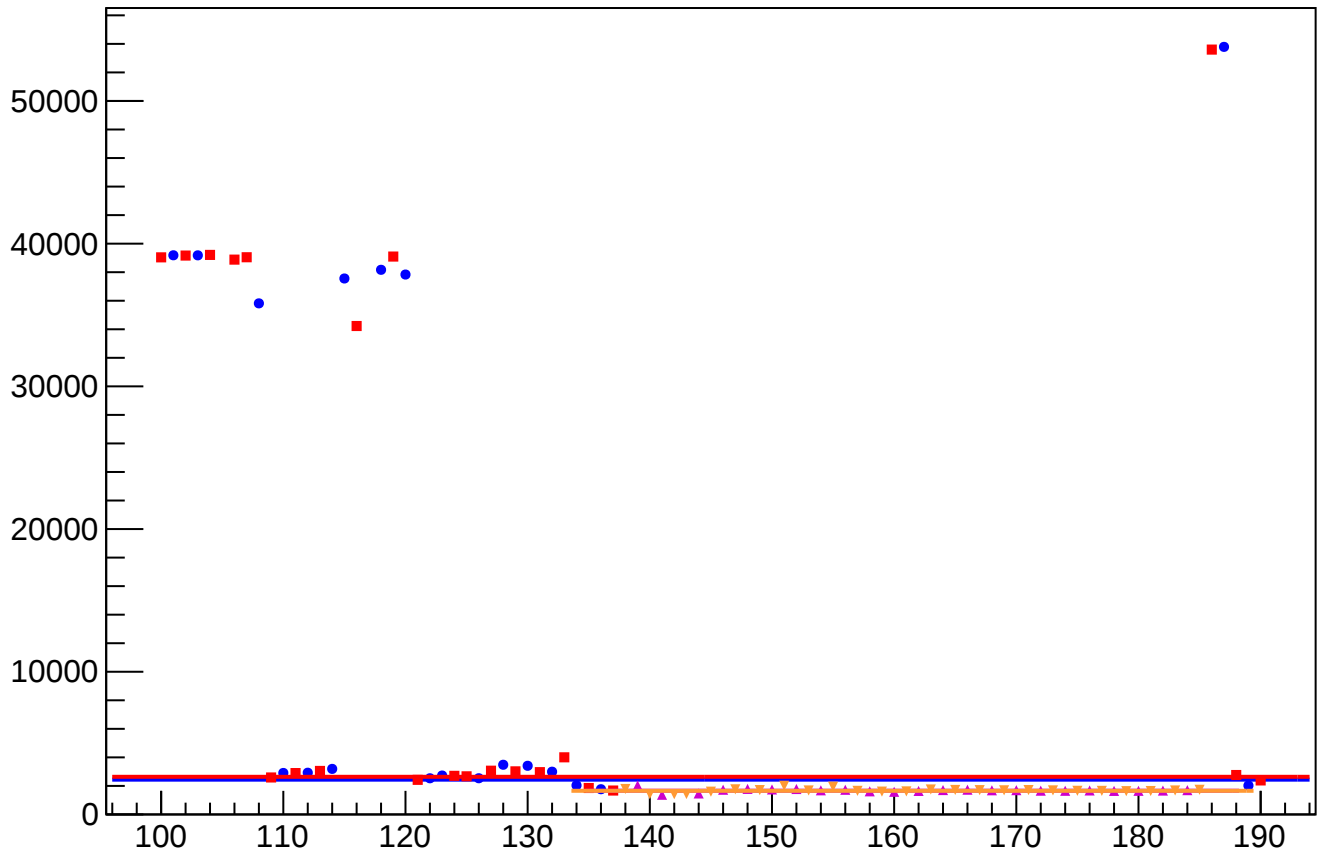
Right:  $0.716 \pm 0.801$   $\chi^2/\text{NDF}$ : 46.8/40

In:  $-0.156 \pm 0.378$   $\chi^2/\text{NDF}$ : 47.1/41

Out:  $-1.258 \pm 0.367$   $\chi^2/\text{NDF}$ : 81.0/46

All:  $-0.724 \pm 0.263$   $\chi^2/\text{NDF}$ : 132.5/88

# diff\_bpm1p03aX\_rms vs Slug, Sign Corrected



Right In: 2438.787+/-0.805  $\chi^2/\text{NDF}$ : 5202099.3/18

Left Out: 1657.770+/-0.274  $\chi^2/\text{NDF}$ : 223465.3/24

Right Out: 2638.735+/-0.796  $\chi^2/\text{NDF}$ : 5565069.4/21

Left In: 1663.620+/-0.284  $\chi^2/\text{NDF}$ : 178858.2/22

Left: 1660.599+/-0.197  $\chi^2/\text{NDF}$ : 402543.2/47

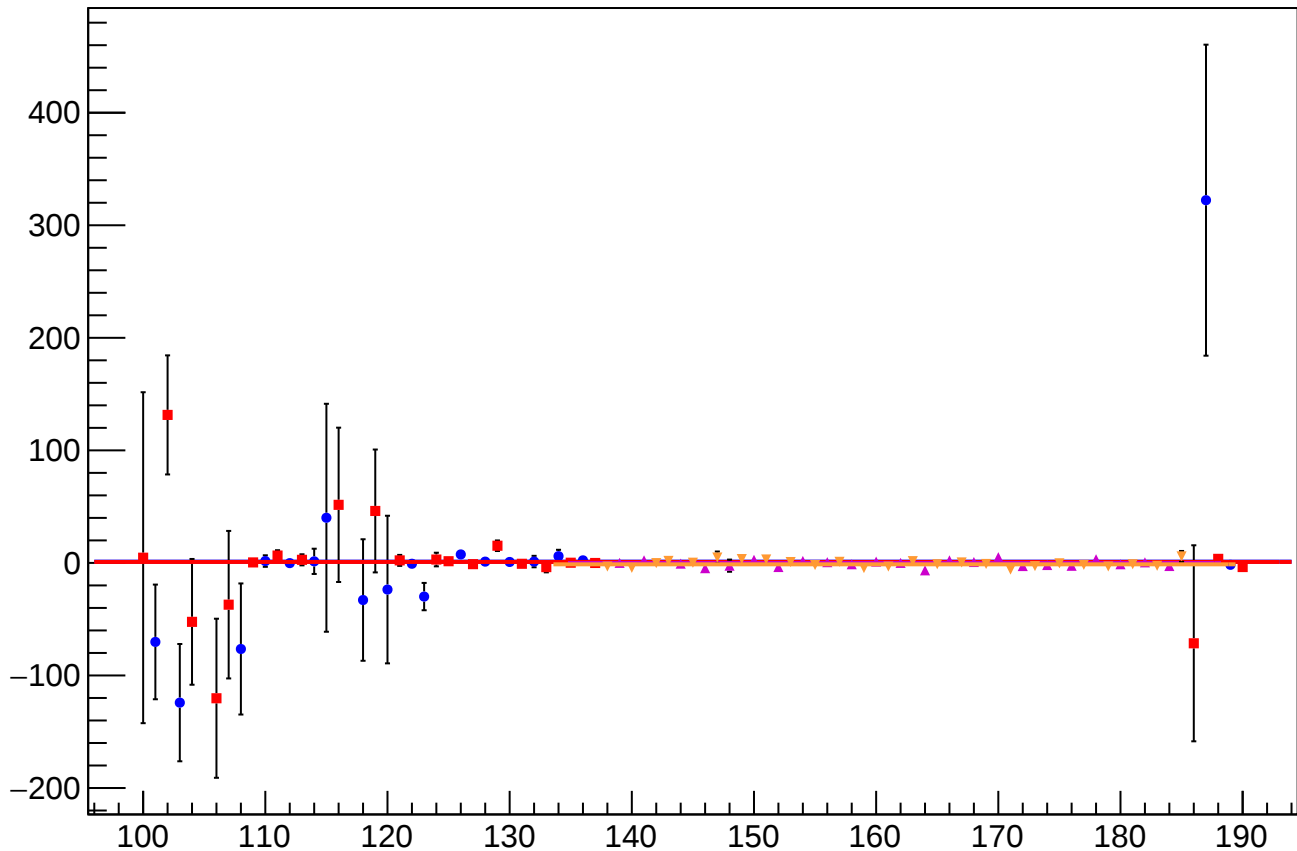
Right: 2539.904+/-0.566  $\chi^2/\text{NDF}$ : 10798344.4/40

In: 1749.140+/-0.267  $\chi^2/\text{NDF}$ : 6205274.1/41

Out: 1761.932+/-0.259  $\chi^2/\text{NDF}$ : 7145481.4/46

All: 1755.732+/-0.186  $\chi^2/\text{NDF}$ : 13351934.1/86

# diff\_bpm1p03aY\_mean vs Slug, Sign Corrected



Right In:  $1.143 \pm 1.049$   $\chi^2/\text{NDF}: 27.5/18$

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

Right Out:  $0.859 \pm 0.933$   $\chi^2/\text{NDF}: 29.2/21$

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

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

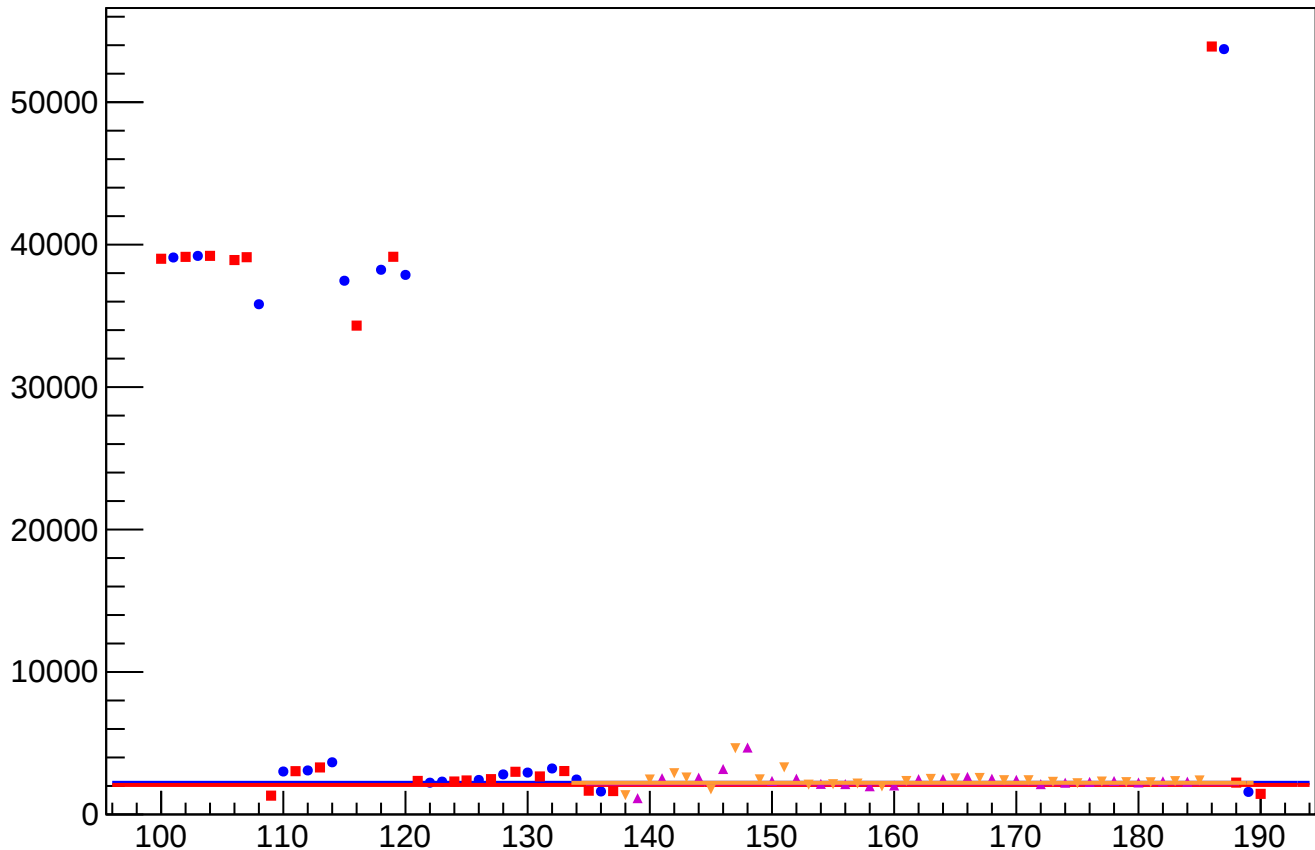
Right:  $0.985 \pm 0.697$   $\chi^2/\text{NDF}: 56.7/40$

In:  $0.163 \pm 0.481$   $\chi^2/\text{NDF}: 47.9/41$

Out:  $-0.729 \pm 0.464$   $\chi^2/\text{NDF}: 54.7/46$

All:  $-0.299 \pm 0.334$   $\chi^2/\text{NDF}: 104.4/88$

# diff\_bpm1p03aY\_rms vs Slug, Sign Corrected



Right In: 2220.747 $\pm$ 0.742  $\chi^2$ /NDF: 5426885.7/18

Left Out: 2222.081 $\pm$ 0.378  $\chi^2$ /NDF: 1422440.9/24

Right Out: 2072.304 $\pm$ 0.660  $\chi^2$ /NDF: 6158106.7/21

Left In: 2169.443 $\pm$ 0.383  $\chi^2$ /NDF: 1974869.8/22

Left: 2196.064 $\pm$ 0.269  $\chi^2$ /NDF: 3406878.6/47

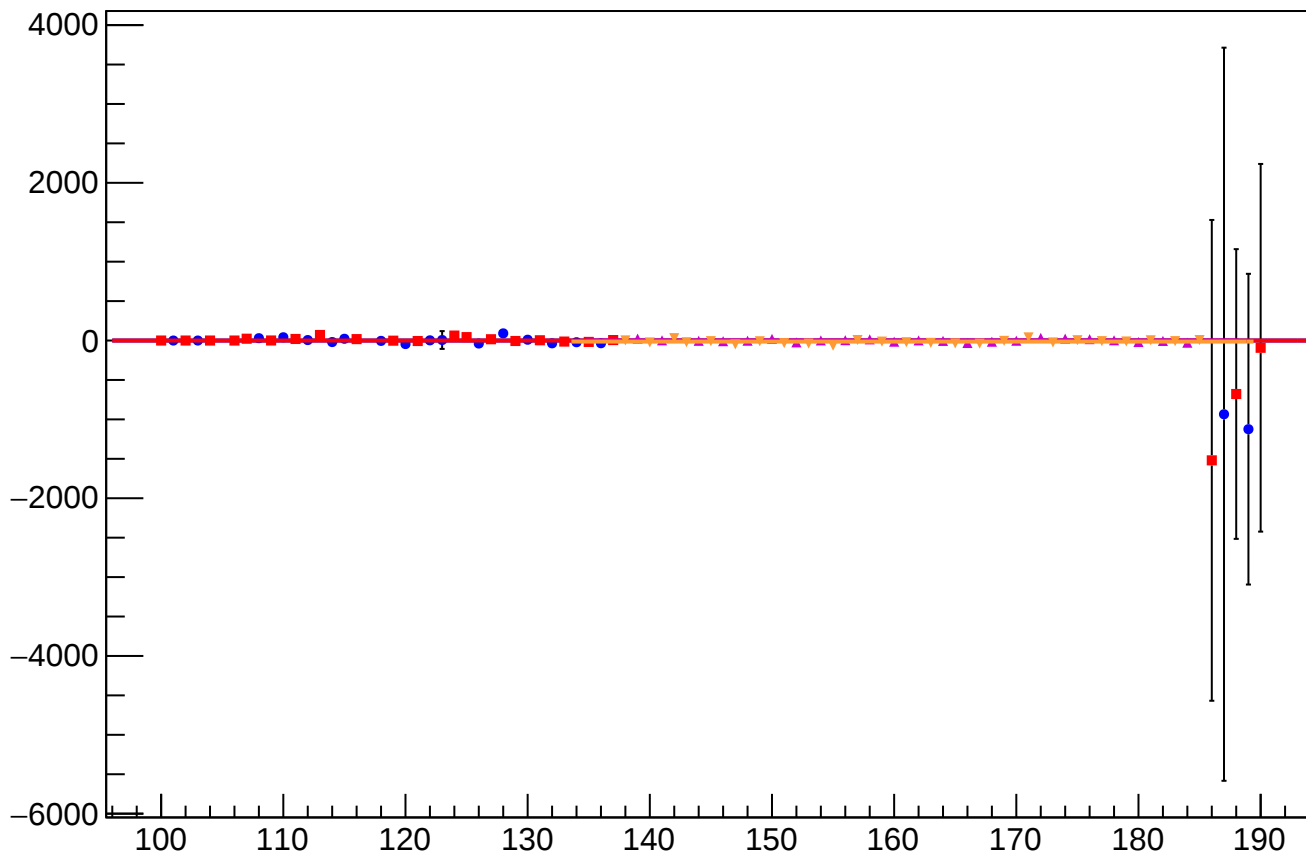
Right: 2137.873 $\pm$ 0.493  $\chi^2$ /NDF: 11607362.9/40

In: 2180.233 $\pm$ 0.340  $\chi^2$ /NDF: 7405535.2/41

Out: 2185.005 $\pm$ 0.328  $\chi^2$ /NDF: 7619344.1/46

All: 2182.704 $\pm$ 0.236  $\chi^2$ /NDF: 15024981.3/86

# diff\_cav4bX\_mean vs Slug, Sign Corrected



Right In:  $0.013 \pm 0.017$   $\chi^2/\text{NDF}: 17.0/18$

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

Right Out:  $-0.003 \pm 0.016$   $\chi^2/\text{NDF}: 15.9/21$

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

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

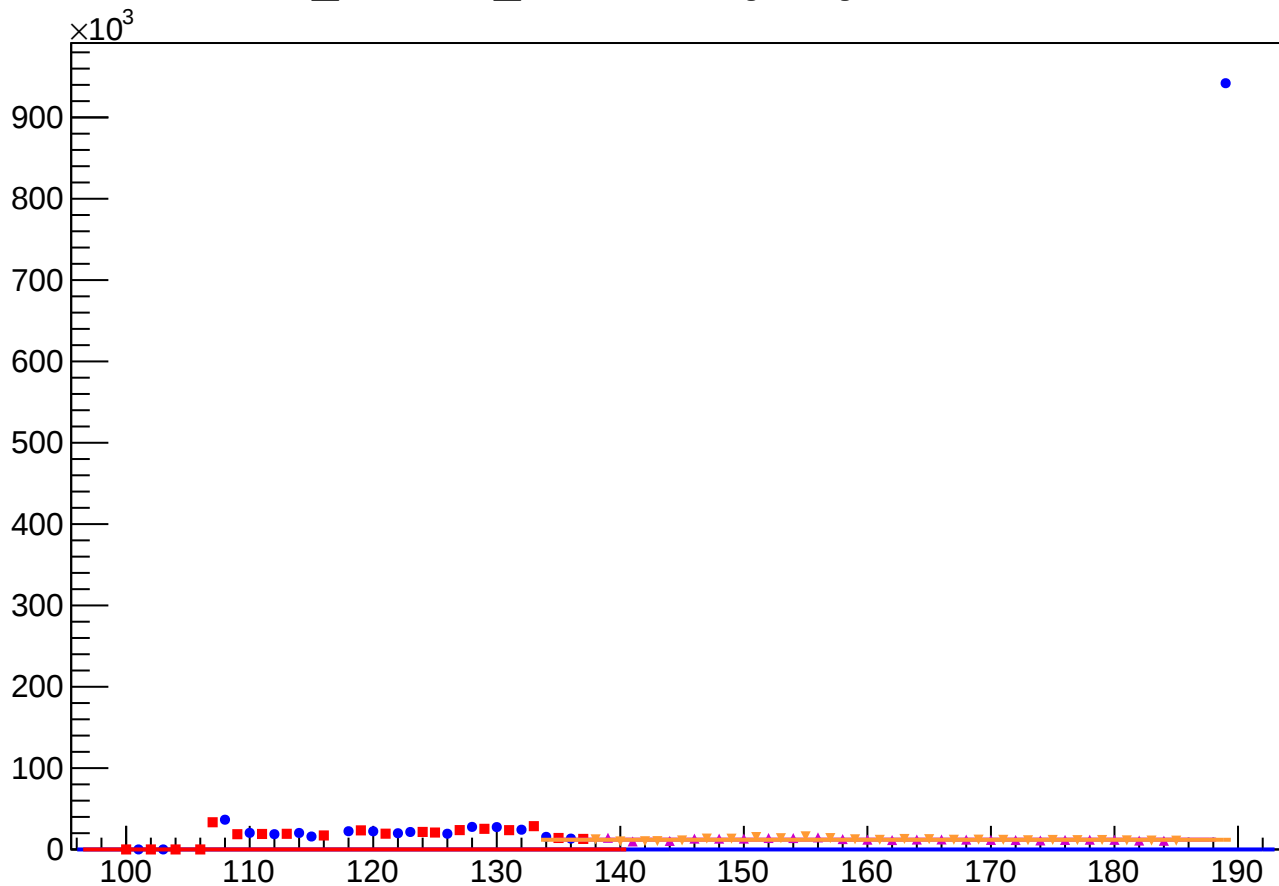
Right:  $0.004 \pm 0.012$   $\chi^2/\text{NDF}: 33.4/40$

In:  $0.013 \pm 0.017$   $\chi^2/\text{NDF}: 46.0/41$

Out:  $-0.004 \pm 0.016$   $\chi^2/\text{NDF}: 97.7/46$

All:  $0.004 \pm 0.012$   $\chi^2/\text{NDF}: 144.2/88$

# 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

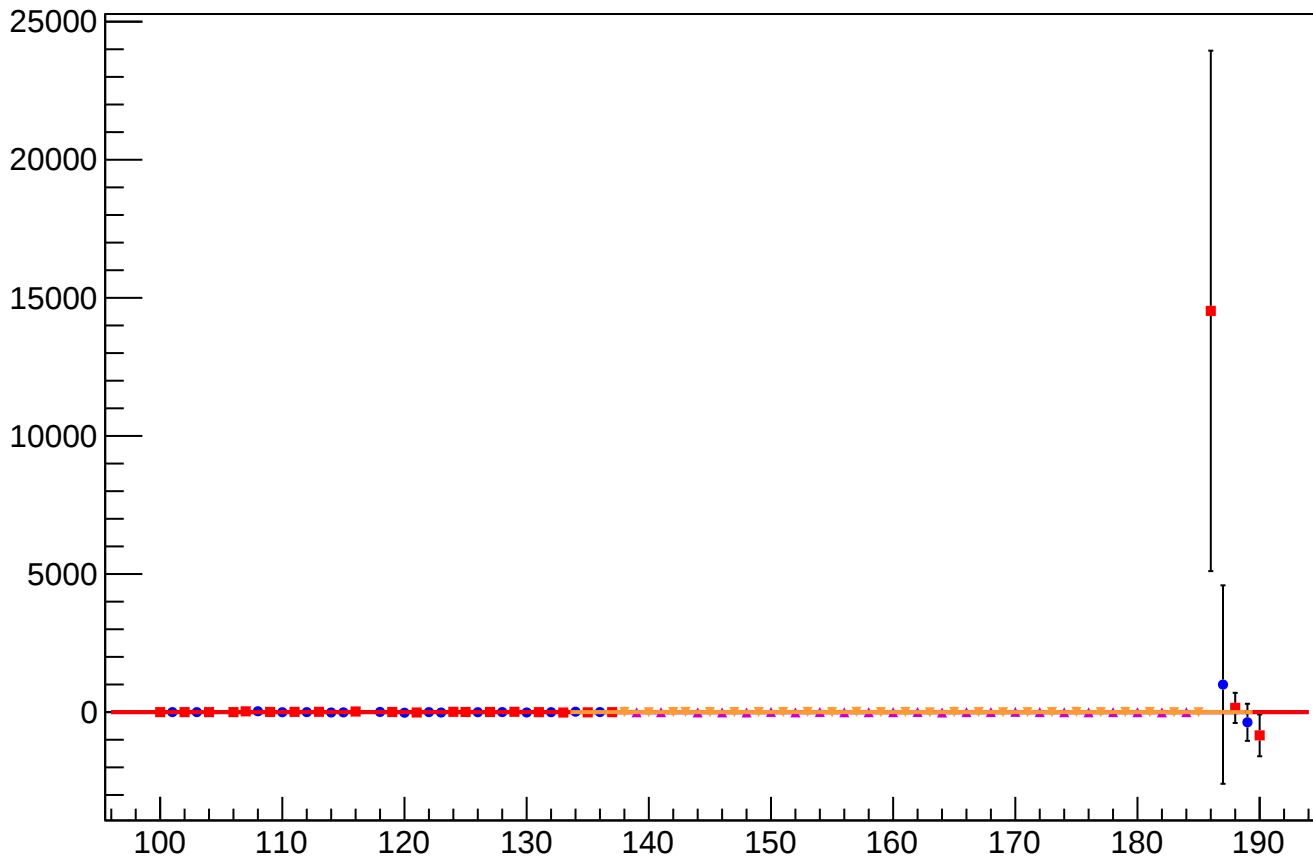
Right: 18.464 $\pm$ 0.008  $\chi^2$ /NDF: 22189063.4/36

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  $\chi^2/\text{NDF}$ : 13.3/18

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

Right Out: -0.014 $\pm$ 0.009  $\chi^2/\text{NDF}$ : 22.5/21

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

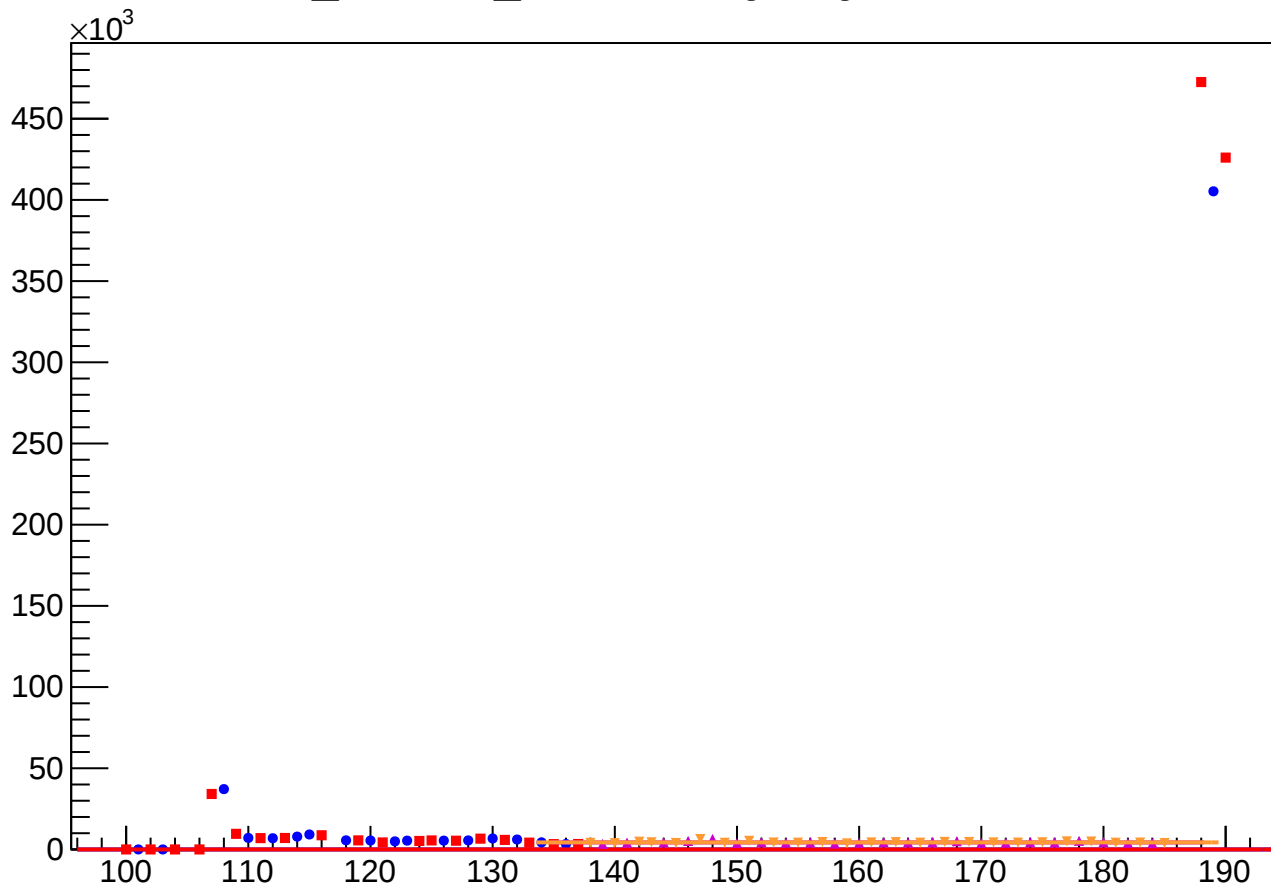
Right: -0.007 $\pm$ 0.006  $\chi^2/\text{NDF}$ : 37.1/40

In: 0.001 $\pm$ 0.009  $\chi^2/\text{NDF}$ : 49.7/41

Out: -0.014 $\pm$ 0.009  $\chi^2/\text{NDF}$ : 43.5/46

All: -0.007 $\pm$ 0.006  $\chi^2/\text{NDF}$ : 94.5/88

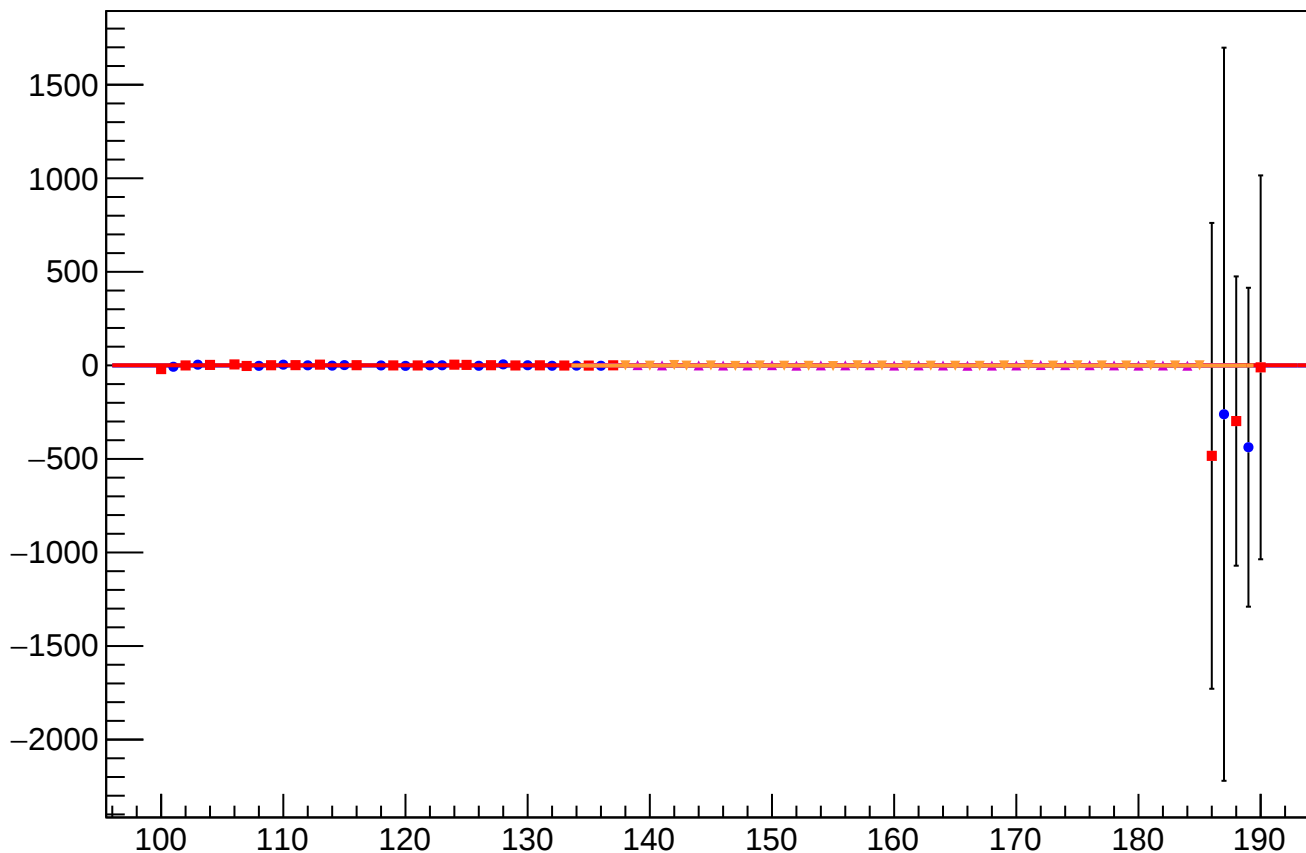
# diff\_cav4bY\_rms vs Slug, Sign Corrected



Right In:  $9.939 \pm 0.007$   $\chi^2/\text{NDF}$ : 11774538.3/17  
 Left Out:  $4349.005 \pm 0.723$   $\chi^2/\text{NDF}$ : 383895.7/24  
 Right Out:  $9.854 \pm 0.006$   $\chi^2/\text{NDF}$ : 13217247.3/20  
 Left In:  $4321.572 \pm 0.741$   $\chi^2/\text{NDF}$ : 514603.2/22

Left:  $4335.639 \pm 0.518$   $\chi^2/\text{NDF}$ : 899200.9/47  
 Right:  $9.894 \pm 0.004$   $\chi^2/\text{NDF}$ : 24991875.3/38  
 In:  $10.271 \pm 0.007$   $\chi^2/\text{NDF}$ : 46106286.2/40  
 Out:  $10.165 \pm 0.006$   $\chi^2/\text{NDF}$ : 49646419.7/45  
 All:  $10.215 \pm 0.004$   $\chi^2/\text{NDF}$ : 95752846.3/86

# diff\_cav4cX\_mean vs Slug, Sign Corrected



Right In:  $-0.714 \pm 0.483$   $\chi^2/\text{NDF}: 23.0/18$

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

Right Out:  $0.638 \pm 0.501$   $\chi^2/\text{NDF}: 13.4/21$

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

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

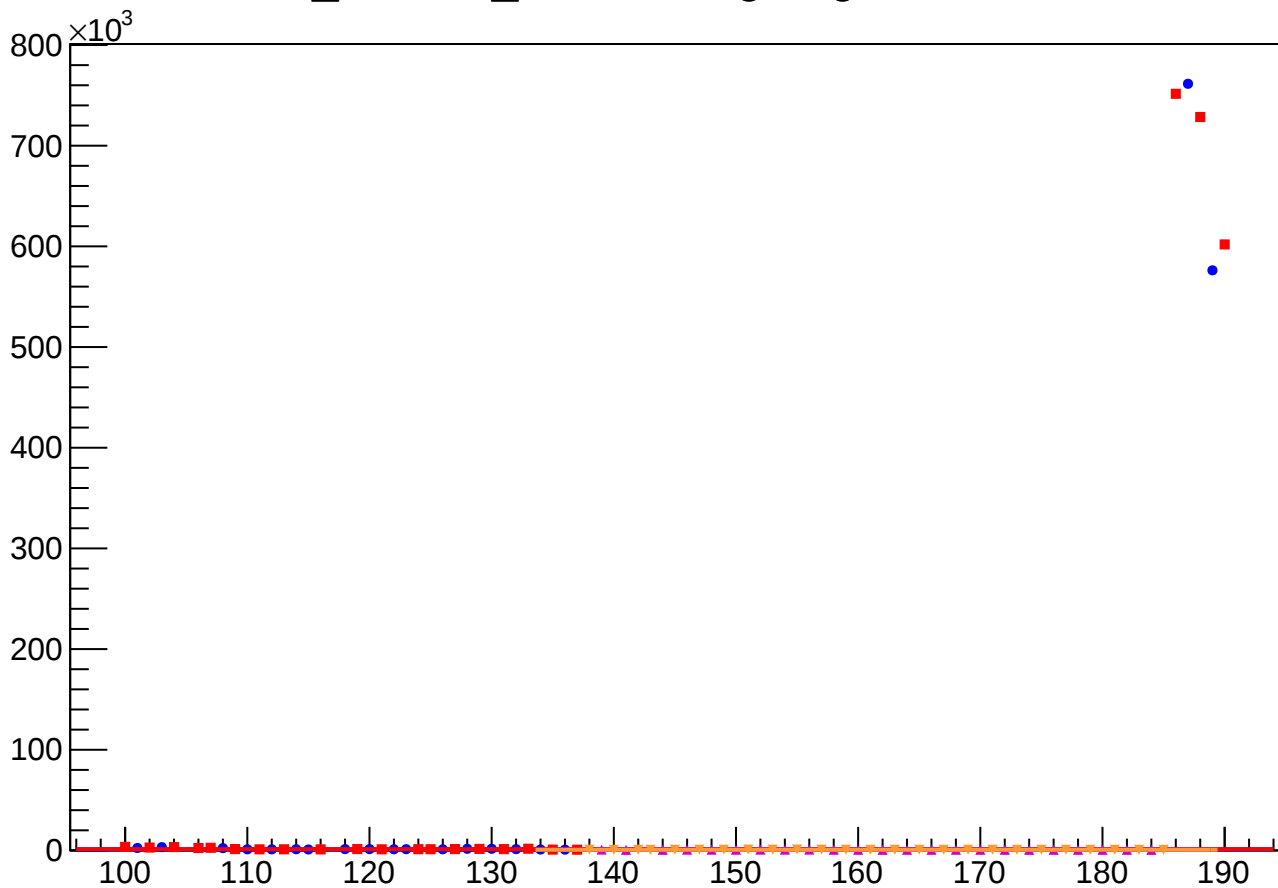
Right:  $-0.063 \pm 0.348$   $\chi^2/\text{NDF}: 40.1/40$

In:  $-0.063 \pm 0.161$   $\chi^2/\text{NDF}: 54.5/41$

Out:  $-0.638 \pm 0.156$   $\chi^2/\text{NDF}: 79.0/46$

All:  $-0.359 \pm 0.112$   $\chi^2/\text{NDF}: 140.1/88$

# diff\_cav4cX\_rms vs Slug, Sign Corrected



Right In: 1167.352 $\pm$ 0.342  $\chi^2$ /NDF: 2791883.2/18

Left Out: 700.984 $\pm$ 0.116  $\chi^2$ /NDF: 392855.4/24

Right Out: 1248.481 $\pm$ 0.355  $\chi^2$ /NDF: 4802074.7/21

Left In: 706.971 $\pm$ 0.121  $\chi^2$ /NDF: 332011.4/22

Left: 703.867 $\pm$ 0.084  $\chi^2$ /NDF: 726141.0/47

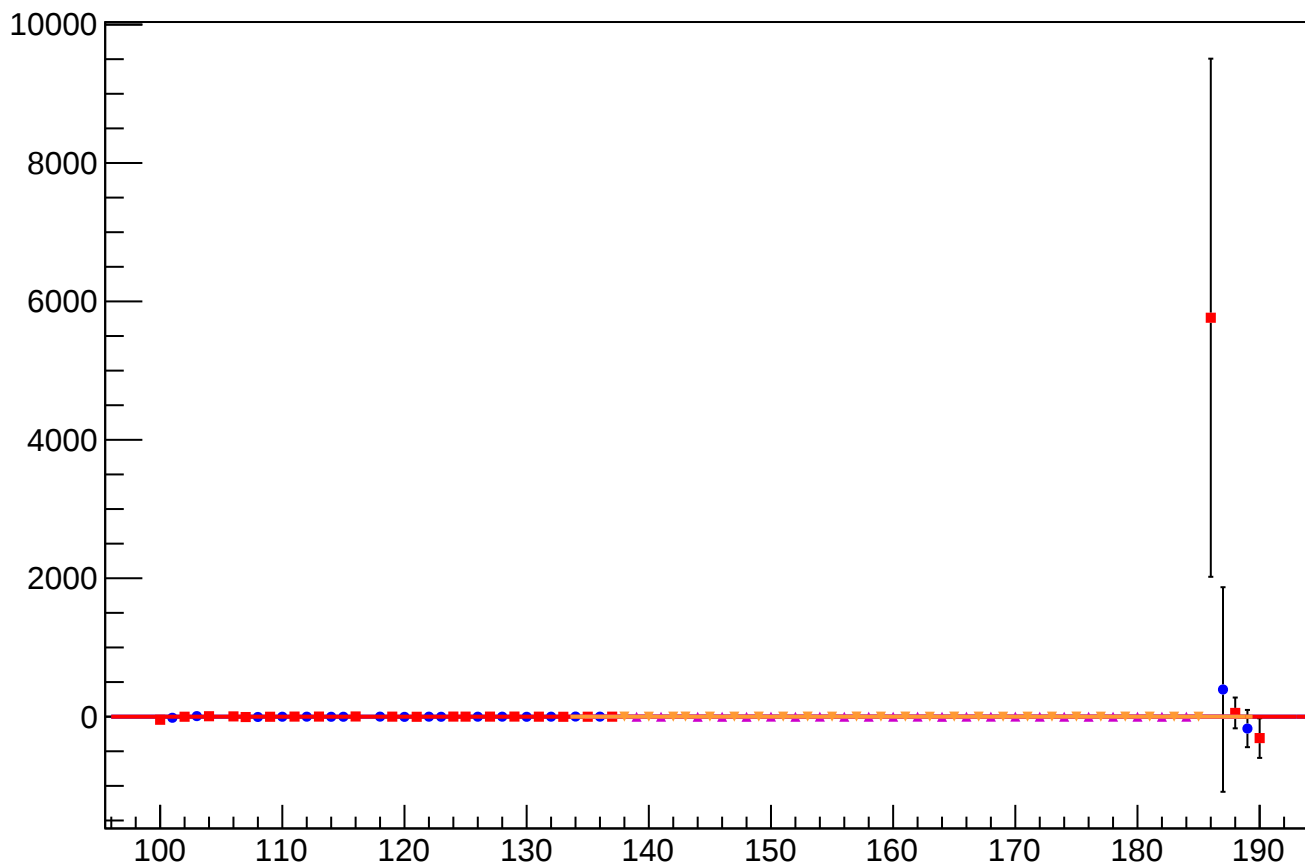
Right: 1206.404 $\pm$ 0.246  $\chi^2$ /NDF: 7621106.0/40

In: 758.108 $\pm$ 0.114  $\chi^2$ /NDF: 4738310.5/41

Out: 754.218 $\pm$ 0.111  $\chi^2$ /NDF: 7347043.2/46

All: 756.106 $\pm$ 0.079  $\chi^2$ /NDF: 12085954.4/88

# diff\_cav4cY\_mean vs Slug, Sign Corrected



Right In:  $-0.060 \pm 0.269$   $\chi^2/\text{NDF}$ : 19.6/18

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

Right Out:  $-0.280 \pm 0.264$   $\chi^2/\text{NDF}$ : 24.1/21

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

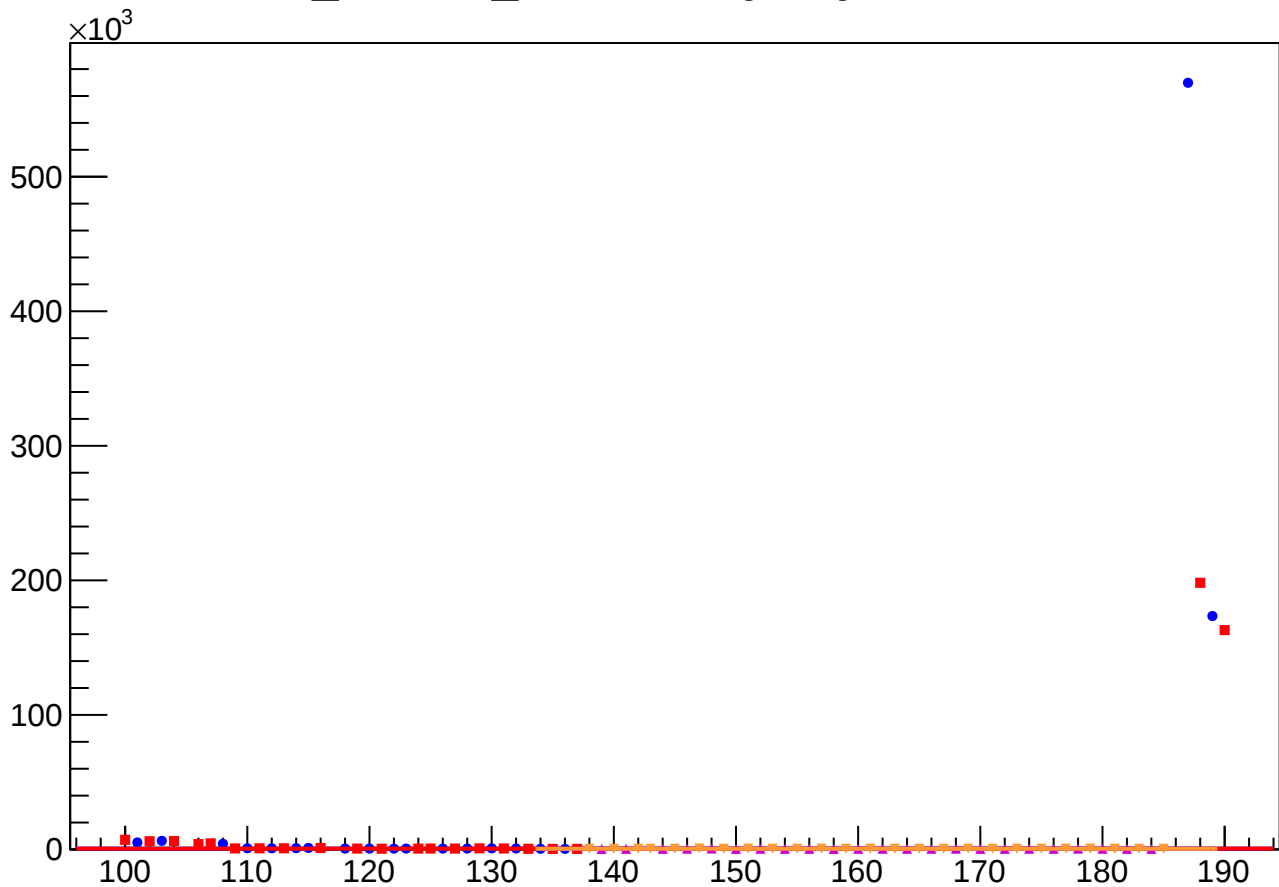
Right:  $-0.172 \pm 0.189$   $\chi^2/\text{NDF}$ : 44.1/40

In:  $-0.114 \pm 0.114$   $\chi^2/\text{NDF}$ : 54.6/41

Out:  $0.142 \pm 0.111$   $\chi^2/\text{NDF}$ : 45.2/46

All:  $0.018 \pm 0.080$   $\chi^2/\text{NDF}$ : 102.4/88

# diff\_cav4cY\_rms vs Slug, Sign Corrected



Right In: 609.577+/-0.190  $\chi^2/\text{NDF}$ : 4257209.0/18

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

Right Out: 599.238+/-0.187  $\chi^2/\text{NDF}$ : 5773414.8/20

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

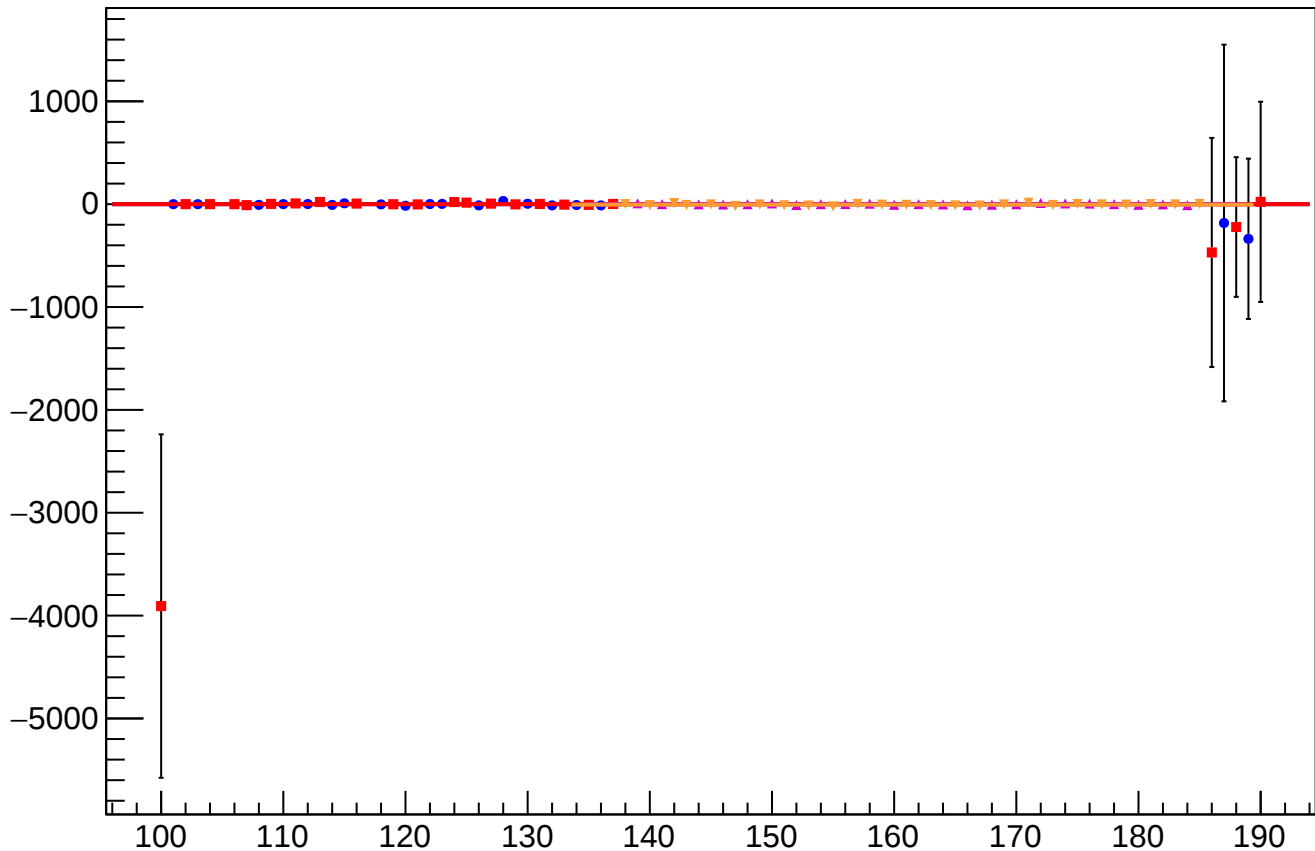
Right: 604.318+/-0.133  $\chi^2/\text{NDF}$ : 10032126.5/39

In: 536.721+/-0.081  $\chi^2/\text{NDF}$ : 4863899.7/41

Out: 535.848+/-0.079  $\chi^2/\text{NDF}$ : 6243474.2/45

All: 536.273+/-0.056  $\chi^2/\text{NDF}$ : 11107433.9/87

# diff\_cav4dX\_mean vs Slug, Sign Corrected



Right In:  $-0.022 \pm 0.021$   $\chi^2/\text{NDF}$ : 16.2/18

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

Right Out:  $0.027 \pm 0.020$   $\chi^2/\text{NDF}$ : 17.7/21

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

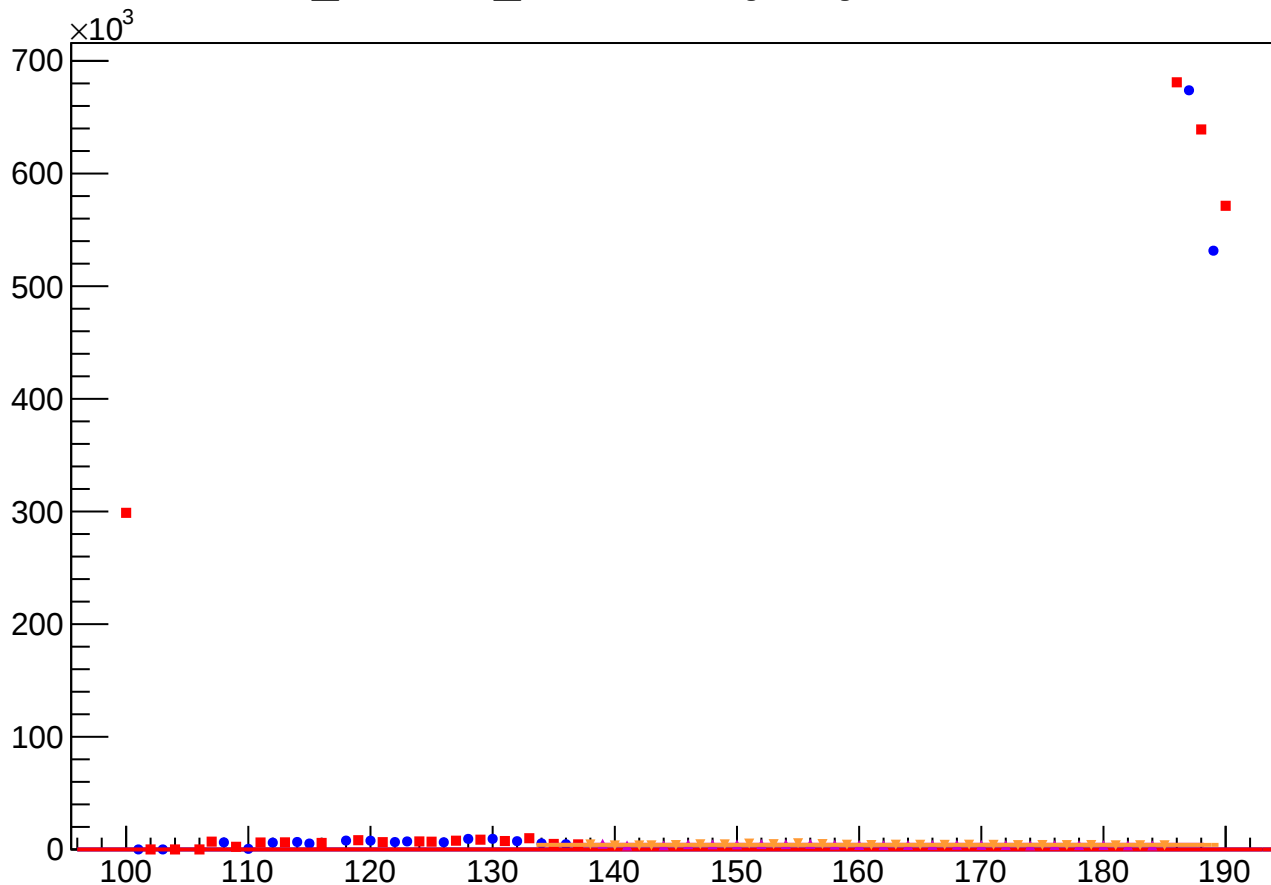
Right:  $0.004 \pm 0.014$   $\chi^2/\text{NDF}$ : 36.7/40

In:  $-0.022 \pm 0.021$   $\chi^2/\text{NDF}$ : 45.7/41

Out:  $0.025 \pm 0.020$   $\chi^2/\text{NDF}$ : 98.3/46

All:  $0.003 \pm 0.014$   $\chi^2/\text{NDF}$ : 146.6/88

# diff\_cav4dX\_rms vs Slug, Sign Corrected



Right In: 17.340 $\pm$ 0.015  $\chi^2/\text{NDF}$ : 11689269.1/18

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

Right Out: 17.268 $\pm$ 0.014  $\chi^2/\text{NDF}$ : 13975229.9/21

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

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

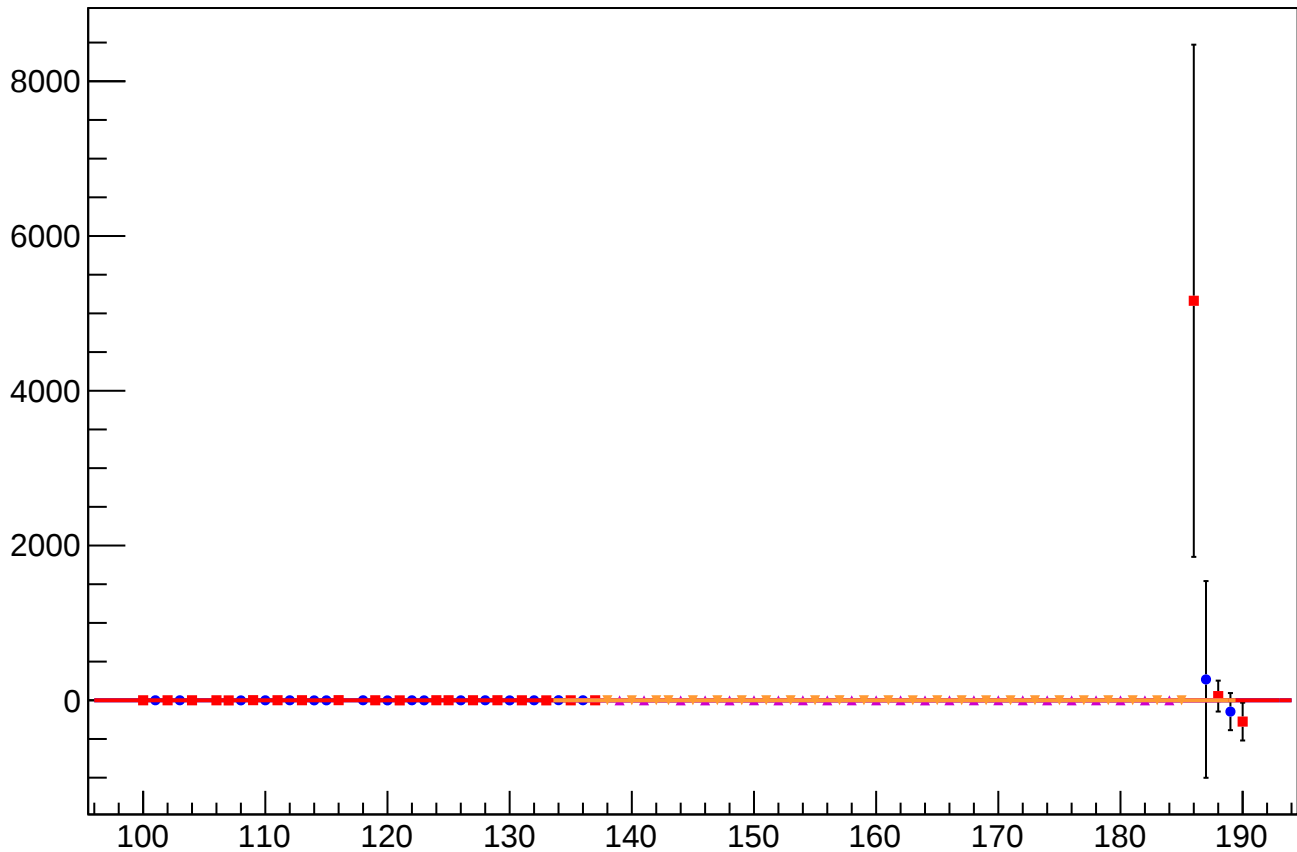
Right: 17.302 $\pm$ 0.010  $\chi^2/\text{NDF}$ : 25664511.3/40

In: 19.132 $\pm$ 0.015  $\chi^2/\text{NDF}$ : 45991798.0/41

Out: 19.000 $\pm$ 0.014  $\chi^2/\text{NDF}$ : 50328270.7/46

All: 19.063 $\pm$ 0.010  $\chi^2/\text{NDF}$ : 96320110.6/88

# diff\_cav4dY\_mean vs Slug, Sign Corrected



Right In: 0.000 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 14.0/18

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

Right Out: -0.001 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 21.9/21

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

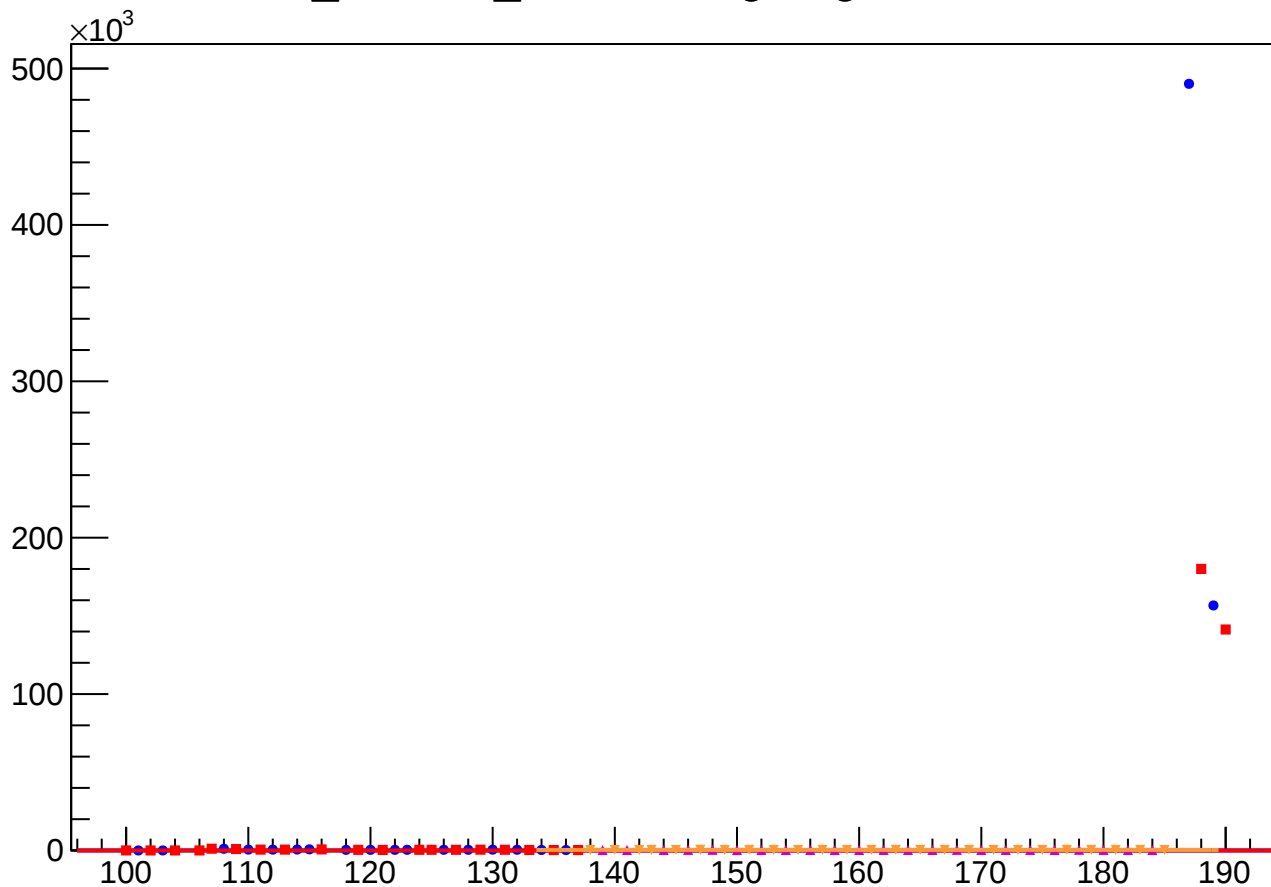
Right: -0.000 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 36.1/40

In: 0.000 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 49.7/41

Out: -0.001 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 43.1/46

All: -0.000 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 92.9/88

# diff\_cav4dY\_rms vs Slug, Sign Corrected



Right In: 1.699 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 12157068.7/18

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

Right Out: 1.728 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 12989922.4/20

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

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

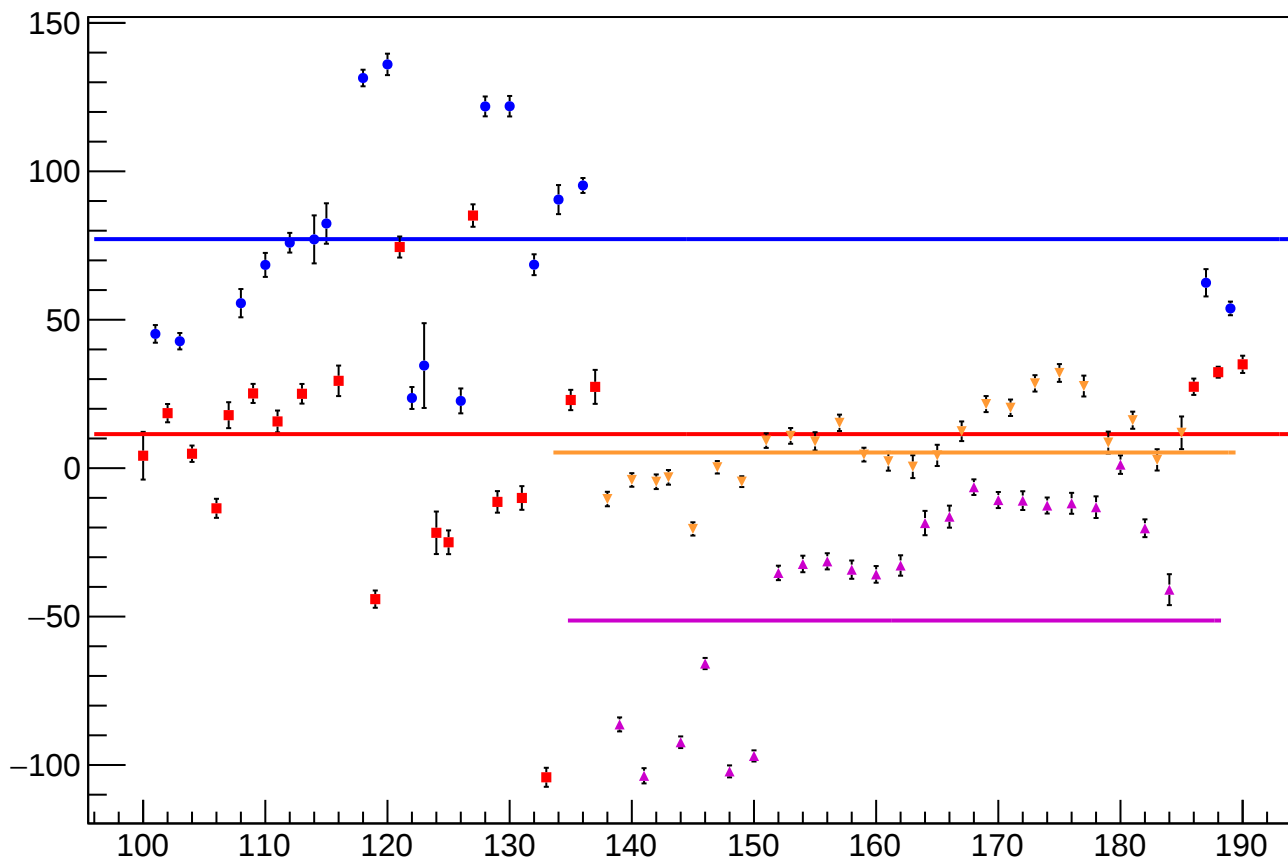
Right: 1.714 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 25147208.3/39

In: 1.912 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 46299226.0/41

Out: 1.936 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 49197452.8/45

All: 1.925 $\pm$ 0.001  $\chi^2/\text{NDF}$ : 95496825.3/87

# diff\_bpm0i01X\_mean vs Slug, Sign Corrected



Right In:  $77.162 \pm 0.815$   $\chi^2/\text{NDF}: 1852.3/18$

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

Right Out:  $11.470 \pm 0.717$   $\chi^2/\text{NDF}: 2905.9/21$

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

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

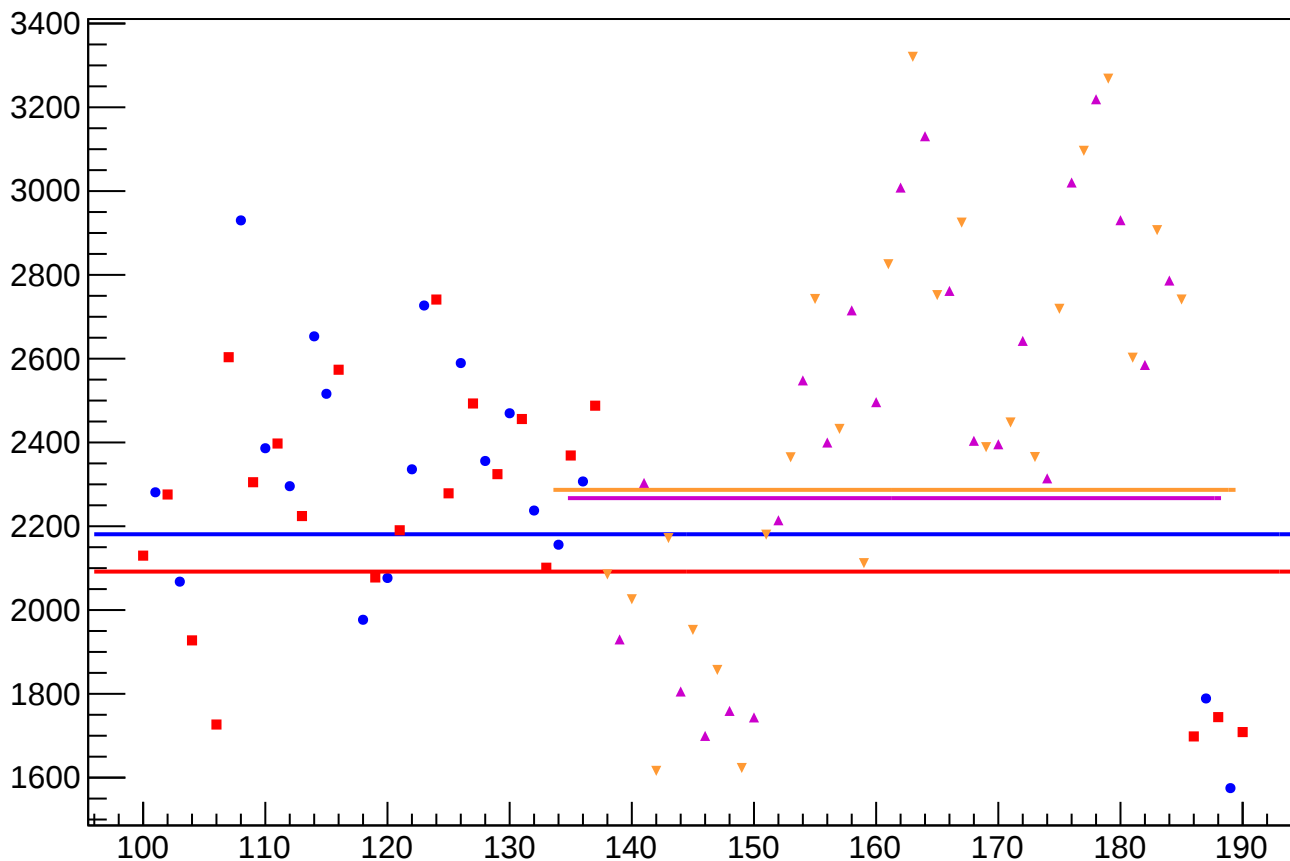
Right:  $40.127 \pm 0.538$   $\chi^2/\text{NDF}: 8424.5/40$

In:  $-10.257 \pm 0.461$   $\chi^2/\text{NDF}: 23037.3/41$

Out:  $7.541 \pm 0.433$   $\chi^2/\text{NDF}: 3509.5/46$

All:  $-0.817 \pm 0.316$   $\chi^2/\text{NDF}: 27338.9/88$

# diff\_bpm0i01X\_rms vs Slug, Sign Corrected



Right In: 2180.897 $\pm$ 0.576  $\chi^2$ /NDF: 290623.5/18

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

Right Out: 2091.769 $\pm$ 0.507  $\chi^2$ /NDF: 349912.1/21

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

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

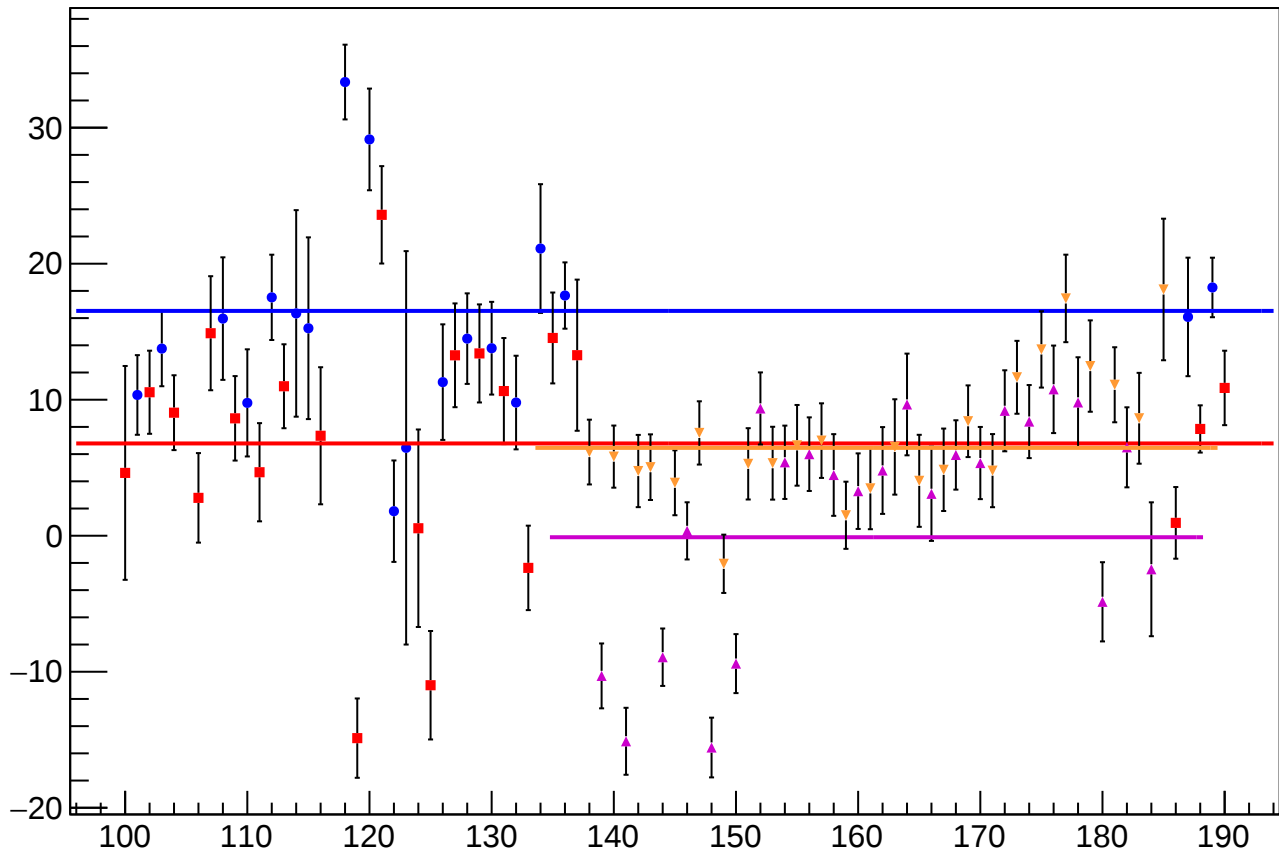
Right: 2130.650 $\pm$ 0.380  $\chi^2$ /NDF: 654033.8/40

In: 2239.544 $\pm$ 0.326  $\chi^2$ /NDF: 1619224.7/41

Out: 2215.508 $\pm$ 0.306  $\chi^2$ /NDF: 1804438.5/46

All: 2226.796 $\pm$ 0.223  $\chi^2$ /NDF: 3426552.5/88

# diff\_bpm0i01Y\_mean vs Slug, Sign Corrected



Right In: 16.529 $\pm$ 0.797  $\chi^2$ /NDF: 81.7/18

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

Right Out: 6.785 $\pm$ 0.698  $\chi^2$ /NDF: 138.1/21

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

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

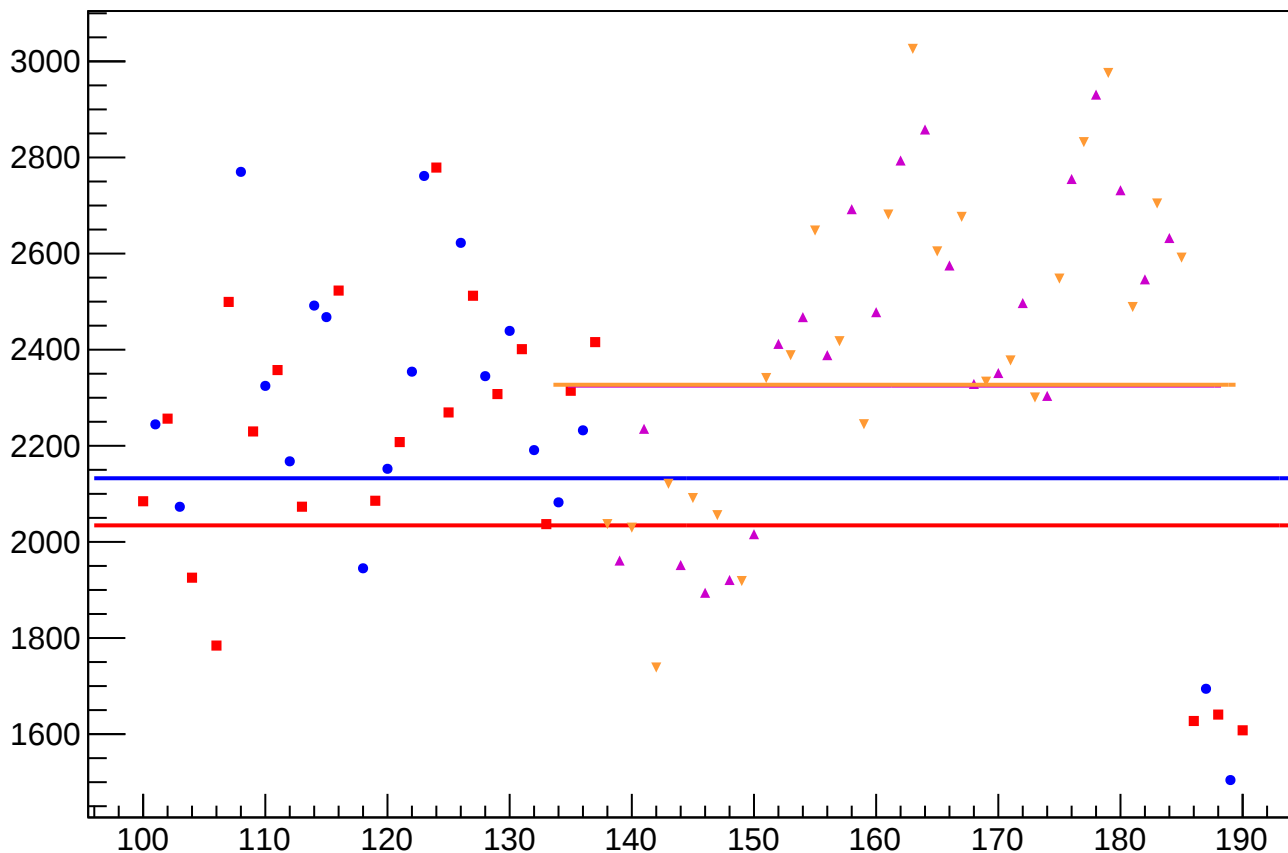
Right: 11.013 $\pm$ 0.525  $\chi^2$ /NDF: 304.3/40

In: 5.456 $\pm$ 0.461  $\chi^2$ /NDF: 606.2/41

Out: 6.583 $\pm$ 0.431  $\chi^2$ /NDF: 196.9/46

All: 6.057 $\pm$ 0.315  $\chi^2$ /NDF: 806.3/88

# diff\_bpm0i01Y\_rms vs Slug, Sign Corrected



Right In: 2132.471+/-0.564  $\chi^2/\text{NDF}$ : 318704.7/18

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

Right Out: 2034.409+/-0.493  $\chi^2/\text{NDF}$ : 409461.5/21

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

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

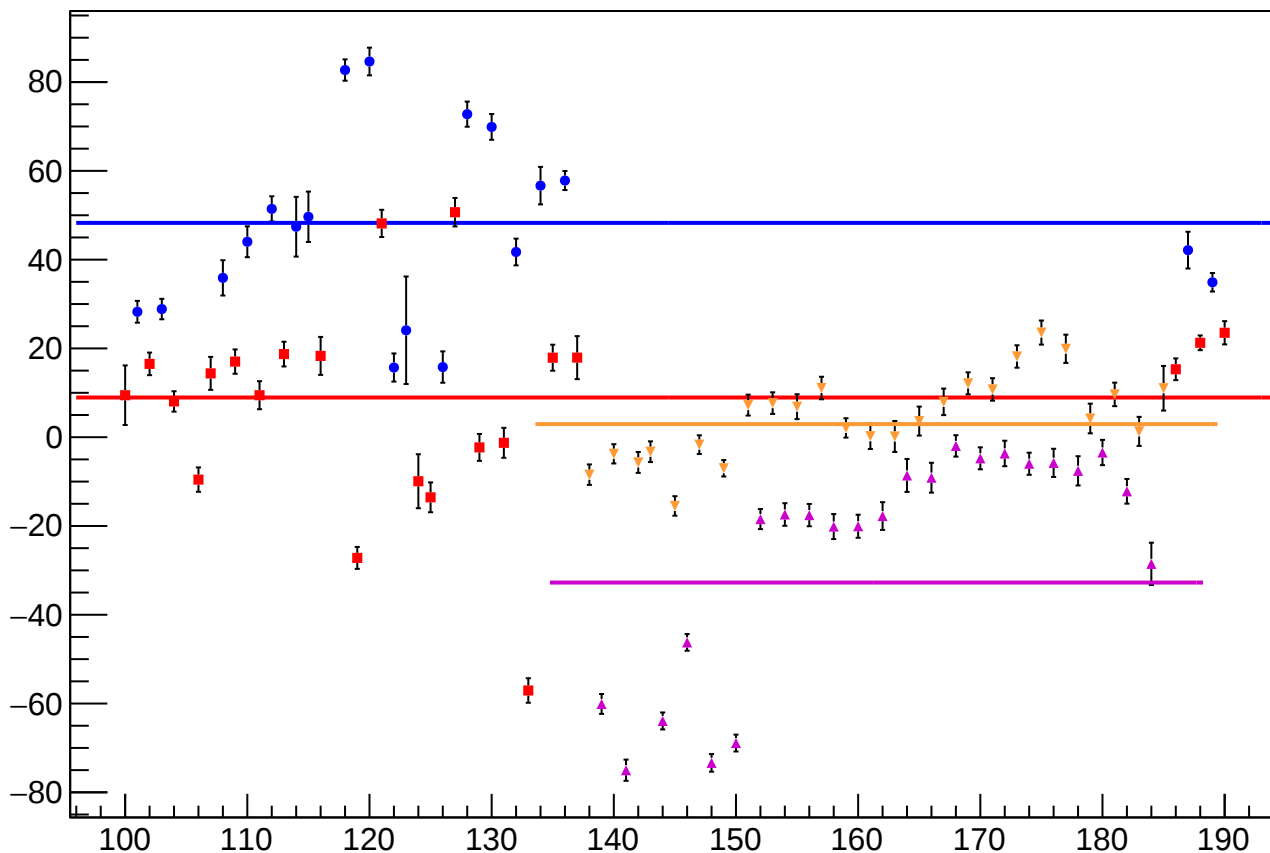
Right: 2076.959+/-0.371  $\chi^2/\text{NDF}$ : 745299.9/40

In: 2260.714+/-0.326  $\chi^2/\text{NDF}$ : 1007216.3/41

Out: 2215.542+/-0.305  $\chi^2/\text{NDF}$ : 1273827.0/46

All: 2236.598+/-0.223  $\chi^2/\text{NDF}$ : 2291293.4/88

# diff\_bpm0i01aX\_mean vs Slug, Sign Corrected



Right In:  $48.283 \pm 0.697$   $\chi^2/\text{NDF}: 887.7/18$

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

Right Out:  $8.945 \pm 0.616$   $\chi^2/\text{NDF}: 1382.1/21$

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

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

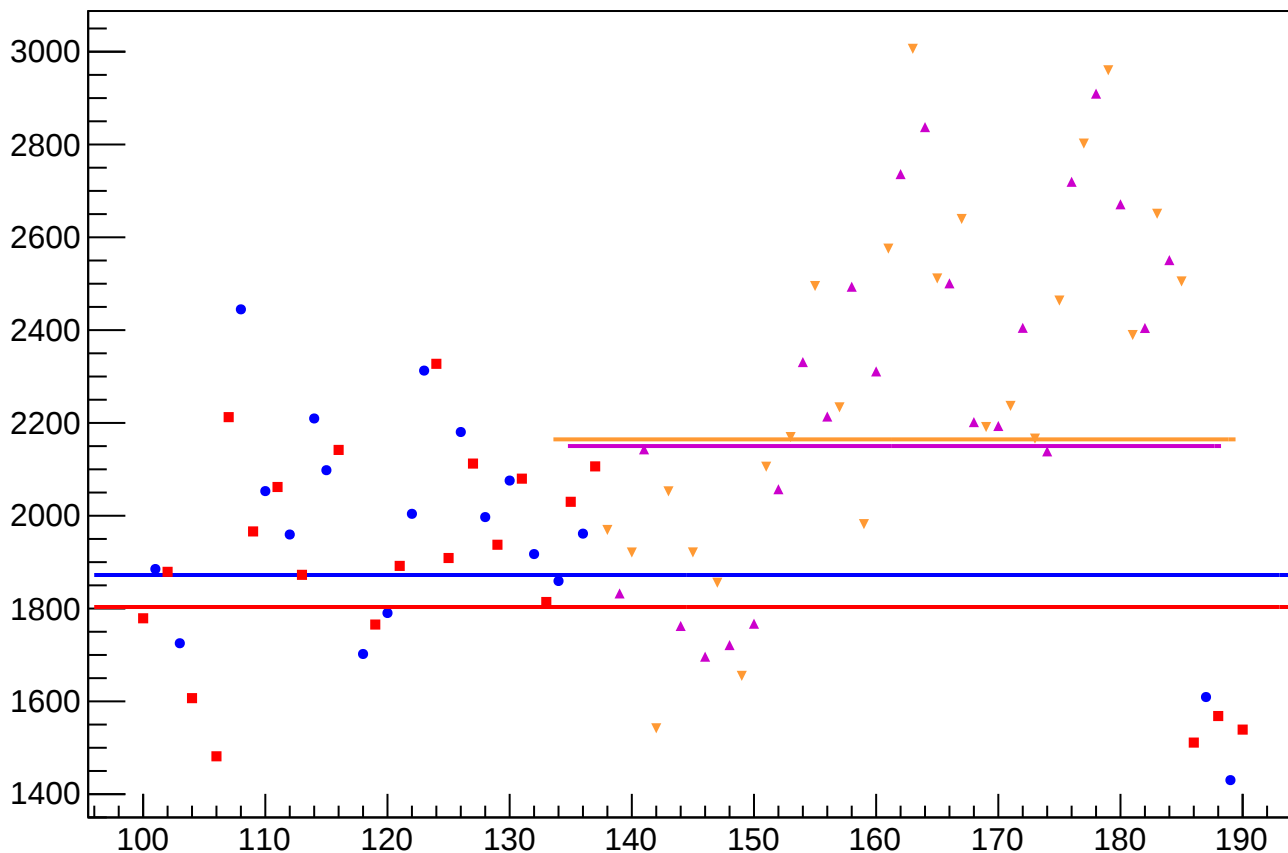
Right:  $26.195 \pm 0.462$   $\chi^2/\text{NDF}: 4057.0/40$

In:  $-3.349 \pm 0.420$   $\chi^2/\text{NDF}: 12125.4/41$

Out:  $5.399 \pm 0.394$   $\chi^2/\text{NDF}: 1775.8/46$

All:  $1.307 \pm 0.287$   $\chi^2/\text{NDF}: 14132.1/88$

# diff\_bpm0i01aX\_rms vs Slug, Sign Corrected



Right In:  $1872.316 \pm 0.493$   $\chi^2/\text{NDF}: 213673.1/18$

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

Right Out:  $1803.349 \pm 0.436$   $\chi^2/\text{NDF}: 266049.5/21$

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

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

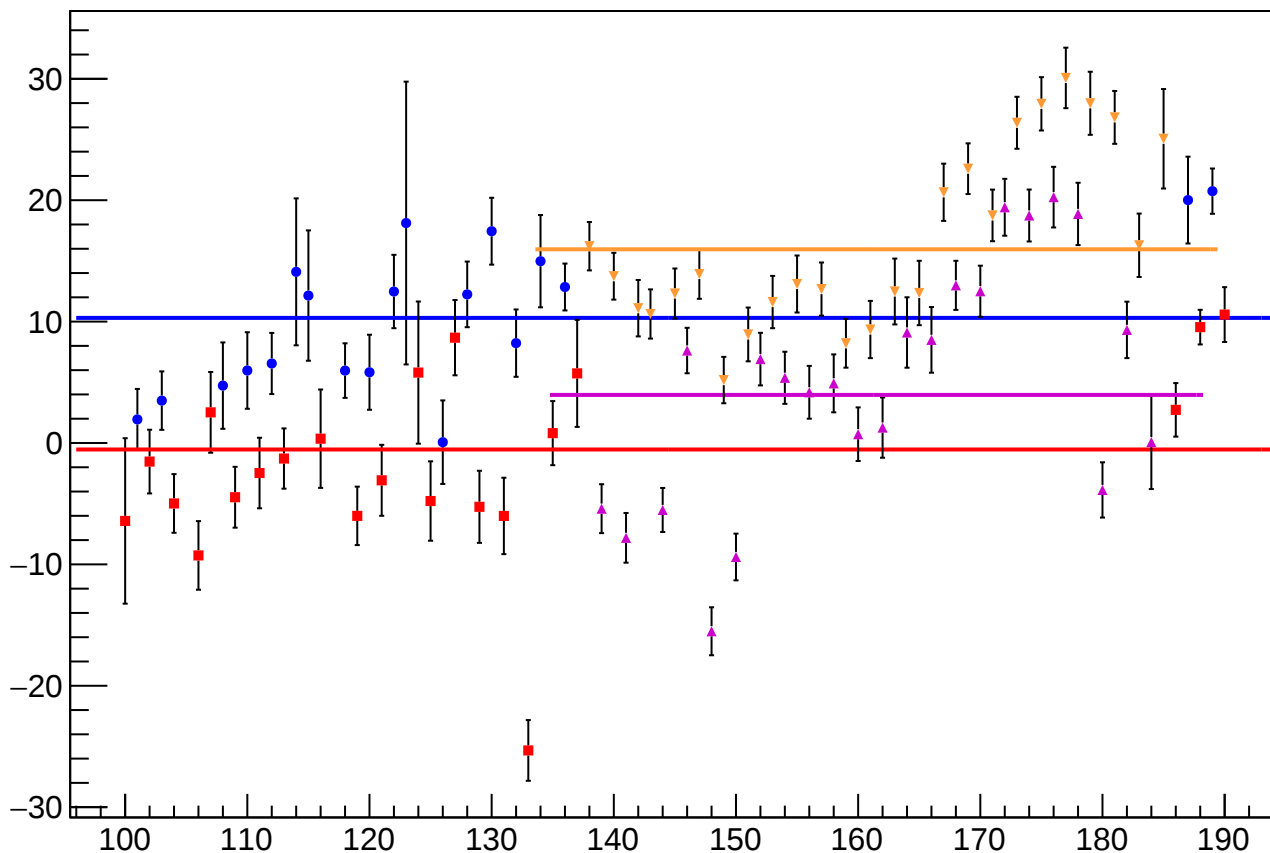
Right:  $1833.591 \pm 0.326$   $\chi^2/\text{NDF}: 490709.1/40$

In:  $2049.379 \pm 0.297$   $\chi^2/\text{NDF}: 1327924.8/41$

Out:  $2017.062 \pm 0.278$   $\chi^2/\text{NDF}: 1638300.5/46$

All:  $2032.180 \pm 0.203$   $\chi^2/\text{NDF}: 2972527.6/88$

# diff\_bpm0i01aY\_mean vs Slug, Sign Corrected



Right In: 10.306 $\pm$ 0.654  $\chi^2/\text{NDF}$ : 91.6/18

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

Right Out: -0.536 $\pm$ 0.574  $\chi^2/\text{NDF}$ : 217.6/21

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

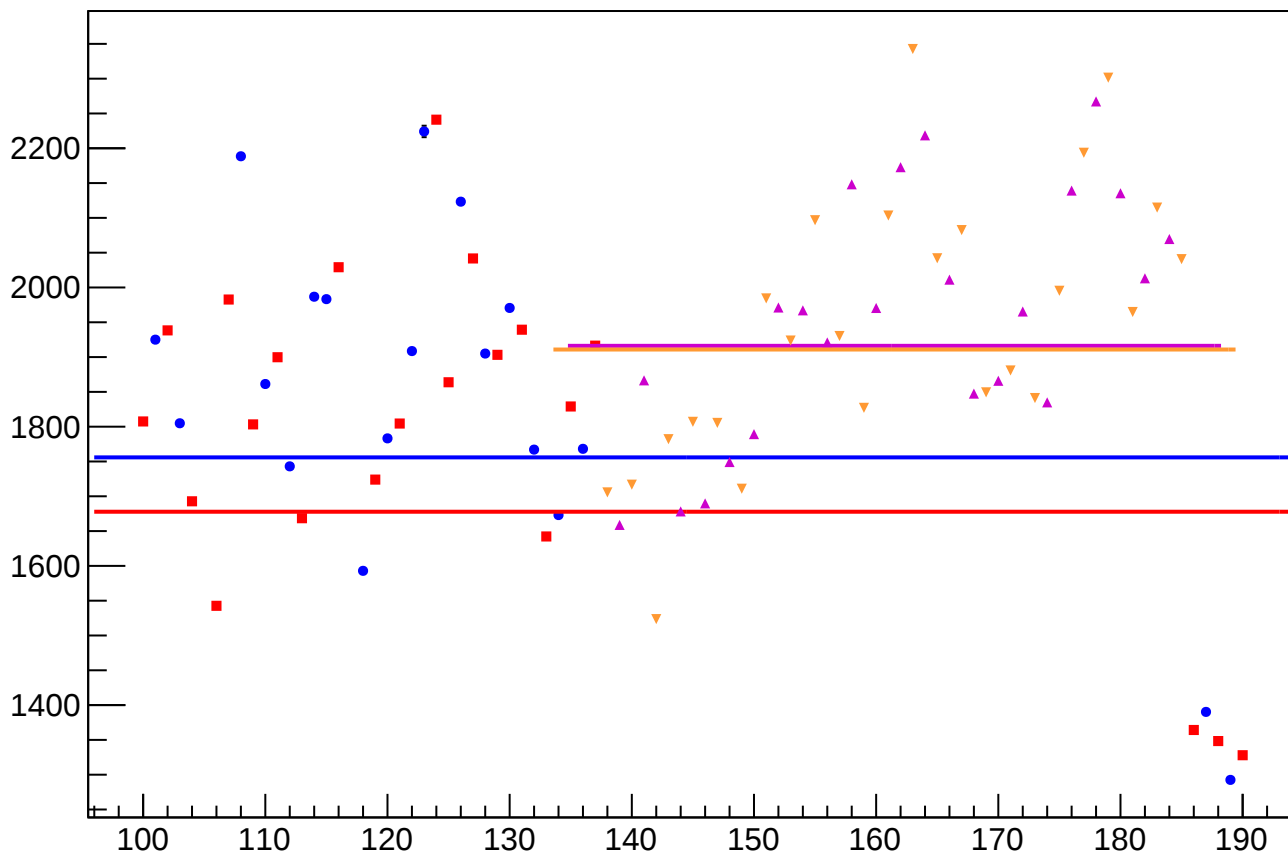
Right: 4.182 $\pm$ 0.432  $\chi^2/\text{NDF}$ : 464.3/40

In: 6.077 $\pm$ 0.378  $\chi^2/\text{NDF}$ : 619.2/41

Out: 9.727 $\pm$ 0.353  $\chi^2/\text{NDF}$ : 976.0/46

All: 8.026 $\pm$ 0.258  $\chi^2/\text{NDF}$ : 1645.1/88

# diff\_bpm0i01aY\_rms vs Slug, Sign Corrected



Right In:  $1755.899 \pm 0.463$   $\chi^2/\text{NDF}: 253731.3/18$

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

Right Out:  $1677.812 \pm 0.406$   $\chi^2/\text{NDF}: 363845.9/21$

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

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

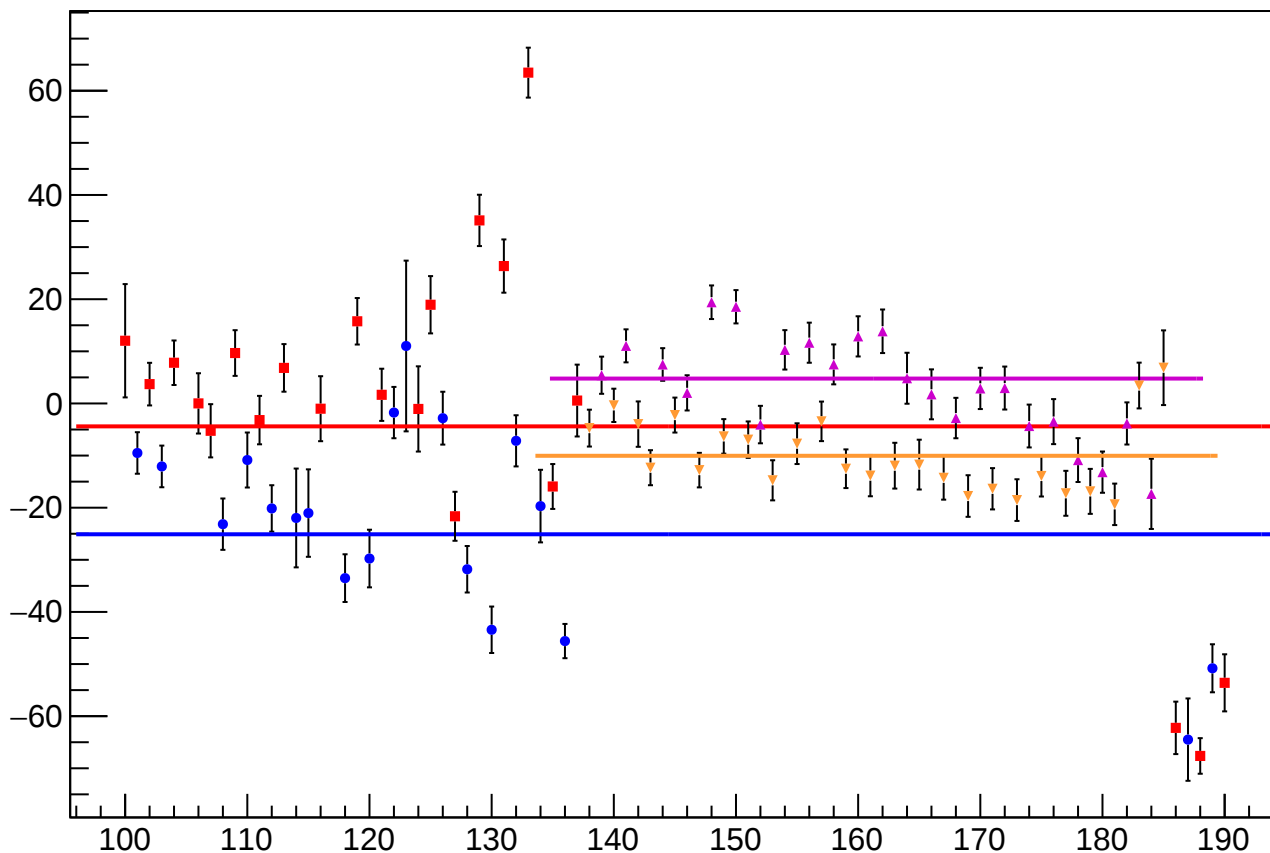
Right:  $1711.790 \pm 0.305$   $\chi^2/\text{NDF}: 633668.7/40$

In:  $1862.712 \pm 0.267$   $\chi^2/\text{NDF}: 607989.1/41$

Out:  $1822.831 \pm 0.250$   $\chi^2/\text{NDF}: 897785.7/46$

All:  $1841.413 \pm 0.182$   $\chi^2/\text{NDF}: 1517673.9/88$

# diff\_bpm0l01X\_mean vs Slug, Sign Corrected



Right In:  $-25.101 \pm 1.146$   $\chi^2/\text{NDF}$ : 213.7/18

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

Right Out:  $-4.397 \pm 1.052$   $\chi^2/\text{NDF}$ : 950.3/21

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

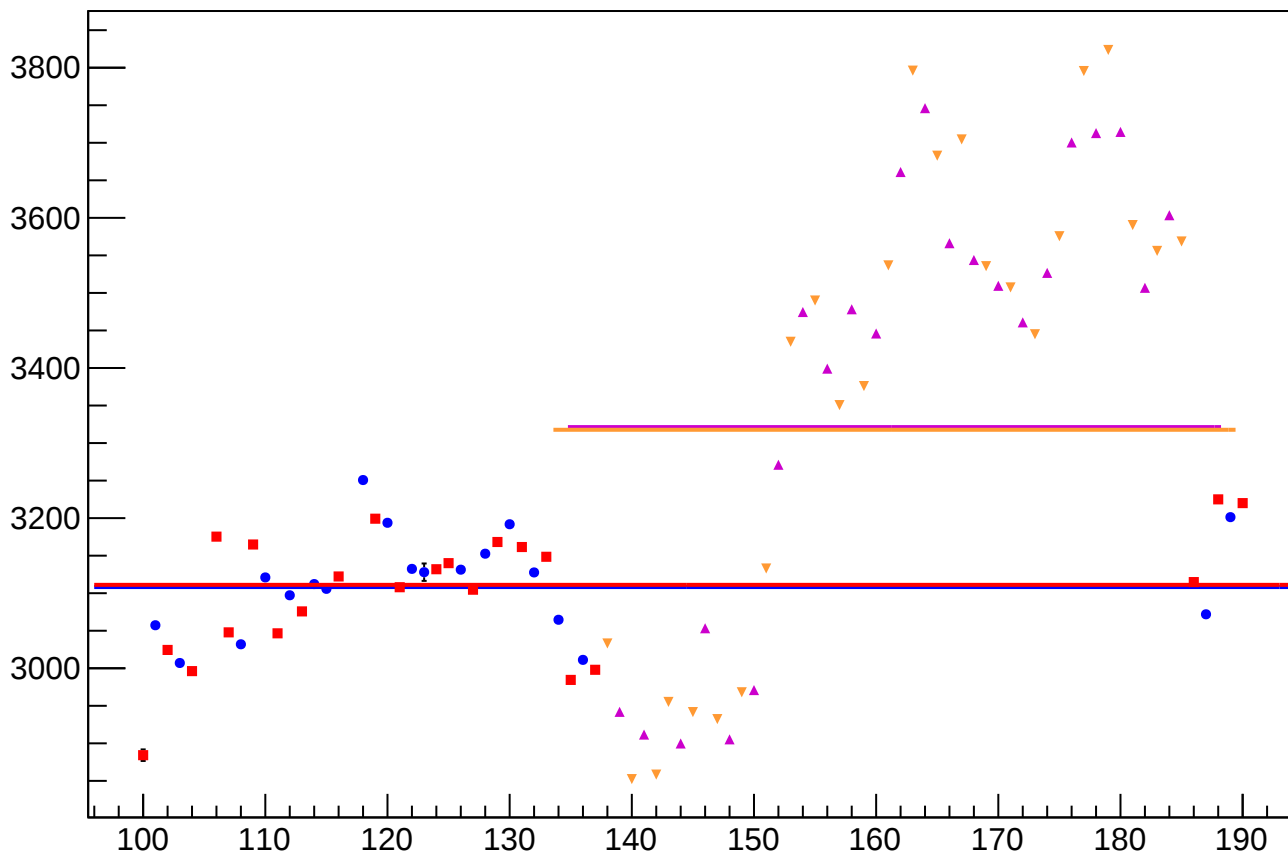
Right:  $-13.863 \pm 0.775$   $\chi^2/\text{NDF}$ : 1341.1/40

In:  $-5.021 \pm 0.656$   $\chi^2/\text{NDF}$ : 798.9/41

Out:  $-8.051 \pm 0.625$   $\chi^2/\text{NDF}$ : 1036.1/46

All:  $-6.611 \pm 0.452$   $\chi^2/\text{NDF}$ : 1846.1/88

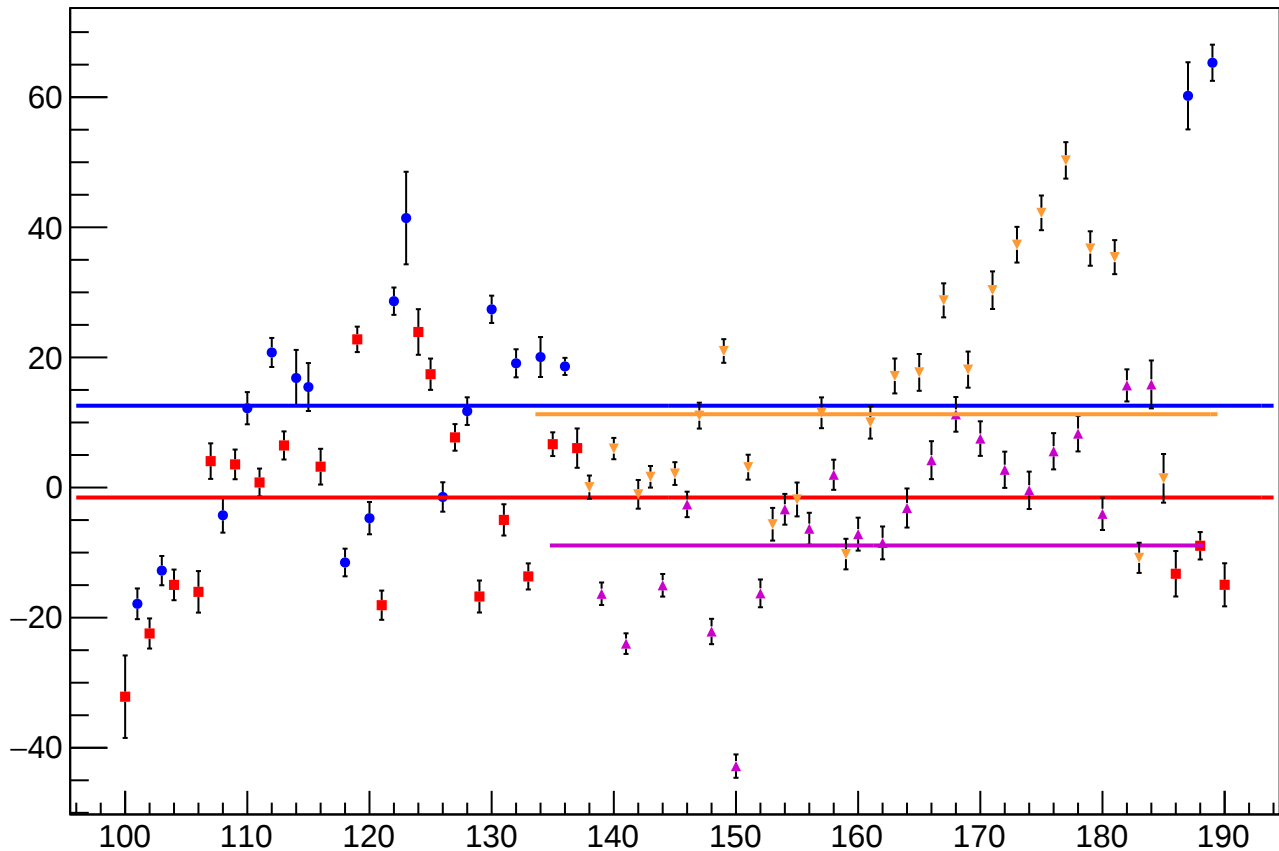
# diff\_bpm0l01X\_rms vs Slug, Sign Corrected



Right In: 3108.192 $\pm$ 0.810  $\chi^2$ /NDF: 8238.1/18  
 Left Out: 3317.699 $\pm$ 0.549  $\chi^2$ /NDF:336877.2/24  
 Right Out: 3111.134 $\pm$ 0.744  $\chi^2$ /NDF: 11311.7/21  
 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: 3109.789 $\pm$ 0.548  $\chi^2$ /NDF: 19557.0/40  
 In: 3251.412 $\pm$ 0.464  $\chi^2$ /NDF:339038.0/41  
 Out: 3244.860 $\pm$ 0.442  $\chi^2$ /NDF:398117.3/46  
 All: 3247.974 $\pm$ 0.320  $\chi^2$ /NDF: 737259.9/88

# diff\_bpm0l01Y\_mean vs Slug, Sign Corrected



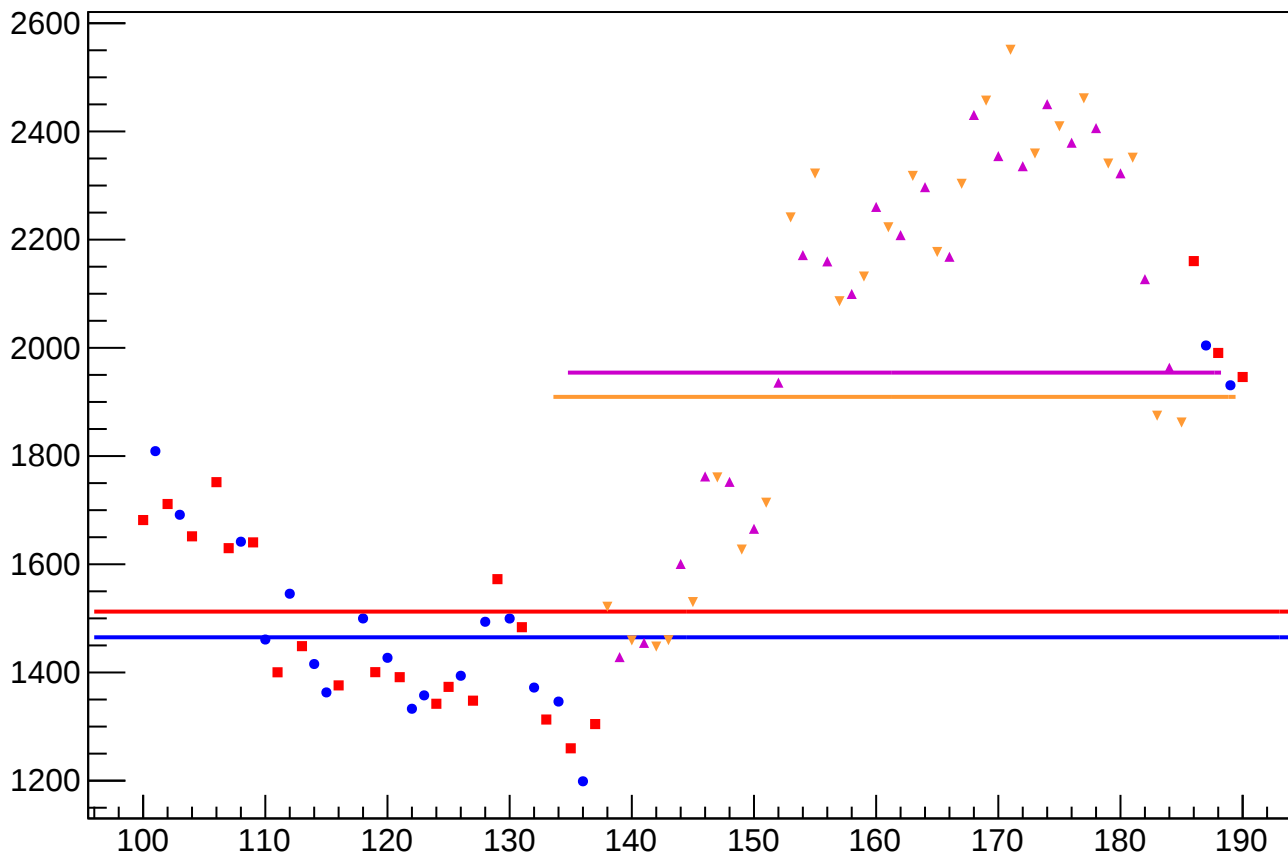
Left:  $1.682 \pm 0.329$   $\chi^2/\text{NDF}: 3014.7/47$   
 Right:  $5.143 \pm 0.376$   $\chi^2/\text{NDF}: 2193.6/40$

Right In:  $12.577 \pm 0.546$   $\chi^2/\text{NDF}: 1169.6/18$   
 Left Out:  $11.268 \pm 0.454$   $\chi^2/\text{NDF}: 1141.8/24$   
 Right Out:  $-1.533 \pm 0.518$   $\chi^2/\text{NDF}: 672.6/21$   
 Left In:  $-8.905 \pm 0.478$   $\chi^2/\text{NDF}: 936.3/22$

In:  $0.399 \pm 0.360$   $\chi^2/\text{NDF}: 2982.4/41$   
 Out:  $5.698 \pm 0.342$   $\chi^2/\text{NDF}: 2159.7/46$

All:  $3.185 \pm 0.248$   $\chi^2/\text{NDF}: 5256.3/88$

# diff\_bpm0l01Y\_rms vs Slug, Sign Corrected



Right In: 1465.023 $\pm$ 0.386  $\chi^2/\text{NDF}$ : 254926.7/18

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

Right Out: 1512.528 $\pm$ 0.366  $\chi^2/\text{NDF}$ : 368418.1/21

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

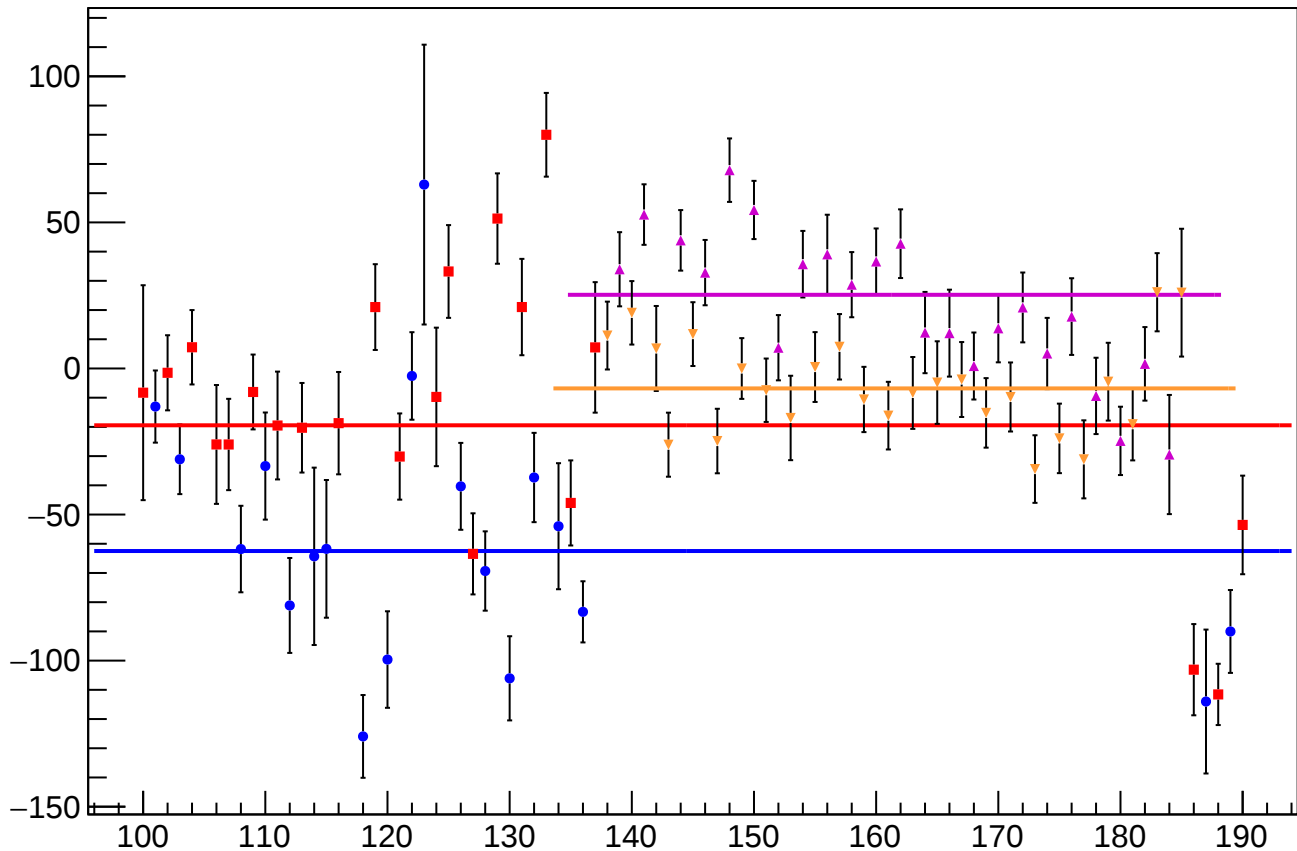
Right: 1490.050 $\pm$ 0.266  $\chi^2/\text{NDF}$ : 631312.1/40

In: 1742.350 $\pm$ 0.254  $\chi^2/\text{NDF}$ :2208924.9/41

Out: 1736.718 $\pm$ 0.241  $\chi^2/\text{NDF}$ :2430776.2/46

All: 1739.389 $\pm$ 0.175  $\chi^2/\text{NDF}$ : 4639959.1/88

# diff\_bpm0l02X\_mean vs Slug, Sign Corrected



Right In: -62.487 $\pm$ 3.574  $\chi^2/\text{NDF}$ : 101.4/18

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

Right Out: -19.450 $\pm$ 3.291  $\chi^2/\text{NDF}$ : 226.7/21

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

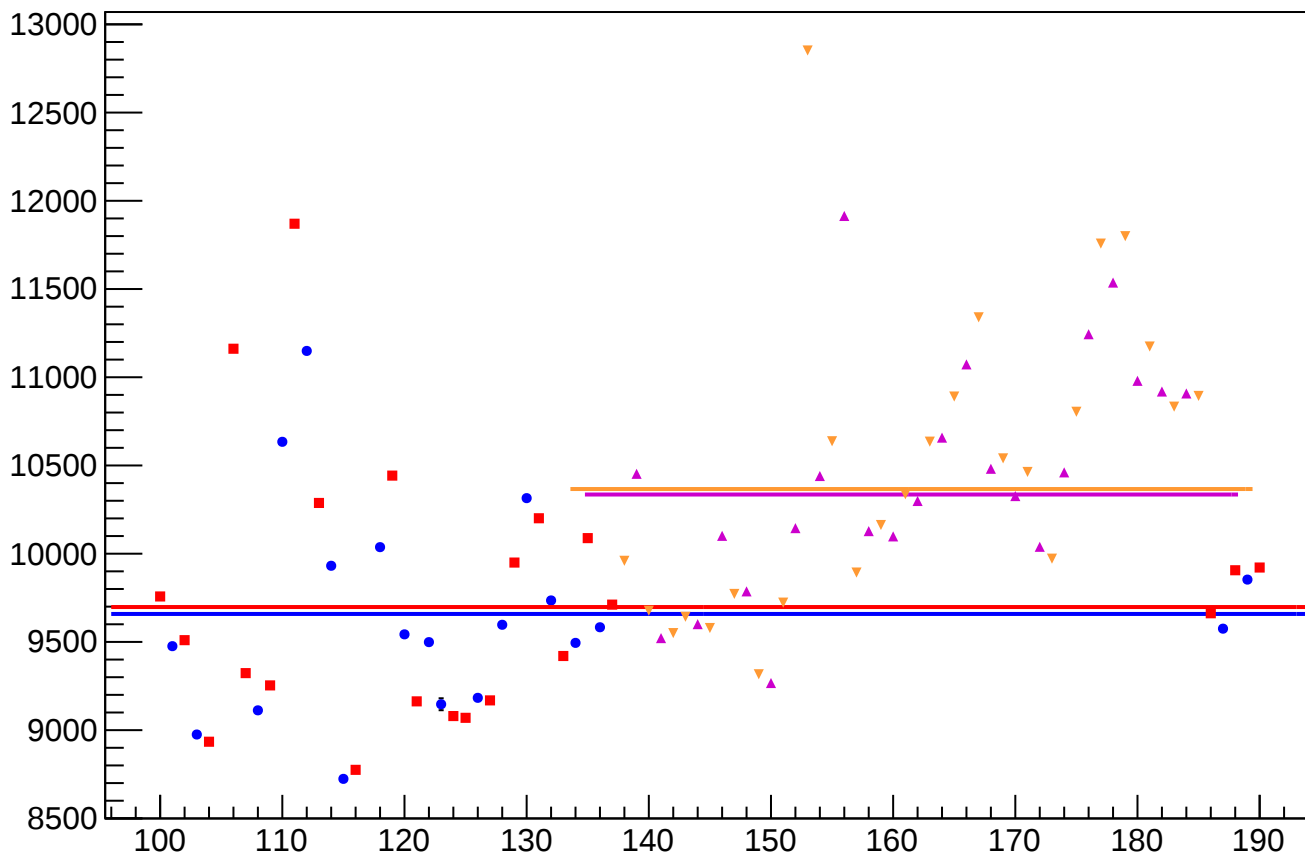
Right: -39.196 $\pm$ 2.421  $\chi^2/\text{NDF}$ : 406.5/40

In: -3.389 $\pm$ 2.041  $\chi^2/\text{NDF}$ : 596.4/41

Out: -11.262 $\pm$ 1.951  $\chi^2/\text{NDF}$ : 278.5/46

All: -7.503 $\pm$ 1.410  $\chi^2/\text{NDF}$ : 882.7/88

# diff\_bpm0l02X\_rms vs Slug, Sign Corrected



Right In: 9658.508 $\pm$ 2.527  $\chi^2$ /NDF: 44416.2/18

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

Right Out: 9697.722 $\pm$ 2.327  $\chi^2$ /NDF: 78648.8/21

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

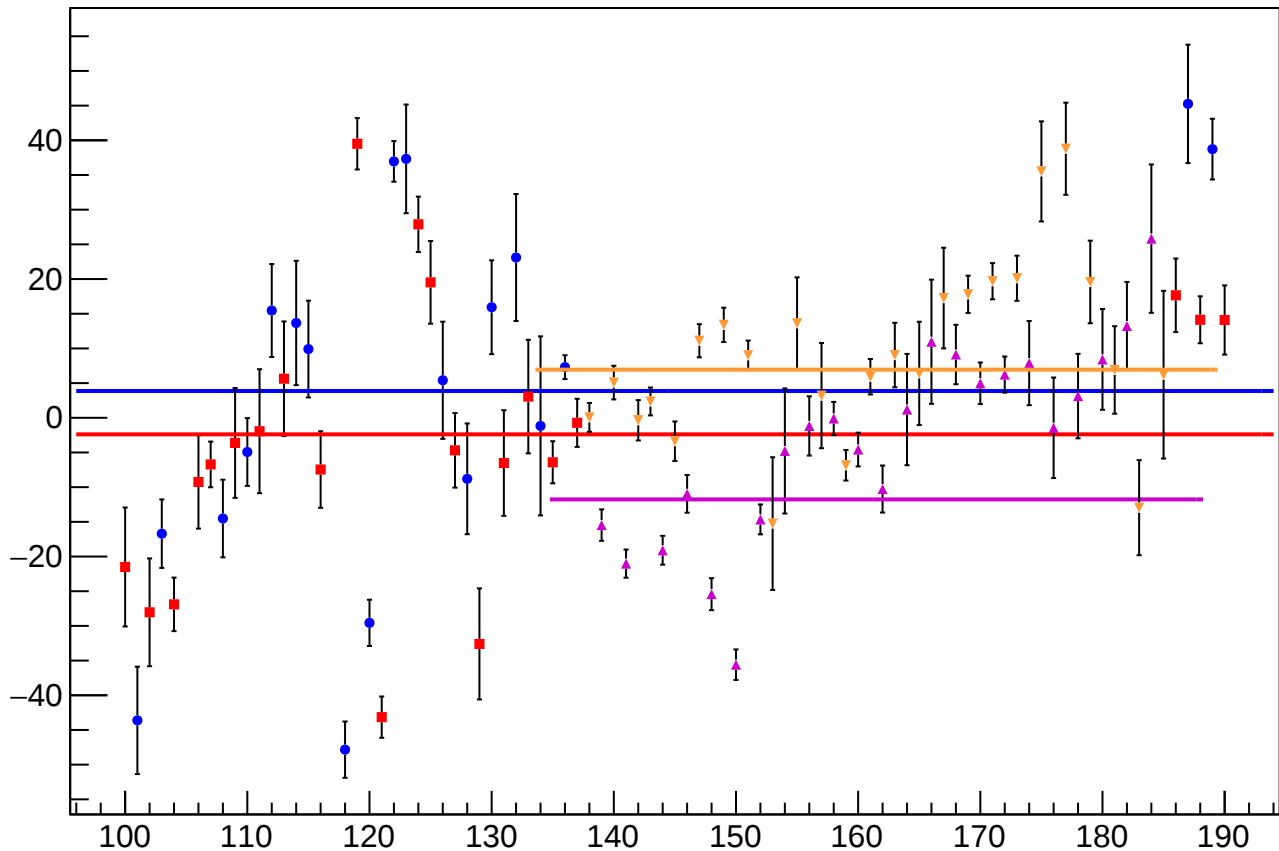
Right: 9679.730 $\pm$ 1.712  $\chi^2$ /NDF: 123195.2/40

In: 10114.628 $\pm$ 1.443  $\chi^2$ /NDF: 219926.1/41

Out: 10131.494 $\pm$ 1.380  $\chi^2$ /NDF: 343623.4/46

All: 10123.442 $\pm$ 0.997  $\chi^2$ /NDF: 563620.8/88

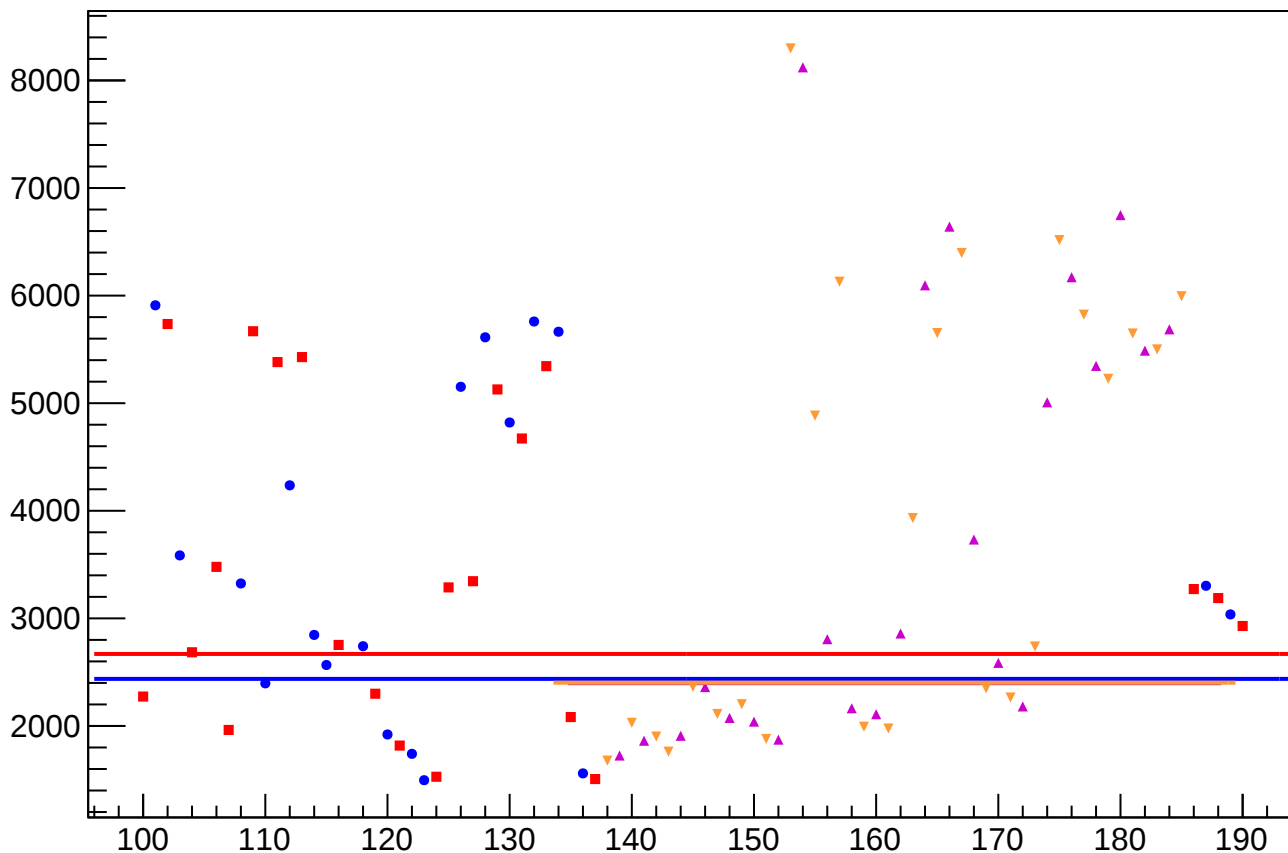
# diff\_bpm0l02Y\_mean vs Slug, Sign Corrected



Right In: 3.864 $\pm$ 1.029  $\chi^2/\text{NDF}$ : 584.0/18  
 Left Out: 6.939 $\pm$ 0.639  $\chi^2/\text{NDF}$ :203.8/24  
 Right Out: -2.386 $\pm$ 0.999  $\chi^2/\text{NDF}$ : 513.5/21  
 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: 0.646 $\pm$ 0.717  $\chi^2/\text{NDF}$ : 1116.5/40  
 In: -7.326 $\pm$ 0.549  $\chi^2/\text{NDF}$ :1144.2/41  
 Out: 4.233 $\pm$ 0.538  $\chi^2/\text{NDF}$ :779.2/46  
 All: -1.436 $\pm$ 0.384  $\chi^2/\text{NDF}$ : 2149.6/88

# diff\_bpm0l02Y\_rms vs Slug, Sign Corrected



Right In: 2437.634+/-0.728  $\chi^2/\text{NDF}$ : 2650912.7/18

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

Right Out: 2669.454+/-0.706  $\chi^2/\text{NDF}$ : 2451404.2/21

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

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

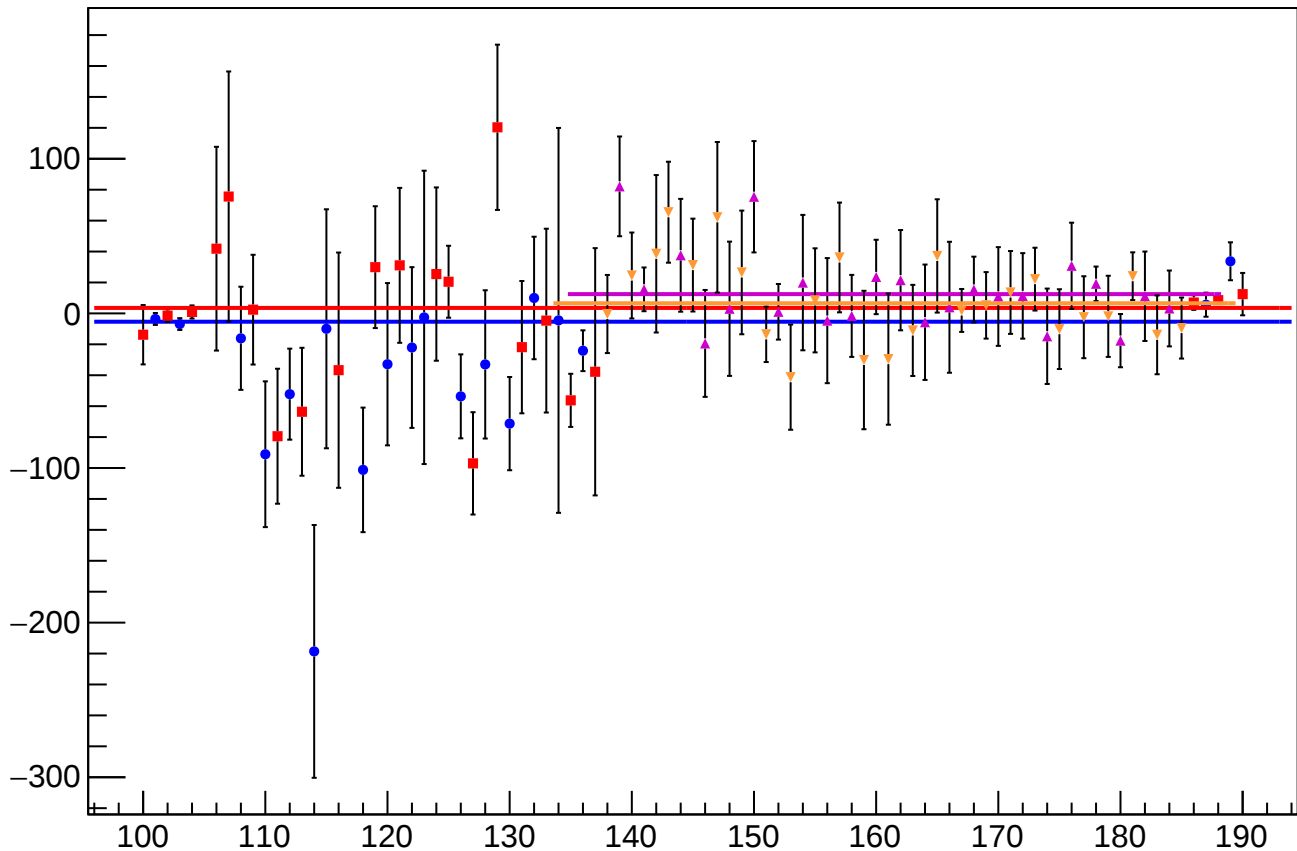
Right: 2556.994+/-0.507  $\chi^2/\text{NDF}$ : 5154553.4/40

In: 2409.045+/-0.388  $\chi^2/\text{NDF}$ : 8051988.0/41

Out: 2479.857+/-0.381  $\chi^2/\text{NDF}$ : 8898853.5/46

All: 2445.130+/-0.272  $\chi^2/\text{NDF}$ : 16967823.0/86

# diff\_bpm0l03X\_mean vs Slug, Sign Corrected



Right In: -5.381 $\pm$ 2.408  $\chi^2/\text{NDF}$ : 41.8/18

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

Right Out: 3.539 $\pm$ 1.856  $\chi^2/\text{NDF}$ : 42.3/21

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

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

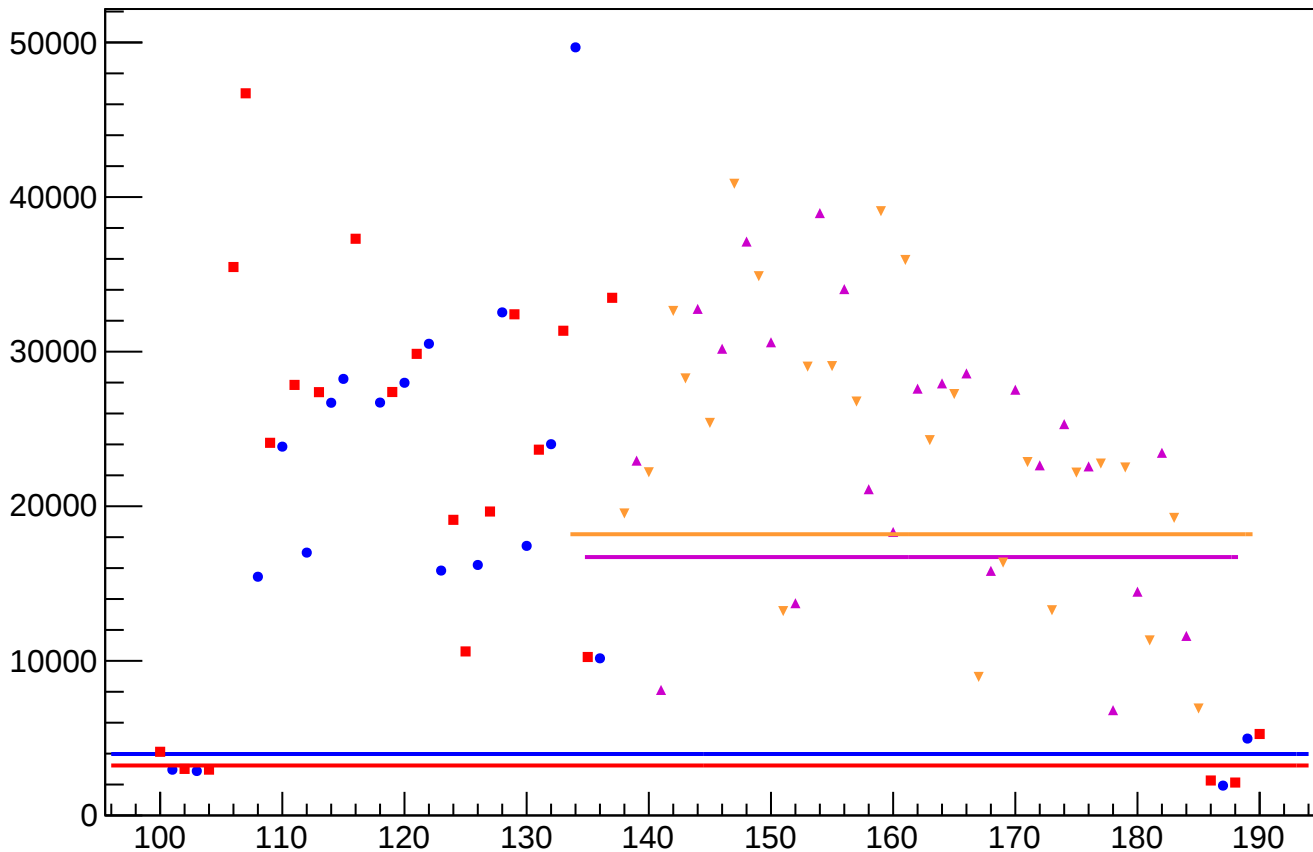
Right: 0.215 $\pm$ 1.470  $\chi^2/\text{NDF}$ : 92.7/40

In: -2.047 $\pm$ 2.172  $\chi^2/\text{NDF}$ :67.4/41

Out: 3.895 $\pm$ 1.743  $\chi^2/\text{NDF}$ :59.4/46

All: 1.567 $\pm$ 1.359  $\chi^2/\text{NDF}$ : 131.4/88

# diff\_bpm0l03X\_rms vs Slug, Sign Corrected



Right In: 3974.971 $\pm$ 1.703  $\chi^2/\text{NDF}$ : 6135327.5/18

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

Right Out: 3232.162 $\pm$ 1.312  $\chi^2/\text{NDF}$ : 8176845.0/21

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

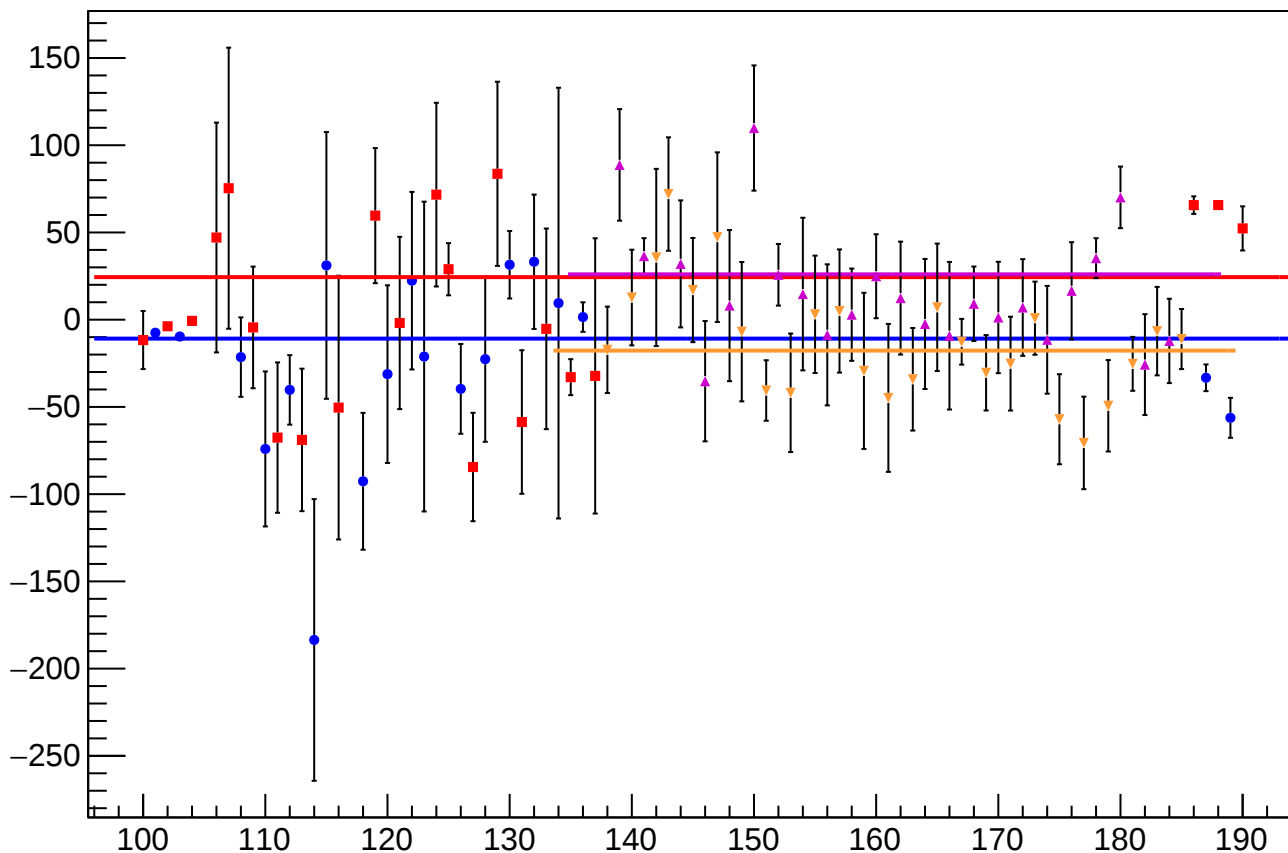
Right: 3508.955 $\pm$ 1.040  $\chi^2/\text{NDF}$ : 14431537.9/40

In: 6354.249 $\pm$ 1.536  $\chi^2/\text{NDF}$ : 22780776.6/41

Out: 4995.385 $\pm$ 1.233  $\chi^2/\text{NDF}$ : 28750166.1/46

All: 5527.829 $\pm$ 0.961  $\chi^2/\text{NDF}$ : 52007116.6/8

# diff\_bpm0l03Y\_mean vs Slug, Sign Corrected



Right In: -10.845 $\pm$ 1.712  $\chi^2/\text{NDF}$ : 50.0/18

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

Right Out: 24.398 $\pm$ 1.484  $\chi^2/\text{NDF}$ : 550.4/21

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

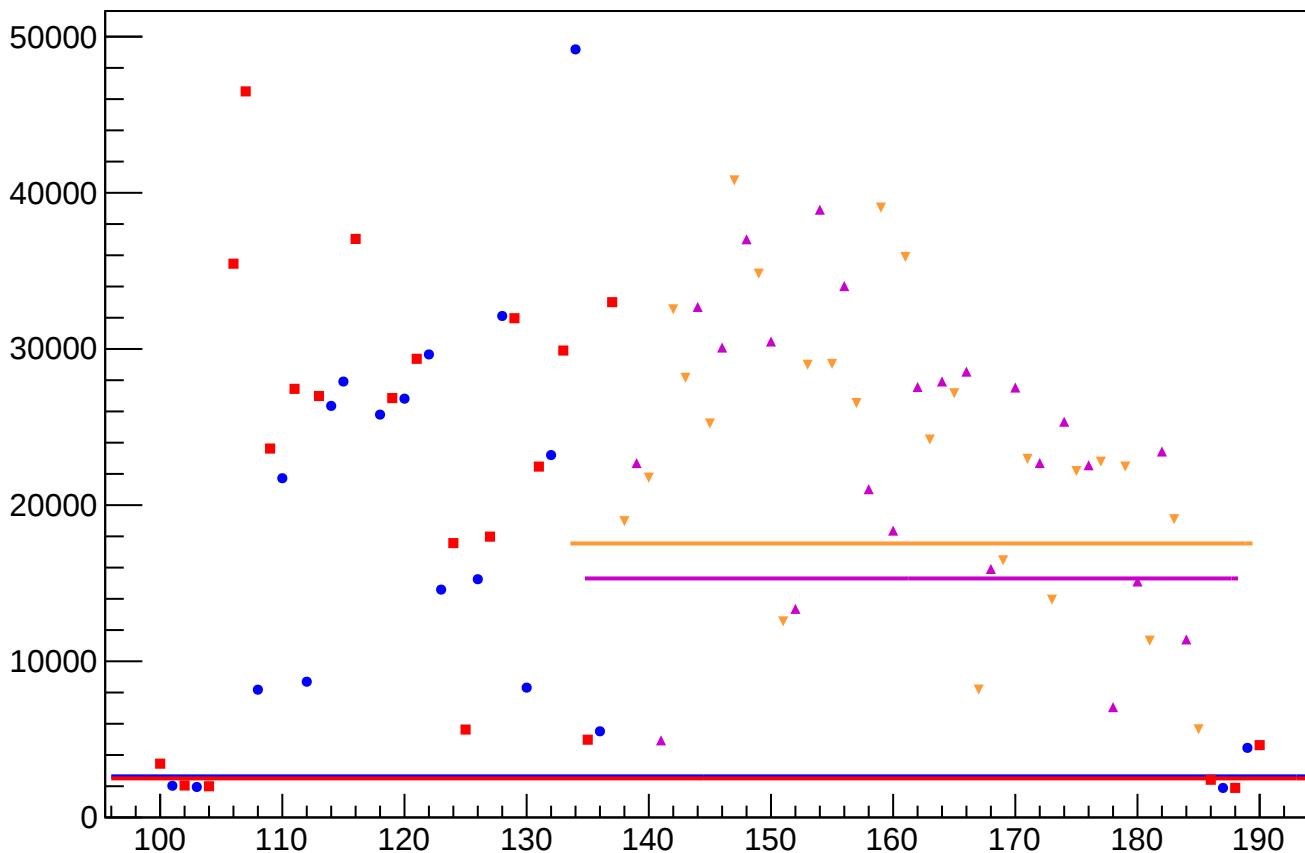
Right: 9.277 $\pm$ 1.122  $\chi^2/\text{NDF}$ : 842.3/40

In: -6.669 $\pm$ 1.612  $\chi^2/\text{NDF}$ :135.1/41

Out: 20.954 $\pm$ 1.422  $\chi^2/\text{NDF}$ :643.4/46

All: 8.864 $\pm$ 1.067  $\chi^2/\text{NDF}$ : 943.5/88

# diff\_bpm0l03Y\_rms vs Slug, Sign Corrected



Right In:  $2631.158 \pm 1.211$   $\chi^2/\text{NDF}: 5639498.5/18$

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

Right Out:  $2499.912 \pm 1.050$   $\chi^2/\text{NDF}: 8010677.7/21$

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

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

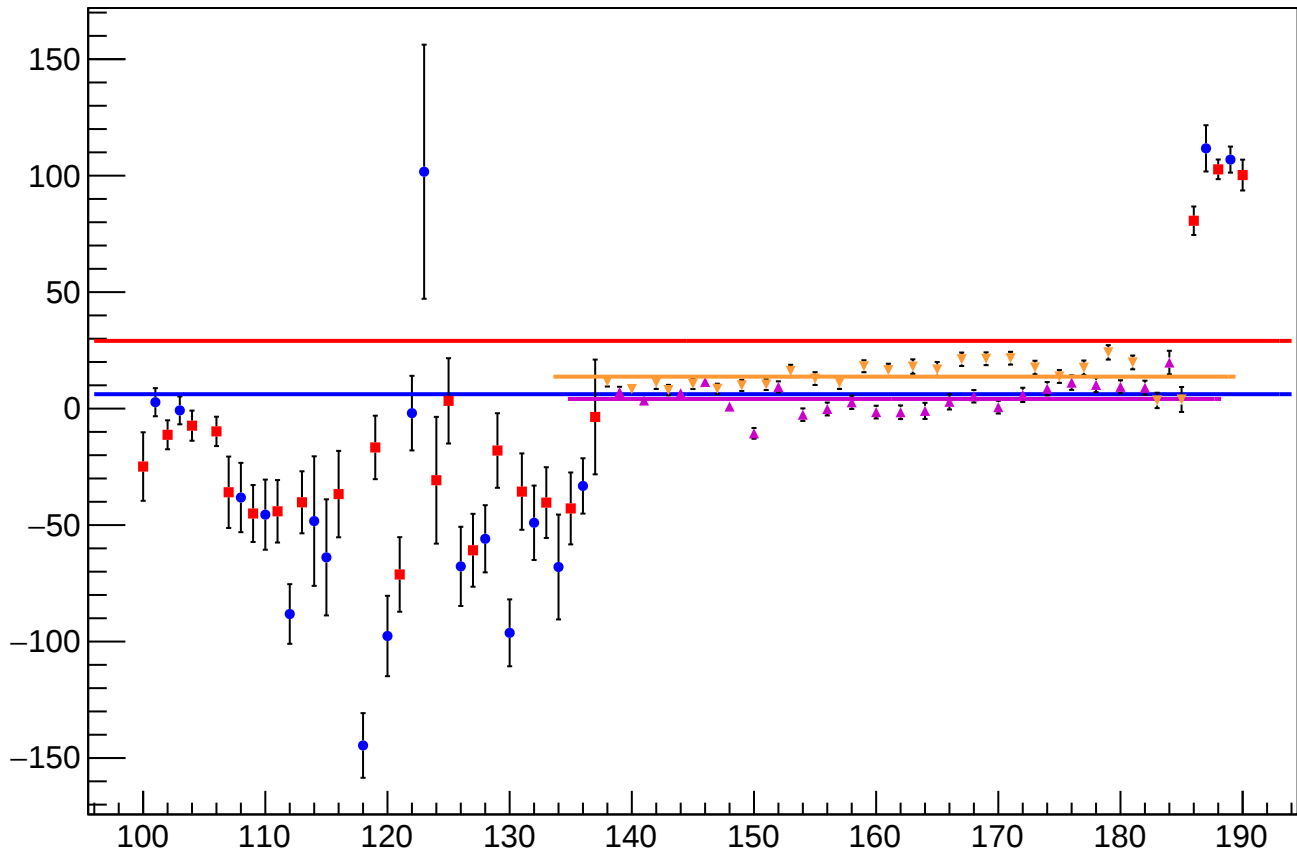
Right:  $2556.225 \pm 0.793$   $\chi^2/\text{NDF}: 13656884.4/40$

In:  $4067.915 \pm 1.140$   $\chi^2/\text{NDF}: 25781388.9/41$

Out:  $3730.325 \pm 1.006$   $\chi^2/\text{NDF}: 30716217.4/46$

All:  $3878.075 \pm 0.754$   $\chi^2/\text{NDF}: 56546909.4/86$

# diff\_bpm0l04X\_mean vs Slug, Sign Corrected



Right In: 6.185 $\pm$ 2.544     $\chi^2/\text{NDF}$ : 806.4/18

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

Right Out: 29.071 $\pm$ -2.017     $\chi^2/\text{NDF}$ : 899.9/21

Left In: 4.141 $\pm$ -0.555     $\chi^2/\text{NDF}$ :111.7/22

Left: 9.097 $\pm$ -0.385     $\chi^2/\text{NDF}$ : 355.6/47

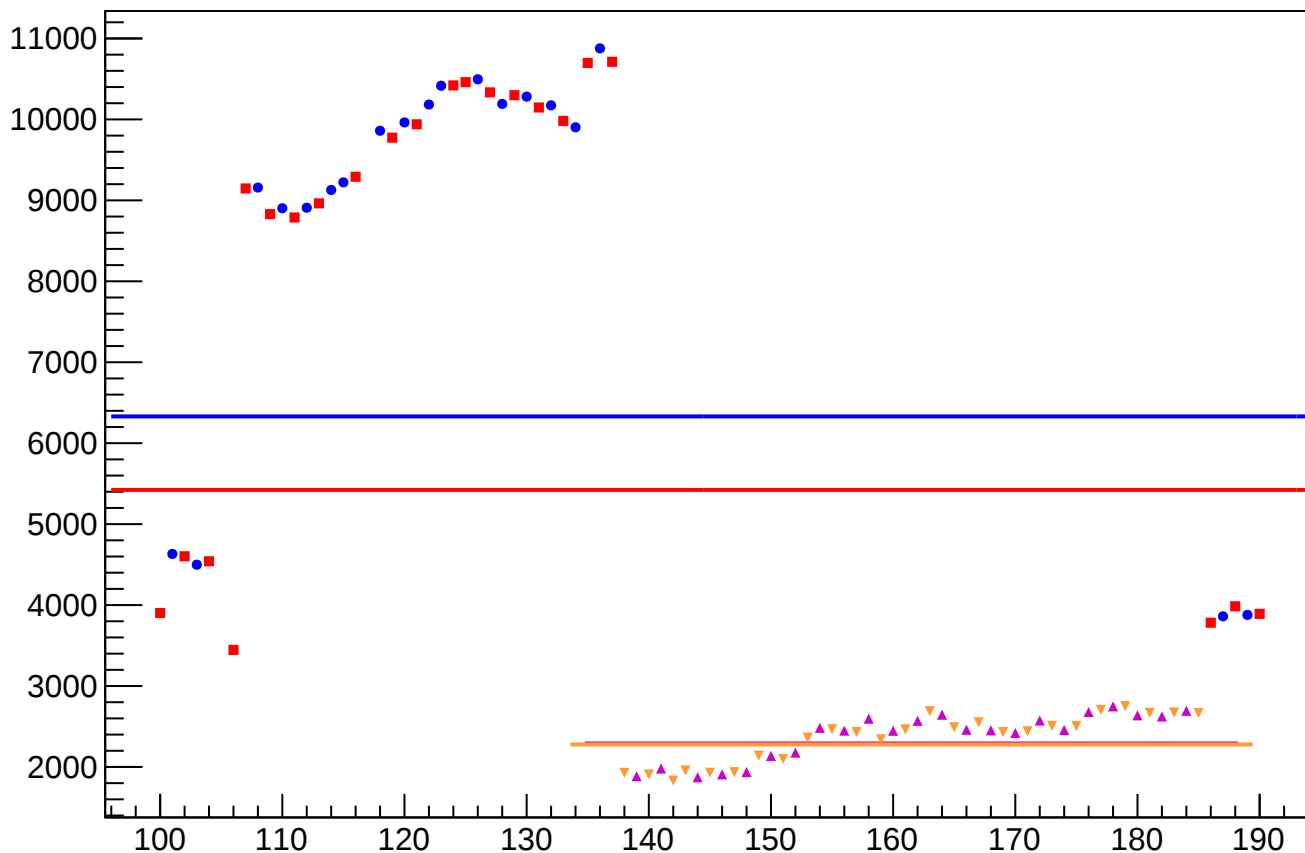
Right: 20.242 $\pm$ -1.580     $\chi^2/\text{NDF}$ : 1755.9/40

In: 4.233 $\pm$ -0.542     $\chi^2/\text{NDF}$ :918.7/41

Out: 14.721 $\pm$ -0.517     $\chi^2/\text{NDF}$ :1044.0/46

All: 9.722 $\pm$ -0.374     $\chi^2/\text{NDF}$ : 2158.5/88

# diff\_bpm0l04X\_rms vs Slug, Sign Corrected



Right In: 6330.761+/-1.799  $\chi^2/\text{NDF}$ : 2334082.2/18

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

Right Out: 5422.670+/-1.426  $\chi^2/\text{NDF}$ : 3038538.0/21

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

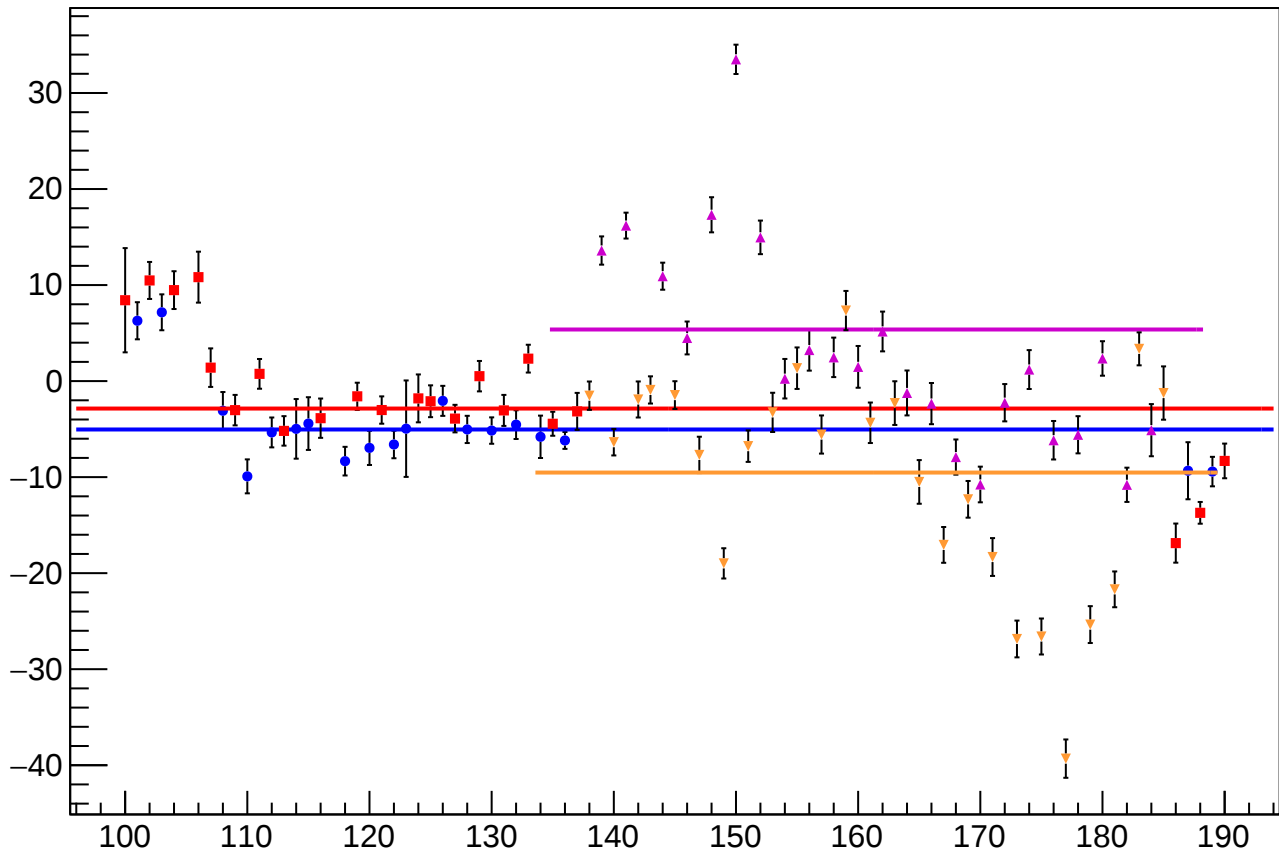
Right: 5773.020+/-1.117  $\chi^2/\text{NDF}$ : 5529098.1/40

In: 2473.851+/-0.383  $\chi^2/\text{NDF}$ : 7738778.3/41

Out: 2485.080+/-0.366  $\chi^2/\text{NDF}$ : 8188957.4/46

All: 2479.727+/-0.265  $\chi^2/\text{NDF}$ : 15928184.9/86

# diff\_bpm0l04Y\_mean vs Slug, Sign Corrected



Right In:  $-5.039 \pm 0.378$   $\chi^2/\text{NDF}: 108.7/18$

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

Right Out:  $-2.859 \pm 0.355$   $\chi^2/\text{NDF}: 299.8/21$

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

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

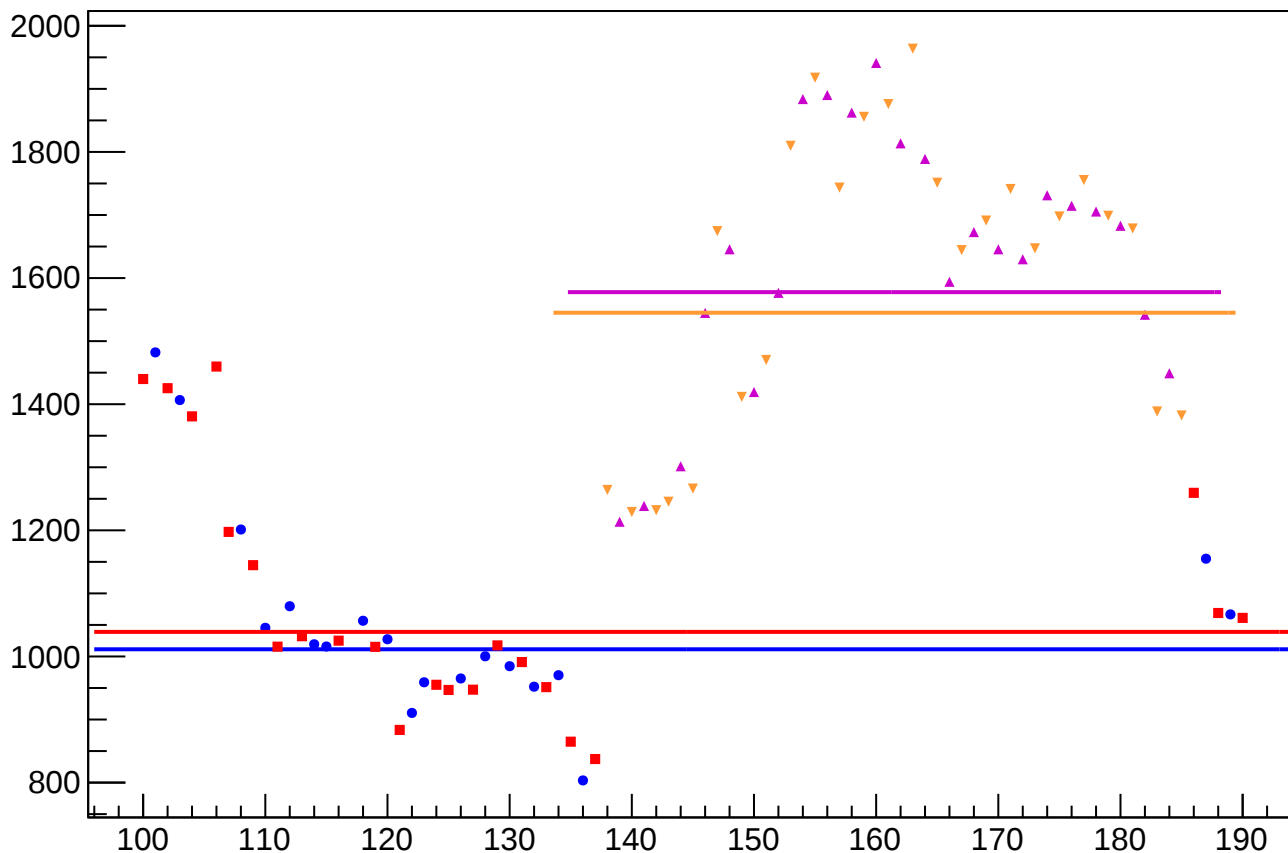
Right:  $-3.882 \pm 0.259$   $\chi^2/\text{NDF}: 426.2/40$

In:  $0.099 \pm 0.269$   $\chi^2/\text{NDF}: 1353.0/41$

Out:  $-6.103 \pm 0.254$   $\chi^2/\text{NDF}: 1355.3/46$

All:  $-3.174 \pm 0.185$   $\chi^2/\text{NDF}: 2988.8/88$

# diff\_bpm0l04Y\_rms vs Slug, Sign Corrected



Right In: 1011.381 $\pm$ 0.267  $\chi^2/\text{NDF}$ : 369690.6/18

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

Right Out: 1038.966 $\pm$ 0.251  $\chi^2/\text{NDF}$ : 360214.4/21

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

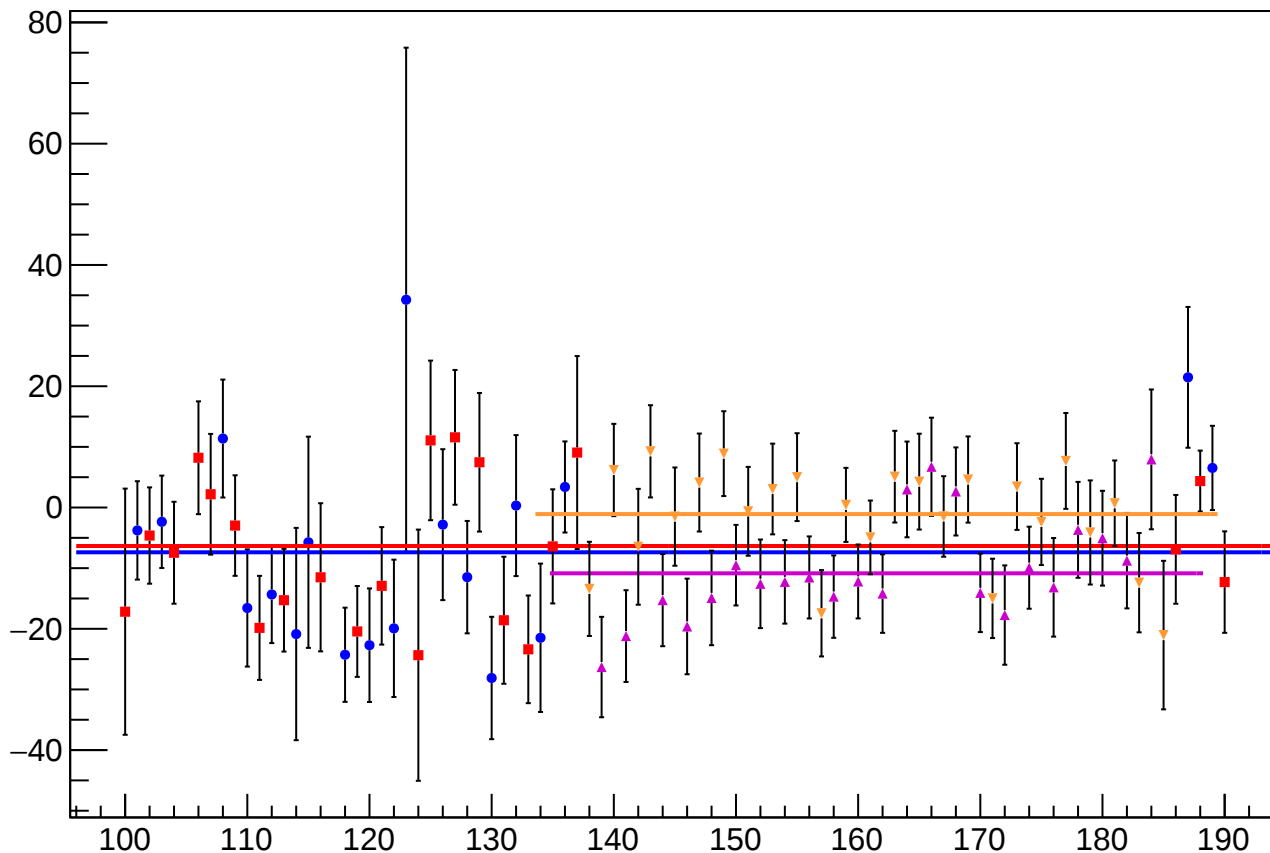
Right: 1026.031 $\pm$ 0.183  $\chi^2/\text{NDF}$ : 735563.2/40

In: 1290.842 $\pm$ 0.190  $\chi^2/\text{NDF}$ : 3210990.2/41

Out: 1285.232 $\pm$ 0.180  $\chi^2/\text{NDF}$ : 3179353.7/46

All: 1287.882 $\pm$ 0.131  $\chi^2/\text{NDF}$ : 6390802.9/88

# diff\_bpm0l05X\_mean vs Slug, Sign Corrected



Right In: -7.384 $\pm$ 2.236  $\chi^2/\text{NDF}$ : 34.8/18

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

Right Out: -6.348 $\pm$ 1.966  $\chi^2/\text{NDF}$ : 29.1/21

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

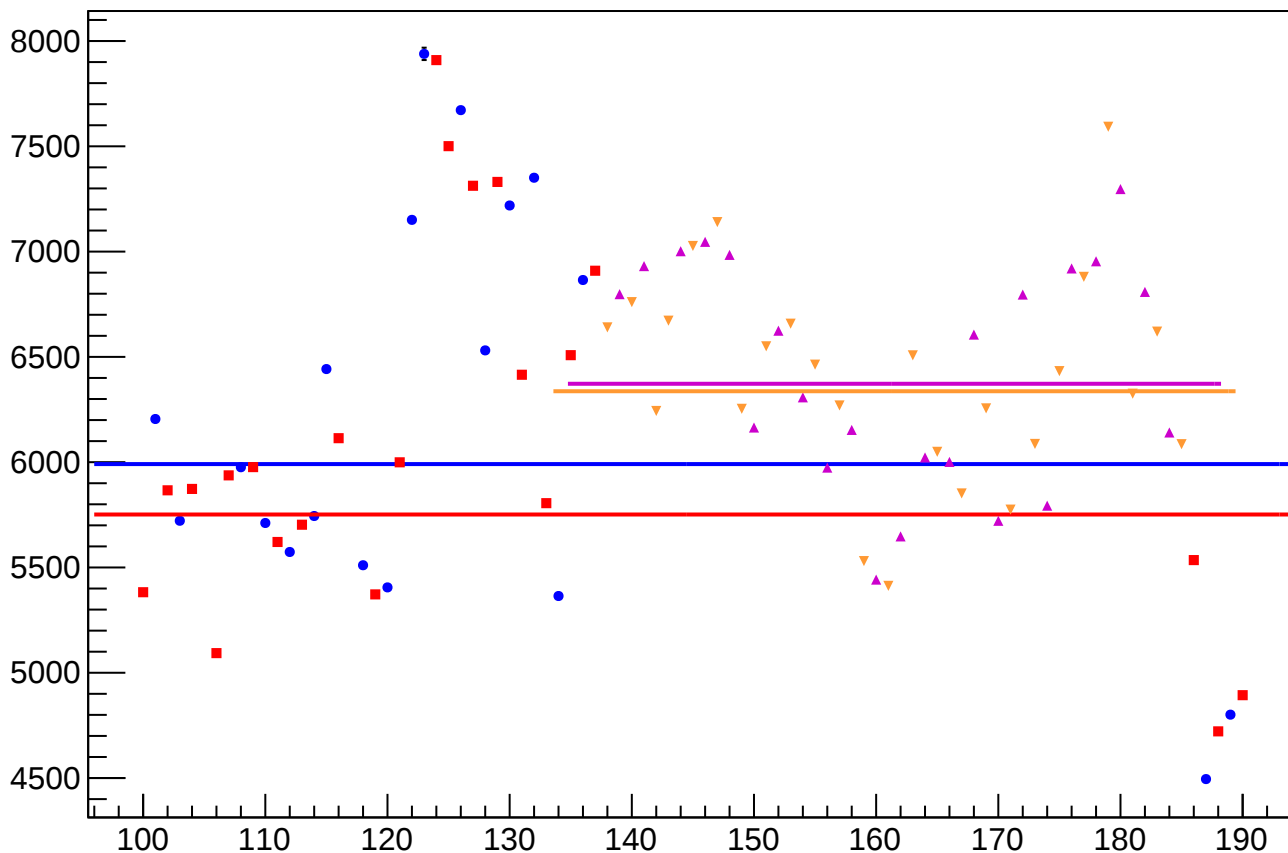
Right: -6.800 $\pm$ 1.477  $\chi^2/\text{NDF}$ : 64.0/40

In: -9.734 $\pm$ 1.269  $\chi^2/\text{NDF}$ : 60.8/41

Out: -2.999 $\pm$ 1.186  $\chi^2/\text{NDF}$ : 61.1/46

All: -6.139 $\pm$ 0.867  $\chi^2/\text{NDF}$ : 137.0/88

# diff\_bpm0l05X\_rms vs Slug, Sign Corrected



Right In:  $5990.955 \pm 1.581$   $\chi^2/\text{NDF}: 278024.9/18$

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

Right Out:  $5751.524 \pm 1.390$   $\chi^2/\text{NDF}: 295027.4/21$

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

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

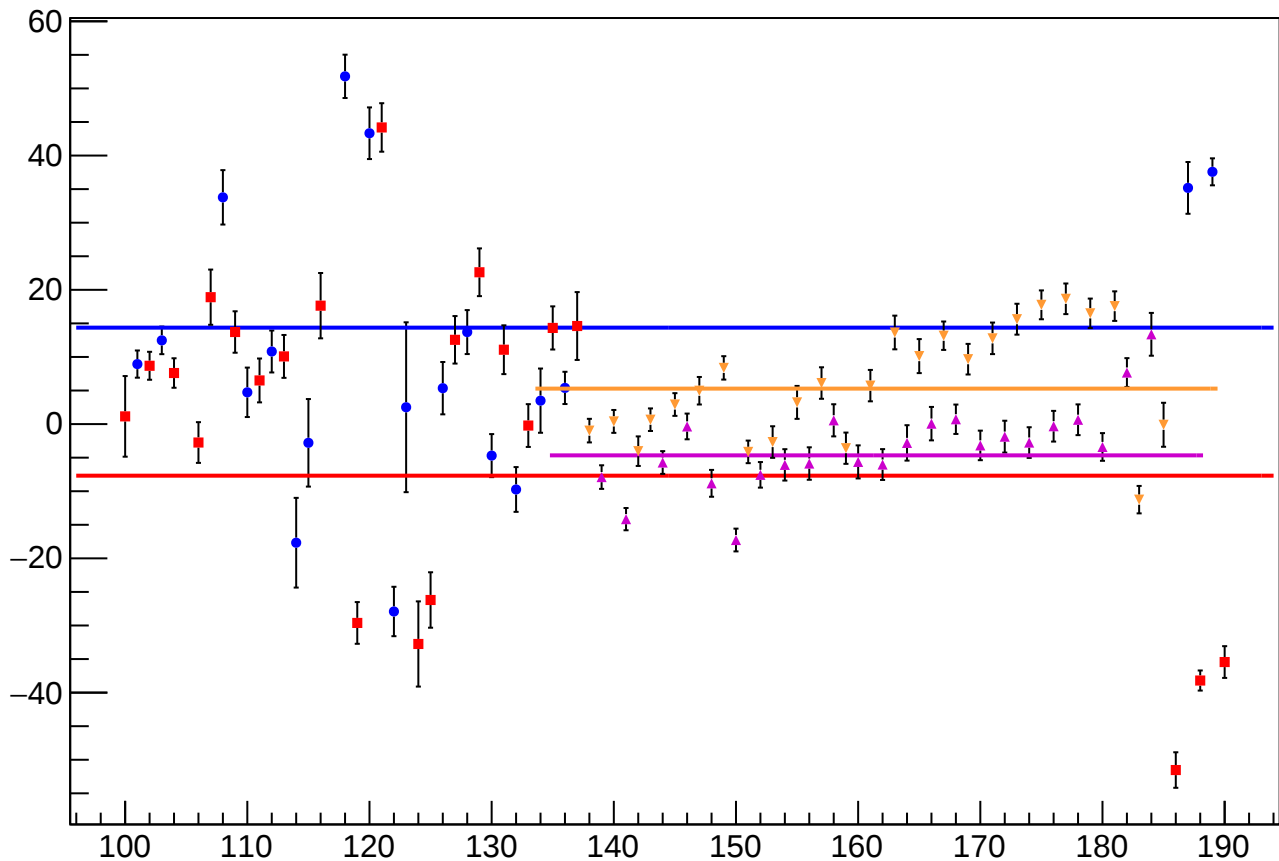
Right:  $5855.957 \pm 1.044$   $\chi^2/\text{NDF}: 585984.7/40$

In:  $6249.448 \pm 0.897$   $\chi^2/\text{NDF}: 564727.2/41$

Out:  $6123.901 \pm 0.839$   $\chi^2/\text{NDF}: 630676.3/46$

All:  $6182.434 \pm 0.613$   $\chi^2/\text{NDF}: 1205849.9/88$

# diff\_bpm0l05Y\_mean vs Slug, Sign Corrected



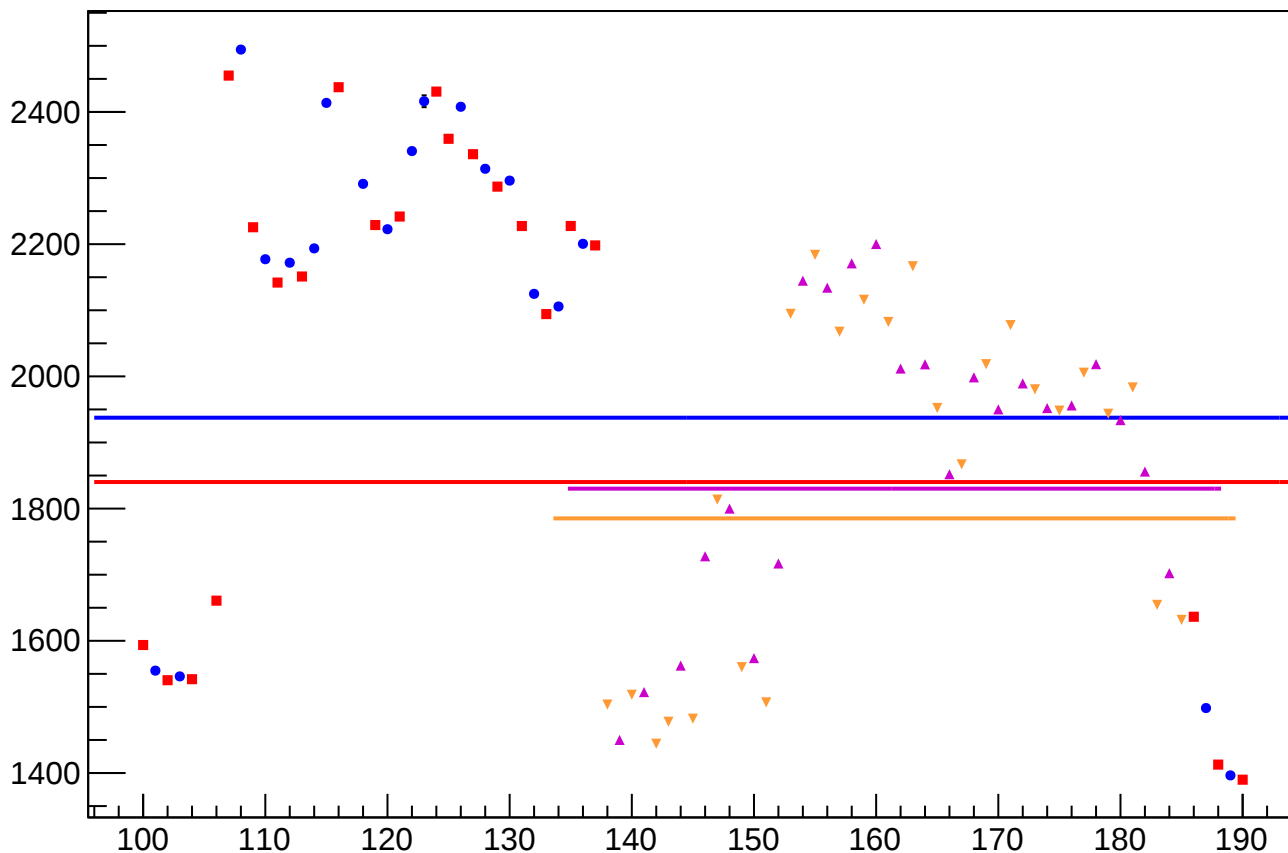
Left: 0.574  $\pm$  0.305  $\chi^2/\text{NDF}$ : 827.2/47  
 Right: 1.853  $\pm$  0.479  $\chi^2/\text{NDF}$ : 2793.5/40

Right In: 14.367  $\pm$  0.728  $\chi^2/\text{NDF}$ : 667.5/18  
 Left Out: 5.284  $\pm$  0.421  $\chi^2/\text{NDF}$ : 366.1/24  
 Right Out: -7.684  $\pm$  0.636  $\chi^2/\text{NDF}$ : 1605.8/21  
 Left In: -4.657  $\pm$  0.443  $\chi^2/\text{NDF}$ : 196.5/22

In: 0.486  $\pm$  0.379  $\chi^2/\text{NDF}$ : 1361.9/41  
 Out: 1.336  $\pm$  0.351  $\chi^2/\text{NDF}$ : 2261.1/46

All: 0.943  $\pm$  0.257  $\chi^2/\text{NDF}$ : 3625.7/88

# diff\_bpm0l05Y\_rms vs Slug, Sign Corrected



Right In: 1937.495 $\pm$ 0.515  $\chi^2$ /NDF: 561033.5/18

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

Right Out: 1840.175 $\pm$ 0.450  $\chi^2$ /NDF: 728630.0/21

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

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

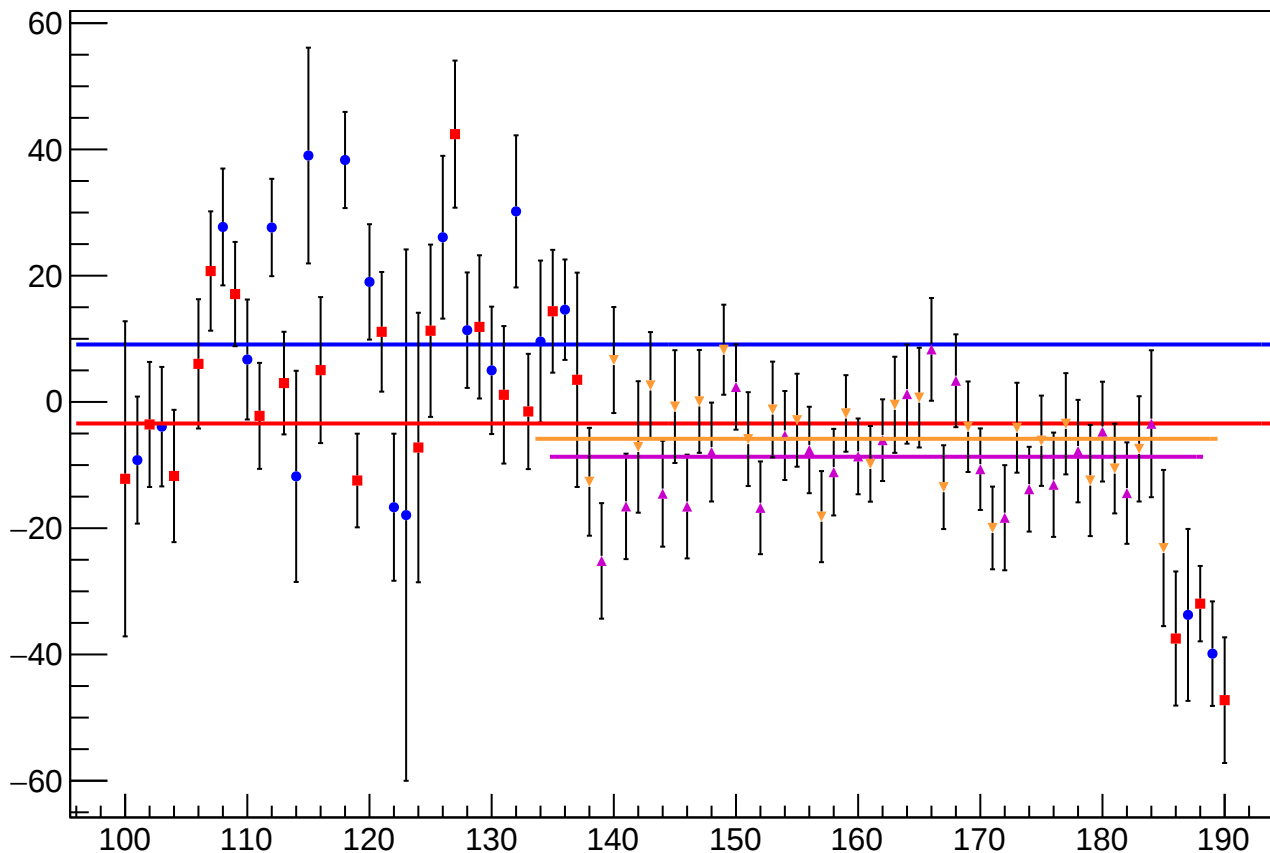
Right: 1882.267 $\pm$ 0.339  $\chi^2$ /NDF: 1309927.3/40

In: 1859.177 $\pm$ 0.268  $\chi^2$ /NDF: 1101118.5/41

Out: 1801.923 $\pm$ 0.248  $\chi^2$ /NDF: 1489664.6/46

All: 1828.368 $\pm$ 0.182  $\chi^2$ /NDF: 2615383.2/88

# diff\_bpm0l06X\_mean vs Slug, Sign Corrected



Right In:  $9.102 \pm 2.348$   $\chi^2/\text{NDF}: 91.3/18$

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

Right Out:  $-3.413 \pm 2.101$   $\chi^2/\text{NDF}: 94.0/21$

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

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

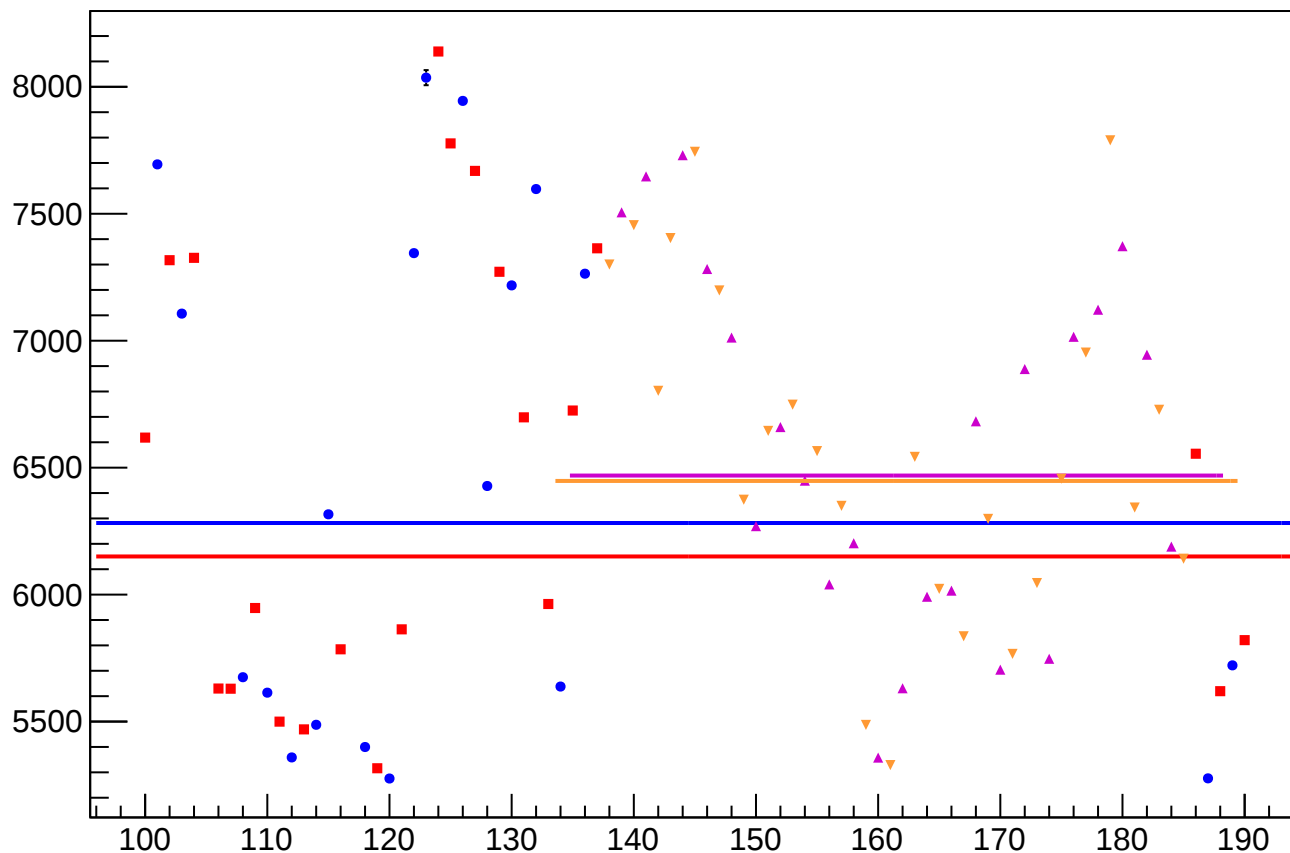
Right:  $2.150 \pm 1.566$   $\chi^2/\text{NDF}: 201.1/40$

In:  $-3.187 \pm 1.306$   $\chi^2/\text{NDF}: 152.8/41$

Out:  $-5.007 \pm 1.231$   $\chi^2/\text{NDF}: 118.2/46$

All:  $-4.151 \pm 0.895$   $\chi^2/\text{NDF}: 272.1/88$

# diff\_bpm0l06X\_rms vs Slug, Sign Corrected



Right In: 6282.038 $\pm$ 1.661  $\chi^2/\text{NDF}$ : 307937.7/18

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

Right Out: 6150.256 $\pm$ 1.486  $\chi^2/\text{NDF}$ : 264569.8/21

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

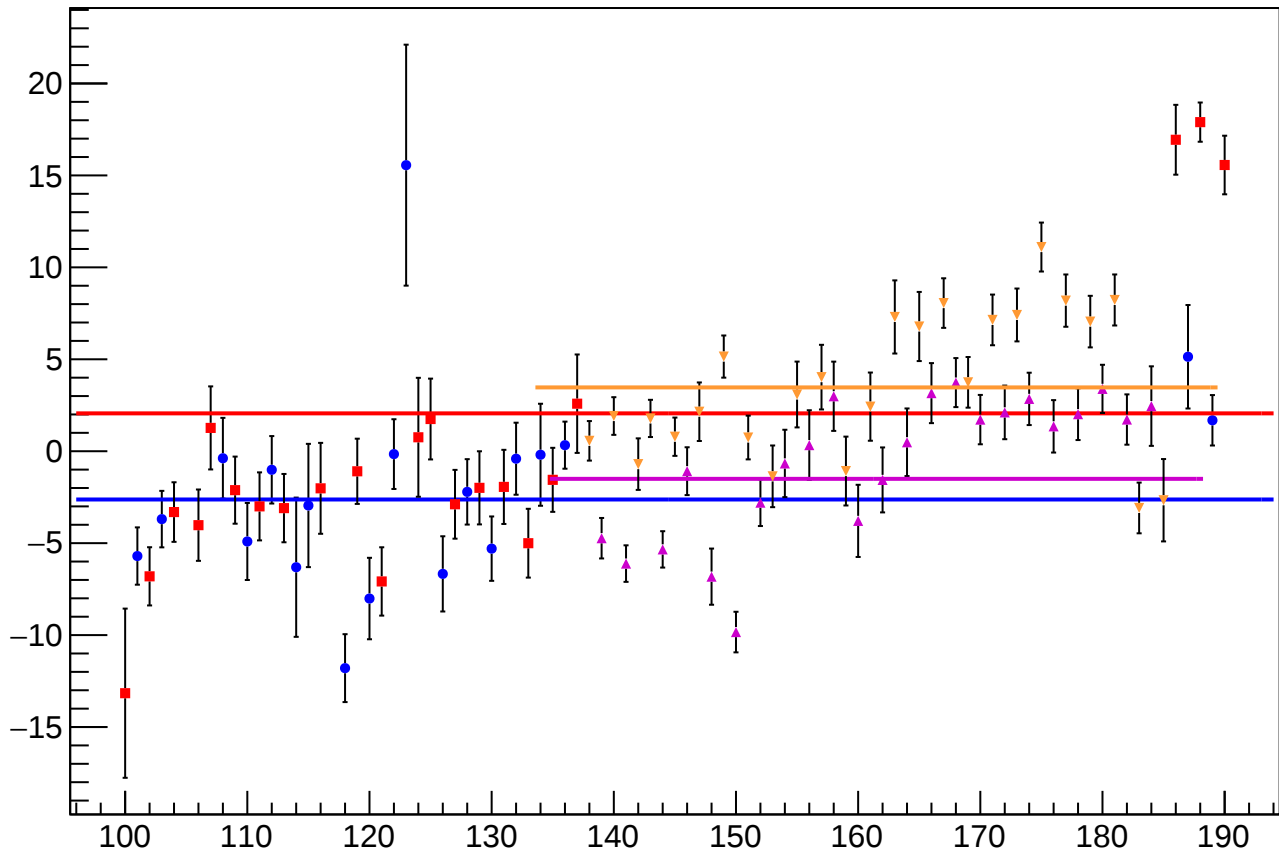
Right: 6208.836 $\pm$ 1.107  $\chi^2/\text{NDF}$ : 576005.6/40

In: 6411.155 $\pm$ 0.923  $\chi^2/\text{NDF}$ : 700012.3/41

Out: 6345.656 $\pm$ 0.870  $\chi^2/\text{NDF}$ : 662578.5/46

All: 6376.471 $\pm$ 0.633  $\chi^2/\text{NDF}$ : 1365256.5/88

# diff\_bpm0l06Y\_mean vs Slug, Sign Corrected



Right In:  $-2.625 \pm 0.444$   $\chi^2/\text{NDF}$ : 79.5/18

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

Right Out:  $2.059 \pm 0.397$   $\chi^2/\text{NDF}$ : 501.2/21

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

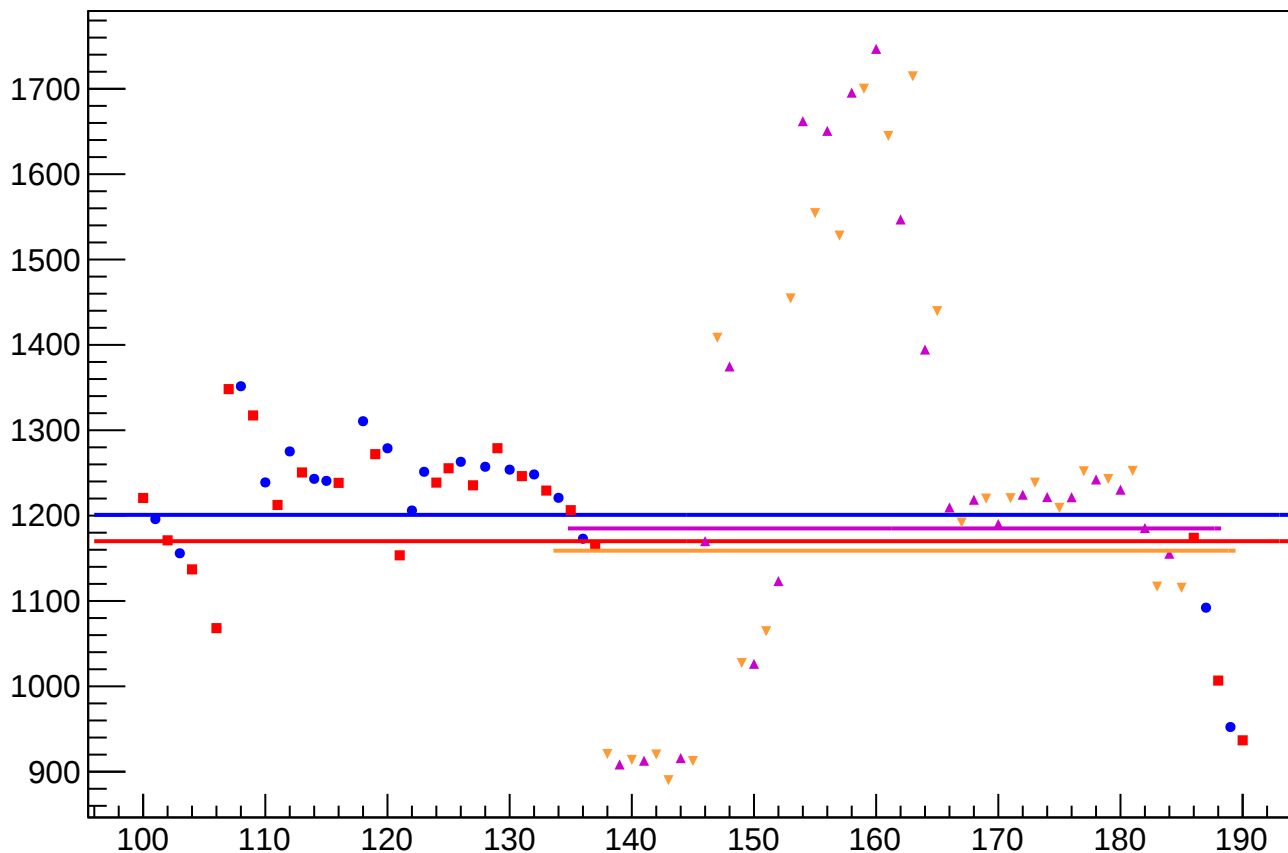
Right:  $-0.022 \pm 0.296$   $\chi^2/\text{NDF}$ : 642.4/40

In:  $-1.839 \pm 0.243$   $\chi^2/\text{NDF}$ : 286.7/41

Out:  $3.010 \pm 0.227$   $\chi^2/\text{NDF}$ : 685.7/46

All:  $0.754 \pm 0.166$   $\chi^2/\text{NDF}$ : 1184.8/88

# diff\_bpm0l06Y\_rms vs Slug, Sign Corrected



Right In: 1200.879 $\pm$ 0.314  $\chi^2/\text{NDF}$ : 101889.3/18

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

Right Out: 1170.036 $\pm$ 0.281  $\chi^2/\text{NDF}$ : 153020.9/21

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

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

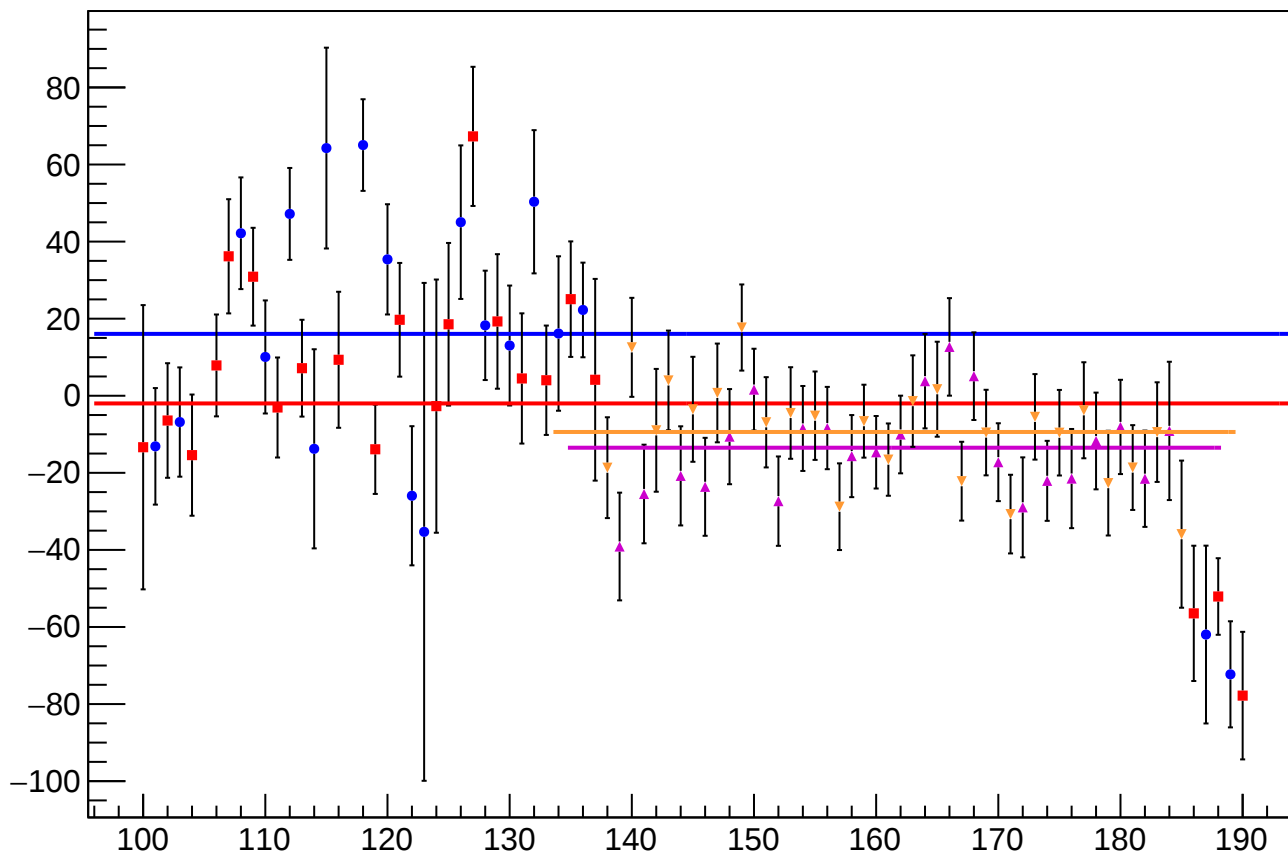
Right: 1183.740 $\pm$ 0.209  $\chi^2/\text{NDF}$ : 260265.1/40

In: 1189.734 $\pm$ 0.172  $\chi^2/\text{NDF}$ :1294117.3/41

Out: 1162.527 $\pm$ 0.160  $\chi^2/\text{NDF}$ :1564504.4/46

All: 1175.186 $\pm$ 0.117  $\chi^2/\text{NDF}$ : 2872003.2/88

# diff\_bpm0l07X\_mean vs Slug, Sign Corrected



Right In:  $16.054 \pm 3.656$   $\chi^2/\text{NDF}: 104.6/18$

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

Right Out:  $-1.994 \pm 3.257$   $\chi^2/\text{NDF}: 95.8/21$

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

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

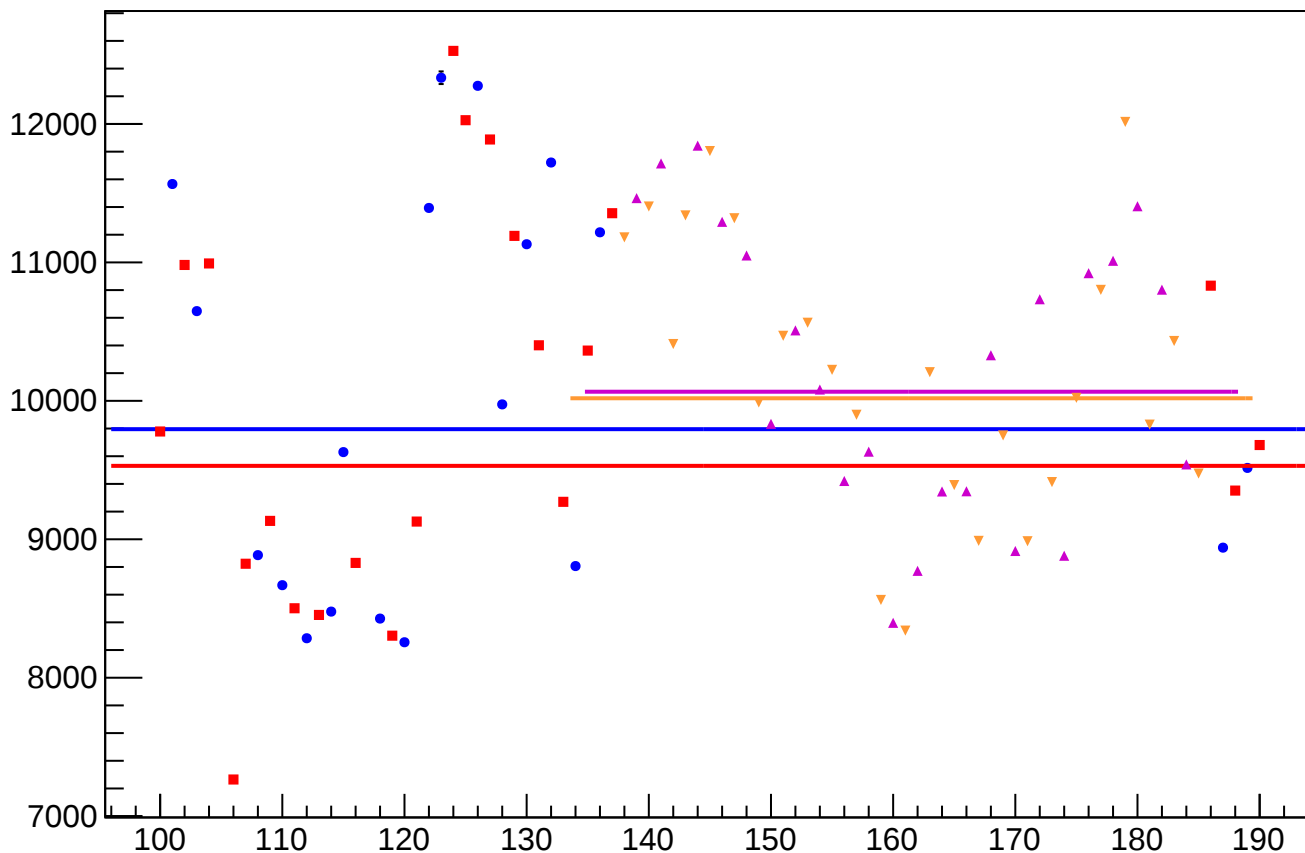
Right:  $5.993 \pm 2.432$   $\chi^2/\text{NDF}: 214.0/40$

In:  $-4.366 \pm 2.031$   $\chi^2/\text{NDF}: 171.3/41$

Out:  $-6.851 \pm 1.910$   $\chi^2/\text{NDF}: 125.5/46$

All:  $-5.685 \pm 1.392$   $\chi^2/\text{NDF}: 297.6/88$

# diff\_bpm0l07X\_rms vs Slug, Sign Corrected



Right In:  $9795.385 \pm 2.585$   $\chi^2/\text{NDF}: 262966.9/18$

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

Right Out:  $9530.378 \pm 2.303$   $\chi^2/\text{NDF}: 286616.4/21$

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

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

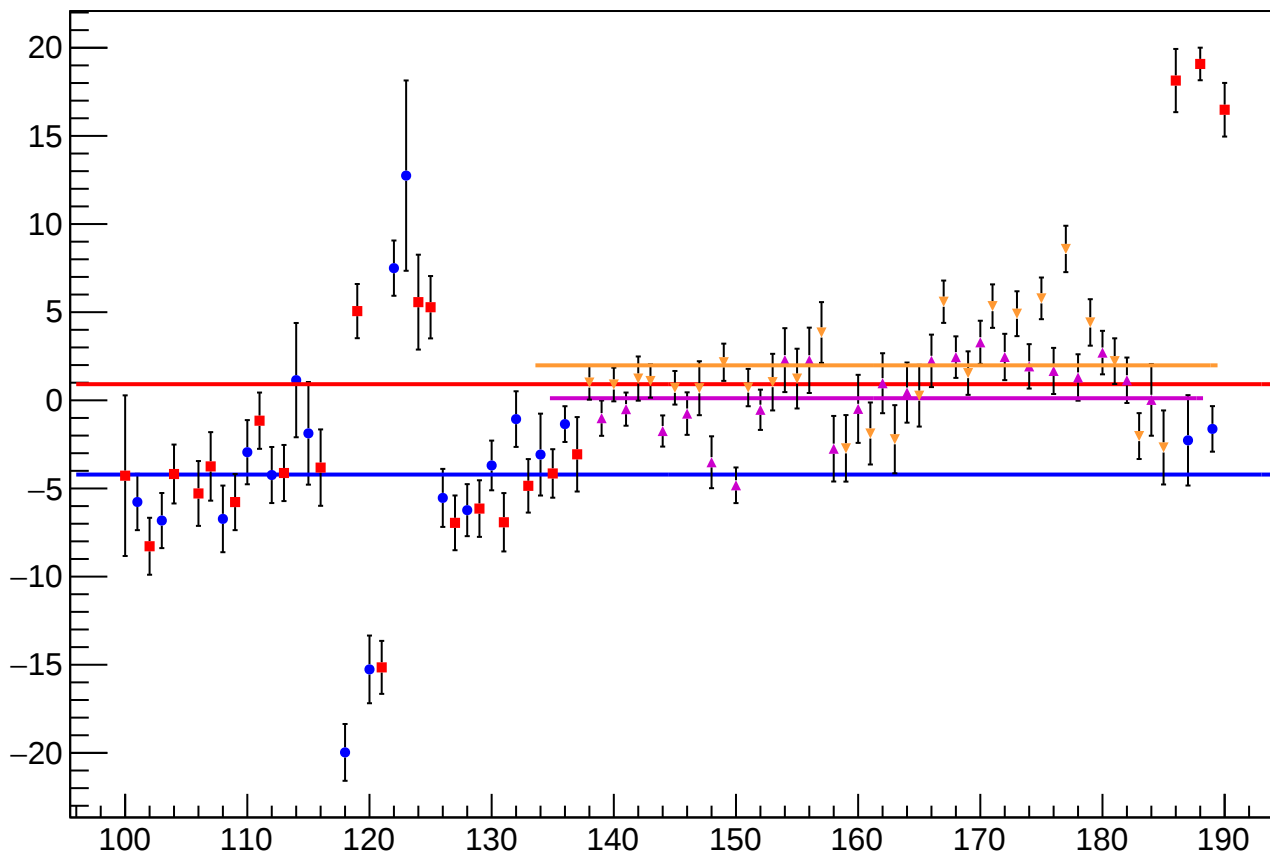
Right:  $9647.655 \pm 1.720$   $\chi^2/\text{NDF}: 555442.4/40$

In:  $9982.400 \pm 1.436$   $\chi^2/\text{NDF}: 628407.3/41$

Out:  $9850.643 \pm 1.351$   $\chi^2/\text{NDF}: 660625.9/46$

All:  $9912.487 \pm 0.984$   $\chi^2/\text{NDF}: 1293499.1/88$

# diff\_bpm0l07Y\_mean vs Slug, Sign Corrected



Right In:  $-4.211 \pm 0.385$   $\chi^2/\text{NDF}: 223.3/18$

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

Right Out:  $0.915 \pm 0.346$   $\chi^2/\text{NDF}: 907.2/21$

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

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

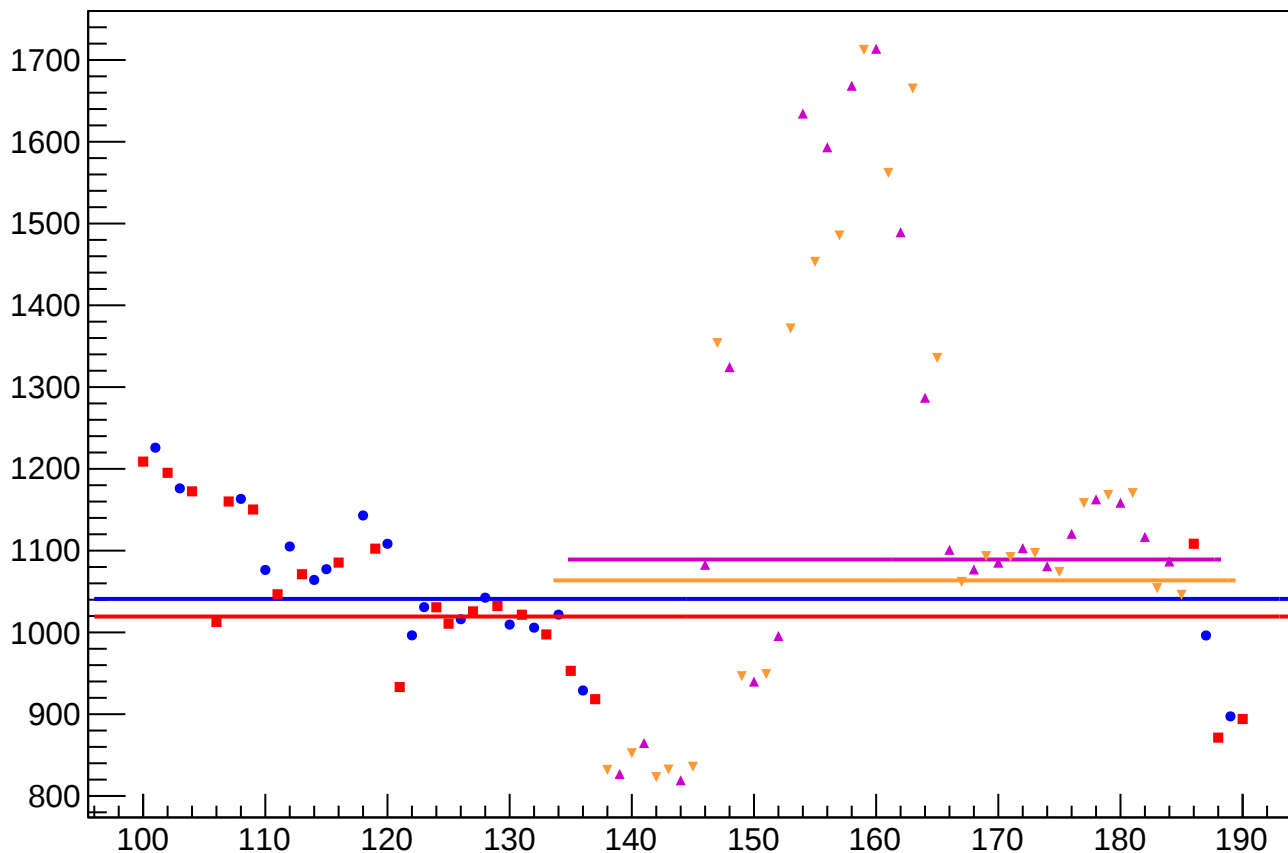
Right:  $-1.375 \pm 0.258$   $\chi^2/\text{NDF}: 1228.4/40$

In:  $-1.297 \pm 0.220$   $\chi^2/\text{NDF}: 375.9/41$

Out:  $1.609 \pm 0.205$   $\chi^2/\text{NDF}: 1014.6/46$

All:  $0.260 \pm 0.150$   $\chi^2/\text{NDF}: 1483.6/88$

# diff\_bpm0l07Y\_rms vs Slug, Sign Corrected



Right In: 1040.971 $\pm$ 0.273  $\chi^2/\text{NDF}$ : 118964.7/18

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

Right Out: 1019.441 $\pm$ 0.245  $\chi^2/\text{NDF}$ : 164674.9/21

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

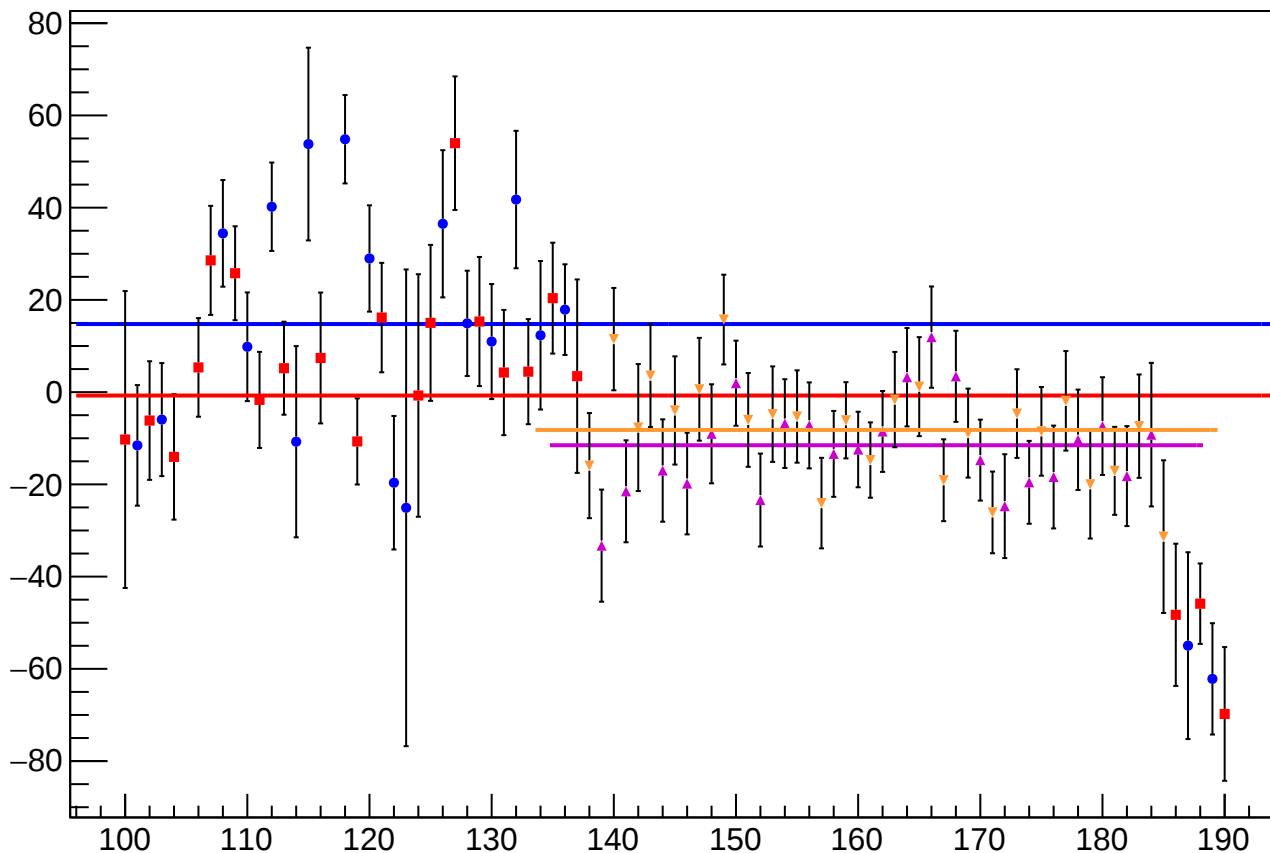
Right: 1029.060 $\pm$ 0.182  $\chi^2/\text{NDF}$ : 287092.4/40

In: 1073.396 $\pm$ 0.156  $\chi^2/\text{NDF}$ : 1570477.3/41

Out: 1048.092 $\pm$ 0.145  $\chi^2/\text{NDF}$ : 1803145.7/46

All: 1059.843 $\pm$ 0.106  $\chi^2/\text{NDF}$ : 3387739.4/88

# diff\_bpm0l08X\_mean vs Slug, Sign Corrected



Right In: 14.764 $\pm$ 2.984  $\chi^2/\text{NDF}$ : 105.1/18

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

Right Out: -0.736 $\pm$ 2.675  $\chi^2/\text{NDF}$ : 97.2/21

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

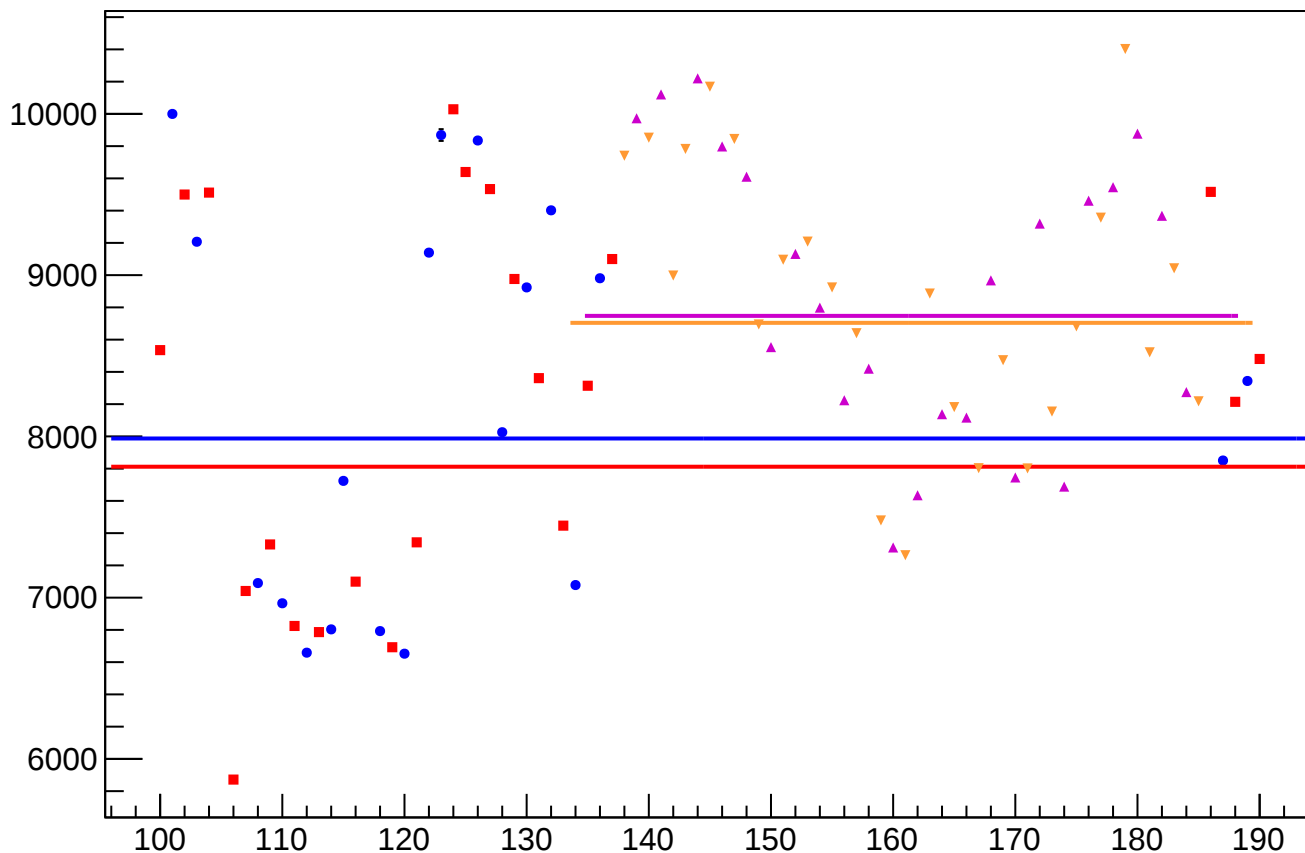
Right: 6.169 $\pm$ 1.992  $\chi^2/\text{NDF}$ : 217.3/40

In: -2.687 $\pm$ 1.730  $\chi^2/\text{NDF}$ : 177.7/41

Out: -5.437 $\pm$ 1.626  $\chi^2/\text{NDF}$ : 128.3/46

All: -4.146 $\pm$ 1.185  $\chi^2/\text{NDF}$ : 307.3/88

# diff\_bpm0l08X\_rms vs Slug, Sign Corrected



Right In: 7986.994 $\pm$ 2.110  $\chi^2/\text{NDF}$ : 297584.8/18

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

Right Out: 7811.957 $\pm$ 1.891  $\chi^2/\text{NDF}$ : 350141.2/21

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

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

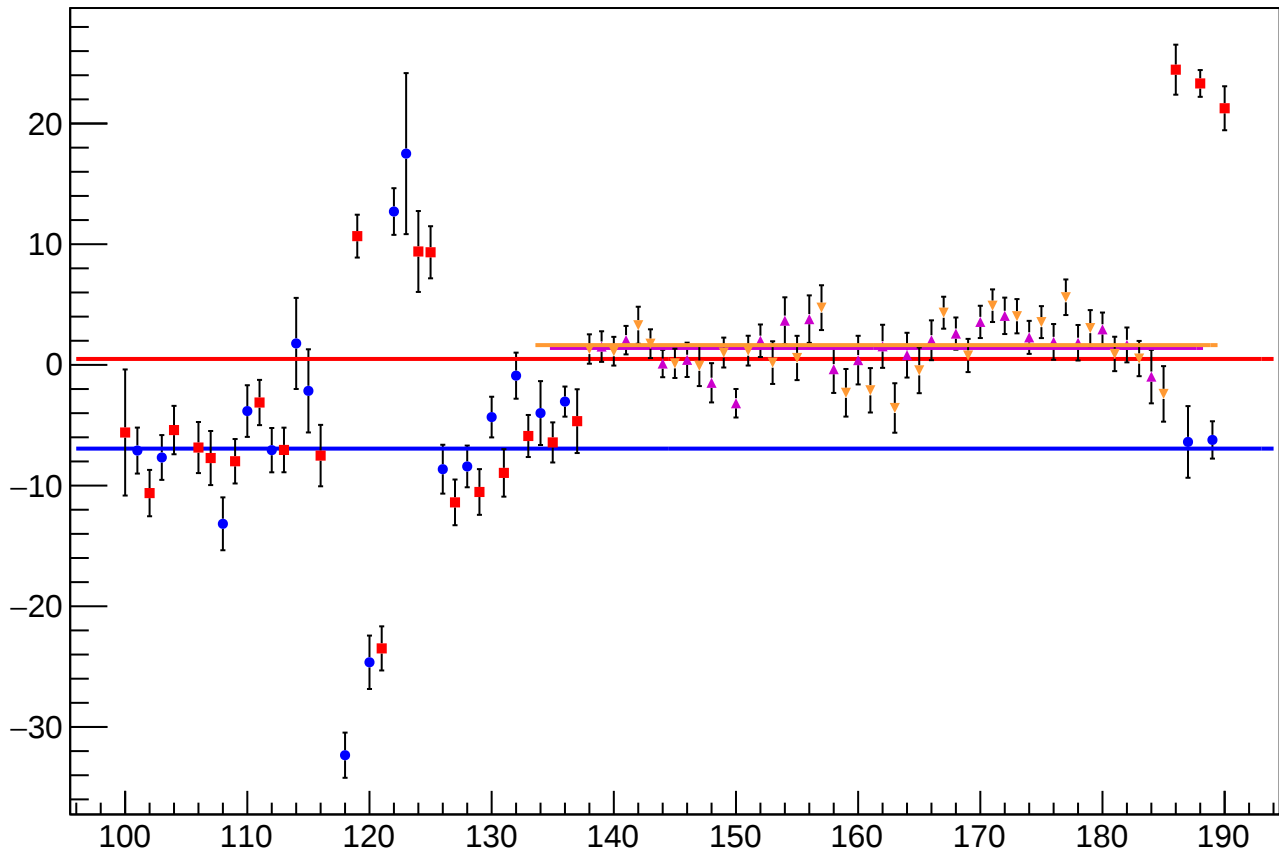
Right: 7889.931 $\pm$ 1.408  $\chi^2/\text{NDF}$ : 651542.0/40

In: 8491.972 $\pm$ 1.223  $\chi^2/\text{NDF}$ : 730942.4/41

Out: 8374.275 $\pm$ 1.150  $\chi^2/\text{NDF}$ : 822780.5/46

All: 8429.509 $\pm$ 0.838  $\chi^2/\text{NDF}$ : 1558638.4/88

# diff\_bpm0l08Y\_mean vs Slug, Sign Corrected



Right In:  $-6.936 \pm 0.459$   $\chi^2/\text{NDF}: 407.6/18$

Left Out:  $1.639 \pm 0.294$   $\chi^2/\text{NDF}: 51.3/24$

Right Out:  $0.493 \pm 0.411$   $\chi^2/\text{NDF}: 1167.2/21$

Left In:  $1.404 \pm 0.309$   $\chi^2/\text{NDF}: 34.1/22$

Left:  $1.528 \pm 0.213$   $\chi^2/\text{NDF}: 85.8/47$

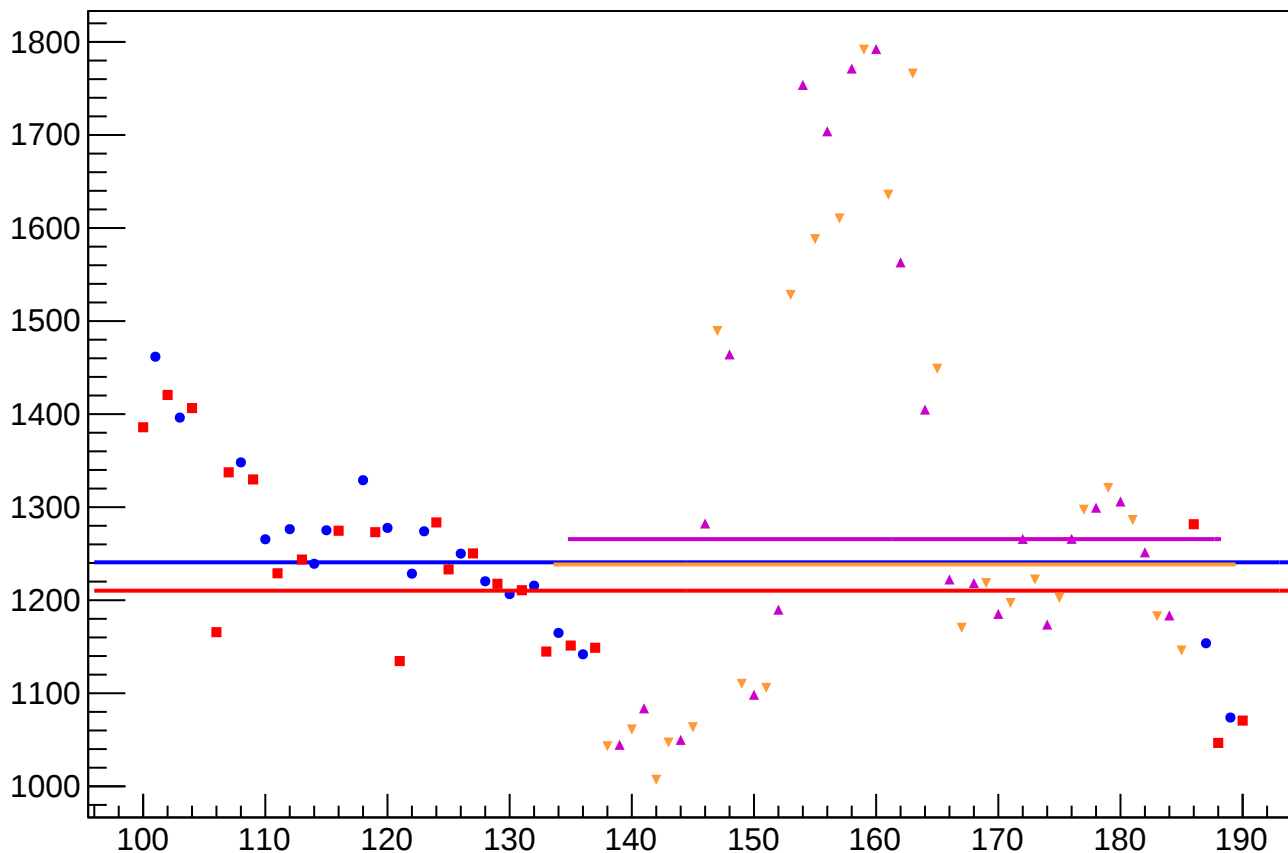
Right:  $-2.812 \pm 0.306$   $\chi^2/\text{NDF}: 1720.2/40$

In:  $-1.197 \pm 0.256$   $\chi^2/\text{NDF}: 668.9/41$

Out:  $1.252 \pm 0.239$   $\chi^2/\text{NDF}: 1223.7/46$

All:  $0.114 \pm 0.175$   $\chi^2/\text{NDF}: 1941.5/88$

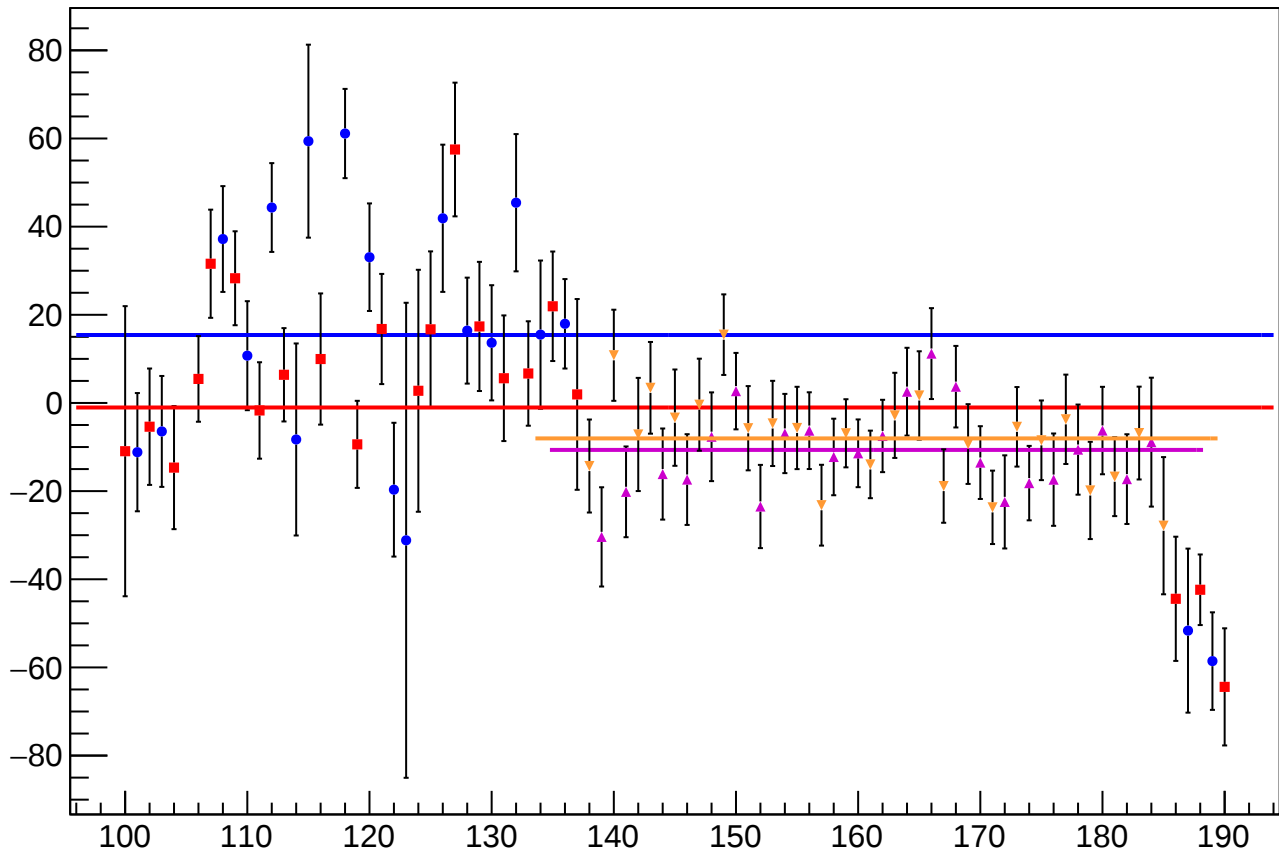
# diff\_bpm0l08Y\_rms vs Slug, Sign Corrected



Right In:  $1240.720 \pm 0.325$   $\chi^2/\text{NDF}: 92801.7/18$   
 Left Out:  $1238.437 \pm 0.208$   $\chi^2/\text{NDF}: 965173.0/24$   
 Right Out:  $1210.269 \pm 0.291$   $\chi^2/\text{NDF}: 135408.5/21$   
 Left In:  $1265.673 \pm 0.218$   $\chi^2/\text{NDF}: 845157.0/22$

Left:  $1251.361 \pm 0.151$   $\chi^2/\text{NDF}: 1818496.6/47$   
 Right:  $1223.816 \pm 0.216$   $\chi^2/\text{NDF}: 233096.9/40$   
 In:  $1257.892 \pm 0.181$   $\chi^2/\text{NDF}: 942026.6/41$   
 Out:  $1228.916 \pm 0.169$   $\chi^2/\text{NDF}: 1106803.6/46$   
 All:  $1242.385 \pm 0.124$   $\chi^2/\text{NDF}: 2062508.6/88$

# diff\_bpm0l09X\_mean vs Slug, Sign Corrected



Right In: 15.417 $\pm$ 3.081  $\chi^2/\text{NDF}$ : 116.4/18

Left Out: -8.042 $\pm$ 1.918  $\chi^2/\text{NDF}$ : 26.3/24

Right Out: -1.029 $\pm$ 2.704  $\chi^2/\text{NDF}$ : 100.5/21

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

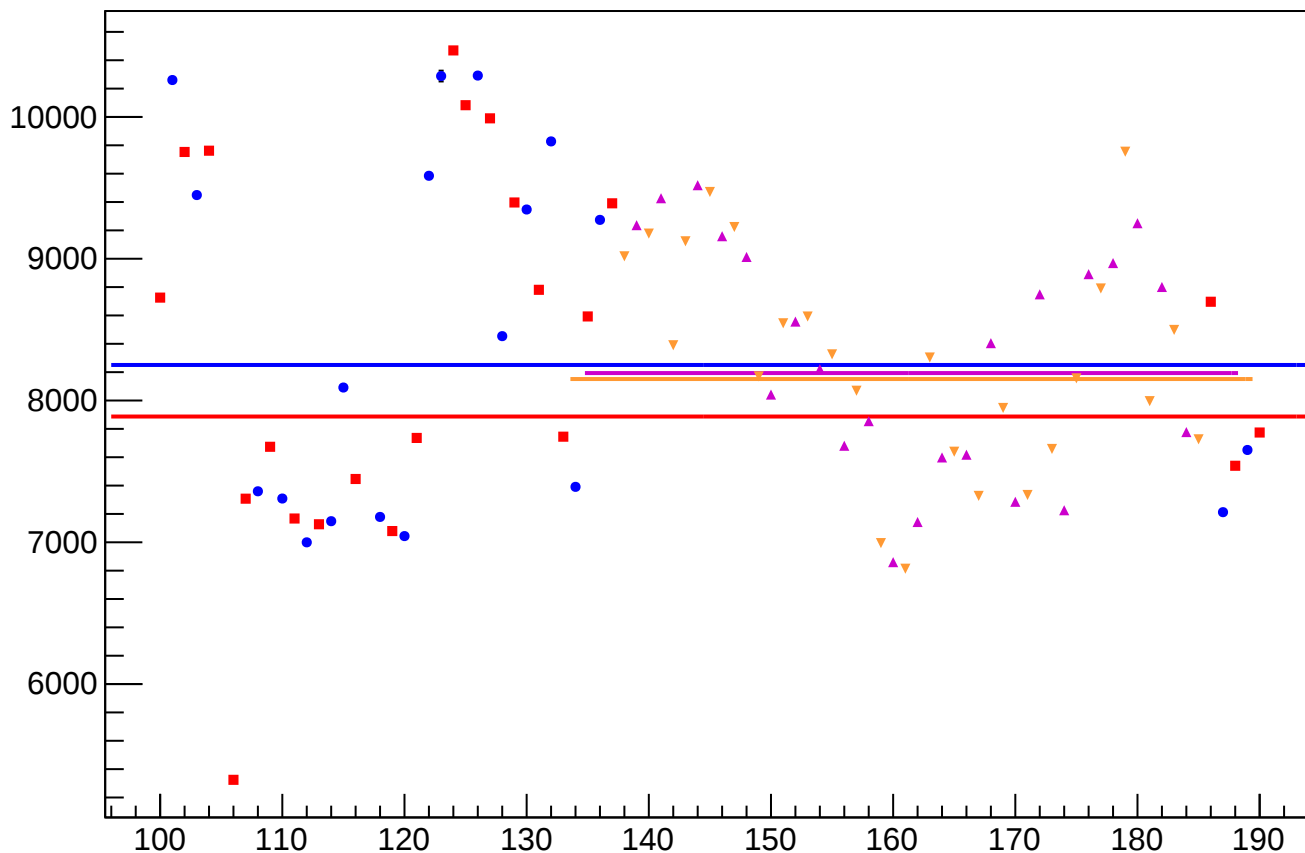
Right: 6.127 $\pm$ 2.032  $\chi^2/\text{NDF}$ : 233.0/40

In: -2.991 $\pm$ 1.670  $\chi^2/\text{NDF}$ : 188.4/41

Out: -5.695 $\pm$ 1.564  $\chi^2/\text{NDF}$ : 131.3/46

All: -4.431 $\pm$ 1.142  $\chi^2/\text{NDF}$ : 321.1/88

# diff\_bpm0l09X\_rms vs Slug, Sign Corrected



Right In: 8250.731 $\pm$ 2.178  $\chi^2/\text{NDF}$ : 284784.2/18

Left Out: 8151.489 $\pm$ 1.356  $\chi^2/\text{NDF}$ : 321803.3/24

Right Out: 7887.090 $\pm$ 1.912  $\chi^2/\text{NDF}$ : 399175.8/21

Left In: 8193.636 $\pm$ 1.405  $\chi^2/\text{NDF}$ : 338377.6/22

Left: 8171.814 $\pm$ 0.976  $\chi^2/\text{NDF}$ : 660646.6/47

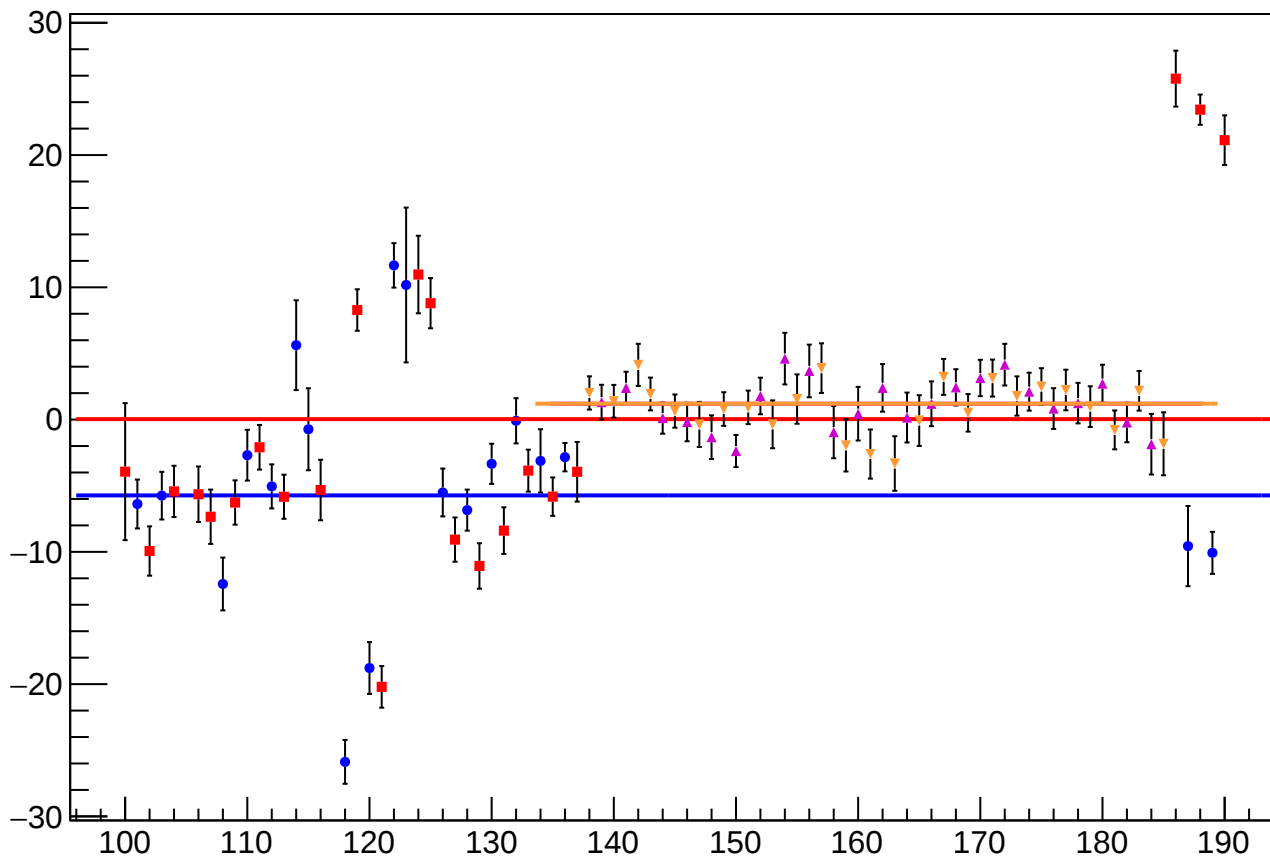
Right: 8045.327 $\pm$ 1.437  $\chi^2/\text{NDF}$ : 699699.8/40

In: 8210.416 $\pm$ 1.181  $\chi^2/\text{NDF}$ : 623646.9/41

Out: 8062.979 $\pm$ 1.106  $\chi^2/\text{NDF}$ : 733699.9/46

All: 8131.887 $\pm$ 0.807  $\chi^2/\text{NDF}$ : 1365648.4/88

# diff\_bpm0l09Y\_mean vs Slug, Sign Corrected



Right In: -5.733 $\pm$ 0.418  $\chi^2/\text{NDF}$ : 365.8/18

Left Out: 1.203 $\pm$ 0.302  $\chi^2/\text{NDF}$ :29.9/24

Right Out: 0.035 $\pm$ 0.381  $\chi^2/\text{NDF}$ : 1131.5/21

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

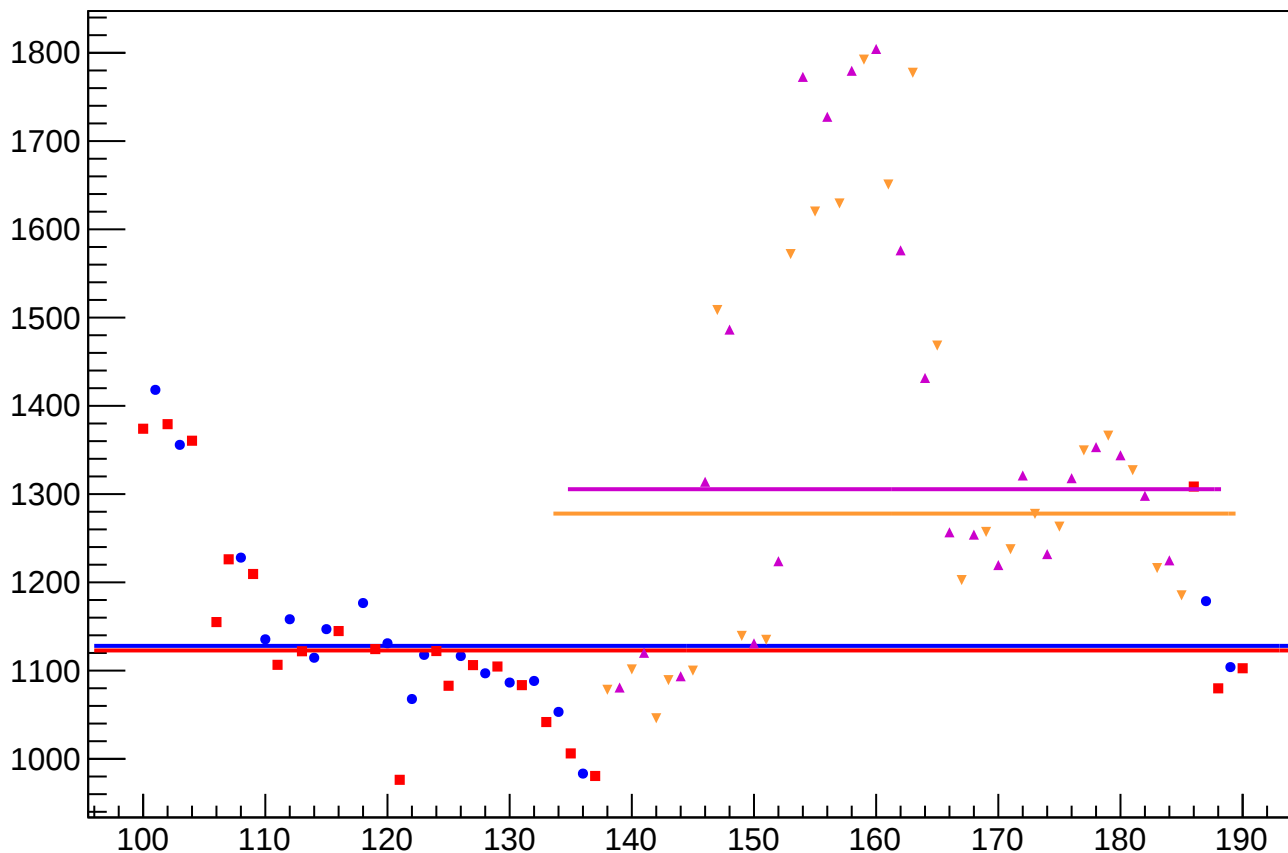
Right: -2.586 $\pm$ 0.282  $\chi^2/\text{NDF}$ : 1601.2/40

In: -1.345 $\pm$ 0.253  $\chi^2/\text{NDF}$ :571.1/41

Out: 0.752 $\pm$ 0.237  $\chi^2/\text{NDF}$ :1167.2/46

All: -0.227 $\pm$ 0.173  $\chi^2/\text{NDF}$ : 1774.8/88

# diff\_bpm0l09Y\_rms vs Slug, Sign Corrected



Right In: 1128.031 $\pm$ 0.296  $\chi^2$ /NDF: 134100.0/18

Left Out: 1277.916 $\pm$ 0.214  $\chi^2$ /NDF: 878127.9/24

Right Out: 1122.840 $\pm$ 0.270  $\chi^2$ /NDF: 148066.9/21

Left In: 1305.541 $\pm$ 0.225  $\chi^2$ /NDF: 760450.8/22

Left: 1291.030 $\pm$ 0.155  $\chi^2$ /NDF: 1646499.4/47

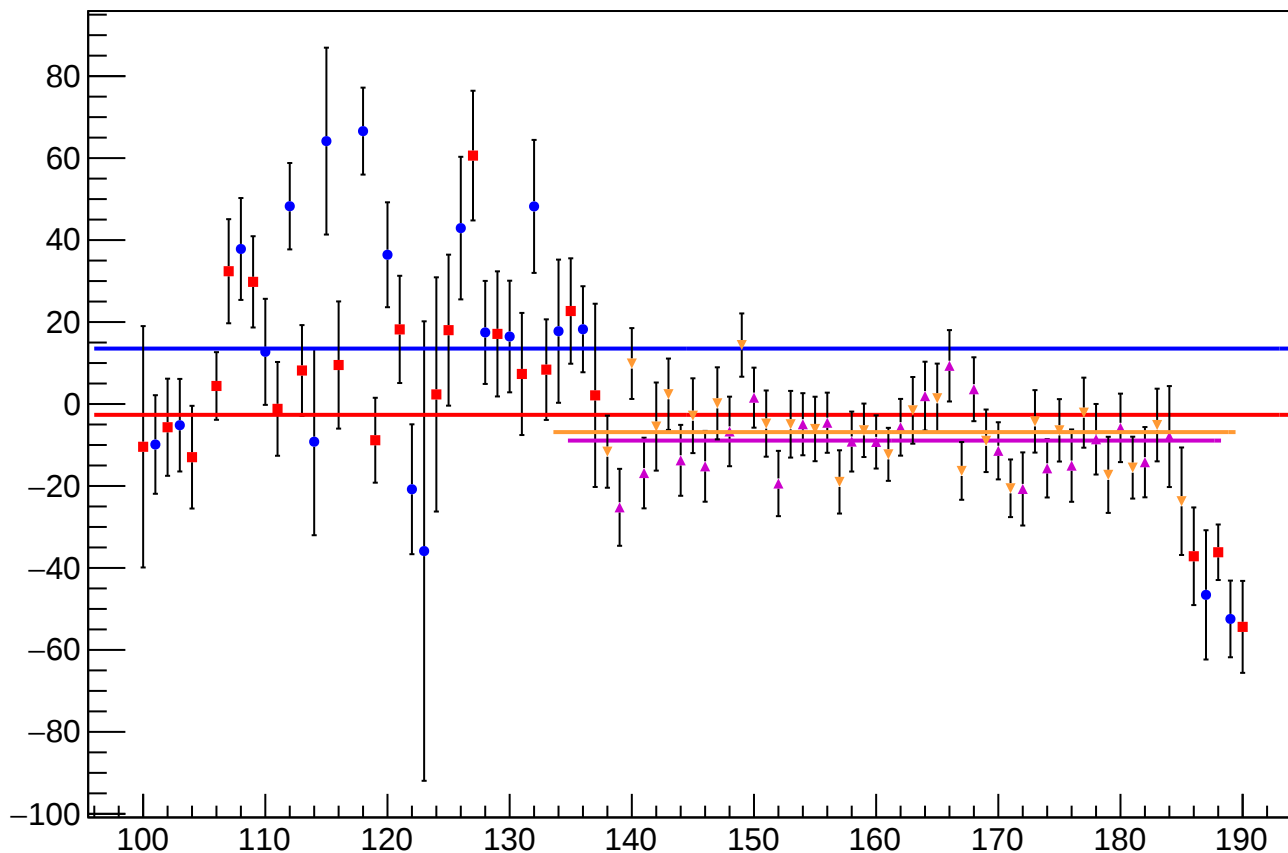
Right: 1125.198 $\pm$ 0.199  $\chi^2$ /NDF: 282335.3/40

In: 1240.413 $\pm$ 0.179  $\chi^2$ /NDF: 1122984.8/41

Out: 1218.040 $\pm$ 0.168  $\chi^2$ /NDF: 1229218.0/46

All: 1228.489 $\pm$ 0.122  $\chi^2$ /NDF: 2360529.3/88

# diff\_bpm0l10X\_mean vs Slug, Sign Corrected



Right In:  $13.528 \pm 3.072$   $\chi^2/\text{NDF}: 132.9/18$

Left Out:  $-6.854 \pm 1.616$   $\chi^2/\text{NDF}: 28.7/24$

Right Out:  $-2.641 \pm 2.607$   $\chi^2/\text{NDF}: 100.4/21$

Left In:  $-8.923 \pm 1.674$   $\chi^2/\text{NDF}: 21.8/22$

Left:  $-7.852 \pm 1.163$   $\chi^2/\text{NDF}: 51.3/47$

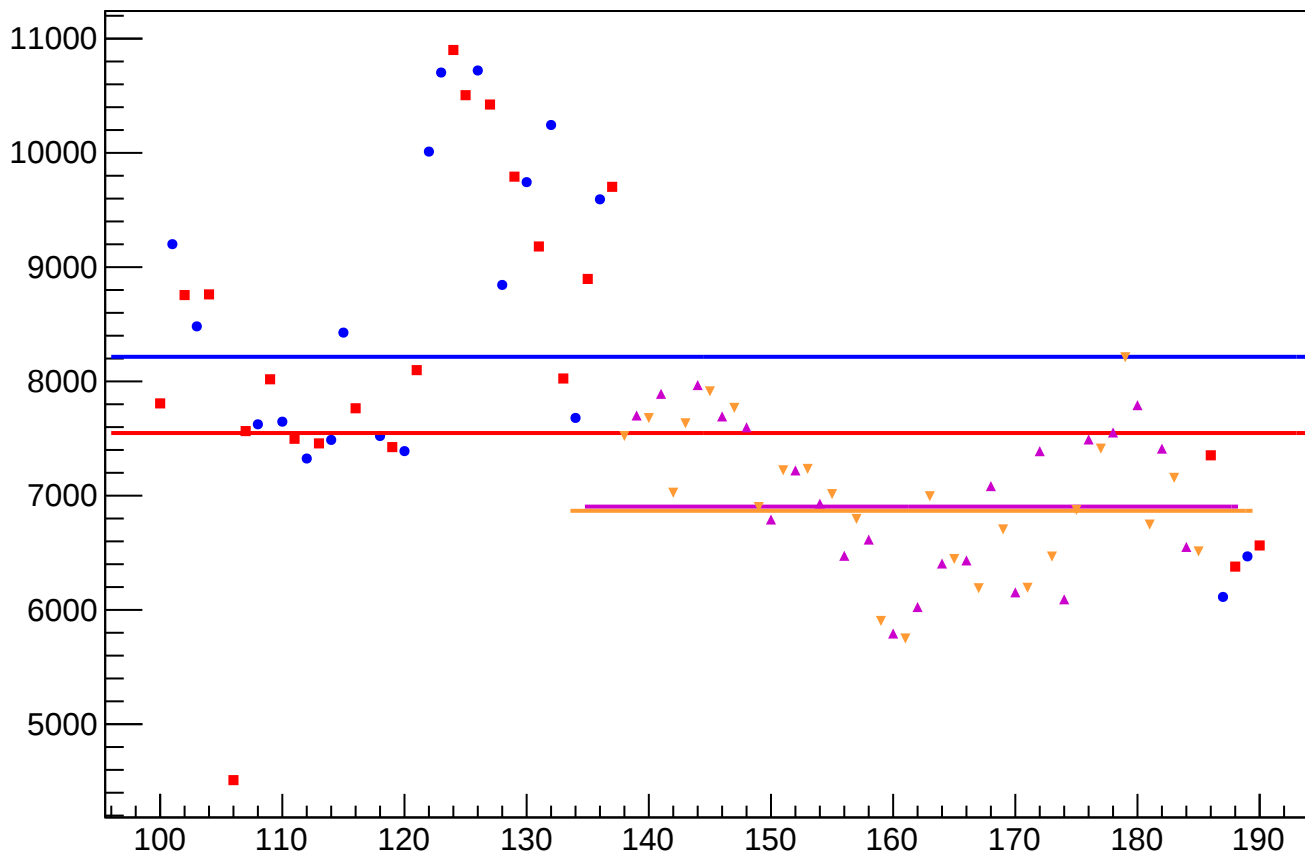
Right:  $4.128 \pm 1.988$   $\chi^2/\text{NDF}: 249.4/40$

In:  $-3.781 \pm 1.470$   $\chi^2/\text{NDF}: 195.9/41$

Out:  $-5.685 \pm 1.373$   $\chi^2/\text{NDF}: 131.0/46$

All:  $-4.798 \pm 1.004$   $\chi^2/\text{NDF}: 327.8/88$

# diff\_bpm0l10X\_rms vs Slug, Sign Corrected



Right In: 8215.263 $\pm$ 2.172  $\chi^2/\text{NDF}$ : 330471.4/18

Left Out: 6867.371 $\pm$ 1.142  $\chi^2/\text{NDF}$ : 306895.0/24

Right Out: 7548.223 $\pm$ 1.843  $\chi^2/\text{NDF}$ : 650108.9/21

Left In: 6904.117 $\pm$ 1.184  $\chi^2/\text{NDF}$ : 325912.6/22

Left: 6885.088 $\pm$ 0.822  $\chi^2/\text{NDF}$ : 633306.5/47

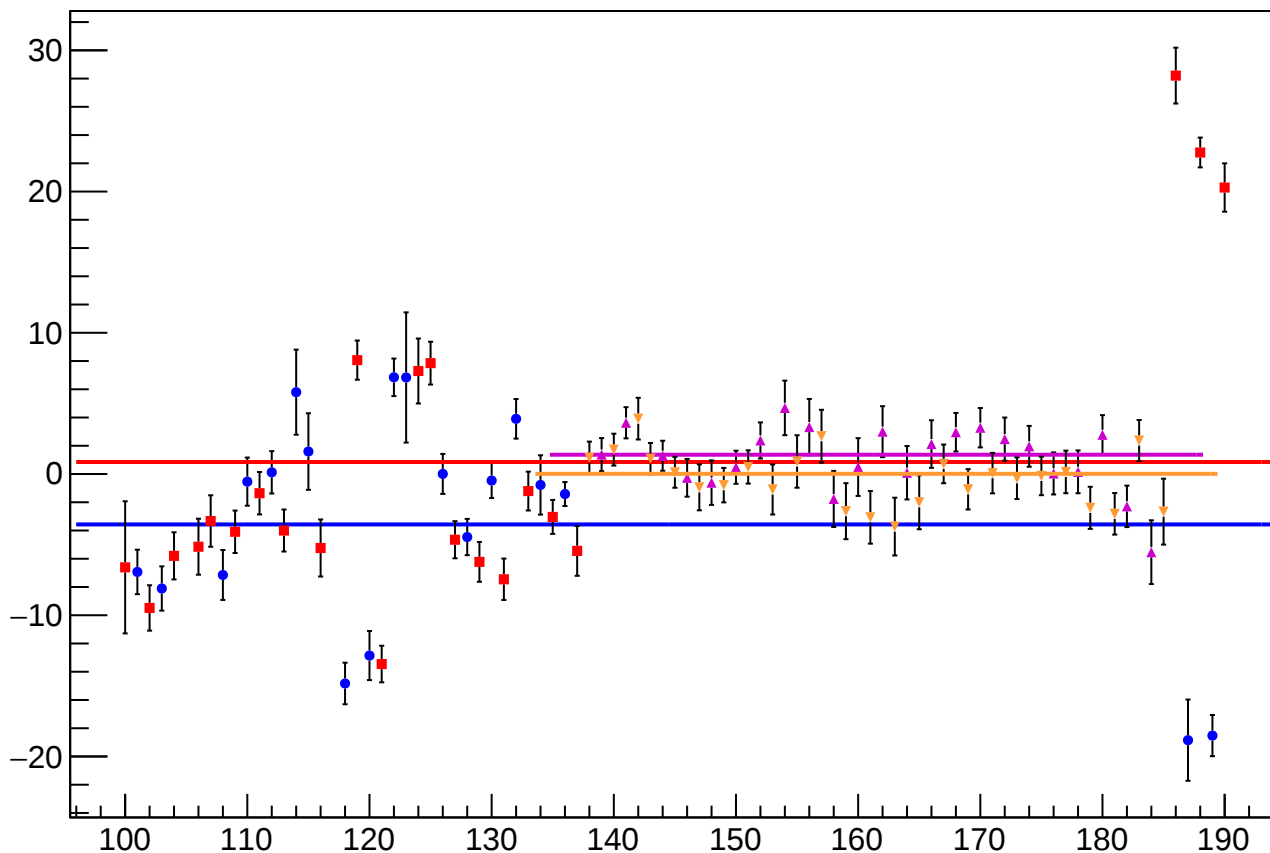
Right: 7827.491 $\pm$ 1.406  $\chi^2/\text{NDF}$ : 1035394.4/40

In: 7204.384 $\pm$ 1.040  $\chi^2/\text{NDF}$ : 937258.8/41

Out: 7056.275 $\pm$ 0.971  $\chi^2/\text{NDF}$ : 1055561.5/46

All: 7125.288 $\pm$ 0.710  $\chi^2/\text{NDF}$ : 2003660.7/88

# diff\_bpm0l10Y\_mean vs Slug, Sign Corrected



Right In:  $-3.570 \pm 0.353$   $\chi^2/\text{NDF}$ : 376.5/18

Left Out:  $0.014 \pm 0.290$   $\chi^2/\text{NDF}$ : 35.0/24

Right Out:  $0.850 \pm 0.329$   $\chi^2/\text{NDF}$ : 1137.0/21

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

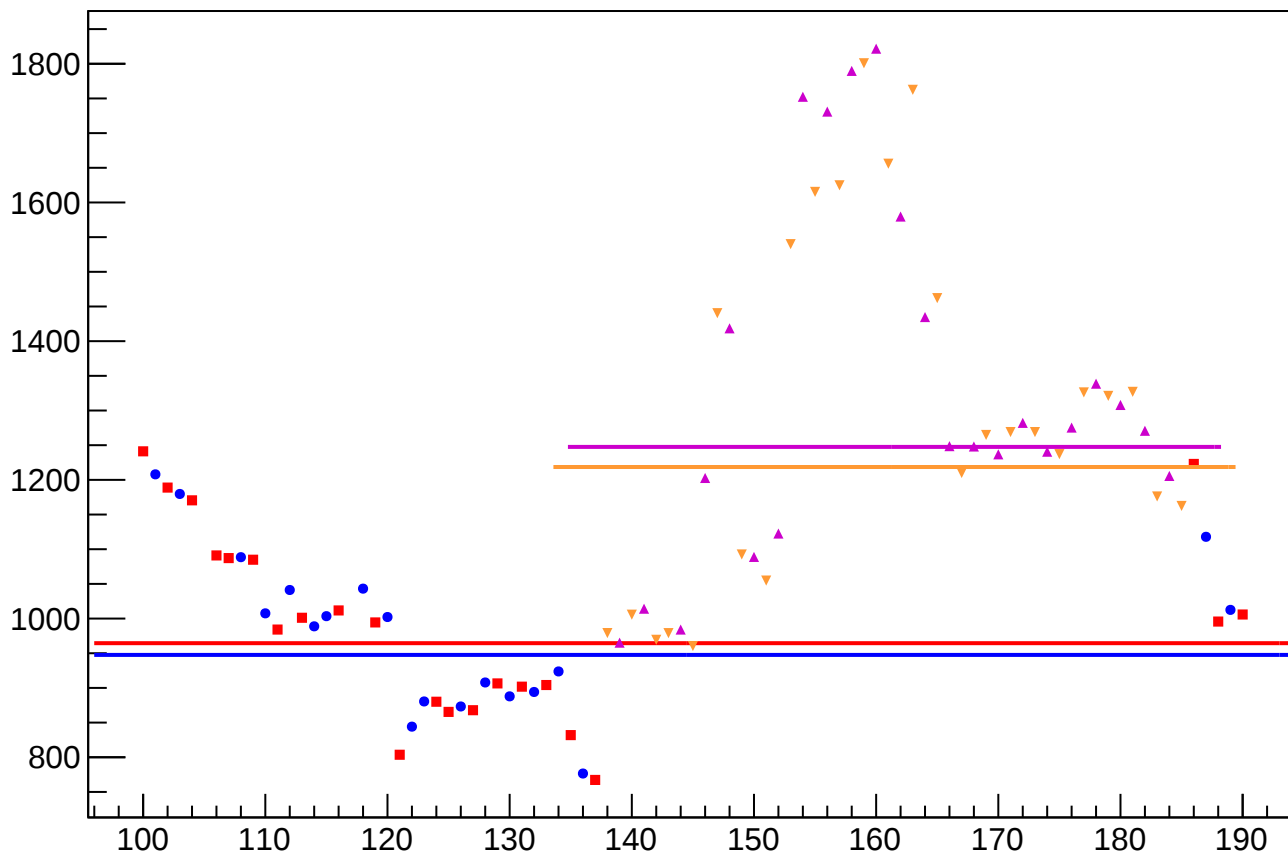
Right:  $-1.205 \pm 0.240$   $\chi^2/\text{NDF}$ : 1597.6/40

In:  $-0.751 \pm 0.231$   $\chi^2/\text{NDF}$ : 527.0/41

Out:  $0.380 \pm 0.217$   $\chi^2/\text{NDF}$ : 1175.6/46

All:  $-0.152 \pm 0.158$   $\chi^2/\text{NDF}$ : 1715.3/88

# diff\_bpm0l10Y\_rms vs Slug, Sign Corrected



Right In:  $947.590 \pm 0.249$   $\chi^2/\text{NDF}$ : 253383.6/18

Left Out:  $1218.543 \pm 0.205$   $\chi^2/\text{NDF}$ : 1265847.5/24

Right Out:  $964.506 \pm 0.232$   $\chi^2/\text{NDF}$ : 260425.1/21

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

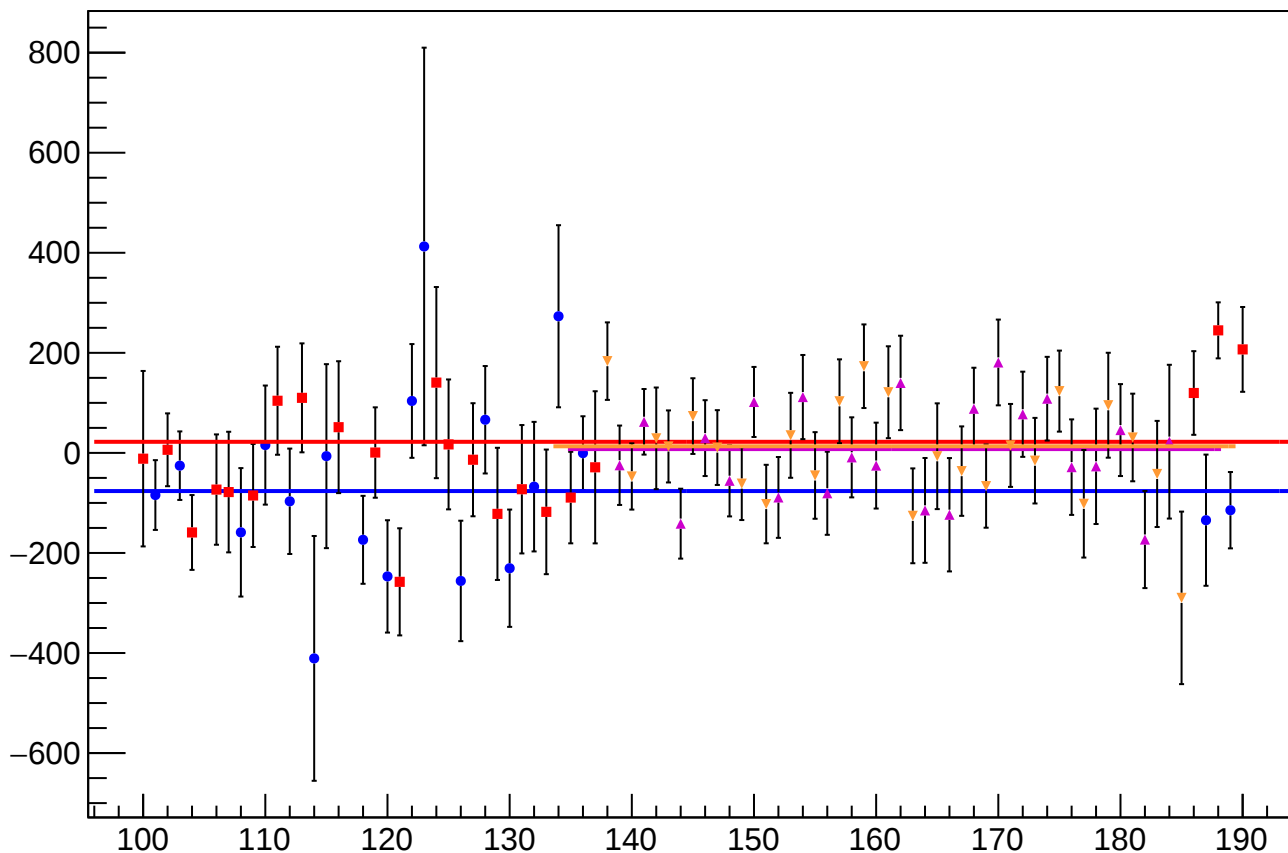
Right:  $956.640 \pm 0.170$   $\chi^2/\text{NDF}$ : 516272.7/40

In:  $1118.883 \pm 0.163$   $\chi^2/\text{NDF}$ : 2153727.6/41

Out:  $1107.365 \pm 0.154$   $\chi^2/\text{NDF}$ : 2198282.0/46

All:  $1112.778 \pm 0.112$   $\chi^2/\text{NDF}$ : 4354648.0/88

# diff\_bpm0r03X\_mean vs Slug, Sign Corrected



Right In:  $-76.282 \pm 24.172$   $\chi^2/\text{NDF}$ : 22.1/18

Left Out:  $13.207 \pm 17.146$   $\chi^2/\text{NDF}$ : 26.8/24

Right Out:  $22.170 \pm 21.347$   $\chi^2/\text{NDF}$ : 43.7/21

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

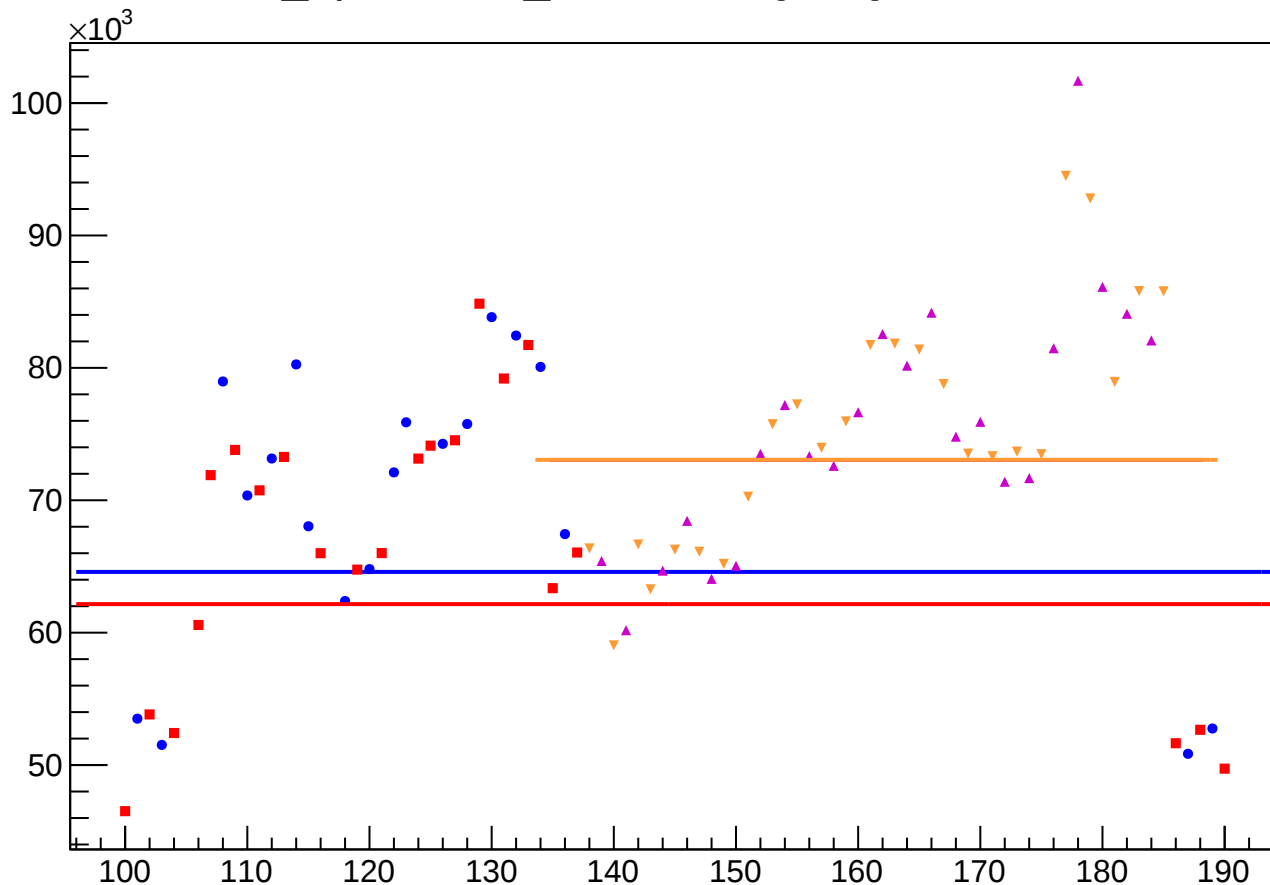
Right:  $-20.969 \pm 16.001$   $\chi^2/\text{NDF}$ : 75.1/40

In:  $-21.604 \pm 14.266$   $\chi^2/\text{NDF}$ : 58.1/41

Out:  $16.722 \pm 13.368$   $\chi^2/\text{NDF}$ : 70.6/46

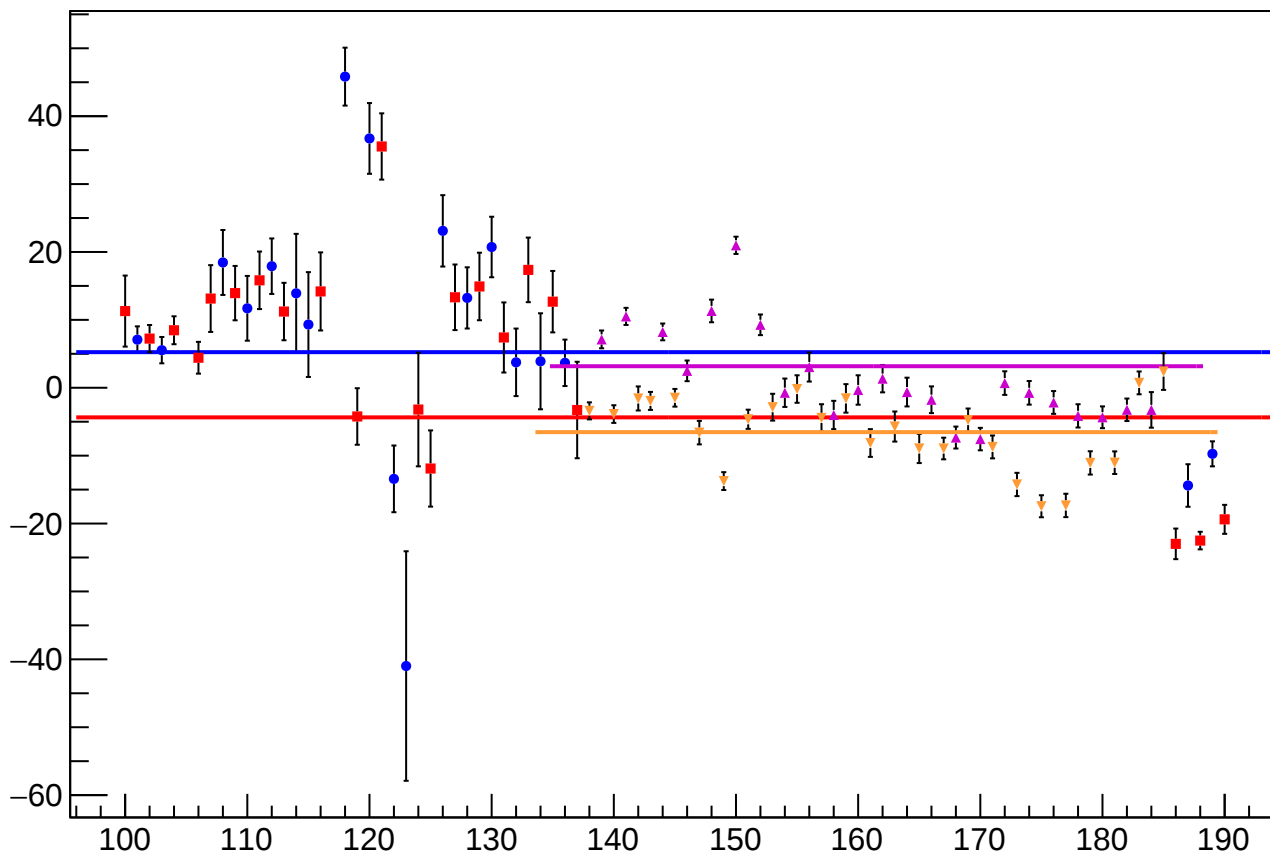
All:  $-1.197 \pm 9.755$   $\chi^2/\text{NDF}$ : 132.5/88

# diff\_bpm0r03X\_rms vs Slug, Sign Corrected



Right In: 64588.972 $\pm$ 17.092  $\chi^2/\text{NDF}$ : 400896.4/18  
 Left Out: 73054.401 $\pm$ 12.124  $\chi^2/\text{NDF}$ : 473050.9/24  
 Right Out: 62155.685 $\pm$ 15.095  $\chi^2/\text{NDF}$ : 479580.4/21  
 Left In: 73045.500 $\pm$ 12.496  $\chi^2/\text{NDF}$ : 463525.5/22  
 Left: 73050.085 $\pm$ 8.701  $\chi^2/\text{NDF}$ : 936576.6/47  
 Right: 63221.886 $\pm$ 11.314  $\chi^2/\text{NDF}$ : 891863.1/40  
 In: 70100.061 $\pm$ 10.087  $\chi^2/\text{NDF}$ : 1023943.9/41  
 Out: 68780.497 $\pm$ 9.453  $\chi^2/\text{NDF}$ : 1269512.7/46  
 All: 69397.448 $\pm$ 6.898  $\chi^2/\text{NDF}$ : 2302567.9/8

# diff\_bpm0r03Y\_mean vs Slug, Sign Corrected



Right In: 5.243 $\pm$ 0.812  $\chi^2/\text{NDF}$ : 302.6/18

Left Out: -6.537 $\pm$ 0.332  $\chi^2/\text{NDF}$ : 252.7/24

Right Out: -4.361 $\pm$ 0.653  $\chi^2/\text{NDF}$ : 627.2/21

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

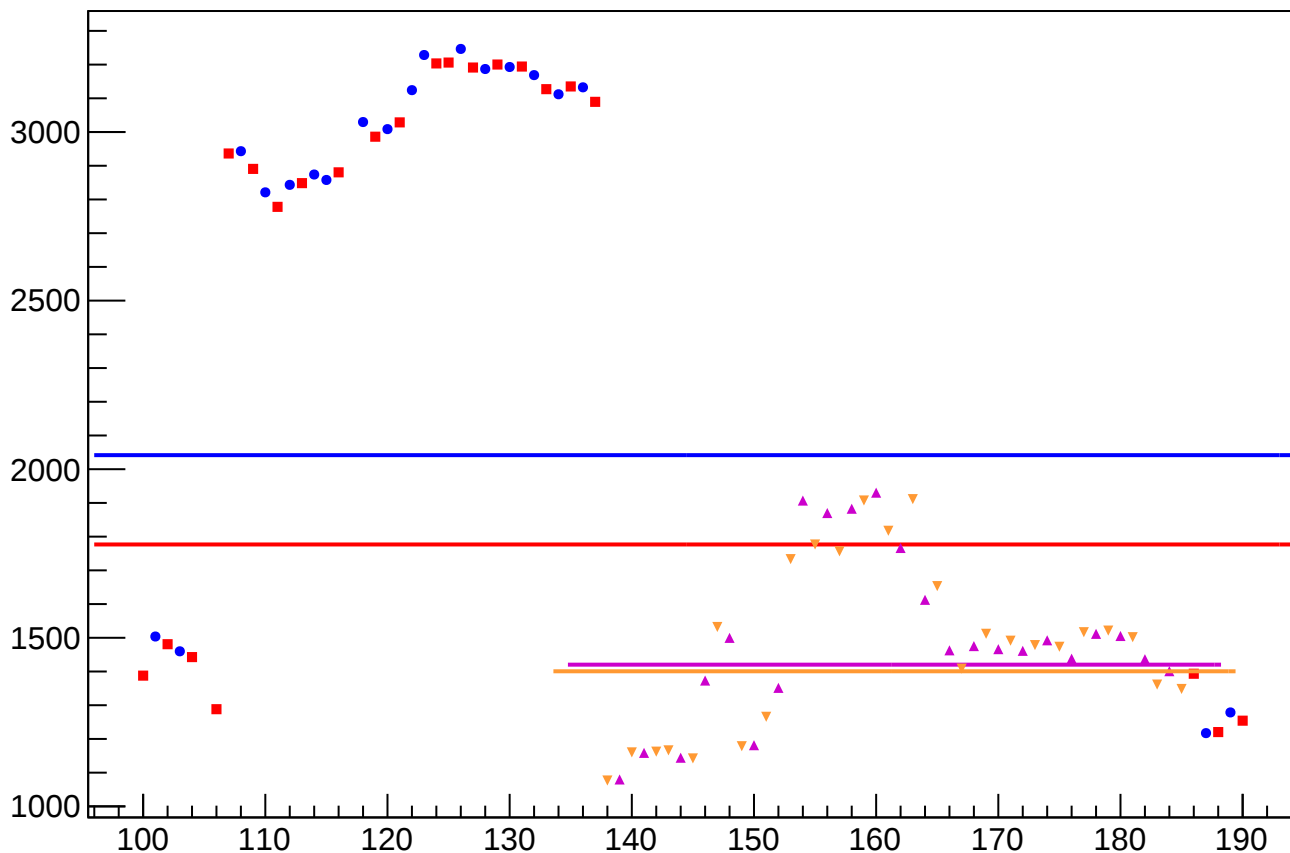
Right: -0.584 $\pm$ 0.509  $\chi^2/\text{NDF}$ : 1014.8/40

In: 3.490 $\pm$ 0.319  $\chi^2/\text{NDF}$ : 795.5/41

Out: -6.091 $\pm$ 0.296  $\chi^2/\text{NDF}$ : 888.8/46

All: -1.655 $\pm$ 0.217  $\chi^2/\text{NDF}$ : 2169.7/88

# diff\_bpm0r03Y\_rms vs Slug, Sign Corrected



Right In:  $2041.684 \pm 0.574$   $\chi^2/\text{NDF}: 2056451.3/18$

Left Out:  $1400.637 \pm 0.235$   $\chi^2/\text{NDF}: 1037921.6/24$

Right Out:  $1776.773 \pm 0.462$   $\chi^2/\text{NDF}: 2705082.7/21$

Left In:  $1420.285 \pm 0.245$   $\chi^2/\text{NDF}: 905186.2/22$

Left:  $1410.037 \pm 0.169$   $\chi^2/\text{NDF}: 1946462.8/47$

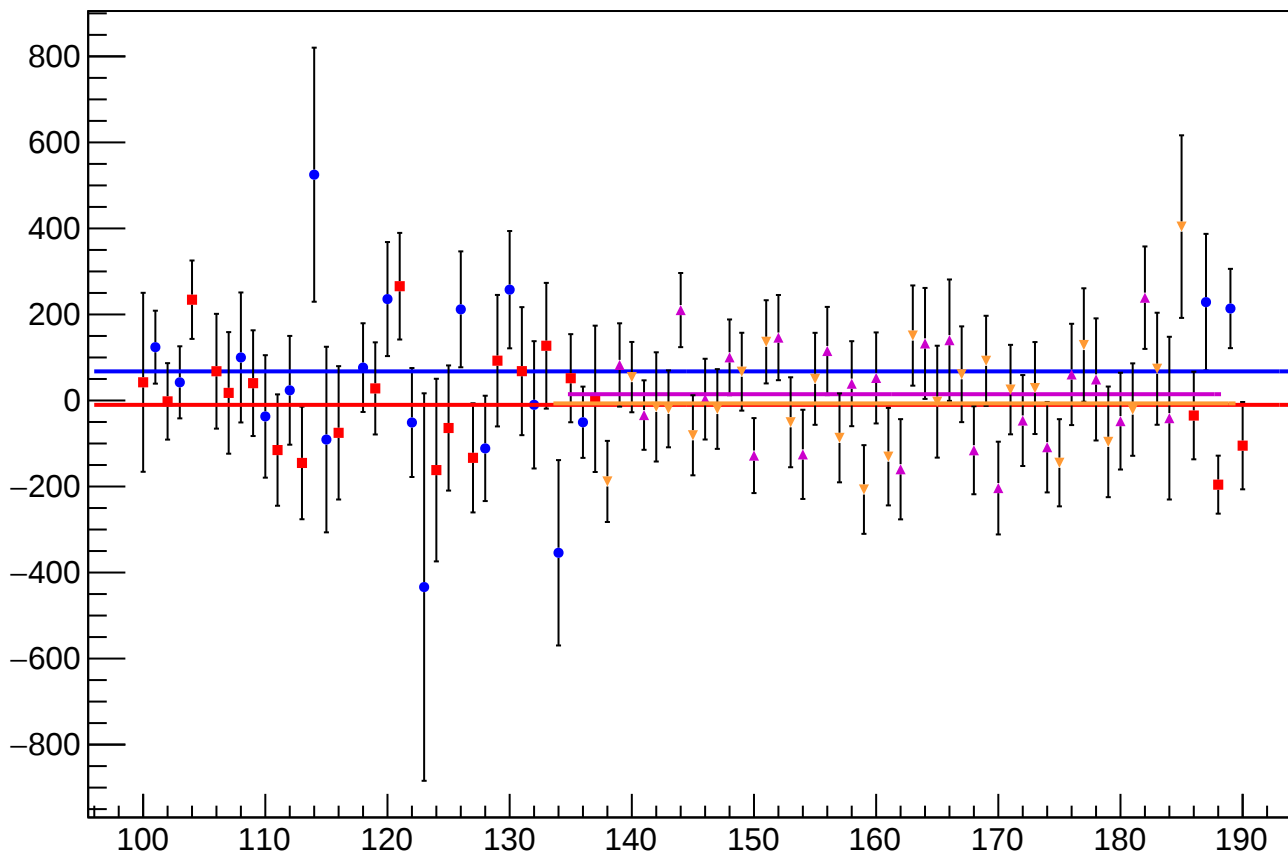
Right:  $1880.949 \pm 0.360$   $\chi^2/\text{NDF}: 4890813.0/40$

In:  $1516.061 \pm 0.225$   $\chi^2/\text{NDF}: 3953301.2/41$

Out:  $1477.750 \pm 0.209$   $\chi^2/\text{NDF}: 4269881.9/46$

All:  $1495.487 \pm 0.153$   $\chi^2/\text{NDF}: 8238710.0/88$

# diff\_bpm0r05X\_mean vs Slug, Sign Corrected



Right In: 67.668 +/- 28.464  $\chi^2/\text{NDF}$ : 22.8/18

Left Out: -6.789 +/- 21.213  $\chi^2/\text{NDF}$ : 24.7/24

Right Out: -10.158 +/- 25.285  $\chi^2/\text{NDF}$ : 26.9/21

Left In: 14.611 +/- 21.846  $\chi^2/\text{NDF}$ : 29.8/22

Left: 3.596 +/- 15.219  $\chi^2/\text{NDF}$ : 55.0/47

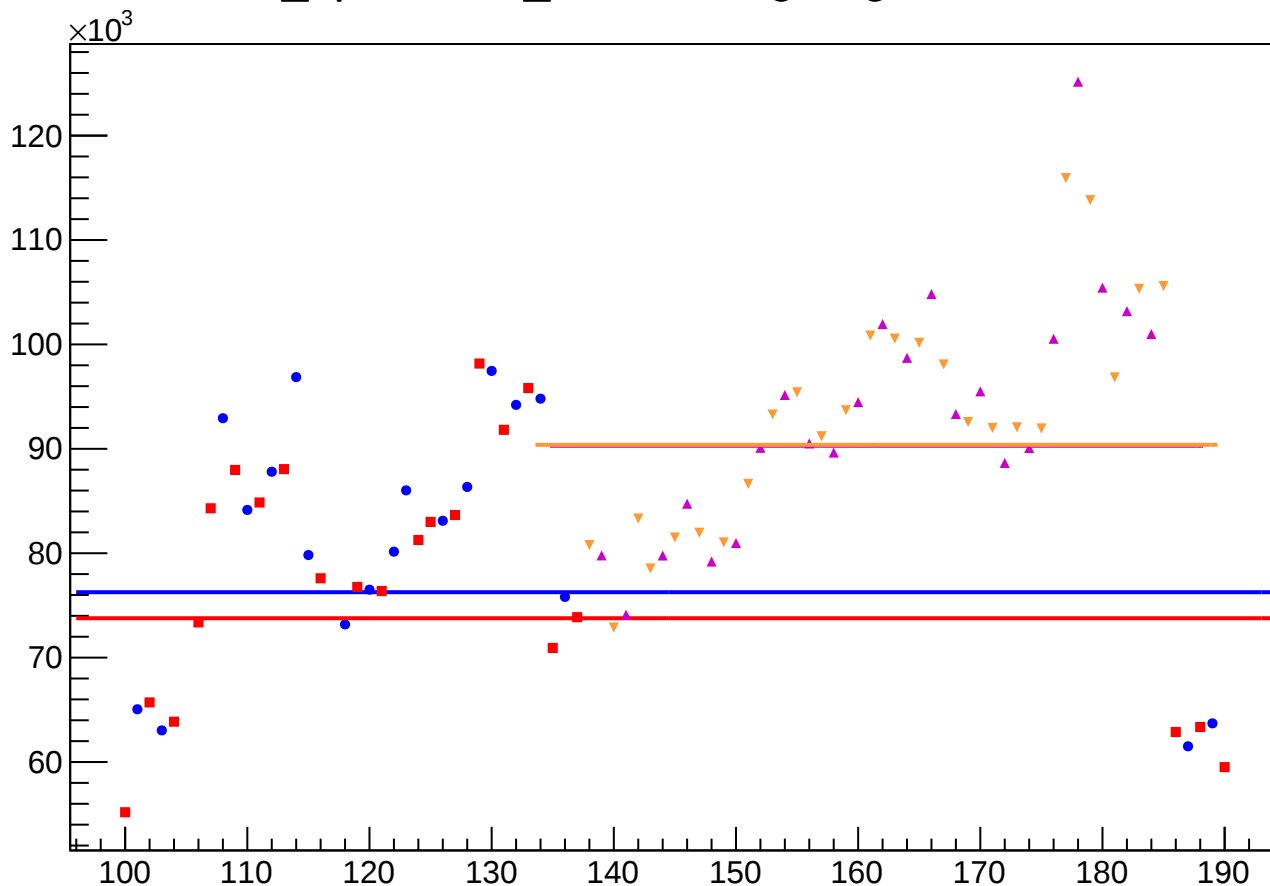
Right: 24.168 +/- 18.904  $\chi^2/\text{NDF}$ : 53.9/40

In: 34.279 +/- 17.330  $\chi^2/\text{NDF}$ : 54.9/41

Out: -8.181 +/- 16.251  $\chi^2/\text{NDF}$ : 51.6/46

All: 11.686 +/- 11.854  $\chi^2/\text{NDF}$ : 109.6/88

# diff\_bpm0r05X\_rms vs Slug, Sign Corrected



Right In: 76265.893 $\pm$ 20.127  $\chi^2/\text{NDF}$ : 312661.4/18

Left Out: 90384.853 $\pm$ 15.000  $\chi^2/\text{NDF}$ : 461648.2/24

Right Out: 73772.596 $\pm$ 17.879  $\chi^2/\text{NDF}$ : 396233.2/21

Left In: 90293.591 $\pm$ 15.448  $\chi^2/\text{NDF}$ : 461337.5/22

Left: 90340.563 $\pm$ 10.761  $\chi^2/\text{NDF}$ : 923003.7/47

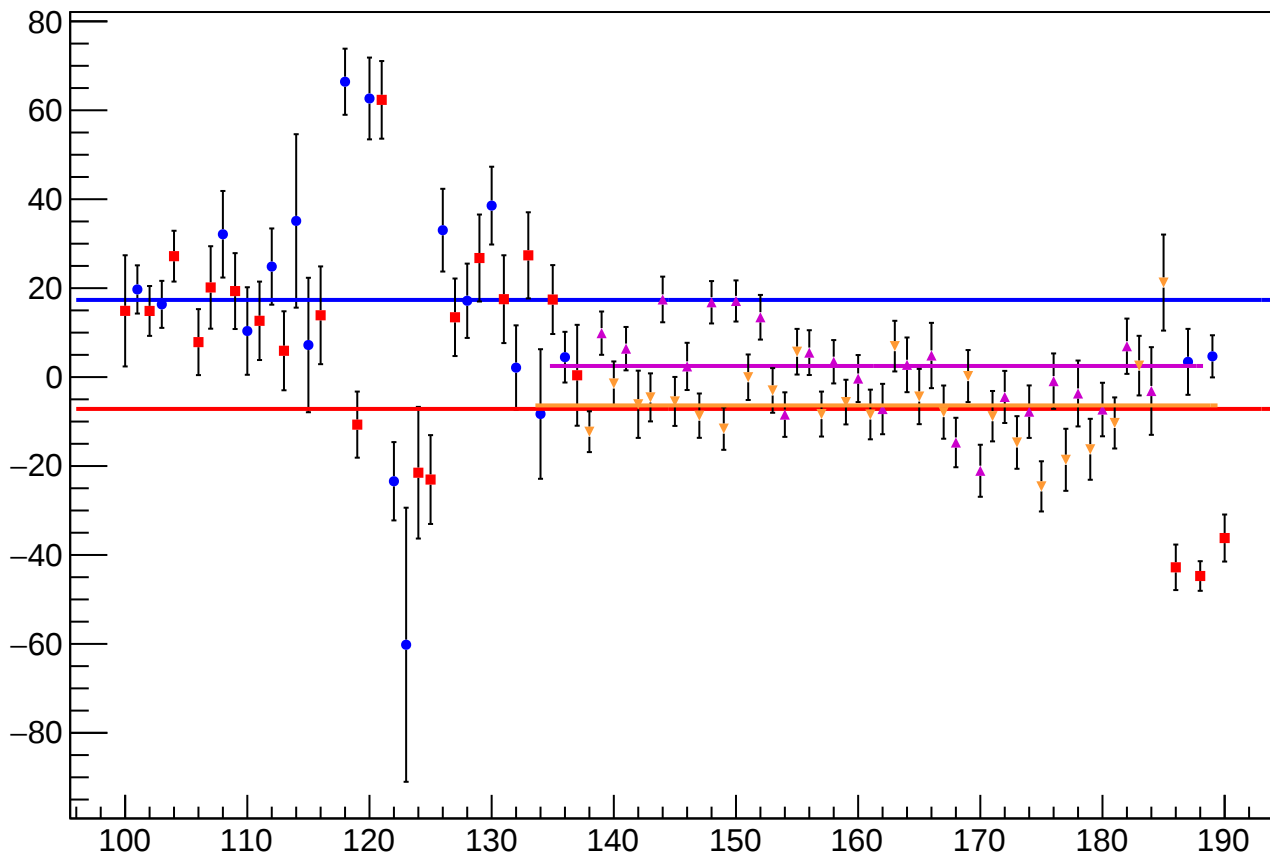
Right: 74872.298 $\pm$ 13.367  $\chi^2/\text{NDF}$ : 717472.0/40

In: 85093.532 $\pm$ 12.254  $\chi^2/\text{NDF}$ : 1079685.2/41

Out: 83522.380 $\pm$ 11.491  $\chi^2/\text{NDF}$ : 1364556.7/46

All: 84257.531 $\pm$ 8.382  $\chi^2/\text{NDF}$ : 2452988.7/86

# diff\_bpm0r05Y\_mean vs Slug, Sign Corrected



Right In: 17.354 $\pm$ 1.816  $\chi^2/\text{NDF}$ : 130.8/18

Left Out: -6.370 $\pm$ 1.124  $\chi^2/\text{NDF}$ :45.5/24

Right Out: -7.159 $\pm$ 1.534  $\chi^2/\text{NDF}$ : 408.0/21

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

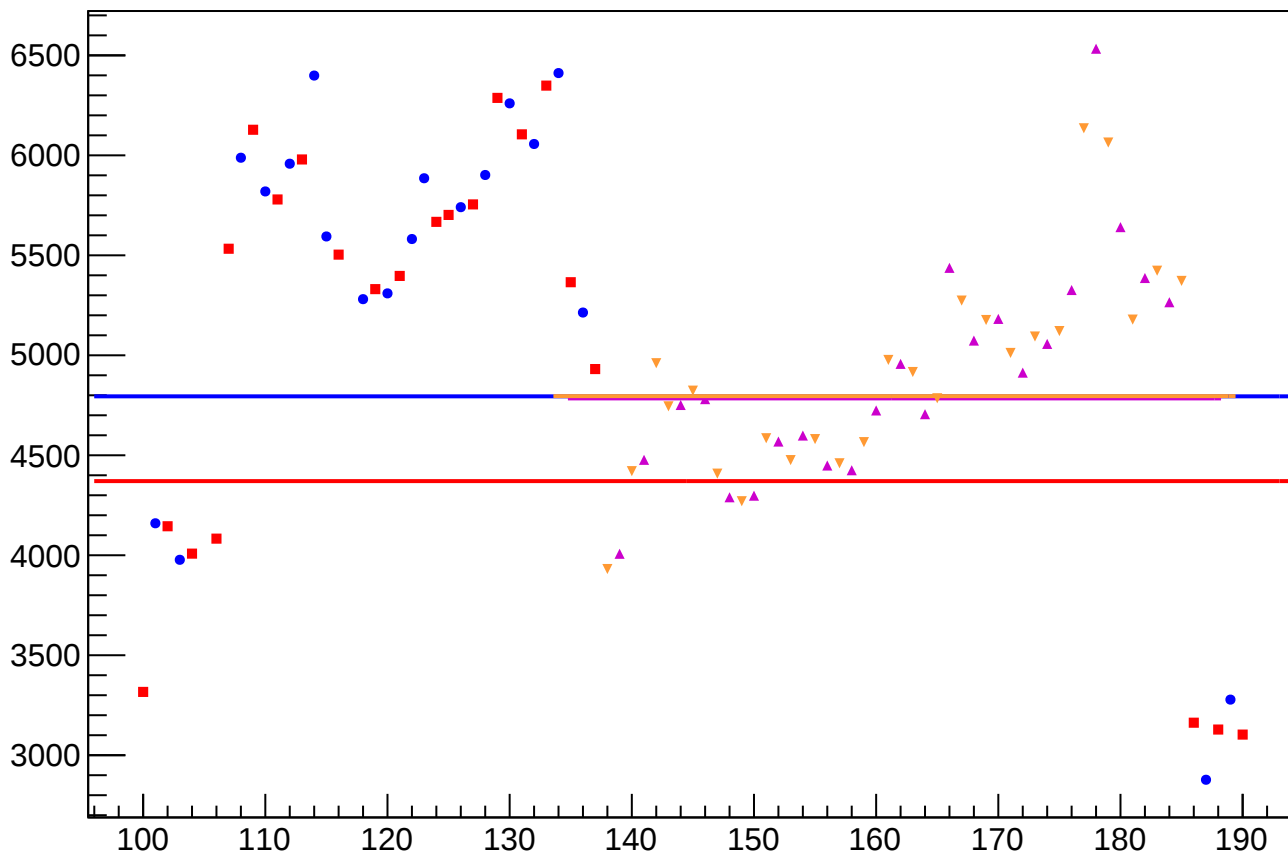
Right: 3.051 $\pm$ 1.172  $\chi^2/\text{NDF}$ : 645.2/40

In: 6.785 $\pm$ 0.975  $\chi^2/\text{NDF}$ :256.9/41

Out: -6.646 $\pm$ 0.907  $\chi^2/\text{NDF}$ :453.6/46

All: -0.419 $\pm$ 0.664  $\chi^2/\text{NDF}$ : 812.3/88

# diff\_bpm0r05Y\_rms vs Slug, Sign Corrected



Right In: 4794.768 $\pm$ 1.284  $\chi^2$ /NDF: 737472.6/18

Left Out: 4795.847 $\pm$ 0.795  $\chi^2$ /NDF: 361249.7/24

Right Out: 4370.836 $\pm$ 1.085  $\chi^2$ /NDF: 1209273.0/21

Left In: 4784.434 $\pm$ 0.817  $\chi^2$ /NDF: 357507.2/22

Left: 4790.301 $\pm$ 0.570  $\chi^2$ /NDF: 718857.1/47

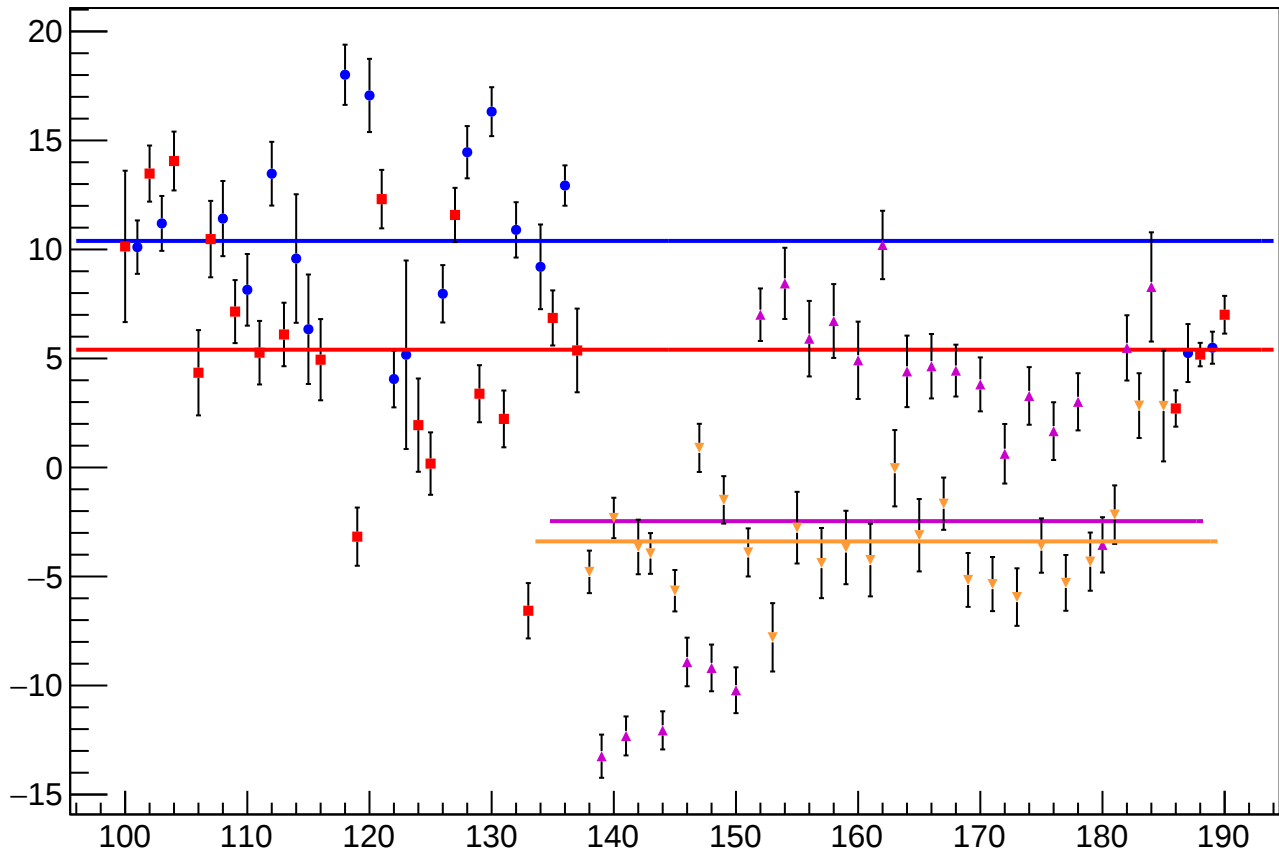
Right: 4547.403 $\pm$ 0.829  $\chi^2$ /NDF: 2010371.4/40

In: 4787.415 $\pm$ 0.689  $\chi^2$ /NDF: 1095025.8/41

Out: 4647.388 $\pm$ 0.641  $\chi^2$ /NDF: 1670431.6/46

All: 4712.311 $\pm$ 0.469  $\chi^2$ /NDF: 2787579.8/88

# diff\_bpm2i01X\_mean vs Slug, Sign Corrected



Right In: 10.392 $\pm$ 0.304  $\chi^2$ /NDF: 191.6/18

Left Out: -3.390 $\pm$ 0.252  $\chi^2$ /NDF: 77.7/24

Right Out: 5.402 $\pm$ 0.259  $\chi^2$ /NDF: 313.9/21

Left In: -2.461 $\pm$ 0.264  $\chi^2$ /NDF: 928.0/22

Left: -2.947 $\pm$ 0.183  $\chi^2$ /NDF: 1012.2/47

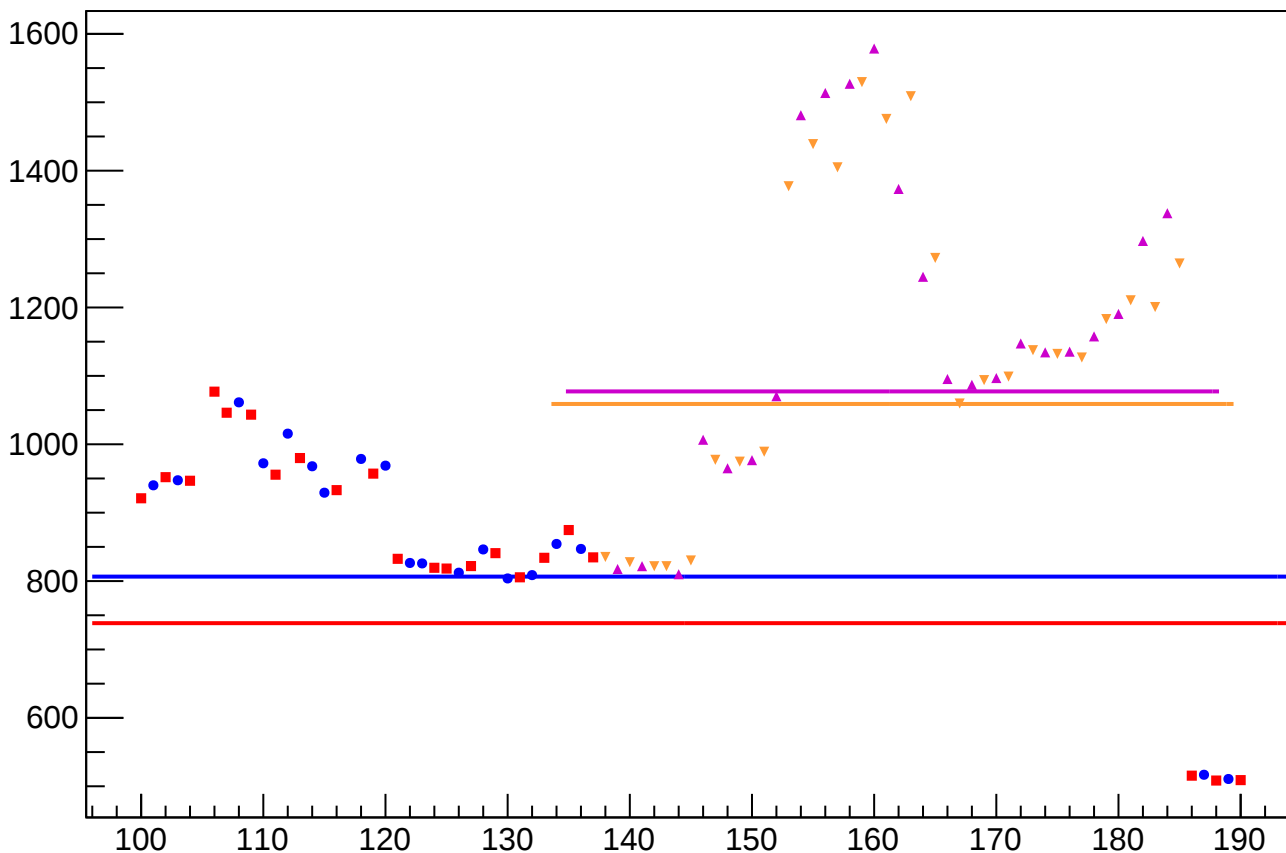
Right: 7.499 $\pm$ 0.197  $\chi^2$ /NDF: 661.6/40

In: 3.071 $\pm$ 0.200  $\chi^2$ /NDF: 2136.8/41

Out: 0.892 $\pm$ 0.181  $\chi^2$ /NDF: 983.2/46

All: 1.873 $\pm$ 0.134  $\chi^2$ /NDF: 3185.6/88

# diff\_bpm2i01X\_rms vs Slug, Sign Corrected



Right In: 806.535 $\pm$ 0.215  $\chi^2$ /NDF: 640953.3/18

Left Out: 1058.941 $\pm$ 0.178  $\chi^2$ /NDF:1403222.2/24

Right Out: 738.470 $\pm$ 0.183  $\chi^2$ /NDF: 1227428.2/21

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

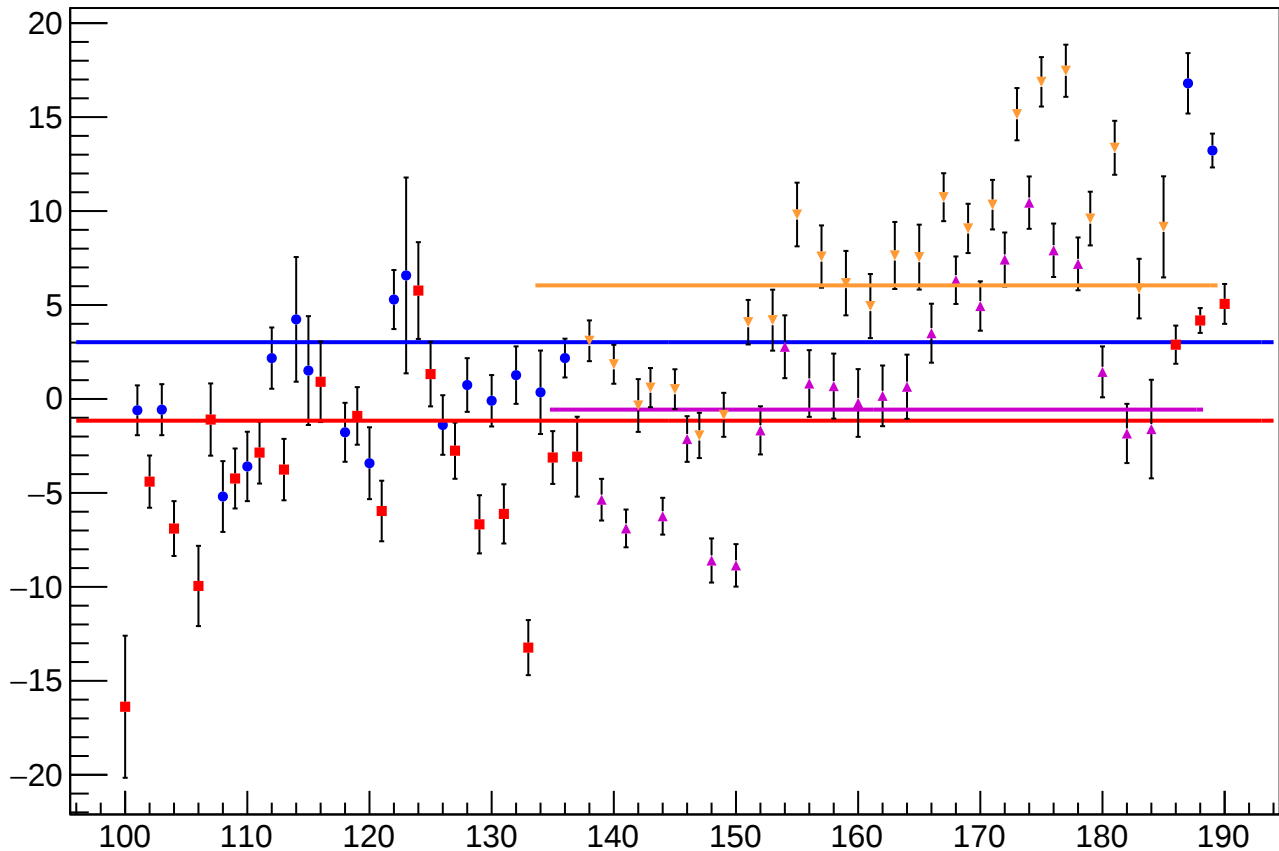
Right: 767.069 $\pm$ 0.139  $\chi^2$ /NDF: 1926460.4/40

In: 960.762 $\pm$ 0.141  $\chi^2$ /NDF:2824117.1/41

Out: 902.876 $\pm$ 0.128  $\chi^2$ /NDF:4202639.7/46

All: 928.956 $\pm$ 0.095  $\chi^2$ /NDF: 7119249.9/88

# diff\_bpm2i01Y\_mean vs Slug, Sign Corrected



Right In:  $3.022 \pm 0.353$   $\chi^2/\text{NDF}$ : 291.2/18

Left Out:  $6.045 \pm 0.272$   $\chi^2/\text{NDF}$ : 430.8/24

Right Out:  $-1.156 \pm 0.304$   $\chi^2/\text{NDF}$ : 290.0/21

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

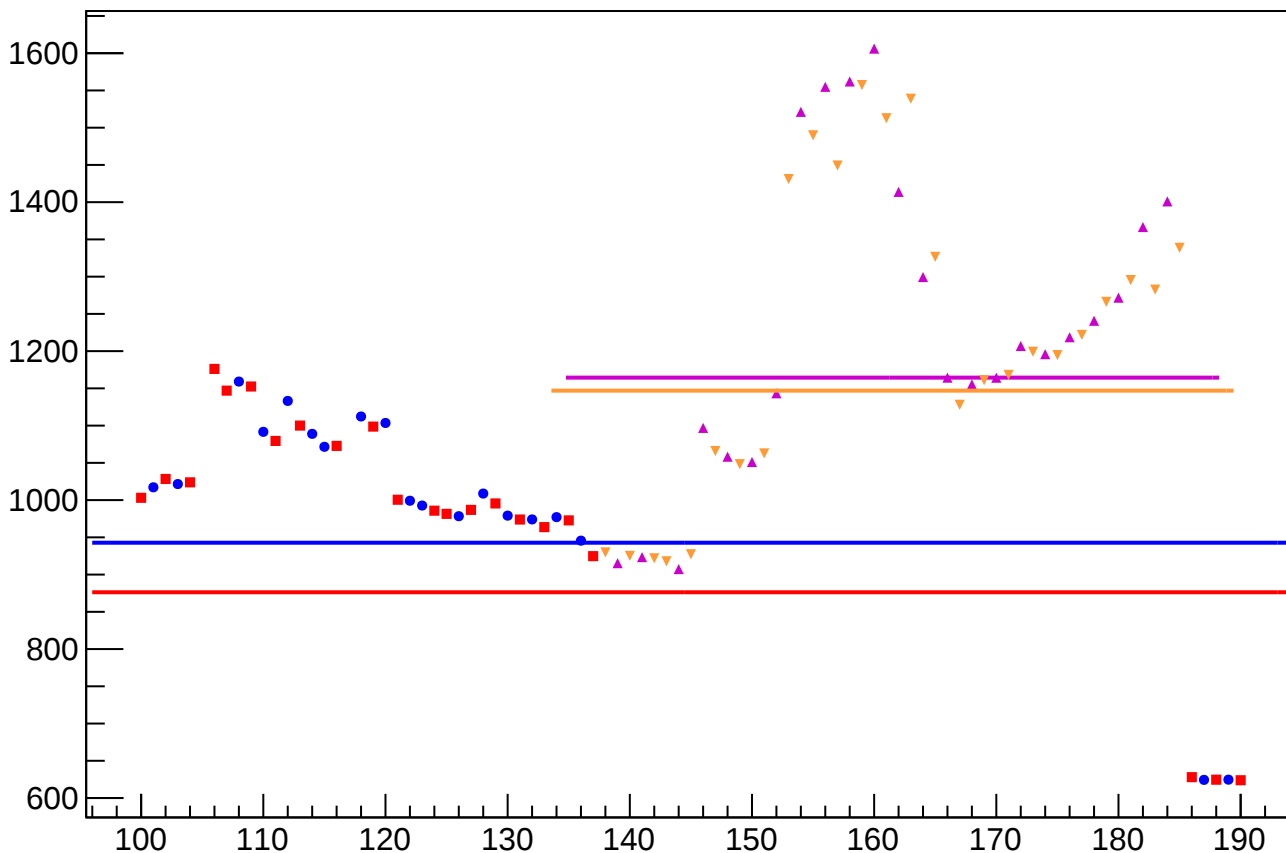
Right:  $0.623 \pm 0.231$   $\chi^2/\text{NDF}$ : 661.4/40

In:  $0.843 \pm 0.221$   $\chi^2/\text{NDF}$ : 770.8/41

Out:  $2.851 \pm 0.203$   $\chi^2/\text{NDF}$ : 1032.5/46

All:  $1.935 \pm 0.149$   $\chi^2/\text{NDF}$ : 1848.0/88

# diff\_bpm2i01Y\_rms vs Slug, Sign Corrected



Right In:  $942.788 \pm 0.250$   $\chi^2/\text{NDF}: 464447.5/18$

Left Out:  $1146.960 \pm 0.192$   $\chi^2/\text{NDF}: 1045761.4/24$

Right Out:  $876.267 \pm 0.215$   $\chi^2/\text{NDF}: 905523.6/21$

Left In:  $1164.432 \pm 0.201$   $\chi^2/\text{NDF}: 944112.0/22$

Left:  $1155.305 \pm 0.139$   $\chi^2/\text{NDF}: 1993824.0/47$

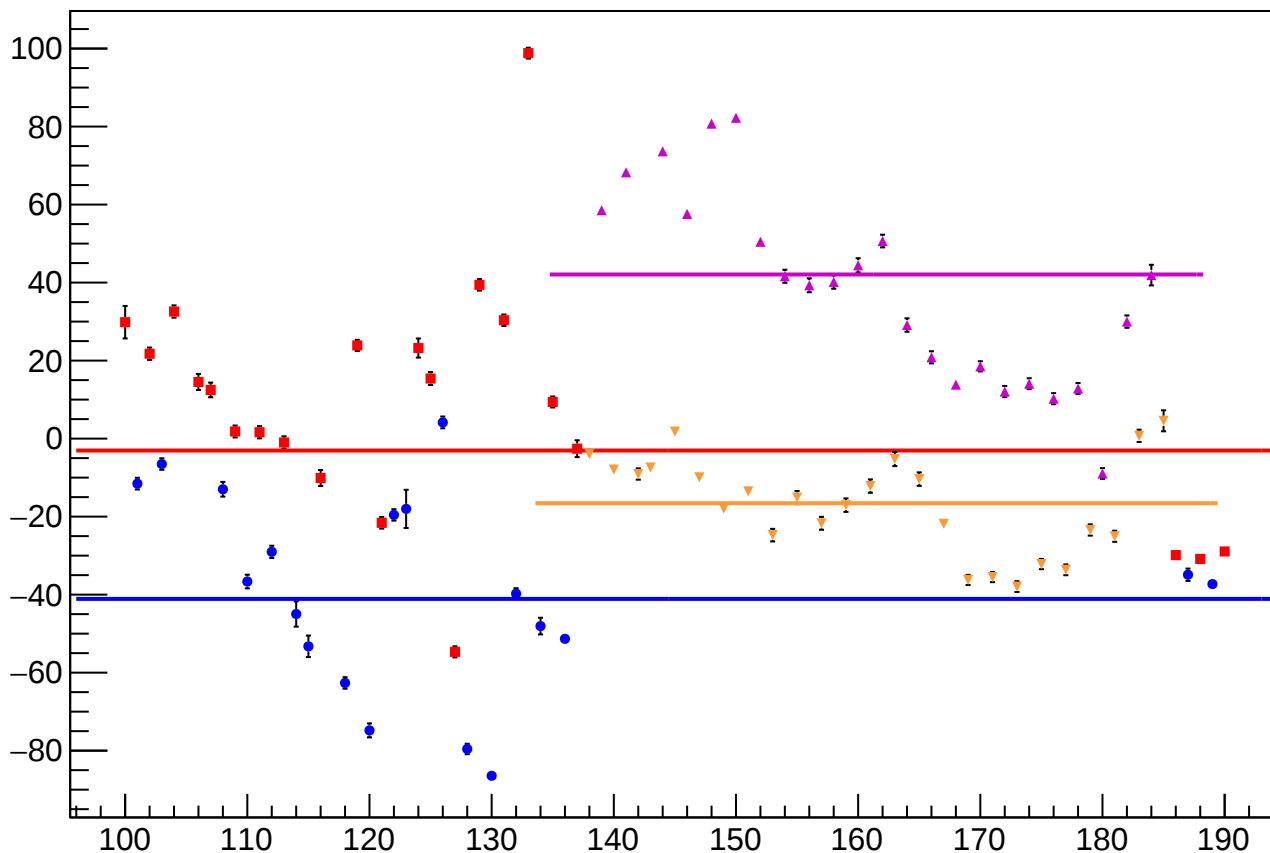
Right:  $904.590 \pm 0.163$   $\chi^2/\text{NDF}: 1410679.4/40$

In:  $1077.391 \pm 0.157$   $\chi^2/\text{NDF}: 1886527.2/41$

Out:  $1026.873 \pm 0.143$   $\chi^2/\text{NDF}: 2832161.1/46$

All:  $1049.900 \pm 0.106$   $\chi^2/\text{NDF}: 4775346.4/88$

# diff\_bpm2i02X\_mean vs Slug, Sign Corrected



Right In: -41.090 $\pm$ 0.346  $\chi^2/\text{NDF}$ : 5140.2/18

Left Out: -16.567 $\pm$ 0.275  $\chi^2/\text{NDF}$ :1931.2/24

Right Out: -3.053 $\pm$ 0.296  $\chi^2/\text{NDF}$ : 13064.7/21

Left In: 42.077 $\pm$ 0.289  $\chi^2/\text{NDF}$ :8332.3/22

Left: 11.318 $\pm$ 0.199  $\chi^2/\text{NDF}$ : 31846.5/47

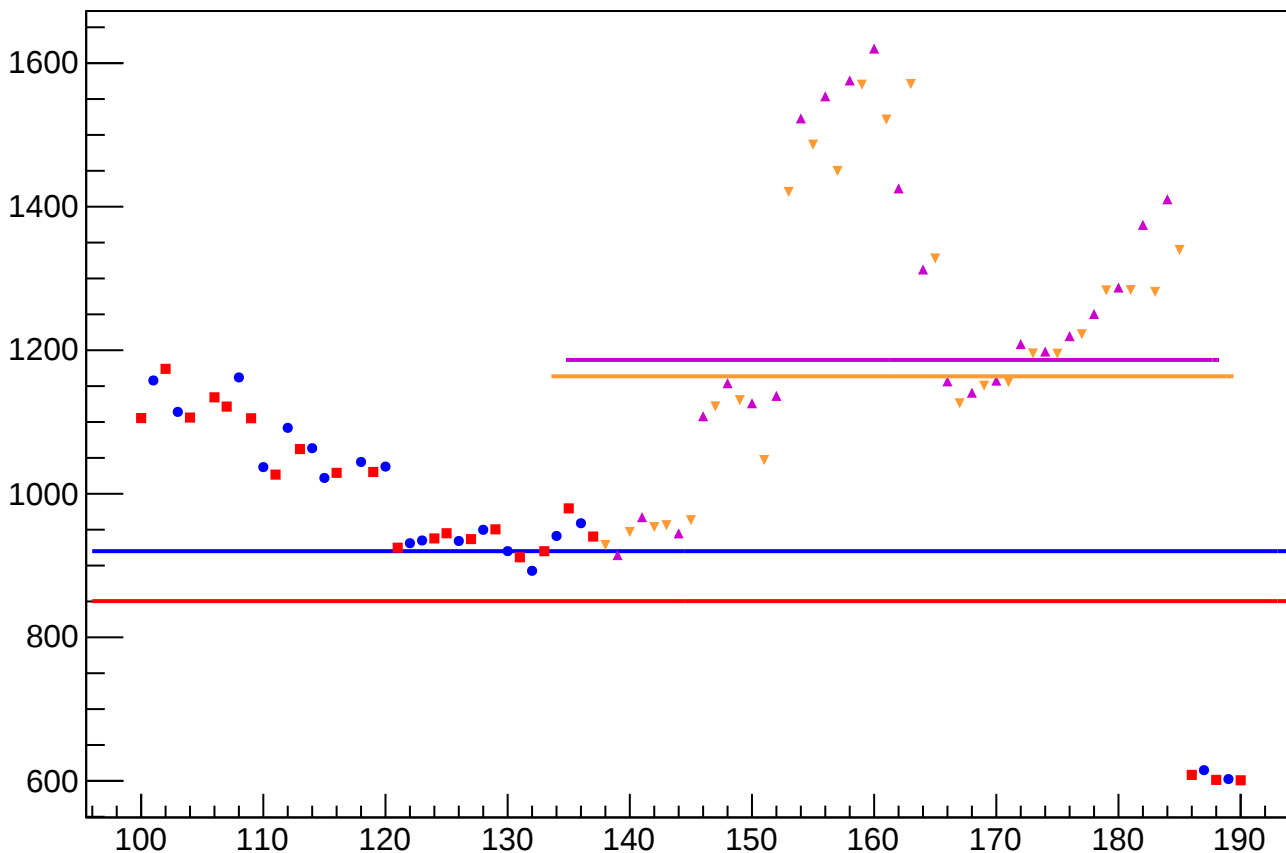
Right: -19.153 $\pm$ 0.225  $\chi^2/\text{NDF}$ : 25193.7/40

In: 7.831 $\pm$ 0.222  $\chi^2/\text{NDF}$ :47550.9/41

Out: -10.300 $\pm$ 0.202  $\chi^2/\text{NDF}$ :16113.5/46

All: -2.096 $\pm$ 0.149  $\chi^2/\text{NDF}$ : 67325.7/88

# diff\_bpm2i02X\_rms vs Slug, Sign Corrected



Right In: 920.047 $\pm$ 0.244  $\chi^2$ /NDF: 526724.1/18

Left Out: 1163.691 $\pm$ 0.195  $\chi^2$ /NDF: 936079.1/24

Right Out: 850.455 $\pm$ 0.209  $\chi^2$ /NDF: 991800.2/21

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

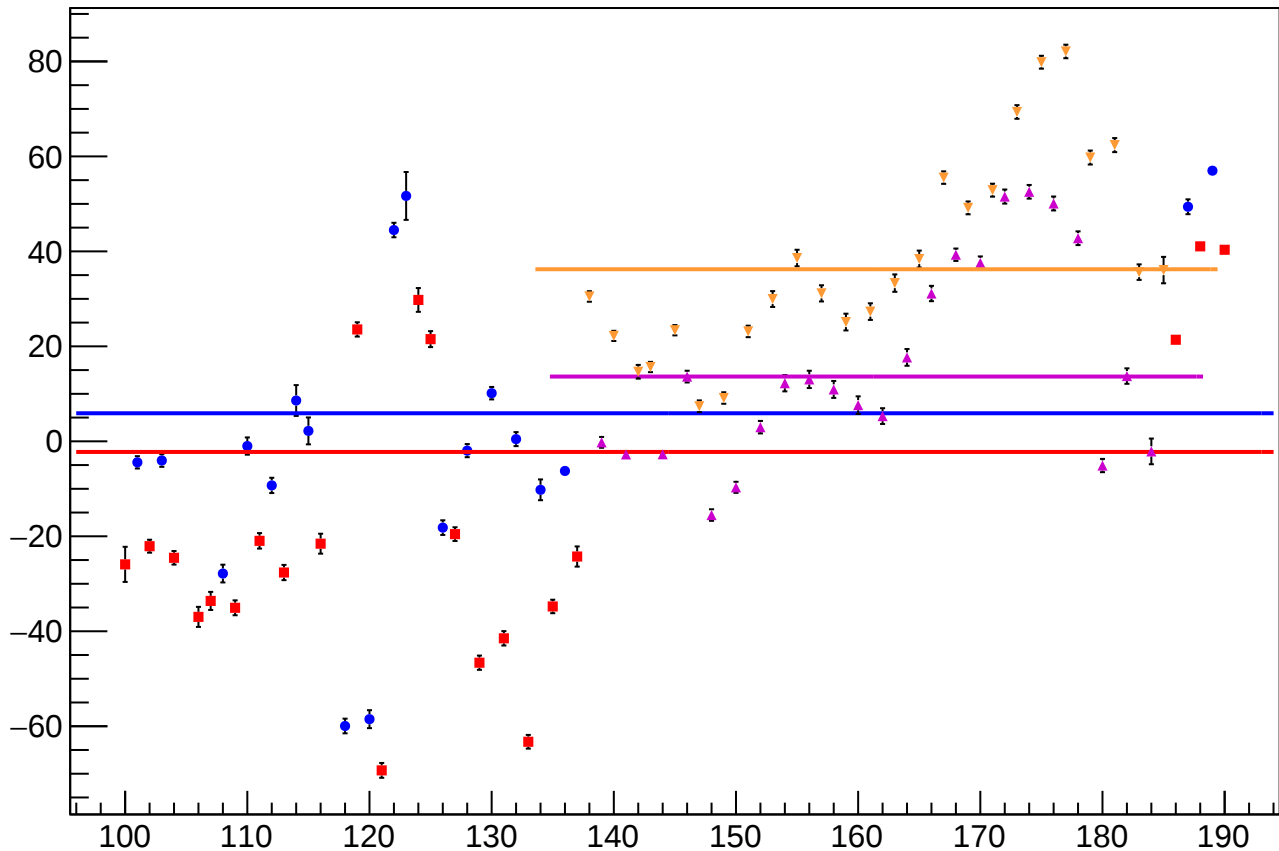
Right: 879.911 $\pm$ 0.159  $\chi^2$ /NDF: 1565313.9/40

In: 1076.770 $\pm$ 0.157  $\chi^2$ /NDF: 2059614.1/41

Out: 1018.437 $\pm$ 0.143  $\chi^2$ /NDF: 3128874.5/46

All: 1044.834 $\pm$ 0.105  $\chi^2$ /NDF: 5264277.0/88

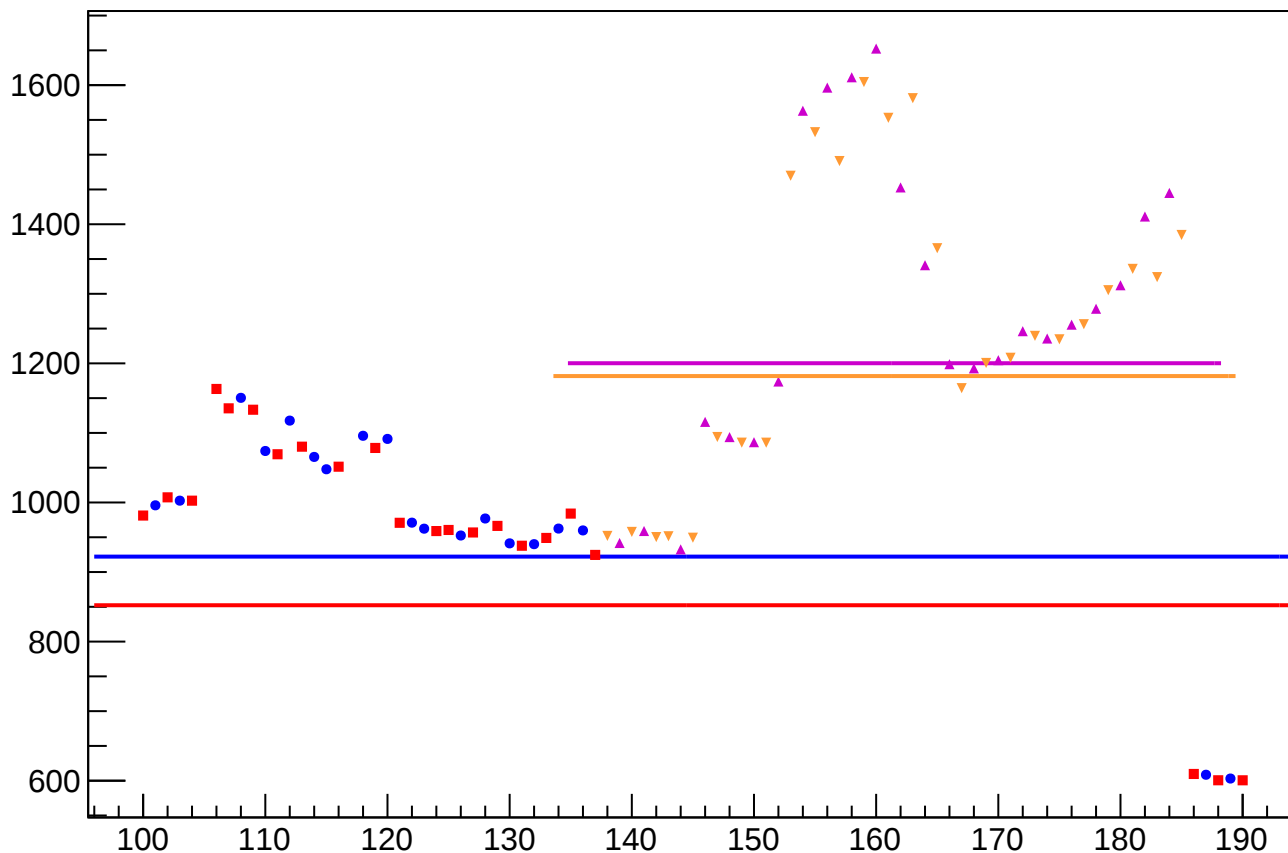
# diff\_bpm2i02Y\_mean vs Slug, Sign Corrected



Right In: 5.908 $\pm$ 0.346  $\chi^2/\text{NDF}$ : 8973.7/18  
 Left Out: 36.234 $\pm$ 0.280  $\chi^2/\text{NDF}$ :5794.2/24  
 Right Out: -2.238 $\pm$ 0.296  $\chi^2/\text{NDF}$ : 15490.7/21  
 Left In: 13.640 $\pm$ 0.293  $\chi^2/\text{NDF}$ :5178.0/22

Left: 25.447 $\pm$ 0.202  $\chi^2/\text{NDF}$ : 14084.0/47  
 Right: 1.212 $\pm$ 0.225  $\chi^2/\text{NDF}$ : 24784.1/40  
 In: 10.413 $\pm$ 0.223  $\chi^2/\text{NDF}$ :14442.7/41  
 Out: 18.107 $\pm$ 0.204  $\chi^2/\text{NDF}$ :30188.4/46  
 All: 14.619 $\pm$ 0.150  $\chi^2/\text{NDF}$ : 45279.0/88

# diff\_bpm2i02Y\_rms vs Slug, Sign Corrected



Right In: 922.176 $\pm$ 0.245  $\chi^2$ /NDF: 496729.7/18

Left Out: 1181.732 $\pm$ 0.198  $\chi^2$ /NDF:1043520.8/24

Right Out: 852.260 $\pm$ 0.210  $\chi^2$ /NDF: 977200.8/21

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

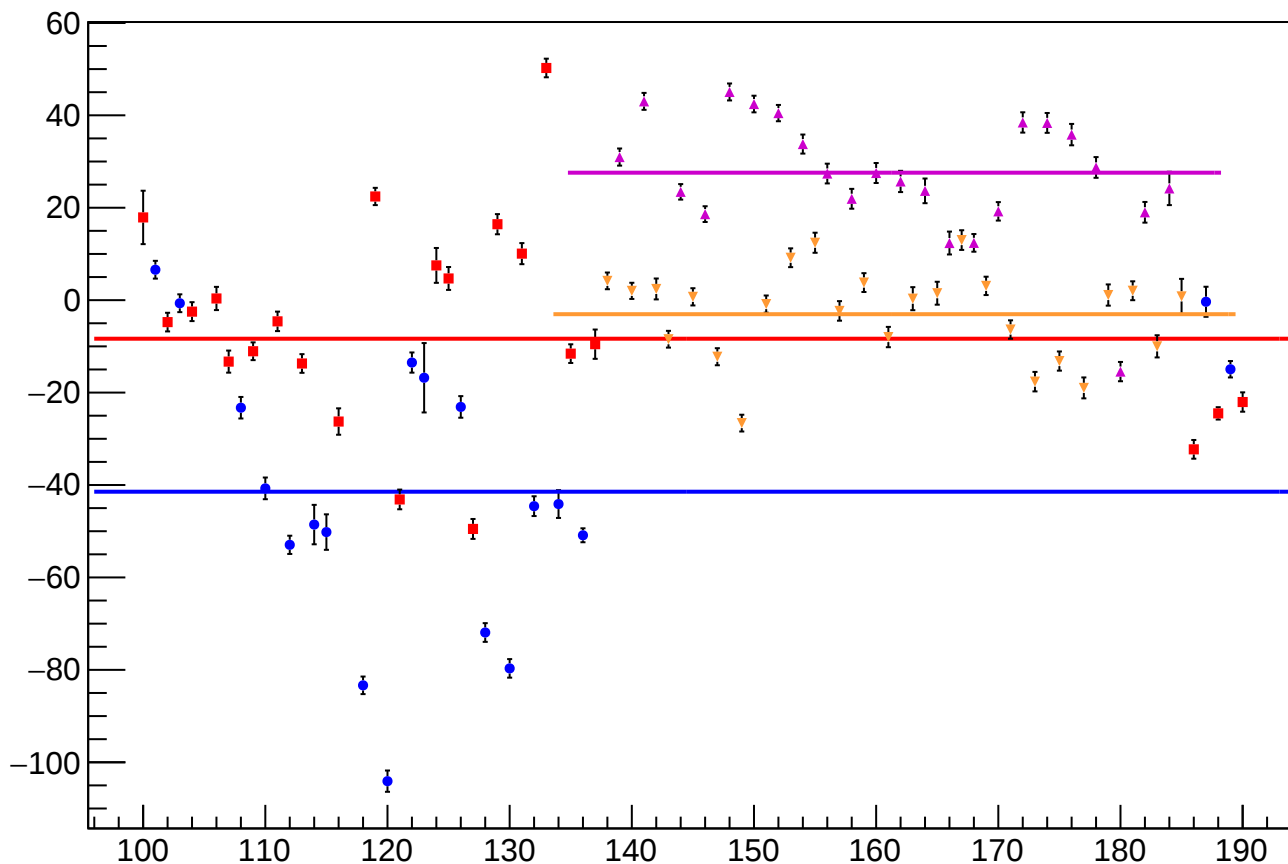
Right: 881.866 $\pm$ 0.159  $\chi^2$ /NDF: 1521024.8/40

In: 1084.168 $\pm$ 0.158  $\chi^2$ /NDF:2187543.8/41

Out: 1026.488 $\pm$ 0.144  $\chi^2$ /NDF:3326711.5/46

All: 1052.636 $\pm$ 0.106  $\chi^2$ /NDF: 5587077.9/88

# diff\_bpm0i02X\_mean vs Slug, Sign Corrected



Right In:  $-41.449 \pm 0.511$   $\chi^2/\text{NDF}: 3650.2/18$

Left Out:  $-3.037 \pm 0.415$   $\chi^2/\text{NDF}: 555.6/24$

Right Out:  $-8.343 \pm 0.462$   $\chi^2/\text{NDF}: 2418.6/21$

Left In:  $27.583 \pm 0.429$   $\chi^2/\text{NDF}: 960.1/22$

Left:  $11.767 \pm 0.298$   $\chi^2/\text{NDF}: 4146.6/47$

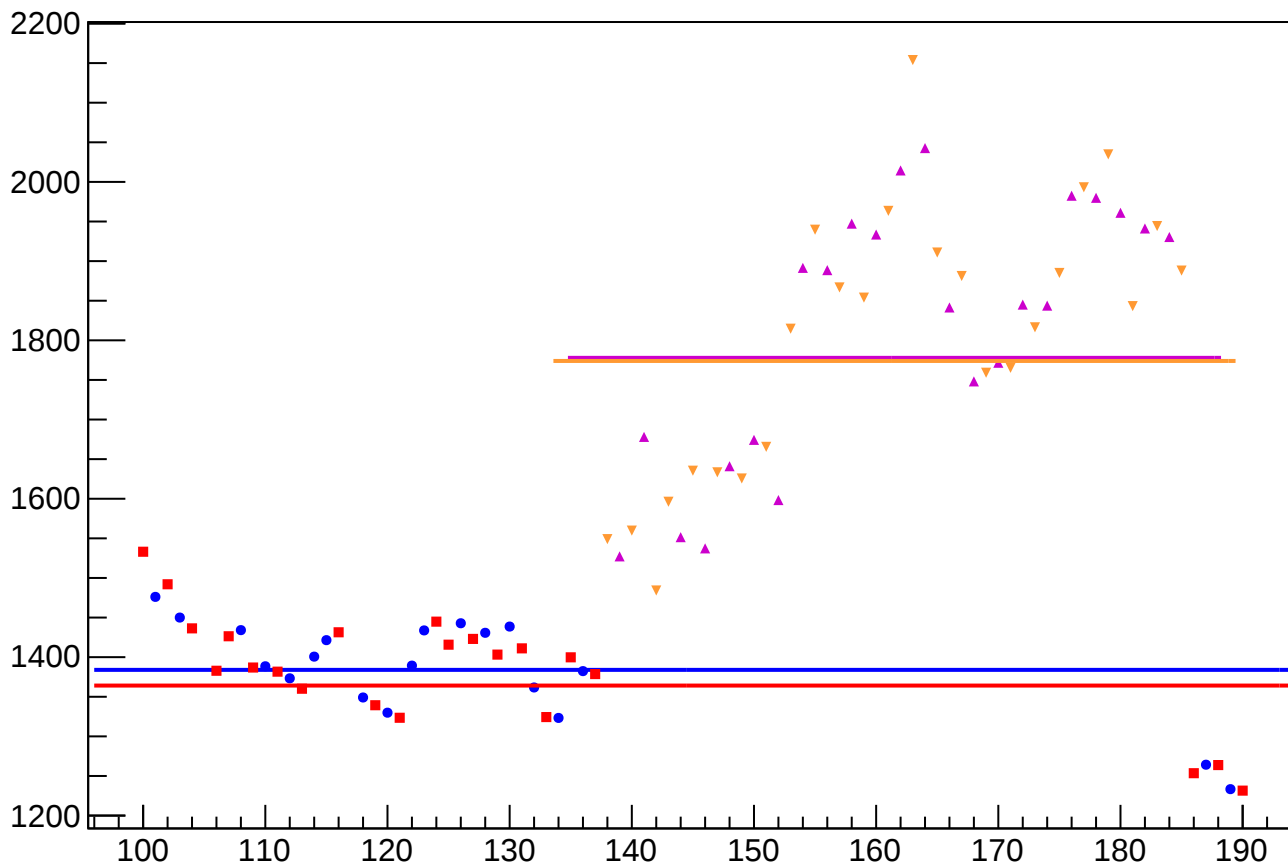
Right:  $-23.231 \pm 0.343$   $\chi^2/\text{NDF}: 8380.9/40$

In:  $-0.975 \pm 0.329$   $\chi^2/\text{NDF}: 15320.9/41$

Out:  $-5.409 \pm 0.309$   $\chi^2/\text{NDF}: 3047.3/46$

All:  $-3.330 \pm 0.225$   $\chi^2/\text{NDF}: 18465.0/88$

# diff\_bpm0i02X\_rms vs Slug, Sign Corrected



Right In: 1383.961 $\pm$ 0.361  $\chi^2$ /NDF: 31983.5/18

Left Out: 1773.965 $\pm$ 0.294  $\chi^2$ /NDF: 313031.1/24

Right Out: 1364.148 $\pm$ 0.326  $\chi^2$ /NDF: 47786.9/21

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

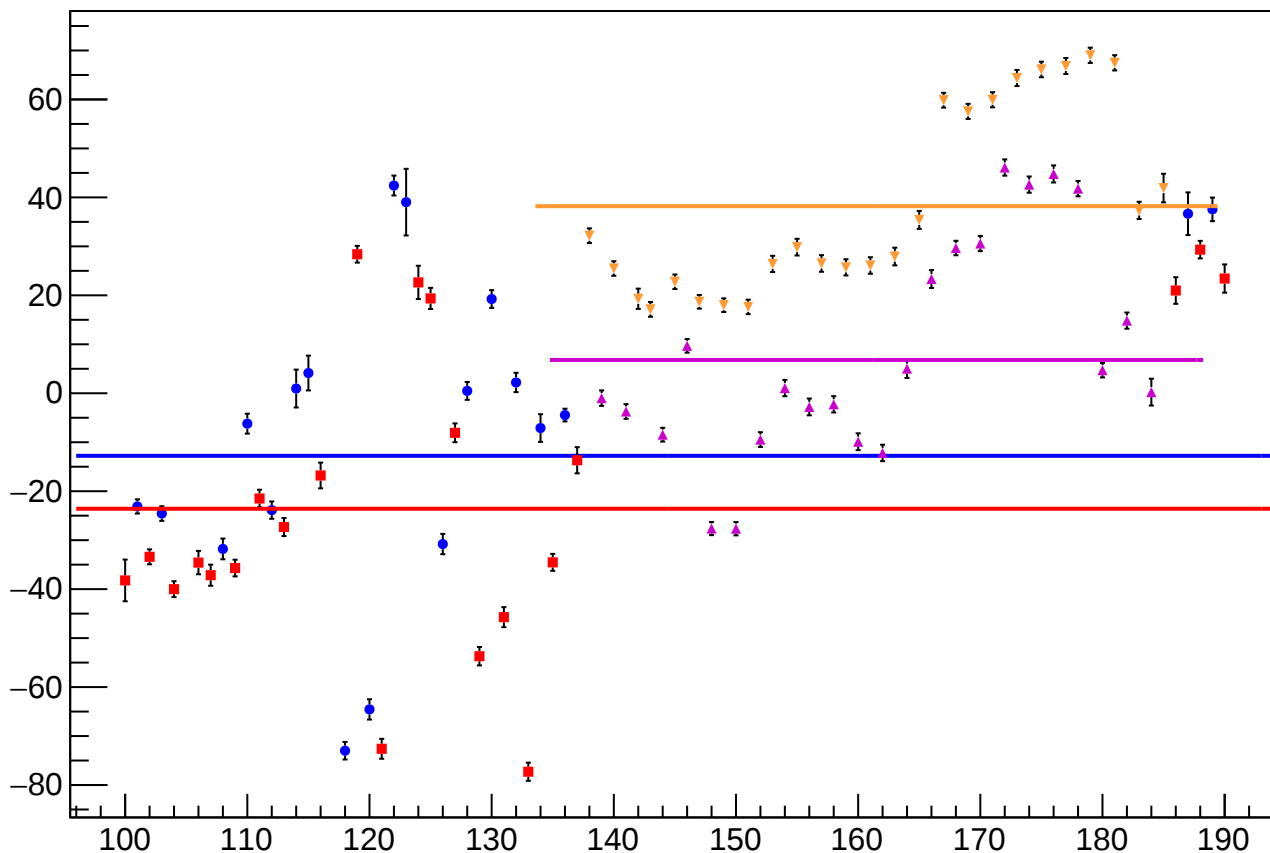
Right: 1373.058 $\pm$ 0.242  $\chi^2$ /NDF: 81426.7/40

In: 1614.920 $\pm$ 0.232  $\chi^2$ /NDF: 1029034.8/41

Out: 1590.785 $\pm$ 0.218  $\chi^2$ /NDF: 1232234.3/46

All: 1602.102 $\pm$ 0.159  $\chi^2$ /NDF: 2267002.3/88

# diff\_bpm0i02Y\_mean vs Slug, Sign Corrected



Right In:  $-12.772 \pm 0.461$   $\chi^2/\text{NDF}$ : 3939.6/18

Left Out:  $38.206 \pm 0.323$   $\chi^2/\text{NDF}$ : 3514.2/24

Right Out:  $-23.584 \pm 0.432$   $\chi^2/\text{NDF}$ : 5099.4/21

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

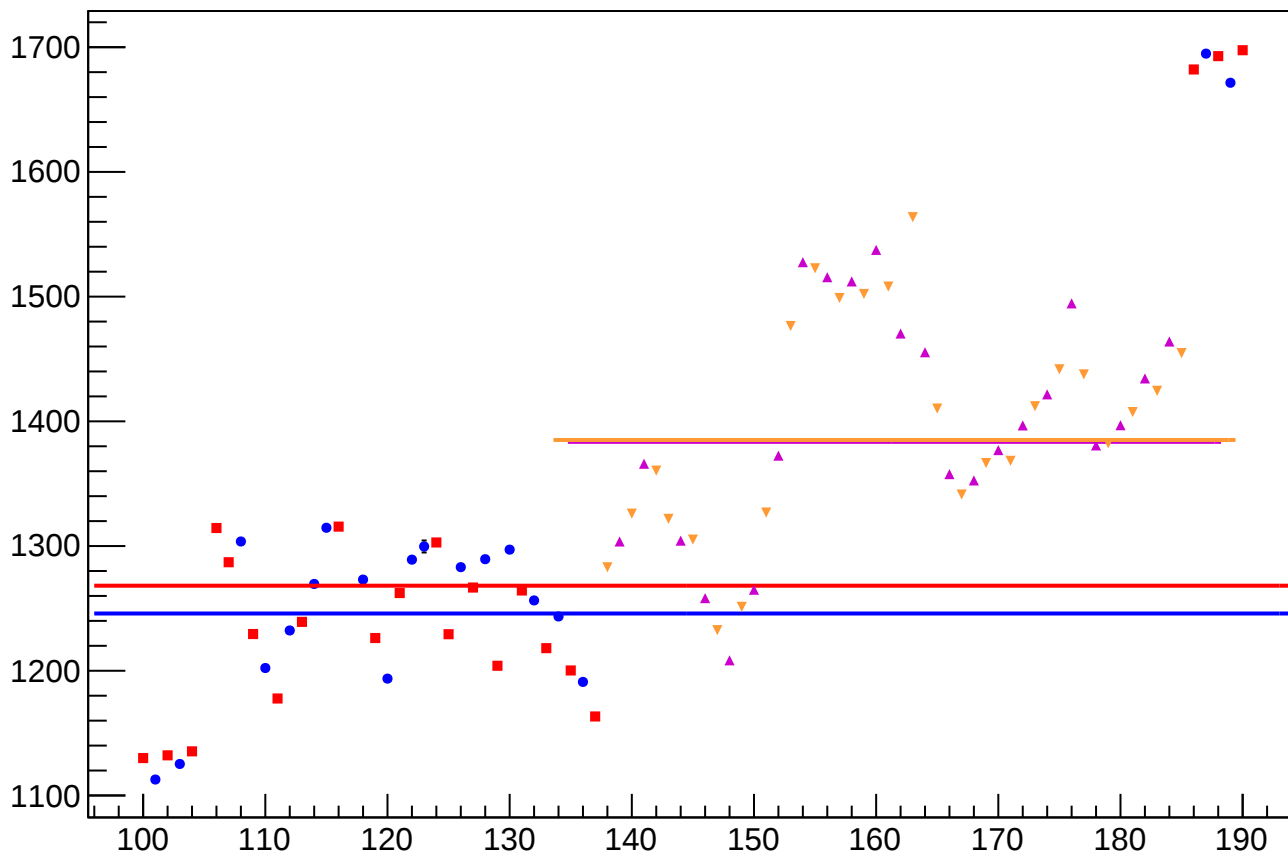
Right:  $-18.533 \pm 0.315$   $\chi^2/\text{NDF}$ : 9331.6/40

In:  $0.103 \pm 0.270$   $\chi^2/\text{NDF}$ : 9618.2/41

Out:  $16.020 \pm 0.259$   $\chi^2/\text{NDF}$ : 21723.2/46

All:  $8.397 \pm 0.187$   $\chi^2/\text{NDF}$ : 33152.0/88

# diff\_bpm0i02Y\_rms vs Slug, Sign Corrected



Right In: 1245.916+/-0.326  $\chi^2/\text{NDF}$ : 126696.0/18

Left Out: 1385.063+/-0.229  $\chi^2/\text{NDF}$ : 146001.5/24

Right Out: 1268.210+/-0.306  $\chi^2/\text{NDF}$ : 254497.0/21

Left In: 1383.558+/-0.235  $\chi^2/\text{NDF}$ : 154696.0/22

Left: 1384.333+/-0.164  $\chi^2/\text{NDF}$ : 300718.5/47

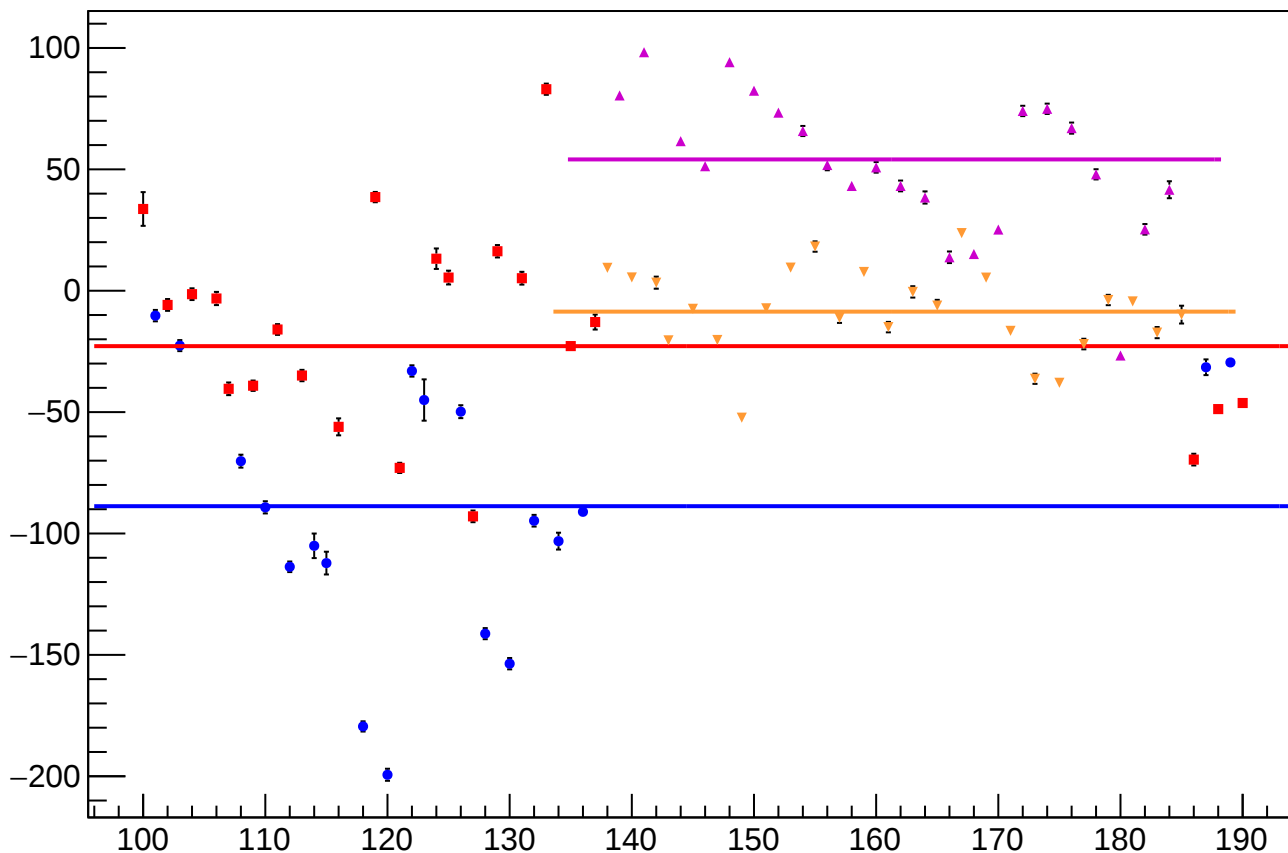
Right: 1257.795+/-0.223  $\chi^2/\text{NDF}$ : 383680.8/40

In: 1336.424+/-0.191  $\chi^2/\text{NDF}$ : 398413.3/41

Out: 1343.107+/-0.183  $\chi^2/\text{NDF}$ : 494267.0/46

All: 1339.906+/-0.132  $\chi^2/\text{NDF}$ : 893318.7/88

# diff\_bpm0i02aX\_mean vs Slug, Sign Corrected



Right In:  $-88.752 \pm 0.561$   $\chi^2/\text{NDF}$ : 9571.0/18

Left Out:  $-8.606 \pm 0.410$   $\chi^2/\text{NDF}$ : 1930.5/24

Right Out:  $-22.825 \pm 0.506$   $\chi^2/\text{NDF}$ : 6223.5/21

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

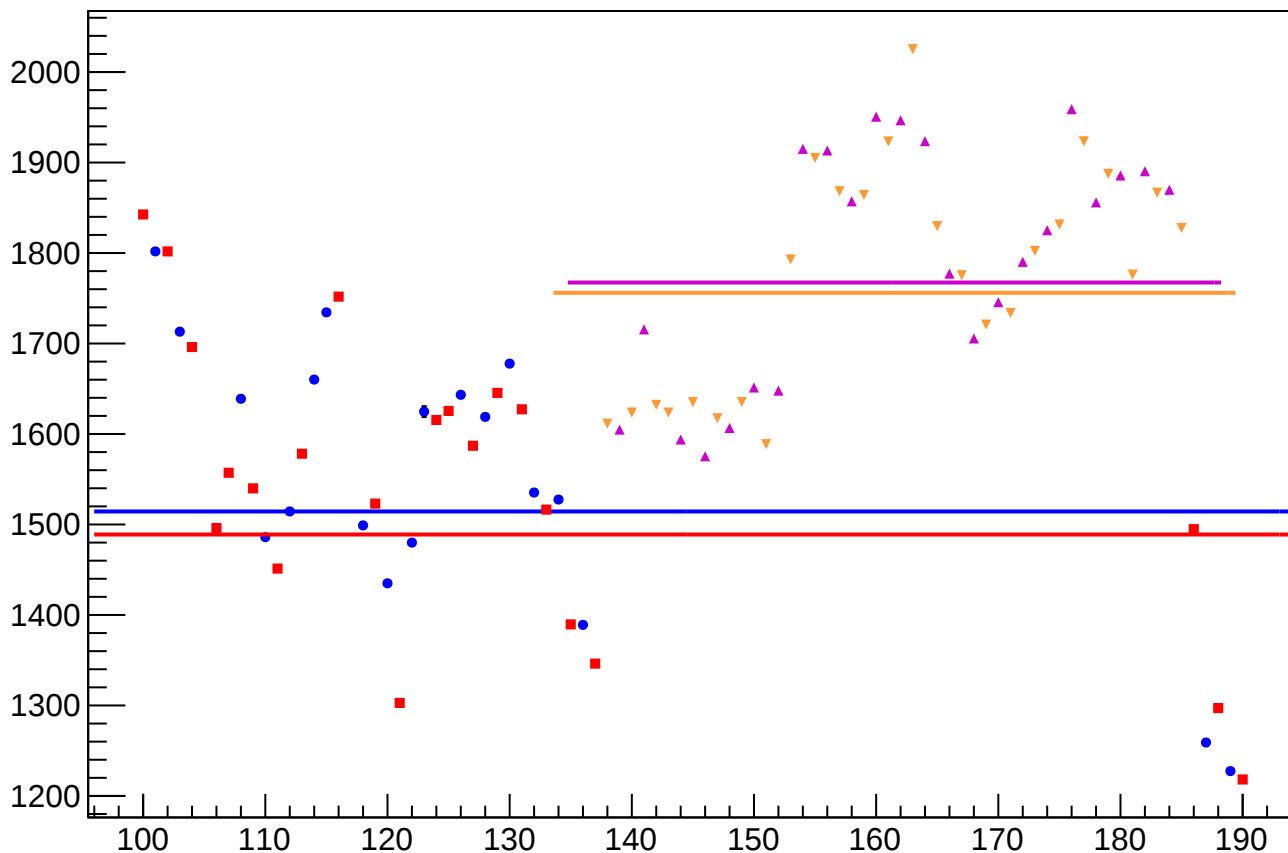
Right:  $-52.384 \pm 0.376$   $\chi^2/\text{NDF}$ : 23400.8/40

In:  $1.956 \pm 0.339$   $\chi^2/\text{NDF}$ : 55396.5/41

Out:  $-14.242 \pm 0.319$   $\chi^2/\text{NDF}$ : 8630.4/46

All:  $-6.647 \pm 0.232$   $\chi^2/\text{NDF}$ : 65238.1/88

# diff\_bpm0i02aX\_rms vs Slug, Sign Corrected



Right In: 1514.383 $\pm$ 0.397  $\chi^2$ /NDF: 156387.2/18

Left Out: 1756.034 $\pm$ 0.290  $\chi^2$ /NDF: 175762.3/24

Right Out: 1488.918 $\pm$ 0.358  $\chi^2$ /NDF: 191694.9/21

Left In: 1767.410 $\pm$ 0.301  $\chi^2$ /NDF: 187958.2/22

Left: 1761.512 $\pm$ 0.209  $\chi^2$ /NDF: 364461.2/47

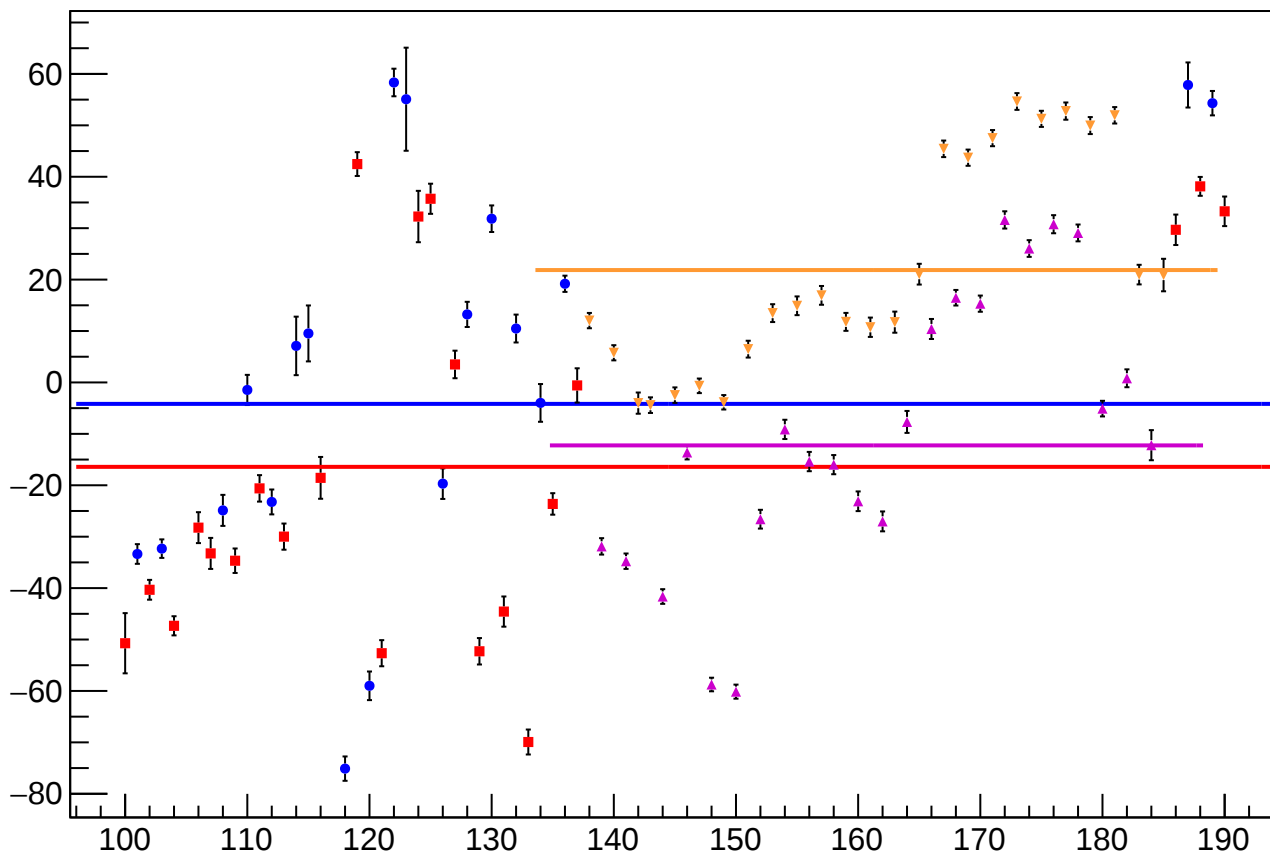
Right: 1500.336 $\pm$ 0.266  $\chi^2$ /NDF: 350351.8/40

In: 1675.063 $\pm$ 0.240  $\chi^2$ /NDF: 602299.0/41

Out: 1650.141 $\pm$ 0.225  $\chi^2$ /NDF: 703631.3/46

All: 1661.826 $\pm$ 0.164  $\chi^2$ /NDF: 1311664.7/88

# diff\_bpm0i02aY\_mean vs Slug, Sign Corrected



Left: 5.391  $\pm$  0.241  $\chi^2/\text{NDF}$ : 15885.7/47

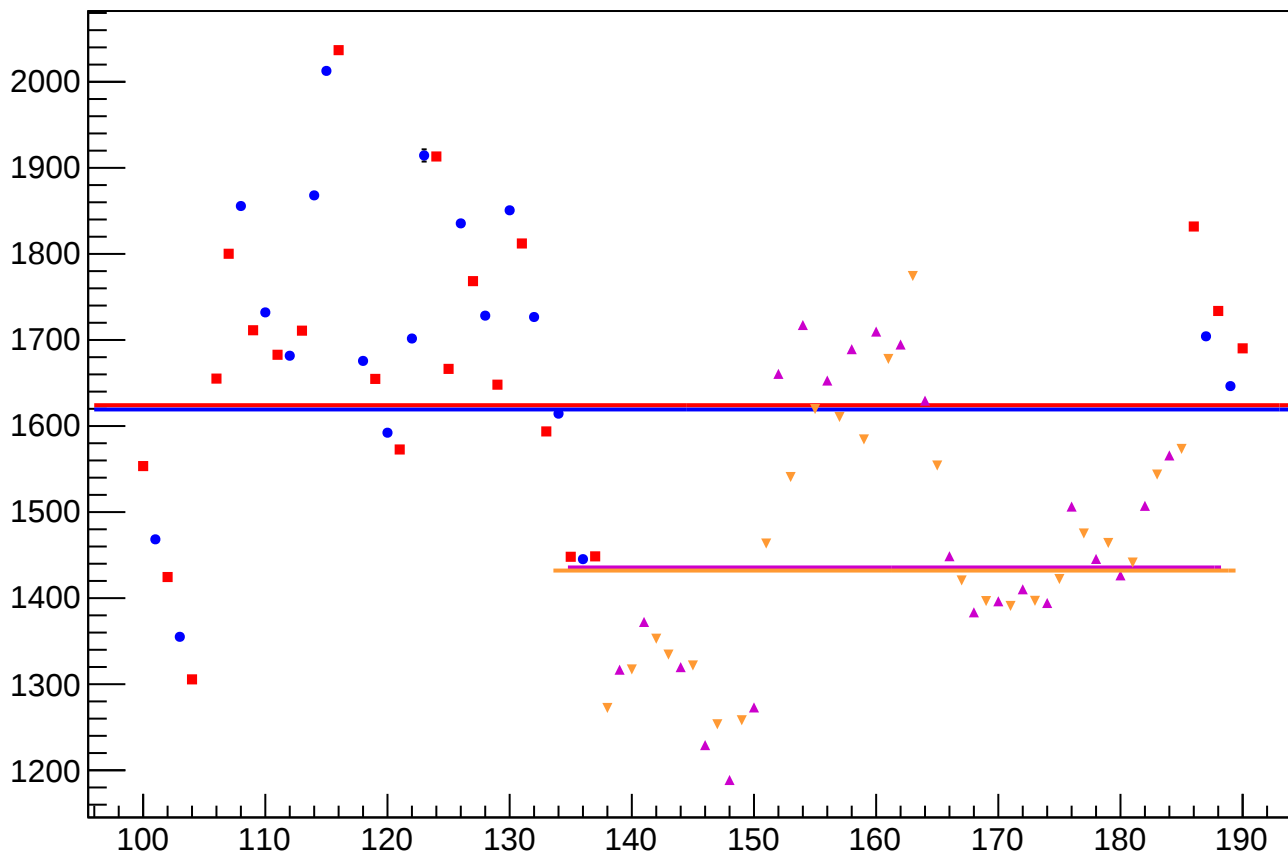
Right: -10.806  $\pm$  0.407  $\chi^2/\text{NDF}$ : 8162.4/40

In: -10.226  $\pm$  0.301  $\chi^2/\text{NDF}$ : 10705.3/41

Out: 11.554  $\pm$  0.287  $\chi^2/\text{NDF}$ : 11766.0/46

All: 1.178  $\pm$  0.207  $\chi^2/\text{NDF}$ : 25221.5/88

# diff\_bpm0i02aY\_rms vs Slug, Sign Corrected



Right In: 1619.263 $\pm$ 0.425  $\chi^2$ /NDF: 150270.4/18

Left Out: 1432.060 $\pm$ 0.237  $\chi^2$ /NDF: 297360.3/24

Right Out: 1624.210 $\pm$ 0.391  $\chi^2$ /NDF: 174527.9/21

Left In: 1435.645 $\pm$ 0.245  $\chi^2$ /NDF: 420835.0/22

Left: 1433.791 $\pm$ 0.171  $\chi^2$ /NDF: 718305.7/47

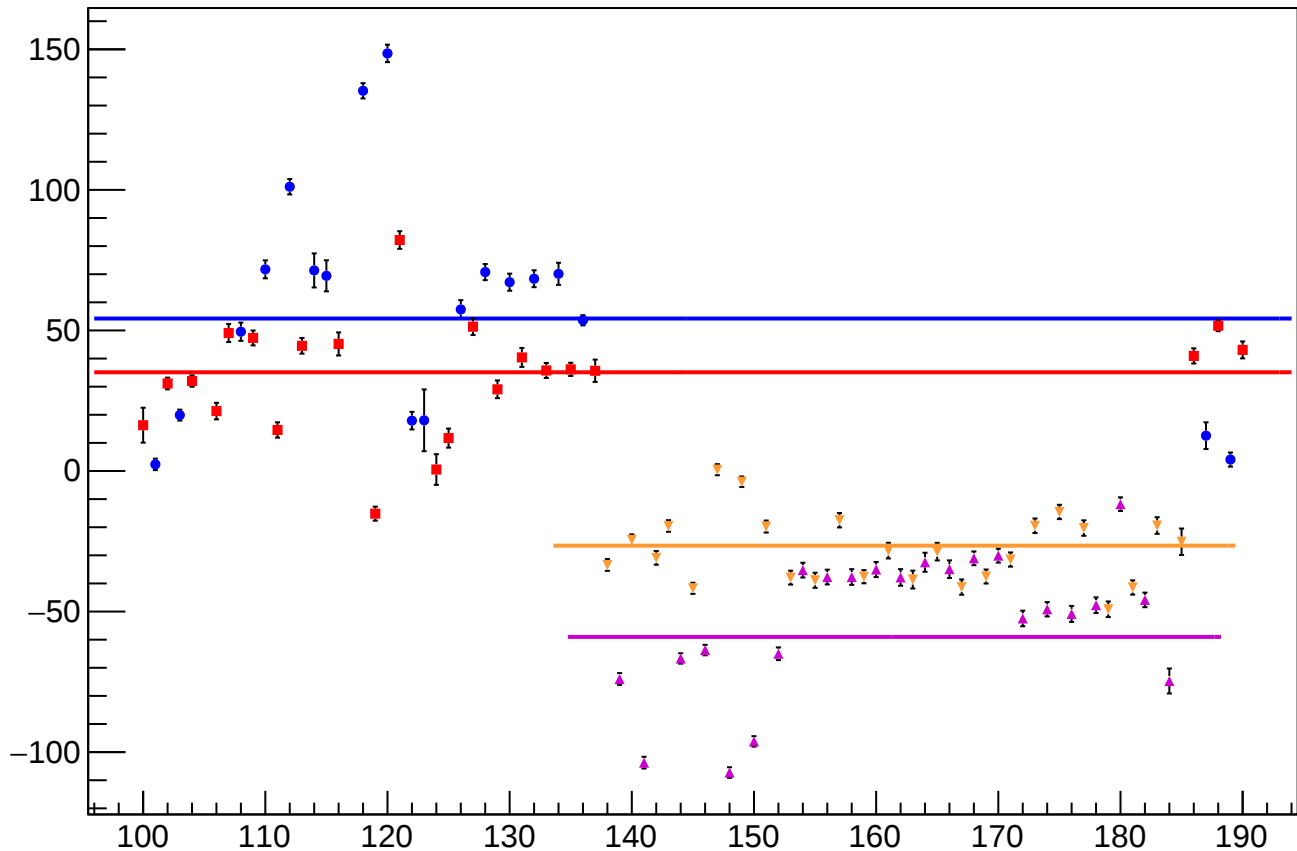
Right: 1621.943 $\pm$ 0.288  $\chi^2$ /NDF: 324871.8/40

In: 1481.581 $\pm$ 0.213  $\chi^2$ /NDF: 711163.4/41

Out: 1483.778 $\pm$ 0.203  $\chi^2$ /NDF: 648654.8/46

All: 1482.732 $\pm$ 0.147  $\chi^2$ /NDF: 1359874.2/88

# diff\_bpm0i05X\_mean vs Slug, Sign Corrected



Right In: 54.239 $\pm$ 0.668  $\chi^2/\text{NDF}$ : 3817.5/18

Left Out: -26.554 $\pm$ 0.488  $\chi^2/\text{NDF}$ : 717.5/24

Right Out: 35.115 $\pm$ 0.602  $\chi^2/\text{NDF}$ : 988.7/21

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

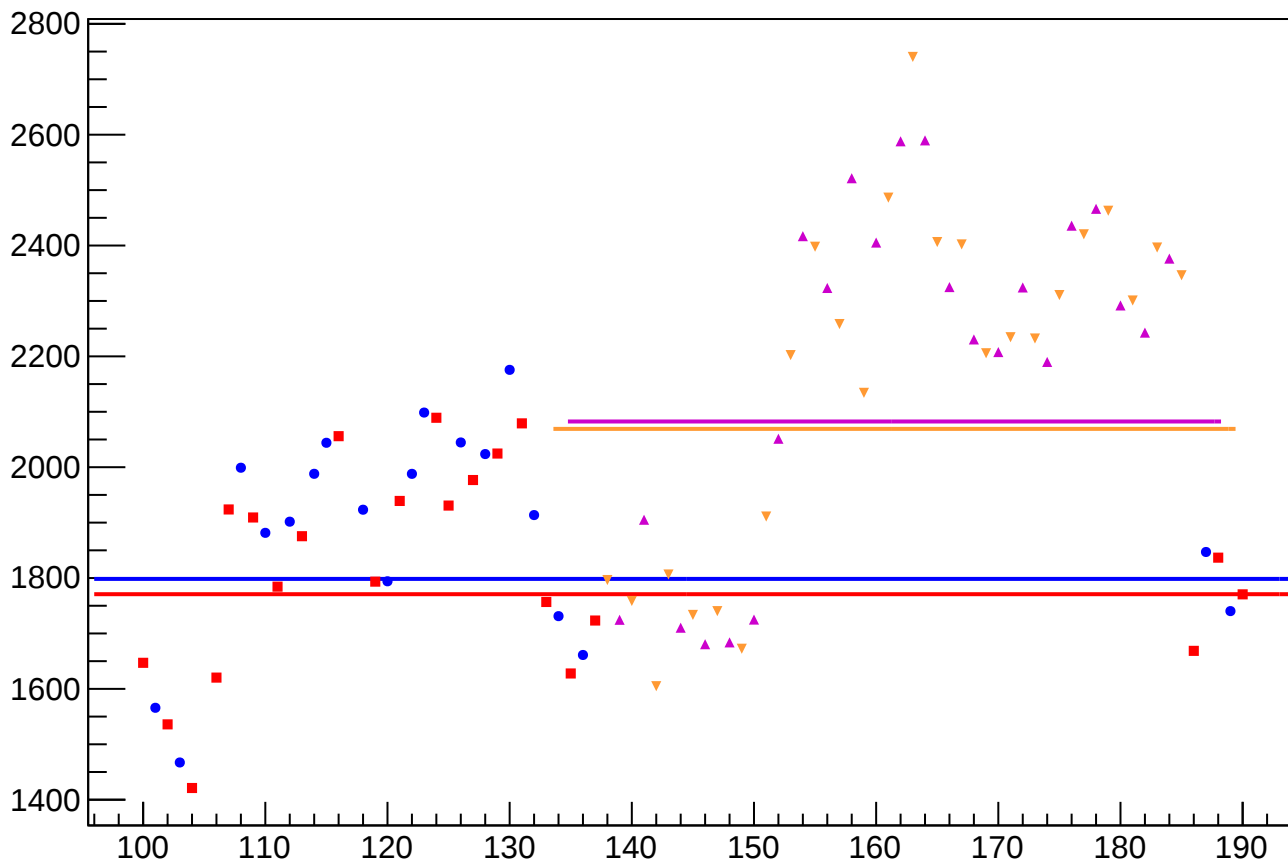
Right: 43.691 $\pm$ 0.447  $\chi^2/\text{NDF}$ : 5258.3/40

In: -17.675 $\pm$ 0.404  $\chi^2/\text{NDF}$ : 24856.1/41

Out: -2.123 $\pm$ 0.379  $\chi^2/\text{NDF}$ : 8036.4/46

All: -9.414 $\pm$ 0.276  $\chi^2/\text{NDF}$ : 33681.5/88

# diff\_bpm0i05X\_rms vs Slug, Sign Corrected



Right In: 1798.447 $\pm$ 0.472  $\chi^2/\text{NDF}$ : 184886.6/18

Left Out: 2069.146 $\pm$ 0.345  $\chi^2/\text{NDF}$ : 799037.9/24

Right Out: 1770.849 $\pm$ 0.426  $\chi^2/\text{NDF}$ : 182993.0/21

Left In: 2082.497 $\pm$ 0.358  $\chi^2/\text{NDF}$ : 785304.0/22

Left: 2075.572 $\pm$ 0.248  $\chi^2/\text{NDF}$ : 1585062.9/47

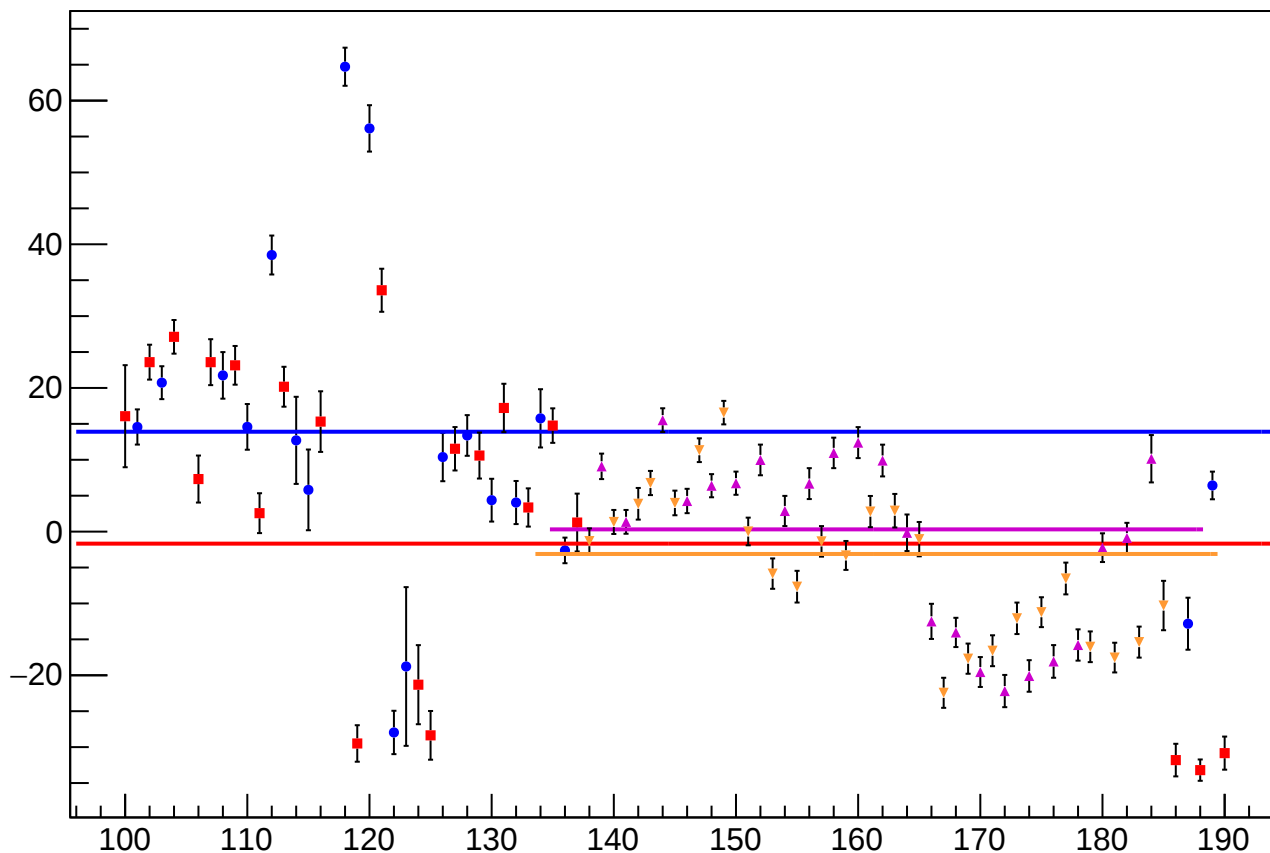
Right: 1783.225 $\pm$ 0.316  $\chi^2/\text{NDF}$ : 369762.8/40

In: 1978.817 $\pm$ 0.285  $\chi^2/\text{NDF}$ : 1199857.0/41

Out: 1950.970 $\pm$ 0.268  $\chi^2/\text{NDF}$ : 1278252.3/46

All: 1964.024 $\pm$ 0.195  $\chi^2/\text{NDF}$ : 2483168.3/88

# diff\_bpm0i05Y\_mean vs Slug, Sign Corrected



Right In:  $13.905 \pm 0.665$   $\chi^2/\text{NDF}: 1016.2/18$

Left Out:  $-3.112 \pm 0.404$   $\chi^2/\text{NDF}: 643.7/24$

Right Out:  $-1.674 \pm 0.586$   $\chi^2/\text{NDF}: 1737.5/21$

Left In:  $0.312 \pm 0.421$   $\chi^2/\text{NDF}: 736.5/22$

Left:  $-1.470 \pm 0.292$   $\chi^2/\text{NDF}: 1414.7/47$

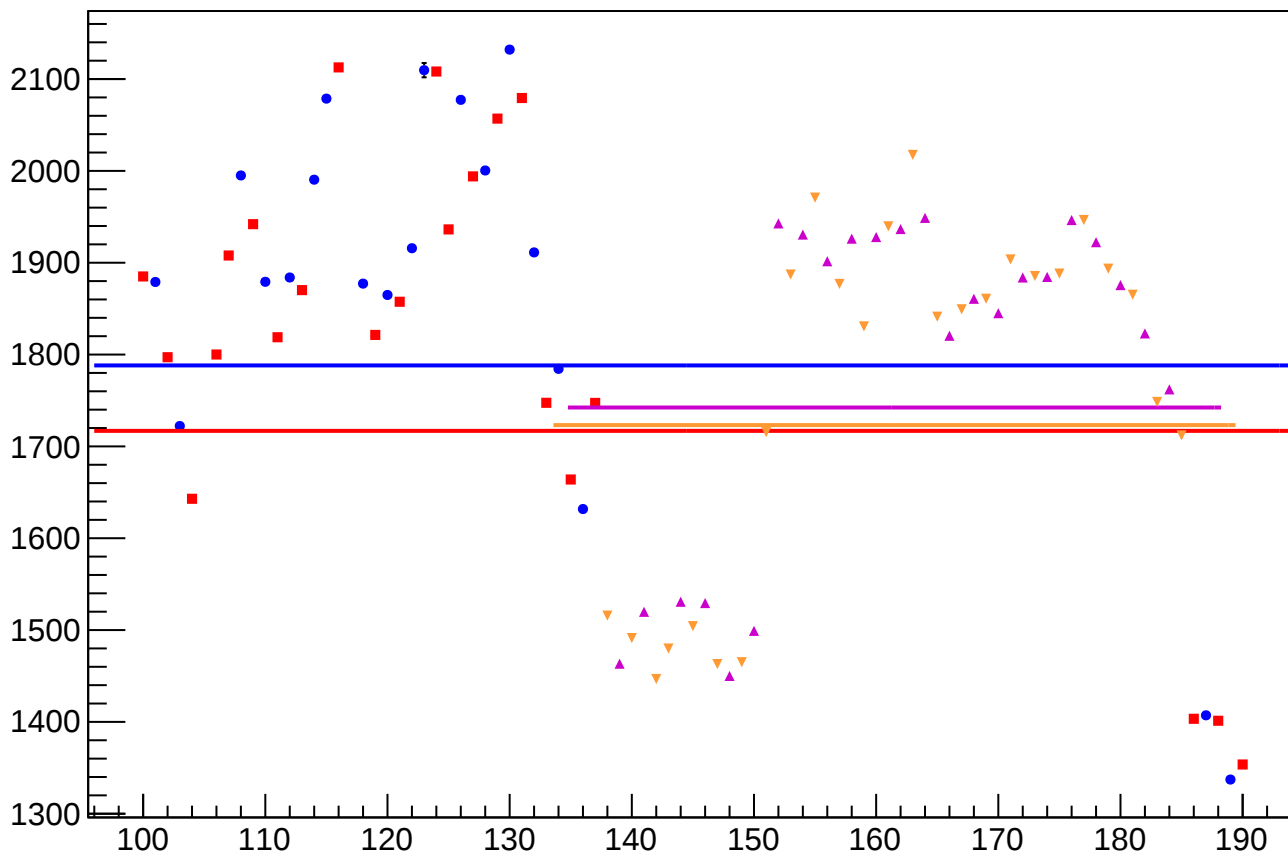
Right:  $5.137 \pm 0.440$   $\chi^2/\text{NDF}: 3062.5/40$

In:  $4.201 \pm 0.356$   $\chi^2/\text{NDF}: 2050.9/41$

Out:  $-2.648 \pm 0.333$   $\chi^2/\text{NDF}: 2385.3/46$

All:  $0.548 \pm 0.243$   $\chi^2/\text{NDF}: 4634.0/88$

# diff\_bpm0i05Y\_rms vs Slug, Sign Corrected



Right In:  $1788.167 \pm 0.470$   $\chi^2/\text{NDF}: 236183.9/18$

Left Out:  $1723.168 \pm 0.286$   $\chi^2/\text{NDF}: 477441.1/24$

Right Out:  $1716.911 \pm 0.415$   $\chi^2/\text{NDF}: 322539.0/21$

Left In:  $1742.354 \pm 0.298$   $\chi^2/\text{NDF}: 435841.5/22$

Left:  $1732.370 \pm 0.206$   $\chi^2/\text{NDF}: 915443.3/47$

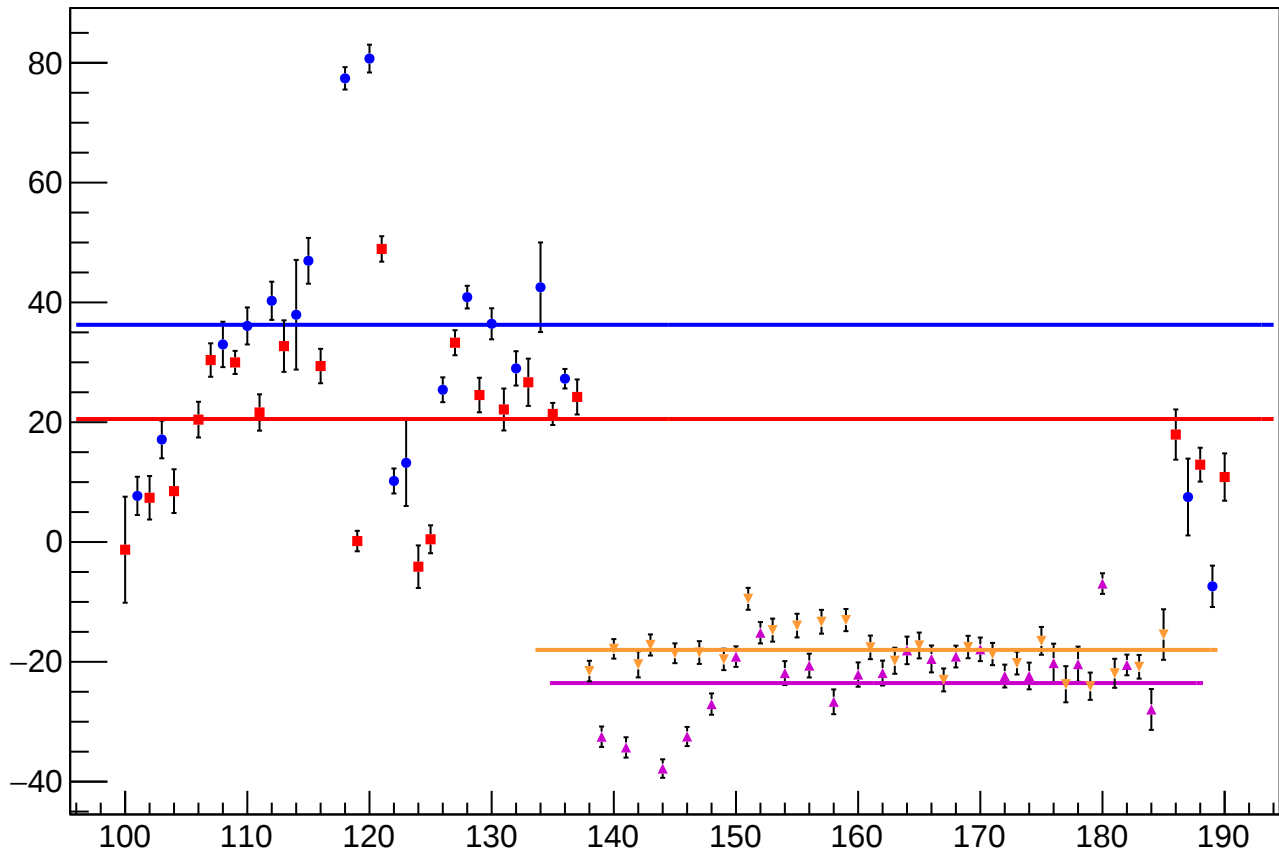
Right:  $1748.064 \pm 0.311$   $\chi^2/\text{NDF}: 571642.1/40$

In:  $1755.462 \pm 0.252$   $\chi^2/\text{NDF}: 678799.3/41$

Out:  $1721.152 \pm 0.235$   $\chi^2/\text{NDF}: 800134.5/46$

All:  $1737.163 \pm 0.172$   $\chi^2/\text{NDF}: 1488854.6/88$

# diff\_bpm0i07X\_mean vs Slug, Sign Corrected



Right In:  $36.264 \pm 0.625$   $\chi^2/\text{NDF}: 1395.1/18$

Left Out:  $-18.007 \pm 0.397$   $\chi^2/\text{NDF}: 73.8/24$

Right Out:  $20.538 \pm 0.583$   $\chi^2/\text{NDF}: 584.8/21$

Left In:  $-23.544 \pm 0.406$   $\chi^2/\text{NDF}: 346.7/22$

Left:  $-20.714 \pm 0.284$   $\chi^2/\text{NDF}: 515.7/47$

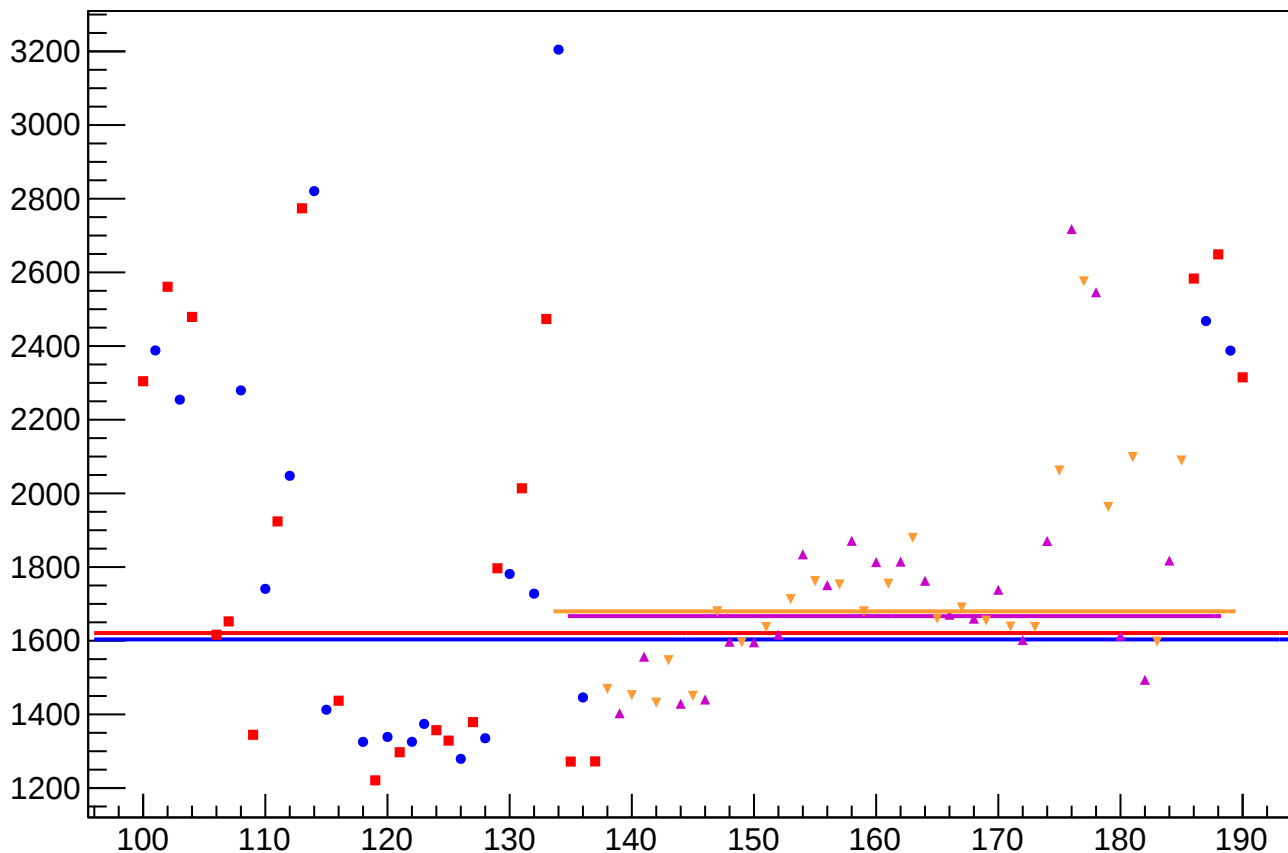
Right:  $27.860 \pm 0.427$   $\chi^2/\text{NDF}: 2318.1/40$

In:  $-5.822 \pm 0.340$   $\chi^2/\text{NDF}: 8183.0/41$

Out:  $-5.823 \pm 0.328$   $\chi^2/\text{NDF}: 3643.1/46$

All:  $-5.822 \pm 0.236$   $\chi^2/\text{NDF}: 11826.2/88$

# diff\_bpm0i07X\_rms vs Slug, Sign Corrected



Right In:  $1603.549 \pm 0.442$   $\chi^2/\text{NDF}: 813545.1/18$

Left Out:  $1679.814 \pm 0.281$   $\chi^2/\text{NDF}: 522795.6/24$

Right Out:  $1620.836 \pm 0.413$   $\chi^2/\text{NDF}: 1352330.2/21$

Left In:  $1666.819 \pm 0.287$   $\chi^2/\text{NDF}: 650990.8/22$

Left:  $1673.462 \pm 0.201$   $\chi^2/\text{NDF}: 1174835.7/47$

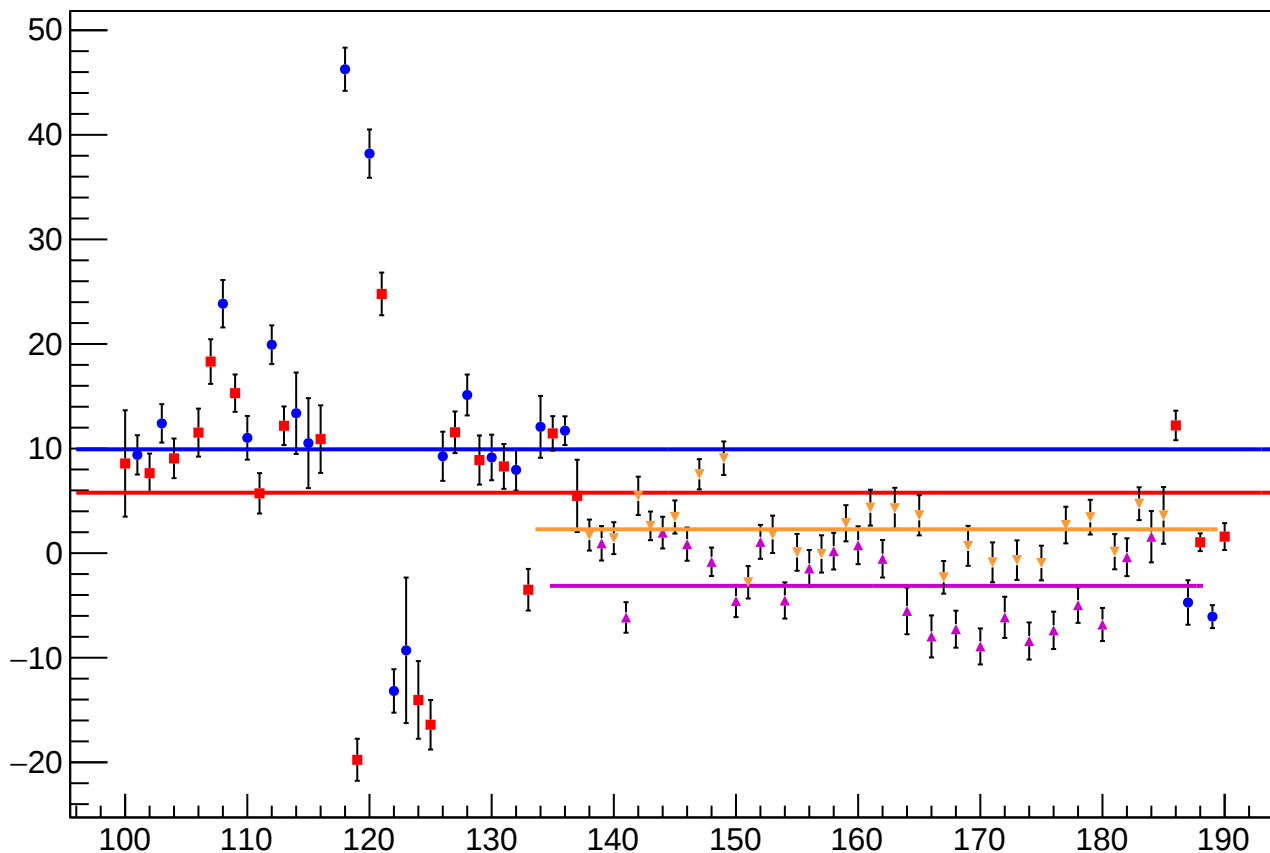
Right:  $1612.787 \pm 0.302$   $\chi^2/\text{NDF}: 2166692.6/40$

In:  $1648.070 \pm 0.241$   $\chi^2/\text{NDF}: 1478952.5/41$

Out:  $1661.171 \pm 0.232$   $\chi^2/\text{NDF}: 1889100.8/46$

All:  $1654.860 \pm 0.167$   $\chi^2/\text{NDF}: 3369589.6/88$

# diff\_bpm0i07Y\_mean vs Slug, Sign Corrected



Right In:  $9.927 \pm 0.461$   $\chi^2/\text{NDF}$ : 932.6/18

Left Out:  $2.280 \pm 0.338$   $\chi^2/\text{NDF}$ : 75.6/24

Right Out:  $5.779 \pm 0.390$   $\chi^2/\text{NDF}$ : 560.0/21

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

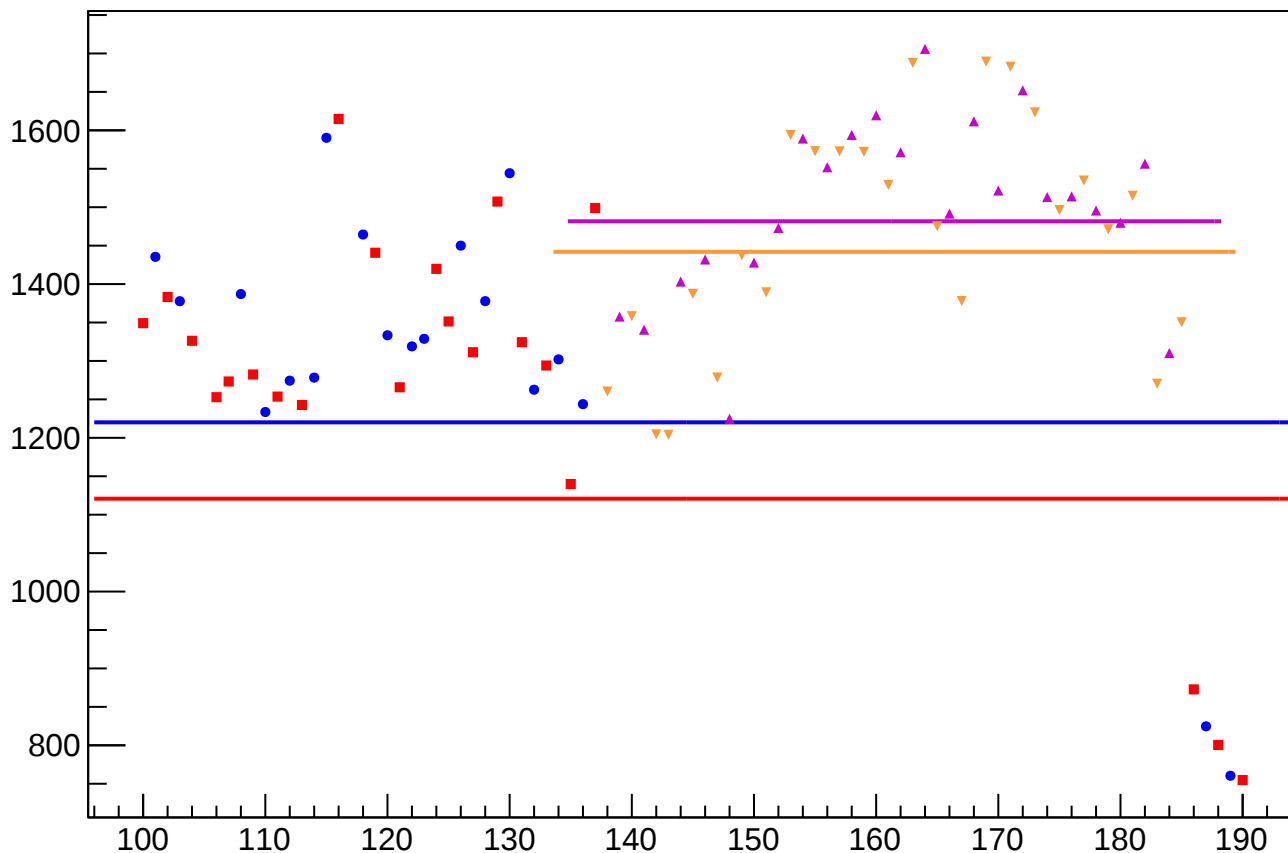
Right:  $7.508 \pm 0.298$   $\chi^2/\text{NDF}$ : 1539.7/40

In:  $1.770 \pm 0.283$   $\chi^2/\text{NDF}$ : 1536.0/41

Out:  $3.782 \pm 0.256$   $\chi^2/\text{NDF}$ : 681.5/46

All:  $2.877 \pm 0.190$   $\chi^2/\text{NDF}$ : 2245.3/88

# diff\_bpm0i07Y\_rms vs Slug, Sign Corrected



Right In:  $1220.143 \pm 0.326$   $\chi^2/\text{NDF}$ : 607523.6/18

Left Out:  $1441.951 \pm 0.239$   $\chi^2/\text{NDF}$ : 370617.4/24

Right Out:  $1120.817 \pm 0.276$   $\chi^2/\text{NDF}$ : 896144.2/21

Left In:  $1481.695 \pm 0.253$   $\chi^2/\text{NDF}$ : 208470.6/22

Left:  $1460.716 \pm 0.174$   $\chi^2/\text{NDF}$ : 592125.7/47

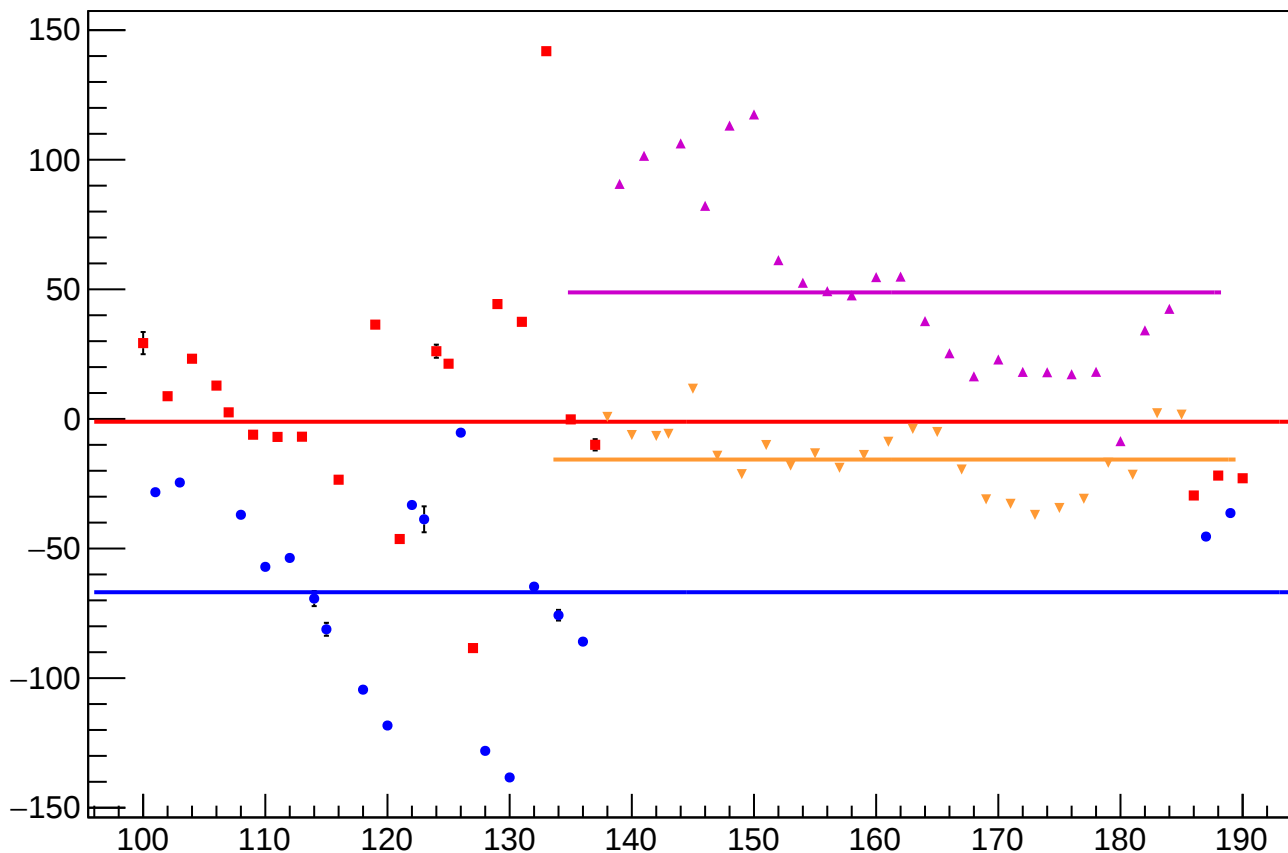
Right:  $1162.213 \pm 0.211$   $\chi^2/\text{NDF}$ : 1557700.7/40

In:  $1383.558 \pm 0.200$   $\chi^2/\text{NDF}$ : 1217357.5/41

Out:  $1304.141 \pm 0.181$   $\chi^2/\text{NDF}$ : 2040396.3/46

All:  $1339.857 \pm 0.134$   $\chi^2/\text{NDF}$ : 3344611.7/88

# diff\_bpm1i02X\_mean vs Slug, Sign Corrected



Right In: -66.857 $\pm$ 0.331  $\chi^2/\text{NDF}$ : 13133.5/18

Left Out: -15.666 $\pm$ 0.212  $\chi^2/\text{NDF}$ : 3518.1/24

Right Out: -1.085 $\pm$ 0.287  $\chi^2/\text{NDF}$ : 21406.5/21

Left In: 48.812 $\pm$ 0.220  $\chi^2/\text{NDF}$ : 25260.8/22

Left: 15.324 $\pm$ 0.152  $\chi^2/\text{NDF}$ : 73443.2/47

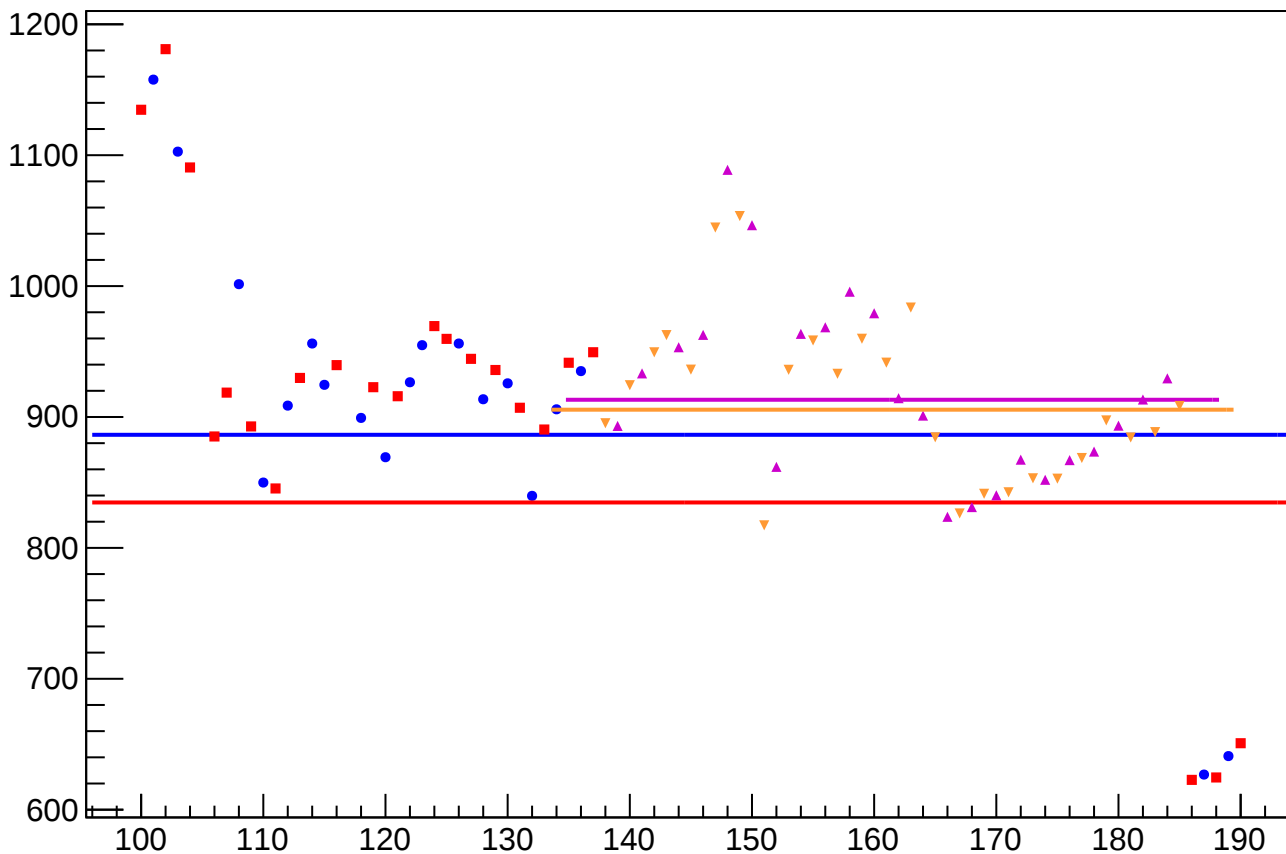
Right: -29.379 $\pm$ 0.217  $\chi^2/\text{NDF}$ : 57088.3/40

In: 13.346 $\pm$ 0.183  $\chi^2/\text{NDF}$ : 123252.8/41

Out: -10.540 $\pm$ 0.170  $\chi^2/\text{NDF}$ : 26595.1/46

All: 0.541 $\pm$ 0.125  $\chi^2/\text{NDF}$ : 158971.8/88

# diff\_bpm1i02X\_rms vs Slug, Sign Corrected



Right In: 886.395 $\pm$ 0.234  $\chi^2/\text{NDF}$ : 331304.1/18

Left Out: 905.578 $\pm$ 0.150  $\chi^2/\text{NDF}$ :162073.5/24

Right Out: 834.701 $\pm$ 0.203  $\chi^2/\text{NDF}$ : 611632.1/21

Left In: 913.165 $\pm$ 0.155  $\chi^2/\text{NDF}$ :174438.8/22

Left: 909.225 $\pm$ 0.108  $\chi^2/\text{NDF}$ : 337749.0/47

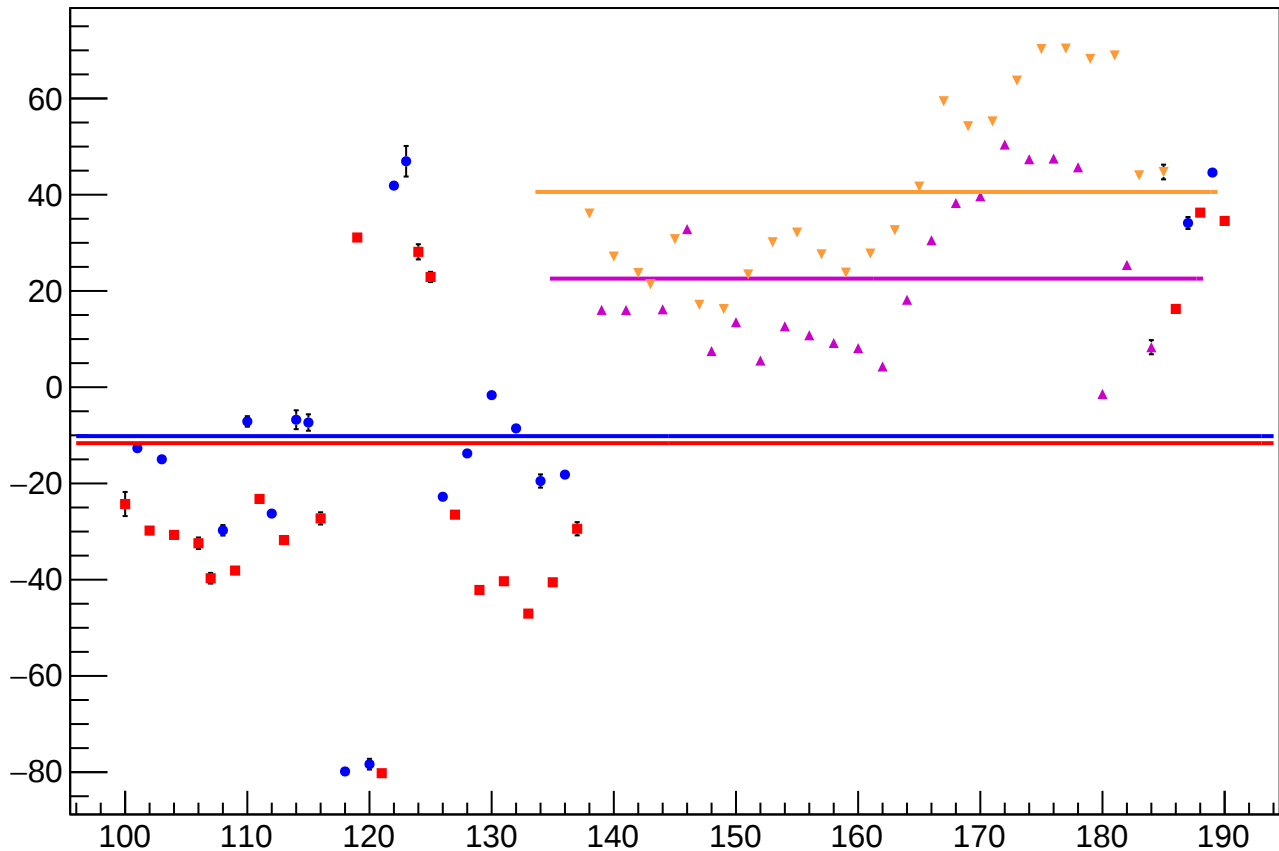
Right: 856.939 $\pm$ 0.153  $\chi^2/\text{NDF}$ : 970793.2/40

In: 904.957 $\pm$ 0.129  $\chi^2/\text{NDF}$ :514833.2/41

Out: 880.663 $\pm$ 0.120  $\chi^2/\text{NDF}$ :852649.3/46

All: 891.934 $\pm$ 0.088  $\chi^2/\text{NDF}$ : 1386357.9/88

# diff\_bpm1i02Y\_mean vs Slug, Sign Corrected



Right In:  $-10.167 \pm 0.225$   $\chi^2/\text{NDF}: 21868.8/18$

Left Out:  $40.573 \pm 0.168$   $\chi^2/\text{NDF}: 12079.0/24$

Right Out:  $-11.631 \pm 0.200$   $\chi^2/\text{NDF}: 30875.7/21$

Left In:  $22.565 \pm 0.175$   $\chi^2/\text{NDF}: 8167.7/22$

Left:  $31.959 \pm 0.121$   $\chi^2/\text{NDF}: 25752.7/47$

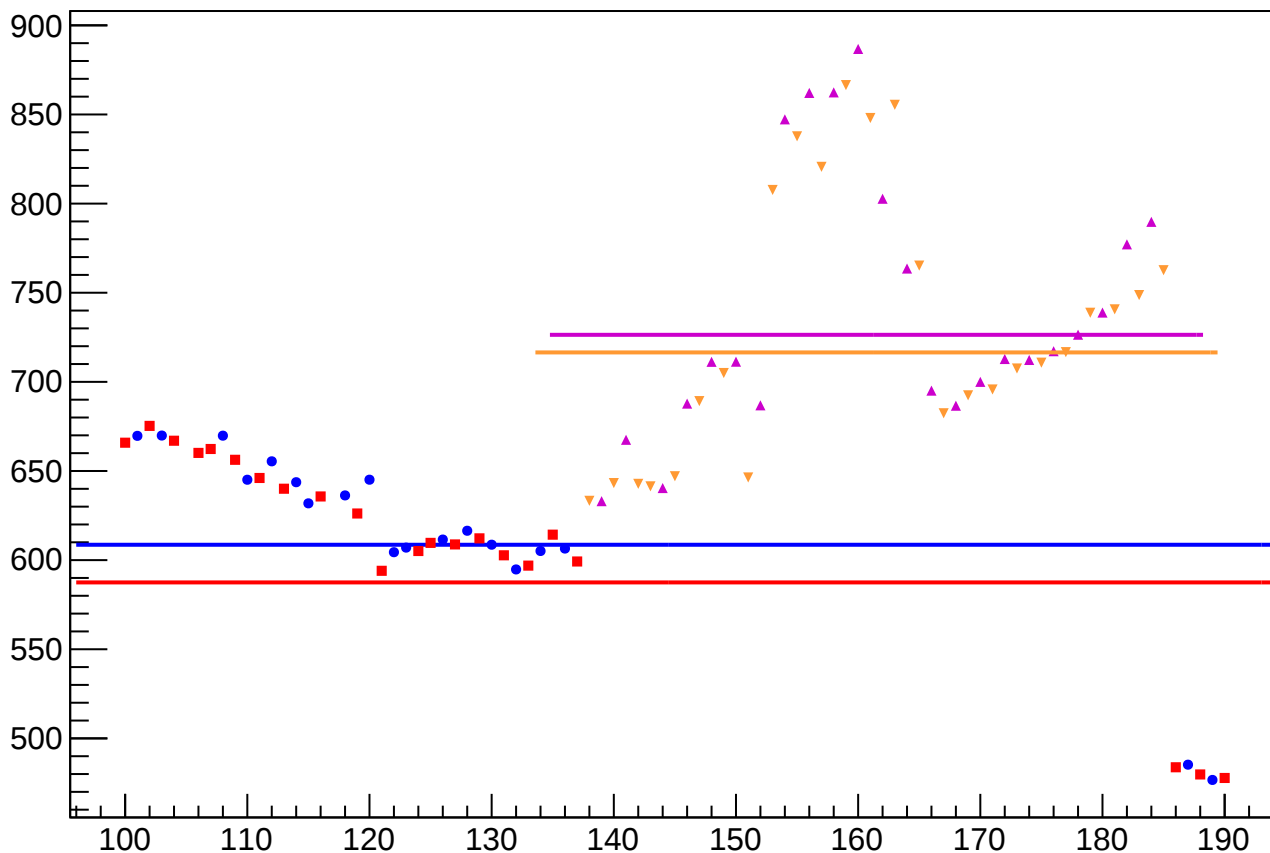
Right:  $-10.986 \pm 0.150$   $\chi^2/\text{NDF}: 52768.1/40$

In:  $10.229 \pm 0.138$   $\chi^2/\text{NDF}: 43179.8/41$

Out:  $19.000 \pm 0.129$   $\chi^2/\text{NDF}: 82933.5/46$

All:  $14.936 \pm 0.094$   $\chi^2/\text{NDF}: 128269.7/88$

# diff\_bpm1i02Y\_rms vs Slug, Sign Corrected



Right In: 608.618 $\pm$ 0.159  $\chi^2$ /NDF: 131988.7/18

Left Out: 716.515 $\pm$ 0.119  $\chi^2$ /NDF: 342740.2/24

Right Out: 587.492 $\pm$ 0.141  $\chi^2$ /NDF: 250281.3/21

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

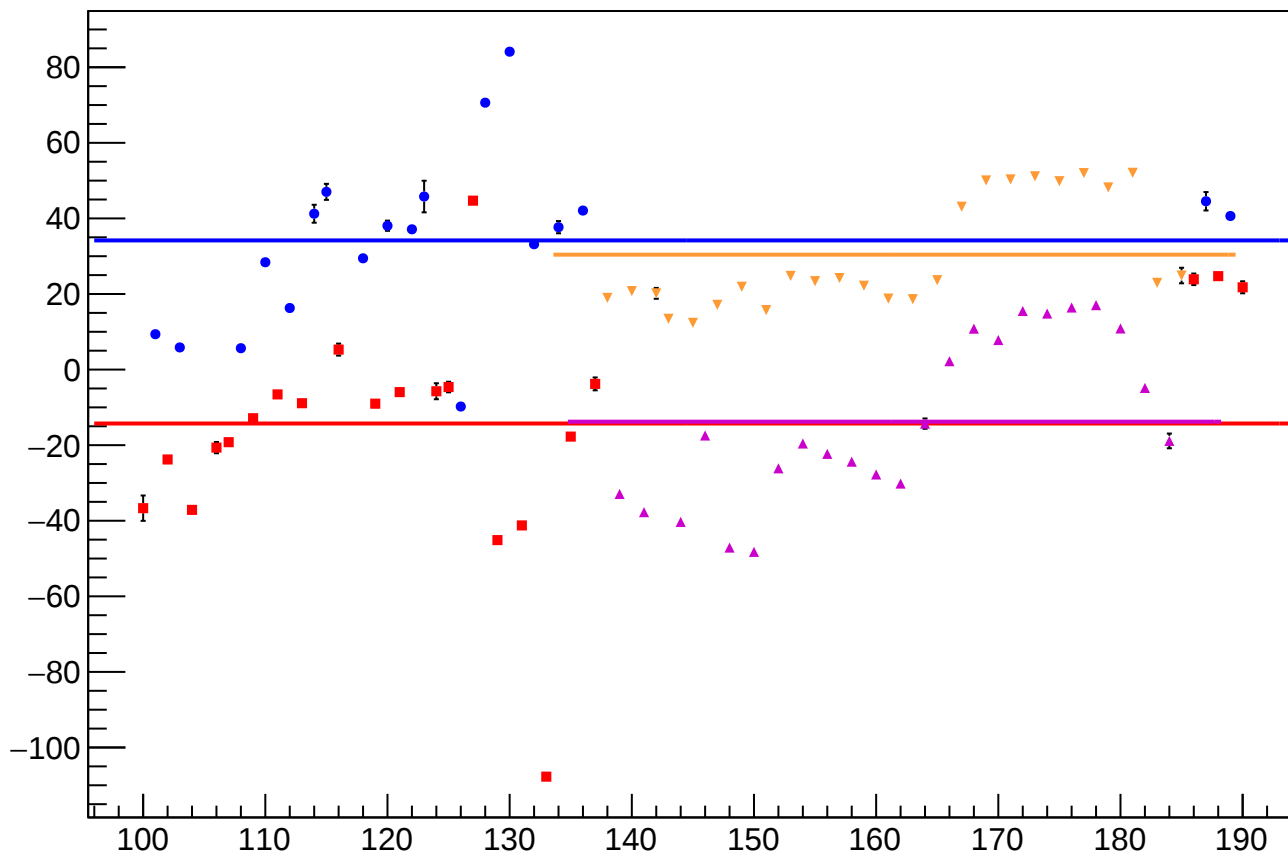
Right: 596.799 $\pm$ 0.106  $\chi^2$ /NDF: 392101.0/40

In: 682.003 $\pm$ 0.098  $\chi^2$ /NDF: 762068.0/41

Out: 663.196 $\pm$ 0.091  $\chi^2$ /NDF: 1081433.5/46

All: 671.910 $\pm$ 0.067  $\chi^2$ /NDF: 1863330.9/88

# diff\_bpm1i04X\_mean vs Slug, Sign Corrected



Right In:  $34.178 \pm 0.291$   $\chi^2/\text{NDF}$ : 6472.4/18

Left Out:  $30.408 \pm 0.237$   $\chi^2/\text{NDF}$ : 3808.0/24

Right Out:  $-14.268 \pm 0.272$   $\chi^2/\text{NDF}$ : 14392.6/21

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

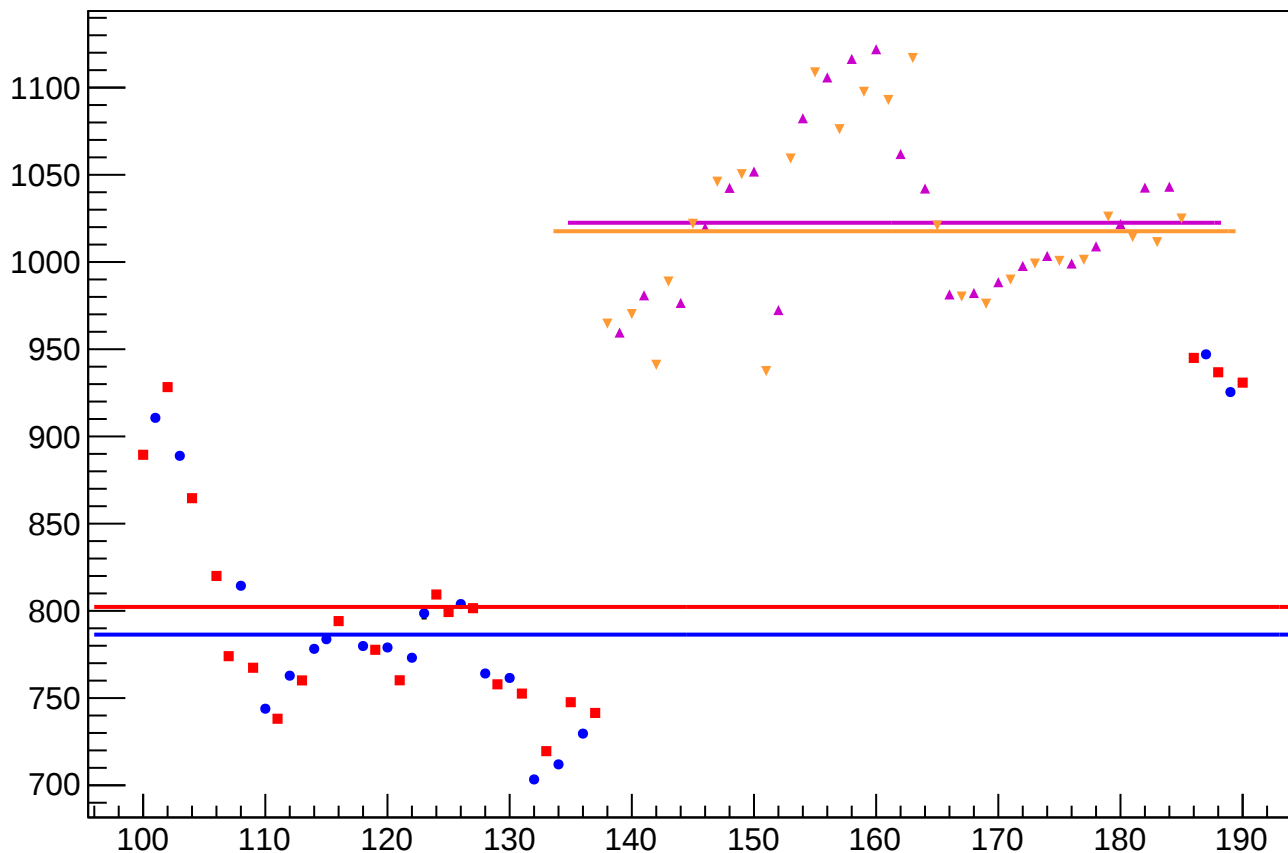
Right:  $8.347 \pm 0.199$   $\chi^2/\text{NDF}$ : 35645.6/40

In:  $6.190 \pm 0.188$   $\chi^2/\text{NDF}$ : 30307.9/41

Out:  $11.112 \pm 0.179$   $\chi^2/\text{NDF}$ : 33497.3/46

All:  $8.770 \pm 0.130$   $\chi^2/\text{NDF}$ : 64165.3/88

# diff\_bpm1i04X\_rms vs Slug, Sign Corrected



Right In: 786.385 $\pm$ 0.206  $\chi^2/\text{NDF}$ : 99948.4/18

Left Out: 1017.653 $\pm$ 0.168  $\chi^2/\text{NDF}$ : 83612.5/24

Right Out: 802.253 $\pm$ 0.193  $\chi^2/\text{NDF}$ : 135471.9/21

Left In: 1022.511 $\pm$ 0.174  $\chi^2/\text{NDF}$ : 69635.5/22

Left: 1019.997 $\pm$ 0.121  $\chi^2/\text{NDF}$ : 153652.2/47

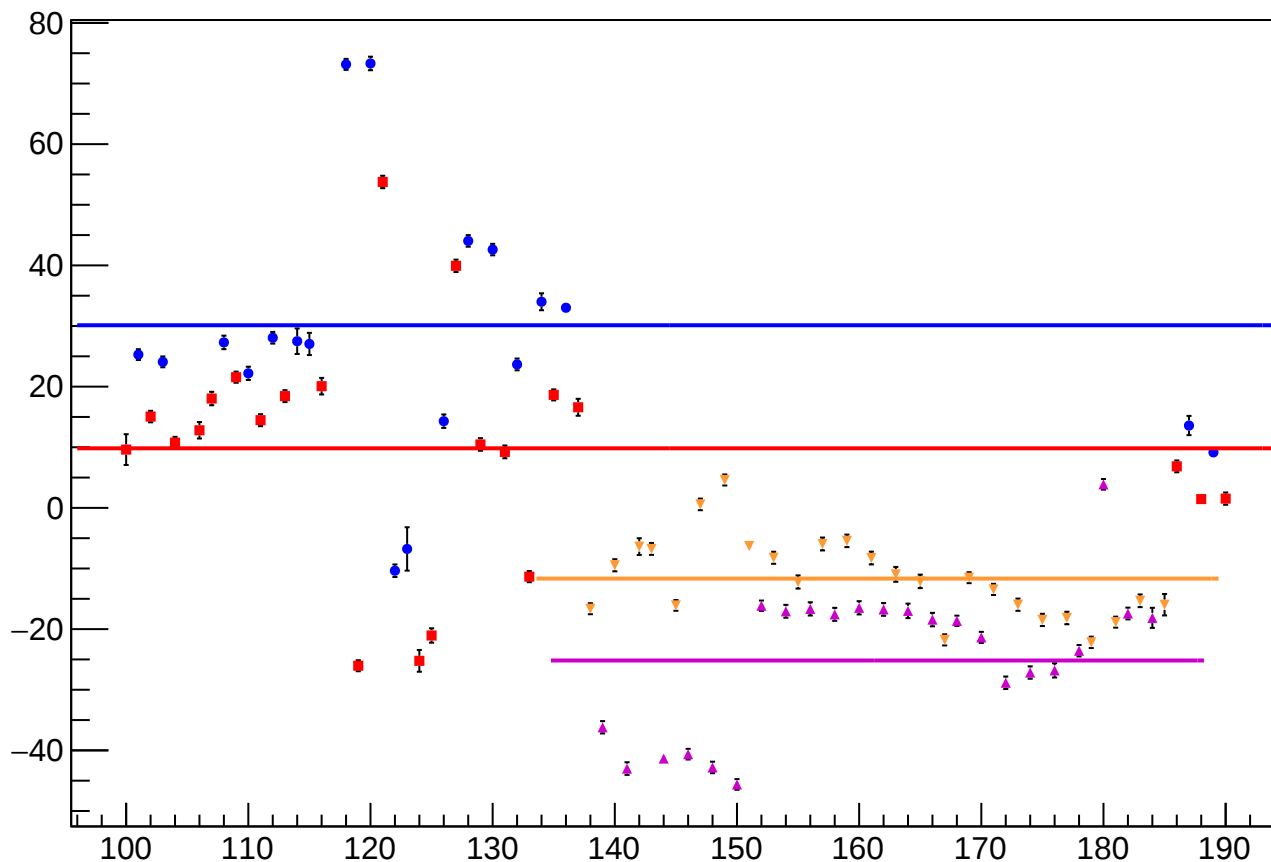
Right: 794.845 $\pm$ 0.141  $\chi^2/\text{NDF}$ : 238591.5/40

In: 924.168 $\pm$ 0.133  $\chi^2/\text{NDF}$ : 938104.2/41

Out: 924.619 $\pm$ 0.127  $\chi^2/\text{NDF}$ : 930232.7/46

All: 924.404 $\pm$ 0.092  $\chi^2/\text{NDF}$ : 1868342.9/88

# diff\_bpm1i04Y\_mean vs Slug, Sign Corrected



Right In:  $30.126 \pm 0.239$   $\chi^2/\text{NDF}$ : 6932.2/18

Left Out:  $-11.664 \pm 0.200$   $\chi^2/\text{NDF}$ : 1147.4/24

Right Out:  $9.826 \pm 0.220$   $\chi^2/\text{NDF}$ : 6617.0/21

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

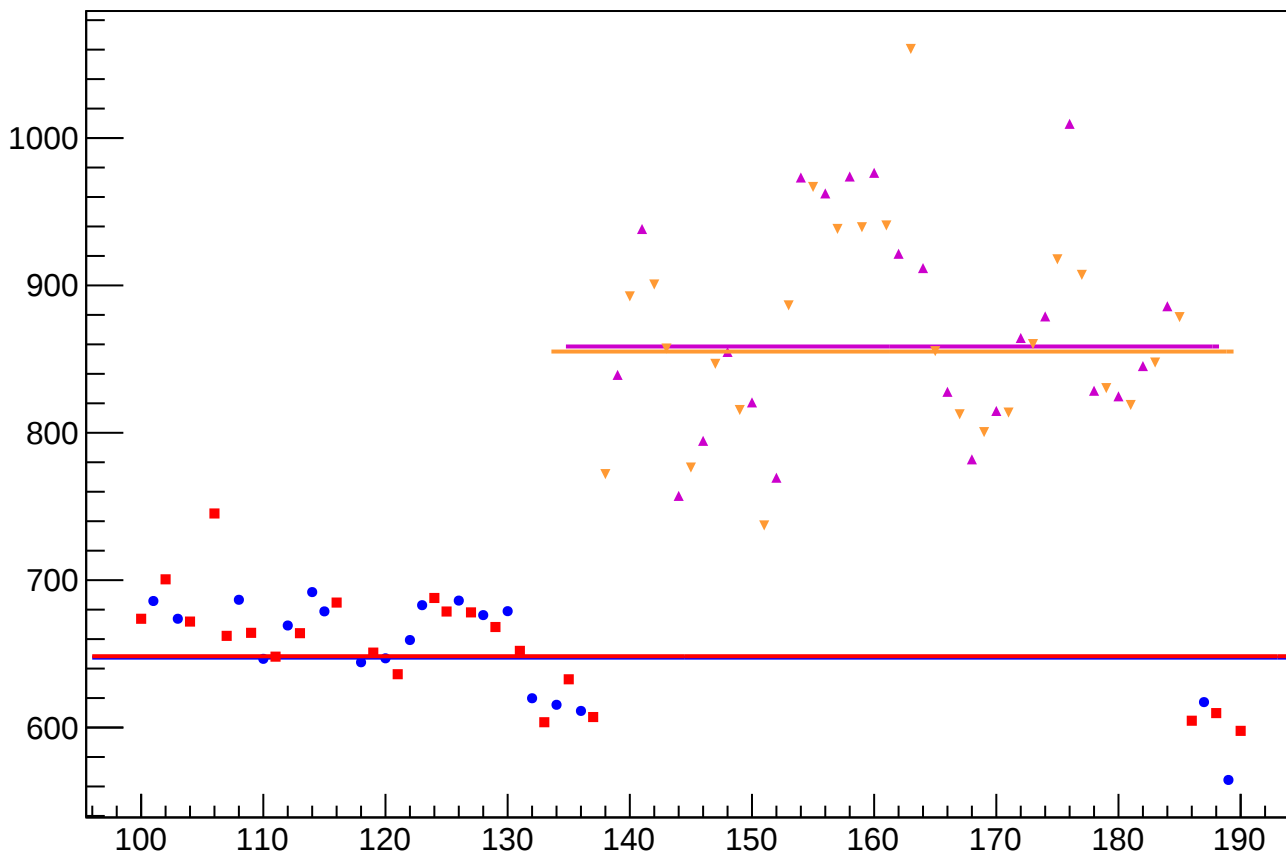
Right:  $19.106 \pm 0.162$   $\chi^2/\text{NDF}$ : 17458.0/40

In:  $-1.449 \pm 0.157$   $\chi^2/\text{NDF}$ : 41187.9/41

Out:  $-1.903 \pm 0.148$   $\chi^2/\text{NDF}$ : 12993.4/46

All:  $-1.689 \pm 0.108$   $\chi^2/\text{NDF}$ : 54185.7/88

# diff\_bpm1i04Y\_rms vs Slug, Sign Corrected



Right In:  $647.436 \pm 0.169$   $\chi^2/\text{NDF}$ : 47110.4/18

Left Out:  $855.131 \pm 0.142$   $\chi^2/\text{NDF}$ : 233746.7/24

Right Out:  $648.389 \pm 0.155$   $\chi^2/\text{NDF}$ : 48677.9/21

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

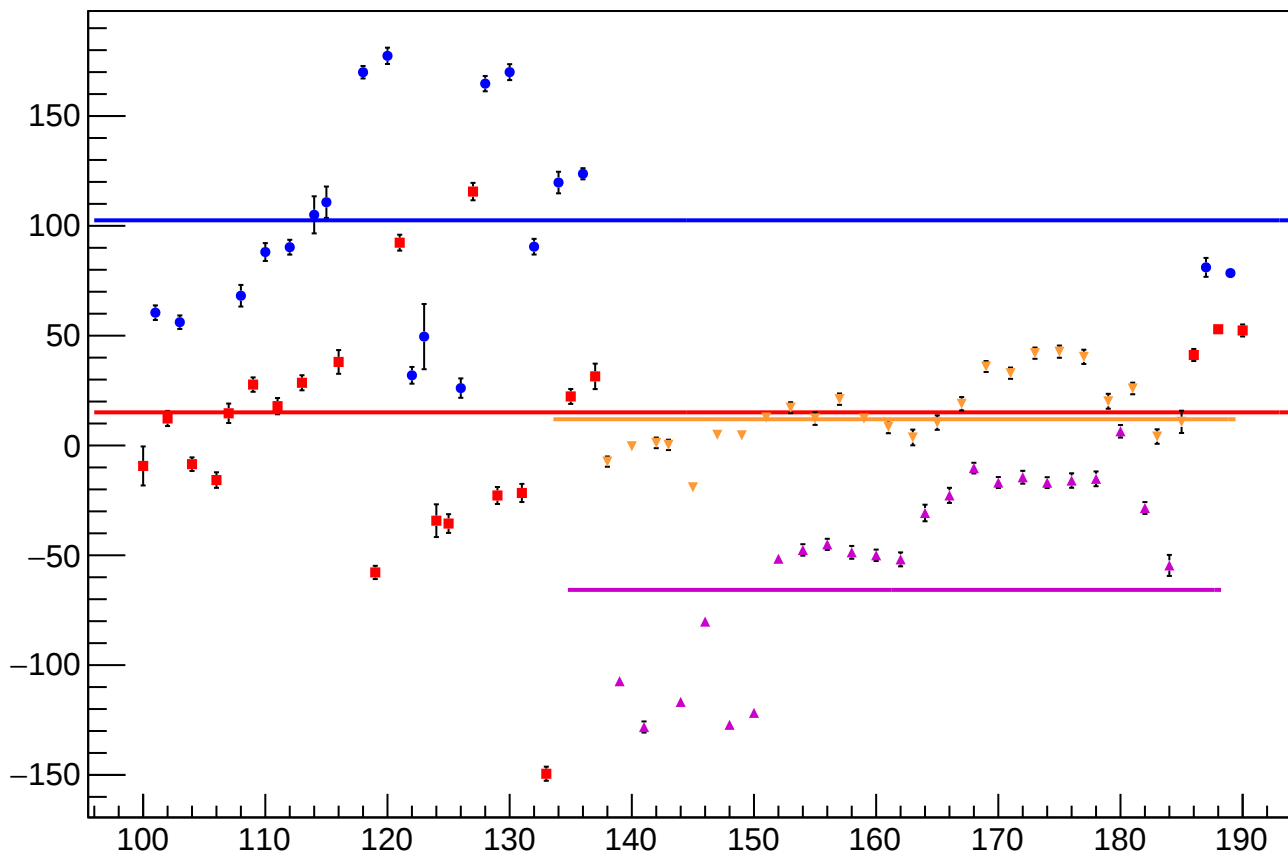
Right:  $647.954 \pm 0.114$   $\chi^2/\text{NDF}$ : 95805.6/40

In:  $767.984 \pm 0.111$   $\chi^2/\text{NDF}$ : 1175524.9/41

Out:  $761.225 \pm 0.105$   $\chi^2/\text{NDF}$ : 1250400.7/46

All:  $764.411 \pm 0.076$   $\chi^2/\text{NDF}$ : 2427892.8/88

# diff\_bpm1i06X\_mean vs Slug, Sign Corrected



Right In: 102.519 $\pm$ 0.834  $\chi^2/\text{NDF}$ : 2995.0/18

Left Out: 11.938 $\pm$ 0.505  $\chi^2/\text{NDF}$ : 976.6/24

Right Out: 15.086 $\pm$ 0.730  $\chi^2/\text{NDF}$ : 5614.3/21

Left In: -65.752 $\pm$ 0.518  $\chi^2/\text{NDF}$ : 7335.8/22

Left: -25.968 $\pm$ 0.362  $\chi^2/\text{NDF}$ : 19845.5/47

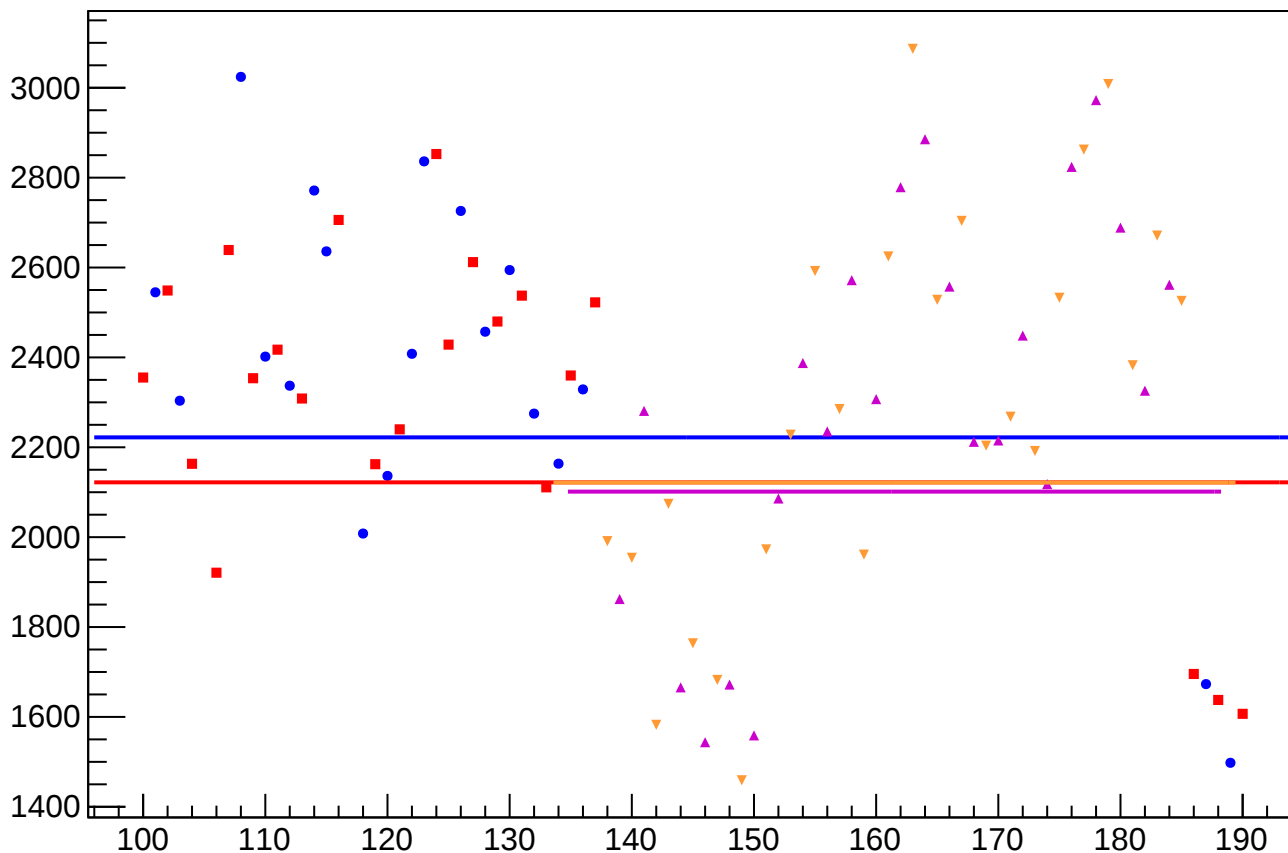
Right: 53.025 $\pm$ 0.549  $\chi^2/\text{NDF}$ : 14833.1/40

In: -18.938 $\pm$ 0.440  $\chi^2/\text{NDF}$ : 39724.9/41

Out: 12.958 $\pm$ 0.415  $\chi^2/\text{NDF}$ : 6603.5/46

All: -2.084 $\pm$ 0.302  $\chi^2/\text{NDF}$ : 49107.4/88

# diff\_bpm1i06X\_rms vs Slug, Sign Corrected



Right In:  $2222.050 \pm 0.590$   $\chi^2/\text{NDF}: 429441.0/18$

Left Out:  $2121.567 \pm 0.357$   $\chi^2/\text{NDF}: 1387847.6/24$

Right Out:  $2121.977 \pm 0.516$   $\chi^2/\text{NDF}: 512430.4/21$

Left In:  $2101.325 \pm 0.366$   $\chi^2/\text{NDF}: 1360518.3/22$

Left:  $2111.691 \pm 0.256$   $\chi^2/\text{NDF}: 2749931.8/47$

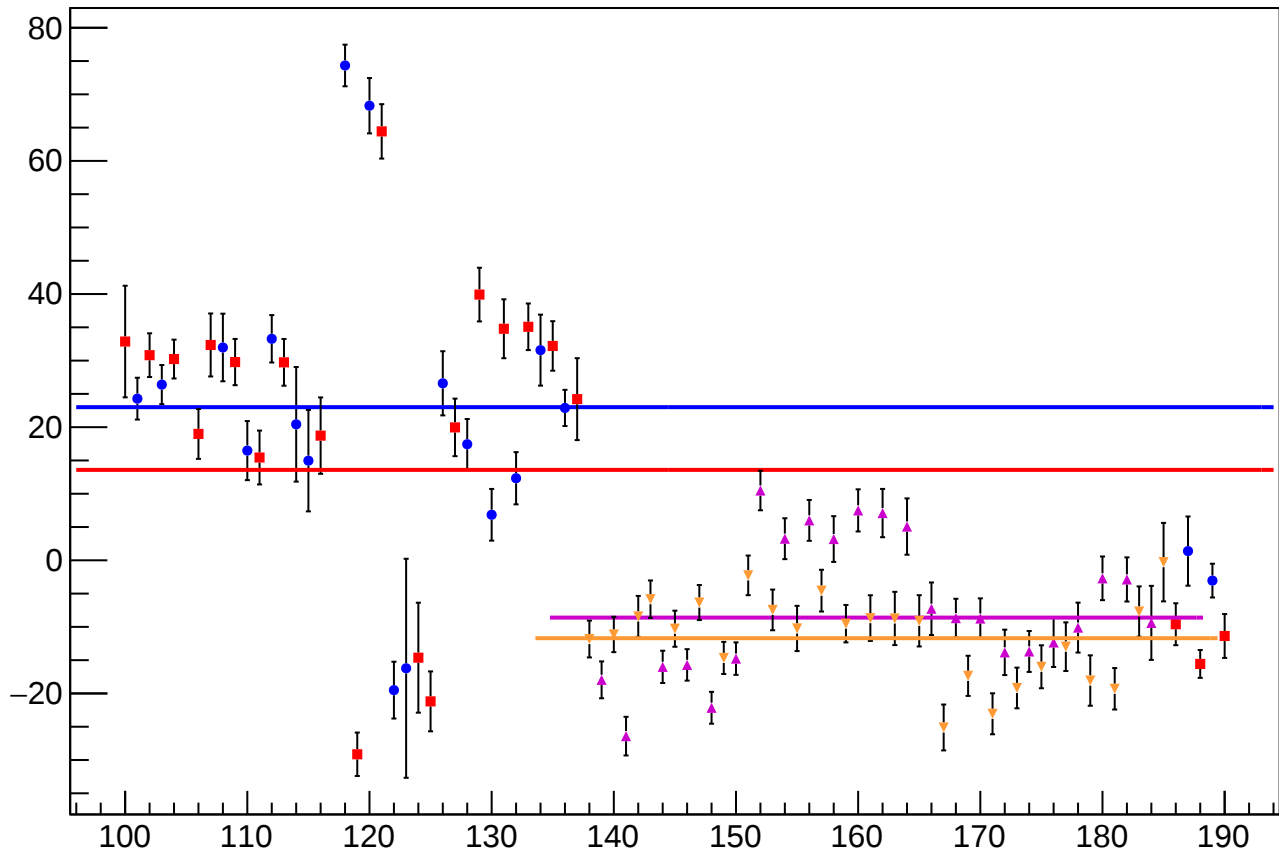
Right:  $2165.400 \pm 0.388$   $\chi^2/\text{NDF}: 958178.2/40$

In:  $2134.911 \pm 0.311$   $\chi^2/\text{NDF}: 1820219.0/41$

Out:  $2121.700 \pm 0.294$   $\chi^2/\text{NDF}: 1900278.4/46$

All:  $2127.930 \pm 0.214$   $\chi^2/\text{NDF}: 3721450.9/88$

# diff\_bpm1i06Y\_mean vs Slug, Sign Corrected



Right In: 23.007 $\pm$ 0.897  $\chi^2$ /NDF: 662.5/18

Left Out: -11.700 $\pm$ 0.625  $\chi^2$ /NDF: 85.0/24

Right Out: 13.583 $\pm$ 0.795  $\chi^2$ /NDF: 963.9/21

Left In: -8.606 $\pm$ 0.642  $\chi^2$ /NDF: 264.2/22

Left: -10.193 $\pm$ 0.448  $\chi^2$ /NDF: 361.1/47

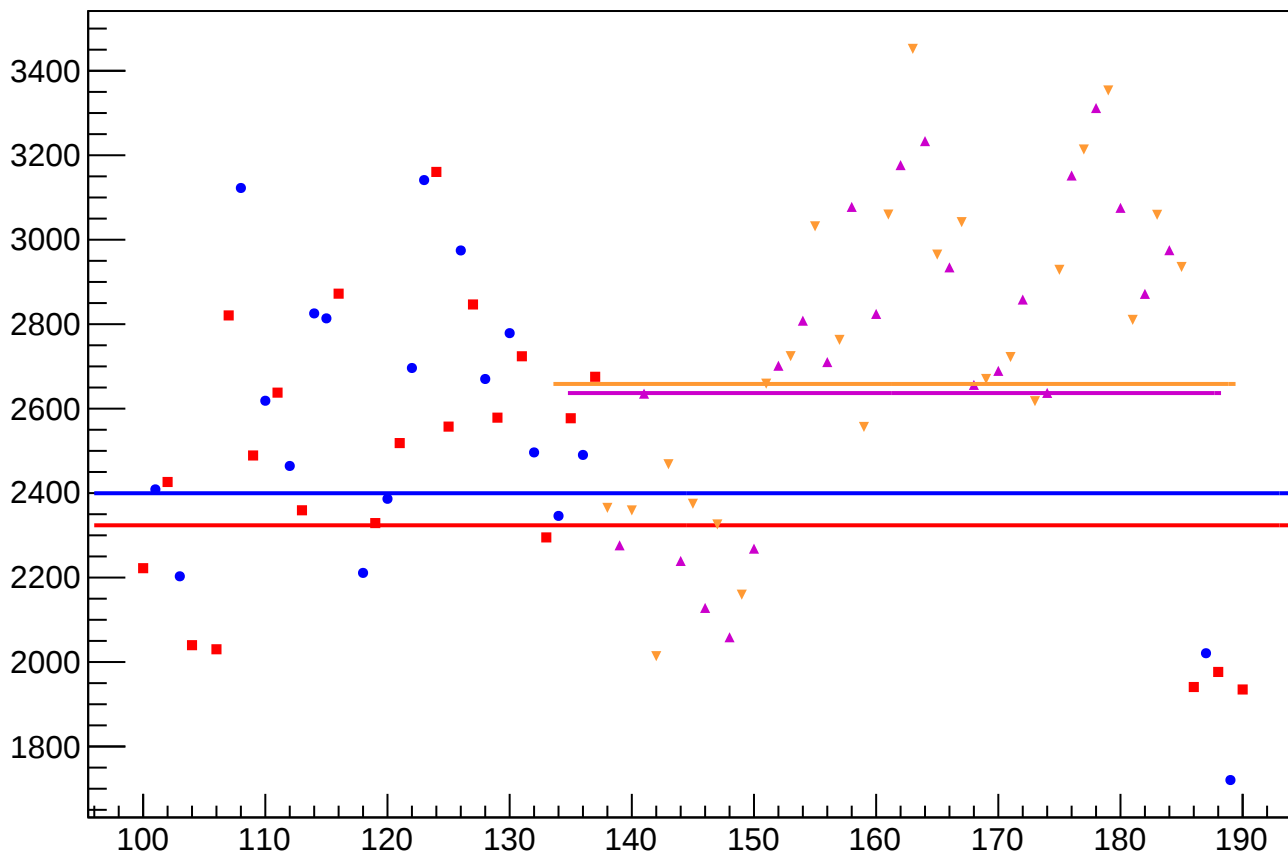
Right: 17.728 $\pm$ 0.595  $\chi^2$ /NDF: 1688.1/40

In: 2.094 $\pm$ 0.522  $\chi^2$ /NDF: 1747.5/41

Out: -2.037 $\pm$ 0.492  $\chi^2$ /NDF: 1673.4/46

All: -0.096 $\pm$ 0.358  $\chi^2$ /NDF: 3454.1/88

# diff\_bpm1i06Y\_rms vs Slug, Sign Corrected



Right In: 2399.694 $\pm$ 0.635  $\chi^2$ /NDF: 302276.0/18

Left Out: 2658.486 $\pm$ 0.442  $\chi^2$ /NDF: 618133.8/24

Right Out: 2323.772 $\pm$ 0.562  $\chi^2$ /NDF: 303176.9/21

Left In: 2636.885 $\pm$ 0.454  $\chi^2$ /NDF: 652894.5/22

Left: 2647.967 $\pm$ 0.317  $\chi^2$ /NDF: 1272190.1/47

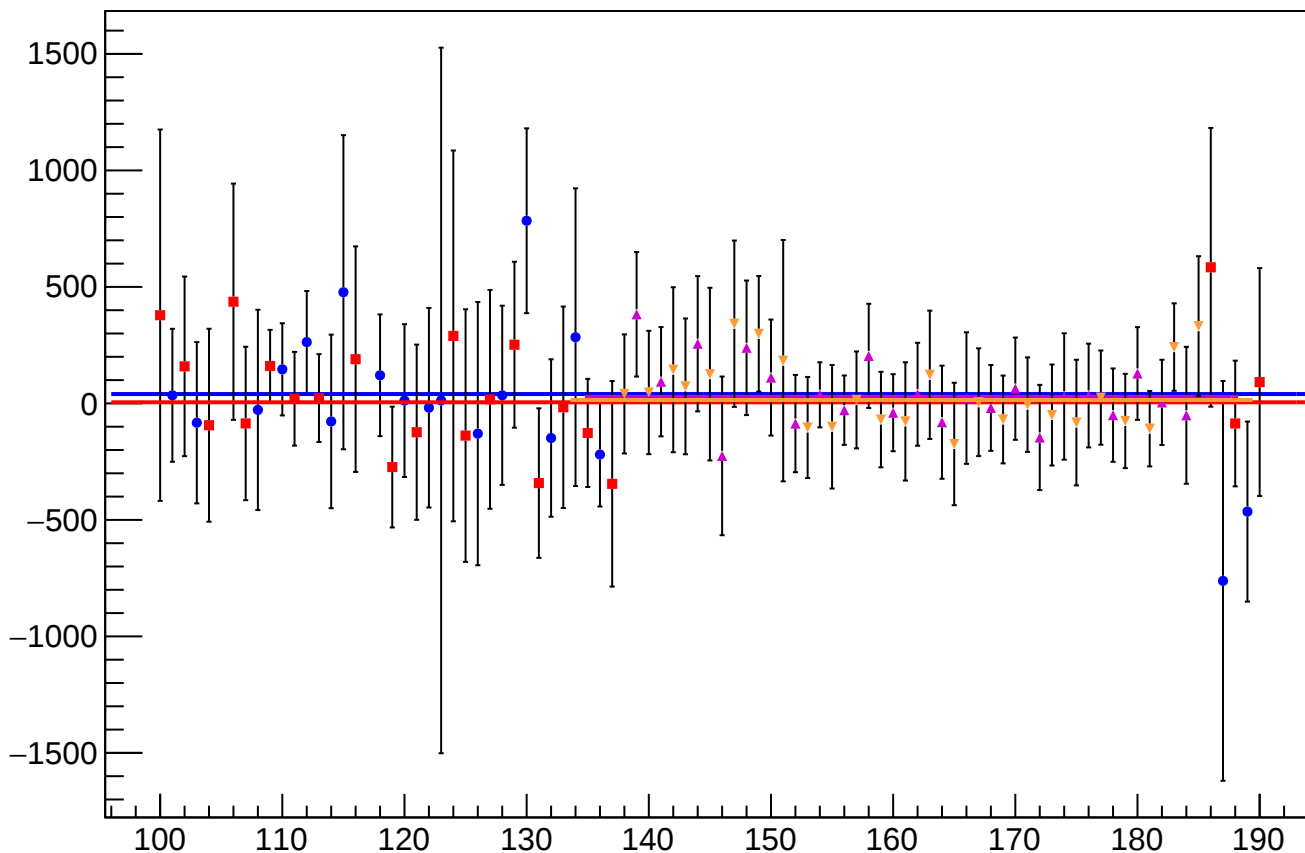
Right: 2357.164 $\pm$ 0.421  $\chi^2$ /NDF: 613471.0/40

In: 2556.605 $\pm$ 0.369  $\chi^2$ /NDF: 1047591.0/41

Out: 2530.567 $\pm$ 0.348  $\chi^2$ /NDF: 1140220.3/46

All: 2542.803 $\pm$ 0.253  $\chi^2$ /NDF: 2190447.8/88

asym\_bcm\_an\_us\_bcm\_an\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 40.180+/-77.309  $\chi^2/\text{NDF}$ : 10.1/18

Left Out: 14.520+/-47.528  $\chi^2/\text{NDF}$ : 7.8/24

Right Out: 4.779+/-66.688  $\chi^2/\text{NDF}$ : 7.6/21

Left In: 28.310+/-44.638  $\chi^2/\text{NDF}$ : 6.3/22

Left: 21.847+/-32.538  $\chi^2/\text{NDF}$ : 14.1/47

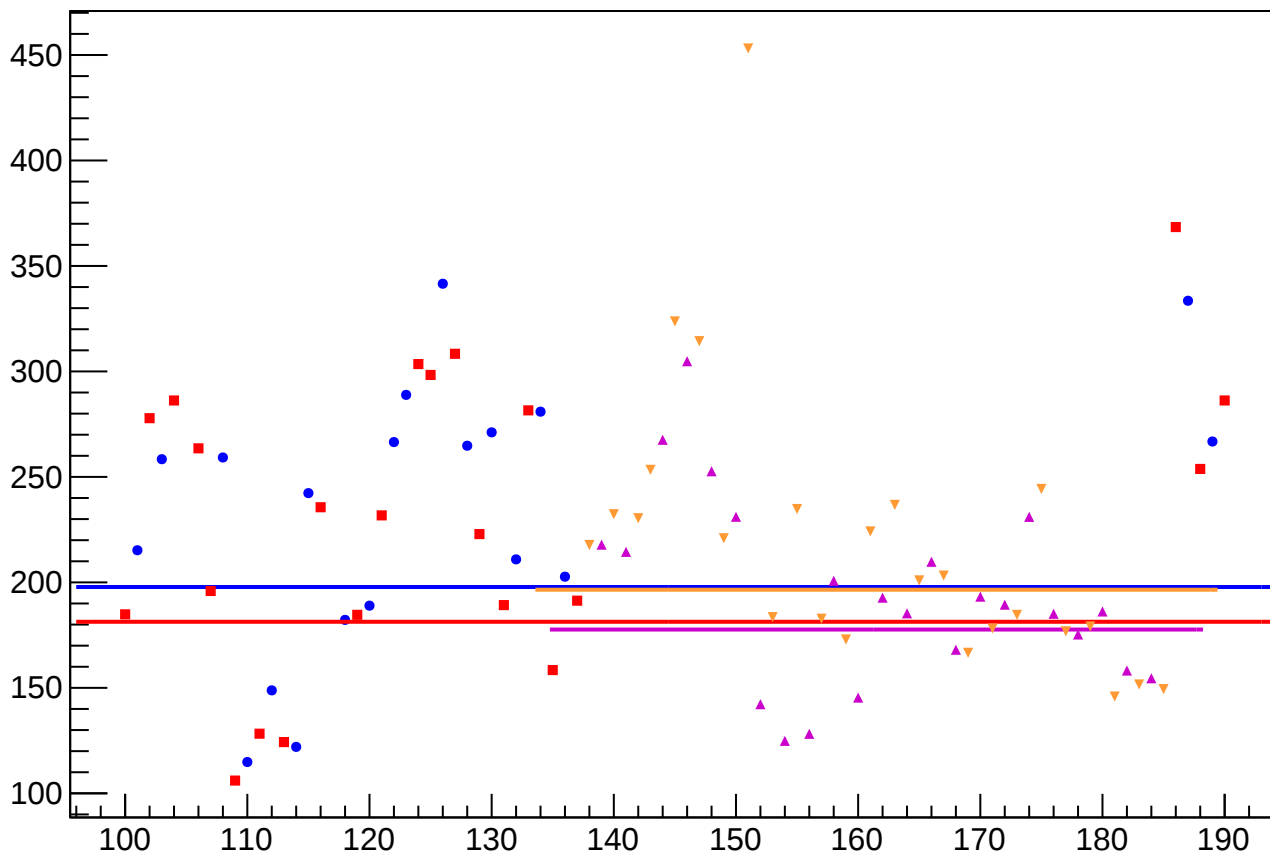
Right: 19.882+/-50.497  $\chi^2/\text{NDF}$ : 17.8/40

In: 31.278+/-38.657  $\chi^2/\text{NDF}$ : 16.4/41

Out: 11.239+/-38.705  $\chi^2/\text{NDF}$ : 15.4/46

All: 21.270+/-27.351  $\chi^2/\text{NDF}$ : 31.9/88

asym\_bcm\_an\_us\_bcm\_an\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 197.807 $\pm$ 0.055  $\chi^2$ /NDF: 1130112.5/18

Left Out: 196.514 $\pm$ 0.034  $\chi^2$ /NDF: 1789504.4/24

Right Out: 181.328 $\pm$ 0.047  $\chi^2$ /NDF: 2040893.2/21

Left In: 177.643 $\pm$ 0.032  $\chi^2$ /NDF: 1630664.5/22

Left: 186.488 $\pm$ 0.023  $\chi^2$ /NDF: 3587689.7/47

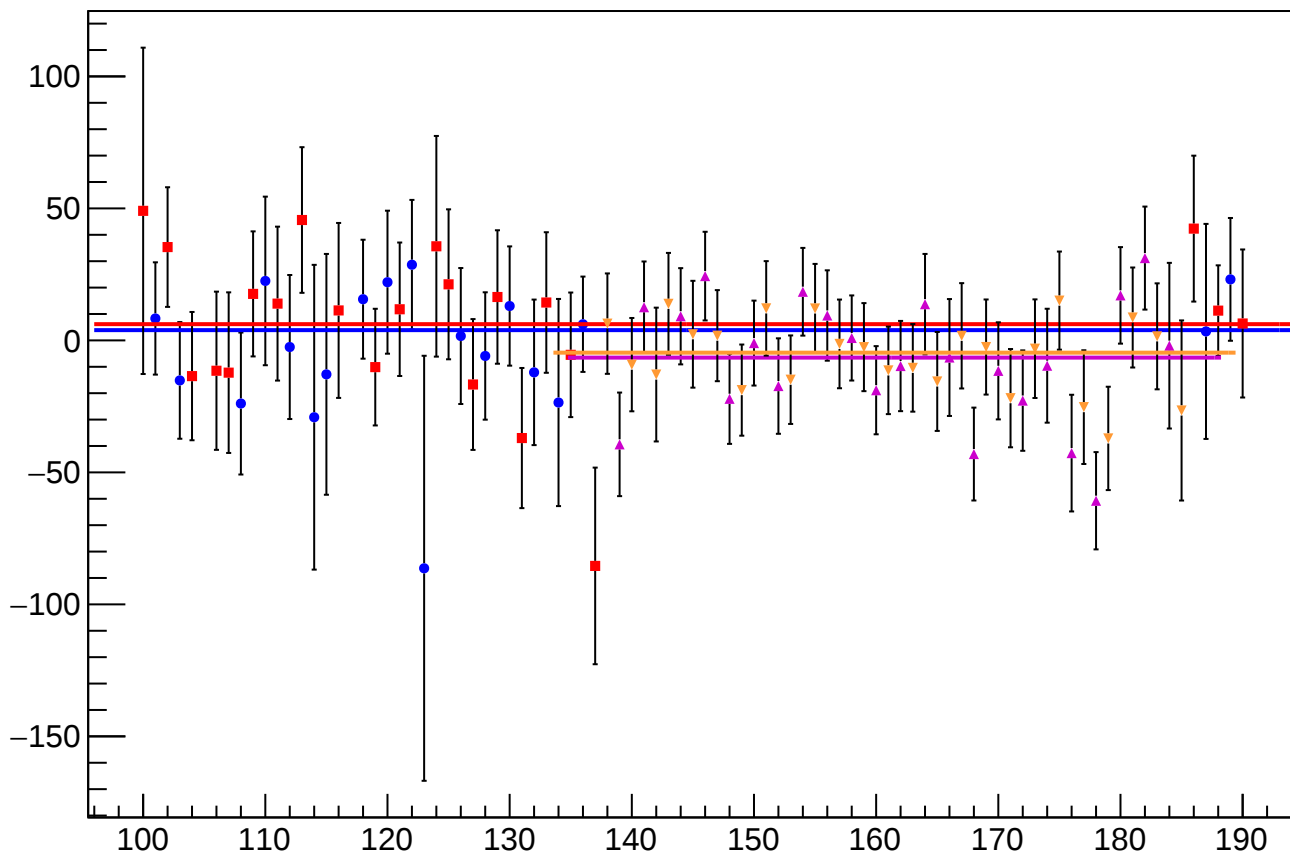
Right: 188.359 $\pm$ 0.036  $\chi^2$ /NDF: 3223107.3/40

In: 182.685 $\pm$ 0.027  $\chi^2$ /NDF: 2862814.0/41

Out: 191.399 $\pm$ 0.027  $\chi^2$ /NDF: 3899172.9/46

All: 187.037 $\pm$ 0.019  $\chi^2$ /NDF: 6812737.6/88

asym\_bcm\_an\_avg\_bcm\_dg\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $3.885 \pm 6.136$   $\chi^2/\text{NDF}: 7.6/18$

Left Out:  $-4.646 \pm 3.728$   $\chi^2/\text{NDF}: 12.1/24$

Right Out:  $6.148 \pm 5.659$   $\chi^2/\text{NDF}: 19.1/21$

Left In:  $-6.526 \pm 3.828$   $\chi^2/\text{NDF}: 36.4/22$

Left:  $-5.561 \pm 2.670$   $\chi^2/\text{NDF}: 48.6/47$

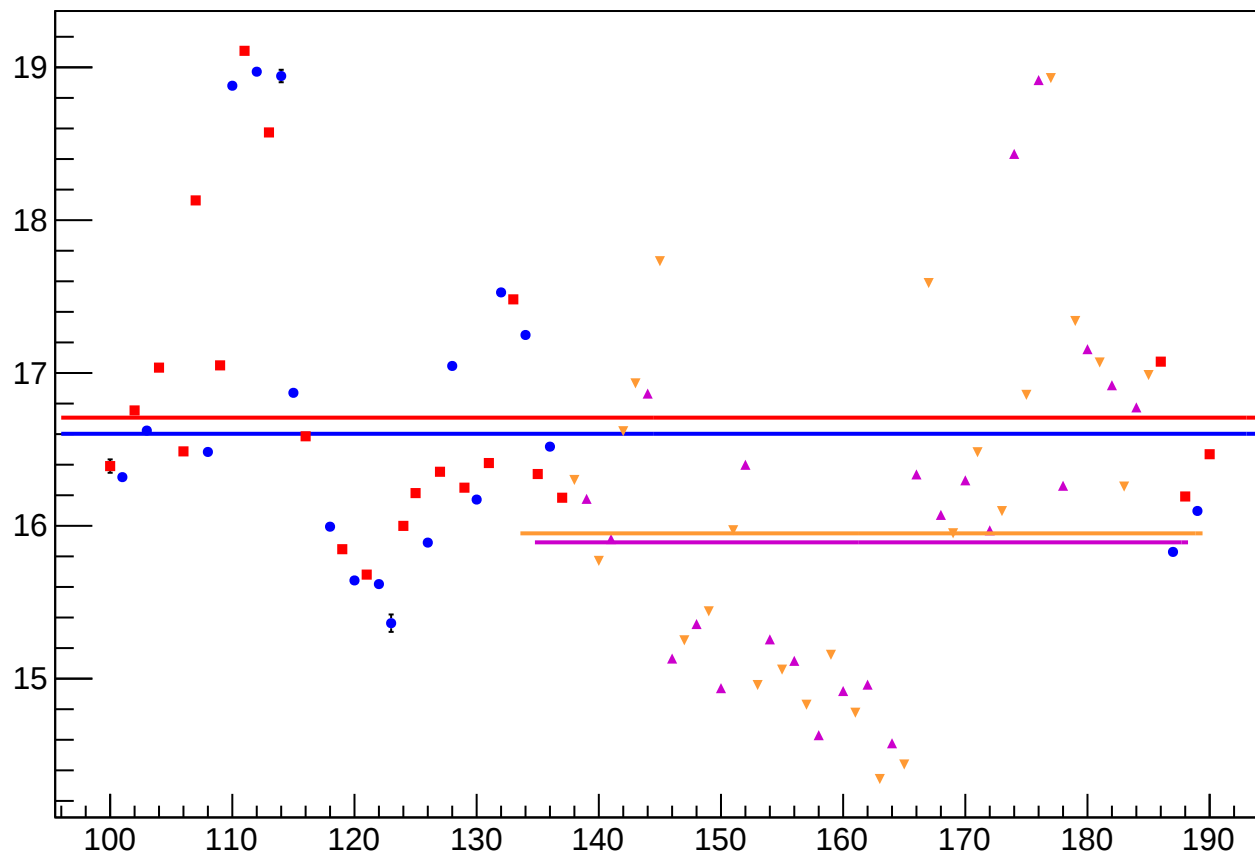
Right:  $5.108 \pm 4.160$   $\chi^2/\text{NDF}: 26.7/40$

In:  $-3.610 \pm 3.247$   $\chi^2/\text{NDF}: 46.0/41$

Out:  $-1.380 \pm 3.113$   $\chi^2/\text{NDF}: 33.7/46$

All:  $-2.448 \pm 2.247$   $\chi^2/\text{NDF}: 80.0/88$

asym\_bcm\_an\_avg\_bcm\_dg\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 16.602 $\pm$ 0.004  $\chi^2/\text{NDF}$ : 44094.7/18

Left Out: 15.951 $\pm$ 0.003  $\chi^2/\text{NDF}$ :173458.5/24

Right Out: 16.708 $\pm$ 0.004  $\chi^2/\text{NDF}$ : 41760.8/21

Left In: 15.892 $\pm$ 0.003  $\chi^2/\text{NDF}$ :147093.3/22

Left: 15.922 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 320794.5/47

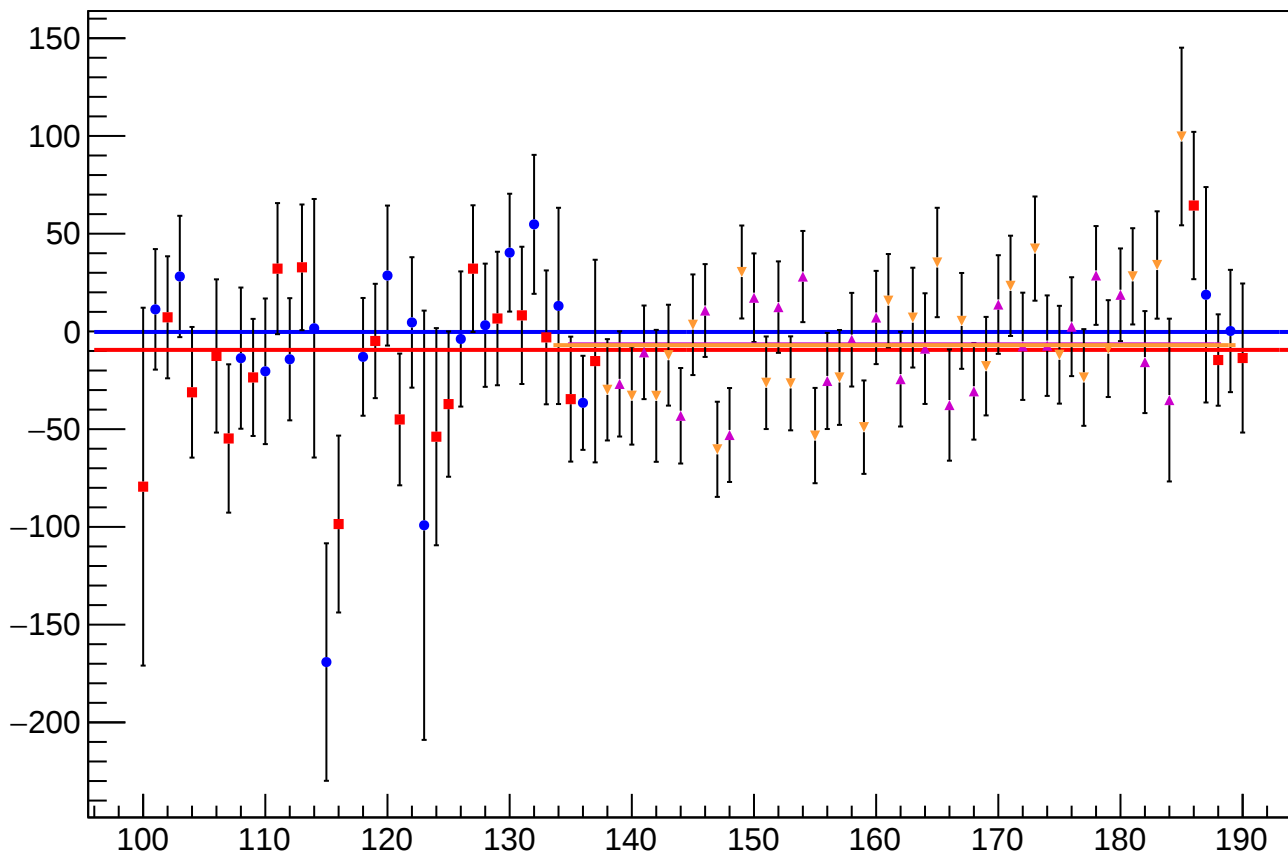
Right: 16.659 $\pm$ 0.003  $\chi^2/\text{NDF}$ : 86175.9/40

In: 16.091 $\pm$ 0.002  $\chi^2/\text{NDF}$ :210485.3/41

Out: 16.180 $\pm$ 0.002  $\chi^2/\text{NDF}$ :240184.9/46

All: 16.137 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 451452.4/88

asym\_bcm\_an\_avg\_bcm\_dg\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-0.274 \pm 8.118$   $\chi^2/\text{NDF}: 17.7/18$

Left Out:  $-7.017 \pm 5.121$   $\chi^2/\text{NDF}: 37.4/24$

Right Out:  $-9.448 \pm 7.455$   $\chi^2/\text{NDF}: 19.1/21$

Left In:  $-6.611 \pm 5.251$   $\chi^2/\text{NDF}: 19.1/22$

Left:  $-6.820 \pm 3.666$   $\chi^2/\text{NDF}: 56.6/47$

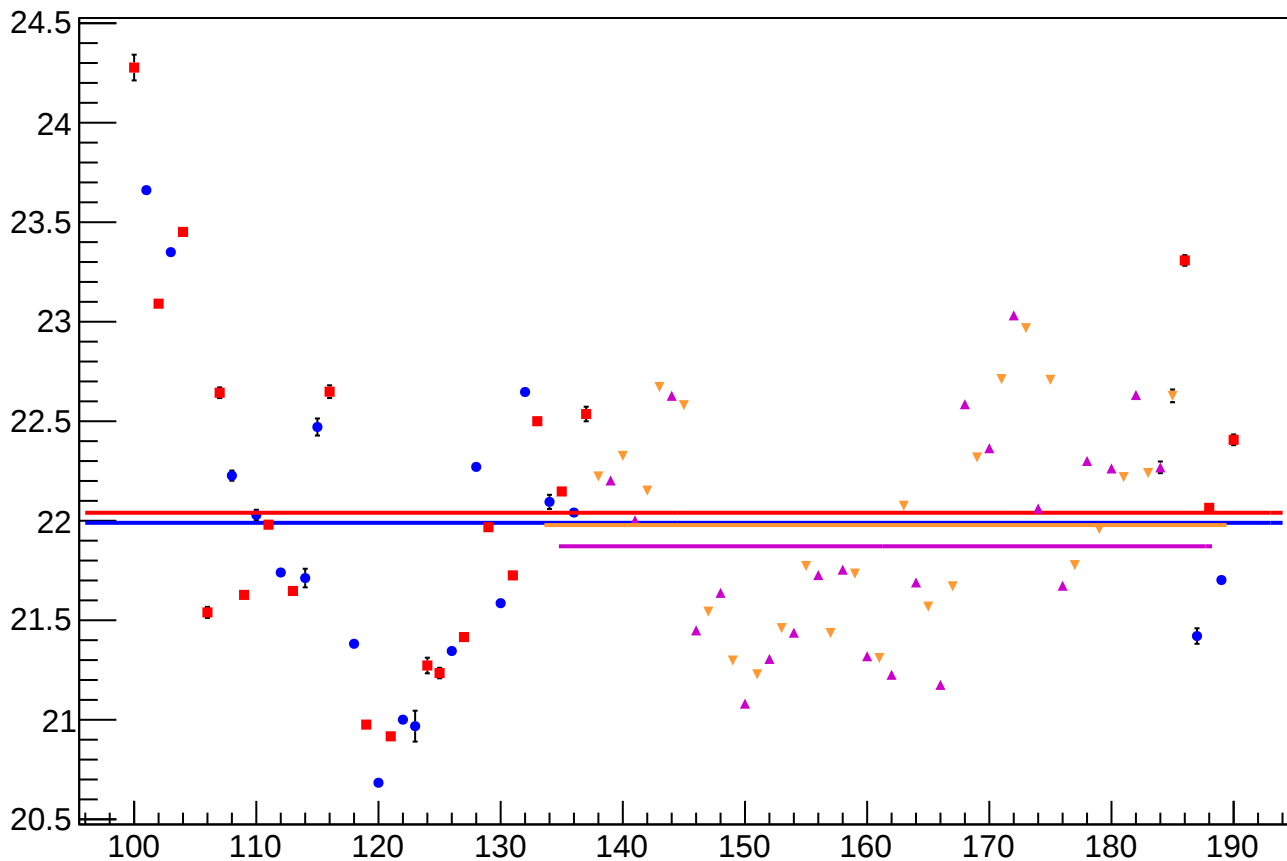
Right:  $-5.251 \pm 5.491$   $\chi^2/\text{NDF}: 37.5/40$

In:  $-4.742 \pm 4.409$   $\chi^2/\text{NDF}: 37.2/41$

Out:  $-7.797 \pm 4.221$   $\chi^2/\text{NDF}: 56.6/46$

All:  $-6.336 \pm 3.049$   $\chi^2/\text{NDF}: 94.1/88$

asym\_bcm\_an\_avg\_bcm\_dg\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In:  $21.990 \pm 0.006$   $\chi^2/\text{NDF}: 17796.6/18$

Left Out:  $21.978 \pm 0.004$   $\chi^2/\text{NDF}: 19430.2/24$

Right Out:  $22.040 \pm 0.005$   $\chi^2/\text{NDF}: 19026.5/21$

Left In:  $21.872 \pm 0.004$   $\chi^2/\text{NDF}: 20524.9/22$

Left:  $21.926 \pm 0.003$   $\chi^2/\text{NDF}: 40377.5/47$

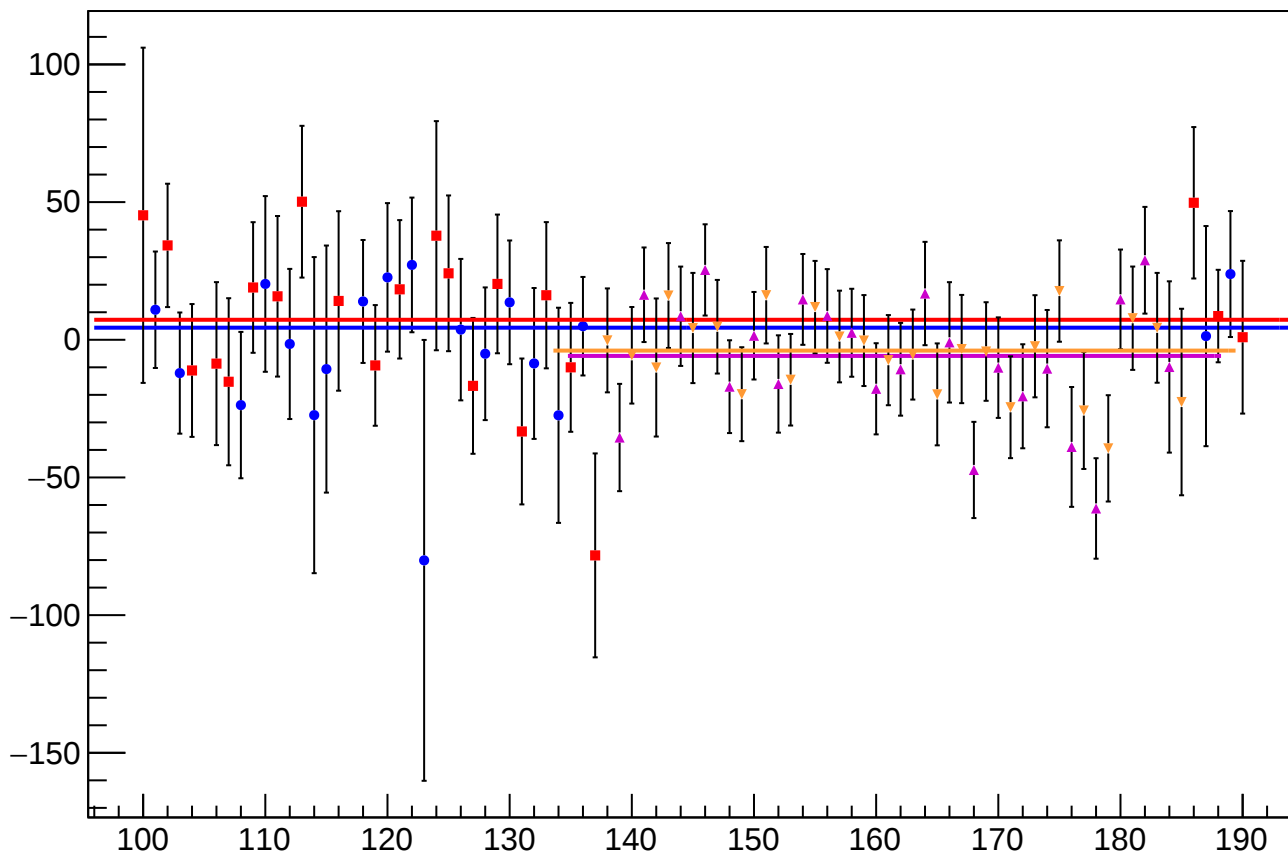
Right:  $22.017 \pm 0.004$   $\chi^2/\text{NDF}: 36865.1/40$

In:  $21.907 \pm 0.003$   $\chi^2/\text{NDF}: 38618.8/41$

Out:  $21.998 \pm 0.003$   $\chi^2/\text{NDF}: 38550.0/46$

All:  $21.954 \pm 0.002$   $\chi^2/\text{NDF}: 77619.5/88$

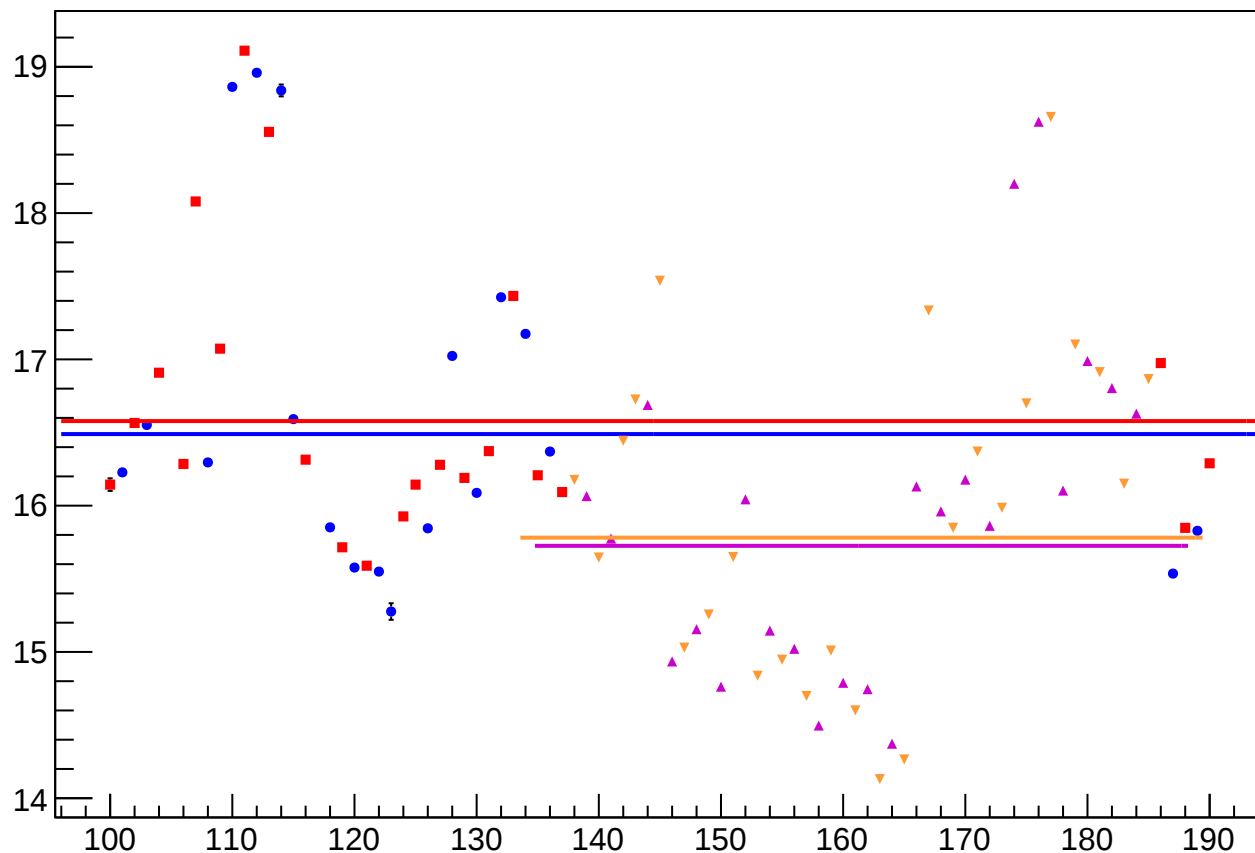
asym\_bcm\_an\_us\_ds3\_avg\_bcm\_dg\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 4.396 $\pm$ 6.095  $\chi^2$ /NDF: 7.1/18  
 Left Out: -3.927 $\pm$ 3.688  $\chi^2$ /NDF:14.0/24  
 Right Out: 7.266 $\pm$ 5.617  $\chi^2$ /NDF: 19.7/21  
 Left In: -5.861 $\pm$ 3.787  $\chi^2$ /NDF:36.2/22

Left: -4.869 $\pm$ 2.642  $\chi^2$ /NDF: 50.3/47  
 Right: 5.948 $\pm$ 4.130  $\chi^2$ /NDF: 26.9/40  
 In: -3.004 $\pm$ 3.217  $\chi^2$ /NDF:45.3/41  
 Out: -0.555 $\pm$ 3.083  $\chi^2$ /NDF:36.5/46  
 All: -1.728 $\pm$ 2.226  $\chi^2$ /NDF: 82.1/88

asym\_bcm\_an\_us\_ds3\_avg\_bcm\_dg\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 16.489 $\pm$ 0.004  $\chi^2/\text{NDF}$ : 47336.8/18

Left Out: 15.781 $\pm$ 0.003  $\chi^2/\text{NDF}$ :172894.3/24

Right Out: 16.578 $\pm$ 0.004  $\chi^2/\text{NDF}$ : 47330.9/21

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

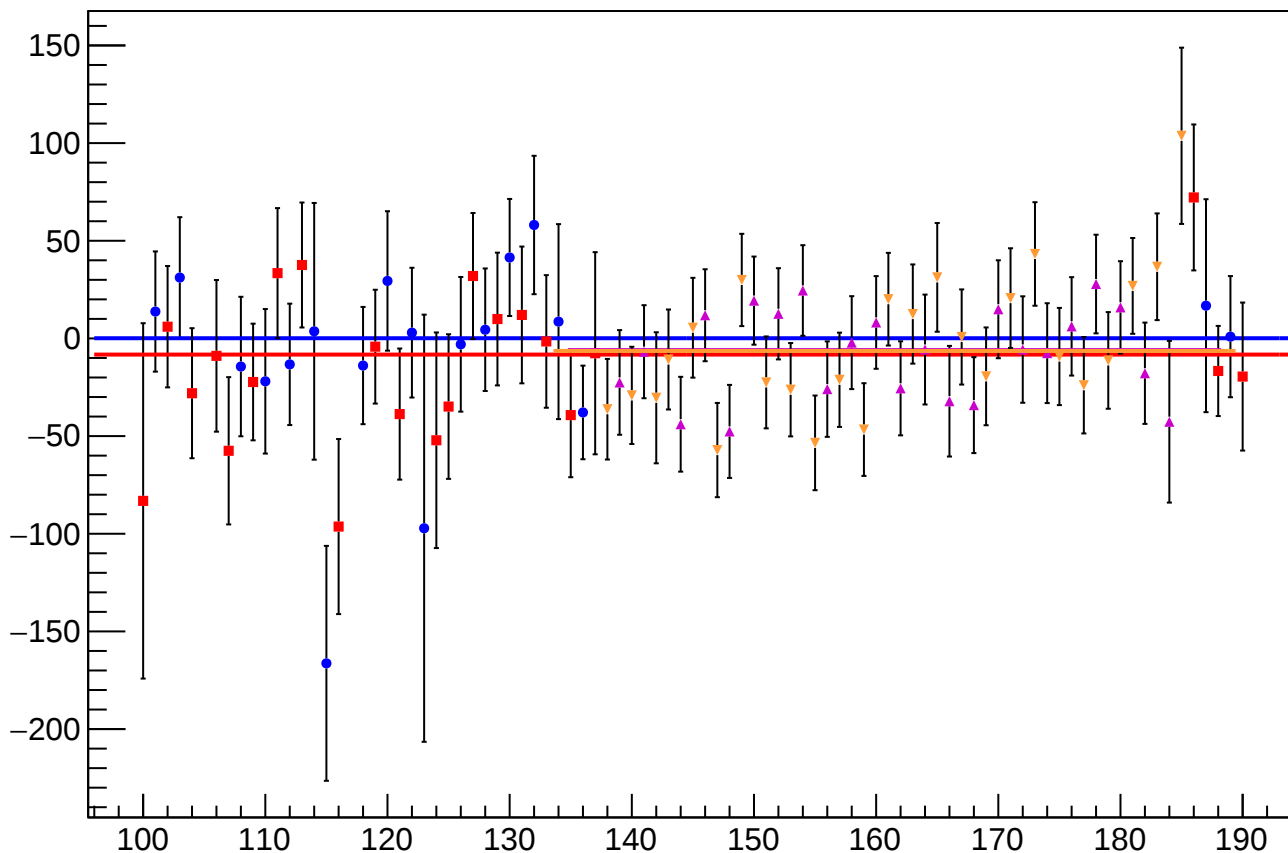
Right: 16.537 $\pm$ 0.003  $\chi^2/\text{NDF}$ : 94897.8/40

In: 15.938 $\pm$ 0.002  $\chi^2/\text{NDF}$ :215841.9/41

Out: 16.021 $\pm$ 0.002  $\chi^2/\text{NDF}$ :248364.4/46

All: 15.982 $\pm$ 0.002  $\chi^2/\text{NDF}$ : 464903.5/88

asym\_bcm\_an\_us\_ds3\_avg\_bcm\_dg\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $0.104 \pm 8.076$   $\chi^2/\text{NDF}: 18.5/18$

Left Out:  $-6.404 \pm 5.091$   $\chi^2/\text{NDF}: 37.4/24$

Right Out:  $-8.267 \pm 7.410$   $\chi^2/\text{NDF}: 20.7/21$

Left In:  $-5.978 \pm 5.222$   $\chi^2/\text{NDF}: 18.5/22$

Left:  $-6.196 \pm 3.646$   $\chi^2/\text{NDF}: 55.9/47$

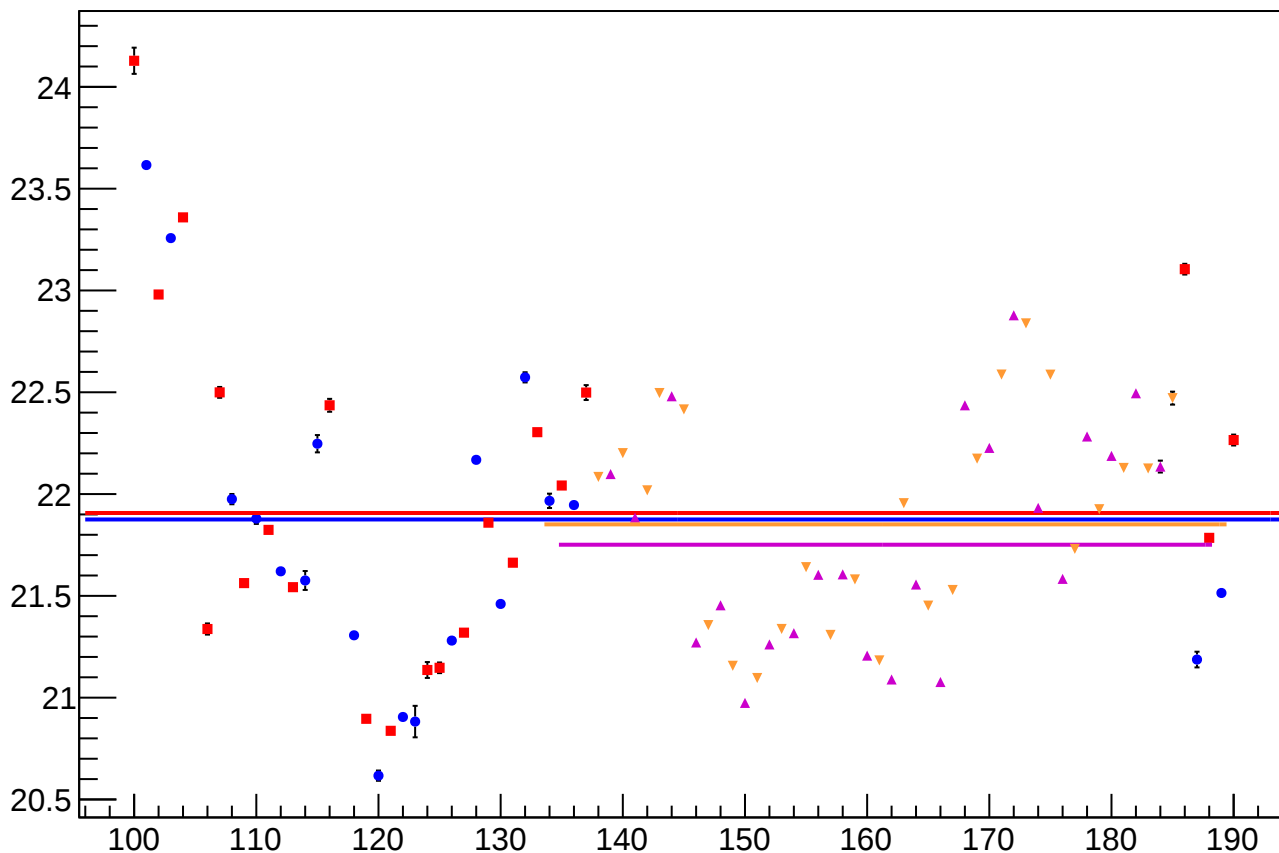
Right:  $-4.441 \pm 5.460$   $\chi^2/\text{NDF}: 39.8/40$

In:  $-4.184 \pm 4.385$   $\chi^2/\text{NDF}: 37.5/41$

Out:  $-7.001 \pm 4.196$   $\chi^2/\text{NDF}: 58.1/46$

All:  $-5.655 \pm 3.032$   $\chi^2/\text{NDF}: 95.8/88$

asym\_bcm\_an\_us\_ds3\_avg\_bcm\_dg\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 21.875 $\pm$ 0.006  $\chi^2$ /NDF: 18284.2/18

Left Out: 21.851 $\pm$ 0.004  $\chi^2$ /NDF: 19631.8/24

Right Out: 21.907 $\pm$ 0.005  $\chi^2$ /NDF: 18425.4/21

Left In: 21.751 $\pm$ 0.004  $\chi^2$ /NDF: 20516.3/22

Left: 21.802 $\pm$ 0.003  $\chi^2$ /NDF: 40523.6/47

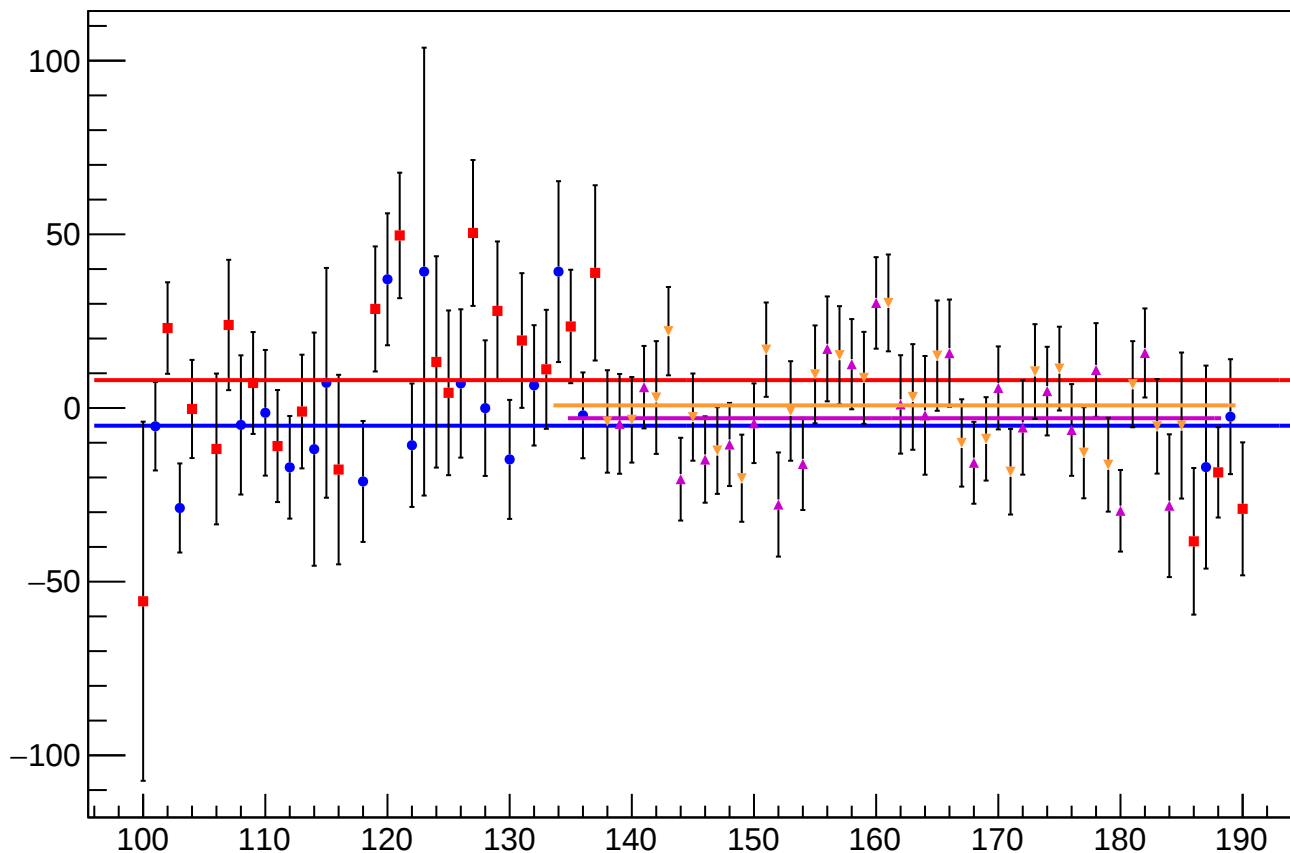
Right: 21.892 $\pm$ 0.004  $\chi^2$ /NDF: 36726.5/40

In: 21.788 $\pm$ 0.003  $\chi^2$ /NDF: 39133.0/41

Out: 21.869 $\pm$ 0.003  $\chi^2$ /NDF: 38134.5/46

All: 21.830 $\pm$ 0.002  $\chi^2$ /NDF: 77626.4/88

asym\_bcm\_an\_us\_bcm\_an\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-5.094 \pm 4.150$   $\chi^2/\text{NDF}$ : 15.0/18

Left Out:  $0.759 \pm 2.698$   $\chi^2/\text{NDF}$ : 23.8/24

Right Out:  $8.023 \pm 3.901$   $\chi^2/\text{NDF}$ : 34.5/21

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

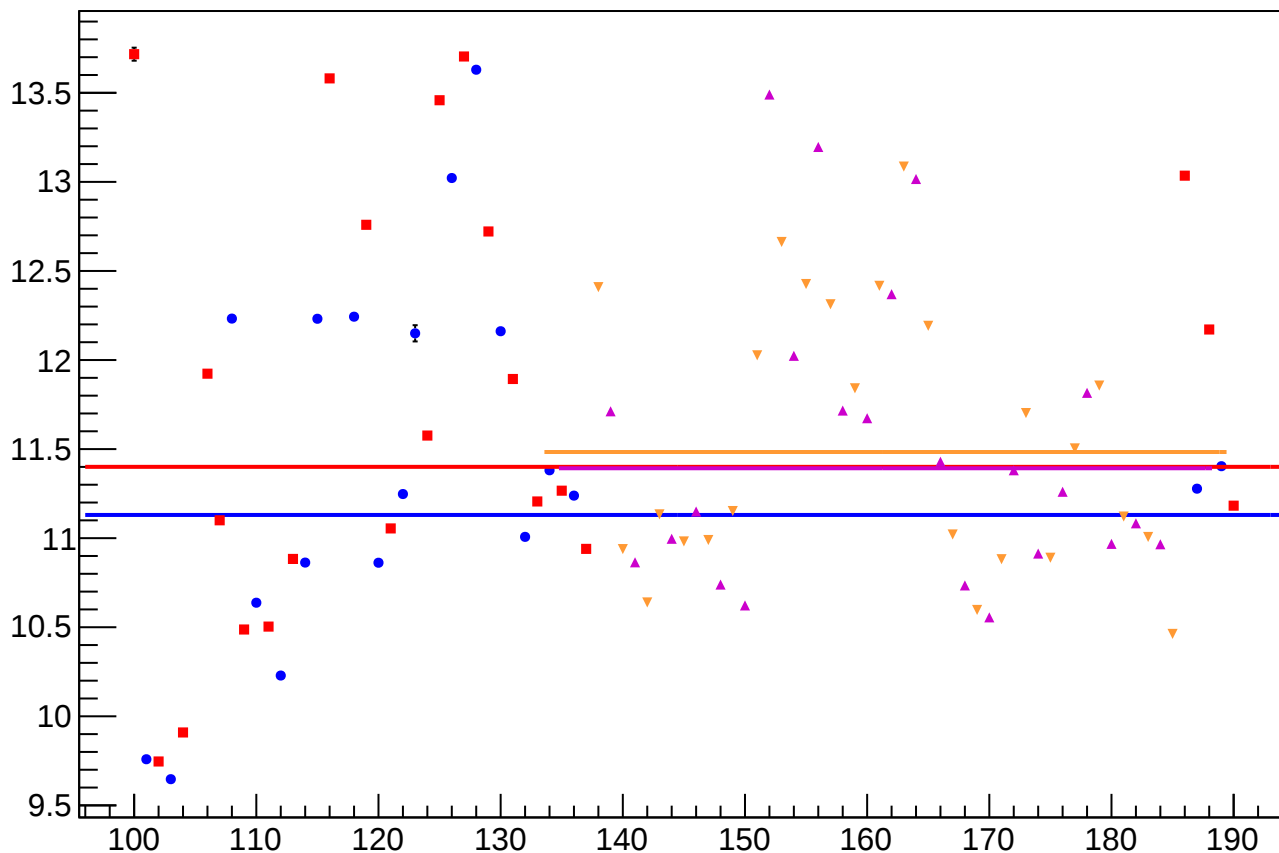
Right:  $1.870 \pm 2.842$   $\chi^2/\text{NDF}$ : 54.8/40

In:  $-3.603 \pm 2.297$   $\chi^2/\text{NDF}$ : 46.1/41

Out:  $3.110 \pm 2.219$   $\chi^2/\text{NDF}$ : 60.7/46

All:  $-0.131 \pm 1.596$   $\chi^2/\text{NDF}$ : 111.2/88

asym\_bcm\_an\_us\_bcm\_an\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 11.130 $\pm$ 0.003  $\chi^2$ /NDF: 133245.0/18

Left Out: 11.484 $\pm$ 0.002  $\chi^2$ /NDF:129805.4/24

Right Out: 11.400 $\pm$ 0.003  $\chi^2$ /NDF: 169858.3/21

Left In: 11.392 $\pm$ 0.002  $\chi^2$ /NDF:150493.3/22

Left: 11.439 $\pm$ 0.001  $\chi^2$ /NDF: 281419.2/47

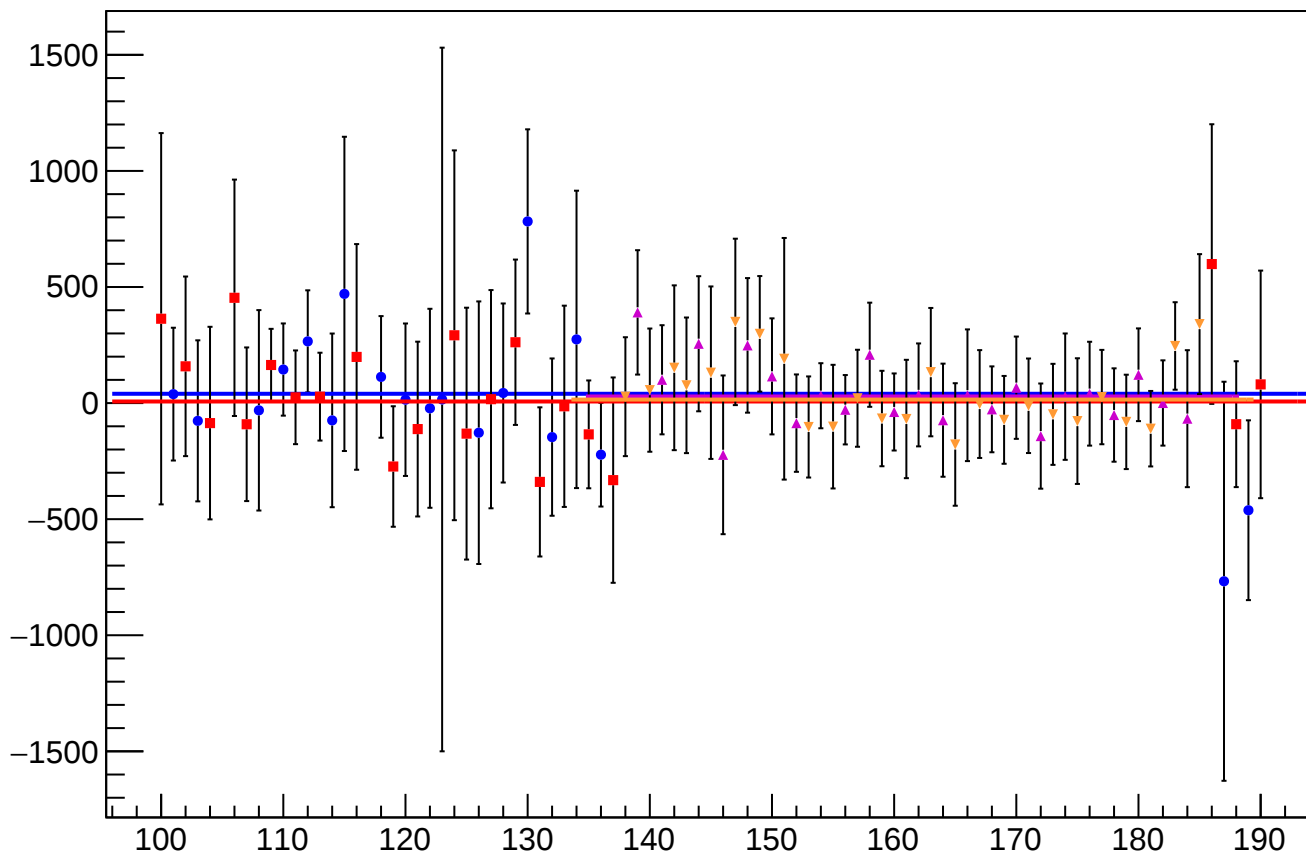
Right: 11.274 $\pm$ 0.002  $\chi^2$ /NDF: 307600.7/40

In: 11.312 $\pm$ 0.002  $\chi^2$ /NDF:289271.3/41

Out: 11.457 $\pm$ 0.002  $\chi^2$ /NDF:300280.7/46

All: 11.387 $\pm$ 0.001  $\chi^2$ /NDF: 593653.6/88

asym\_bcm\_an\_us\_bcm\_an\_ds3\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 40.097+/-77.511  $\chi^2/\text{NDF}$ : 10.0/18

Left Out: 15.130+/-47.705  $\chi^2/\text{NDF}$ : 8.0/24

Right Out: 6.874+/-66.893  $\chi^2/\text{NDF}$ : 7.7/21

Left In: 28.500+/-44.797  $\chi^2/\text{NDF}$ : 6.4/22

Left: 22.235+/-32.656  $\chi^2/\text{NDF}$ : 14.4/47

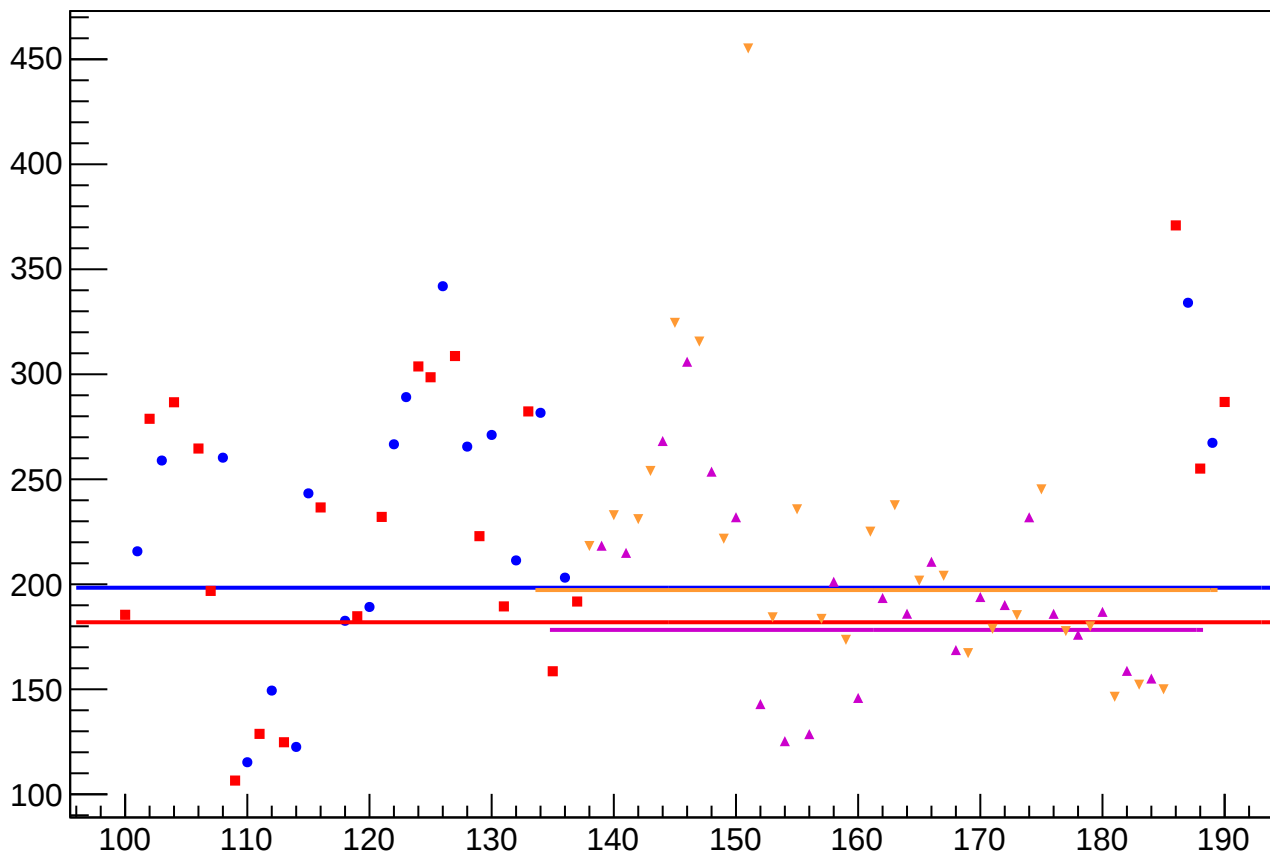
Right: 21.056+/-50.642  $\chi^2/\text{NDF}$ : 17.8/40

In: 31.404+/-38.785  $\chi^2/\text{NDF}$ : 16.5/41

Out: 12.347+/-38.840  $\chi^2/\text{NDF}$ : 15.7/46

All: 21.889+/-27.445  $\chi^2/\text{NDF}$ : 32.2/88

asym\_bcm\_an\_us\_bcm\_an\_ds3\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 198.362 $\pm$ 0.055  $\chi^2$ /NDF: 1124790.4/18

Left Out: 197.249 $\pm$ 0.034  $\chi^2$ /NDF: 1786808.1/24

Right Out: 181.919 $\pm$ 0.047  $\chi^2$ /NDF: 2036038.1/21

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

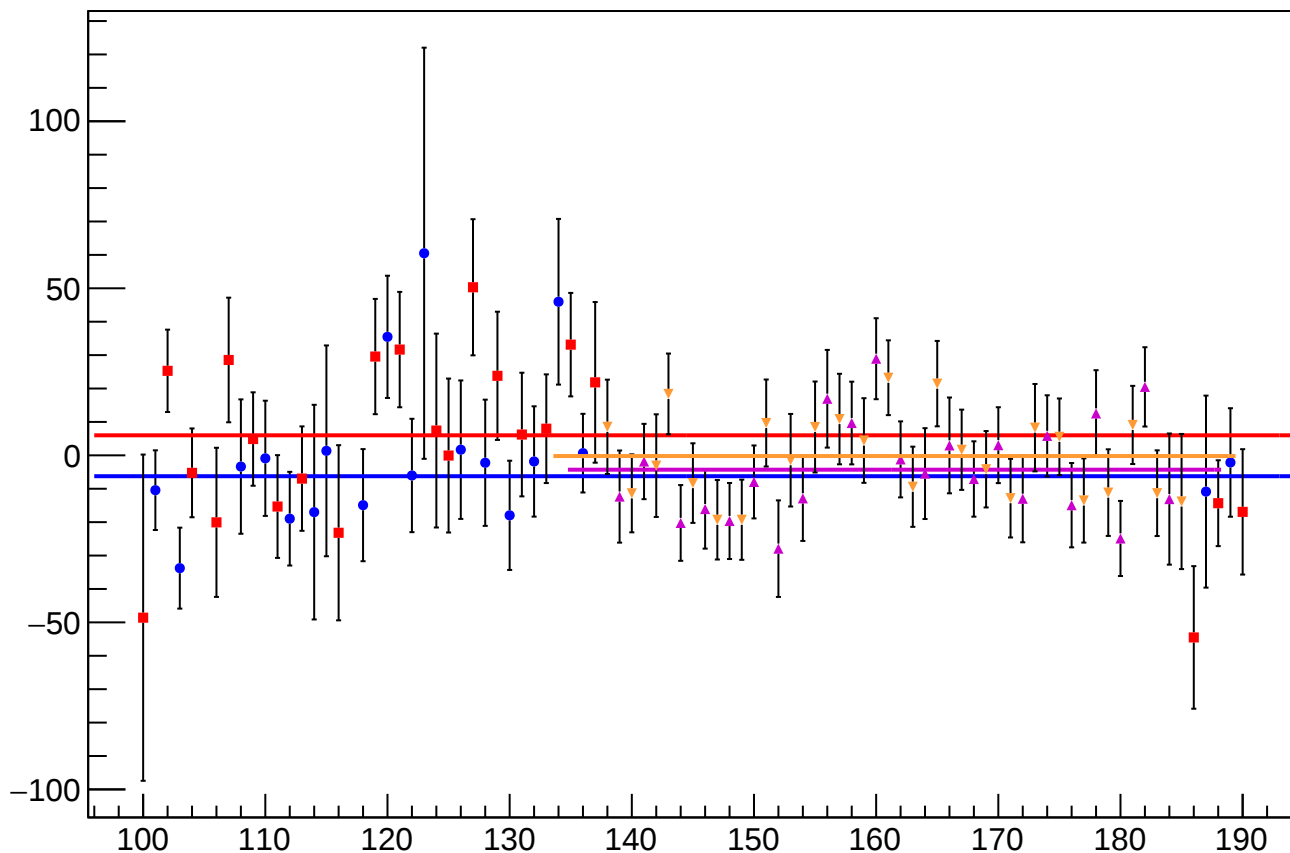
Right: 188.938 $\pm$ 0.036  $\chi^2$ /NDF: 3212413.3/40

In: 183.306 $\pm$ 0.027  $\chi^2$ /NDF: 2854370.1/41

Out: 192.081 $\pm$ 0.027  $\chi^2$ /NDF: 3892480.3/46

All: 187.687 $\pm$ 0.019  $\chi^2$ /NDF: 6797966.0/88

asym\_bcm\_an\_us\_bcm\_an\_ds3\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-6.248 \pm 3.972$   $\chi^2/\text{NDF}$ : 18.7/18

Left Out:  $-0.211 \pm 2.523$   $\chi^2/\text{NDF}$ : 24.5/24

Right Out:  $5.995 \pm 3.752$   $\chi^2/\text{NDF}$ : 36.4/21

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

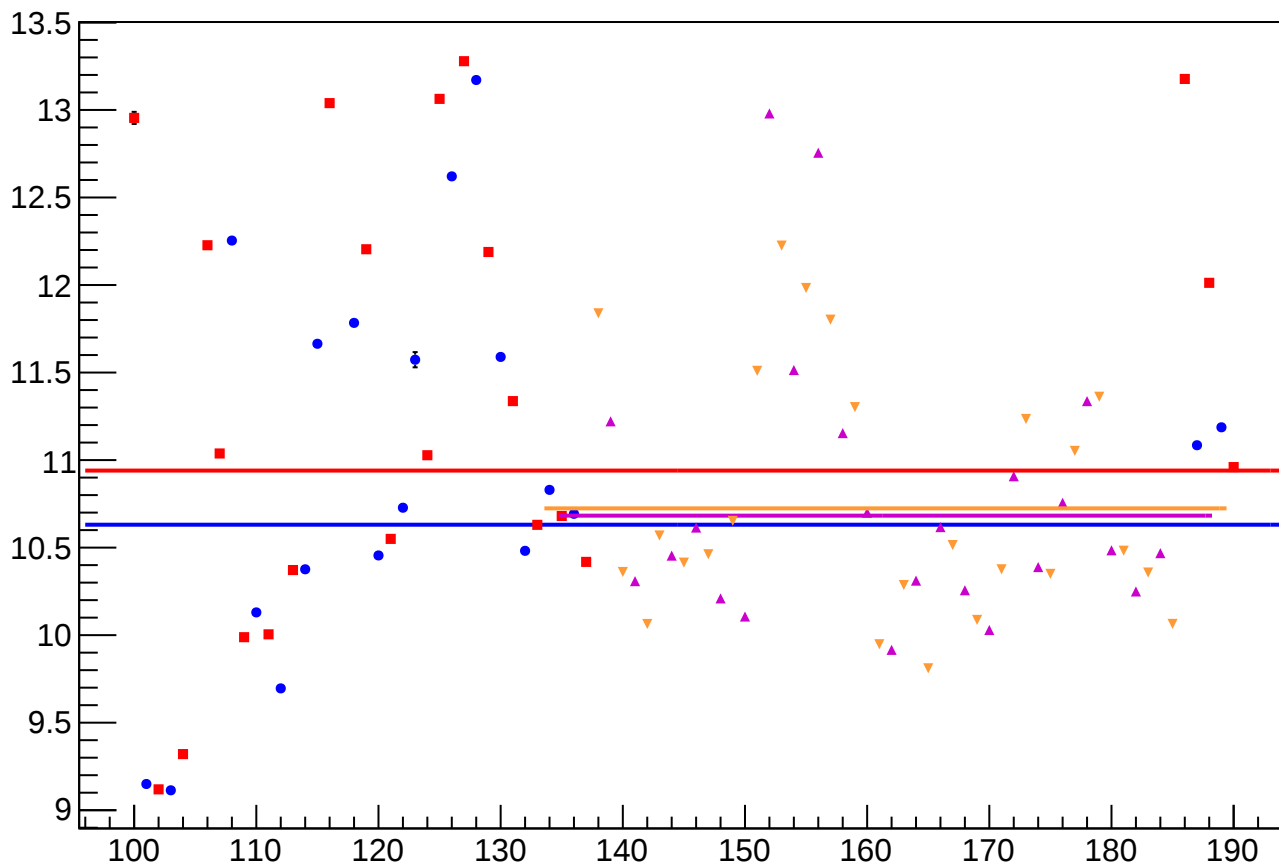
Right:  $0.221 \pm 2.727$   $\chi^2/\text{NDF}$ : 60.1/40

In:  $-4.879 \pm 2.169$   $\chi^2/\text{NDF}$ : 50.4/41

Out:  $1.722 \pm 2.094$   $\chi^2/\text{NDF}$ : 62.8/46

All:  $-1.463 \pm 1.506$   $\chi^2/\text{NDF}$ : 118.0/88

asym\_bcm\_an\_us\_bcm\_an\_ds3\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 10.631+/-0.003  $\chi^2/\text{NDF}$ : 162902.9/18

Left Out: 10.724+/-0.002  $\chi^2/\text{NDF}$ : 132558.9/24

Right Out: 10.940+/-0.003  $\chi^2/\text{NDF}$ : 218207.6/21

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

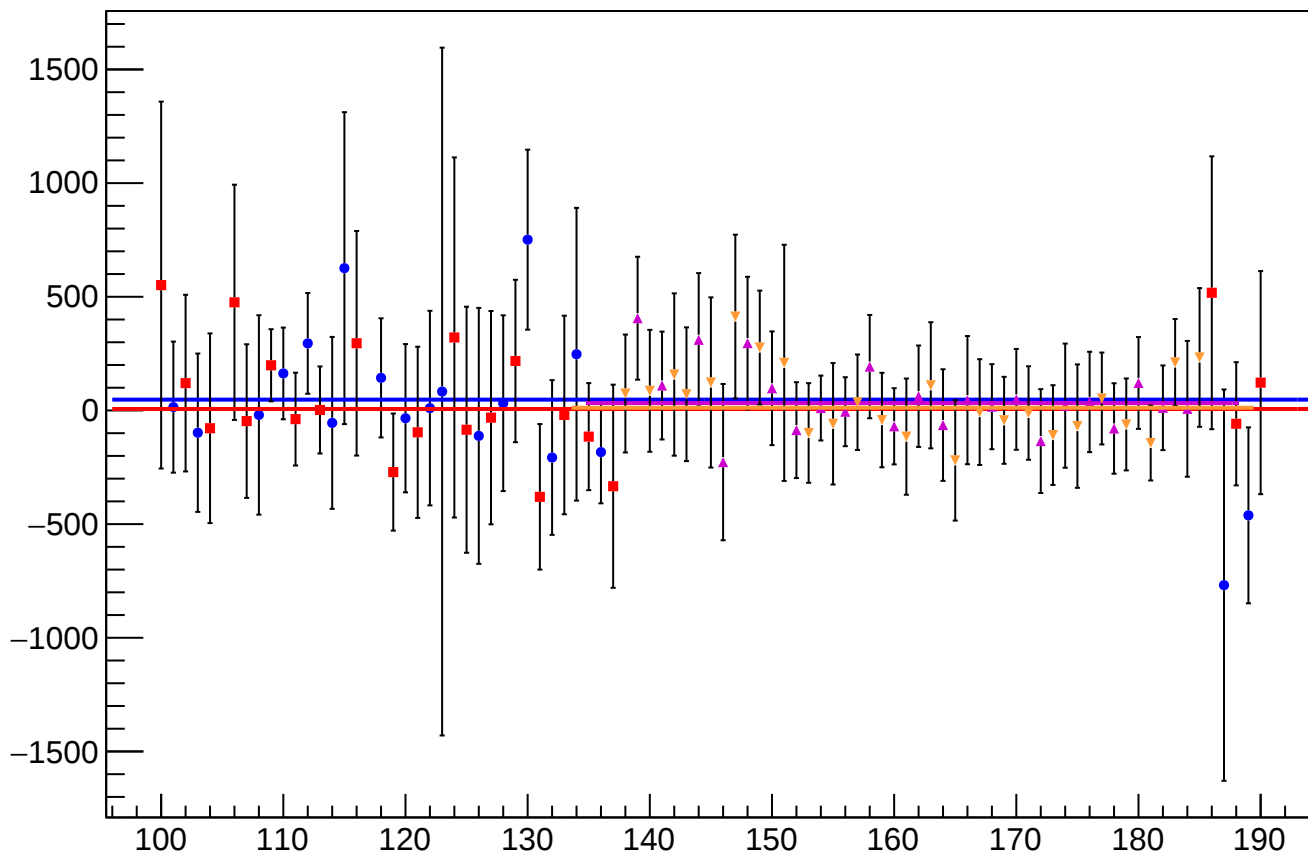
Right: 10.794+/-0.002  $\chi^2/\text{NDF}$ : 387517.9/40

In: 10.667+/-0.002  $\chi^2/\text{NDF}$ : 310976.8/41

Out: 10.791+/-0.001  $\chi^2/\text{NDF}$ : 355327.1/46

All: 10.731+/-0.001  $\chi^2/\text{NDF}$ : 669701.4/88

asym\_bcm\_dg\_us\_bcm\_an\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 47.615 $\pm$ 77.992  $\chi^2$ /NDF: 10.3/18

Left Out: 11.891 $\pm$ 48.022  $\chi^2$ /NDF: 7.6/24

Right Out: 6.455 $\pm$ 67.471  $\chi^2$ /NDF: 8.2/21

Left In: 32.413 $\pm$ 45.155  $\chi^2$ /NDF: 6.9/22

Left: 22.783 $\pm$ 32.896  $\chi^2$ /NDF: 14.6/47

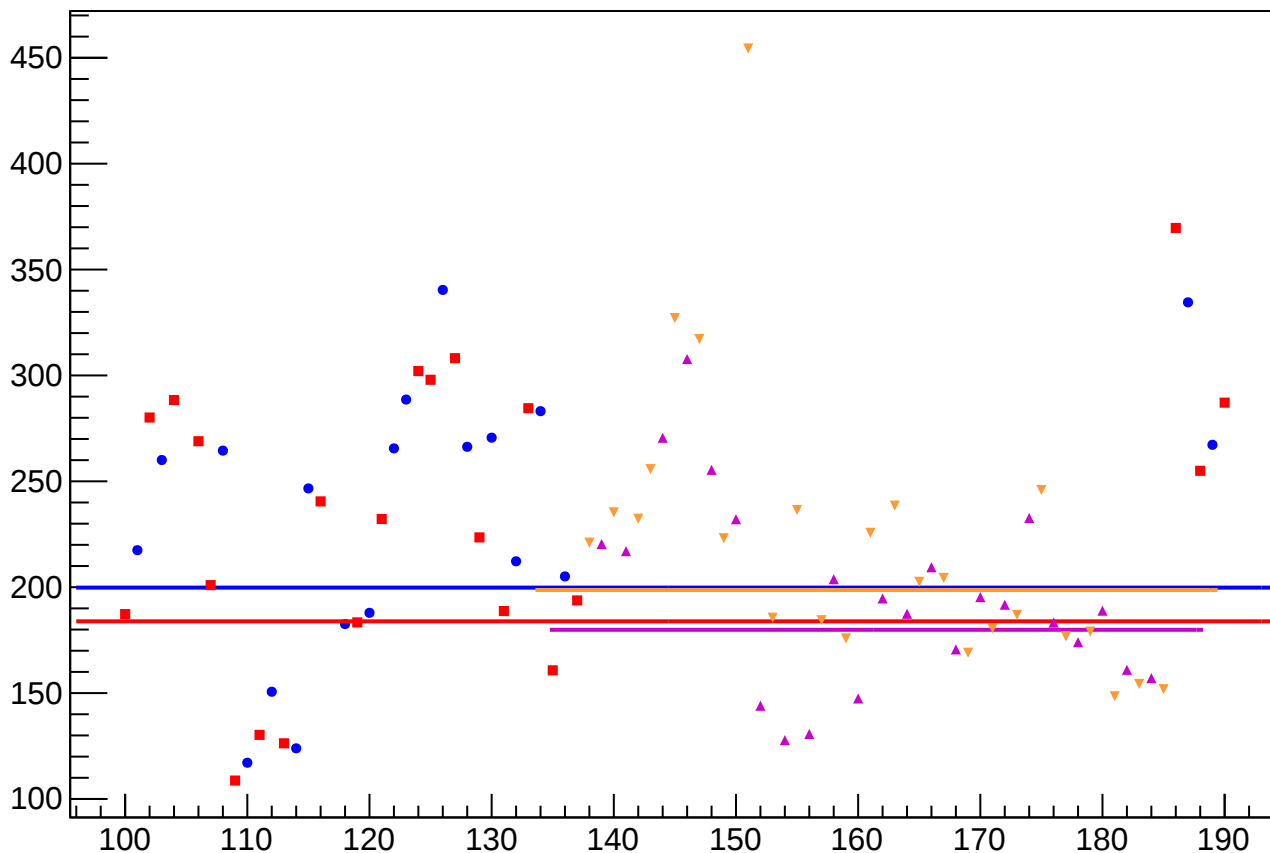
Right: 24.074 $\pm$ 51.027  $\chi^2$ /NDF: 18.7/40

In: 36.229 $\pm$ 39.078  $\chi^2$ /NDF: 17.3/41

Out: 10.063 $\pm$ 39.124  $\chi^2$ /NDF: 15.9/46

All: 23.162 $\pm$ 27.649  $\chi^2$ /NDF: 33.4/88

asym\_bcm\_dg\_us\_bcm\_an\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In:  $199.809 \pm 0.055$   $\chi^2/\text{NDF}: 1095770.1/18$

Left Out:  $198.695 \pm 0.034$   $\chi^2/\text{NDF}: 1759311.9/24$

Right Out:  $183.891 \pm 0.048$   $\chi^2/\text{NDF}: 1978234.6/21$

Left In:  $179.886 \pm 0.032$   $\chi^2/\text{NDF}: 1580636.4/22$

Left:  $188.712 \pm 0.023$   $\chi^2/\text{NDF}: 3502782.6/47$

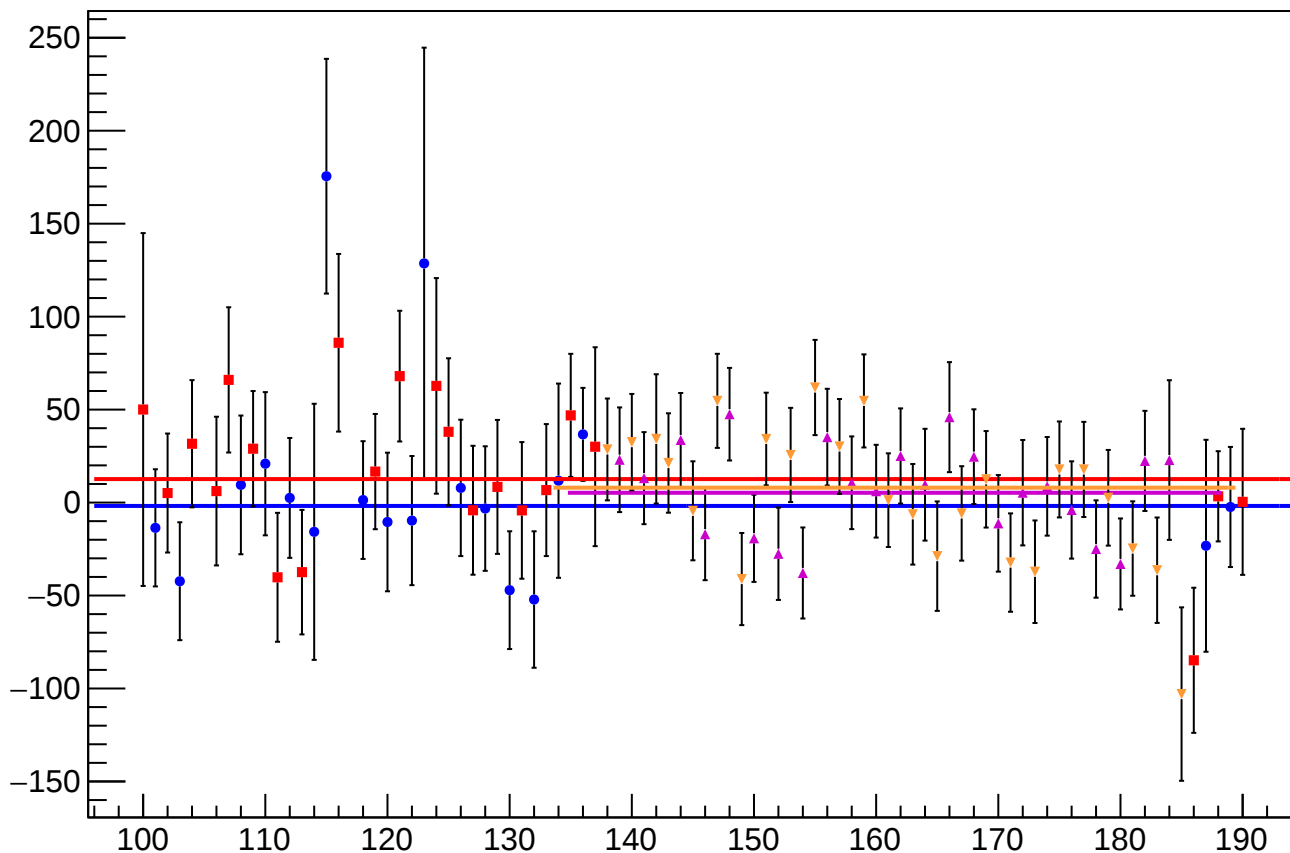
Right:  $190.705 \pm 0.036$   $\chi^2/\text{NDF}: 3121651.9/40$

In:  $184.888 \pm 0.028$   $\chi^2/\text{NDF}: 2774143.0/41$

Out:  $193.717 \pm 0.028$   $\chi^2/\text{NDF}: 3801454.1/46$

All:  $189.297 \pm 0.020$   $\chi^2/\text{NDF}: 6626588.0/88$

asym\_bcm\_dg\_us\_bcm\_an\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-1.818 \pm 8.438$   $\chi^2/\text{NDF}$ : 18.1/18

Left Out:  $8.004 \pm 5.334$   $\chi^2/\text{NDF}$ : 37.4/24

Right Out:  $12.630 \pm 7.758$   $\chi^2/\text{NDF}$ : 21.4/21

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

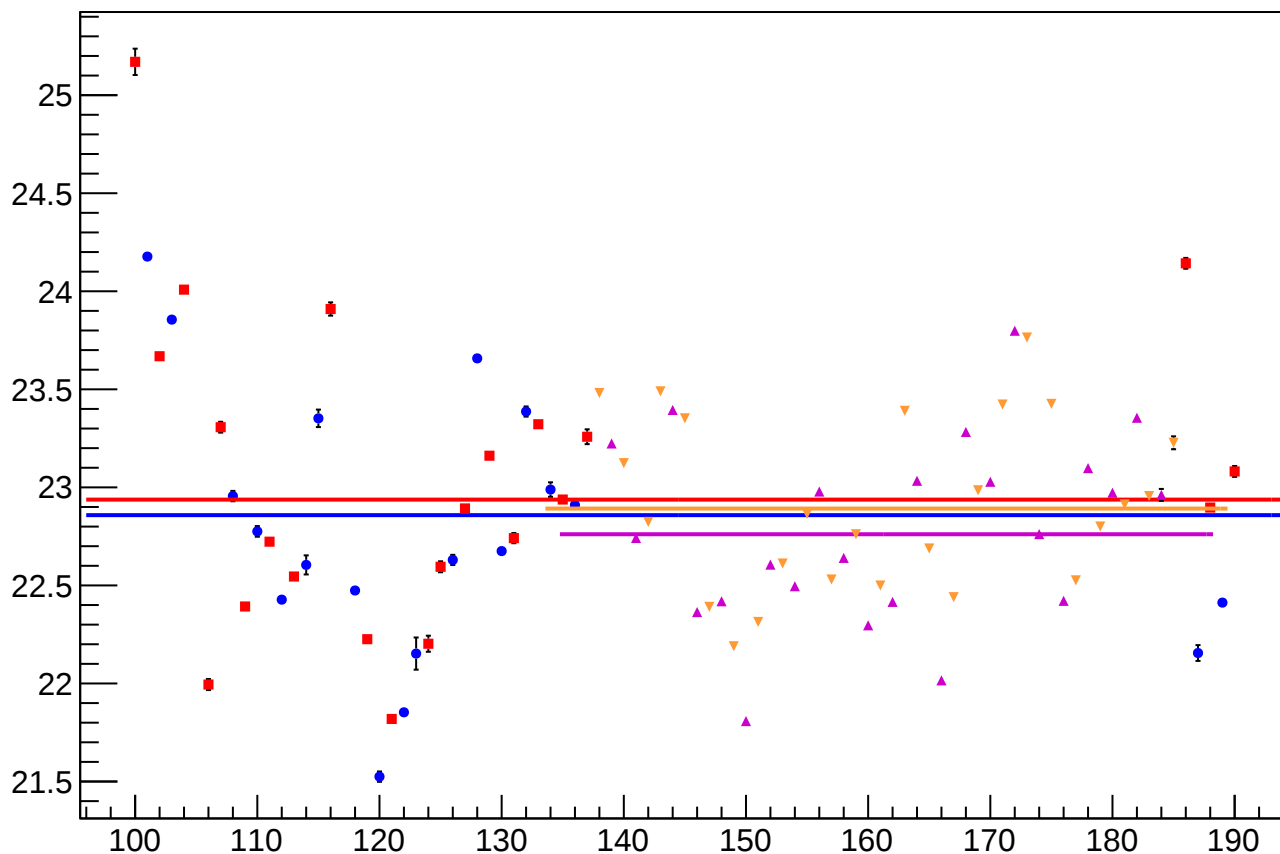
Right:  $6.011 \pm 5.711$   $\chi^2/\text{NDF}$ : 41.1/40

In:  $3.169 \pm 4.587$   $\chi^2/\text{NDF}$ : 39.4/41

Out:  $9.488 \pm 4.395$   $\chi^2/\text{NDF}$ : 59.1/46

All:  $6.463 \pm 3.174$   $\chi^2/\text{NDF}$ : 99.4/88

asym\_bcm\_dg\_us\_bcm\_an\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 22.858 $\pm$ 0.006  $\chi^2$ /NDF: 13020.9/18

Left Out: 22.892 $\pm$ 0.004  $\chi^2$ /NDF:12995.5/24

Right Out: 22.938 $\pm$ 0.005  $\chi^2$ /NDF: 13130.9/21

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

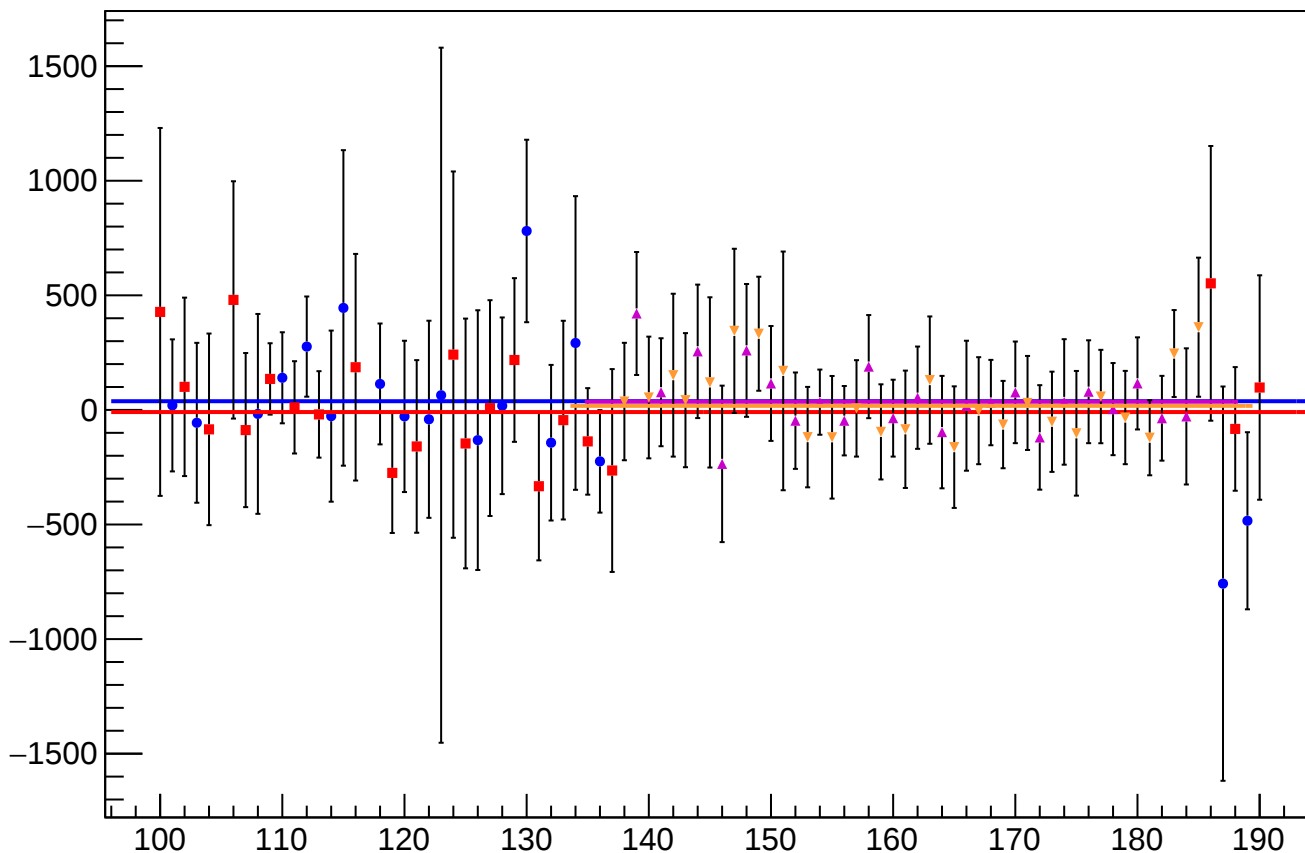
Right: 22.901 $\pm$ 0.004  $\chi^2$ /NDF: 26247.4/40

In: 22.790 $\pm$ 0.003  $\chi^2$ /NDF:27758.4/41

Out: 22.907 $\pm$ 0.003  $\chi^2$ /NDF:26173.5/46

All: 22.851 $\pm$ 0.002  $\chi^2$ /NDF: 54608.7/88

asym\_bcm\_dg\_ds\_bcm\_an\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 37.990+/-77.668  $\chi^2/\text{NDF}$ : 10.2/18

Left Out: 17.777+/-47.941  $\chi^2/\text{NDF}$ : 8.5/24

Right Out: -9.308+/-67.017  $\chi^2/\text{NDF}$ : 6.8/21

Left In: 35.879+/-45.087  $\chi^2/\text{NDF}$ : 6.3/22

Left: 27.383+/-32.844  $\chi^2/\text{NDF}$ : 14.9/47

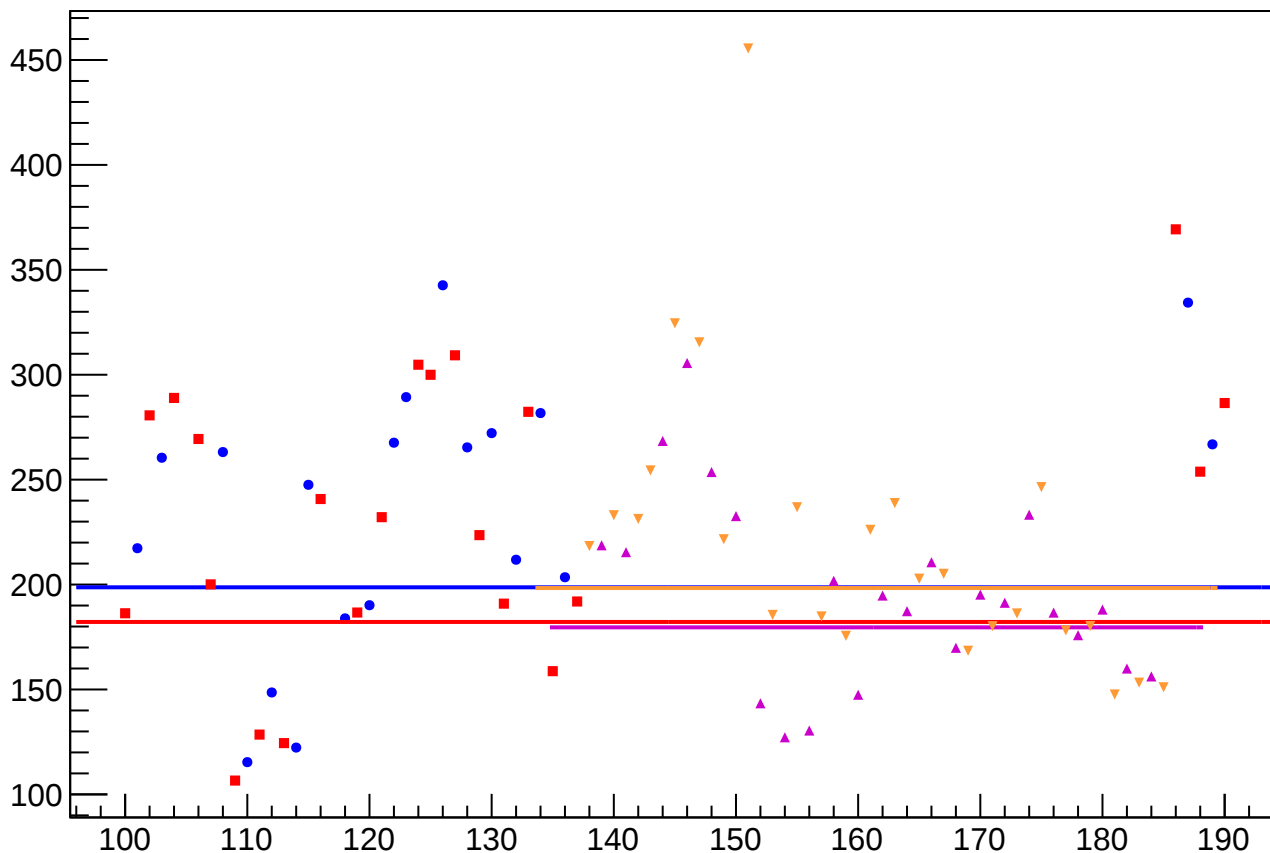
Right: 10.878+/-50.739  $\chi^2/\text{NDF}$ : 17.2/40

In: 36.411+/-38.993  $\chi^2/\text{NDF}$ : 16.5/41

Out: 8.608+/-38.992  $\chi^2/\text{NDF}$ : 15.4/46

All: 22.509+/-27.572  $\chi^2/\text{NDF}$ : 32.2/88

asym\_bcm\_dg\_ds\_bcm\_an\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 198.688 $\pm$ 0.055  $\chi^2$ /NDF: 1138096.0/18

Left Out: 198.344 $\pm$ 0.034  $\chi^2$ /NDF: 1757450.6/24

Right Out: 182.178 $\pm$ 0.047  $\chi^2$ /NDF: 2055236.3/21

Left In: 179.605 $\pm$ 0.032  $\chi^2$ /NDF: 1575744.0/22

Left: 188.400 $\pm$ 0.023  $\chi^2$ /NDF: 3495336.8/47

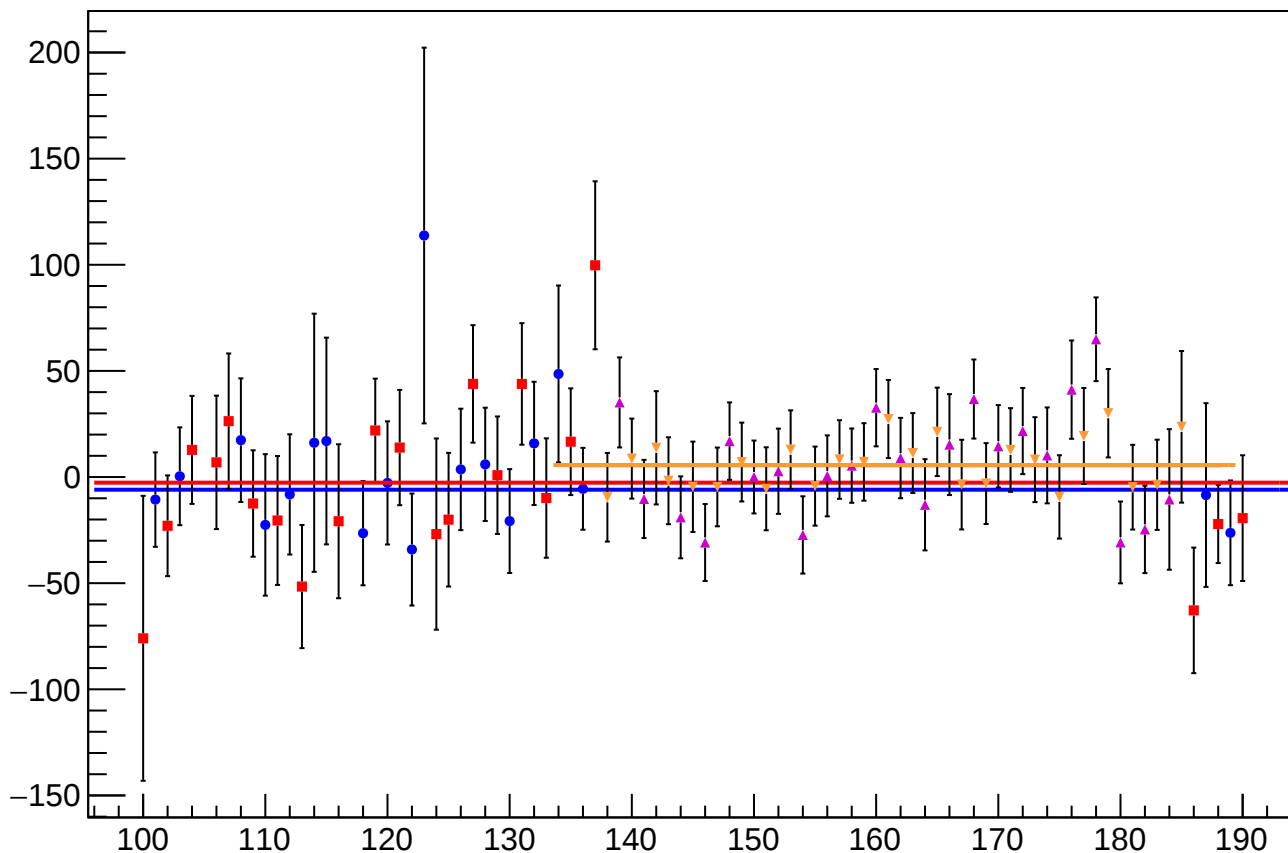
Right: 189.224 $\pm$ 0.036  $\chi^2$ /NDF: 3245139.3/40

In: 184.415 $\pm$ 0.028  $\chi^2$ /NDF: 2804147.6/41

Out: 192.871 $\pm$ 0.028  $\chi^2$ /NDF: 3889667.7/46

All: 188.643 $\pm$ 0.019  $\chi^2$ /NDF: 6740847.9/88

asym\_bcm\_dg\_ds\_bcm\_an\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: -5.962 $\pm$ 6.556  $\chi^2$ /NDF: 8.7/18

Left Out: 5.680 $\pm$ 4.024  $\chi^2$ /NDF:7.7/24

Right Out: -2.643 $\pm$ 6.057  $\chi^2$ /NDF: 27.2/21

Left In: 5.595 $\pm$ 4.121  $\chi^2$ /NDF:36.4/22

Left: 5.639 $\pm$ 2.879  $\chi^2$ /NDF: 44.1/47

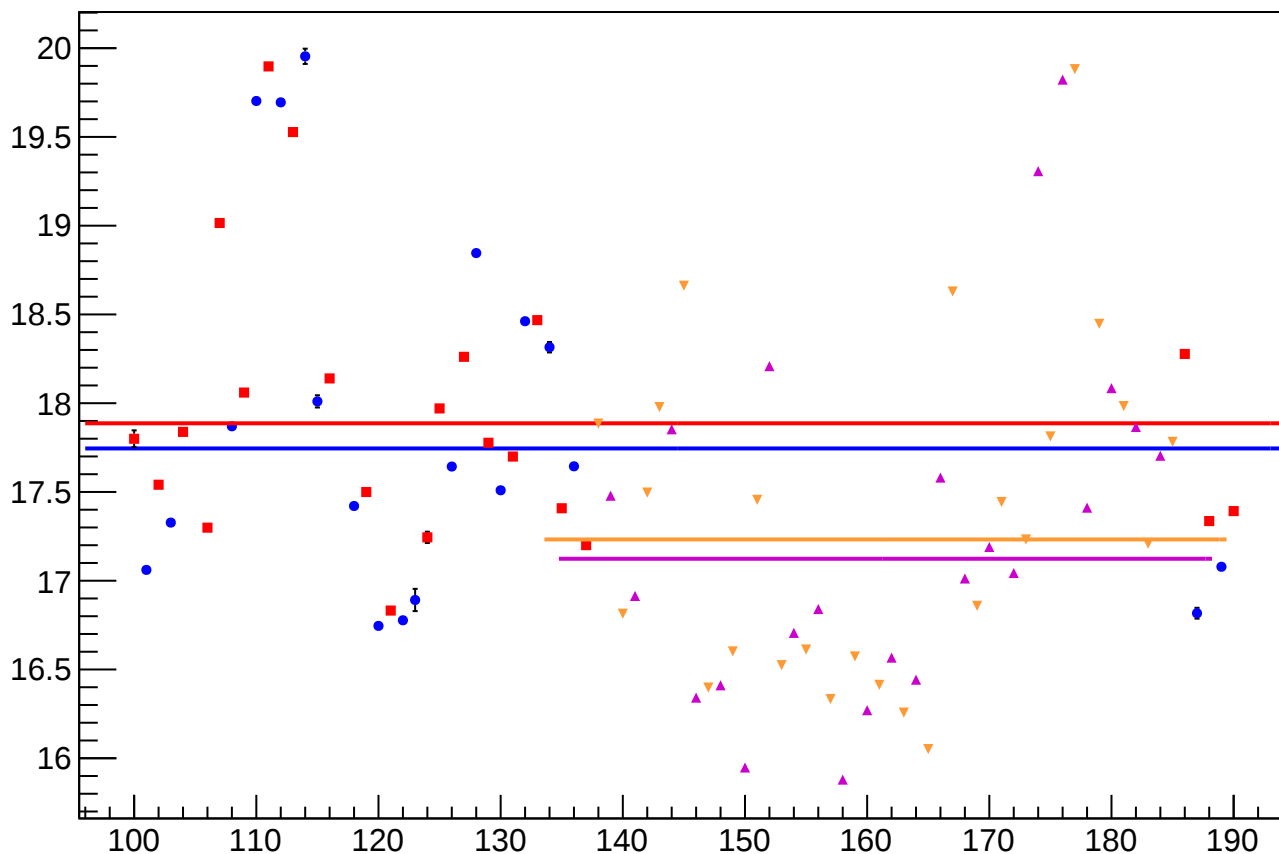
Right: -4.171 $\pm$ 4.449  $\chi^2$ /NDF: 36.0/40

In: 2.322 $\pm$ 3.489  $\chi^2$ /NDF:47.3/41

Out: 3.132 $\pm$ 3.352  $\chi^2$ /NDF:36.3/46

All: 2.743 $\pm$ 2.417  $\chi^2$ /NDF: 83.6/88

asym\_bcm\_dg\_ds\_bcm\_an\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 17.745 $\pm$ 0.005  $\chi^2$ /NDF: 34903.1/18

Left Out: 17.232 $\pm$ 0.003  $\chi^2$ /NDF:98701.0/24

Right Out: 17.887 $\pm$ 0.004  $\chi^2$ /NDF: 28299.6/21

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

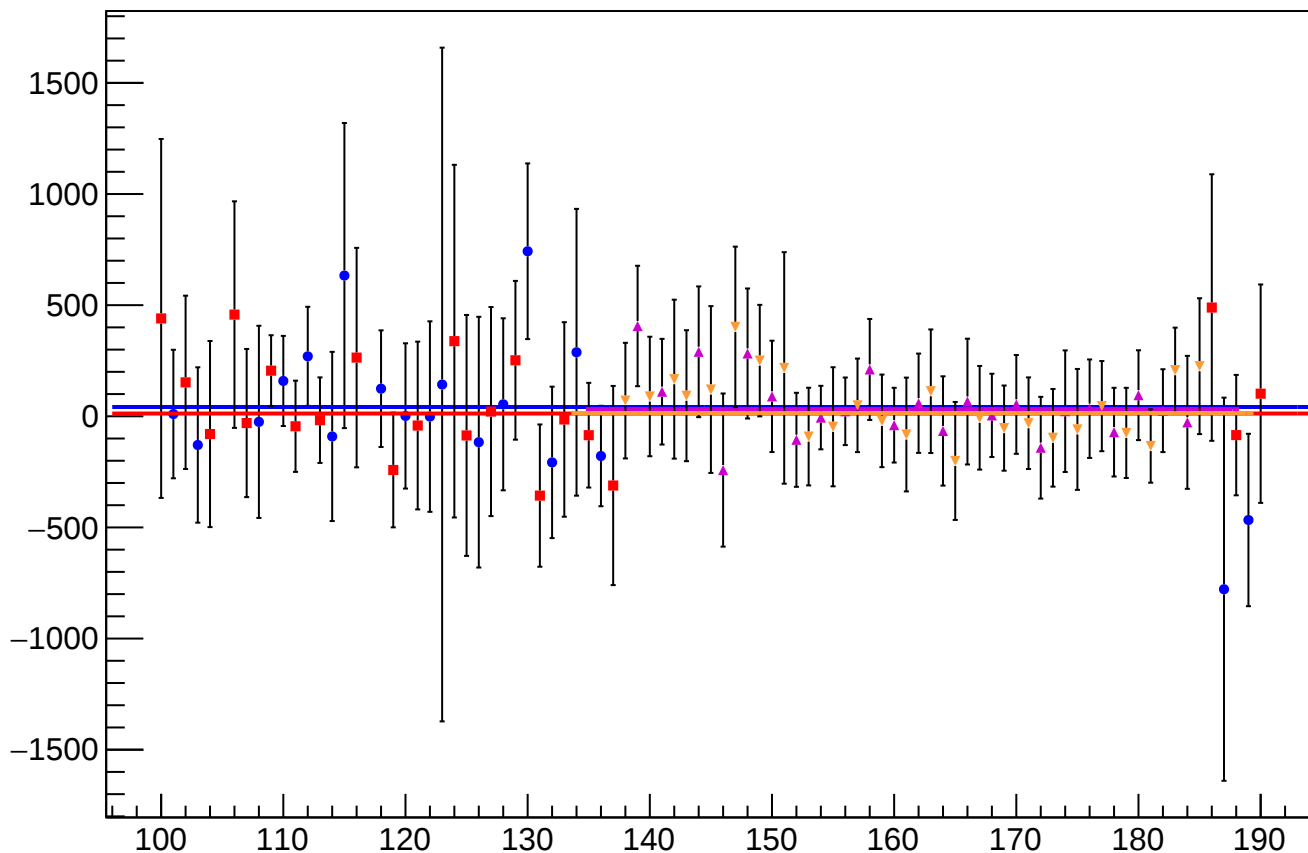
Right: 17.822 $\pm$ 0.003  $\chi^2$ /NDF: 63706.6/40

In: 17.300 $\pm$ 0.002  $\chi^2$ /NDF:148525.4/41

Out: 17.433 $\pm$ 0.002  $\chi^2$ /NDF:143193.9/46

All: 17.369 $\pm$ 0.002  $\chi^2$ /NDF: 293232.2/88

asym\_bcm\_dg\_us\_bcm\_an\_us\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 41.789 $\pm$ 78.185  $\chi^2$ /NDF: 10.1/18

Left Out: 14.362 $\pm$ 48.130  $\chi^2$ /NDF:6.9/24

Right Out: 12.441 $\pm$ 67.607  $\chi^2$ /NDF: 7.5/21

Left In: 32.571 $\pm$ 45.248  $\chi^2$ /NDF:6.7/22

Left: 24.028 $\pm$ 32.967  $\chi^2$ /NDF: 13.7/47

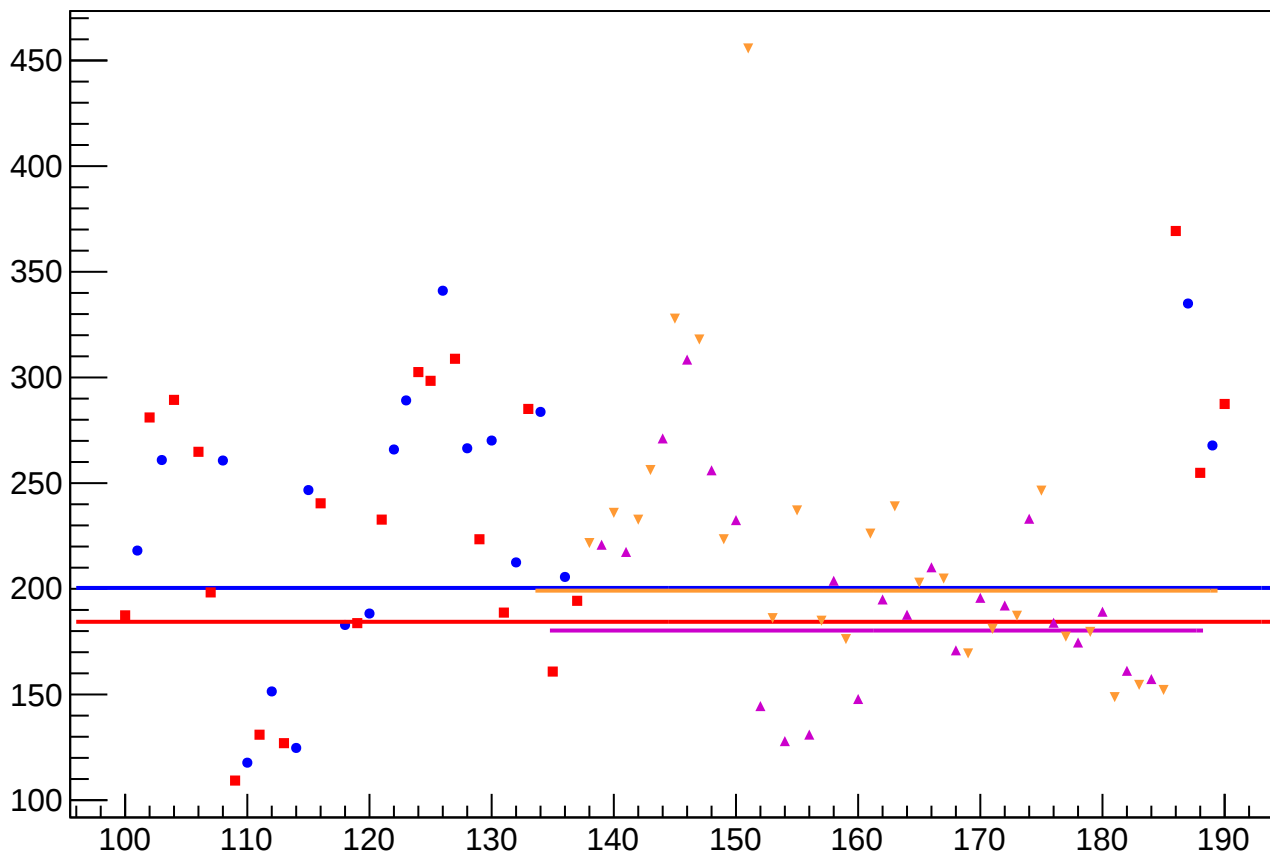
Right: 24.997 $\pm$ 51.139  $\chi^2$ /NDF: 17.7/40

In: 34.884 $\pm$ 39.162  $\chi^2$ /NDF:16.8/41

Out: 13.716 $\pm$ 39.209  $\chi^2$ /NDF:14.5/46

All: 24.313 $\pm$ 27.708  $\chi^2$ /NDF: 31.5/88

asym\_bcm\_dg\_us\_bcm\_an\_us\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 200.414 $\pm$ 0.055  $\chi^2$ /NDF: 1080249.0/18

Left Out: 199.136 $\pm$ 0.034  $\chi^2$ /NDF: 1760298.1/24

Right Out: 184.394 $\pm$ 0.048  $\chi^2$ /NDF: 1956183.1/21

Left In: 180.256 $\pm$ 0.032  $\chi^2$ /NDF: 1580553.5/22

Left: 189.114 $\pm$ 0.023  $\chi^2$ /NDF: 3504211.1/47

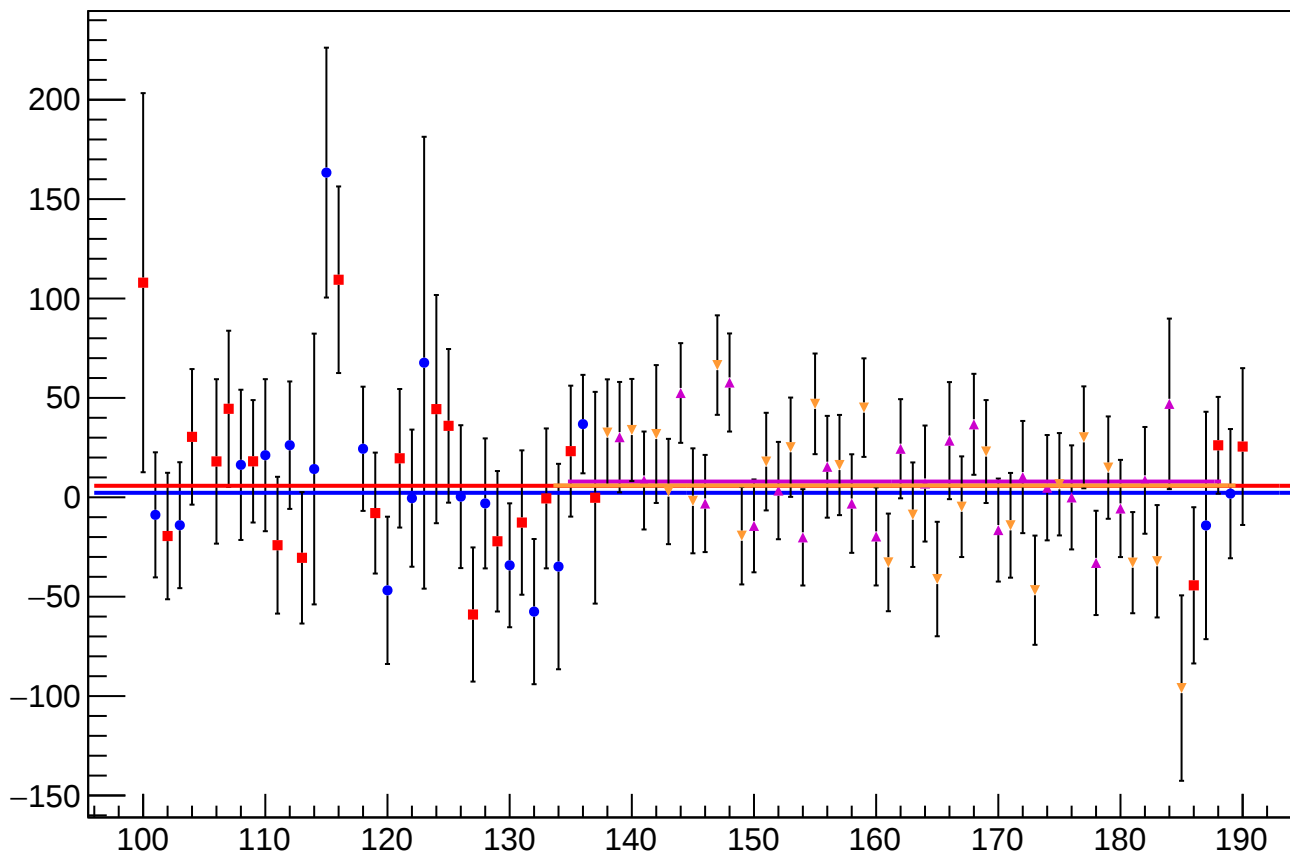
Right: 191.248 $\pm$ 0.036  $\chi^2$ /NDF: 3084475.5/40

In: 185.314 $\pm$ 0.028  $\chi^2$ /NDF: 2760389.5/41

Out: 194.177 $\pm$ 0.028  $\chi^2$ /NDF: 3779590.8/46

All: 189.740 $\pm$ 0.020  $\chi^2$ /NDF: 6591146.3/88

asym\_bcm\_dg\_us\_bcm\_an\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 2.259+/-8.377  $\chi^2/\text{NDF}$ : 17.1/18

Left Out: 5.937+/-5.285  $\chi^2/\text{NDF}$ : 36.1/24

Right Out: 5.792+/-7.708  $\chi^2/\text{NDF}$ : 19.2/21

Left In: 7.915+/-5.422  $\chi^2/\text{NDF}$ : 18.7/22

Left: 6.901+/-3.784  $\chi^2/\text{NDF}$ : 54.9/47

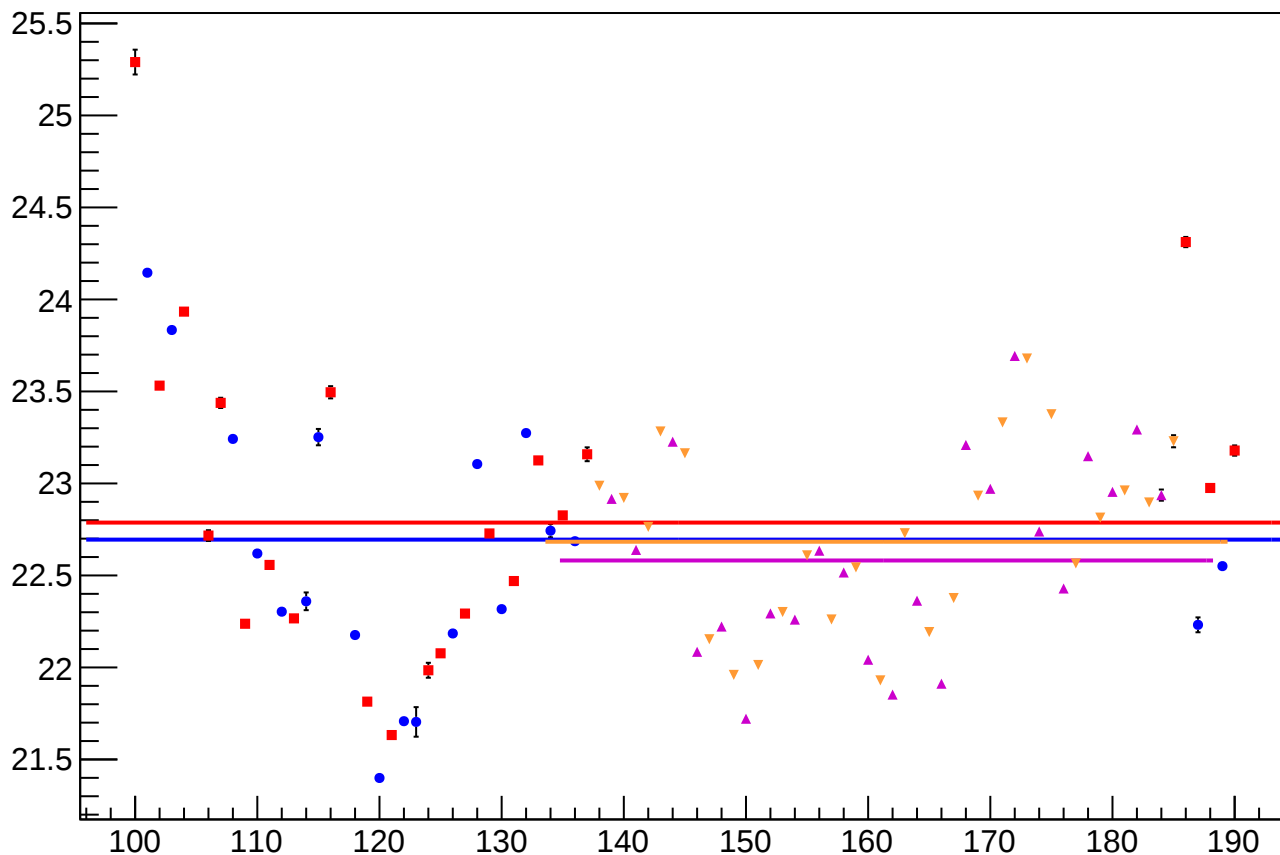
Right: 4.172+/-5.672  $\chi^2/\text{NDF}$ : 36.5/40

In: 6.246+/-4.552  $\chi^2/\text{NDF}$ : 36.2/41

Out: 5.891+/-4.359  $\chi^2/\text{NDF}$ : 55.4/46

All: 6.061+/-3.148  $\chi^2/\text{NDF}$ : 91.5/88

asym\_bcm\_dg\_us\_bcm\_an\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 22.695+/-0.006  $\chi^2/\text{NDF}$ : 14240.4/18

Left Out: 22.683+/-0.004  $\chi^2/\text{NDF}$ : 16320.2/24

Right Out: 22.787+/-0.005  $\chi^2/\text{NDF}$ : 16472.4/21

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

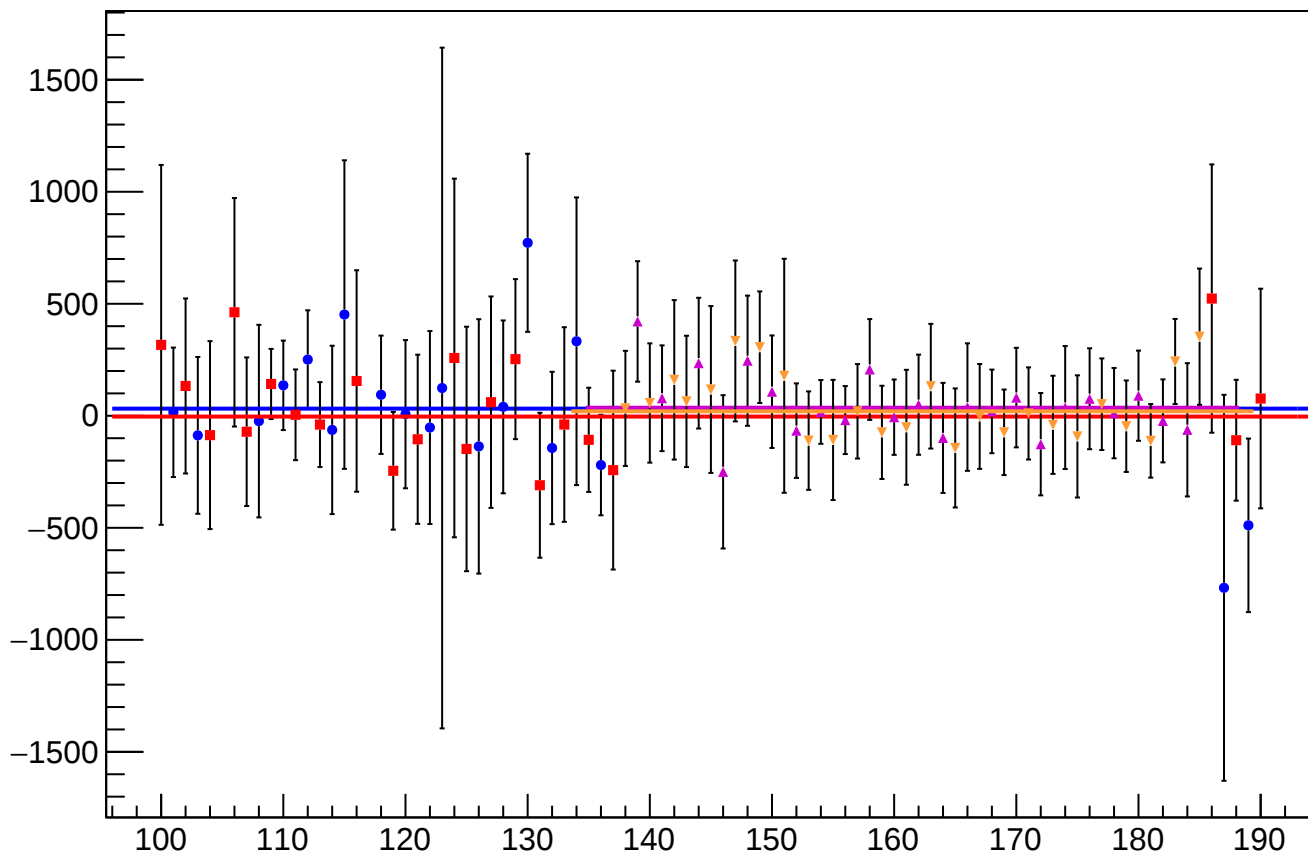
Right: 22.745+/-0.004  $\chi^2/\text{NDF}$ : 30845.1/40

In: 22.615+/-0.003  $\chi^2/\text{NDF}$ : 32402.9/41

Out: 22.716+/-0.003  $\chi^2/\text{NDF}$ : 33040.6/46

All: 22.668+/-0.002  $\chi^2/\text{NDF}$ : 65964.4/88

asym\_bcm\_dg\_ds\_bcm\_an\_us\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 31.978 $\pm$ 77.863  $\chi^2$ /NDF: 9.9/18

Left Out: 20.306 $\pm$ 48.049  $\chi^2$ /NDF: 7.7/24

Right Out: -3.479 $\pm$ 67.157  $\chi^2$ /NDF: 6.2/21

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

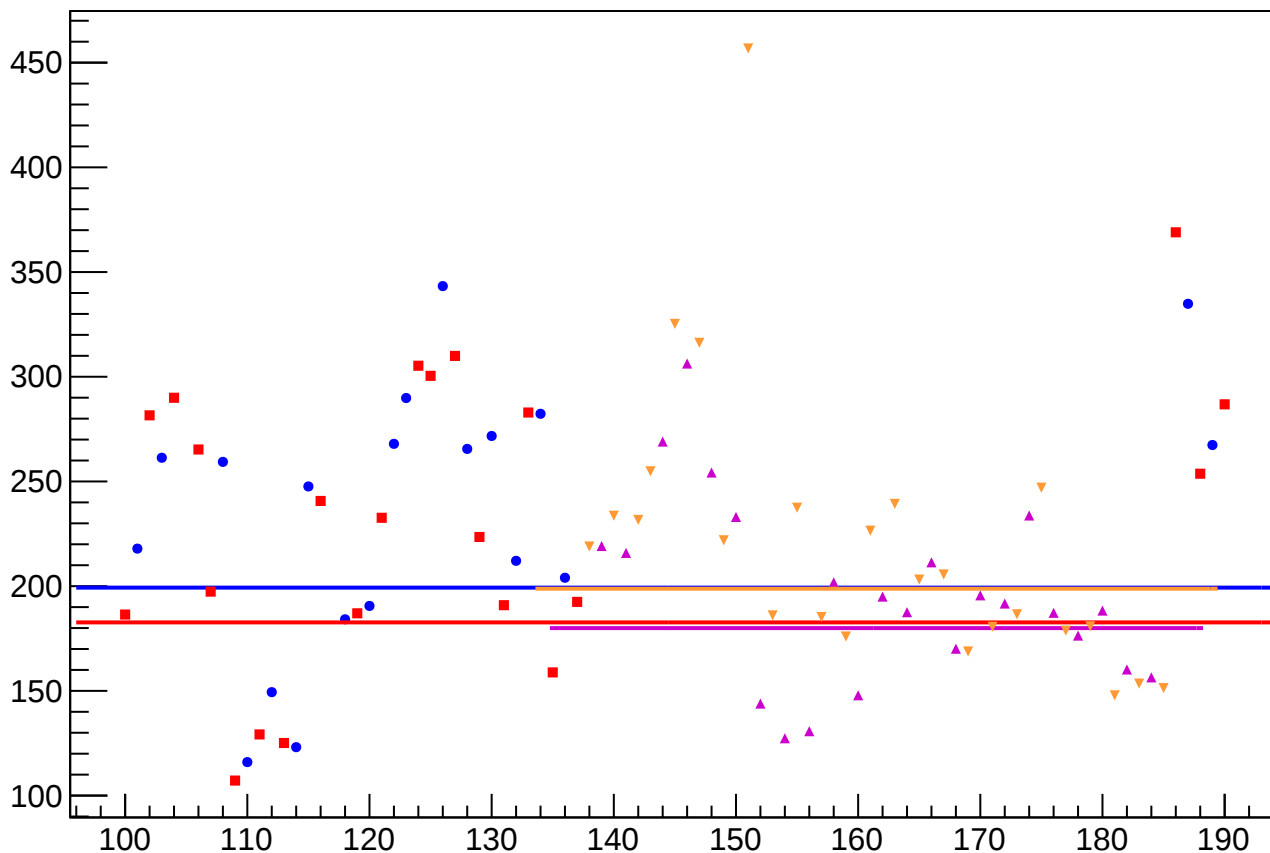
Right: 11.646 $\pm$ 50.854  $\chi^2$ /NDF: 16.2/40

In: 34.984 $\pm$ 39.078  $\chi^2$ /NDF: 16.0/41

Out: 12.253 $\pm$ 39.077  $\chi^2$ /NDF: 14.0/46

All: 23.618 $\pm$ 27.632  $\chi^2$ /NDF: 30.1/88

asym\_bcm\_dg\_ds\_bcm\_an\_us\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 199.305+/-0.055  $\chi^2/\text{NDF}$ : 1121840.0/18

Left Out: 198.784+/-0.034  $\chi^2/\text{NDF}$ : 1758481.8/24

Right Out: 182.697+/-0.047  $\chi^2/\text{NDF}$ : 2032125.4/21

Left In: 179.972+/-0.032  $\chi^2/\text{NDF}$ : 1575888.3/22

Left: 188.800+/-0.023  $\chi^2/\text{NDF}$ : 3497081.8/47

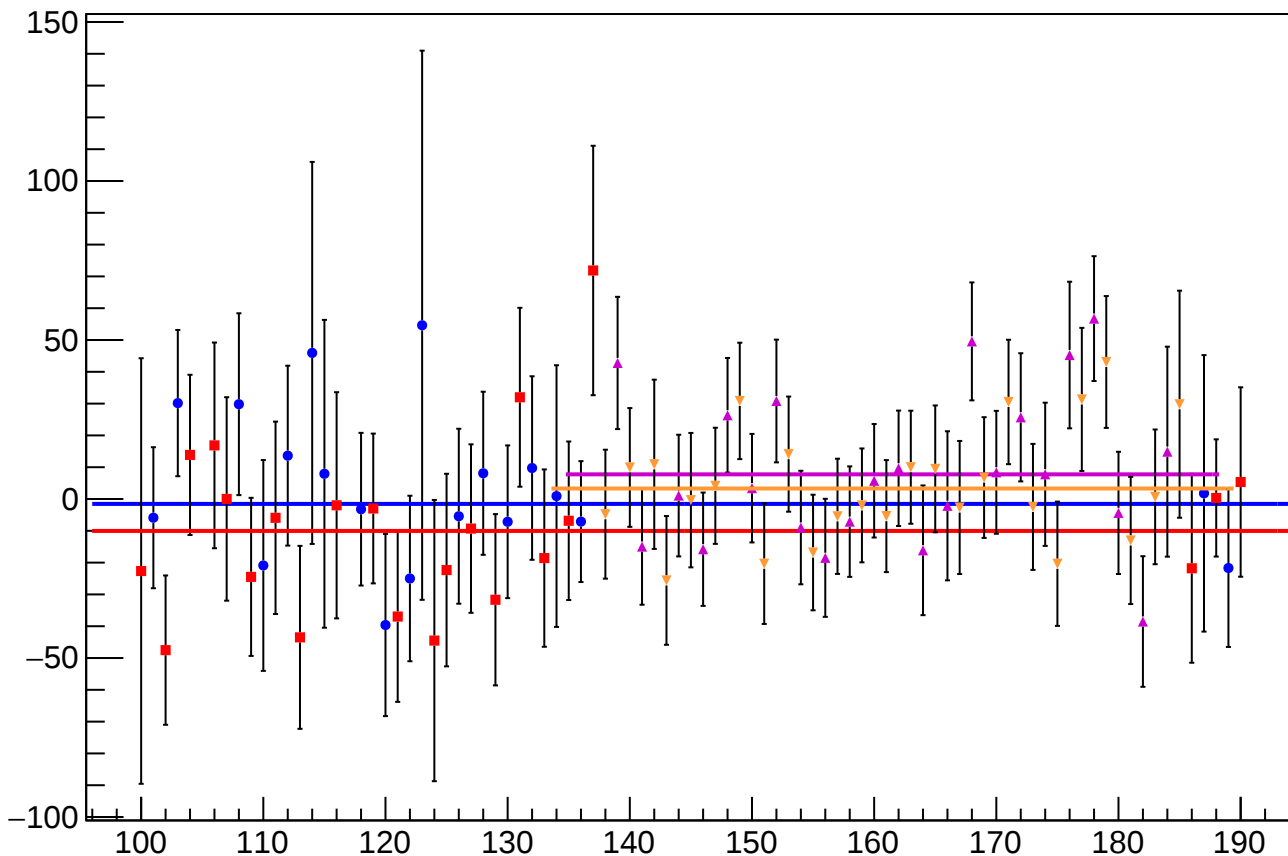
Right: 189.781+/-0.036  $\chi^2/\text{NDF}$ : 3206145.2/40

In: 184.842+/-0.028  $\chi^2/\text{NDF}$ : 2789969.7/41

Out: 193.337+/-0.028  $\chi^2/\text{NDF}$ : 3866519.6/46

All: 189.090+/-0.020  $\chi^2/\text{NDF}$ : 6703752.0/88

asym\_bcm\_dg\_ds\_bcm\_an\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In:  $-1.537 \pm 6.473$   $\chi^2/\text{NDF}$ : 8.6/18

Left Out:  $3.307 \pm 3.954$   $\chi^2/\text{NDF}$ : 18.7/24

Right Out:  $-10.036 \pm 5.990$   $\chi^2/\text{NDF}$ : 16.0/21

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

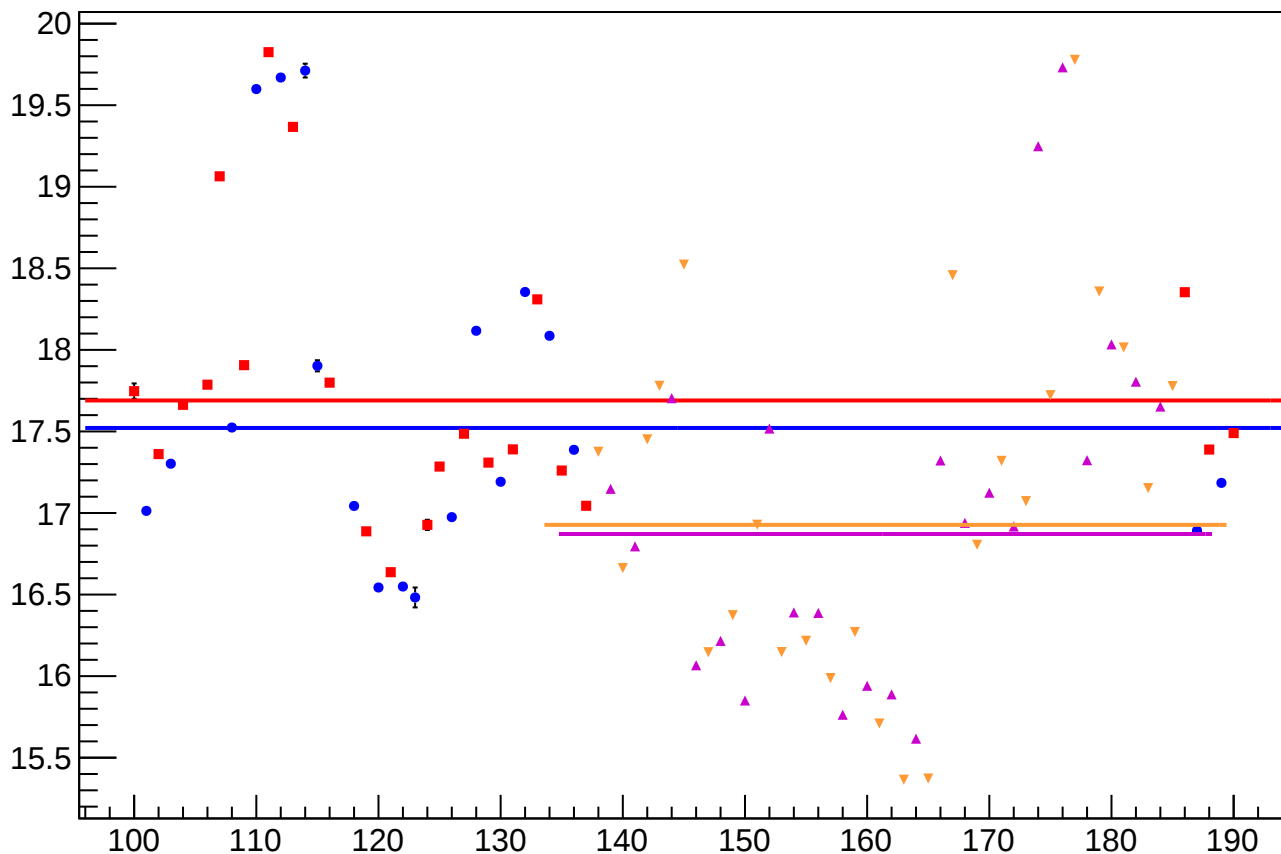
Right:  $-6.115 \pm 4.396$   $\chi^2/\text{NDF}$ : 25.5/40

In:  $5.132 \pm 3.440$   $\chi^2/\text{NDF}$ : 44.3/41

Out:  $-0.742 \pm 3.300$   $\chi^2/\text{NDF}$ : 38.2/46

All:  $2.073 \pm 2.381$   $\chi^2/\text{NDF}$ : 84.0/88

asym\_bcm\_dg\_ds\_bcm\_an\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 17.521+/-0.005  $\chi^2/\text{NDF}$ : 34795.8/18

Left Out: 16.927+/-0.003  $\chi^2/\text{NDF}$ :138533.2/24

Right Out: 17.690+/-0.004  $\chi^2/\text{NDF}$ : 31884.8/21

Left In: 16.871+/-0.003  $\chi^2/\text{NDF}$ :117993.8/22

Left: 16.900+/-0.002  $\chi^2/\text{NDF}$ : 256722.4/47

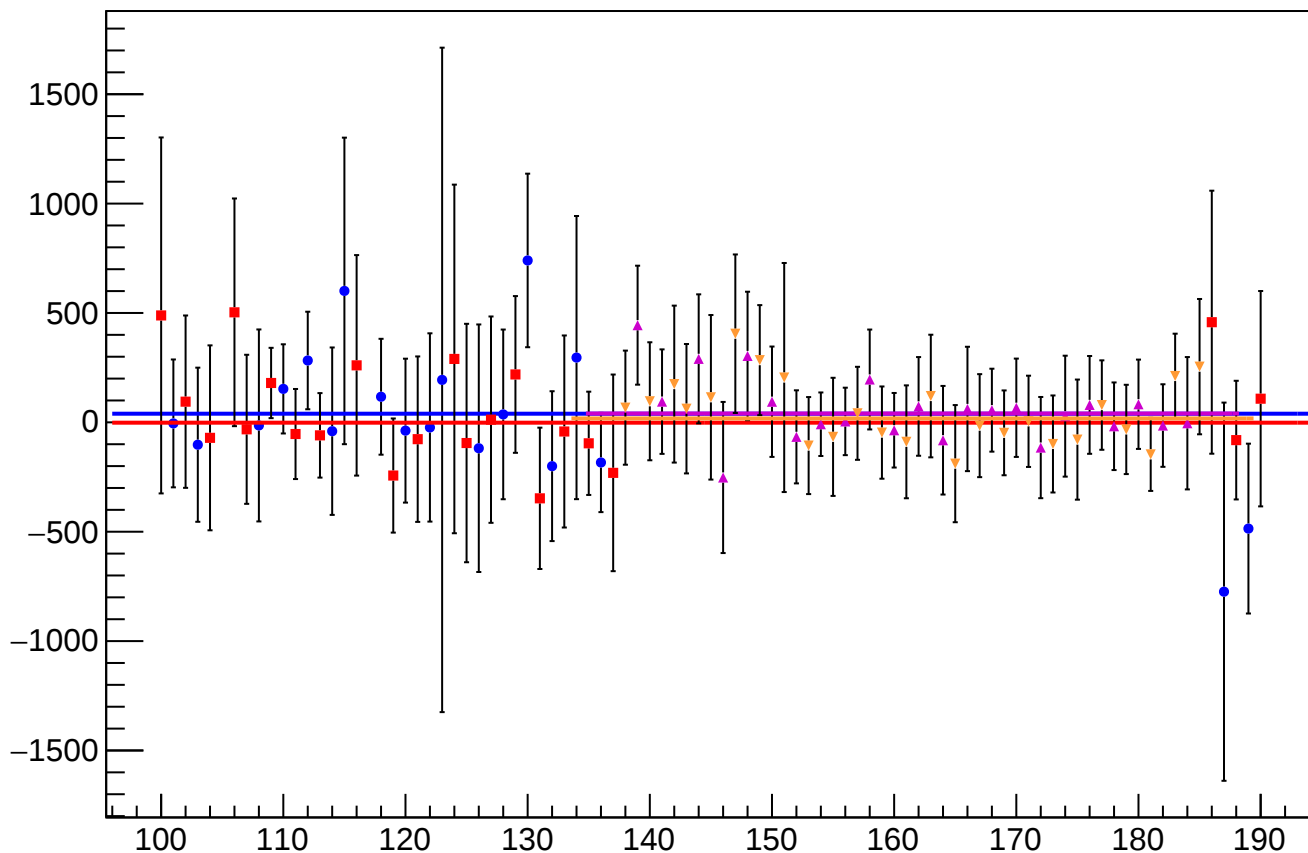
Right: 17.612+/-0.003  $\chi^2/\text{NDF}$ : 67410.0/40

In: 17.055+/-0.002  $\chi^2/\text{NDF}$ :167268.1/41

Out: 17.159+/-0.002  $\chi^2/\text{NDF}$ :192996.0/46

All: 17.109+/-0.002  $\chi^2/\text{NDF}$ : 361212.7/88

asym\_bcm\_dg\_us\_bcm\_dg\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 39.483 $\pm$ 78.621  $\chi^2$ /NDF: 10.1/18

Left Out: 17.828 $\pm$ 48.547  $\chi^2$ /NDF: 7.5/24

Right Out: -1.572 $\pm$ 68.044  $\chi^2$ /NDF: 6.8/21

Left In: 40.355 $\pm$ 45.689  $\chi^2$ /NDF: 6.6/22

Left: 29.774 $\pm$ 33.271  $\chi^2$ /NDF: 14.2/47

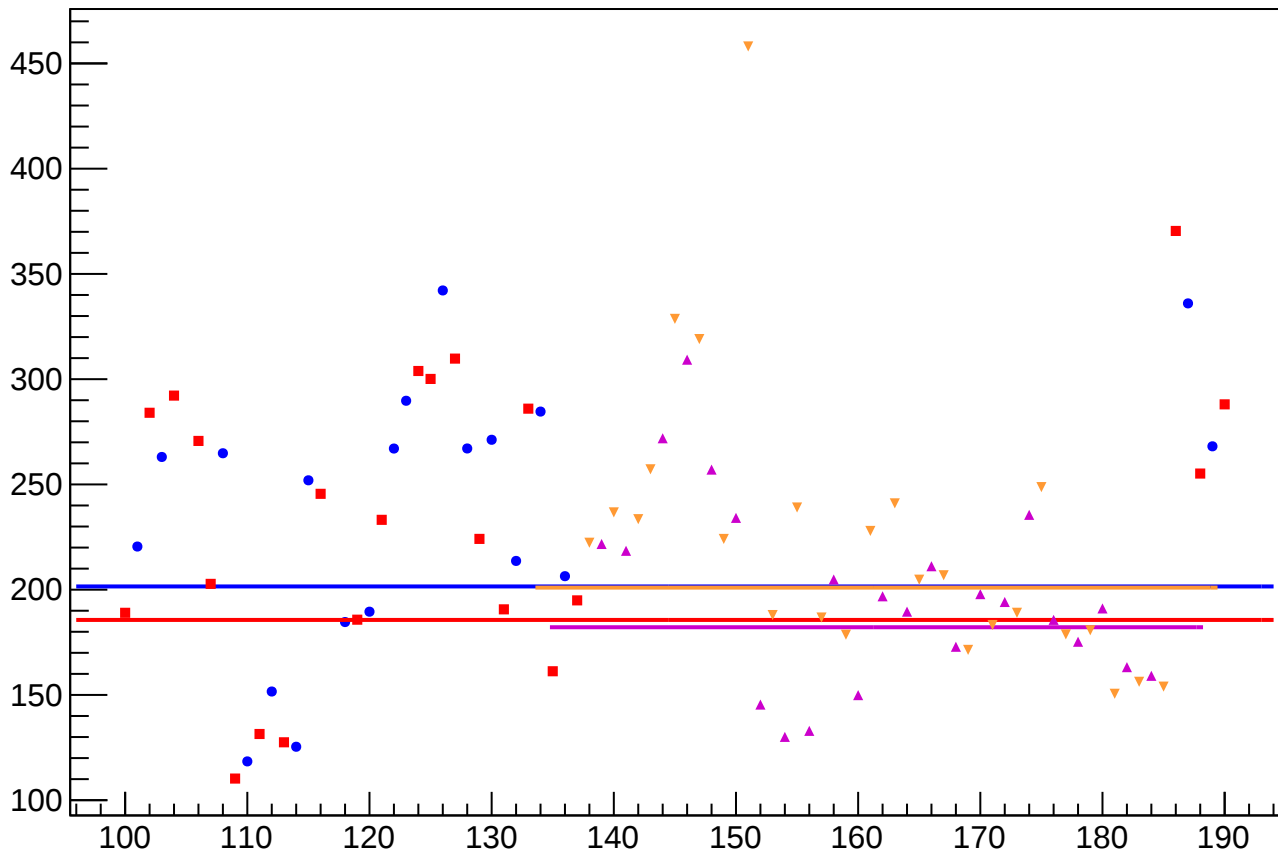
Right: 16.010 $\pm$ 51.451  $\chi^2$ /NDF: 17.1/40

In: 40.135 $\pm$ 39.503  $\chi^2$ /NDF: 16.7/41

Out: 11.284 $\pm$ 39.520  $\chi^2$ /NDF: 14.3/46

All: 25.716 $\pm$ 27.939  $\chi^2$ /NDF: 31.3/88

asym\_bcm\_dg\_us\_bcm\_dg\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 201.539 $\pm$ 0.056  $\chi^2$ /NDF: 1083098.9/18

Left Out: 200.985 $\pm$ 0.034  $\chi^2$ /NDF: 1727291.4/24

Right Out: 185.629 $\pm$ 0.048  $\chi^2$ /NDF: 1957922.5/21

Left In: 182.158 $\pm$ 0.032  $\chi^2$ /NDF: 1535922.8/22

Left: 191.001 $\pm$ 0.024  $\chi^2$ /NDF: 3422724.8/47

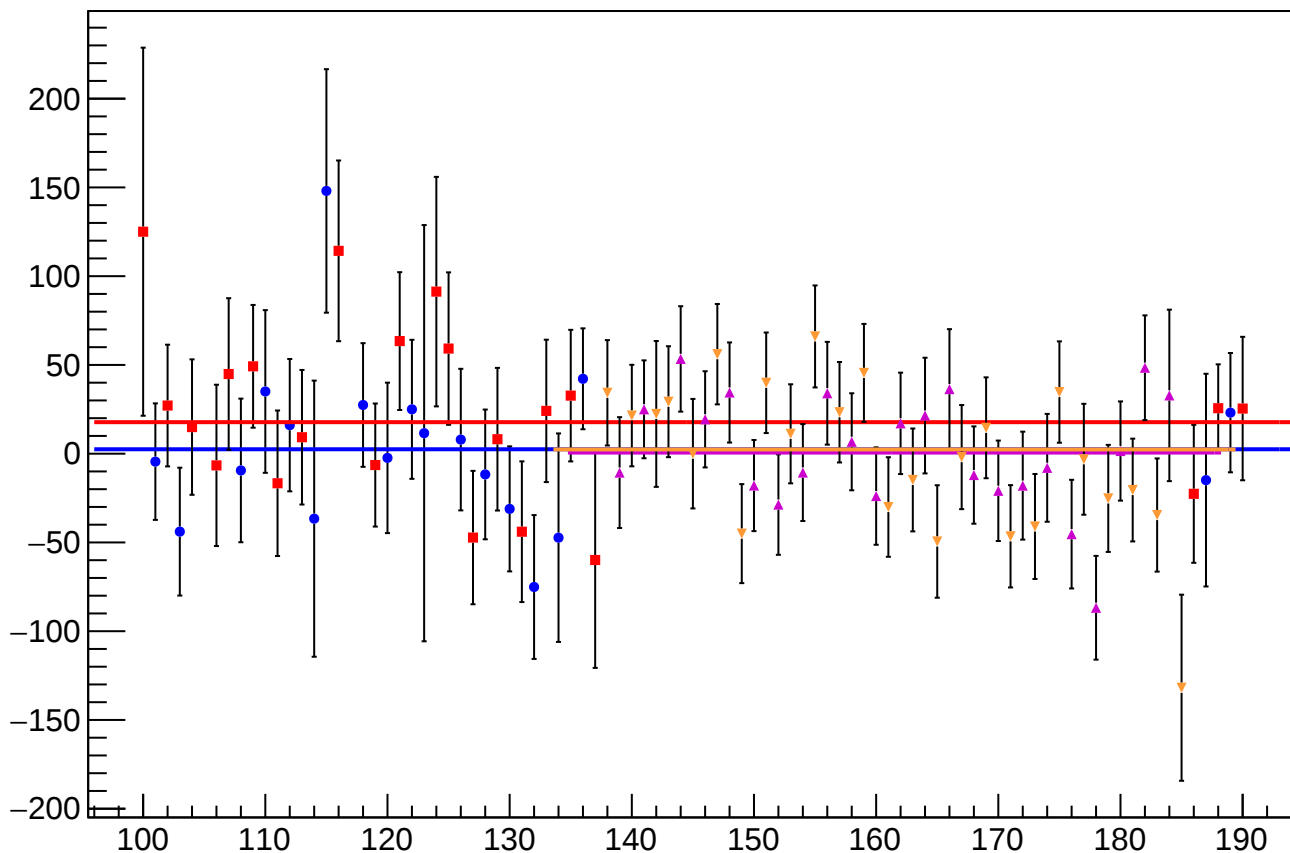
Right: 192.443 $\pm$ 0.036  $\chi^2$ /NDF: 3087848.5/40

In: 187.051 $\pm$ 0.028  $\chi^2$ /NDF: 2709876.1/41

Out: 195.805 $\pm$ 0.028  $\chi^2$ /NDF: 3752714.4/46

All: 191.426 $\pm$ 0.020  $\chi^2$ /NDF: 6511680.5/88

asym\_bcm\_dg\_us\_bcm\_dg\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 2.490 $\pm$ 9.335  $\chi^2$ /NDF: 15.9/18

Left Out: 2.390 $\pm$ 5.980  $\chi^2$ /NDF:39.1/24

Right Out: 17.754 $\pm$ 8.467  $\chi^2$ /NDF: 19.6/21

Left In: 0.641 $\pm$ 6.091  $\chi^2$ /NDF:27.3/22

Left: 1.531 $\pm$ 4.267  $\chi^2$ /NDF: 66.5/47

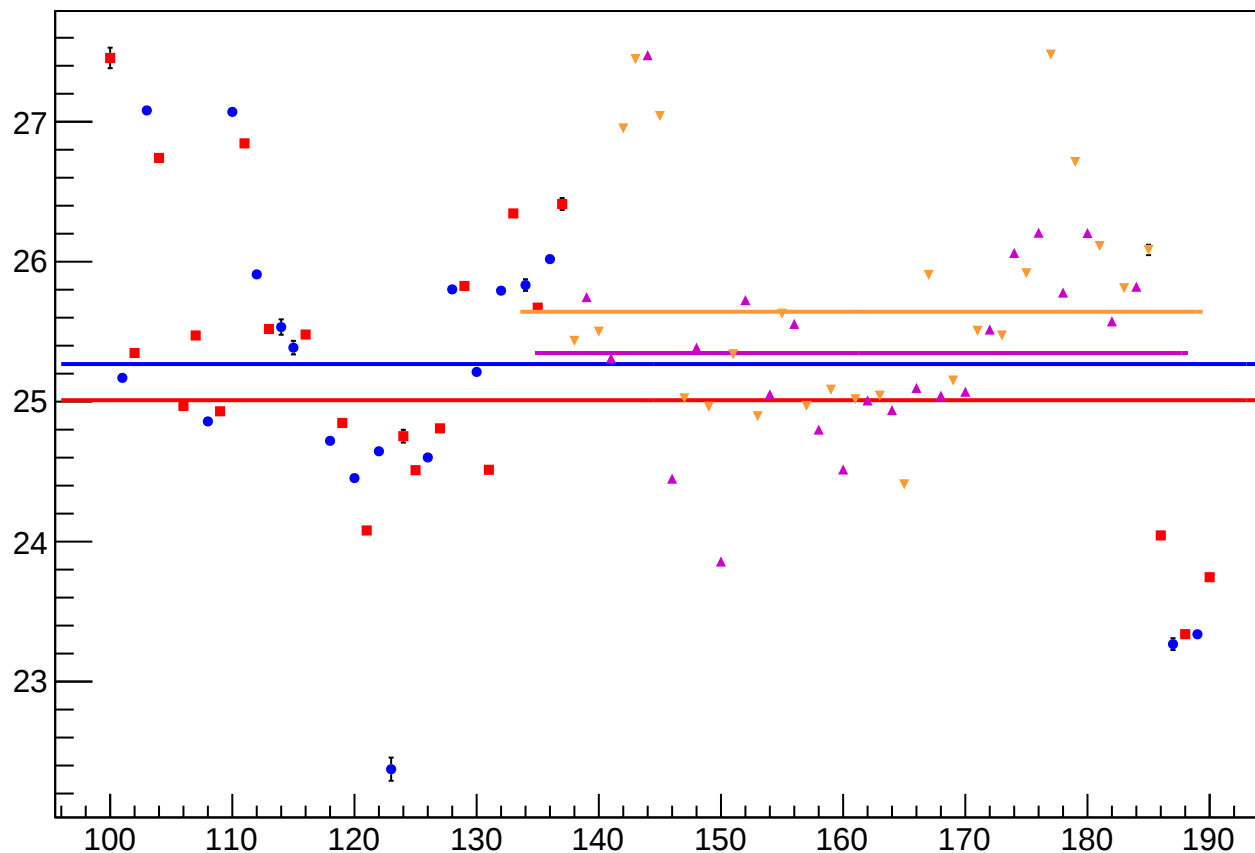
Right: 10.865 $\pm$ 6.271  $\chi^2$ /NDF: 37.0/40

In: 1.193 $\pm$ 5.101  $\chi^2$ /NDF:43.3/41

Out: 7.503 $\pm$ 4.884  $\chi^2$ /NDF:60.9/46

All: 4.485 $\pm$ 3.528  $\chi^2$ /NDF: 105.0/88

asym\_bcm\_dg\_us\_bcm\_dg\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 25.269 $\pm$ 0.007  $\chi^2$ /NDF: 23695.6/18

Left Out: 25.642 $\pm$ 0.004  $\chi^2$ /NDF: 34802.2/24

Right Out: 25.010 $\pm$ 0.006  $\chi^2$ /NDF: 29159.8/21

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

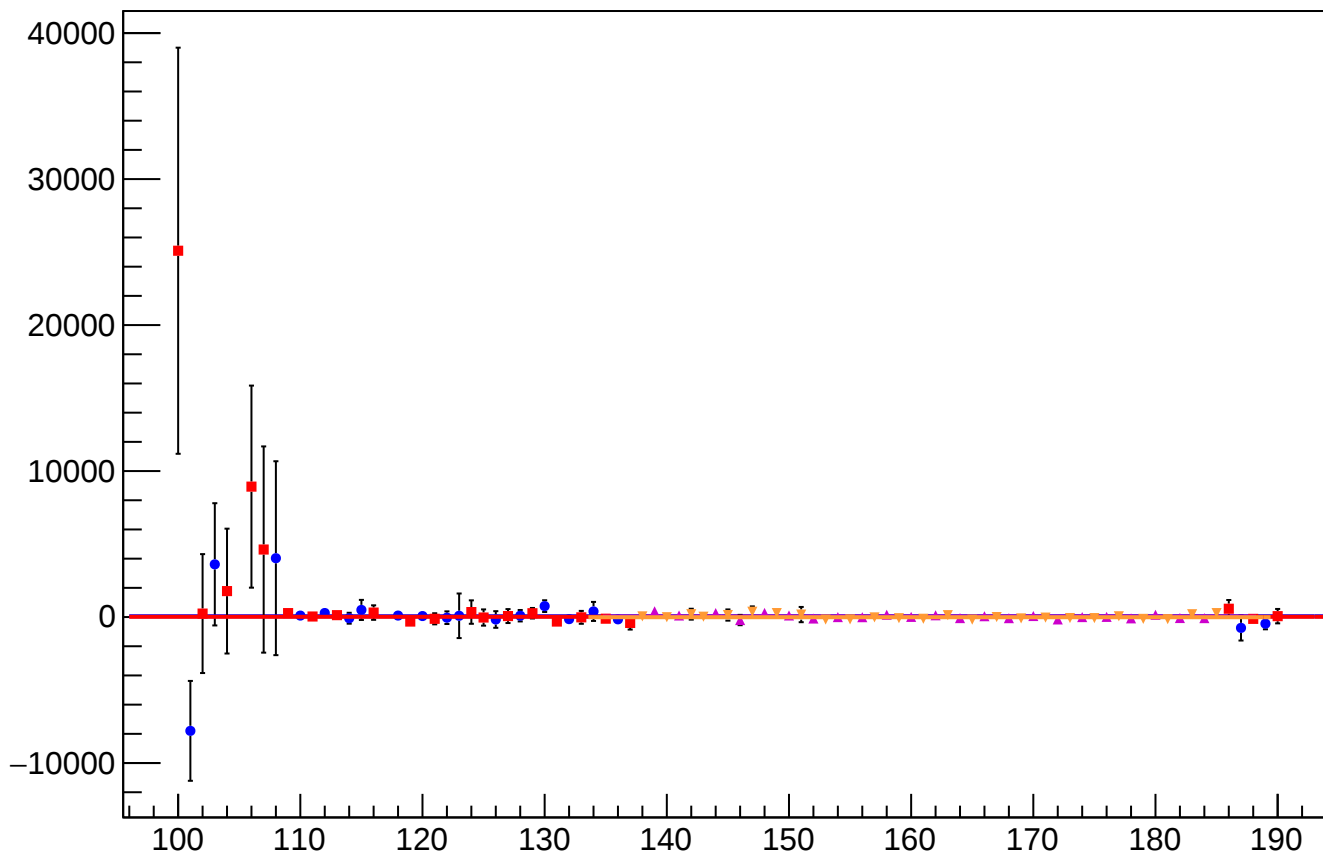
Right: 25.127 $\pm$ 0.004  $\chi^2$ /NDF: 53694.8/40

In: 25.324 $\pm$ 0.004  $\chi^2$ /NDF: 53185.3/41

Out: 25.432 $\pm$ 0.003  $\chi^2$ /NDF: 71395.6/46

All: 25.380 $\pm$ 0.002  $\chi^2$ /NDF: 125049.4/88

asym\_bcm\_cav4cQ\_bcm\_an\_us\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 55.106+/-85.339  $\chi^2/\text{NDF}$ : 15.2/18

Left Out: -11.432+/-48.263  $\chi^2/\text{NDF}$ : 8.0/24

Right Out: 17.505+/-75.994  $\chi^2/\text{NDF}$ : 13.1/21

Left In: 27.098+/-45.999  $\chi^2/\text{NDF}$ : 7.2/22

Left: 8.758+/-33.298  $\chi^2/\text{NDF}$ : 15.5/47

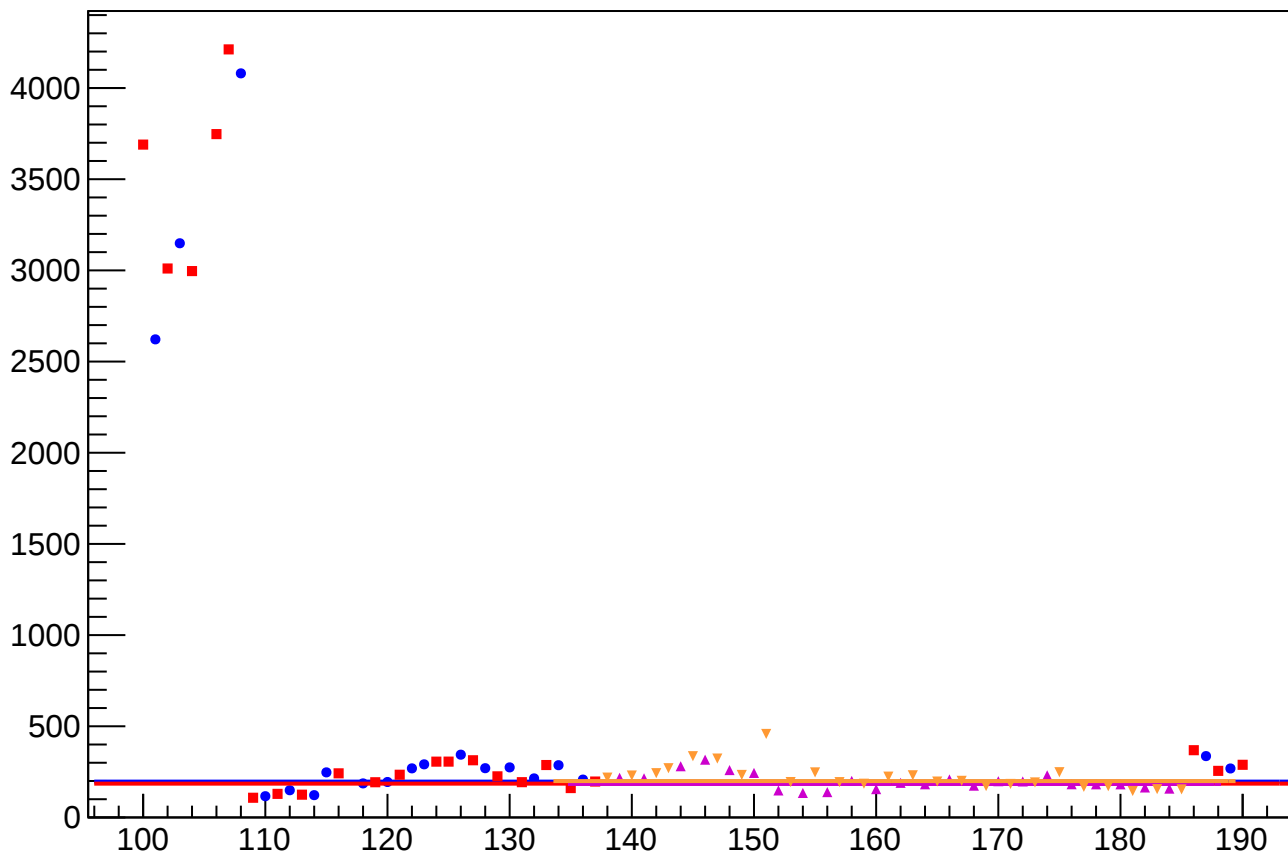
Right: 34.135+/-56.753  $\chi^2/\text{NDF}$ : 28.4/40

In: 33.403+/-40.491  $\chi^2/\text{NDF}$ : 22.4/41

Out: -3.115+/-40.741  $\chi^2/\text{NDF}$ : 21.2/46

All: 15.256+/-28.719  $\chi^2/\text{NDF}$ : 44.1/88

asym\_bcm\_cav4cQ\_bcm\_an\_us\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 196.546 $\pm$ 0.060  $\chi^2$ /NDF: 3701199.8/18

Left Out: 199.438 $\pm$ 0.034  $\chi^2$ /NDF: 1877848.7/24

Right Out: 185.419 $\pm$ 0.054  $\chi^2$ /NDF: 4656620.9/21

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

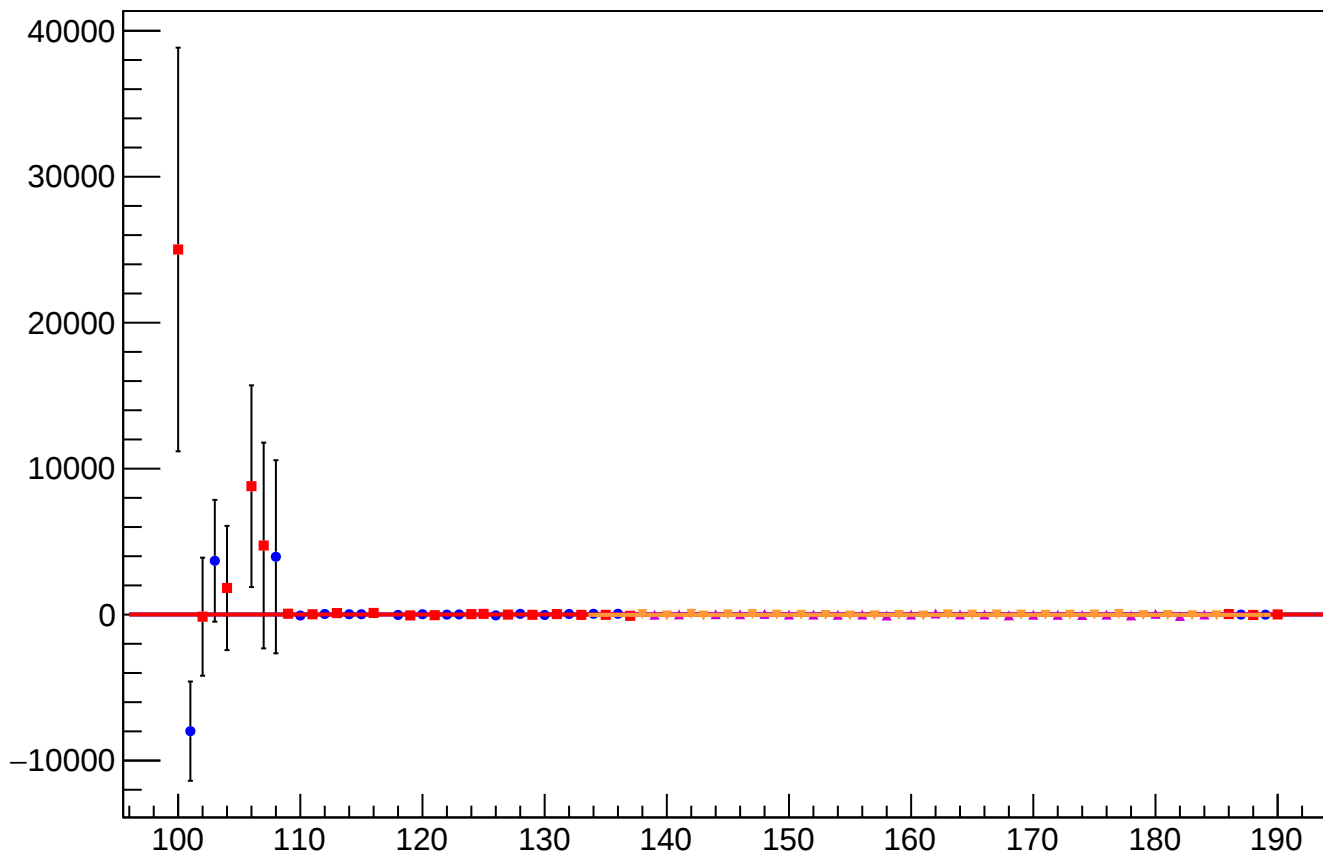
Right: 190.340 $\pm$ 0.040  $\chi^2$ /NDF: 8376783.7/40

In: 186.673 $\pm$ 0.029  $\chi^2$ /NDF: 5148612.6/41

Out: 195.409 $\pm$ 0.029  $\chi^2$ /NDF: 6582970.3/46

All: 191.014 $\pm$ 0.020  $\chi^2$ /NDF: 11777839.1/88

asym\_bcm\_cav4cQ\_bcm\_an\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 9.553+/-11.484  $\chi^2/\text{NDF}$ : 18.5/18

Left Out: -18.118+/-6.704  $\chi^2/\text{NDF}$ : 21.7/24

Right Out: 8.289+/-10.782  $\chi^2/\text{NDF}$ : 25.6/21

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

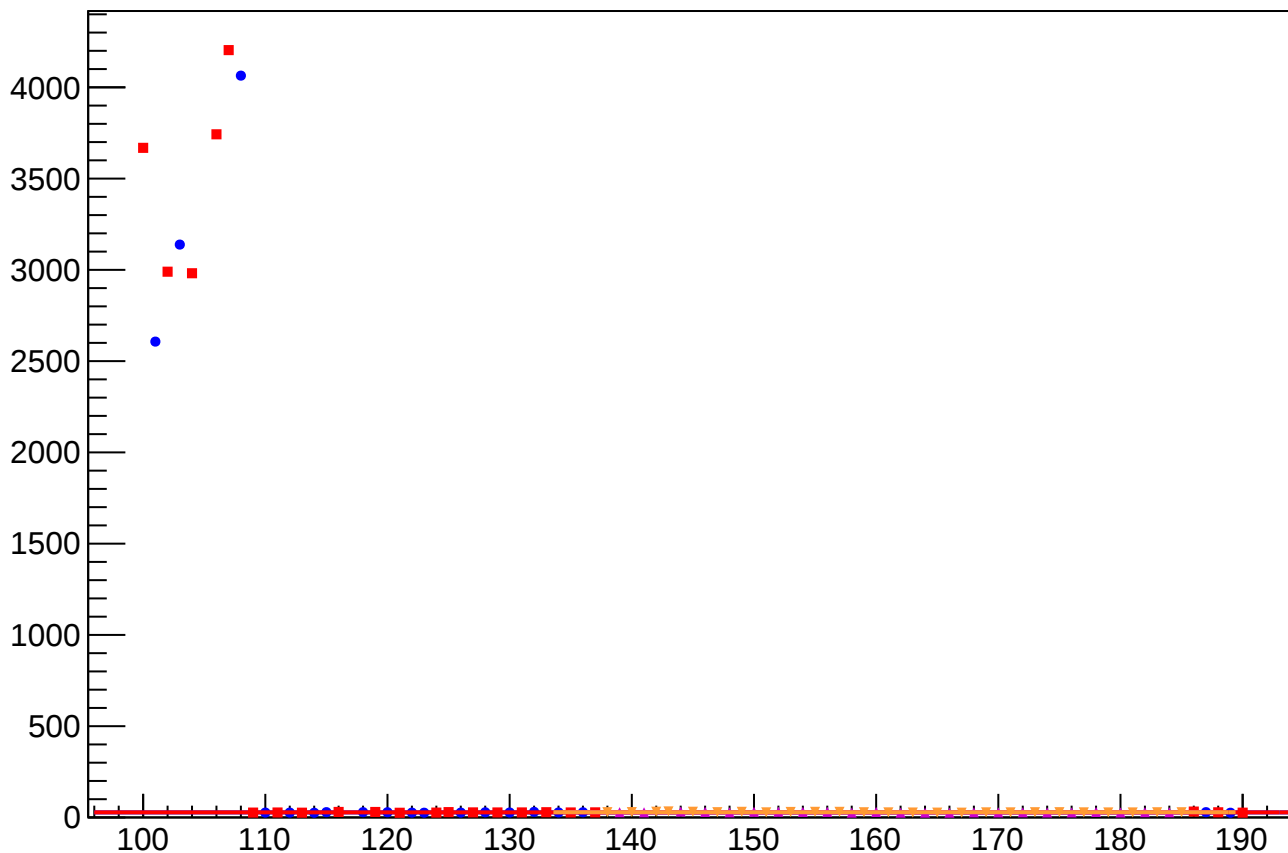
Right: 8.881+/-7.861  $\chi^2/\text{NDF}$ : 44.1/40

In: 3.469+/-5.919  $\chi^2/\text{NDF}$ : 50.9/41

Out: -10.756+/-5.693  $\chi^2/\text{NDF}$ : 51.7/46

All: -3.921+/-4.103  $\chi^2/\text{NDF}$ : 105.5/88

asym\_bcm\_cav4cQ\_bcm\_an\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 27.702+/-0.008  $\chi^2/\text{NDF}$ : 3032484.5/18

Left Out: 28.694+/-0.005  $\chi^2/\text{NDF}$ : 110466.9/24

Right Out: 27.884+/-0.008  $\chi^2/\text{NDF}$ : 3494247.0/21

Left In: 28.677+/-0.005  $\chi^2/\text{NDF}$ : 123814.4/22

Left: 28.685+/-0.003  $\chi^2/\text{NDF}$ : 234287.5/47

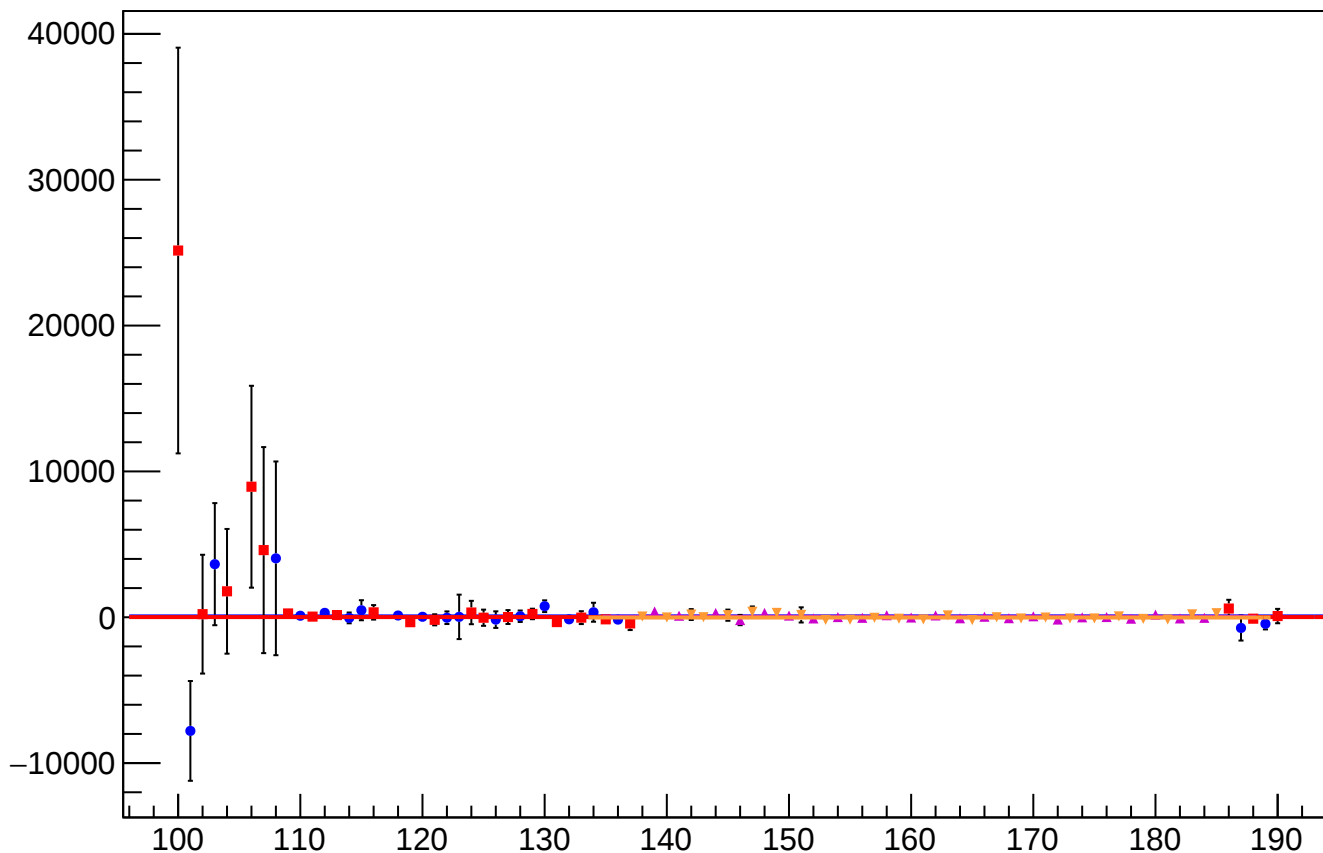
Right: 27.799+/-0.006  $\chi^2/\text{NDF}$ : 6526998.5/40

In: 28.418+/-0.004  $\chi^2/\text{NDF}$ : 3166873.3/41

Out: 28.468+/-0.004  $\chi^2/\text{NDF}$ : 3612843.7/46

All: 28.444+/-0.003  $\chi^2/\text{NDF}$ : 6779791.8/88

asym\_bcm\_cav4cQ\_bcm\_an\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 59.830+/-85.079  $\chi^2/\text{NDF}$ : 15.4/18

Left Out: -13.878+/-48.155  $\chi^2/\text{NDF}$ : 8.8/24

Right Out: 11.876+/-75.778  $\chi^2/\text{NDF}$ : 13.9/21

Left In: 27.286+/-45.907  $\chi^2/\text{NDF}$ : 7.5/22

Left: 7.688+/-33.228  $\chi^2/\text{NDF}$ : 16.7/47

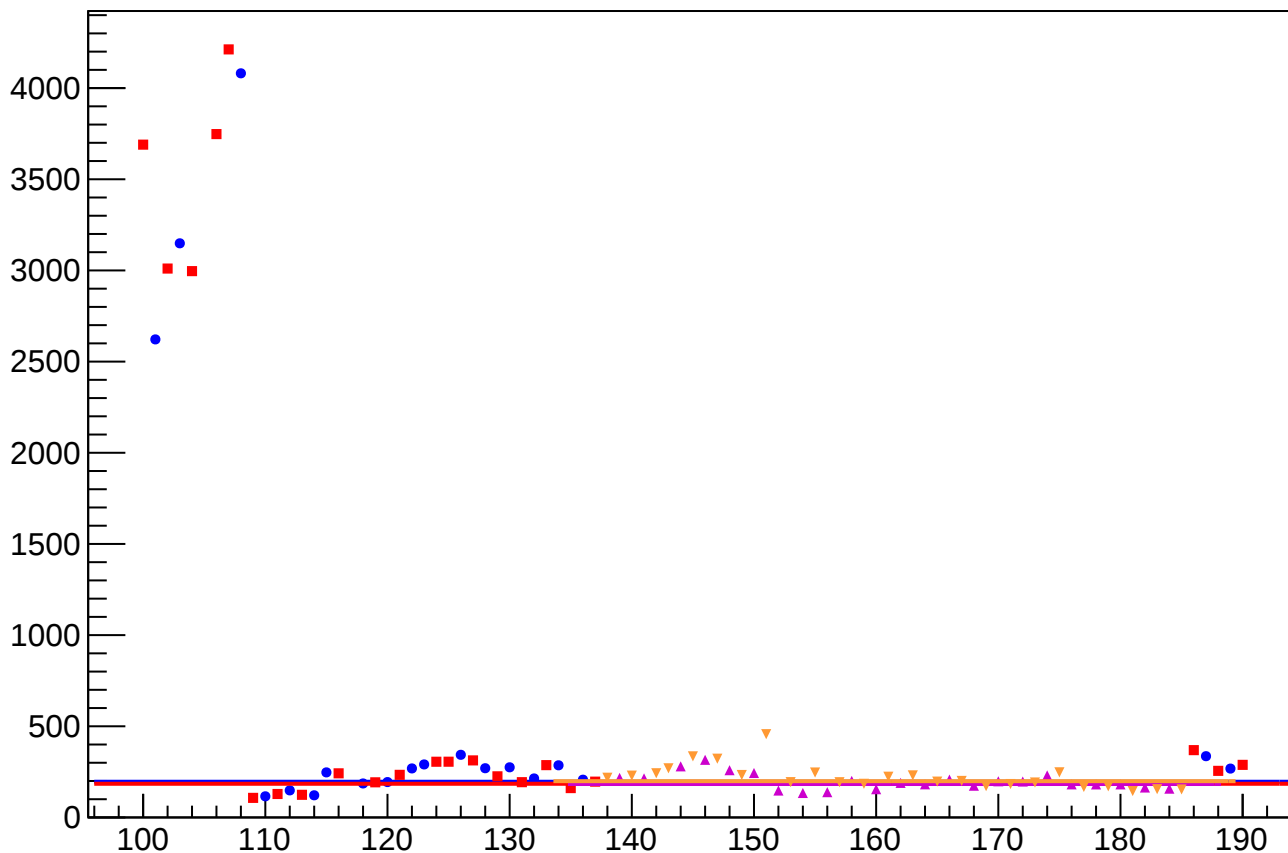
Right: 33.090+/-56.587  $\chi^2/\text{NDF}$ : 29.5/40

In: 34.625+/-40.401  $\chi^2/\text{NDF}$ : 23.0/41

Out: -6.469+/-40.643  $\chi^2/\text{NDF}$ : 22.8/46

All: 14.201+/-28.653  $\chi^2/\text{NDF}$ : 46.3/88

asym\_bcm\_cav4cQ\_bcm\_an\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 195.834+/-0.060  $\chi^2/\text{NDF}$ : 3713981.2/18

Left Out: 198.997+/-0.034  $\chi^2/\text{NDF}$ : 1877636.0/24

Right Out: 184.764+/-0.054  $\chi^2/\text{NDF}$ : 4673526.0/21

Left In: 183.442+/-0.032  $\chi^2/\text{NDF}$ : 1412341.8/22

Left: 190.847+/-0.023  $\chi^2/\text{NDF}$ : 3399302.2/47

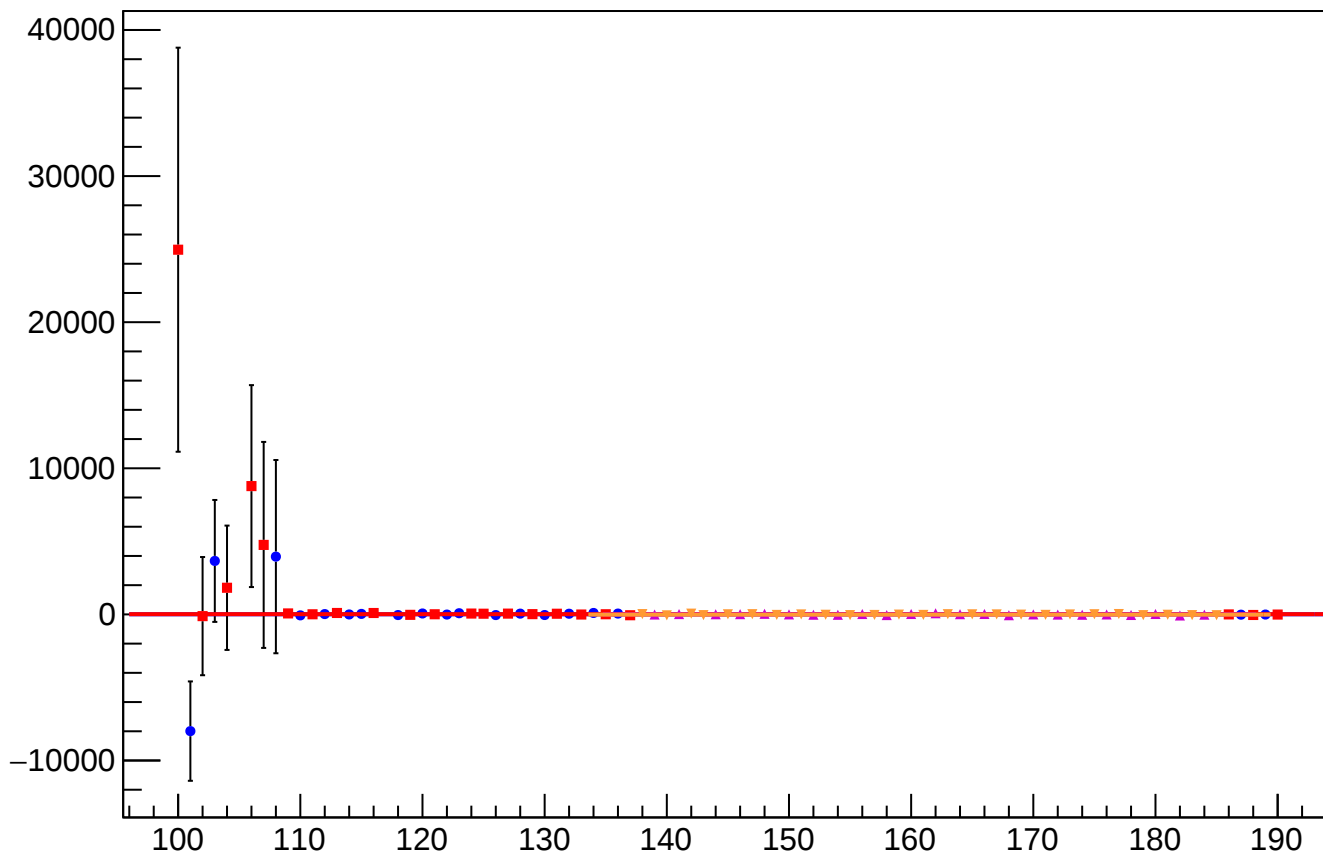
Right: 189.661+/-0.040  $\chi^2/\text{NDF}$ : 8406386.6/40

In: 186.236+/-0.029  $\chi^2/\text{NDF}$ : 5159184.6/41

Out: 194.902+/-0.029  $\chi^2/\text{NDF}$ : 6601418.5/46

All: 190.543+/-0.020  $\chi^2/\text{NDF}$ : 11806342.8/88

asym\_bcm\_cav4cQ\_bcm\_an\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 6.942+/-11.546  $\chi^2/\text{NDF}$ : 22.9/18

Left Out: -15.829+/-6.733  $\chi^2/\text{NDF}$ :16.5/24

Right Out: 15.955+/-10.829  $\chi^2/\text{NDF}$ : 21.1/21

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

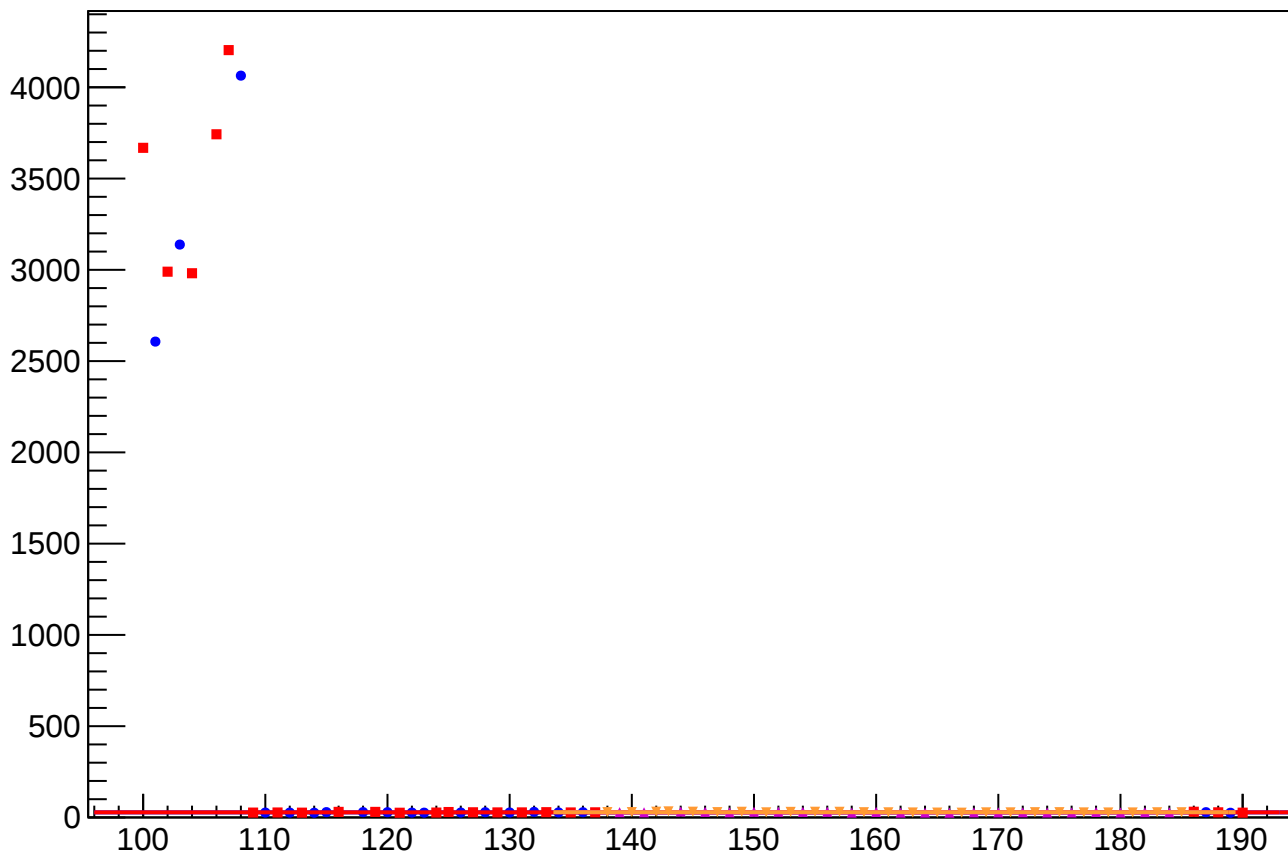
Right: 11.737+/-7.898  $\chi^2/\text{NDF}$ : 44.3/40

In: 1.475+/-5.946  $\chi^2/\text{NDF}$ :49.3/41

Out: -6.967+/-5.718  $\chi^2/\text{NDF}$ :43.9/46

All: -2.911+/-4.122  $\chi^2/\text{NDF}$ : 94.2/88

asym\_bcm\_cav4cQ\_bcm\_an\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 27.844+/-0.008  $\chi^2/\text{NDF}$ : 3034347.8/18

Left Out: 28.814+/-0.005  $\chi^2/\text{NDF}$ :122153.6/24

Right Out: 28.006+/-0.008  $\chi^2/\text{NDF}$ : 3491867.3/21

Left In: 28.797+/-0.005  $\chi^2/\text{NDF}$ :128279.2/22

Left: 28.806+/-0.003  $\chi^2/\text{NDF}$ : 250439.0/47

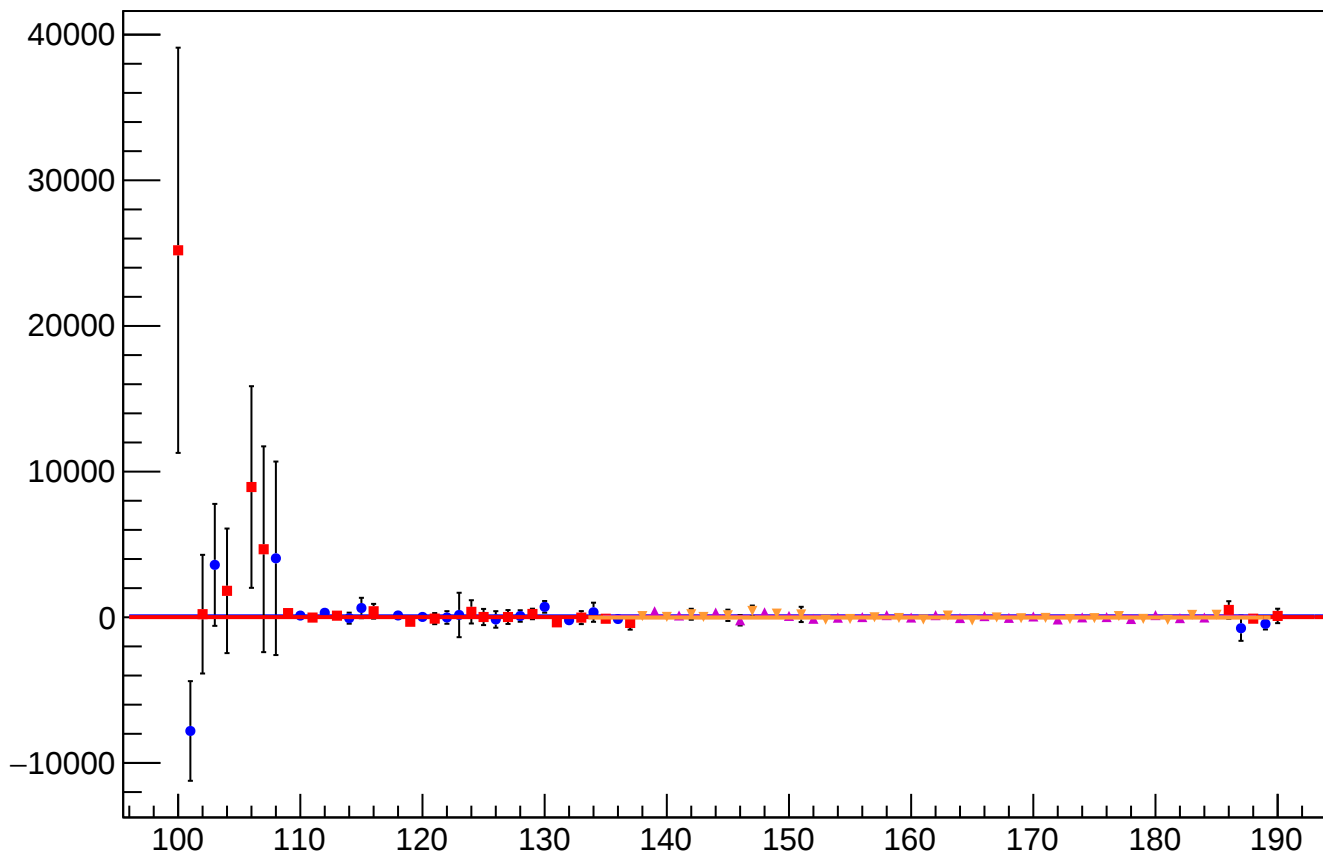
Right: 27.930+/-0.006  $\chi^2/\text{NDF}$ : 6526423.4/40

In: 28.545+/-0.004  $\chi^2/\text{NDF}$ :3172637.6/41

Out: 28.589+/-0.004  $\chi^2/\text{NDF}$ :3622059.0/46

All: 28.568+/-0.003  $\chi^2/\text{NDF}$ : 6794754.3/88

asym\_bcm\_cav4cQ\_bcm\_dg\_us\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 66.366+/-86.045  $\chi^2/\text{NDF}$ : 15.3/18

Left Out: -13.966+/-48.735  $\chi^2/\text{NDF}$ : 8.1/24

Right Out: 9.797+/-76.716  $\chi^2/\text{NDF}$ : 13.1/21

Left In: 31.477+/-46.483  $\chi^2/\text{NDF}$ : 7.8/22

Left: 9.830+/-33.637  $\chi^2/\text{NDF}$ : 16.4/47

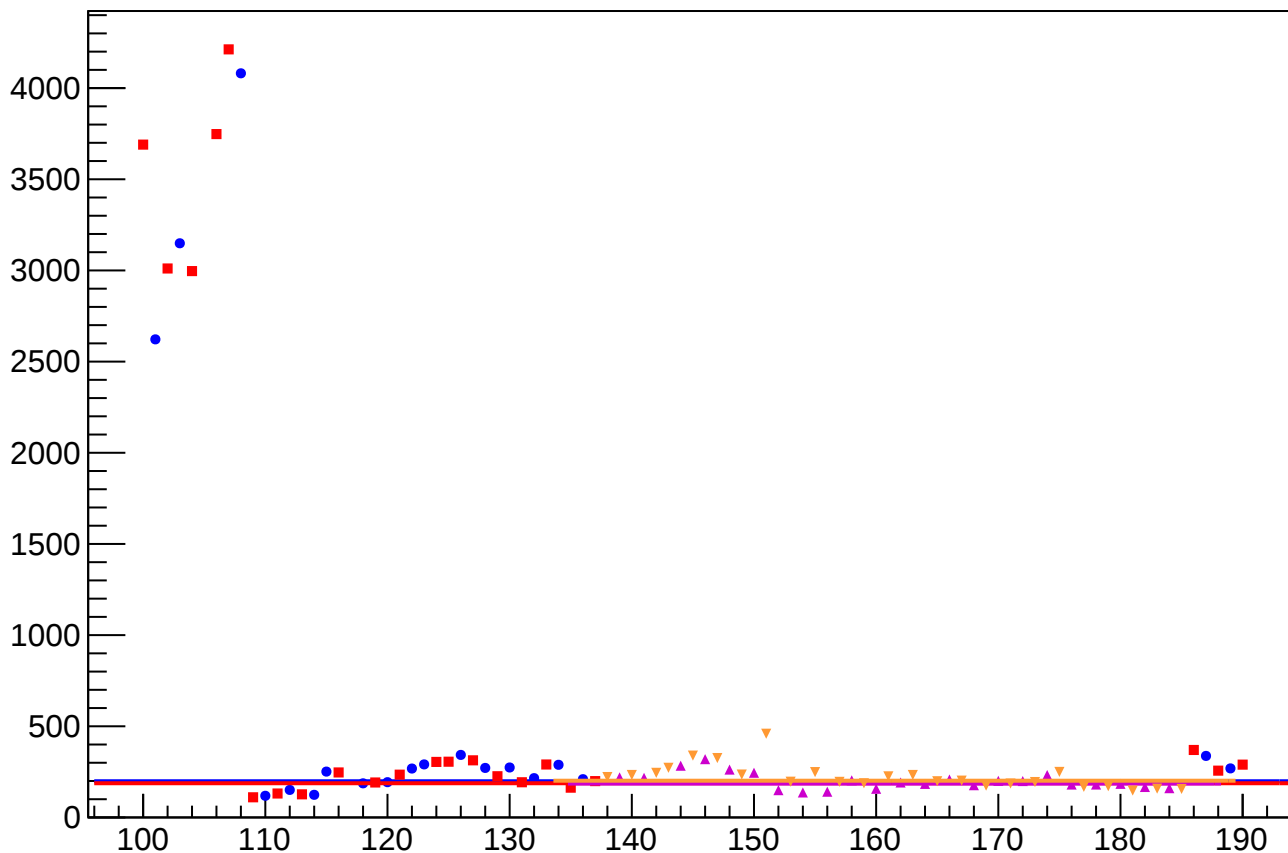
Right: 34.850+/-57.262  $\chi^2/\text{NDF}$ : 28.7/40

In: 39.359+/-40.897  $\chi^2/\text{NDF}$ : 23.3/41

Out: -7.133+/-41.137  $\chi^2/\text{NDF}$ : 21.3/46

All: 16.249+/-29.003  $\chi^2/\text{NDF}$ : 45.3/88

asym\_bcm\_cav4cQ\_bcm\_dg\_us\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 198.524 $\pm$ 0.061  $\chi^2$ /NDF: 3661661.5/18

Left Out: 201.503 $\pm$ 0.034  $\chi^2$ /NDF:1854905.1/24

Right Out: 187.642 $\pm$ 0.054  $\chi^2$ /NDF: 4603500.7/21

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

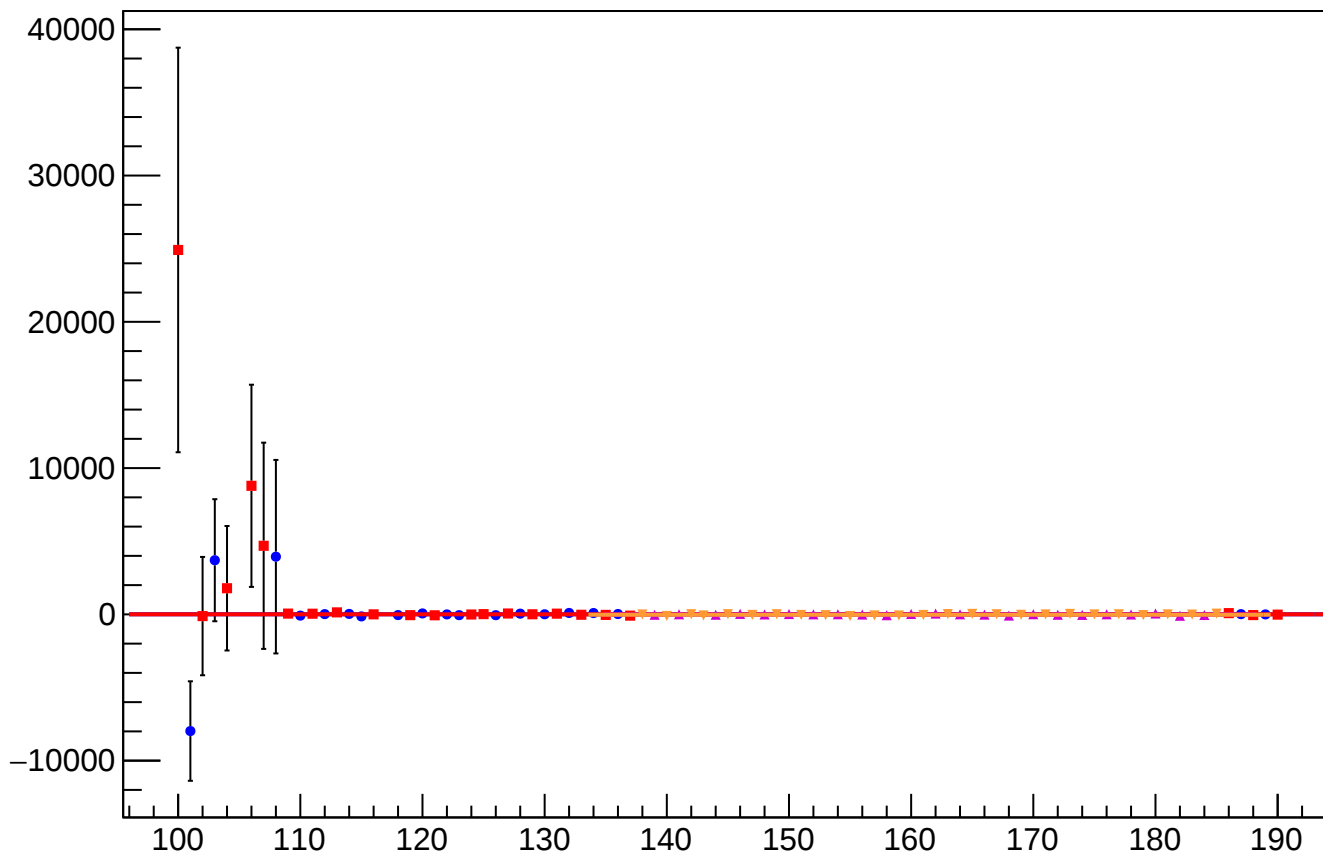
Right: 192.462 $\pm$ 0.040  $\chi^2$ /NDF: 8282982.5/40

In: 188.735 $\pm$ 0.029  $\chi^2$ /NDF:5075977.4/41

Out: 197.518 $\pm$ 0.029  $\chi^2$ /NDF:6504919.2/46

All: 193.101 $\pm$ 0.021  $\chi^2$ /NDF: 11626742.8/88

asym\_bcm\_cav4cQ\_bcm\_dg\_us\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 5.603 $\pm$ 14.078  $\chi^2$ /NDF: 20.1/18

Left Out: -24.144 $\pm$ 8.076  $\chi^2$ /NDF:24.9/24

Right Out: 5.805 $\pm$ 13.151  $\chi^2$ /NDF: 25.4/21

Left In: -5.924 $\pm$ 8.340  $\chi^2$ /NDF:21.0/22

Left: -15.326 $\pm$ 5.802  $\chi^2$ /NDF: 48.4/47

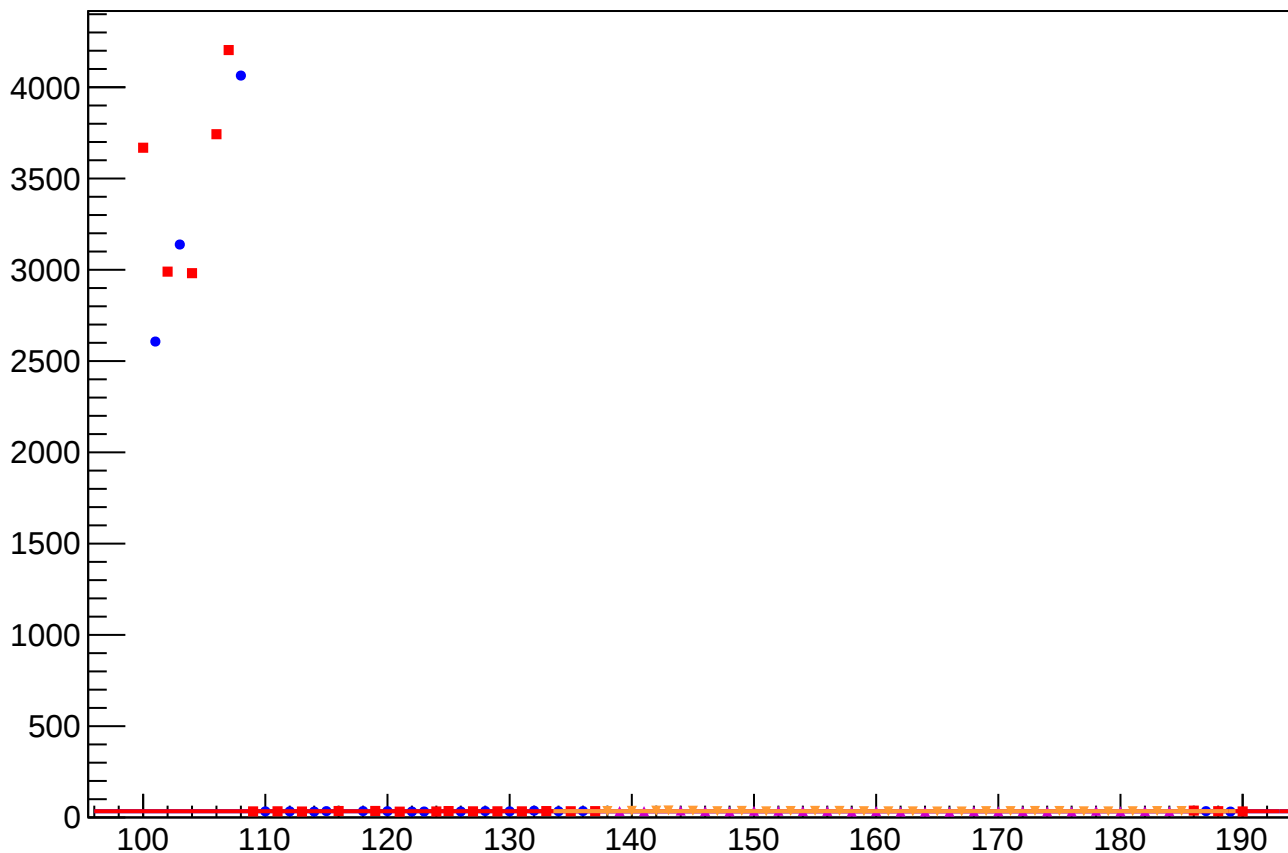
Right: 5.710 $\pm$ 9.610  $\chi^2$ /NDF: 45.6/40

In: -2.930 $\pm$ 7.175  $\chi^2$ /NDF:41.6/41

Out: -15.942 $\pm$ 6.882  $\chi^2$ /NDF:54.1/46

All: -9.707 $\pm$ 4.967  $\chi^2$ /NDF: 97.4/88

asym\_bcm\_cav4cQ\_bcm\_dg\_us\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 33.996 $\pm$ 0.010  $\chi^2$ /NDF: 3009481.9/18

Left Out: 34.617 $\pm$ 0.006  $\chi^2$ /NDF: 57868.4/24

Right Out: 34.097 $\pm$ 0.009  $\chi^2$ /NDF: 3458937.7/21

Left In: 34.682 $\pm$ 0.006  $\chi^2$ /NDF: 59834.3/22

Left: 34.649 $\pm$ 0.004  $\chi^2$ /NDF: 117764.0/47

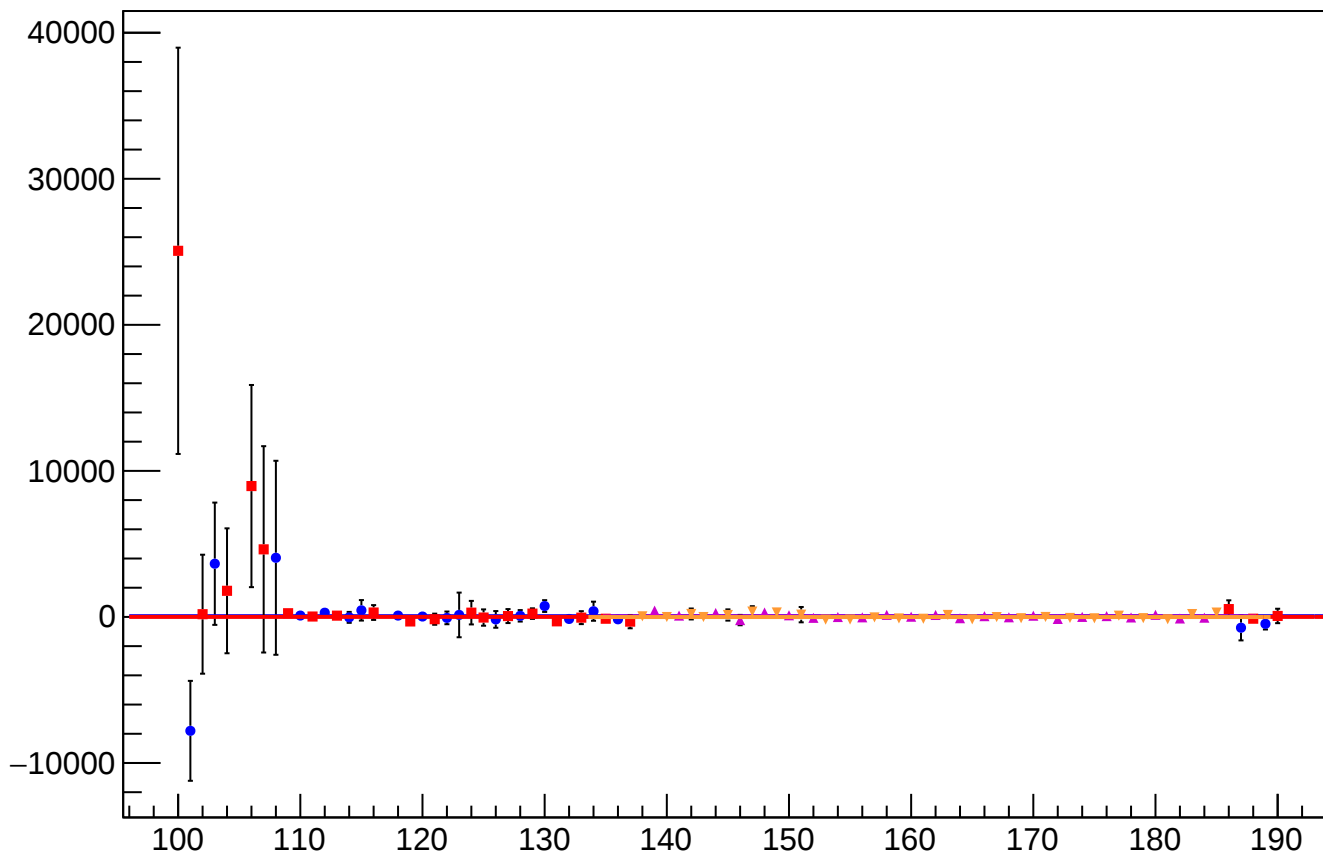
Right: 34.050 $\pm$ 0.007  $\chi^2$ /NDF: 6468474.5/40

In: 34.504 $\pm$ 0.005  $\chi^2$ /NDF: 3072828.6/41

Out: 34.475 $\pm$ 0.005  $\chi^2$ /NDF: 3519081.1/46

All: 34.489 $\pm$ 0.004  $\chi^2$ /NDF: 6591926.4/88

asym\_bcm\_cav4cQ\_bcm\_dg\_ds\_agg\_avg\_mean vs Slug, Sign Corrected



Right In: 51.629 $\pm$ 85.636  $\chi^2$ /NDF: 15.3/18

Left Out: -7.558 $\pm$ 48.662  $\chi^2$ /NDF:8.8/24

Right Out: 4.104 $\pm$ 76.254  $\chi^2$ /NDF: 12.1/21

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

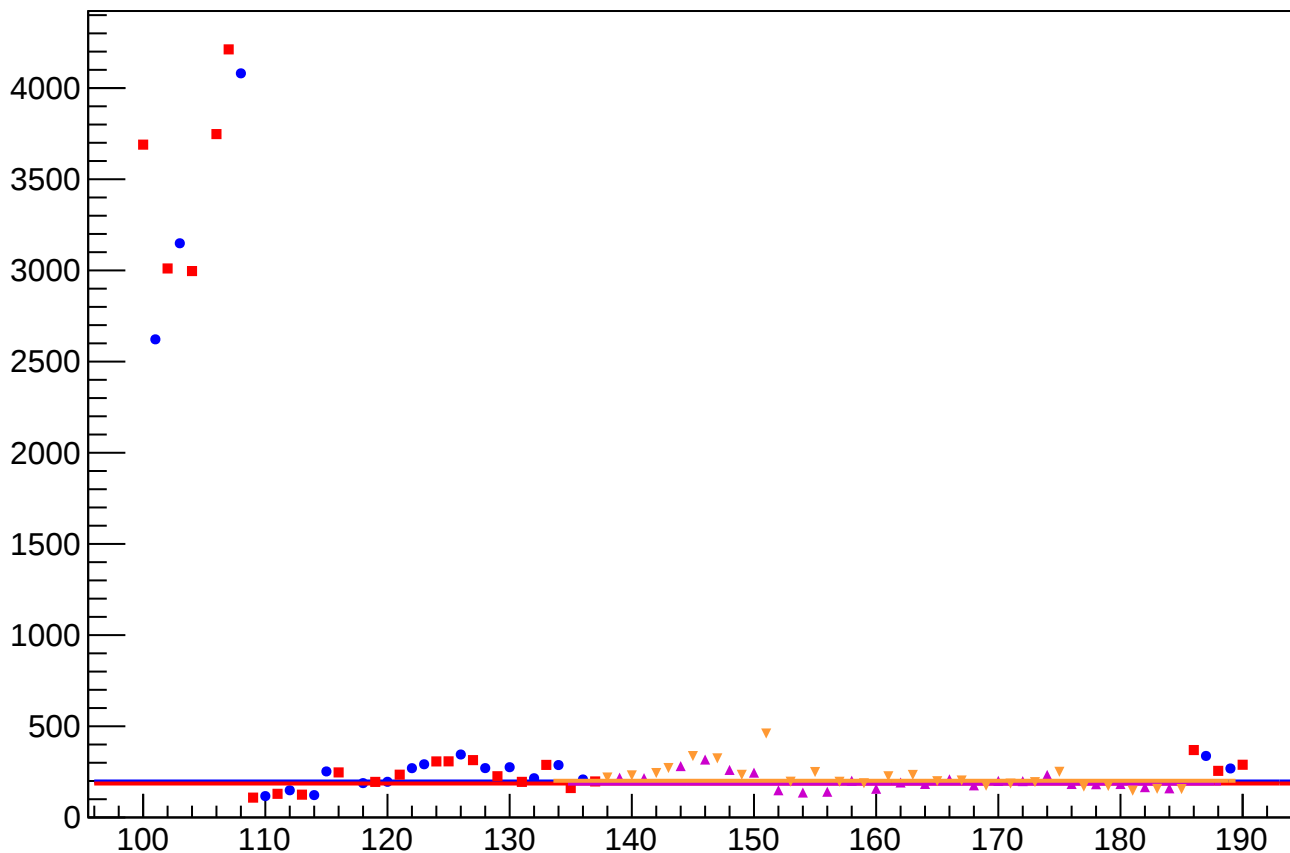
Right: 25.122 $\pm$ 56.949  $\chi^2$ /NDF: 27.6/40

In: 38.759 $\pm$ 40.810  $\chi^2$ /NDF:22.4/41

Out: -4.183 $\pm$ 41.021  $\chi^2$ /NDF:20.9/46

All: 17.399 $\pm$ 28.931  $\chi^2$ /NDF: 43.9/88

asym\_bcm\_cav4cQ\_bcm\_dg\_ds\_agg\_avg\_rms vs Slug, Sign Corrected



Right In: 197.240+/-0.061  $\chi^2/\text{NDF}$ : 3701536.0/18

Left Out: 201.198+/-0.034  $\chi^2/\text{NDF}$ :1848437.4/24

Right Out: 186.088+/-0.054  $\chi^2/\text{NDF}$ : 4656835.8/21

Left In: 185.627+/-0.033  $\chi^2/\text{NDF}$ :1371411.2/22

Left: 193.046+/-0.024  $\chi^2/\text{NDF}$ : 3327061.1/47

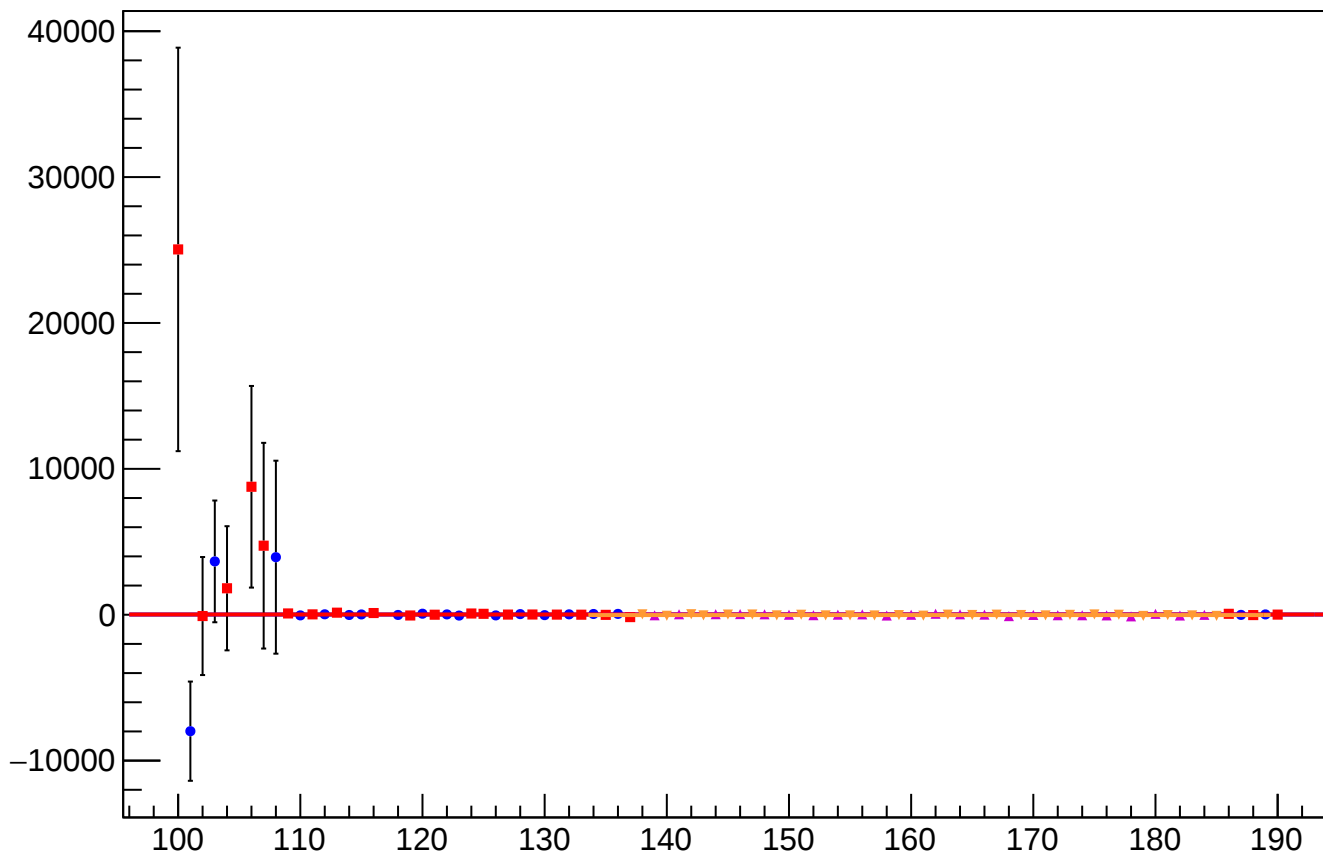
Right: 191.020+/-0.040  $\chi^2/\text{NDF}$ : 8377288.2/40

In: 188.265+/-0.029  $\chi^2/\text{NDF}$ :5101369.6/41

Out: 196.826+/-0.029  $\chi^2/\text{NDF}$ :6561080.3/46

All: 192.523+/-0.020  $\chi^2/\text{NDF}$ : 11706228.0/88

asym\_bcm\_cav4cQ\_bcm\_dg\_ds\_agg\_dd\_mean vs Slug, Sign Corrected



Right In: 14.309+/-12.808  $\chi^2/\text{NDF}$ : 14.9/18

Left Out: -23.320+/-7.352  $\chi^2/\text{NDF}$ : 18.3/24

Right Out: 17.736+/-11.973  $\chi^2/\text{NDF}$ : 29.8/21

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

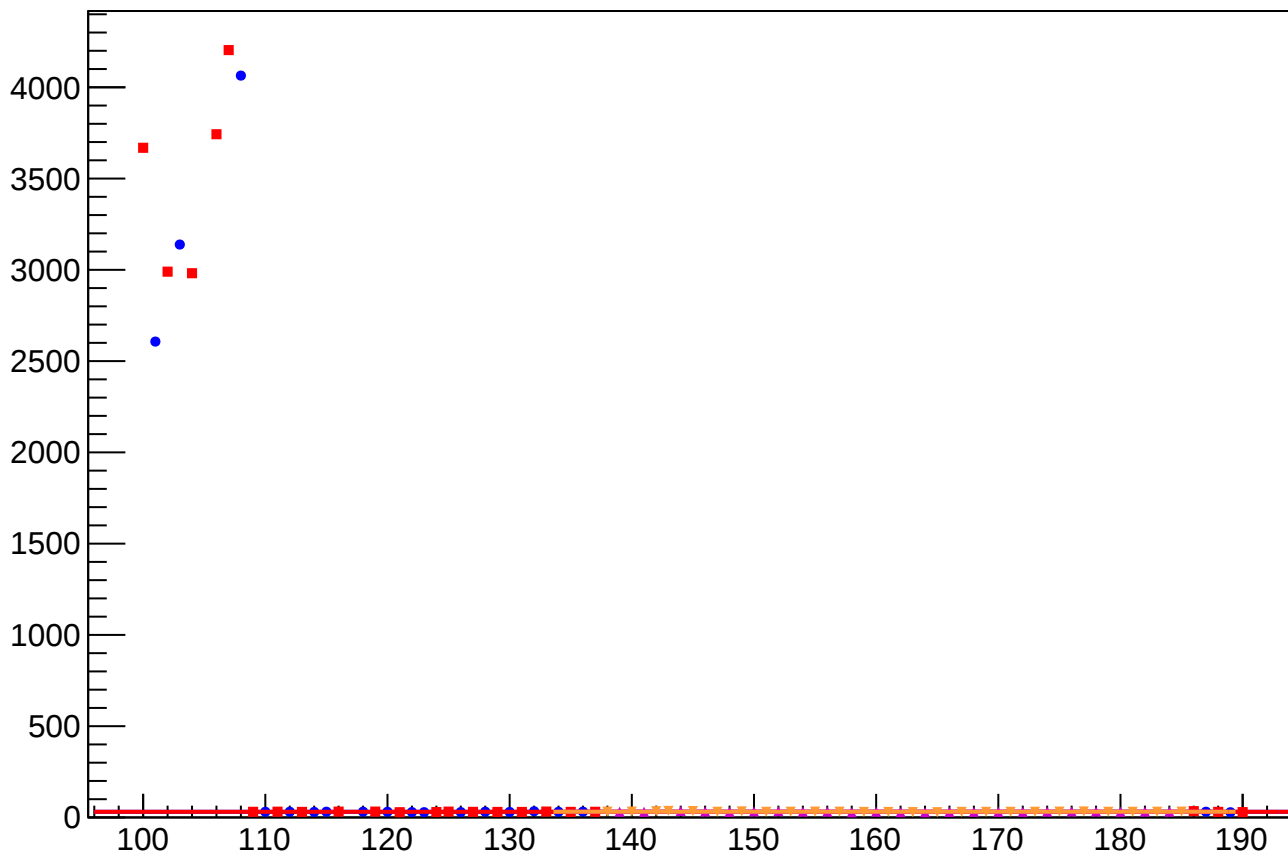
Right: 16.137+/-8.747  $\chi^2/\text{NDF}$ : 44.7/40

In: -1.021+/-6.521  $\chi^2/\text{NDF}$ : 55.6/41

Out: -12.079+/-6.265  $\chi^2/\text{NDF}$ : 56.6/46

All: -6.771+/-4.518  $\chi^2/\text{NDF}$ : 113.7/88

asym\_bcm\_cav4cQ\_bcm\_dg\_ds\_agg\_dd\_rms vs Slug, Sign Corrected



Right In: 30.920 $\pm$ 0.009  $\chi^2$ /NDF: 3020920.8/18

Left Out: 31.488 $\pm$ 0.005  $\chi^2$ /NDF: 81938.2/24

Right Out: 31.008 $\pm$ 0.008  $\chi^2$ /NDF: 3469628.9/21

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

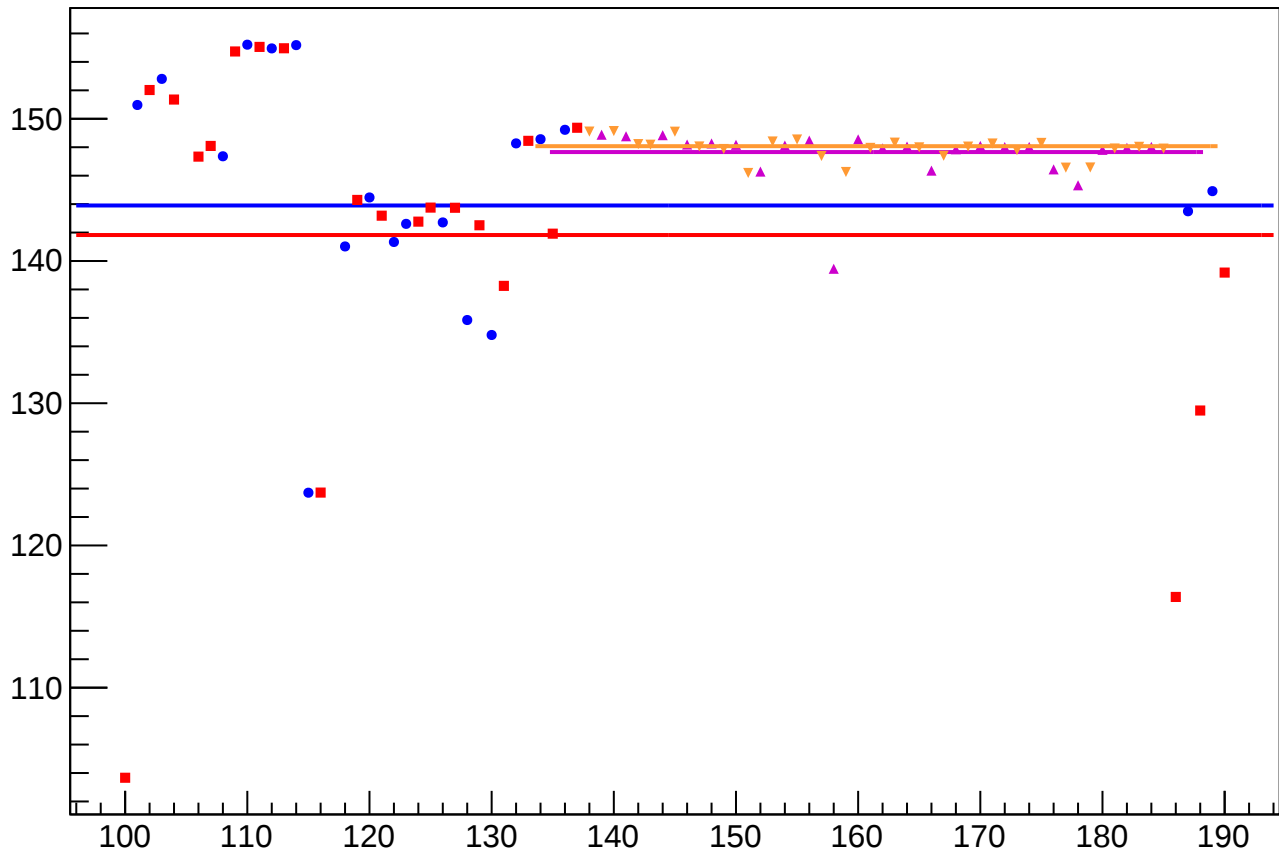
Right: 30.967 $\pm$ 0.006  $\chi^2$ /NDF: 6490599.1/40

In: 31.332 $\pm$ 0.005  $\chi^2$ /NDF: 3111500.0/41

Out: 31.357 $\pm$ 0.004  $\chi^2$ /NDF: 3553910.6/46

All: 31.345 $\pm$ 0.003  $\chi^2$ /NDF: 6665426.2/88

# yield\_bcm\_an\_ds\_mean vs Slug, Sign Corrected



Right In: 143.904 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 3451668411.9/18

Left Out: 148.074 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 65673678.9/24

Right Out: 141.827 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 7212471465.6/21

Left In: 147.660 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 343892338.9/22

Left: 147.875 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 417177881.5/47

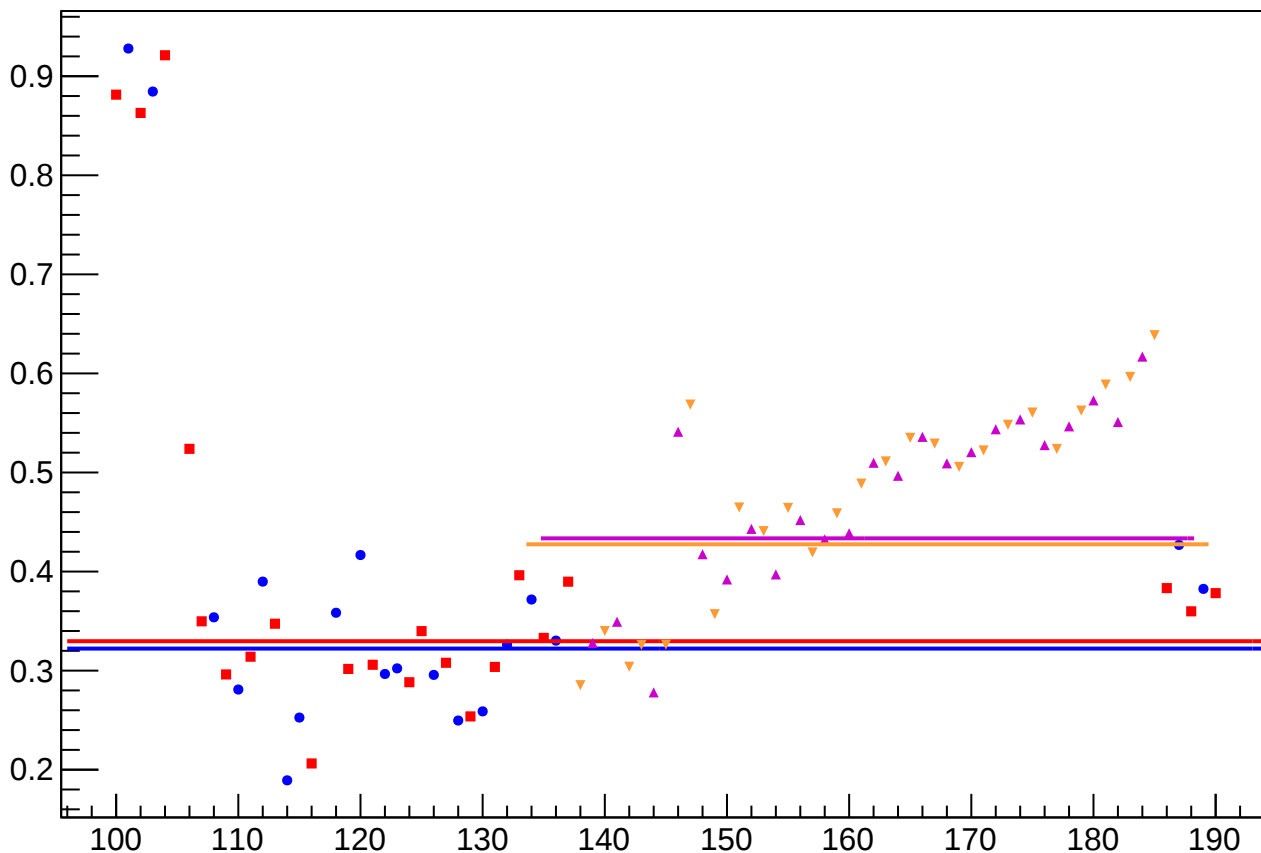
Right: 142.794 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 10800292251.3/40

In: 146.129 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 4289421296.2/41

Out: 145.434 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 8805205778.7/46

All: 145.764 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 13131398651.0

# yield\_bcm\_an\_ds\_rms vs Slug, Sign Corrected



Right In: 0.322 $\pm$ 0.000  $\chi^2$ /NDF: 1314808.4/18

Left Out: 0.428 $\pm$ 0.000  $\chi^2$ /NDF:1892802.8/24

Right Out: 0.330 $\pm$ 0.000  $\chi^2$ /NDF: 1259228.4/21

Left In: 0.434 $\pm$ 0.000  $\chi^2$ /NDF:1479367.0/22

Left: 0.430 $\pm$ 0.000  $\chi^2$ /NDF: 3375366.2/47

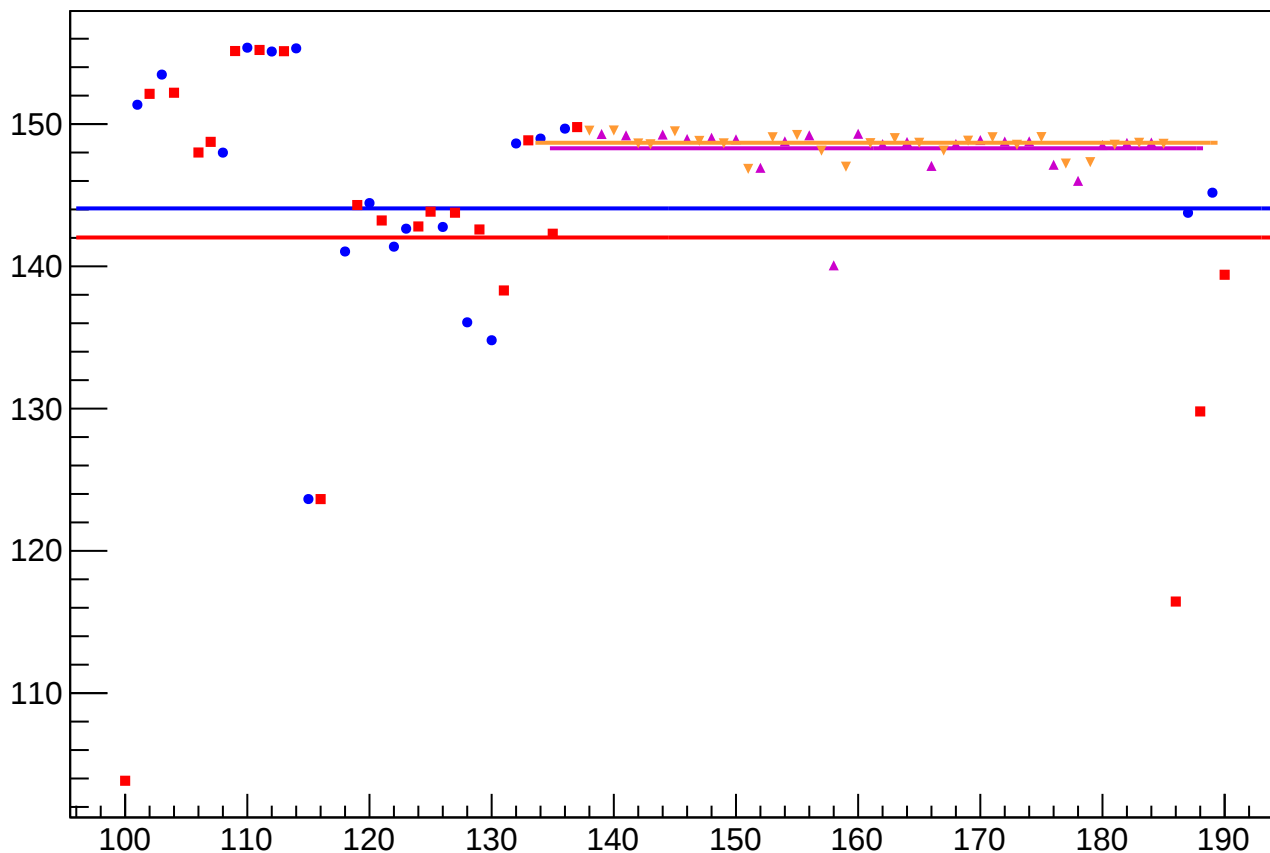
Right: 0.326 $\pm$ 0.000  $\chi^2$ /NDF: 2577541.0/40

In: 0.388 $\pm$ 0.000  $\chi^2$ /NDF:3660551.7/41

Out: 0.386 $\pm$ 0.000  $\chi^2$ /NDF:3900856.4/46

All: 0.387 $\pm$ 0.000  $\chi^2$ /NDF: 7562000.0/88

# yield\_bcm\_an\_ds3\_mean vs Slug, Sign Corrected



Right In: 144.073+/-0.000  $\chi^2/\text{NDF}$ : 3496135490.2/18

Left Out: 148.687+/-0.000  $\chi^2/\text{NDF}$ : 52285197.5/24

Right Out: 142.028+/-0.000  $\chi^2/\text{NDF}$ : 7155416223.7/21

Left In: 148.298+/-0.000  $\chi^2/\text{NDF}$ : 332527463.6/22

Left: 148.500+/-0.000  $\chi^2/\text{NDF}$ : 391414535.1/47

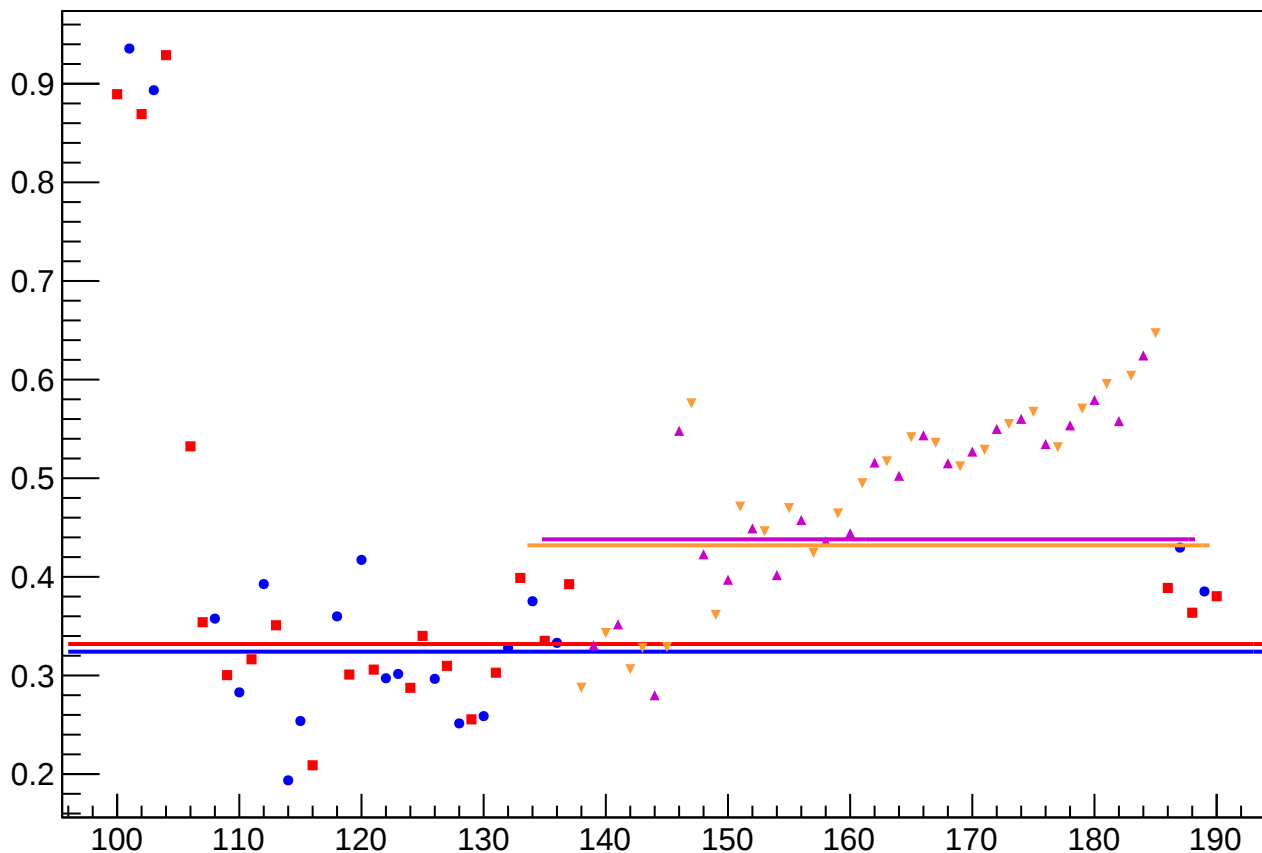
Right: 142.981+/-0.000  $\chi^2/\text{NDF}$ : 10781856607.5/40

In: 146.565+/-0.000  $\chi^2/\text{NDF}$ : 4443652763.9/41

Out: 145.860+/-0.000  $\chi^2/\text{NDF}$ : 8913921034.0/46

All: 146.195+/-0.000  $\chi^2/\text{NDF}$ : 13394749787.7

# yield\_bcm\_an\_ds3\_rms vs Slug, Sign Corrected



Right In: 0.324 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1316734.7/18

Left Out: 0.432 $\pm$ 0.000  $\chi^2/\text{NDF}$ :1924979.0/24

Right Out: 0.332 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1264180.3/21

Left In: 0.438 $\pm$ 0.000  $\chi^2/\text{NDF}$ :1504635.6/22

Left: 0.435 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 3432903.3/47

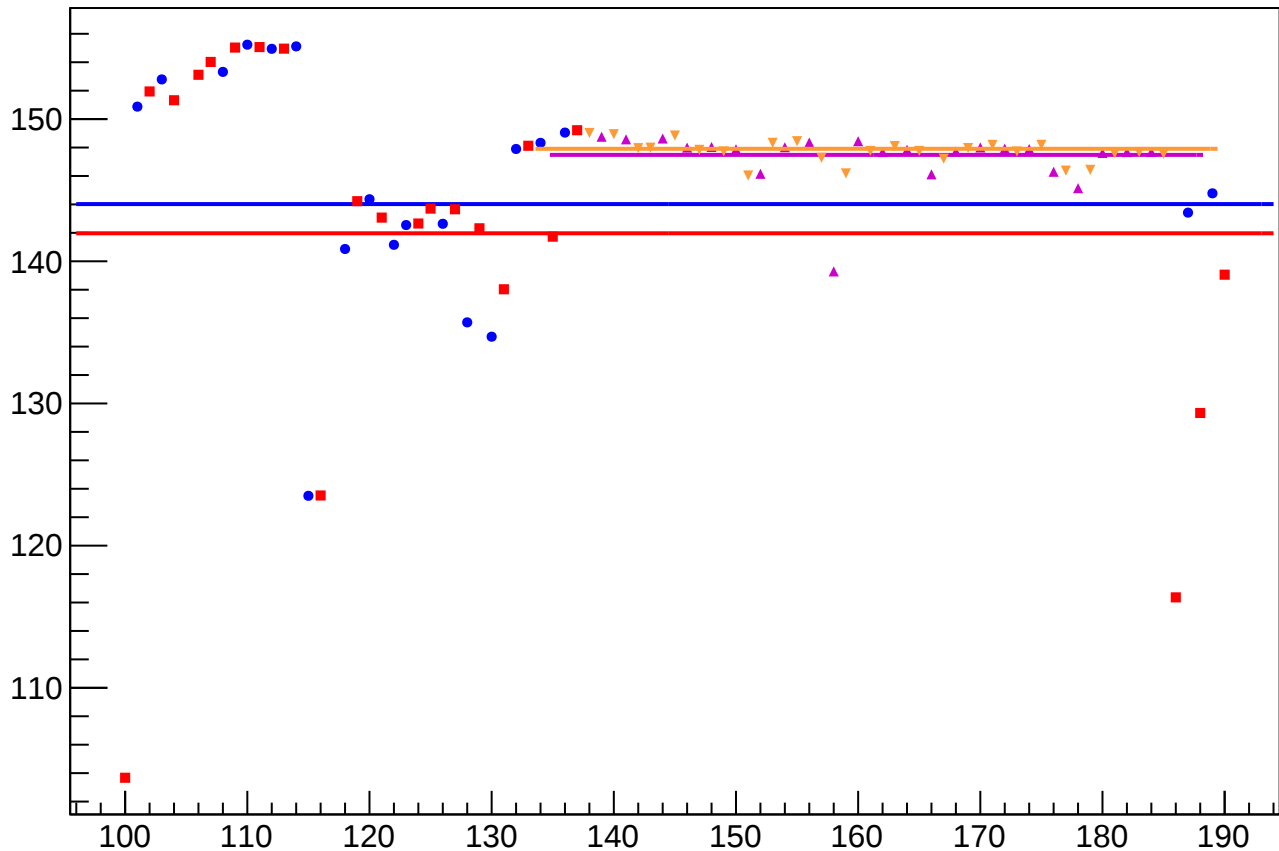
Right: 0.328 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 2584655.7/40

In: 0.391 $\pm$ 0.000  $\chi^2/\text{NDF}$ :3715606.3/41

Out: 0.389 $\pm$ 0.000  $\chi^2/\text{NDF}$ :3959329.4/46

All: 0.390 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 7675472.1/88

# yield\_bcm\_an\_us\_mean vs Slug, Sign Corrected



Right In: 144.023 $\pm$ 0.000  $\chi^2$ /NDF: 3663828825.1/18

Left Out: 147.912 $\pm$ 0.000  $\chi^2$ /NDF: 64463426.1/24

Right Out: 141.969 $\pm$ 0.000  $\chi^2$ /NDF: 7610043136.9/21

Left In: 147.483 $\pm$ 0.000  $\chi^2$ /NDF: 342674720.4/22

Left: 147.706 $\pm$ 0.000  $\chi^2$ /NDF: 415263003.2/47

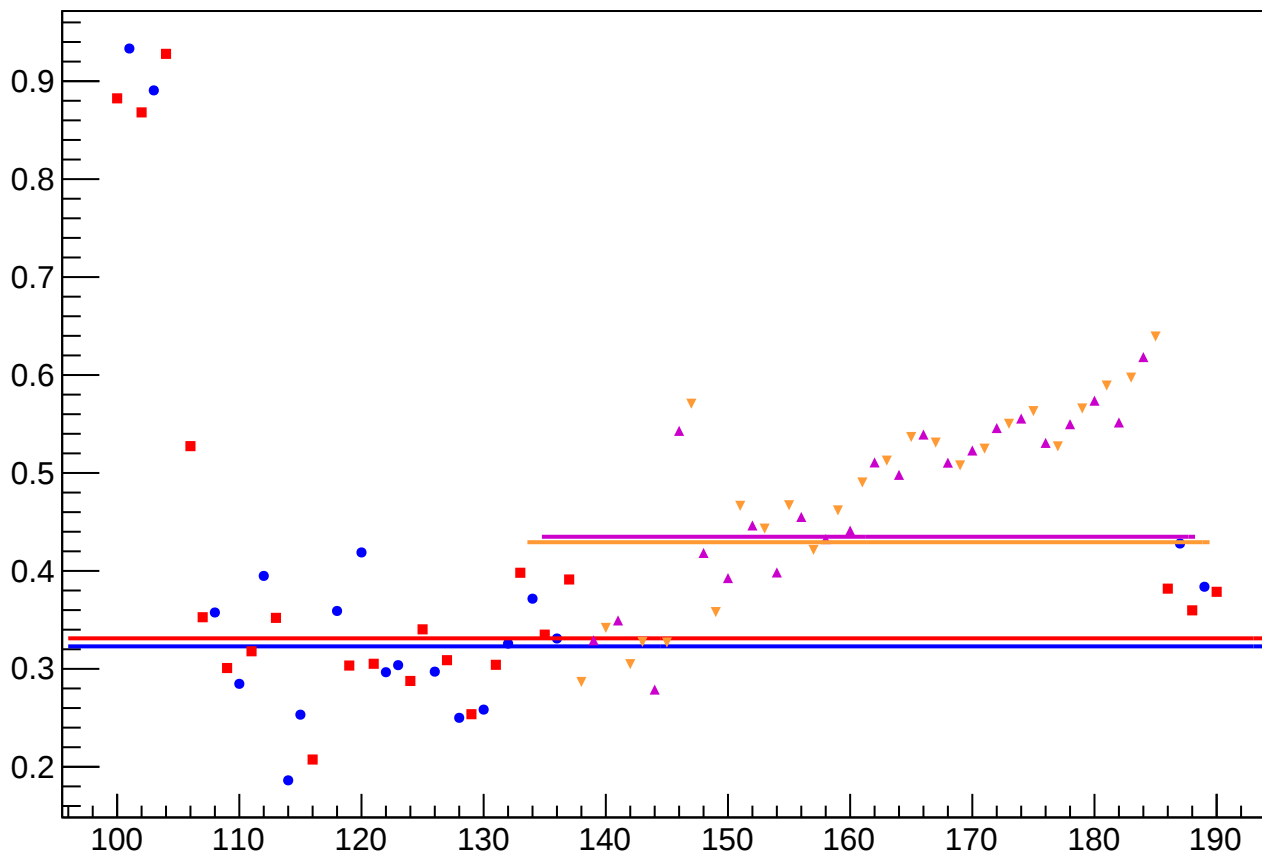
Right: 142.927 $\pm$ 0.000  $\chi^2$ /NDF: 11406048639.5/40

In: 146.073 $\pm$ 0.000  $\chi^2$ /NDF: 4422967171.3/41

Out: 145.402 $\pm$ 0.000  $\chi^2$ /NDF: 9044782800.5/46

All: 145.721 $\pm$ 0.000  $\chi^2$ /NDF: 13501786420.0

# yield\_bcm\_an\_us\_rms vs Slug, Sign Corrected



Right In: 0.323+/-0.000  $\chi^2/\text{NDF}$ : 1329896.2/18

Left Out: 0.429+/-0.000  $\chi^2/\text{NDF}$ :1891709.3/24

Right Out: 0.331+/-0.000  $\chi^2/\text{NDF}$ : 1260515.2/21

Left In: 0.435+/-0.000  $\chi^2/\text{NDF}$ :1485915.1/22

Left: 0.432+/-0.000  $\chi^2/\text{NDF}$ : 3380372.0/47

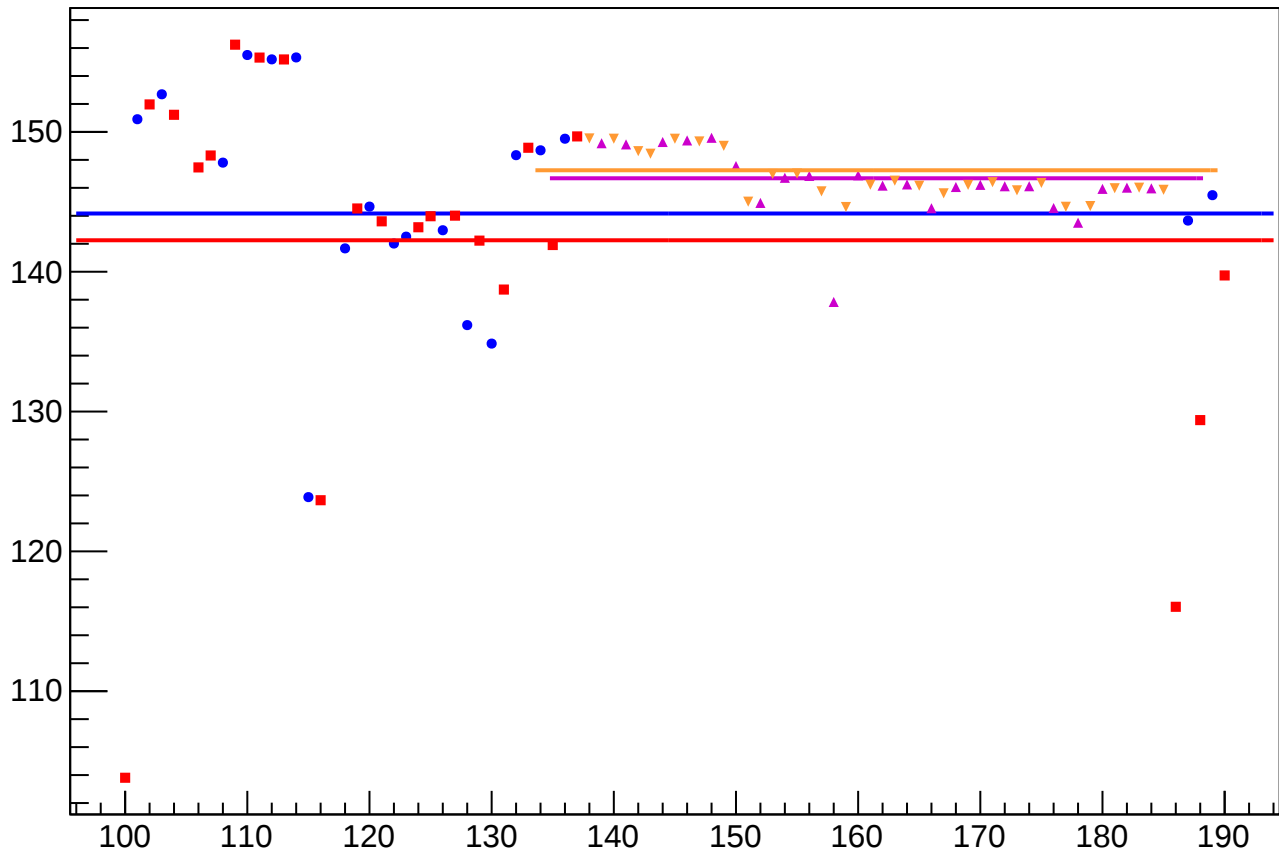
Right: 0.327+/-0.000  $\chi^2/\text{NDF}$ : 2594626.2/40

In: 0.389+/-0.000  $\chi^2/\text{NDF}$ :3686993.4/41

Out: 0.388+/-0.000  $\chi^2/\text{NDF}$ :3899532.5/46

All: 0.389+/-0.000  $\chi^2/\text{NDF}$ : 7586823.9/88

# yield\_bcm\_dg\_us\_mean vs Slug, Sign Corrected



Right In: 144.165 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 3165256558.6/18

Left Out: 147.257 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 261906278.3/24

Right Out: 142.251 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 6912144231.6/21

Left In: 146.685 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 554922388.0/22

Left: 146.981 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 830580031.2/47

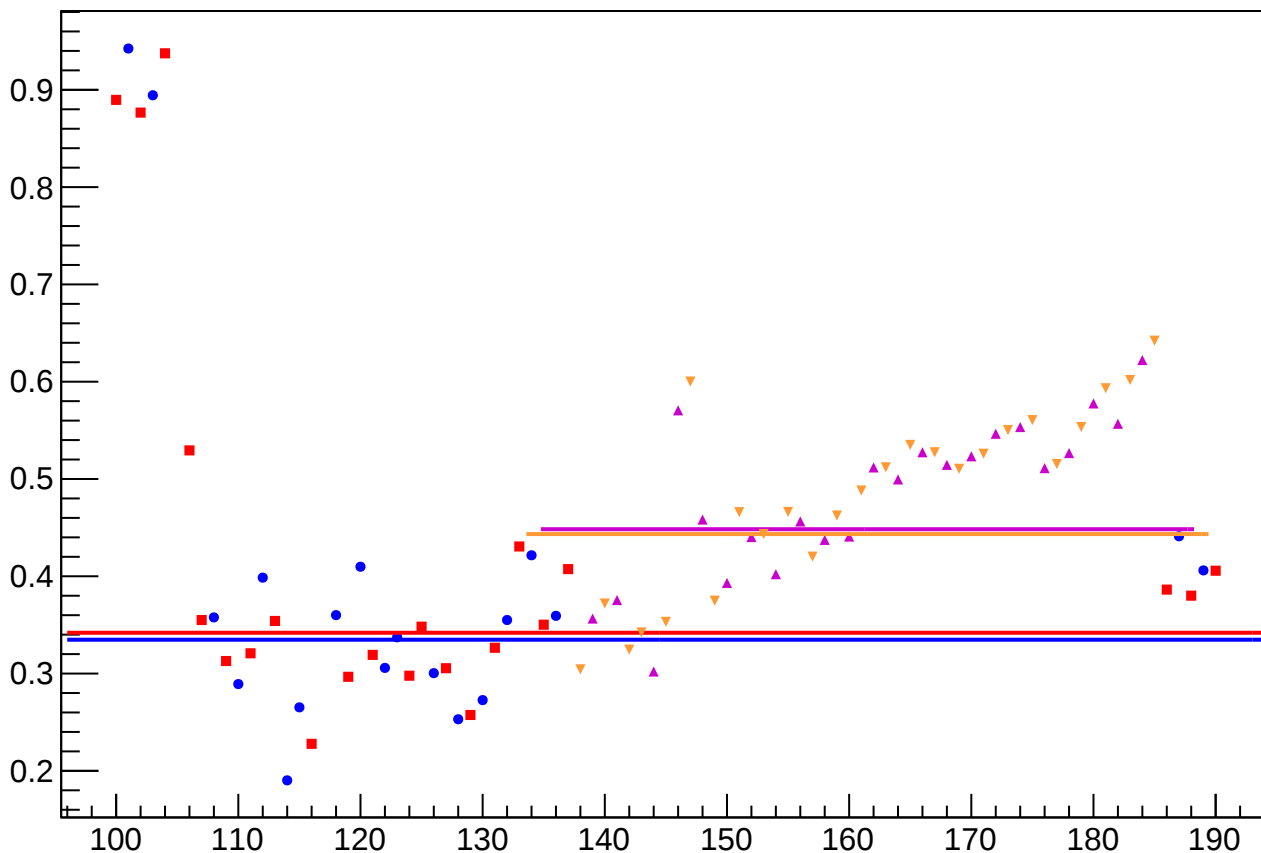
Right: 143.140 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 10184346051.8/40

In: 145.672 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 3926988798.4/41

Out: 145.157 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 8088346980.6/46

All: 145.402 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 12034263531.0

# yield\_bcm\_dg\_us\_rms vs Slug, Sign Corrected



Right In: 0.335 $\pm$ 0.000  $\chi^2$ /NDF: 1316637.8/18

Left Out: 0.443 $\pm$ 0.000  $\chi^2$ /NDF:1480479.3/24

Right Out: 0.342 $\pm$ 0.000  $\chi^2$ /NDF: 1229821.3/21

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

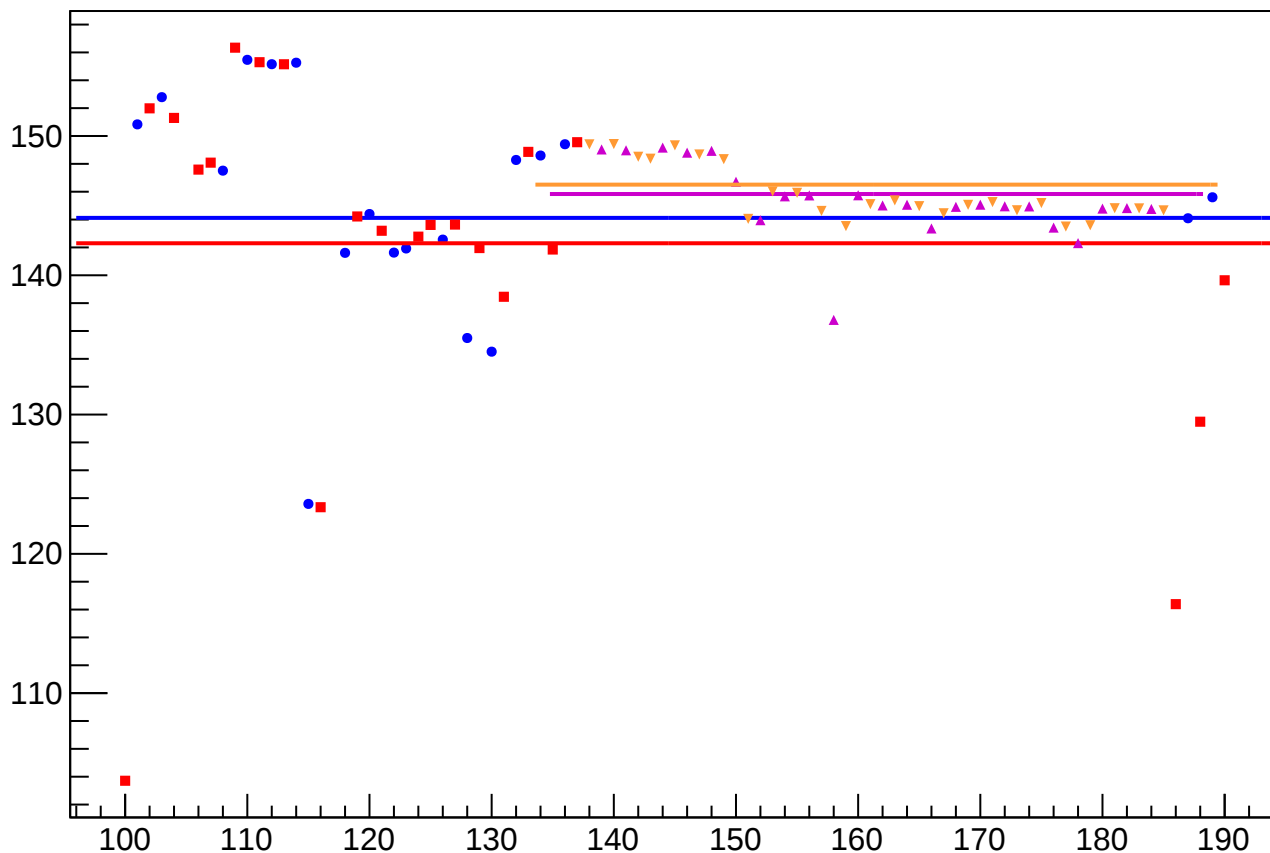
Right: 0.339 $\pm$ 0.000  $\chi^2$ /NDF: 2549444.6/40

In: 0.403 $\pm$ 0.000  $\chi^2$ /NDF:3277554.9/41

Out: 0.401 $\pm$ 0.000  $\chi^2$ /NDF:3460910.0/46

All: 0.402 $\pm$ 0.000  $\chi^2$ /NDF: 6738988.3/88

# yield\_bcm\_dg\_ds\_mean vs Slug, Sign Corrected



Right In: 144.121+/-0.000  $\chi^2/\text{NDF}$ : 3285364402.9/18

Left Out: 146.508+/-0.000  $\chi^2/\text{NDF}$ : 401248837.9/24

Right Out: 142.299+/-0.000  $\chi^2/\text{NDF}$ : 6895135673.2/21

Left In: 145.834+/-0.000  $\chi^2/\text{NDF}$ : 690172810.0/22

Left: 146.184+/-0.000  $\chi^2/\text{NDF}$ : 1110403123.5/47

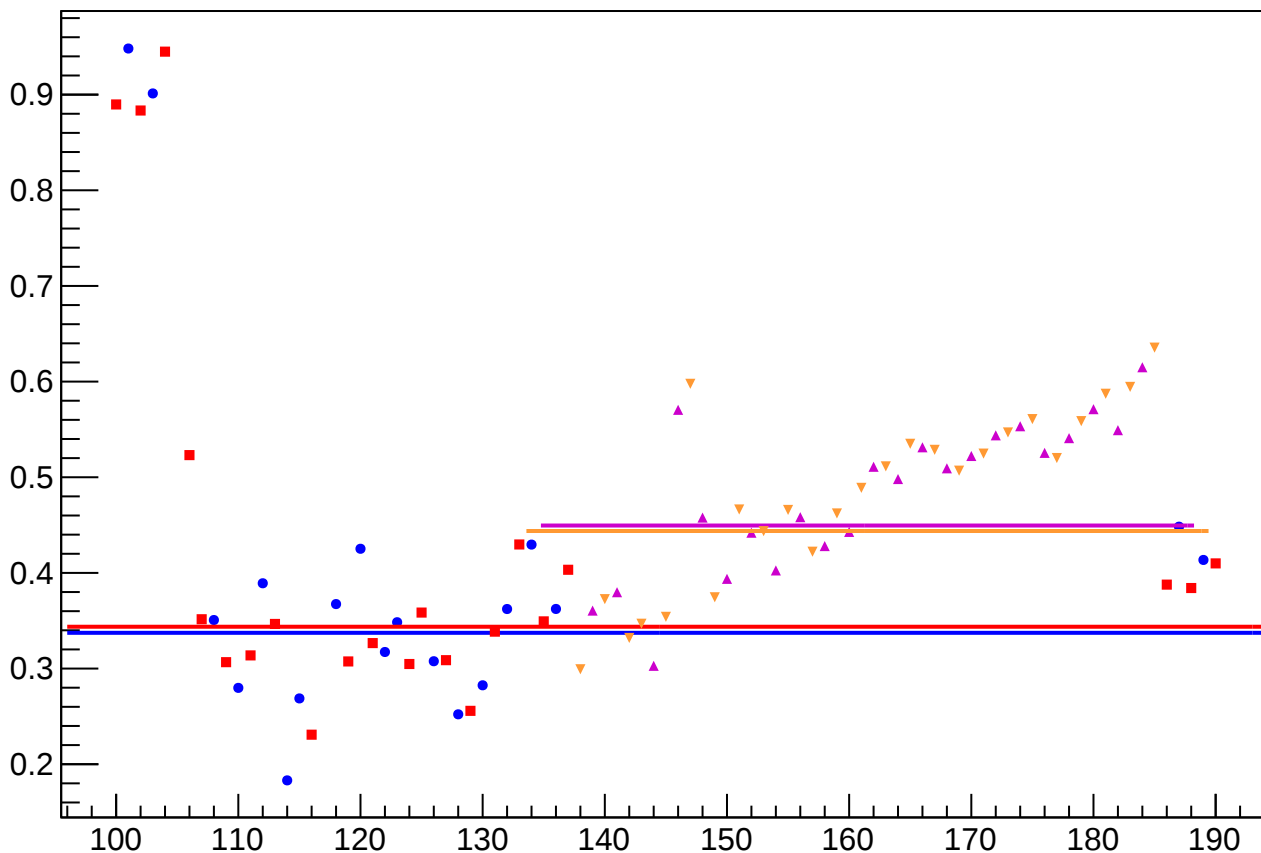
Right: 143.141+/-0.000  $\chi^2/\text{NDF}$ : 10275827909.0/40

In: 145.152+/-0.000  $\chi^2/\text{NDF}$ : 4069873044.0/41

Out: 144.752+/-0.000  $\chi^2/\text{NDF}$ : 7937498064.9/46

All: 144.942+/-0.000  $\chi^2/\text{NDF}$ : 12018611687.0/100

# yield\_bcm\_dg\_ds\_rms vs Slug, Sign Corrected



Right In: 0.337 $\pm$ 0.000  $\chi^2$ /NDF: 1337807.0/18

Left Out: 0.444 $\pm$ 0.000  $\chi^2$ /NDF:1460383.7/24

Right Out: 0.344 $\pm$ 0.000  $\chi^2$ /NDF: 1221999.3/21

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

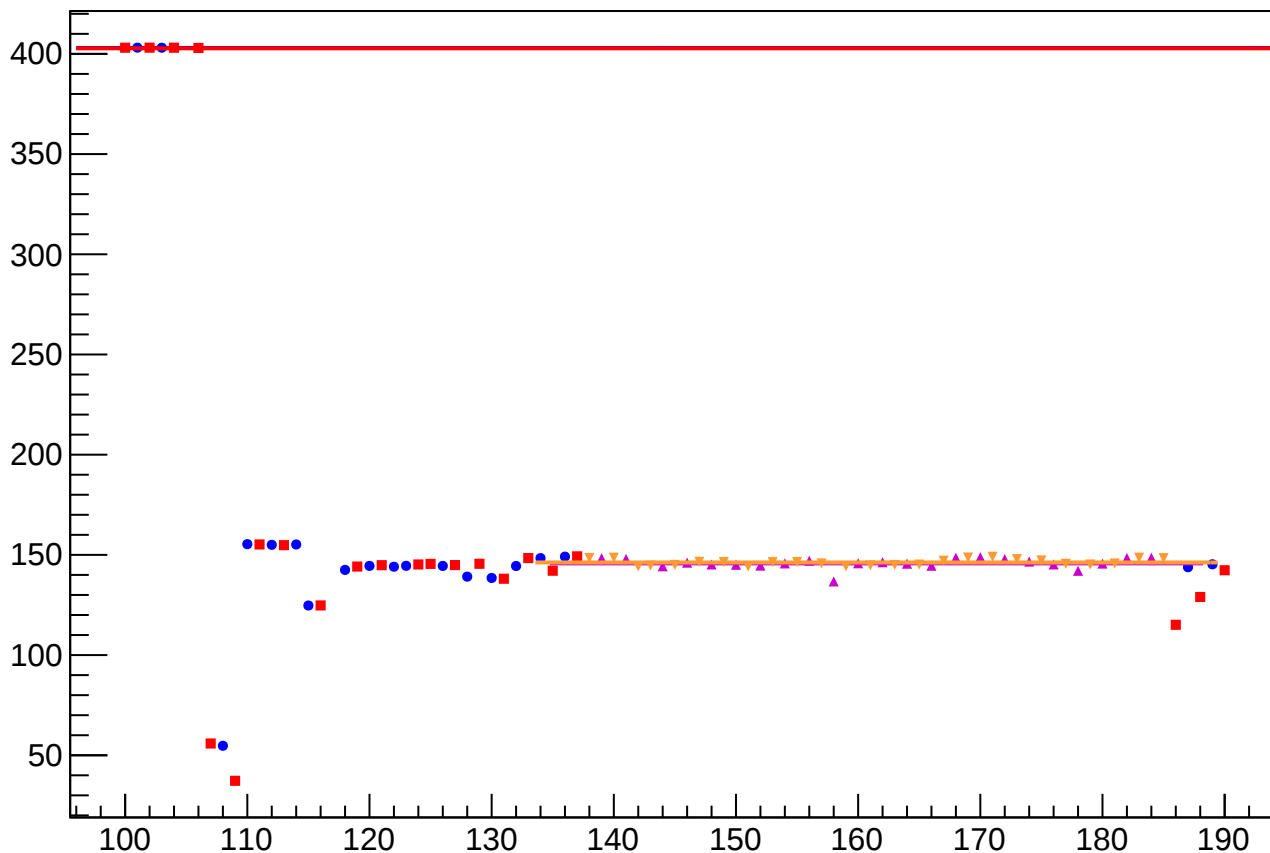
Right: 0.341 $\pm$ 0.000  $\chi^2$ /NDF: 2562125.2/40

In: 0.405 $\pm$ 0.000  $\chi^2$ /NDF:3239041.4/41

Out: 0.402 $\pm$ 0.000  $\chi^2$ /NDF:3407034.8/46

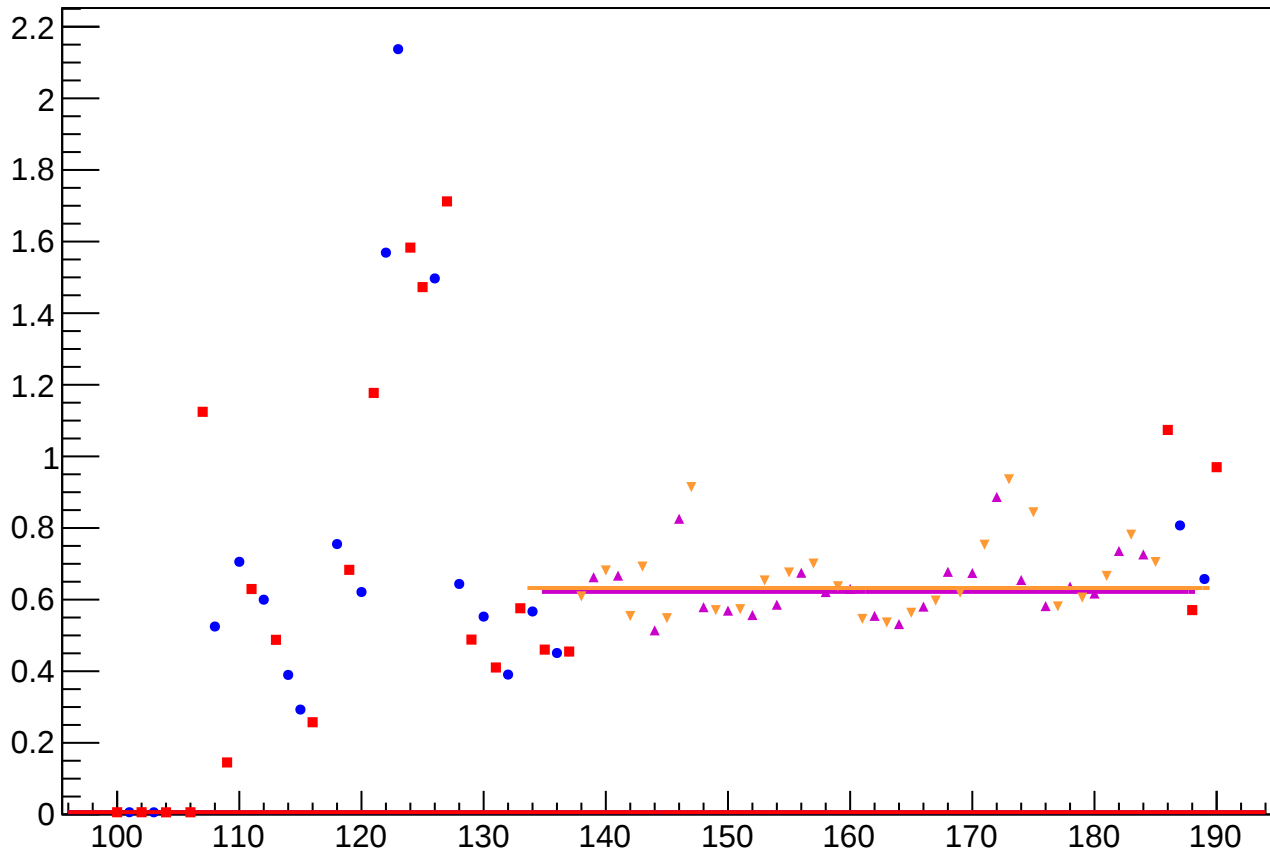
All: 0.403 $\pm$ 0.000  $\chi^2$ /NDF: 6647169.2/88

# yield\_cav4bQ\_mean vs Slug, Sign Corrected



|                            |                                          |                        |                                         |
|----------------------------|------------------------------------------|------------------------|-----------------------------------------|
| Right In: 402.949+/-0.000  | $\chi^2/\text{NDF}$ : 1164491503604.6/18 | 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: 402.857+/-0.000 | $\chi^2/\text{NDF}$ : 4483294945063.3   |
| Right Out: 402.776+/-0.000 | $\chi^2/\text{NDF}$ : 3318311634806.2/21 | In: 402.658+/-0.000    | $\chi^2/\text{NDF}$ : 3496608119524.9/4 |
| Left In: 145.755+/-0.000   | $\chi^2/\text{NDF}$ : 206171532.0/22     | Out: 402.516+/-0.000   | $\chi^2/\text{NDF}$ : 5676596614865.7/4 |
|                            |                                          | All: 402.582+/-0.000   | $\chi^2/\text{NDF}$ : 917353873276      |

# yield\_cav4bQ\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 10055779.7/18

Left Out: 0.632+/-0.000  $\chi^2/\text{NDF}$ : 613604.5/24

Right Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 11753396.1/21

Left In: 0.622+/-0.000  $\chi^2/\text{NDF}$ : 399965.3/22

Left: 0.627+/-0.000  $\chi^2/\text{NDF}$ : 1017722.4/47

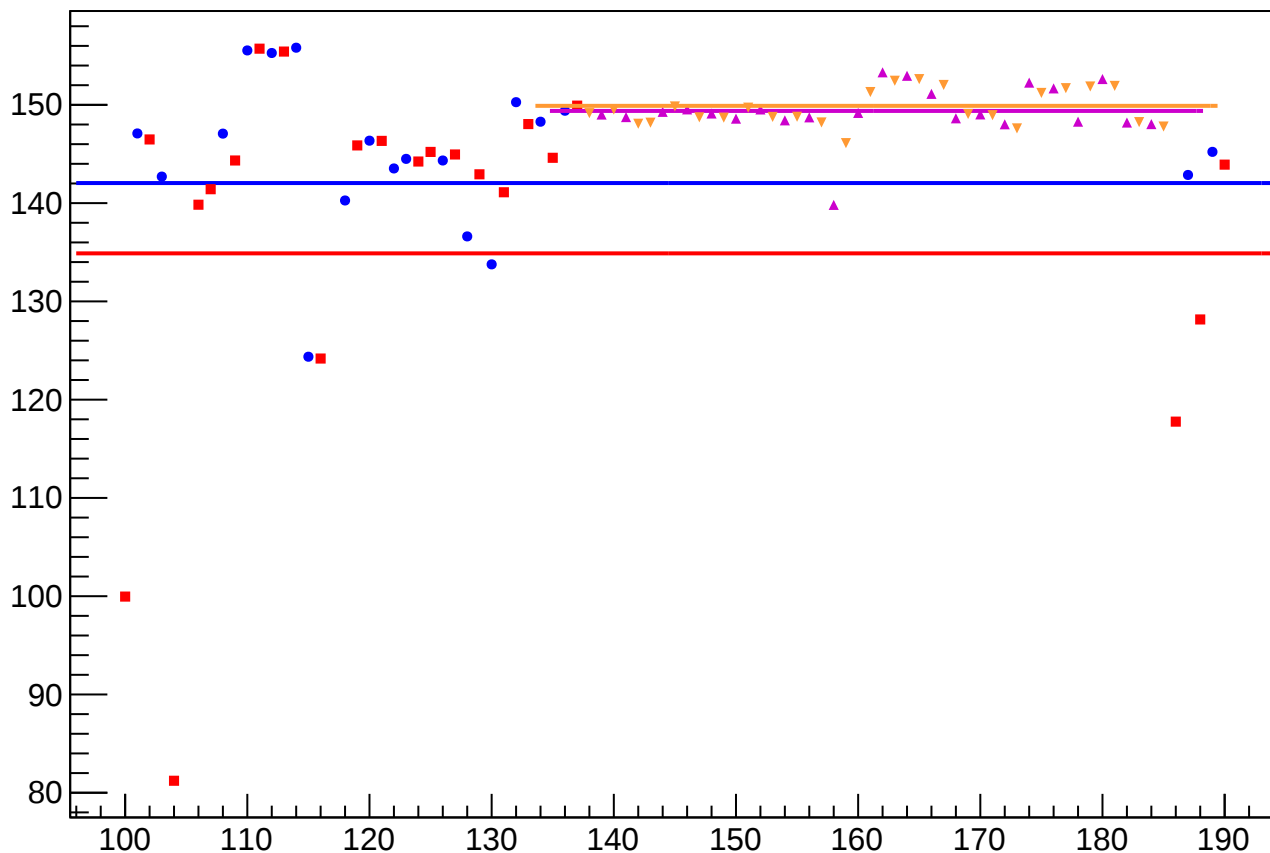
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 21809188.1/40

In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 37143672.1/41

Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 40448424.3/46

All: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 77592152.0/88

# yield\_cav4cQ\_mean vs Slug, Sign Corrected



Right In: 142.043+/-0.000  $\chi^2/NDF$ : 992710458.8/18

Left Out: 149.900+/-0.000  $\chi^2/NDF$ : 162845622.6/24

Right Out: 134.887+/-0.000  $\chi^2/NDF$ : 1773958455.8/21

Left In: 149.382+/-0.000  $\chi^2/NDF$ : 434657827.5/22

Left: 149.650+/-0.000  $\chi^2/NDF$ : 604081739.6/47

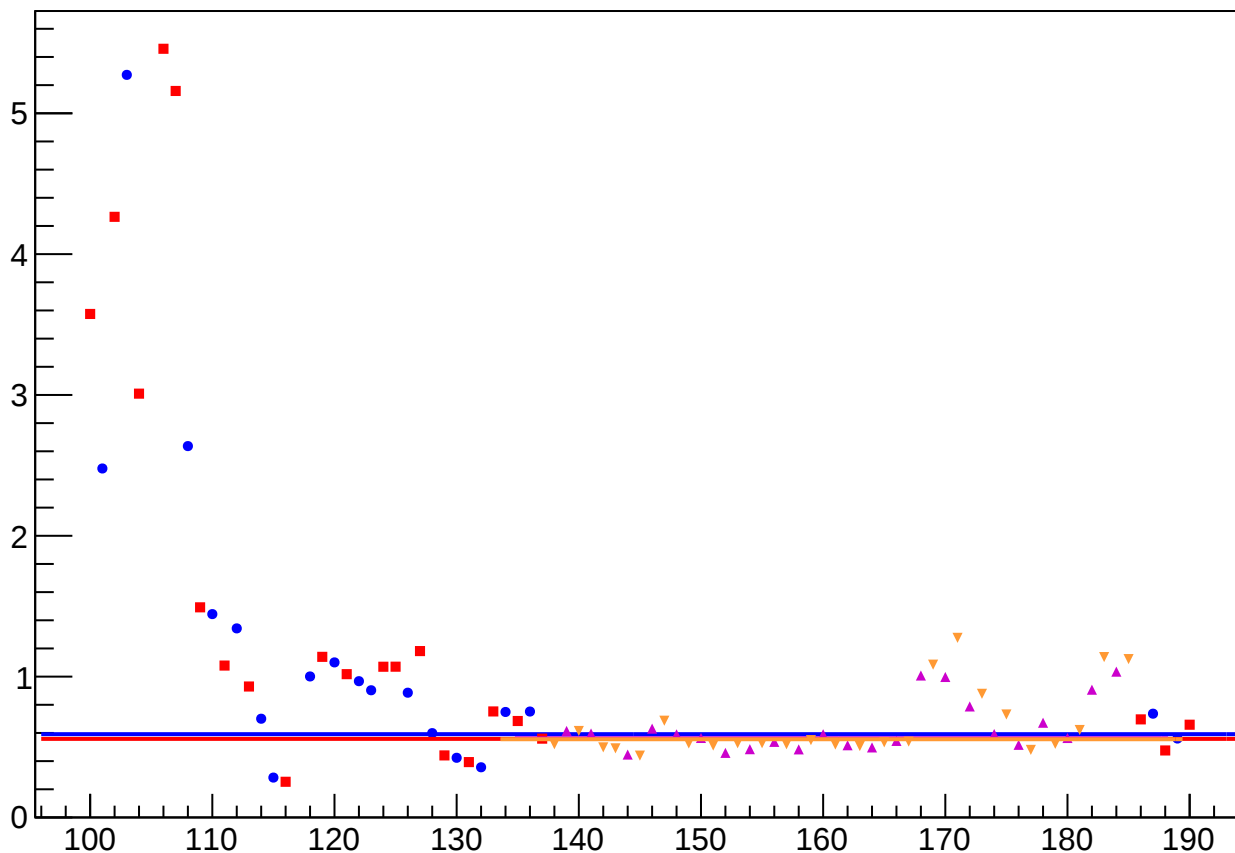
Right: 137.996+/-0.000  $\chi^2/NDF$ : 3100297939.5/40

In: 147.944+/-0.000  $\chi^2/NDF$ : 1926377079.7/41

Out: 146.475+/-0.000  $\chi^2/NDF$ : 4545870354.7/46

All: 147.168+/-0.000  $\chi^2/NDF$ : 6539190457.3

# yield\_cav4cQ\_rms vs Slug, Sign Corrected



Right In: 0.591 $\pm$ 0.000  $\chi^2$ /NDF: 3530878.6/18

Left Out: 0.555 $\pm$ 0.000  $\chi^2$ /NDF:1773688.1/24

Right Out: 0.558 $\pm$ 0.000  $\chi^2$ /NDF: 4728520.2/21

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

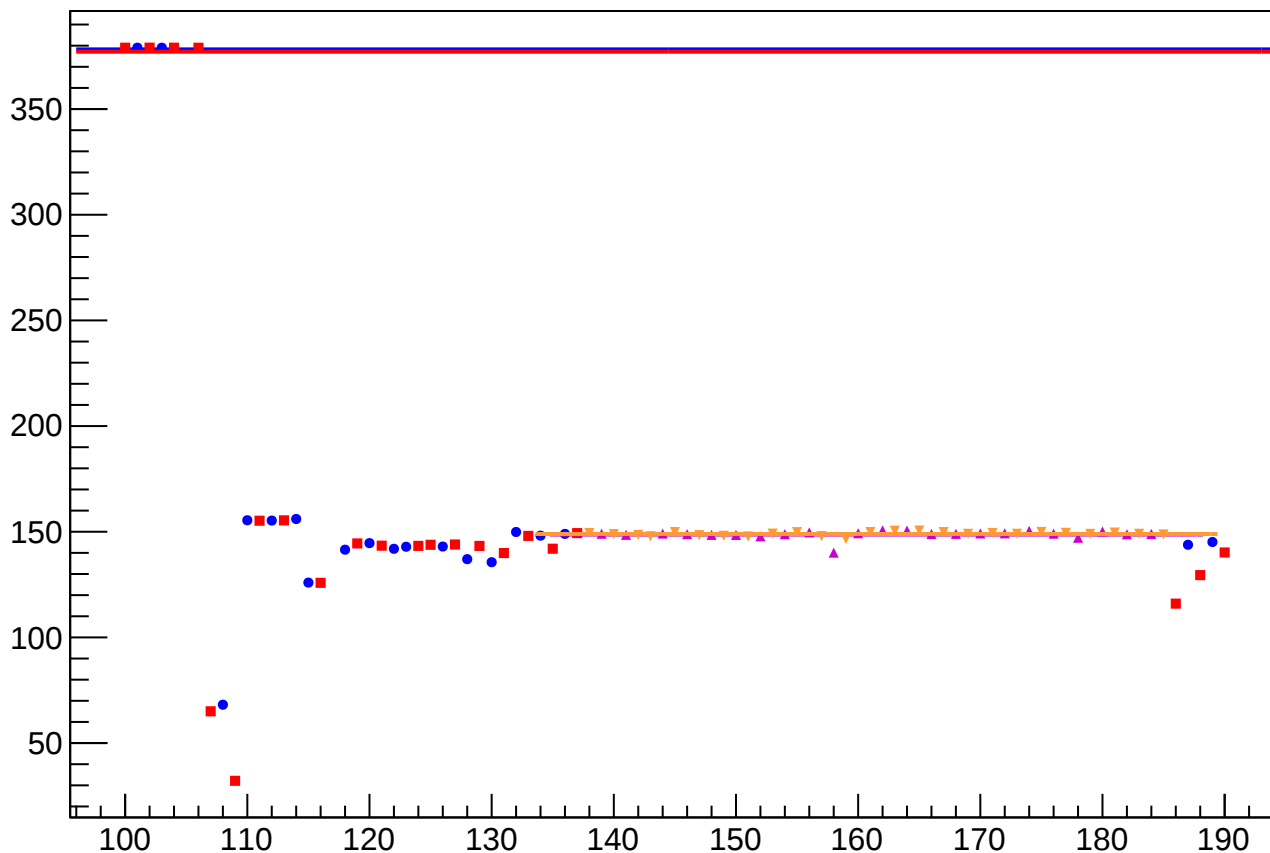
Right: 0.572 $\pm$ 0.000  $\chi^2$ /NDF: 8273947.4/40

In: 0.568 $\pm$ 0.000  $\chi^2$ /NDF:4852681.7/41

Out: 0.556 $\pm$ 0.000  $\chi^2$ /NDF:6502349.2/46

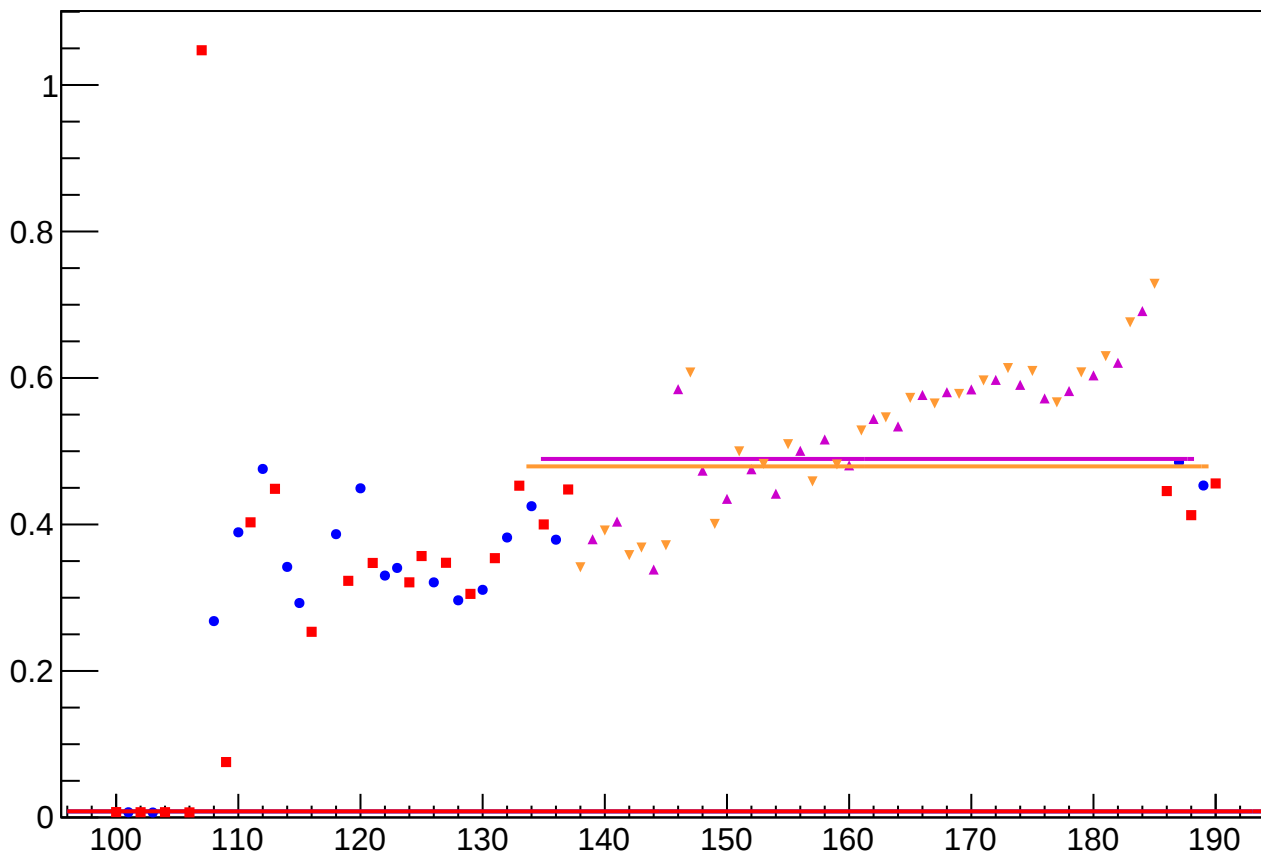
All: 0.561 $\pm$ 0.000  $\chi^2$ /NDF: 11363268.5/88

# yield\_cav4dQ\_mean vs Slug, Sign Corrected



|                            |                                          |                        |                                          |
|----------------------------|------------------------------------------|------------------------|------------------------------------------|
| Right In: 378.239+/-0.000  | $\chi^2/\text{NDF}$ : 2643167195669.4/18 | Left: 148.814+/-0.000  | $\chi^2/\text{NDF}$ : 319467494.9/47     |
| Left Out: 148.944+/-0.000  | $\chi^2/\text{NDF}$ : 63976941.3/24      | Right: 377.660+/-0.000 | $\chi^2/\text{NDF}$ : 11445592563393.9   |
| Right Out: 377.153+/-0.000 | $\chi^2/\text{NDF}$ : 8794058219417.1/21 | In: 377.066+/-0.000    | $\chi^2/\text{NDF}$ : 6229548241657.6/47 |
| Left In: 148.672+/-0.000   | $\chi^2/\text{NDF}$ : 252846428.3/22     | Out: 376.036+/-0.000   | $\chi^2/\text{NDF}$ : 12665534123615.6   |
|                            |                                          | All: 376.518+/-0.000   | $\chi^2/\text{NDF}$ : 189026444100.0     |

# yield\_cav4dQ\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 10972410.0/18

Left Out: 0.479+/-0.000  $\chi^2/\text{NDF}$ :1516566.1/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 12441018.4/21

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

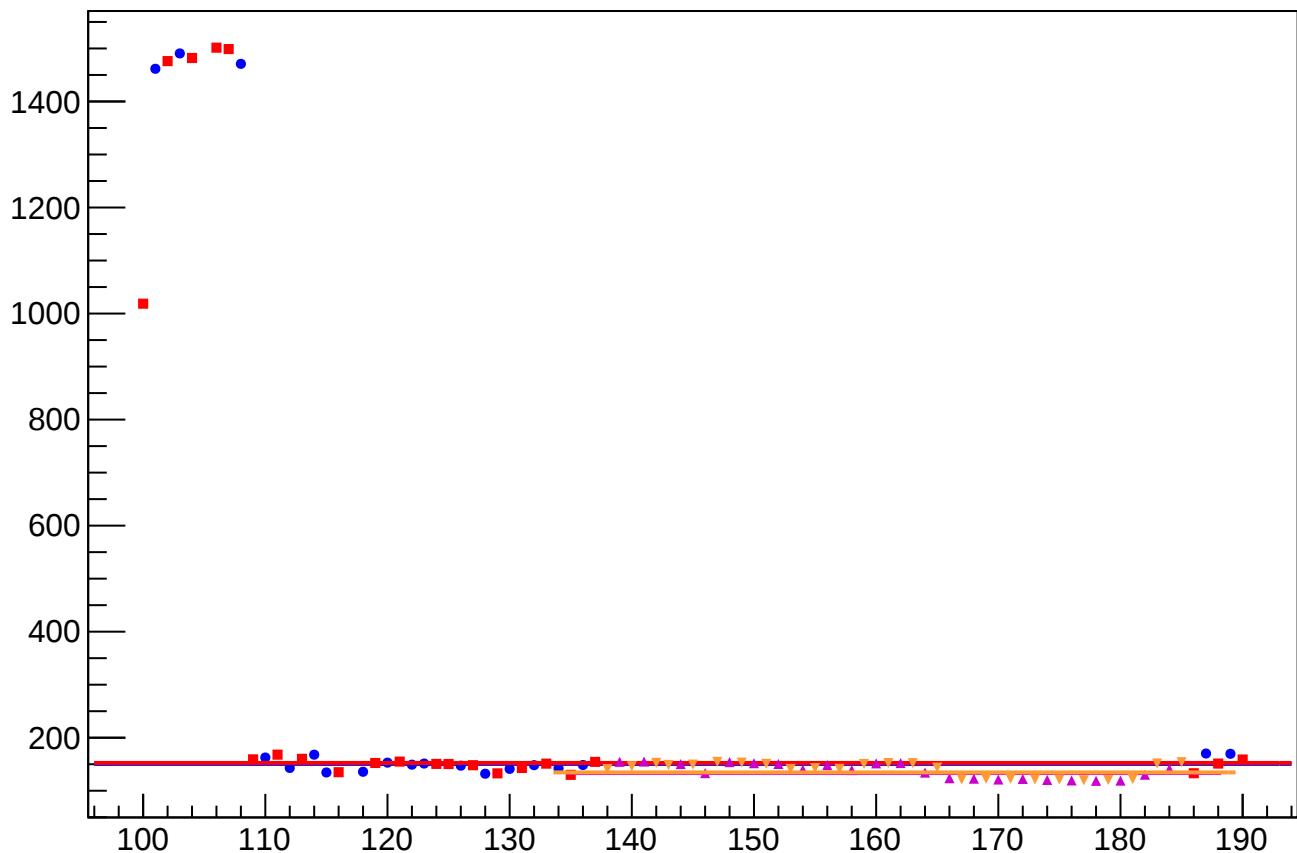
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 23413792.3/40

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :43568318.7/41

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :46929662.8/46

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 90497981.9/88

# yield\_bcm0l02\_mean vs Slug, Sign Corrected



Right In: 150.641+/-0.000  $\chi^2/\text{NDF}$ : 24818171492.3/18

Left Out: 134.554+/-0.000  $\chi^2/\text{NDF}$ : 4376966869.3/24

Right Out: 152.419+/-0.000  $\chi^2/\text{NDF}$ : 33992083449.8/21

Left In: 133.337+/-0.000  $\chi^2/\text{NDF}$ : 4303812119.2/22

Left: 133.958+/-0.000  $\chi^2/\text{NDF}$ : 8697951676.8/47

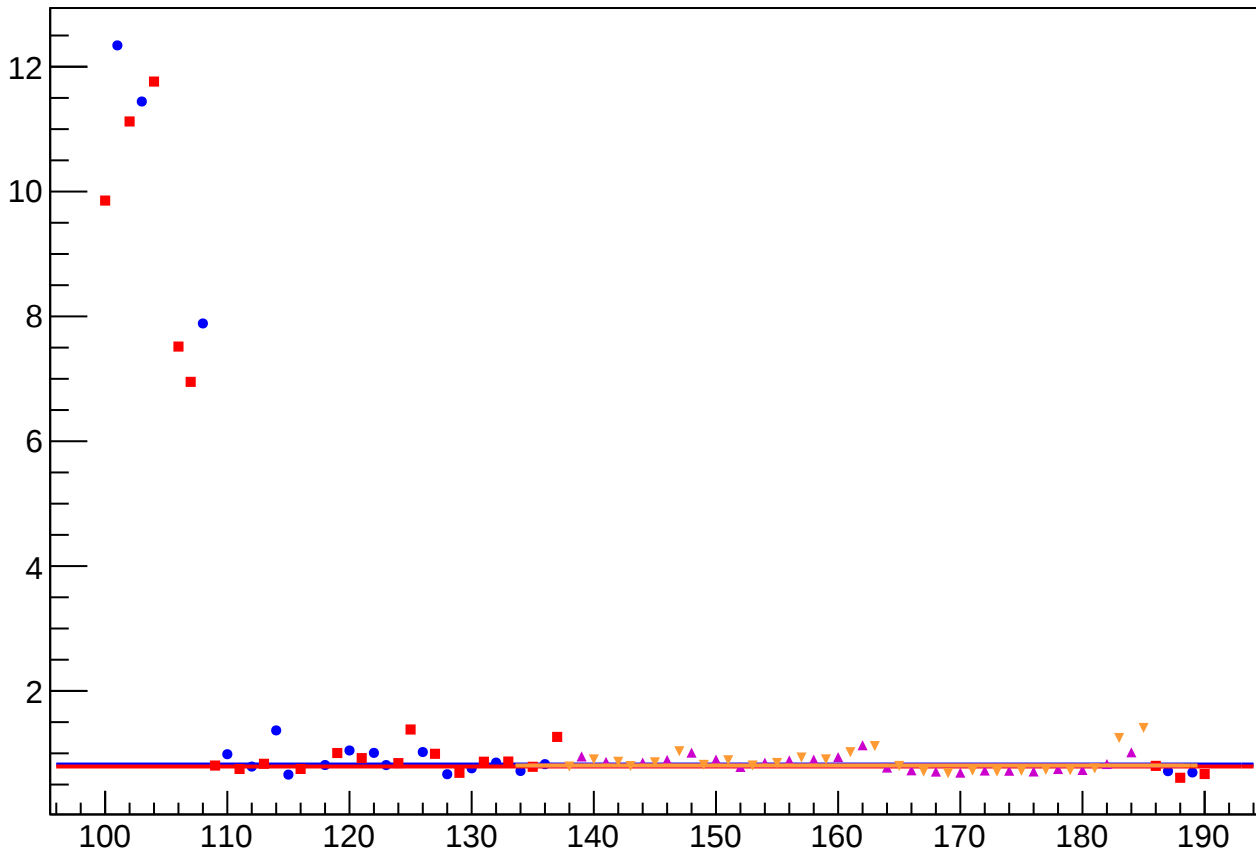
Right: 151.658+/-0.000  $\chi^2/\text{NDF}$ : 58821821438.9/40

In: 137.138+/-0.000  $\chi^2/\text{NDF}$ : 30617443817.2/41

Out: 139.284+/-0.000  $\chi^2/\text{NDF}$ : 40373095320.3/46

All: 138.265+/-0.000  $\chi^2/\text{NDF}$ : 71061070600.0/100

# yield\_bcm0l02\_rms vs Slug, Sign Corrected



Right In: 0.821+/-0.000  $\chi^2/\text{NDF}$ : 2697592.1/18

Left Out: 0.806+/-0.000  $\chi^2/\text{NDF}$ : 690578.5/24

Right Out: 0.789+/-0.000  $\chi^2/\text{NDF}$ : 3064171.8/21

Left In: 0.805+/-0.000  $\chi^2/\text{NDF}$ : 480510.8/22

Left: 0.805+/-0.000  $\chi^2/\text{NDF}$ : 1171131.4/47

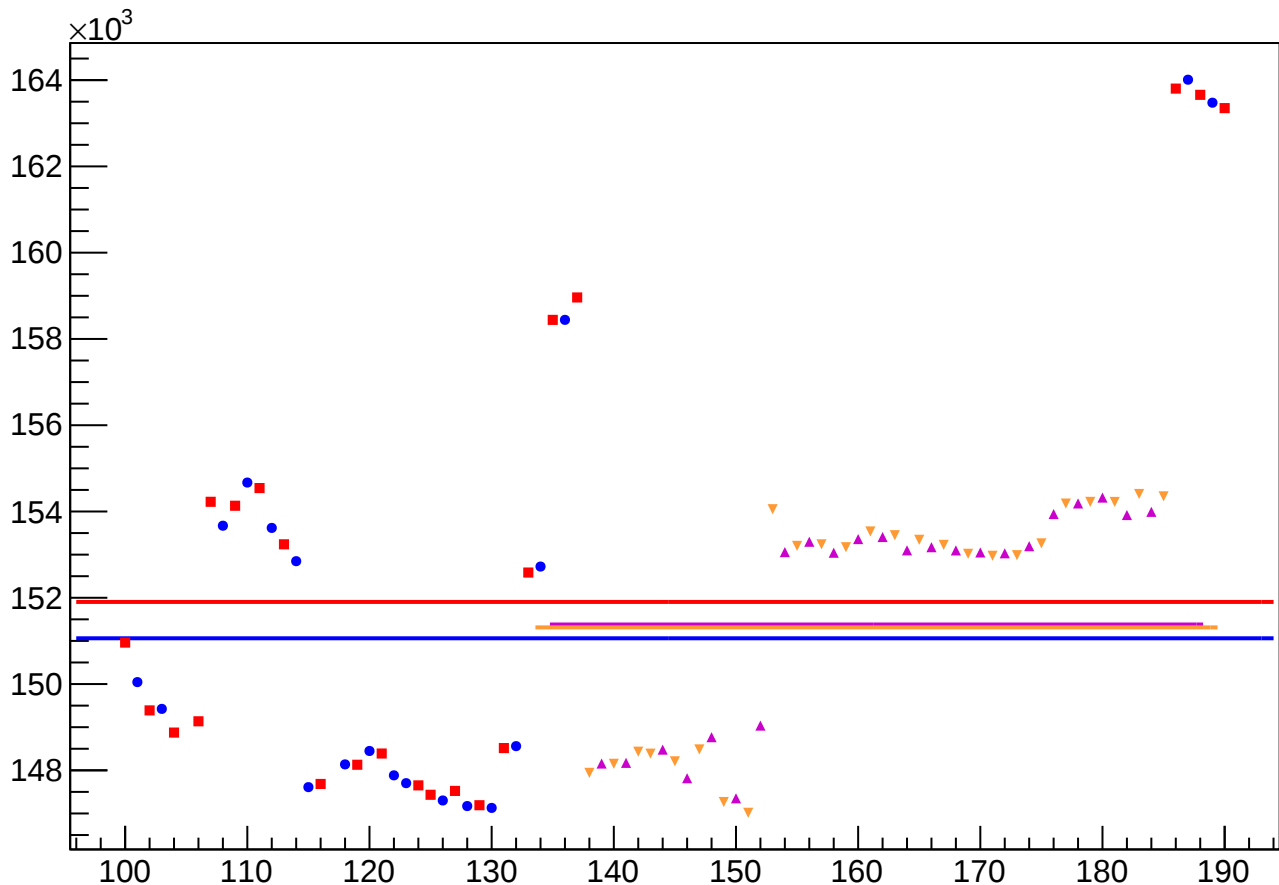
Right: 0.803+/-0.000  $\chi^2/\text{NDF}$ : 5769075.8/40

In: 0.808+/-0.000  $\chi^2/\text{NDF}$ : 3180714.0/41

Out: 0.802+/-0.000  $\chi^2/\text{NDF}$ : 3758290.9/46

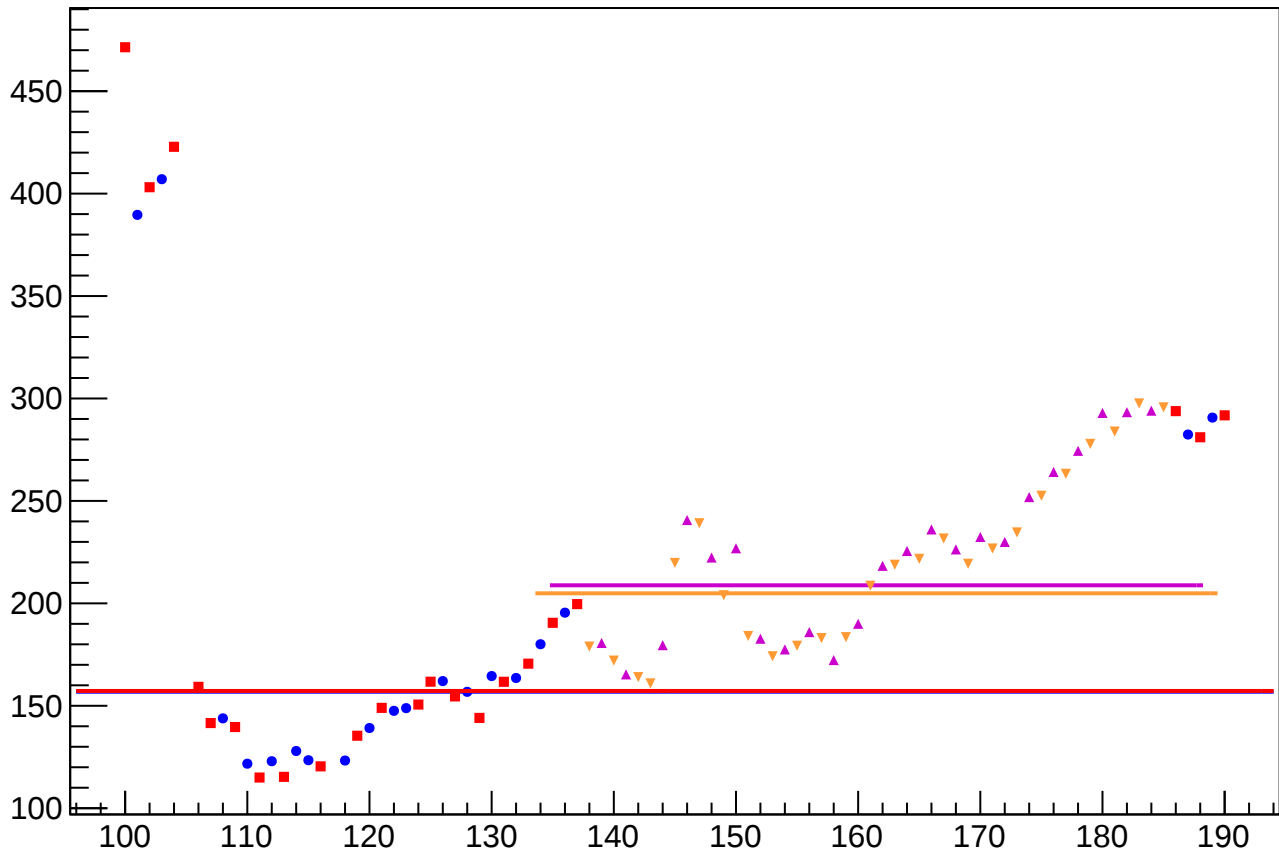
All: 0.805+/-0.000  $\chi^2/\text{NDF}$ : 6940358.9/88

# yield\_bpm0i01WS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                               |
|-----------------------------------|--------------------------------|-------------------------------|-------------------------------|
| Right In: 151060.820 $\pm$ 0.062  | $\chi^2$ /NDF: 4525562323.6/18 | Left: 151345.082 $\pm$ 0.035  | $\chi^2$ /NDF: 5518562148.3/4 |
| Left Out: 151313.284 $\pm$ 0.049  | $\chi^2$ /NDF: 3153768134.8/24 | Right: 151513.421 $\pm$ 0.042 | $\chi^2$ /NDF: 10797744309.0  |
| Right Out: 151903.788 $\pm$ 0.058 | $\chi^2$ /NDF: 6173459249.8/21 | In: 151251.172 $\pm$ 0.040    | $\chi^2$ /NDF: 6905190861.5/4 |
| Left In: 151380.236 $\pm$ 0.051   | $\chi^2$ /NDF: 2363895785.3/22 | Out: 151558.678 $\pm$ 0.037   | $\chi^2$ /NDF: 9388365695.6/4 |
|                                   |                                | All: 151414.128 $\pm$ 0.027   | $\chi^2$ /NDF: 163256462      |

# yield\_bpm0i01WS\_rms vs Slug, Sign Corrected



Right In: 156.878 $\pm$ 0.044  $\chi^2$ /NDF: 1424682.5/18

Left Out: 204.900 $\pm$ 0.034  $\chi^2$ /NDF:1056380.8/24

Right Out: 157.235 $\pm$ 0.041  $\chi^2$ /NDF: 1885710.8/21

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

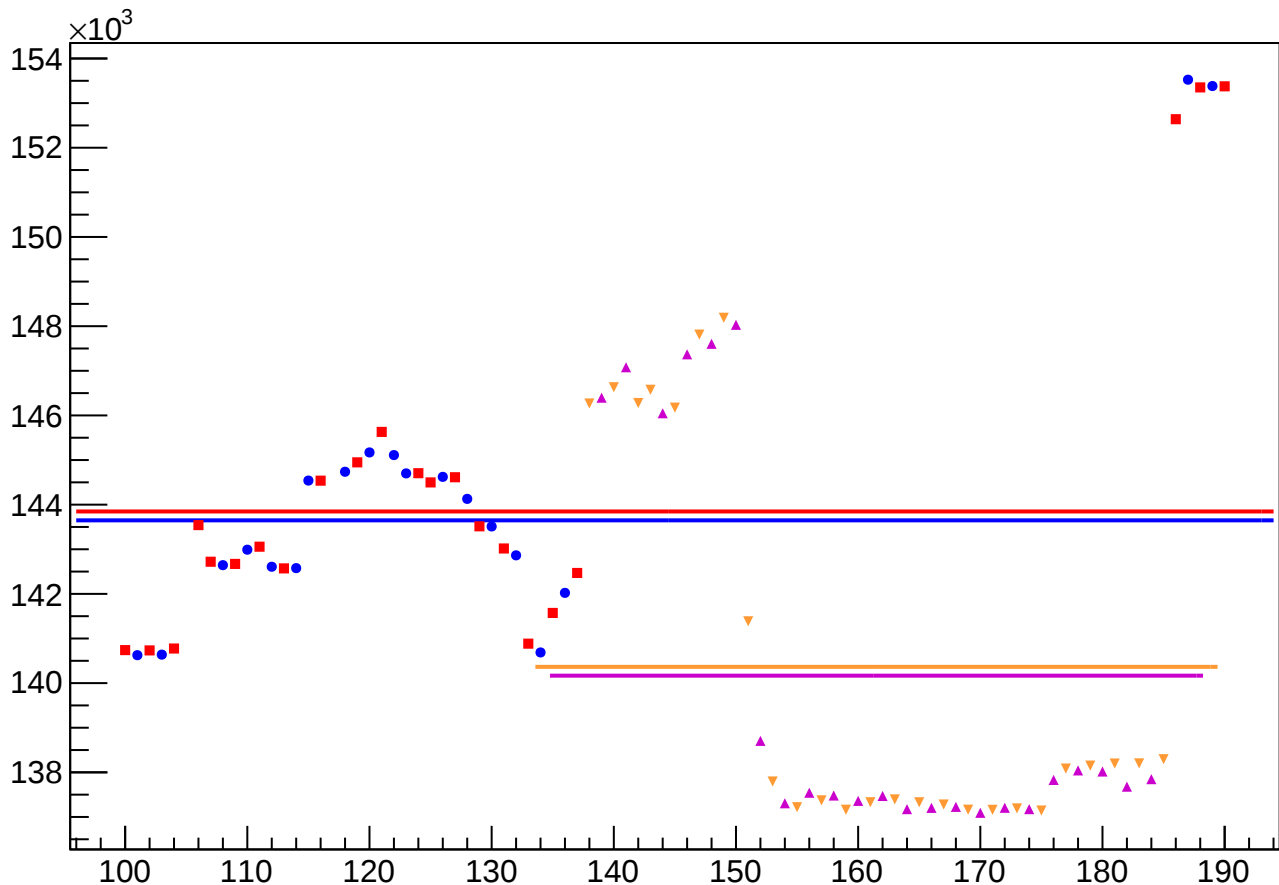
Right: 157.070 $\pm$ 0.030  $\chi^2$ /NDF: 3310428.6/40

In: 187.828 $\pm$ 0.028  $\chi^2$ /NDF:3258433.7/41

Out: 185.092 $\pm$ 0.026  $\chi^2$ /NDF:3738791.1/46

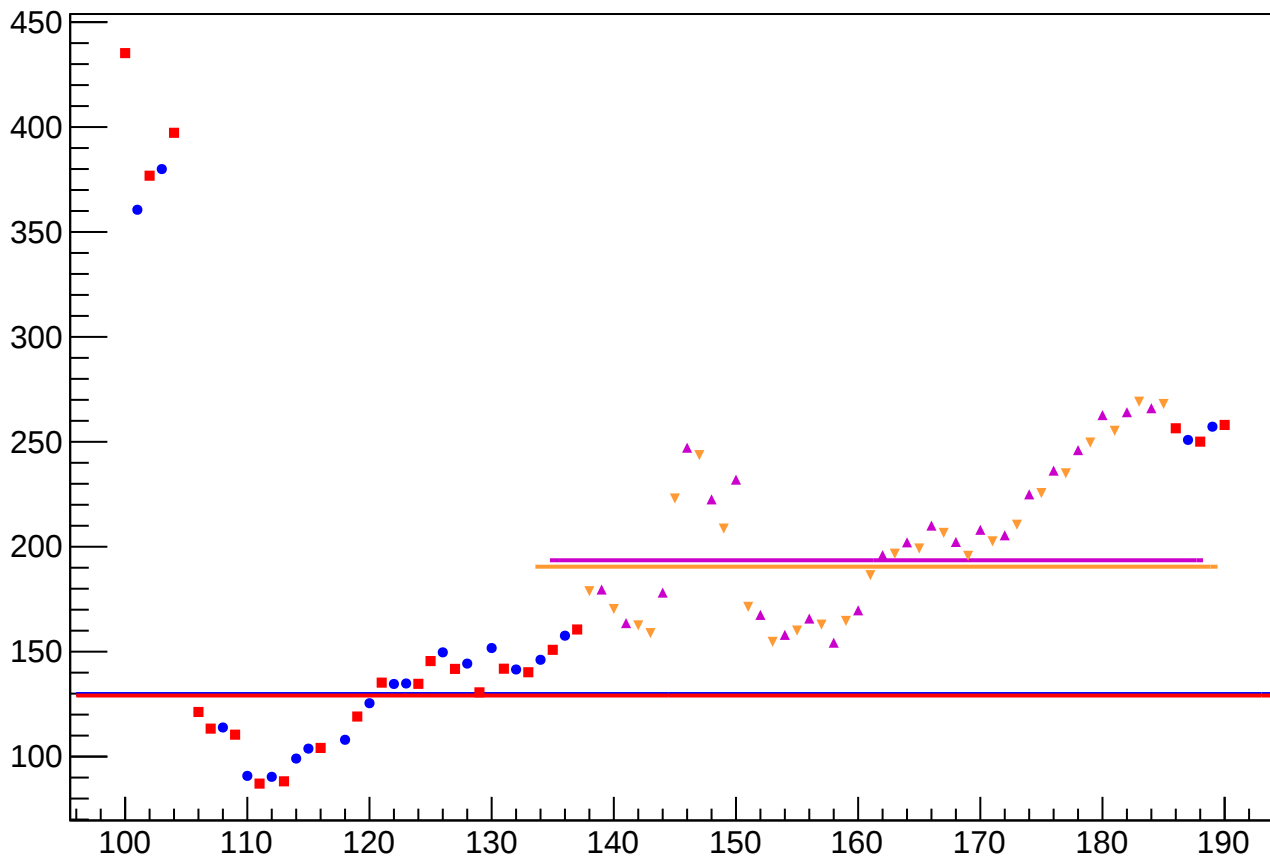
All: 186.378 $\pm$ 0.019  $\chi^2$ /NDF: 7002306.9/88

yield\_bpm0i01aWS\_mean vs Slug, Sign Corrected



Right In: 143648.150 $\pm$ 0.052  $\chi^2$ /NDF: 1464786608.6/18  
 Left Out: 140364.444 $\pm$ 0.045  $\chi^2$ /NDF: 8677078677.7/24  
 Right Out: 143847.317 $\pm$ 0.048  $\chi^2$ /NDF: 2923850743.2/21  
 Left In: 140166.971 $\pm$ 0.047  $\chi^2$ /NDF: 8028464654.6/22  
 Left: 140270.460 $\pm$ 0.033  $\chi^2$ /NDF: 16714620354.4  
 Right: 143756.504 $\pm$ 0.035  $\chi^2$ /NDF: 4396588127.4  
 In: 141745.328 $\pm$ 0.035  $\chi^2$ /NDF: 11933702587.3/4  
 Out: 142013.080 $\pm$ 0.033  $\chi^2$ /NDF: 14409202979.7  
 All: 141888.129 $\pm$ 0.024  $\chi^2$ /NDF: 263739749

# yield\_bpm0i01aWS\_rms vs Slug, Sign Corrected



Right In: 129.806 $\pm$ 0.037  $\chi^2$ /NDF: 1755599.5/18

Left Out: 190.486 $\pm$ 0.032  $\chi^2$ /NDF:950233.2/24

Right Out: 129.106 $\pm$ 0.034  $\chi^2$ /NDF: 2274996.7/21

Left In: 193.558 $\pm$ 0.034  $\chi^2$ /NDF:963675.0/22

Left: 191.948 $\pm$ 0.023  $\chi^2$ /NDF: 1918302.4/47

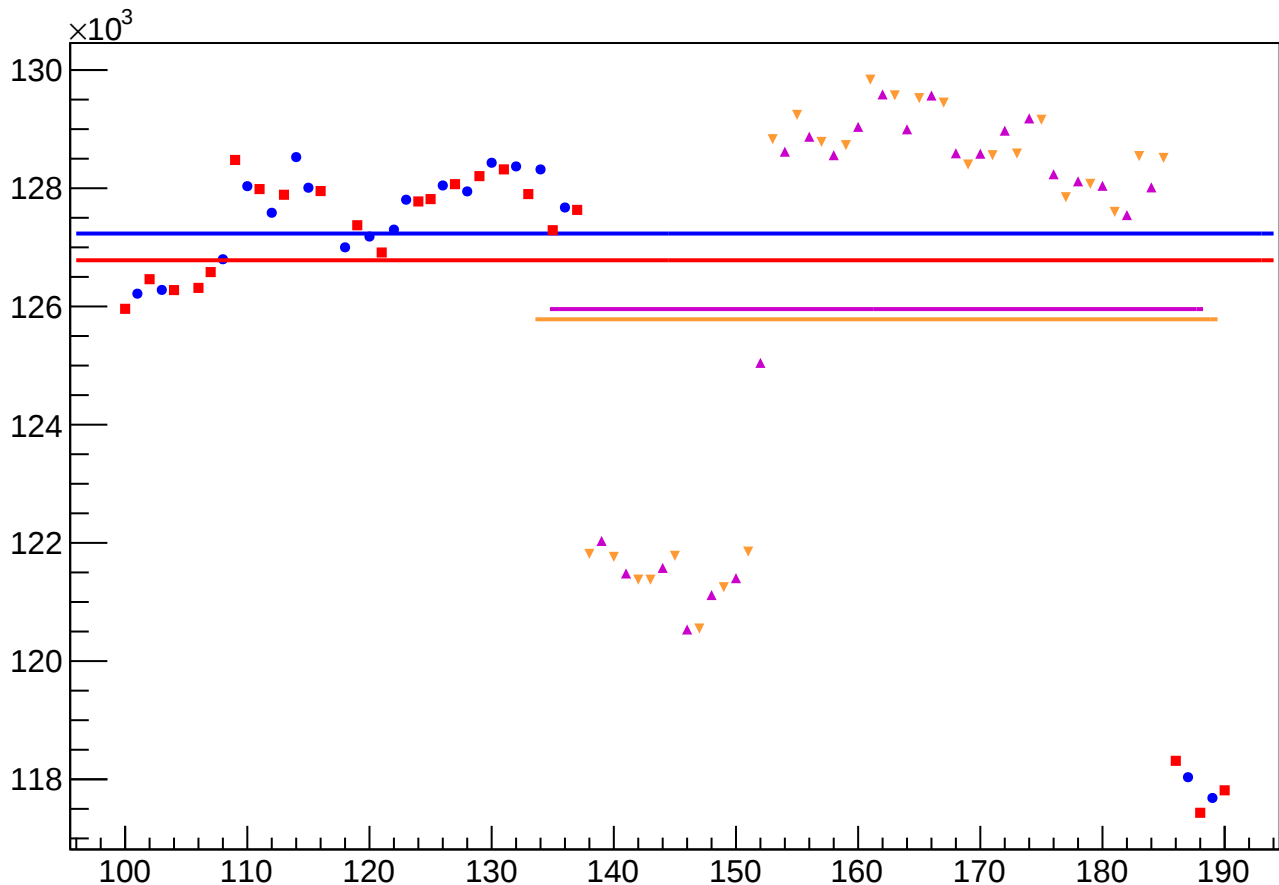
Right: 129.426 $\pm$ 0.025  $\chi^2$ /NDF: 4030792.6/40

In: 164.653 $\pm$ 0.025  $\chi^2$ /NDF:4356220.1/41

Out: 161.432 $\pm$ 0.023  $\chi^2$ /NDF:4969611.0/46

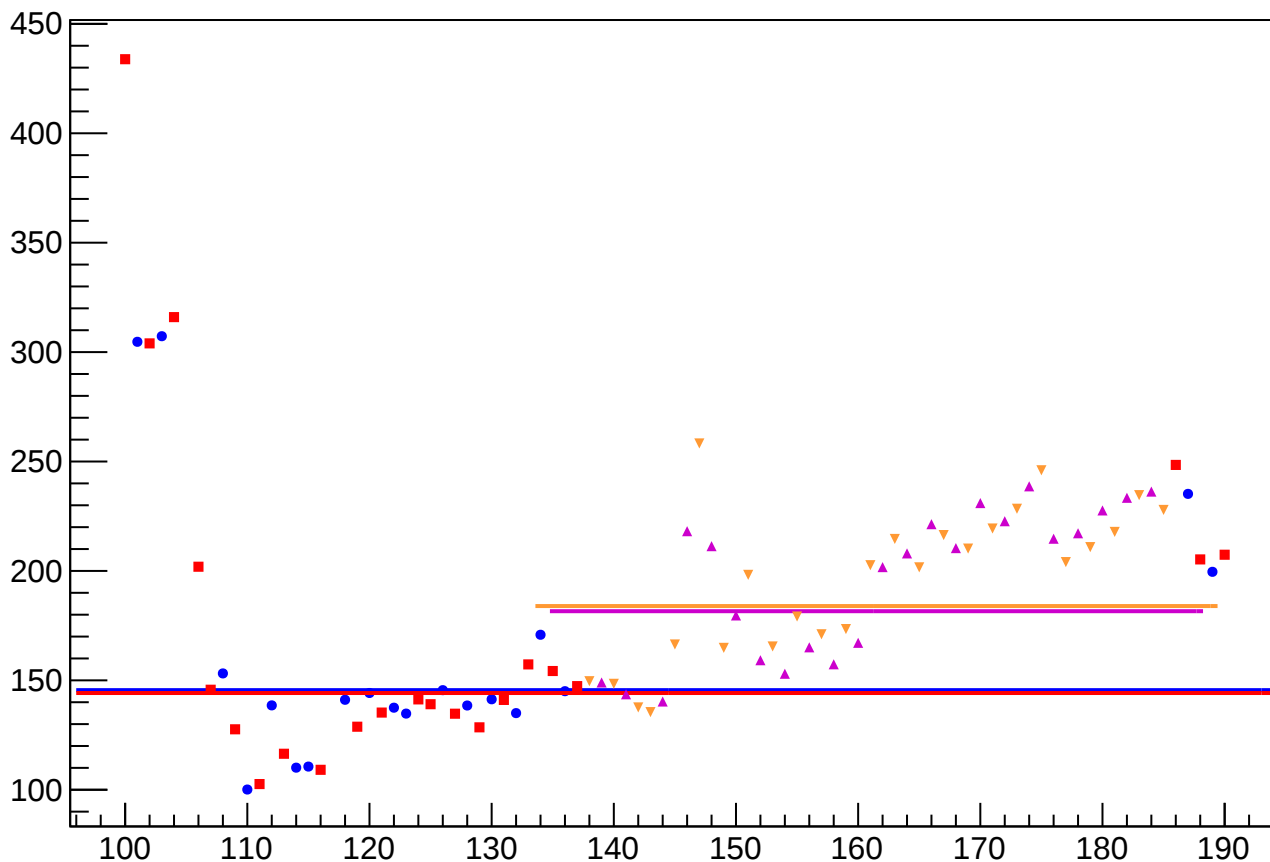
All: 162.935 $\pm$ 0.017  $\chi^2$ /NDF: 9334827.2/88

# yield\_bpm0l01WS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                                 |
|-----------------------------------|--------------------------------|-------------------------------|---------------------------------|
| Right In: 127233.704 $\pm$ 0.057  | $\chi^2$ /NDF: 1483224911.0/18 | Left: 125867.639 $\pm$ 0.031  | $\chi^2$ /NDF: 12541428458.9/18 |
| Left Out: 125782.764 $\pm$ 0.044  | $\chi^2$ /NDF: 6729761889.8/24 | Right: 126987.522 $\pm$ 0.038 | $\chi^2$ /NDF: 4817611568.3/24  |
| Right Out: 126781.639 $\pm$ 0.052 | $\chi^2$ /NDF: 3299871682.4/21 | In: 126446.044 $\pm$ 0.035    | $\chi^2$ /NDF: 7599521104.6/41  |
| Left In: 125955.637 $\pm$ 0.045   | $\chi^2$ /NDF: 5804088930.1/22 | Out: 126200.242 $\pm$ 0.034   | $\chi^2$ /NDF: 10244996614.4/22 |
|                                   |                                | All: 126317.414 $\pm$ 0.024   | $\chi^2$ /NDF: 178700726/22     |

# yield\_bpm0l01WS\_rms vs Slug, Sign Corrected



Right In: 145.520 $\pm$ 0.040  $\chi^2$ /NDF: 953791.6/18

Left Out: 183.947 $\pm$ 0.031  $\chi^2$ /NDF:1123194.0/24

Right Out: 144.207 $\pm$ 0.037  $\chi^2$ /NDF: 1341901.0/21

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

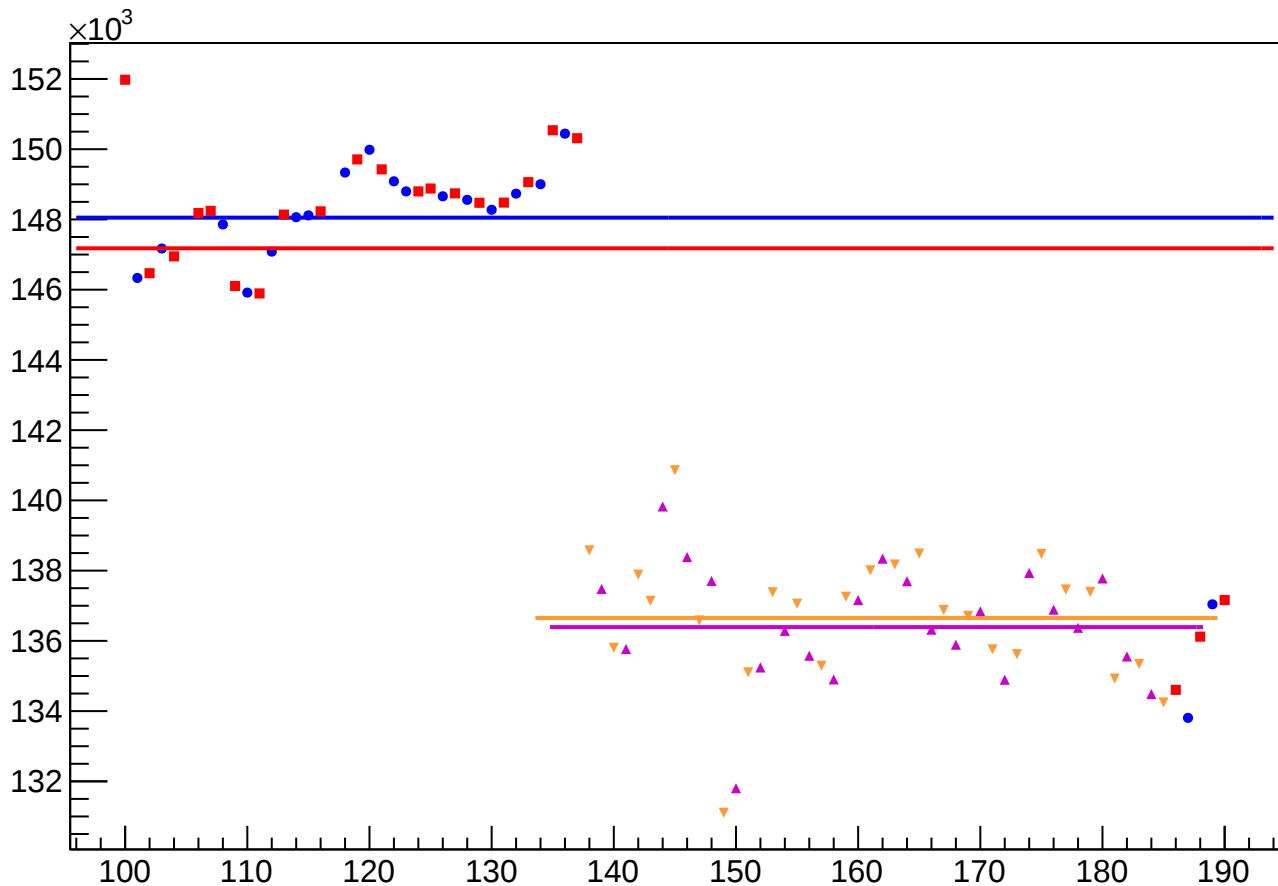
Right: 144.805 $\pm$ 0.027  $\chi^2$ /NDF: 2296274.8/40

In: 167.753 $\pm$ 0.025  $\chi^2$ /NDF:2554820.4/41

Out: 167.338 $\pm$ 0.024  $\chi^2$ /NDF:3146844.8/46

All: 167.536 $\pm$ 0.017  $\chi^2$ /NDF: 5701811.3/88

# yield\_bpm0l02WS\_mean vs Slug, Sign Corrected



Right In: 148050.653 $\pm$ 0.081

$\chi^2$ /NDF: 1086051846.7/18

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: 147570.541 $\pm$ 0.054

$\chi^2$ /NDF: 3810304826.7/4

Right Out: 147178.374 $\pm$ 0.073

$\chi^2$ /NDF: 2659853431.6/21

In: 141066.077 $\pm$ 0.051

$\chi^2$ /NDF: 14309820684.2/4

Out: 141284.822 $\pm$ 0.048

$\chi^2$ /NDF: 15270845912.7/4

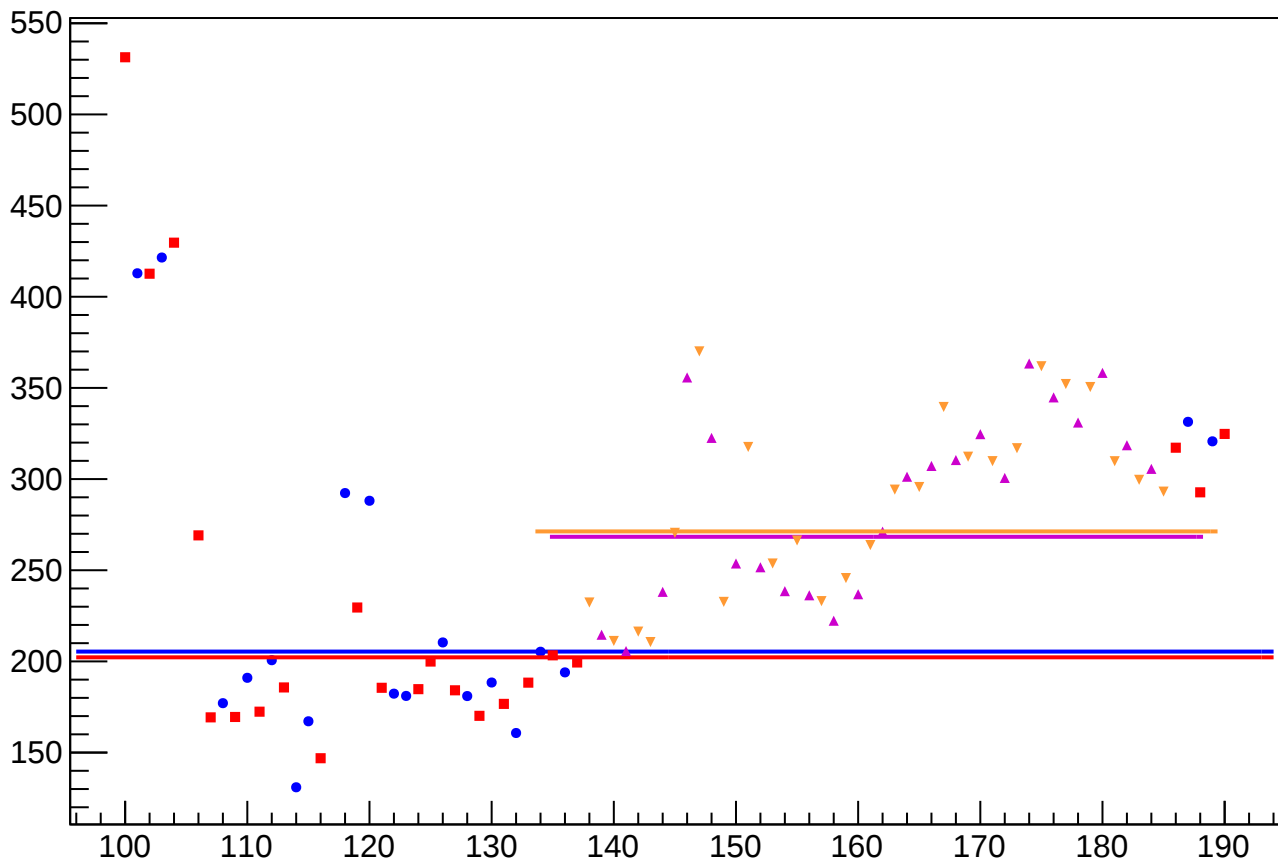
Left In: 136392.188 $\pm$ 0.066

$\chi^2$ /NDF: 701986841.4/22

All: 141181.398 $\pm$ 0.035

$\chi^2$ /NDF: 295903425/4

# yield\_bpm0l02WS\_rms vs Slug, Sign Corrected



Right In: 205.388 $\pm$ 0.057  $\chi^2$ /NDF: 1109628.3/18

Left Out: 271.295 $\pm$ 0.046  $\chi^2$ /NDF:1064485.7/24

Right Out: 202.233 $\pm$ 0.052  $\chi^2$ /NDF: 1242475.2/21

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

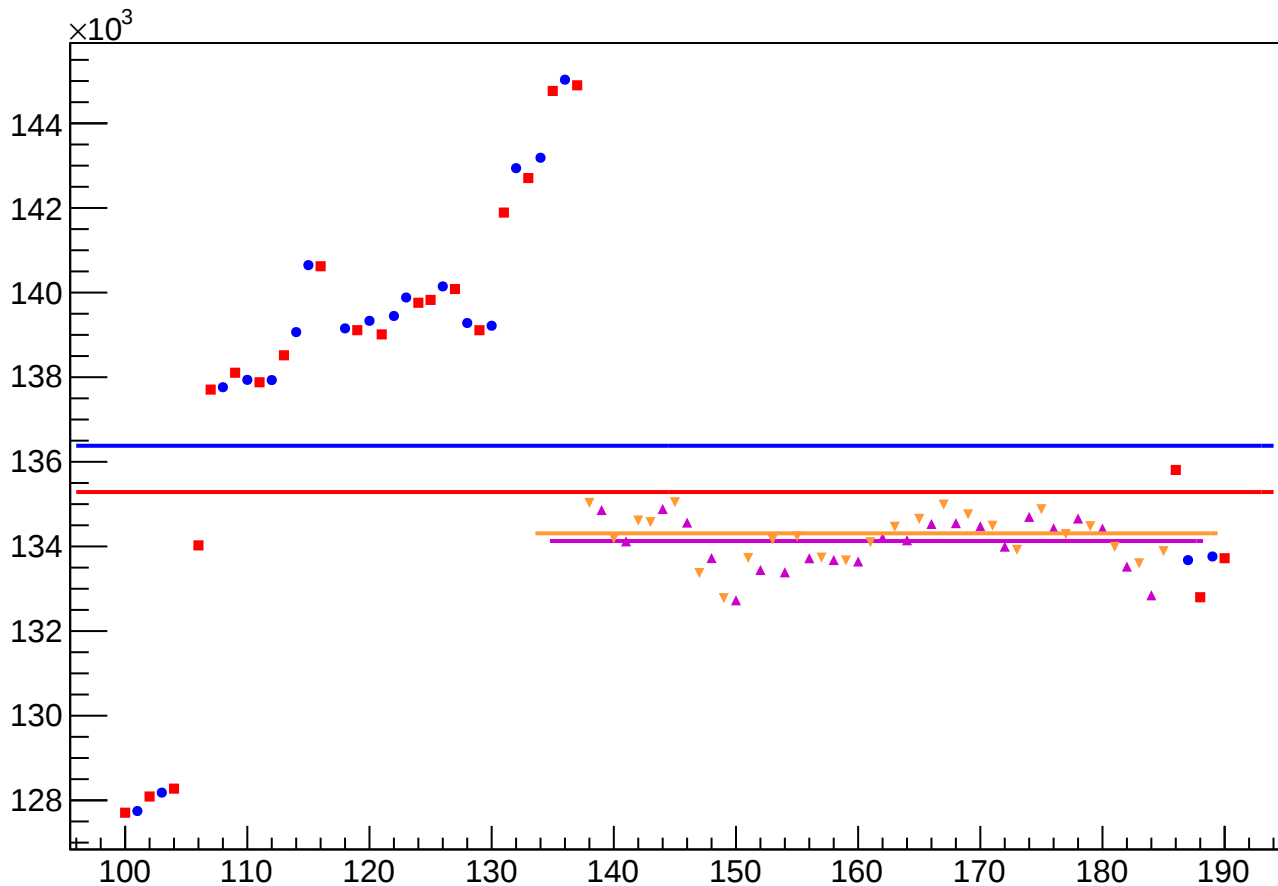
Right: 203.652 $\pm$ 0.038  $\chi^2$ /NDF: 2353788.6/40

In: 243.105 $\pm$ 0.036  $\chi^2$ /NDF:2917249.4/41

Out: 240.896 $\pm$ 0.034  $\chi^2$ /NDF:3312307.7/46

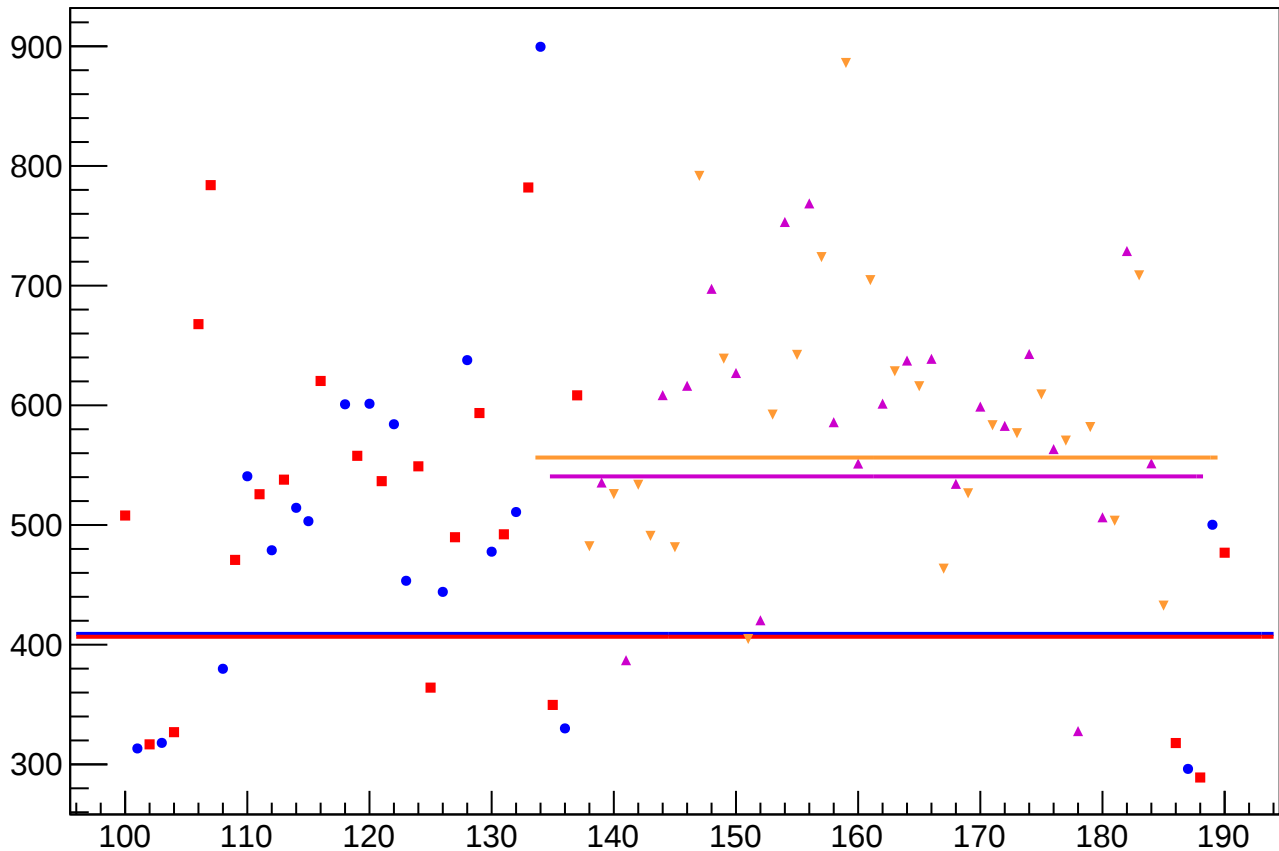
All: 241.940 $\pm$ 0.025  $\chi^2$ /NDF: 6231530.0/88

# yield\_bpm0l03WS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                                |
|-----------------------------------|--------------------------------|-------------------------------|--------------------------------|
| Right In: 136379.623 $\pm$ 0.165  | $\chi^2$ /NDF: 1514148225.9/18 | Left: 134221.438 $\pm$ 0.099  | $\chi^2$ /NDF: 31894688.0/47   |
| Left Out: 134310.250 $\pm$ 0.139  | $\chi^2$ /NDF: 15518632.9/24   | Right: 135795.507 $\pm$ 0.113 | $\chi^2$ /NDF: 2685731359.5/18 |
| Right Out: 135286.172 $\pm$ 0.154 | $\chi^2$ /NDF: 1148190064.7/21 | In: 135084.492 $\pm$ 0.108    | $\chi^2$ /NDF: 1636480320.8/47 |
| Left In: 134128.172 $\pm$ 0.142   | $\chi^2$ /NDF: 15533736.2/22   | Out: 134745.907 $\pm$ 0.103   | $\chi^2$ /NDF: 1185855311.9/47 |
|                                   |                                | All: 134907.816 $\pm$ 0.074   | $\chi^2$ /NDF: 282749380.0/100 |

# yield\_bpm0l03WS\_rms vs Slug, Sign Corrected



Right In: 409.026 $\pm$ 0.117  $\chi^2$ /NDF: 886222.9/18

Left Out: 556.381 $\pm$ 0.098  $\chi^2$ /NDF:1002064.0/24

Right Out: 406.623 $\pm$ 0.109  $\chi^2$ /NDF: 1275046.5/21

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

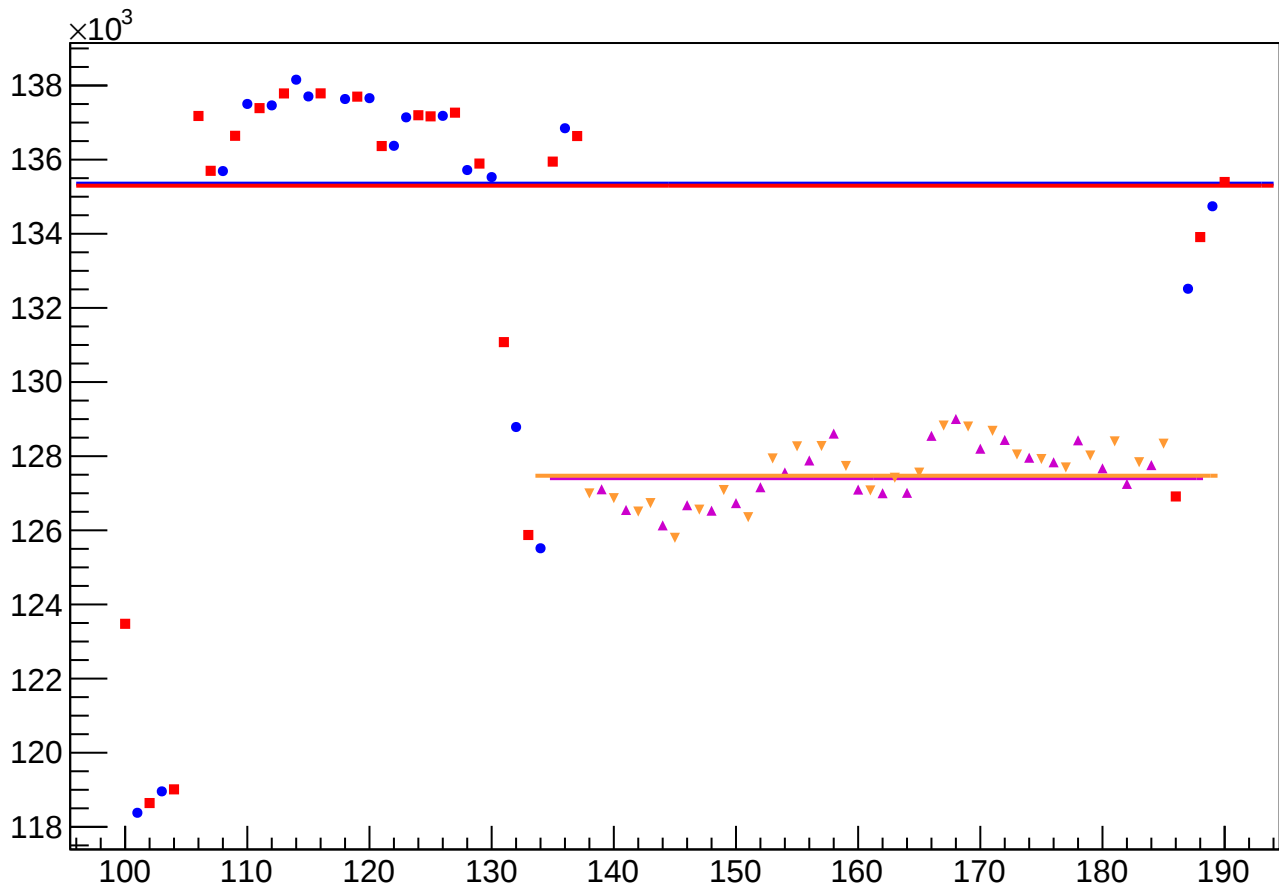
Right: 407.742 $\pm$ 0.080  $\chi^2$ /NDF: 2161495.3/40

In: 484.717 $\pm$ 0.076  $\chi^2$ /NDF:3024792.8/41

Out: 489.529 $\pm$ 0.073  $\chi^2$ /NDF:3320120.9/46

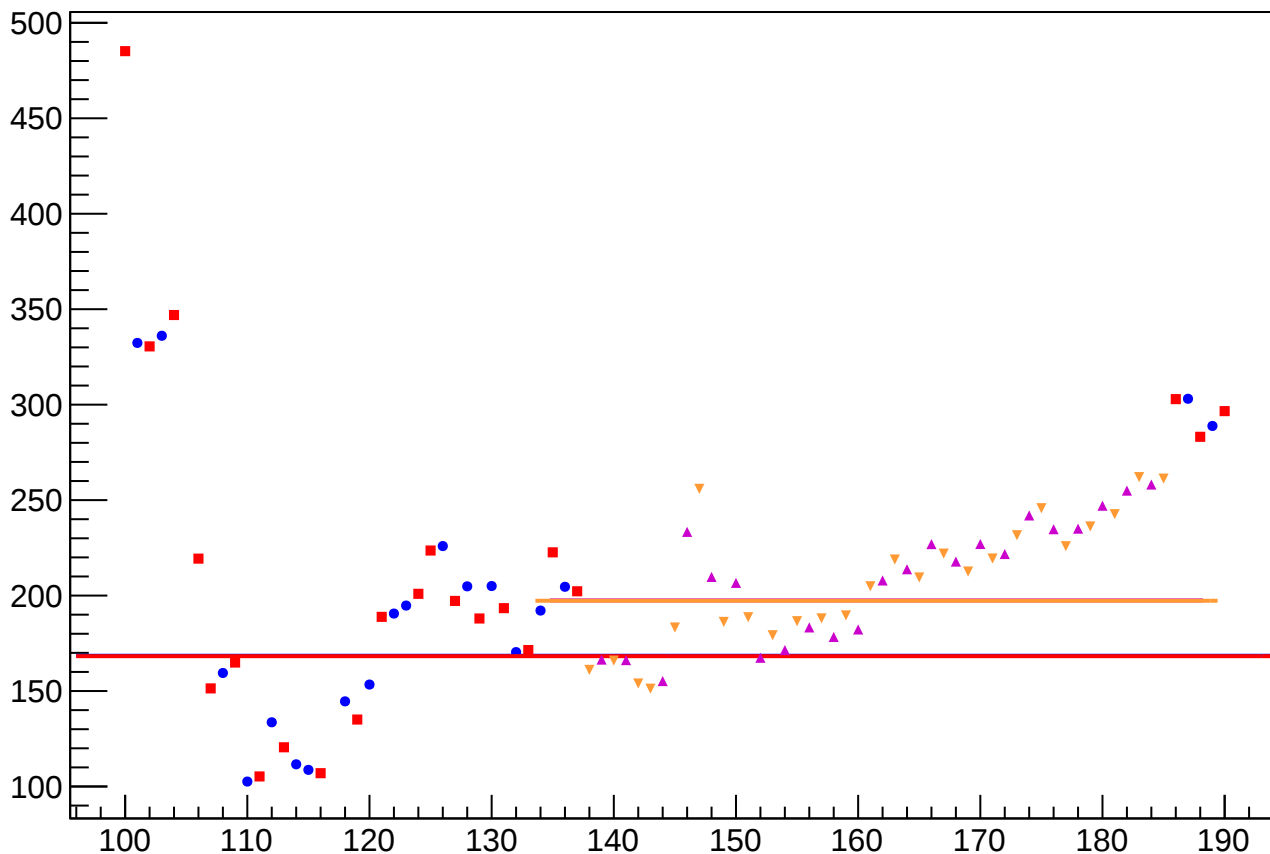
All: 487.228 $\pm$ 0.053  $\chi^2$ /NDF: 6346997.2/88

# yield\_bpm0l04WS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                                 |
|-----------------------------------|--------------------------------|-------------------------------|---------------------------------|
| Right In: 135351.987 $\pm$ 0.067  | $\chi^2$ /NDF: 4593381631.5/18 | Left: 127440.757 $\pm$ 0.034  | $\chi^2$ /NDF: 574486725.7/47   |
| Left Out: 127472.525 $\pm$ 0.047  | $\chi^2$ /NDF: 303609315.6/24  | Right: 135322.639 $\pm$ 0.046 | $\chi^2$ /NDF: 9644854275.0/18  |
| Right Out: 135297.642 $\pm$ 0.062 | $\chi^2$ /NDF: 5051119631.7/21 | In: 130117.073 $\pm$ 0.039    | $\chi^2$ /NDF: 14069128156.4/47 |
| Left In: 127406.911 $\pm$ 0.048   | $\chi^2$ /NDF: 269927988.0/22  | Out: 130315.049 $\pm$ 0.037   | $\chi^2$ /NDF: 15486113439.3/18 |
|                                   |                                | All: 130220.884 $\pm$ 0.027   | $\chi^2$ /NDF: 2956857772.0/18  |

# yield\_bpm0l04WS\_rms vs Slug, Sign Corrected



Right In: 168.472 $\pm$ 0.048  $\chi^2$ /NDF: 1459115.1/18

Left Out: 197.289 $\pm$ 0.033  $\chi^2$ /NDF: 852024.1/24

Right Out: 168.258 $\pm$ 0.044  $\chi^2$ /NDF: 1978628.7/21

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

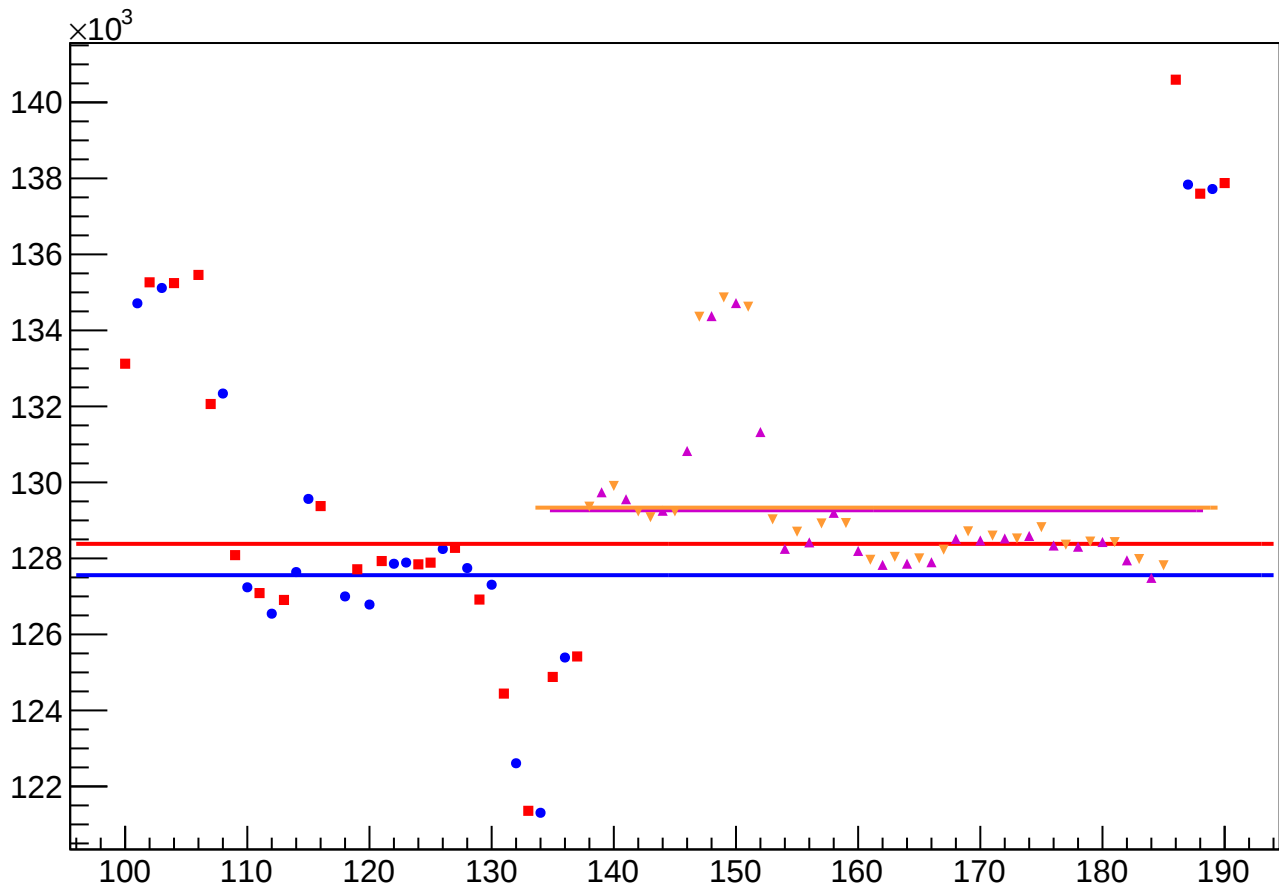
Right: 168.356 $\pm$ 0.032  $\chi^2$ /NDF: 3437754.7/40

In: 187.579 $\pm$ 0.028  $\chi^2$ /NDF: 2495972.3/41

Out: 186.743 $\pm$ 0.026  $\chi^2$ /NDF: 3109554.8/46

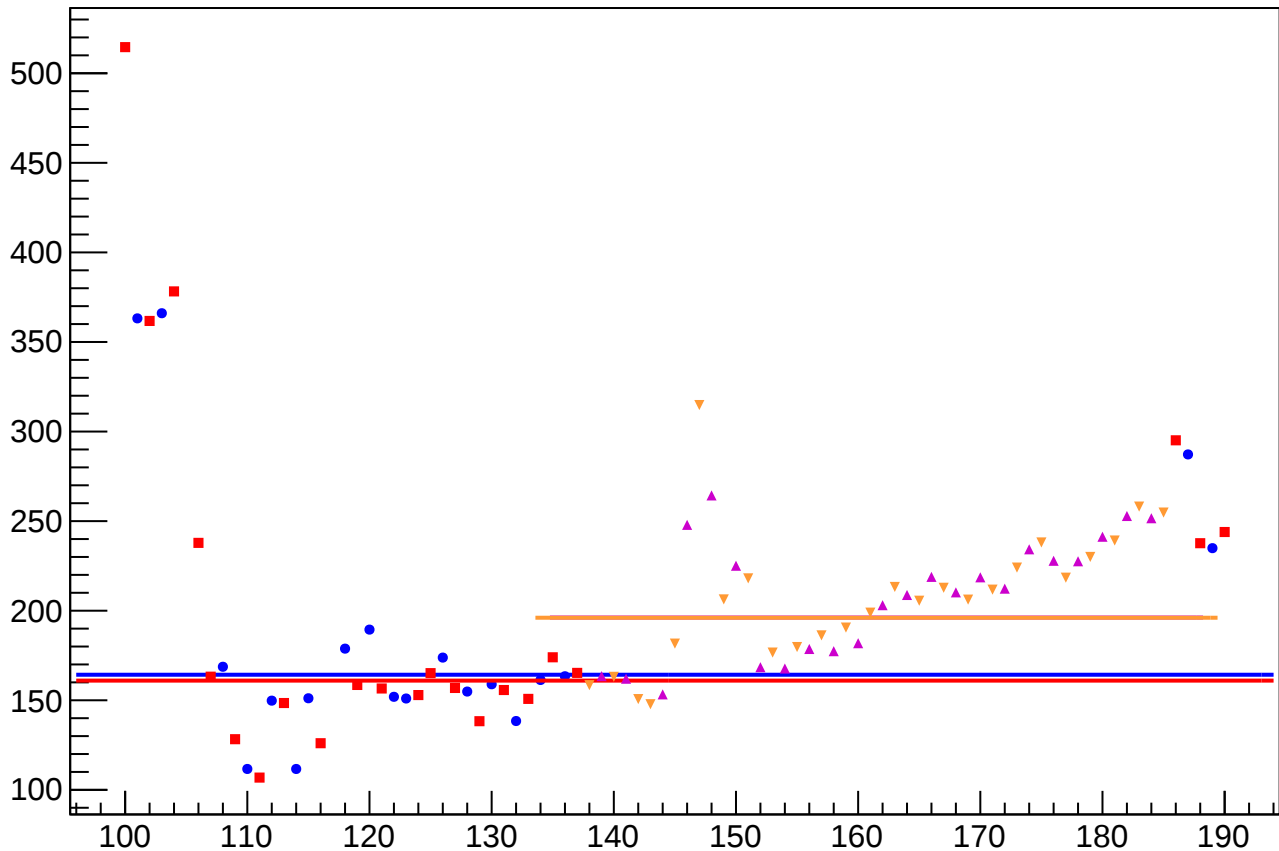
All: 187.141 $\pm$ 0.019  $\chi^2$ /NDF: 5606002.2/88

yield\_bpm0l05WS\_mean vs Slug, Sign Corrected



|                                   |                                       |                               |                                       |
|-----------------------------------|---------------------------------------|-------------------------------|---------------------------------------|
| Right In: 127558.755 $\pm$ 0.065  | $\chi^2/\text{NDF}$ : 2852224167.3/18 | Left: 129302.466 $\pm$ 0.034  | $\chi^2/\text{NDF}$ : 2665755007.2/18 |
| Left Out: 129335.946 $\pm$ 0.047  | $\chi^2/\text{NDF}$ : 1450933621.0/24 | Right: 128011.884 $\pm$ 0.044 | $\chi^2/\text{NDF}$ : 7743291618.8/24 |
| Right Out: 128383.041 $\pm$ 0.059 | $\chi^2/\text{NDF}$ : 4802536224.9/21 | In: 128661.052 $\pm$ 0.039    | $\chi^2/\text{NDF}$ : 4512282618.4/21 |
| Left In: 129266.909 $\pm$ 0.048   | $\chi^2/\text{NDF}$ : 1213762773.1/22 | Out: 128966.992 $\pm$ 0.037   | $\chi^2/\text{NDF}$ : 6414492217.9/22 |
|                                   |                                       | All: 128822.569 $\pm$ 0.027   | $\chi^2/\text{NDF}$ : 109597972.0/27  |

# yield\_bpm0l05WS\_rms vs Slug, Sign Corrected



Right In: 164.258 $\pm$ 0.046  $\chi^2$ /NDF: 1088589.0/18

Left Out: 196.077 $\pm$ 0.033  $\chi^2$ /NDF: 975710.9/24

Right Out: 160.978 $\pm$ 0.042  $\chi^2$ /NDF: 1541306.2/21

Left In: 196.186 $\pm$ 0.034  $\chi^2$ /NDF: 898058.0/22

Left: 196.130 $\pm$ 0.024  $\chi^2$ /NDF: 1873774.2/47

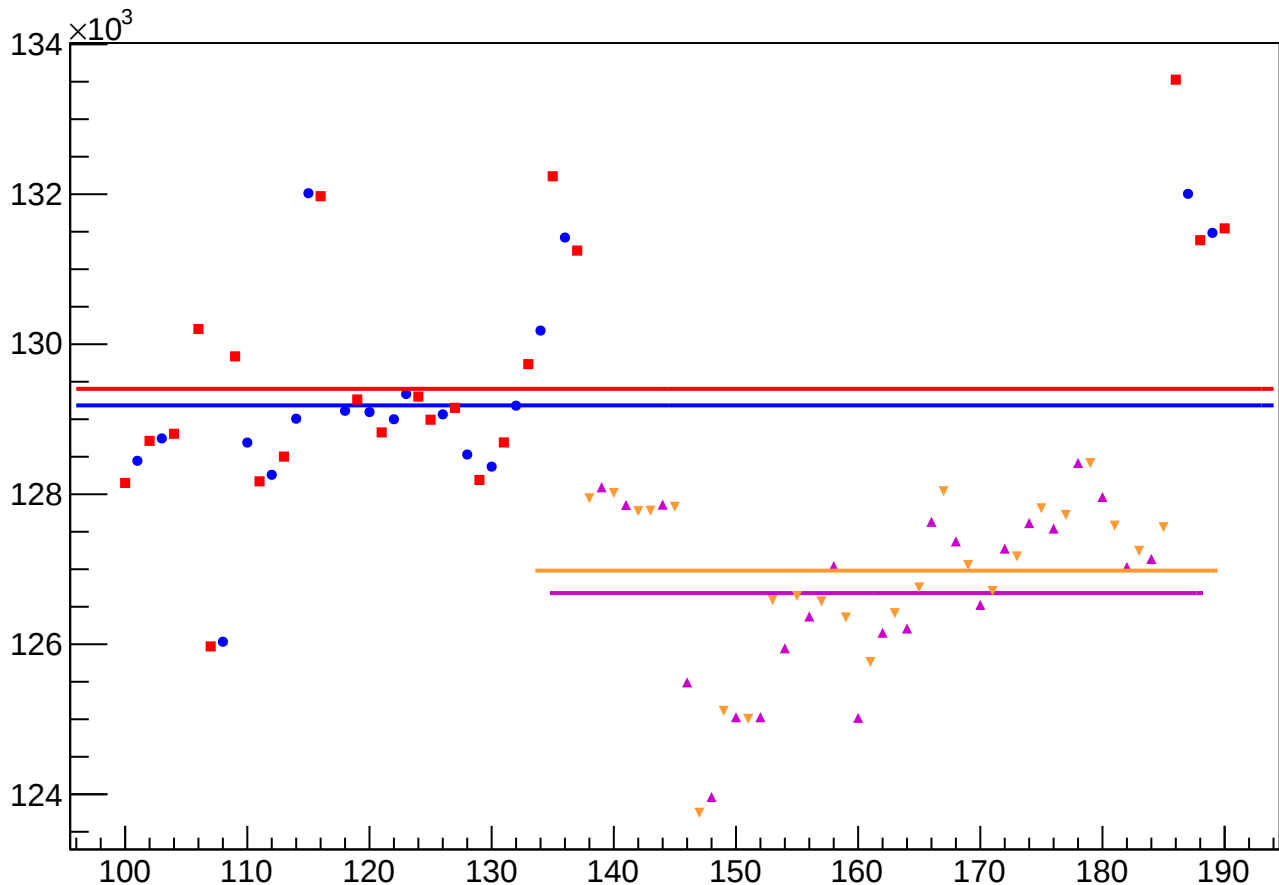
Right: 162.455 $\pm$ 0.031  $\chi^2$ /NDF: 2632699.2/40

In: 184.862 $\pm$ 0.027  $\chi^2$ /NDF: 2298494.8/41

Out: 182.487 $\pm$ 0.026  $\chi^2$ /NDF: 2953953.1/46

All: 183.608 $\pm$ 0.019  $\chi^2$ /NDF: 5256426.2/88

yield\_bpm0l06WS\_mean vs Slug, Sign Corrected



Right In: 129184.747 $\pm$ 0.059  $\chi^2$ /NDF: 554854803.8/18

Left Out: 126981.724 $\pm$ 0.046  $\chi^2$ /NDF: 530573115.8/24

Right Out: 129405.451 $\pm$ 0.054  $\chi^2$ /NDF: 825053308.5/21

Left In: 126682.659 $\pm$ 0.047  $\chi^2$ /NDF: 660415880.0/22

Left: 126836.943 $\pm$ 0.033  $\chi^2$ /NDF: 1211882944.2/4

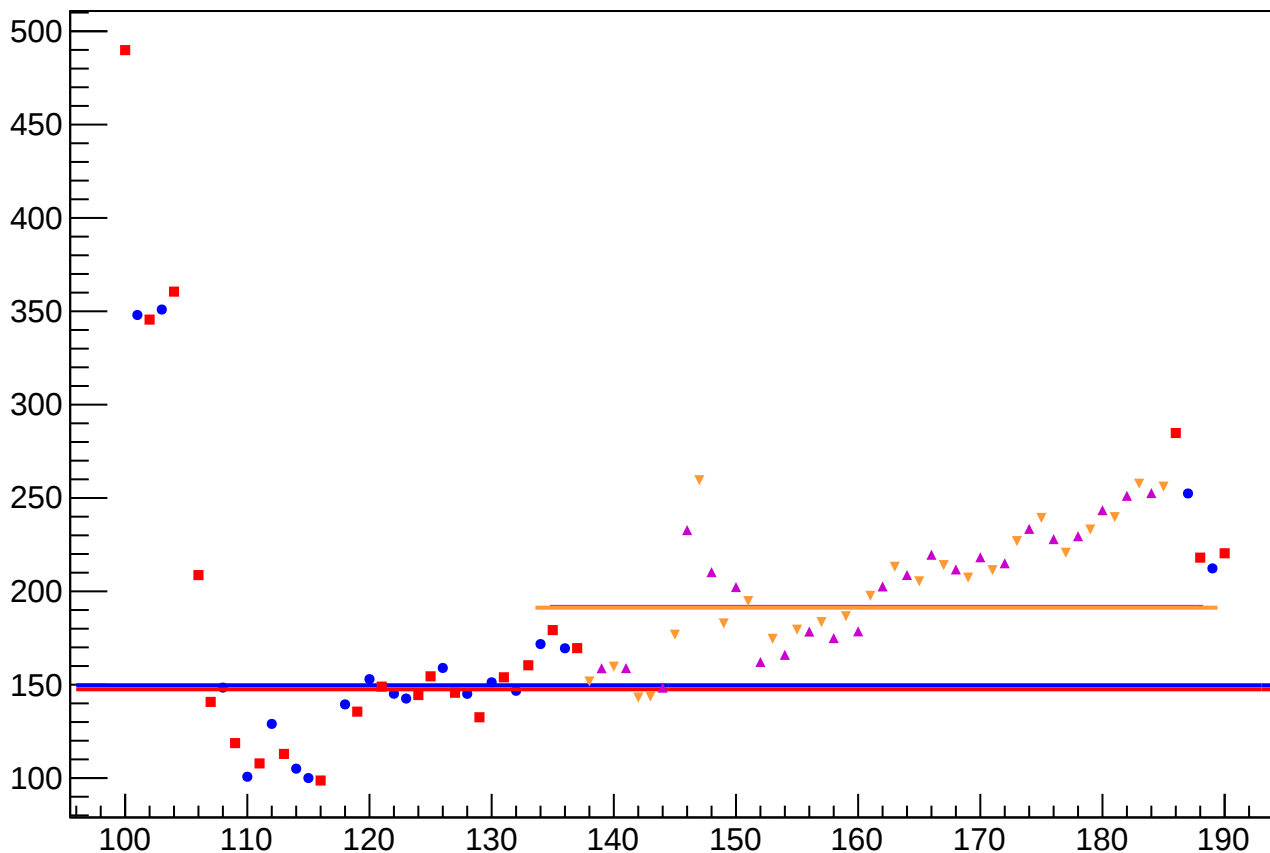
Right: 129305.388 $\pm$ 0.040  $\chi^2$ /NDF: 1387583789.6/4

In: 127655.928 $\pm$ 0.037  $\chi^2$ /NDF: 2318009112.3/4

Out: 127996.511 $\pm$ 0.035  $\chi^2$ /NDF: 2542500701.6/4

All: 127835.866 $\pm$ 0.025  $\chi^2$ /NDF: 490592809.6/4

# yield\_bpm0l06WS\_rms vs Slug, Sign Corrected



Right In: 149.700 $\pm$ 0.042  $\chi^2$ /NDF: 1205897.7/18

Left Out: 191.263 $\pm$ 0.032  $\chi^2$ /NDF: 992566.2/24

Right Out: 147.518 $\pm$ 0.038  $\chi^2$ /NDF: 1672755.7/21

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

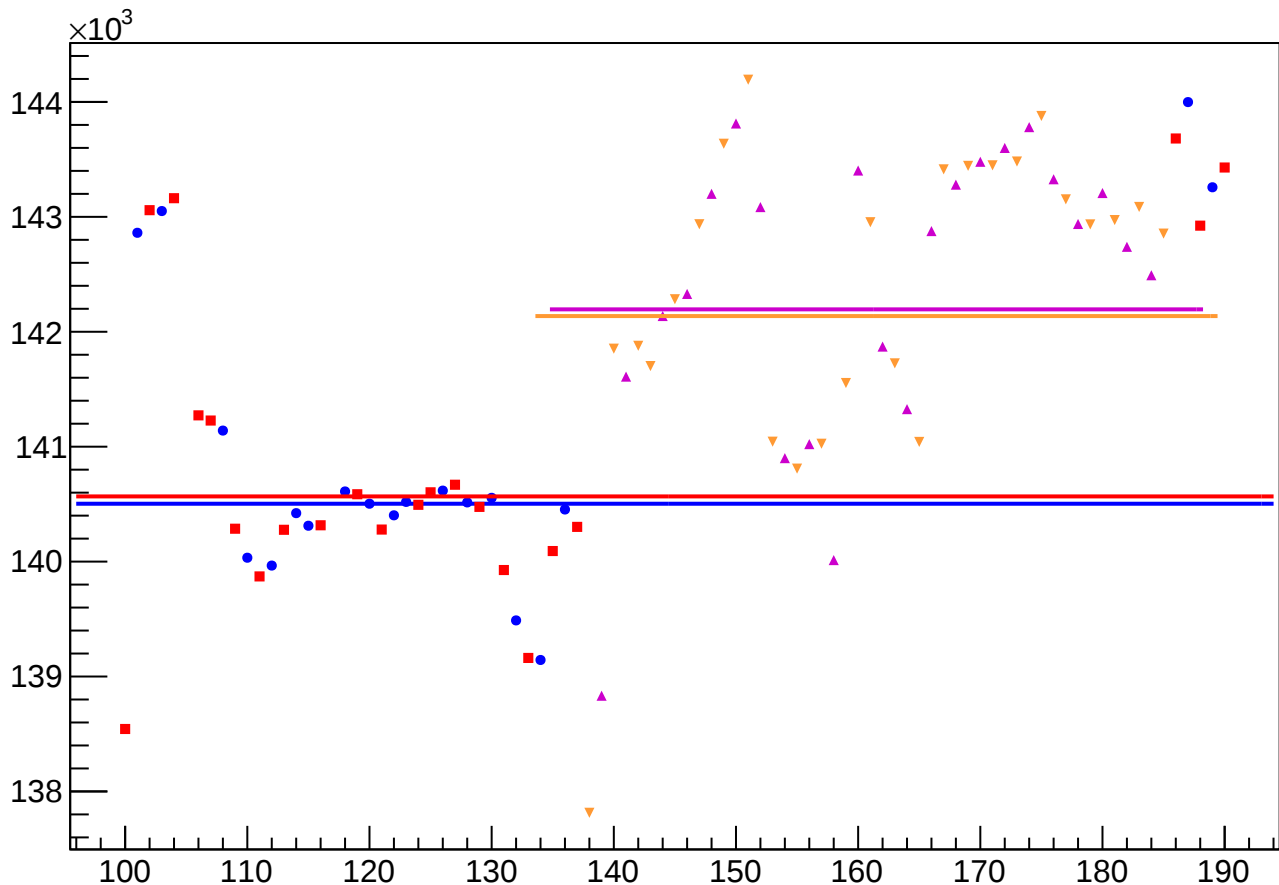
Right: 148.508 $\pm$ 0.028  $\chi^2$ /NDF: 2880154.3/40

In: 175.352 $\pm$ 0.026  $\chi^2$ /NDF: 2691190.5/41

Out: 172.948 $\pm$ 0.025  $\chi^2$ /NDF: 3438576.1/46

All: 174.082 $\pm$ 0.018  $\chi^2$ /NDF: 6134294.8/88

yield\_bpm0l07WS\_mean vs Slug, Sign Corrected



Right In: 140503.554 $\pm$ 0.063

$\chi^2$ /NDF: 163065303.0/18

Left: 142164.953 $\pm$ 0.038

$\chi^2$ /NDF: 1460209902.9/4

Right: 140538.347 $\pm$ 0.043

$\chi^2$ /NDF: 417301620.5/4

Left Out: 142136.579 $\pm$ 0.052

$\chi^2$ /NDF: 815573343.0/24

Right Out: 140567.264 $\pm$ 0.058

$\chi^2$ /NDF: 253684263.0/21

In: 141485.525 $\pm$ 0.041

$\chi^2$ /NDF: 1220753701.3/41

Out: 141429.328 $\pm$ 0.039

$\chi^2$ /NDF: 1474634901.0/4

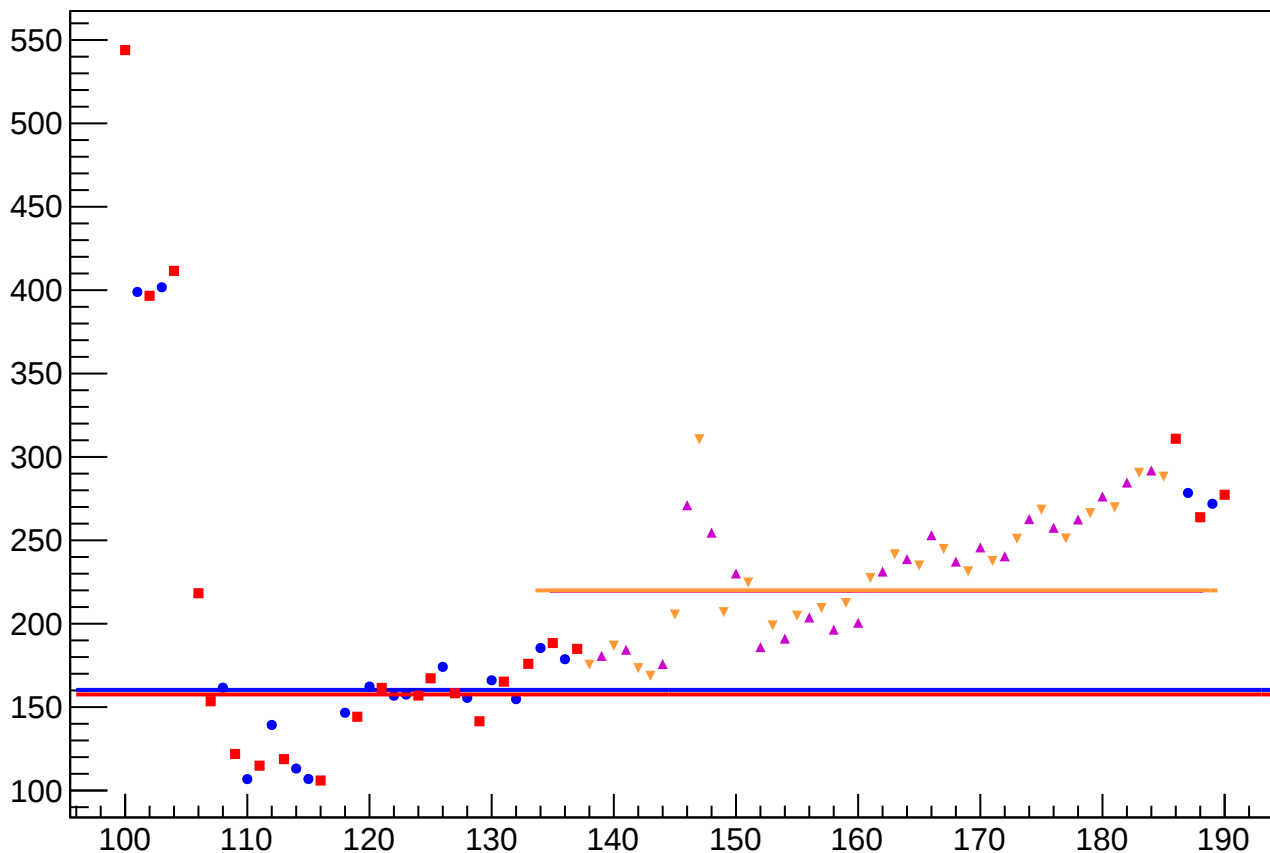
Left In: 142195.020 $\pm$ 0.054

$\chi^2$ /NDF: 644030906.9/22

All: 141455.838 $\pm$ 0.028

$\chi^2$ /NDF: 269637914

# yield\_bpm0l07WS\_rms vs Slug, Sign Corrected



Right In: 160.323+/-0.045  $\chi^2/\text{NDF}$ : 1376850.4/18

Left Out: 219.969+/-0.037  $\chi^2/\text{NDF}$ : 866616.3/24

Right Out: 157.594+/-0.041  $\chi^2/\text{NDF}$ : 1939014.1/21

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

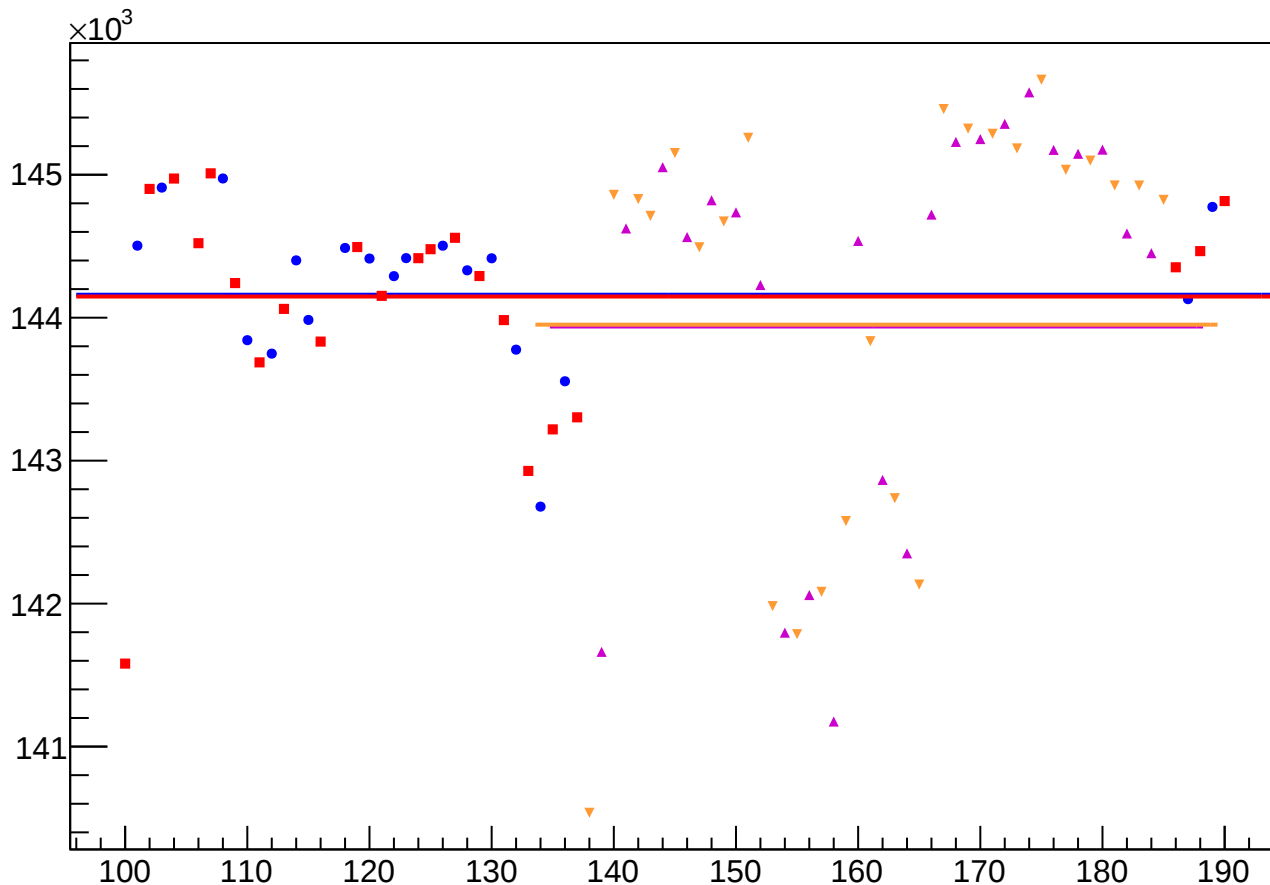
Right: 158.833+/-0.030  $\chi^2/\text{NDF}$ : 3317890.3/40

In: 194.785+/-0.029  $\chi^2/\text{NDF}$ : 3208544.2/41

Out: 191.858+/-0.027  $\chi^2/\text{NDF}$ : 4086454.9/46

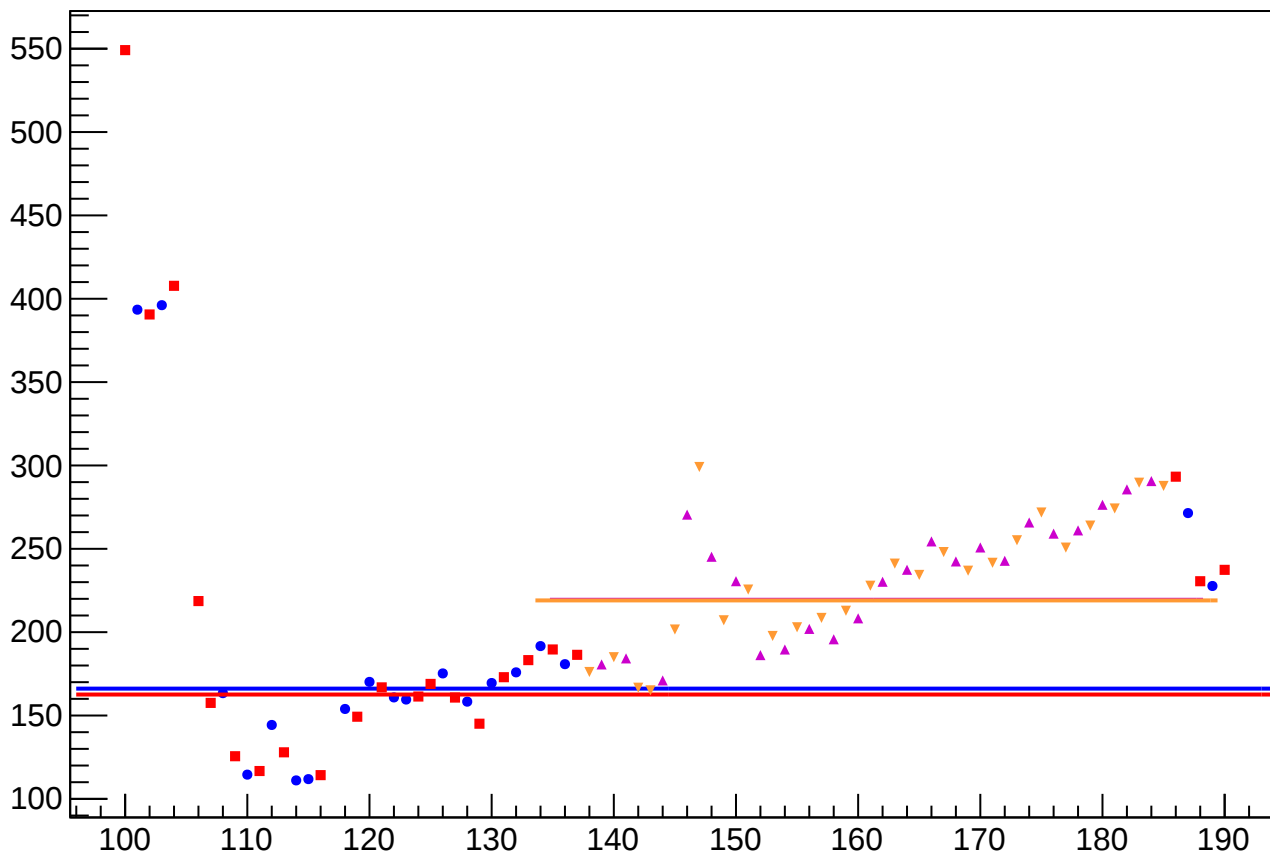
All: 193.239+/-0.020  $\chi^2/\text{NDF}$ : 7300372.6/88

# yield\_bpm0l08WS\_mean vs Slug, Sign Corrected



|                                   |                               |                               |                               |
|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Right In: 144160.617 $\pm$ 0.065  | $\chi^2$ /NDF: 50681887.6/18  | Left: 143944.995 $\pm$ 0.037  | $\chi^2$ /NDF: 1584524299.4/4 |
| Left Out: 143951.284 $\pm$ 0.052  | $\chi^2$ /NDF: 864679545.2/24 | Right: 144153.718 $\pm$ 0.044 | $\chi^2$ /NDF: 120879366.3/4  |
| Right Out: 144148.090 $\pm$ 0.059 | $\chi^2$ /NDF: 70177180.9/21  | In: 144028.352 $\pm$ 0.042    | $\chi^2$ /NDF: 777404013.6/41 |
| Left In: 143938.288 $\pm$ 0.054   | $\chi^2$ /NDF: 719814685.6/22 | Out: 144037.684 $\pm$ 0.039   | $\chi^2$ /NDF: 941112518.9/46 |
|                                   |                               | All: 144033.305 $\pm$ 0.028   | $\chi^2$ /NDF: 171854333      |

# yield\_bpm0l08WS\_rms vs Slug, Sign Corrected



Right In: 166.136 $\pm$ 0.046  $\chi^2/\text{NDF}$ : 1189868.5/18

Left Out: 219.050 $\pm$ 0.037  $\chi^2/\text{NDF}$ : 934417.6/24

Right Out: 162.594 $\pm$ 0.042  $\chi^2/\text{NDF}$ : 1619542.9/21

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

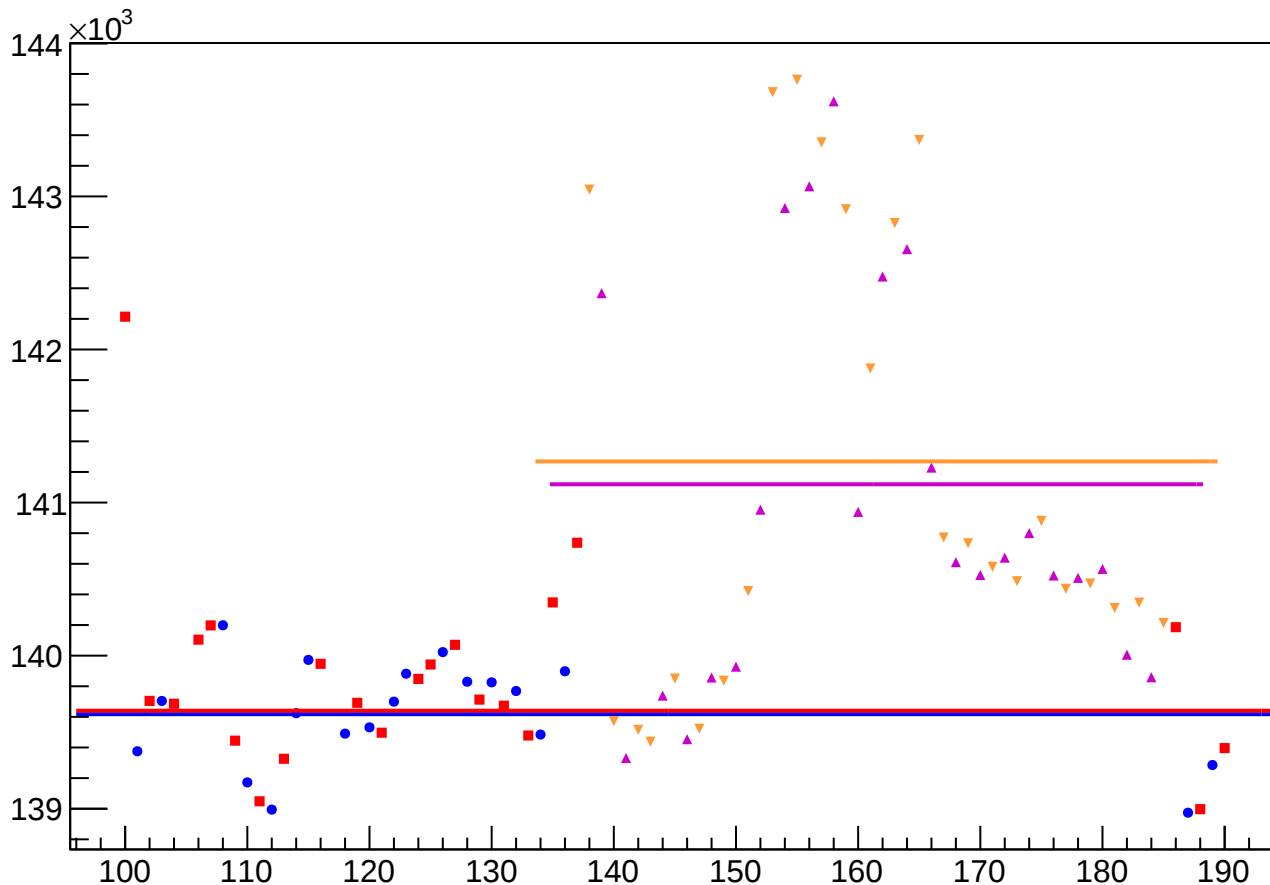
Right: 164.185 $\pm$ 0.031  $\chi^2/\text{NDF}$ : 2812657.4/40

In: 197.838 $\pm$ 0.029  $\chi^2/\text{NDF}$ : 2833641.2/41

Out: 194.265 $\pm$ 0.028  $\chi^2/\text{NDF}$ : 3583529.5/46

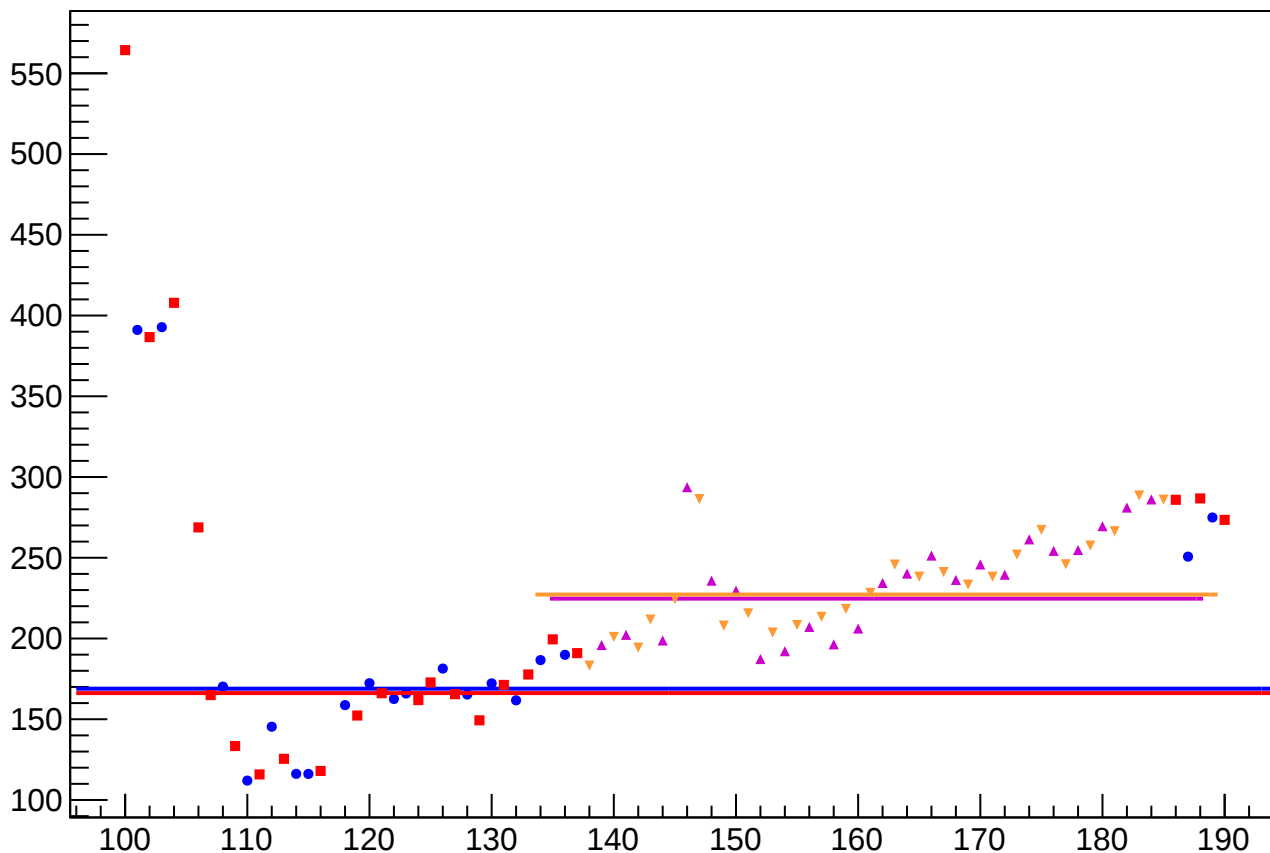
All: 195.942 $\pm$ 0.020  $\chi^2/\text{NDF}$ : 6425030.2/88

# yield\_bpm0l09WS\_mean vs Slug, Sign Corrected



|                                   |                                      |                               |                                      |
|-----------------------------------|--------------------------------------|-------------------------------|--------------------------------------|
| Right In: 139617.598 $\pm$ 0.067  | $\chi^2/\text{NDF}$ : 26540095.4/18  | Left: 141195.809 $\pm$ 0.038  | $\chi^2/\text{NDF}$ : 1365080862.2/4 |
| Left Out: 141268.791 $\pm$ 0.054  | $\chi^2/\text{NDF}$ : 795989244.2/24 | Right: 139630.027 $\pm$ 0.045 | $\chi^2/\text{NDF}$ : 71043046.2/40  |
| Right Out: 139640.368 $\pm$ 0.061 | $\chi^2/\text{NDF}$ : 44439146.2/21  | In: 140511.633 $\pm$ 0.042    | $\chi^2/\text{NDF}$ : 894580807.1/41 |
| Left In: 141119.484 $\pm$ 0.055   | $\chi^2/\text{NDF}$ : 565312728.1/22 | Out: 140554.480 $\pm$ 0.040   | $\chi^2/\text{NDF}$ : 1243815616.4/4 |
|                                   |                                      | All: 140534.164 $\pm$ 0.029   | $\chi^2/\text{NDF}$ : 21389342       |

# yield\_bpm0l09WS\_rms vs Slug, Sign Corrected



Right In: 168.929 $\pm$ 0.047  $\chi^2$ /NDF: 1245575.0/18

Left Out: 227.224 $\pm$ 0.038  $\chi^2$ /NDF: 484955.3/24

Right Out: 166.205 $\pm$ 0.043  $\chi^2$ /NDF: 1825803.5/21

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

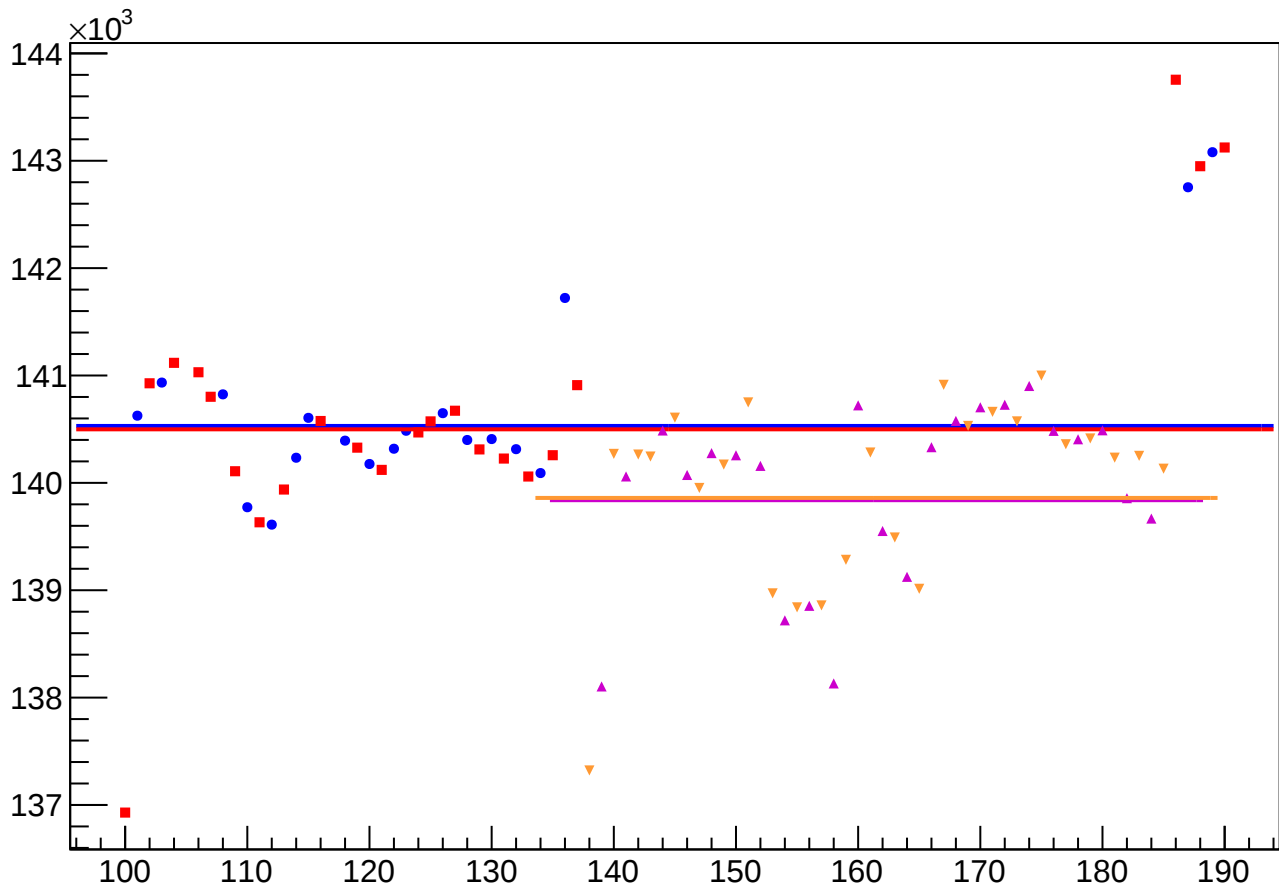
Right: 167.442 $\pm$ 0.032  $\chi^2$ /NDF: 3073205.0/40

In: 202.120 $\pm$ 0.030  $\chi^2$ /NDF: 2658403.7/41

Out: 200.458 $\pm$ 0.028  $\chi^2$ /NDF: 3443532.6/46

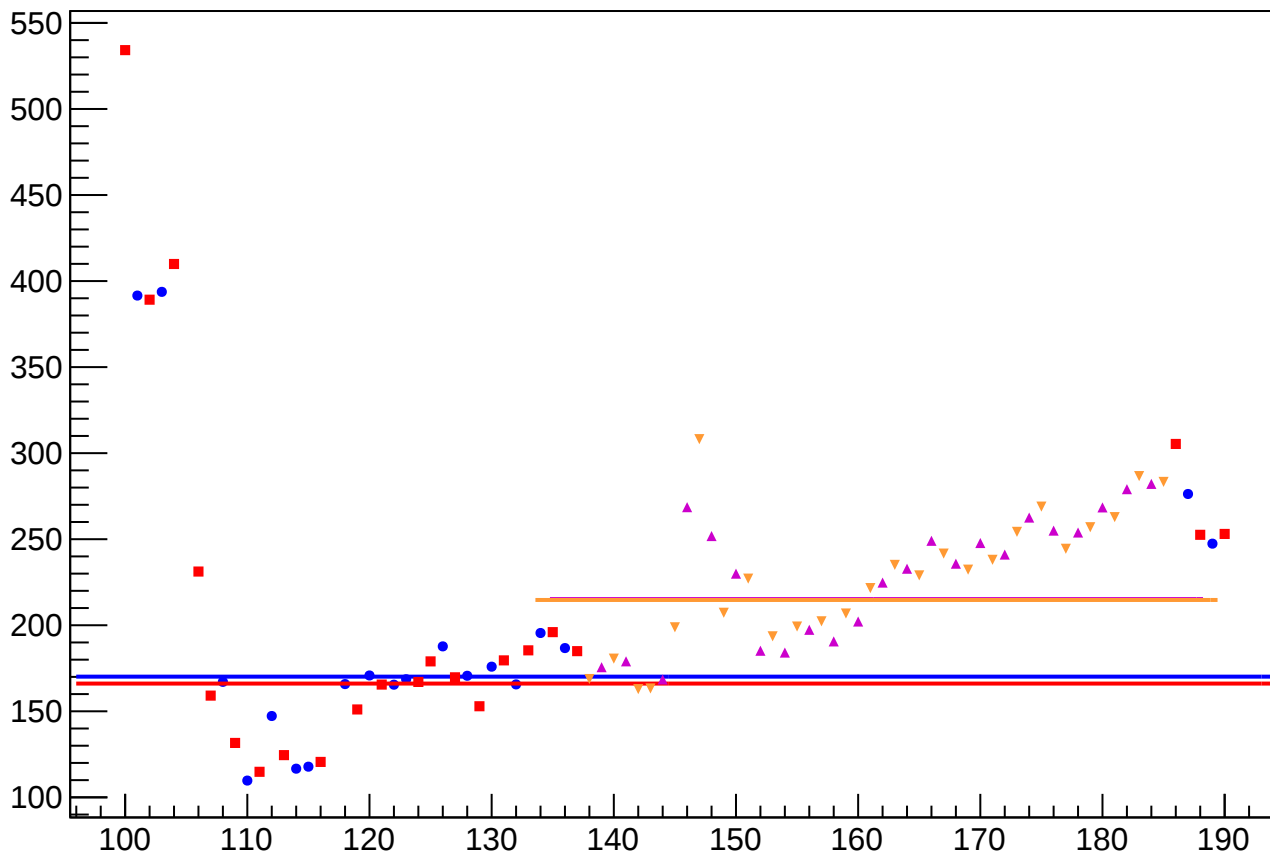
All: 201.246 $\pm$ 0.021  $\chi^2$ /NDF: 6103554.6/88

yield\_bpm0l10WS\_mean vs Slug, Sign Corrected



|                               |                                      |                           |                                       |
|-------------------------------|--------------------------------------|---------------------------|---------------------------------------|
| Right In: 140530.101+/-0.067  | $\chi^2/\text{NDF}$ : 133228811.9/18 | Left: 139849.553+/-0.037  | $\chi^2/\text{NDF}$ : 609773442.9/41  |
| Left Out: 139859.696+/-0.051  | $\chi^2/\text{NDF}$ : 330118281.5/24 | Right: 140512.727+/-0.045 | $\chi^2/\text{NDF}$ : 347667824.9/41  |
| Right Out: 140498.575+/-0.060 | $\chi^2/\text{NDF}$ : 214316944.1/21 | In: 140103.657+/-0.041    | $\chi^2/\text{NDF}$ : 478508522.8/41  |
| Left In: 139838.724+/-0.053   | $\chi^2/\text{NDF}$ : 279573689.3/22 | Out: 140125.911+/-0.039   | $\chi^2/\text{NDF}$ : 609576964.9/46  |
|                               |                                      | All: 140115.458+/-0.028   | $\chi^2/\text{NDF}$ : 108823822.1/100 |

# yield\_bpm0l10WS\_rms vs Slug, Sign Corrected



Right In: 170.138 $\pm$ 0.047  $\chi^2$ /NDF: 1224038.6/18

Left Out: 214.693 $\pm$ 0.036  $\chi^2$ /NDF:981105.5/24

Right Out: 166.110 $\pm$ 0.043  $\chi^2$ /NDF: 1706450.2/21

Left In: 215.222 $\pm$ 0.037  $\chi^2$ /NDF:881945.0/22

Left: 214.949 $\pm$ 0.026  $\chi^2$ /NDF: 1863154.2/47

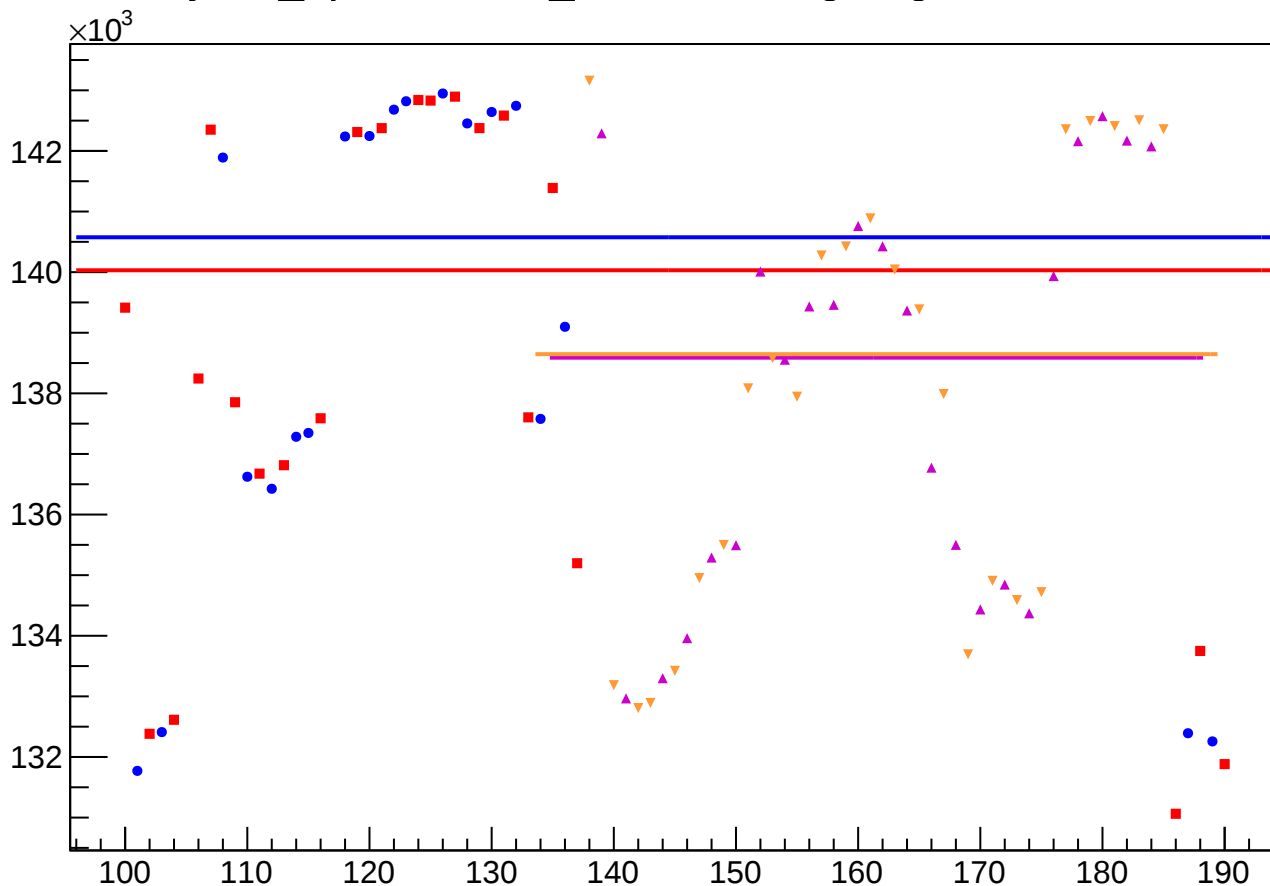
Right: 167.918 $\pm$ 0.032  $\chi^2$ /NDF: 2934474.8/40

In: 197.946 $\pm$ 0.029  $\chi^2$ /NDF:2664768.3/41

Out: 194.449 $\pm$ 0.028  $\chi^2$ /NDF:3440947.3/46

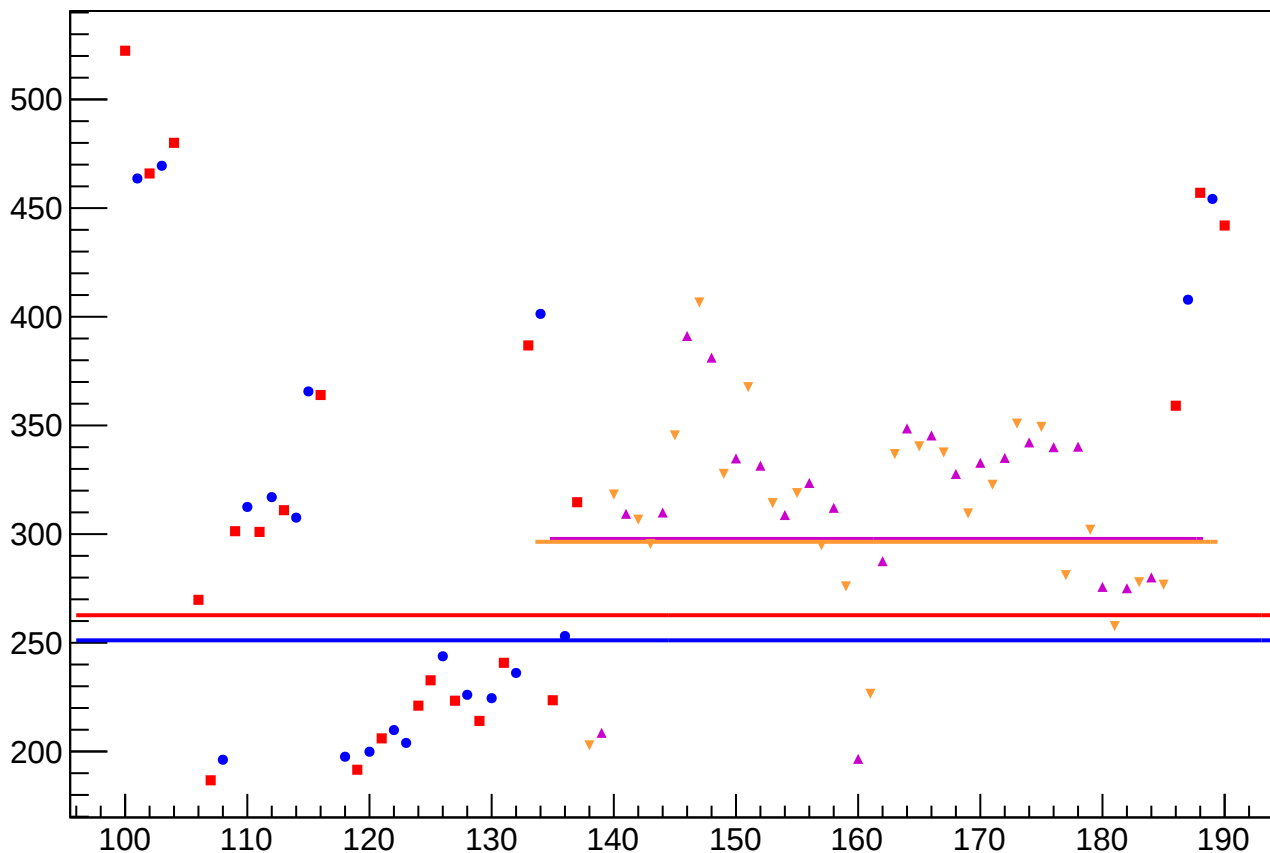
All: 196.091 $\pm$ 0.020  $\chi^2$ /NDF: 6113259.6/88

# yield\_bpm0r03WS\_mean vs Slug, Sign Corrected



|                               |                                       |                           |                                      |
|-------------------------------|---------------------------------------|---------------------------|--------------------------------------|
| Right In: 140575.203+/-0.099  | $\chi^2/\text{NDF}$ : 1043822297.8/18 | Left: 138618.660+/-0.051  | $\chi^2/\text{NDF}$ : 4497021019.3/4 |
| Left Out: 138646.366+/-0.071  | $\chi^2/\text{NDF}$ : 2548637600.4/24 | Right: 140293.086+/-0.068 | $\chi^2/\text{NDF}$ : 2453229165.8/4 |
| Right Out: 140030.748+/-0.095 | $\chi^2/\text{NDF}$ : 1393616992.7/21 | In: 139300.014+/-0.059    | $\chi^2/\text{NDF}$ : 3252292459.3/4 |
| Left In: 138588.711+/-0.074   | $\chi^2/\text{NDF}$ : 1948065195.1/22 | Out: 139140.431+/-0.057   | $\chi^2/\text{NDF}$ : 4078510941.1/4 |
|                               |                                       | All: 139217.192+/-0.041   | $\chi^2/\text{NDF}$ : 733459790      |

# yield\_bpm0r03WS\_rms vs Slug, Sign Corrected



Right In: 251.130+/-0.070  $\chi^2/\text{NDF}$ : 1106196.2/18

Left Out: 296.464+/-0.050  $\chi^2/\text{NDF}$ : 893579.7/24

Right Out: 262.684+/-0.067  $\chi^2/\text{NDF}$ : 1528139.2/21

Left In: 297.774+/-0.052  $\chi^2/\text{NDF}$ : 1061489.5/22

Left: 297.094+/-0.036  $\chi^2/\text{NDF}$ : 1955397.8/47

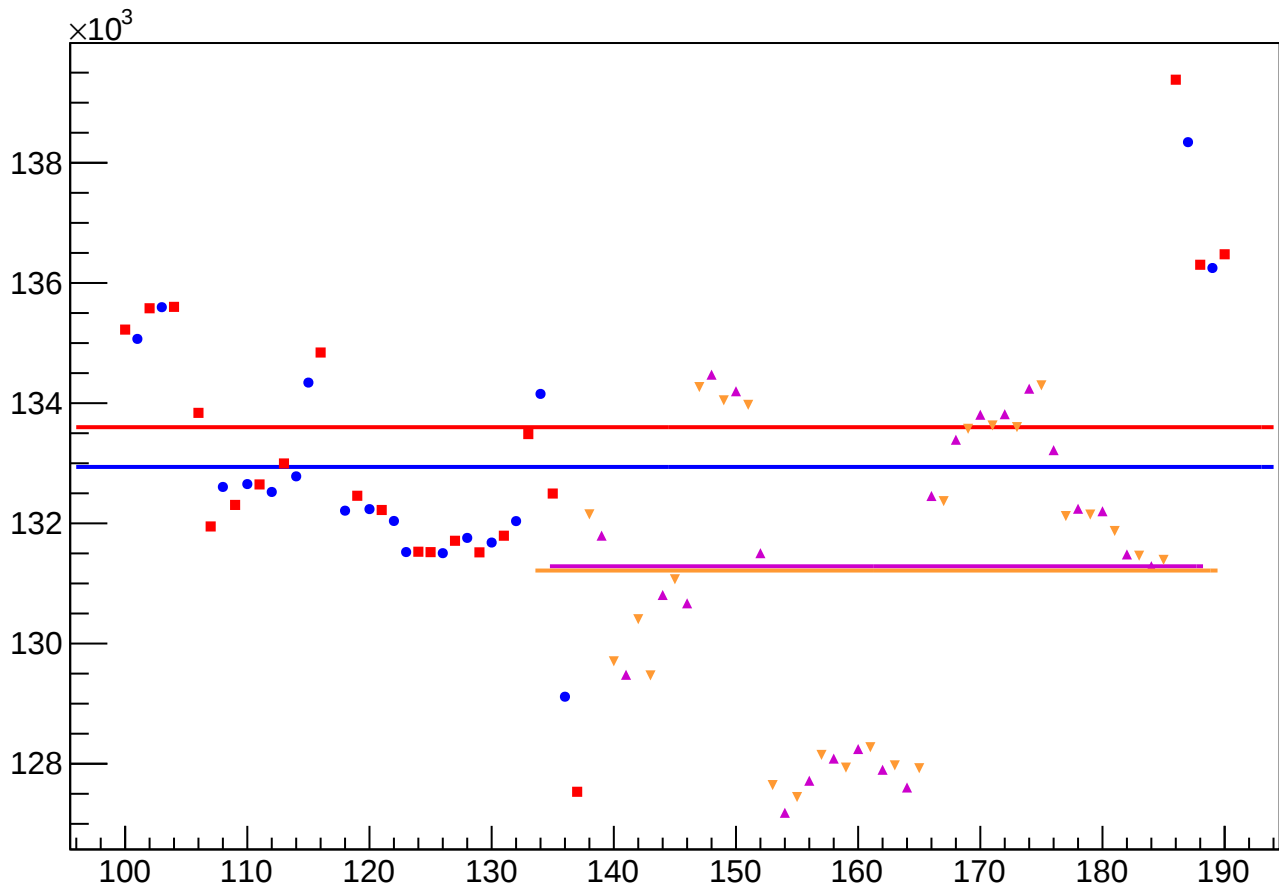
Right: 257.117+/-0.048  $\chi^2/\text{NDF}$ : 2648557.4/40

In: 281.072+/-0.042  $\chi^2/\text{NDF}$ : 2454836.7/41

Out: 284.409+/-0.040  $\chi^2/\text{NDF}$ : 2583978.9/46

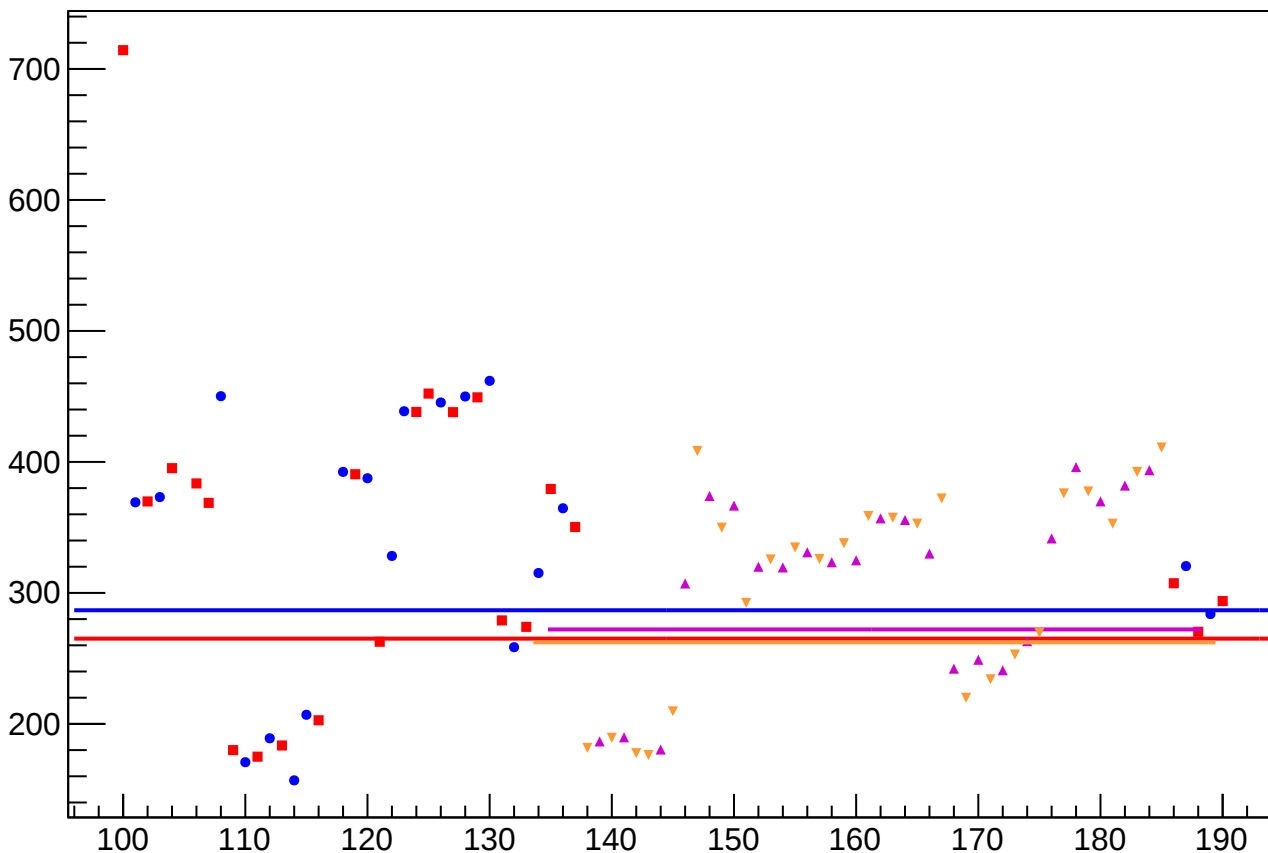
All: 282.804+/-0.029  $\chi^2/\text{NDF}$ : 5042132.7/88

# yield\_bpm0r05WS\_mean vs Slug, Sign Corrected



|                                   |                                       |                               |                                      |
|-----------------------------------|---------------------------------------|-------------------------------|--------------------------------------|
| Right In: 132938.952 $\pm$ 0.114  | $\chi^2/\text{NDF}$ : 277550322.0/18  | Left: 131248.166 $\pm$ 0.047  | $\chi^2/\text{NDF}$ : 2230223308.9/4 |
| Left Out: 131214.985 $\pm$ 0.064  | $\chi^2/\text{NDF}$ : 1173424494.6/24 | Right: 133323.267 $\pm$ 0.074 | $\chi^2/\text{NDF}$ : 750182160.6/4  |
| Right Out: 133600.442 $\pm$ 0.097 | $\chi^2/\text{NDF}$ : 453006529.9/21  | In: 131723.708 $\pm$ 0.059    | $\chi^2/\text{NDF}$ : 1488888454.3/4 |
| Left In: 131285.623 $\pm$ 0.068   | $\chi^2/\text{NDF}$ : 1056232192.1/22 | Out: 131947.054 $\pm$ 0.054   | $\chi^2/\text{NDF}$ : 2048600253.9/4 |
|                                   |                                       | All: 131845.402 $\pm$ 0.040   | $\chi^2/\text{NDF}$ : 35454074       |

# yield\_bpm0r05WS\_rms vs Slug, Sign Corrected



Right In: 286.764 $\pm$ 0.080  $\chi^2$ /NDF: 1517354.4/18

Left Out: 262.260 $\pm$ 0.045  $\chi^2$ /NDF:2818169.1/24

Right Out: 265.092 $\pm$ 0.068  $\chi^2$ /NDF: 1638489.1/21

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

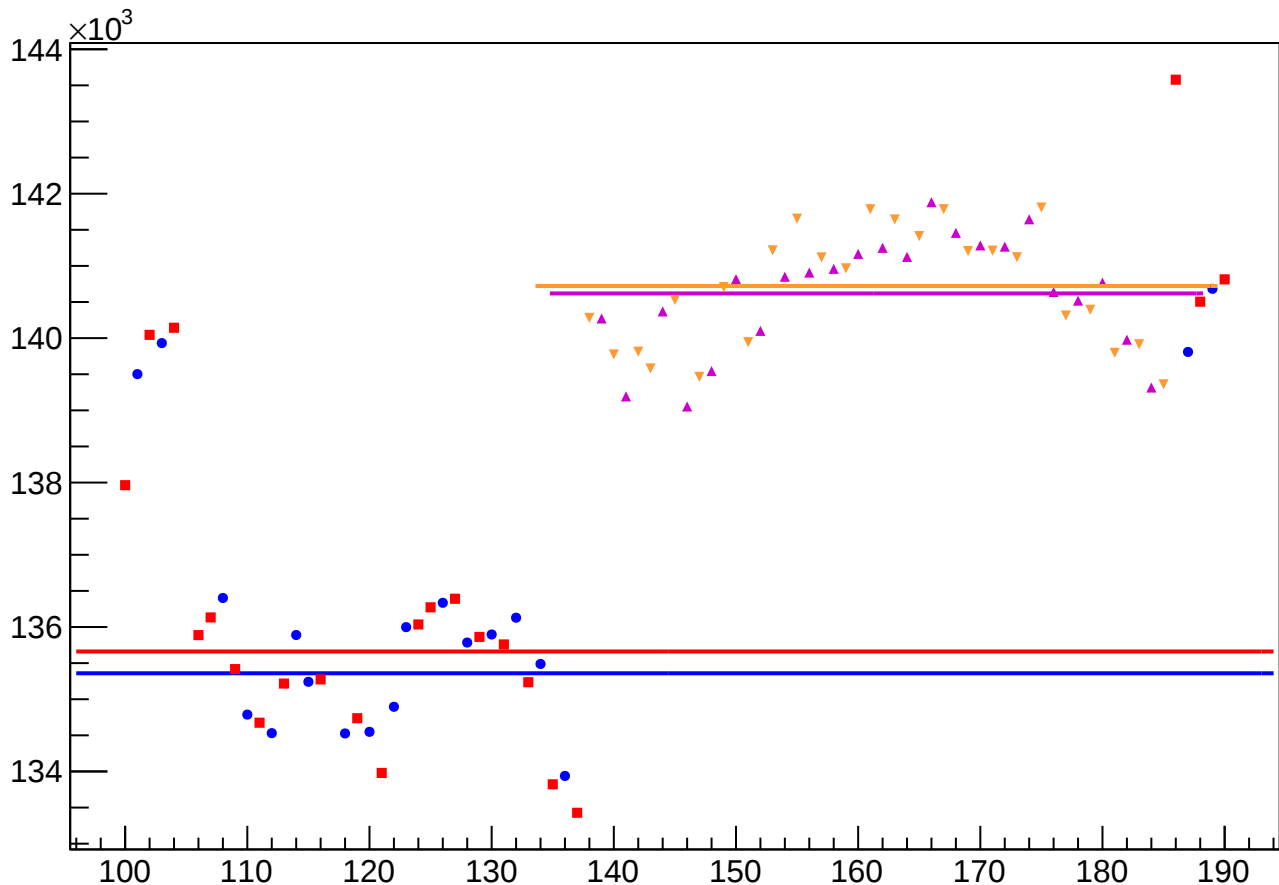
Right: 274.173 $\pm$ 0.052  $\chi^2$ /NDF: 3197974.2/40

In: 275.996 $\pm$ 0.041  $\chi^2$ /NDF:3763634.2/41

Out: 263.129 $\pm$ 0.038  $\chi^2$ /NDF:4457848.7/46

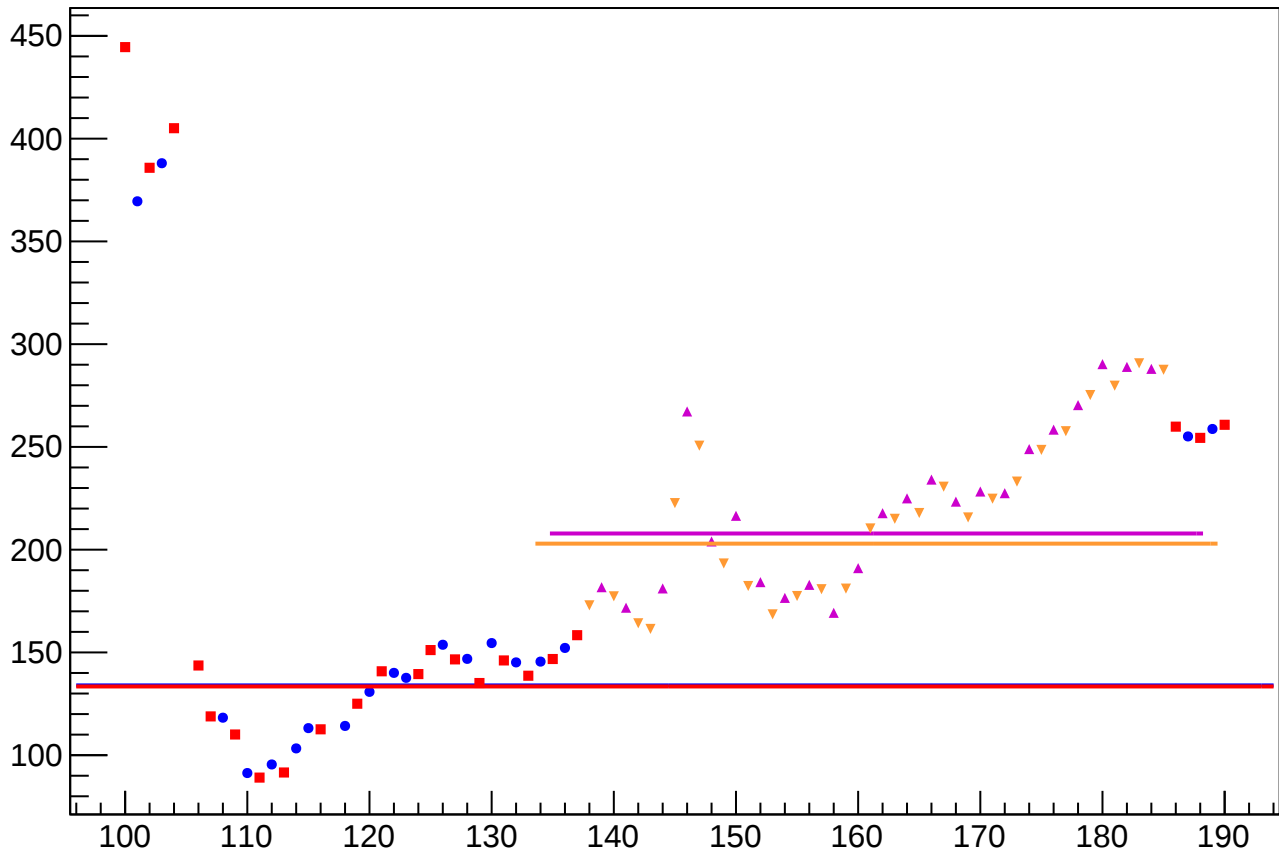
All: 268.985 $\pm$ 0.028  $\chi^2$ /NDF: 8274050.1/88

# yield\_bpm0i02WS\_mean vs Slug, Sign Corrected



|                               |                                       |                           |                                       |
|-------------------------------|---------------------------------------|---------------------------|---------------------------------------|
| Right In: 135359.430+/-0.054  | $\chi^2/\text{NDF}$ : 626983342.4/18  | Left: 140673.196+/-0.035  | $\chi^2/\text{NDF}$ : 449761004.9/47  |
| Left Out: 140721.823+/-0.048  | $\chi^2/\text{NDF}$ : 247257762.8/24  | Right: 135522.234+/-0.036 | $\chi^2/\text{NDF}$ : 1855076521.8/4  |
| Right Out: 135661.247+/-0.050 | $\chi^2/\text{NDF}$ : 1211043384.5/21 | In: 138119.594+/-0.037    | $\chi^2/\text{NDF}$ : 5864702495.8/47 |
| Left In: 140619.038+/-0.051   | $\chi^2/\text{NDF}$ : 200370178.0/22  | Out: 138253.487+/-0.035   | $\chi^2/\text{NDF}$ : 6789146456.2/4  |
|                               |                                       | All: 138190.950+/-0.025   | $\chi^2/\text{NDF}$ : 126608249       |

# yield\_bpm0i02WS\_rms vs Slug, Sign Corrected



Right In: 133.954 +/- 0.038  $\chi^2/\text{NDF}$ : 1671891.5/18

Left Out: 202.934 +/- 0.034  $\chi^2/\text{NDF}$ : 1052283.6/24

Right Out: 133.434 +/- 0.035  $\chi^2/\text{NDF}$ : 2222604.2/21

Left In: 207.872 +/- 0.036  $\chi^2/\text{NDF}$ : 949200.3/22

Left: 205.270 +/- 0.025  $\chi^2/\text{NDF}$ : 2011329.4/47

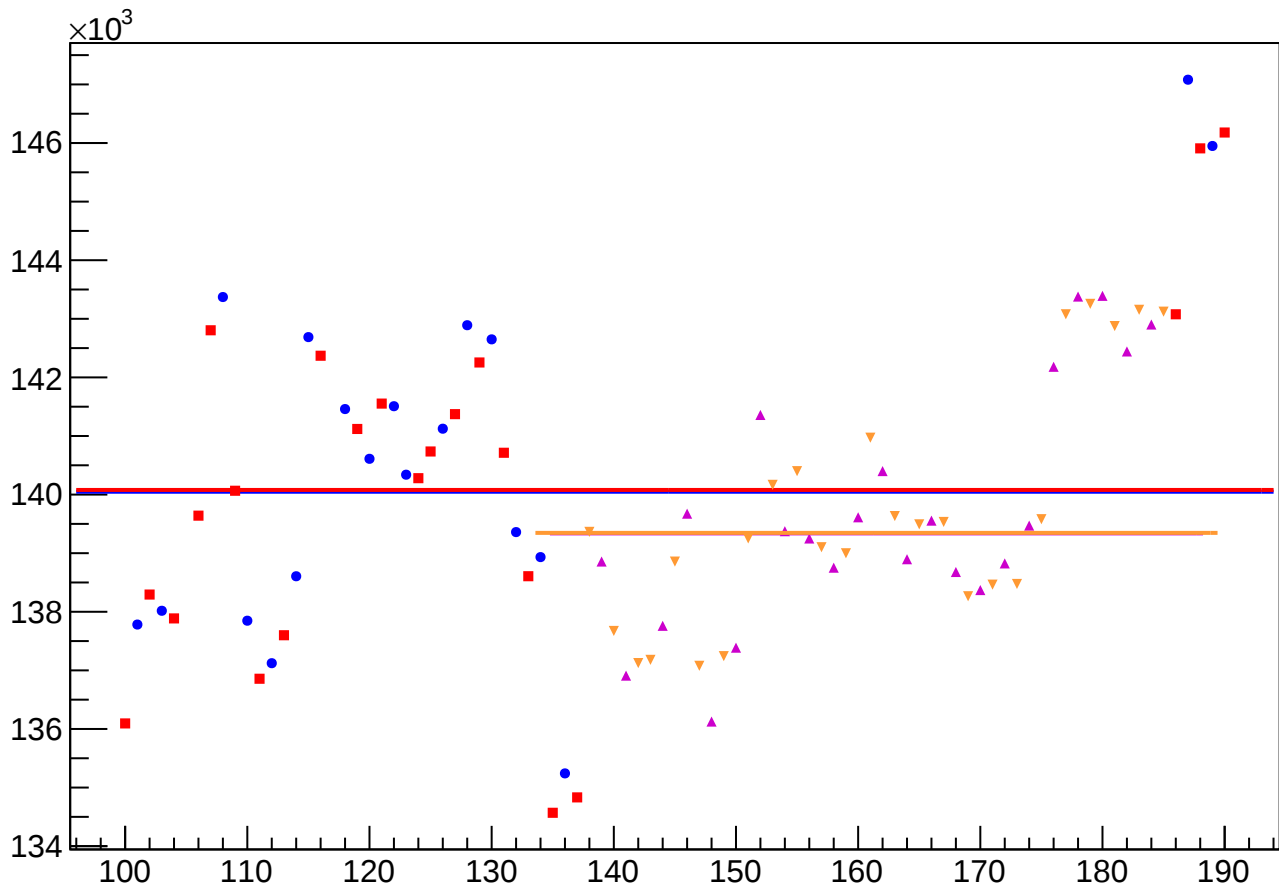
Right: 133.674 +/- 0.026  $\chi^2/\text{NDF}$ : 3894596.7/40

In: 172.745 +/- 0.026  $\chi^2/\text{NDF}$ : 4610973.2/41

Out: 169.035 +/- 0.024  $\chi^2/\text{NDF}$ : 5285800.1/46

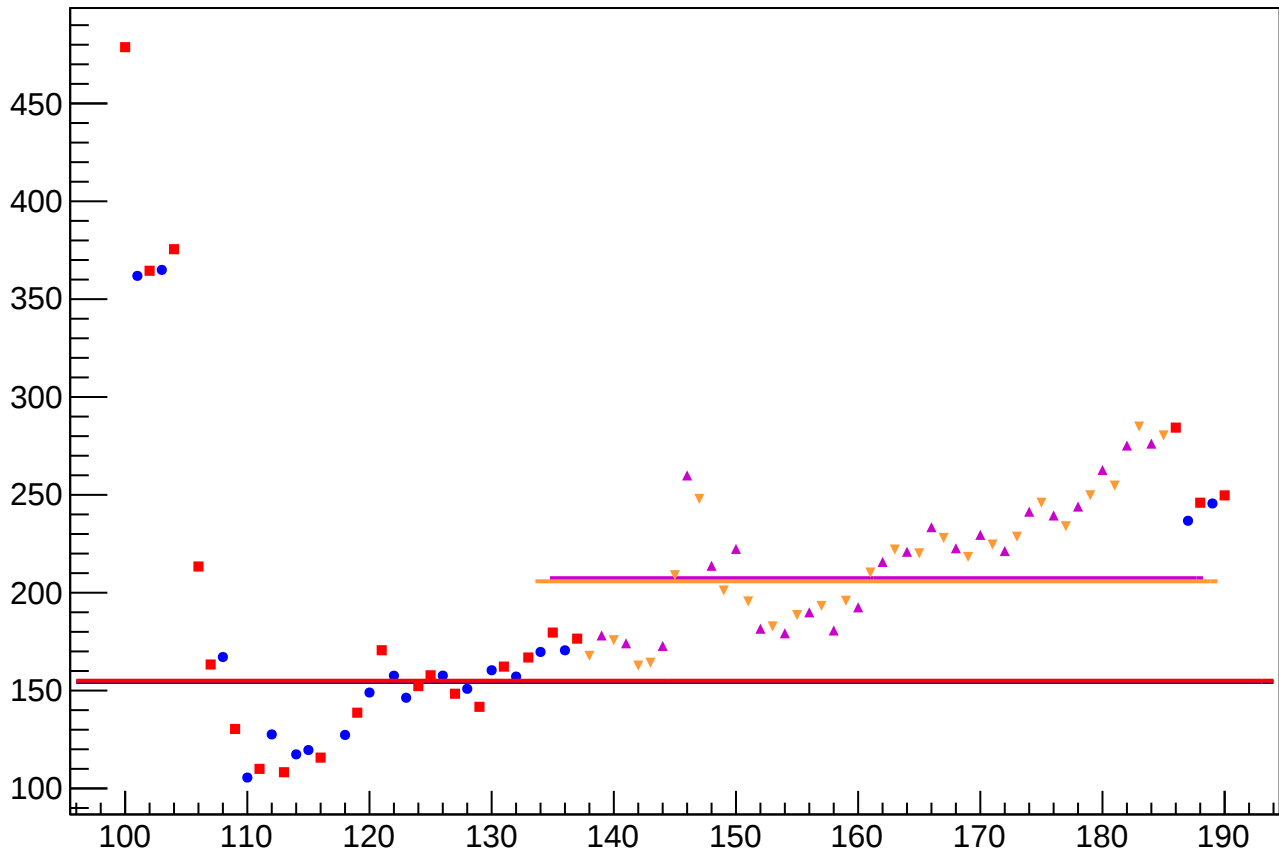
All: 170.768 +/- 0.018  $\chi^2/\text{NDF}$ : 9907484.8/88

# yield\_bpm0i02aWS\_mean vs Slug, Sign Corrected



|                                   |                                       |                               |                                       |
|-----------------------------------|---------------------------------------|-------------------------------|---------------------------------------|
| Right In: 140048.882 $\pm$ 0.061  | $\chi^2/\text{NDF}$ : 2091809414.0/18 | Left: 139342.403 $\pm$ 0.035  | $\chi^2/\text{NDF}$ : 2564192227.9/4  |
| Left Out: 139346.604 $\pm$ 0.049  | $\chi^2/\text{NDF}$ : 1271172976.7/24 | Right: 140065.104 $\pm$ 0.041 | $\chi^2/\text{NDF}$ : 4391361514.8/18 |
| Right Out: 140079.188 $\pm$ 0.057 | $\chi^2/\text{NDF}$ : 2299419243.4/21 | In: 139630.263 $\pm$ 0.039    | $\chi^2/\text{NDF}$ : 3465248574.3/41 |
| Left In: 139337.874 $\pm$ 0.051   | $\chi^2/\text{NDF}$ : 1293003954.9/22 | Out: 139659.679 $\pm$ 0.037   | $\chi^2/\text{NDF}$ : 3666252700.5/41 |
|                                   |                                       | All: 139645.727 $\pm$ 0.027   | $\chi^2/\text{NDF}$ : 713180020.0/100 |

# yield\_bpm0i02aWS\_rms vs Slug, Sign Corrected



Right In: 154.389 $\pm$ 0.043  $\chi^2$ /NDF: 1224671.9/18

Left Out: 205.833 $\pm$ 0.035  $\chi^2$ /NDF: 738666.4/24

Right Out: 155.033 $\pm$ 0.040  $\chi^2$ /NDF: 1735240.9/21

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

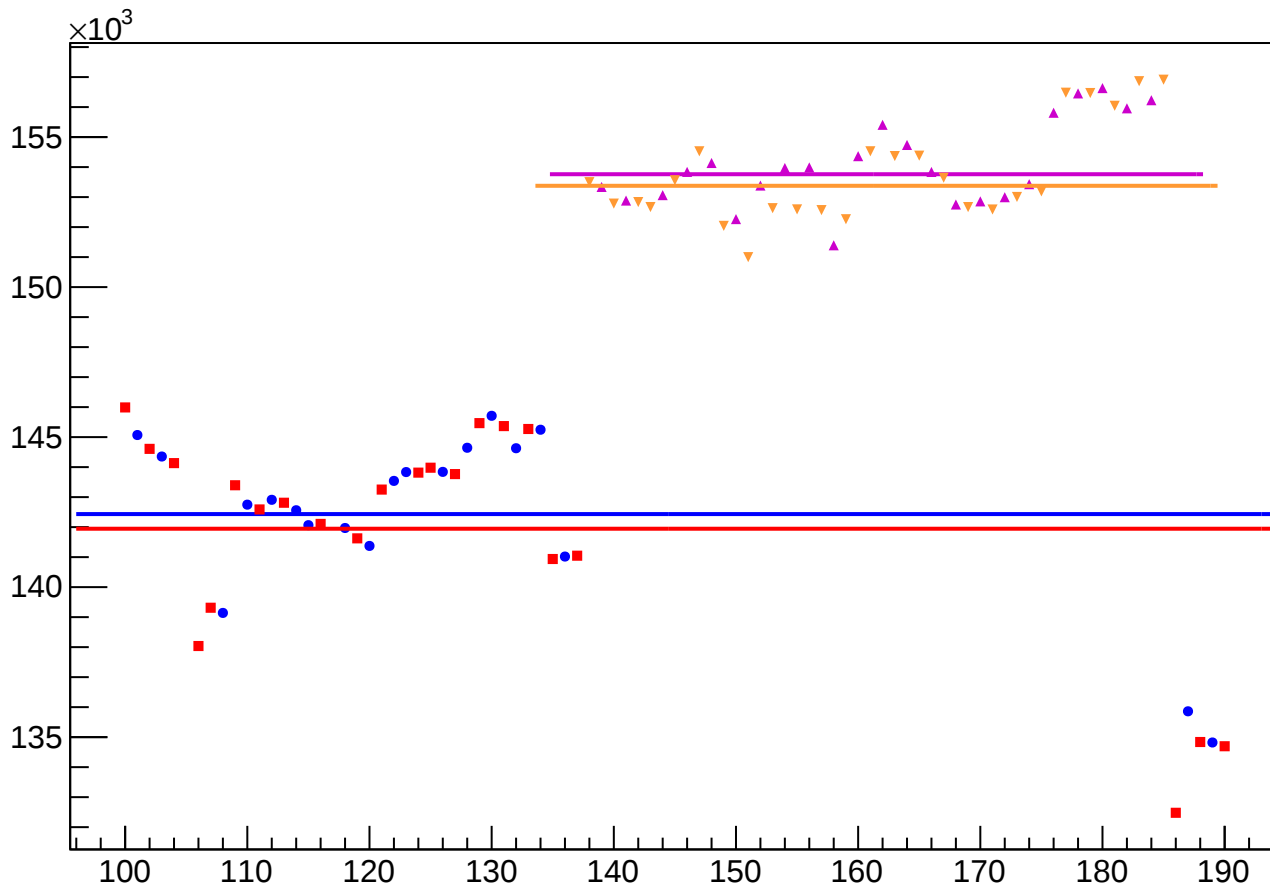
Right: 154.734 $\pm$ 0.029  $\chi^2$ /NDF: 2960032.7/40

In: 185.610 $\pm$ 0.028  $\chi^2$ /NDF: 2821409.9/41

Out: 184.123 $\pm$ 0.026  $\chi^2$ /NDF: 3393865.1/46

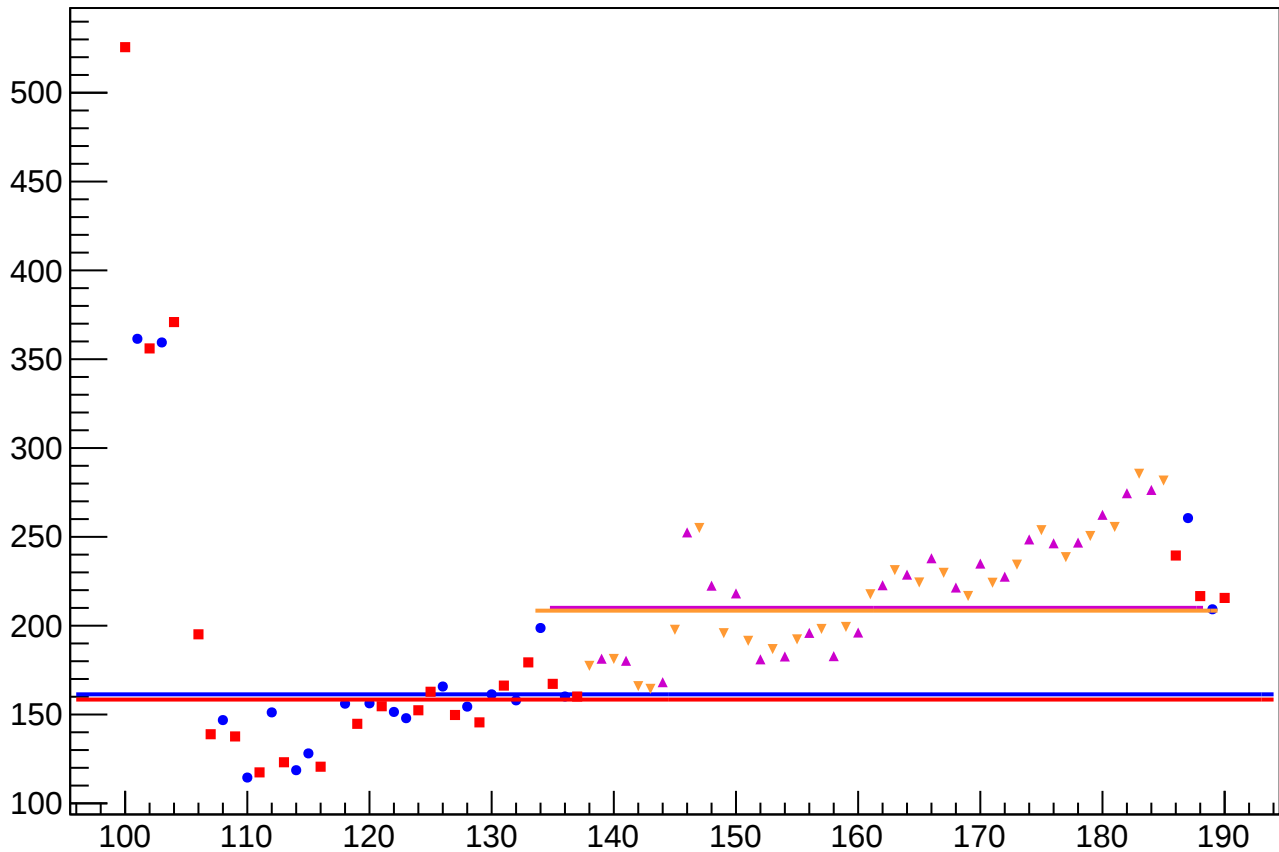
All: 184.828 $\pm$ 0.019  $\chi^2$ /NDF: 6216802.1/88

# yield\_bpm0i05WS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                                |
|-----------------------------------|--------------------------------|-------------------------------|--------------------------------|
| Right In: 142434.784 $\pm$ 0.063  | $\chi^2$ /NDF: 1508468300.3/18 | Left: 153562.262 $\pm$ 0.036  | $\chi^2$ /NDF: 1468093411.3/4  |
| Left Out: 153376.698 $\pm$ 0.050  | $\chi^2$ /NDF: 803848095.1/24  | Right: 142166.642 $\pm$ 0.042 | $\chi^2$ /NDF: 4524398531.4/4  |
| Right Out: 141946.615 $\pm$ 0.057 | $\chi^2$ /NDF: 2983014819.4/21 | In: 149235.949 $\pm$ 0.040    | $\chi^2$ /NDF: 21516119504.6/4 |
| Left In: 153762.419 $\pm$ 0.051   | $\chi^2$ /NDF: 635075685.0/22  | Out: 148470.805 $\pm$ 0.037   | $\chi^2$ /NDF: 26639129538.9   |
|                                   |                                | All: 148829.255 $\pm$ 0.027   | $\chi^2$ /NDF: 483510680       |

# yield\_bpm0i05WS\_rms vs Slug, Sign Corrected



Right In: 161.359 $\pm$ 0.045  $\chi^2$ /NDF: 981918.3/18

Left Out: 208.466 $\pm$ 0.035  $\chi^2$ /NDF: 720894.7/24

Right Out: 158.415 $\pm$ 0.040  $\chi^2$ /NDF: 1290715.4/21

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

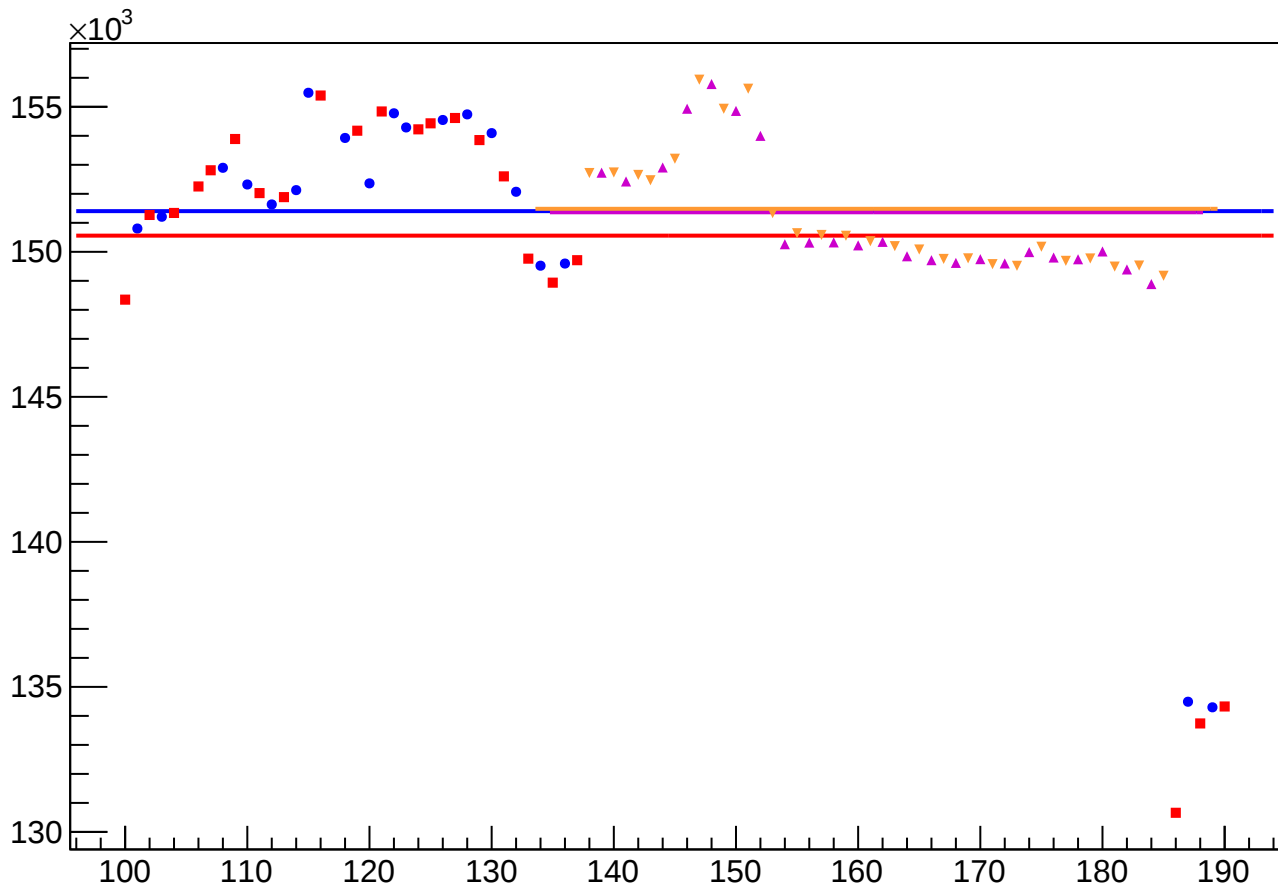
Right: 159.742 $\pm$ 0.030  $\chi^2$ /NDF: 2275028.0/40

In: 190.586 $\pm$ 0.028  $\chi^2$ /NDF: 2399803.7/41

Out: 186.984 $\pm$ 0.026  $\chi^2$ /NDF: 2887976.2/46

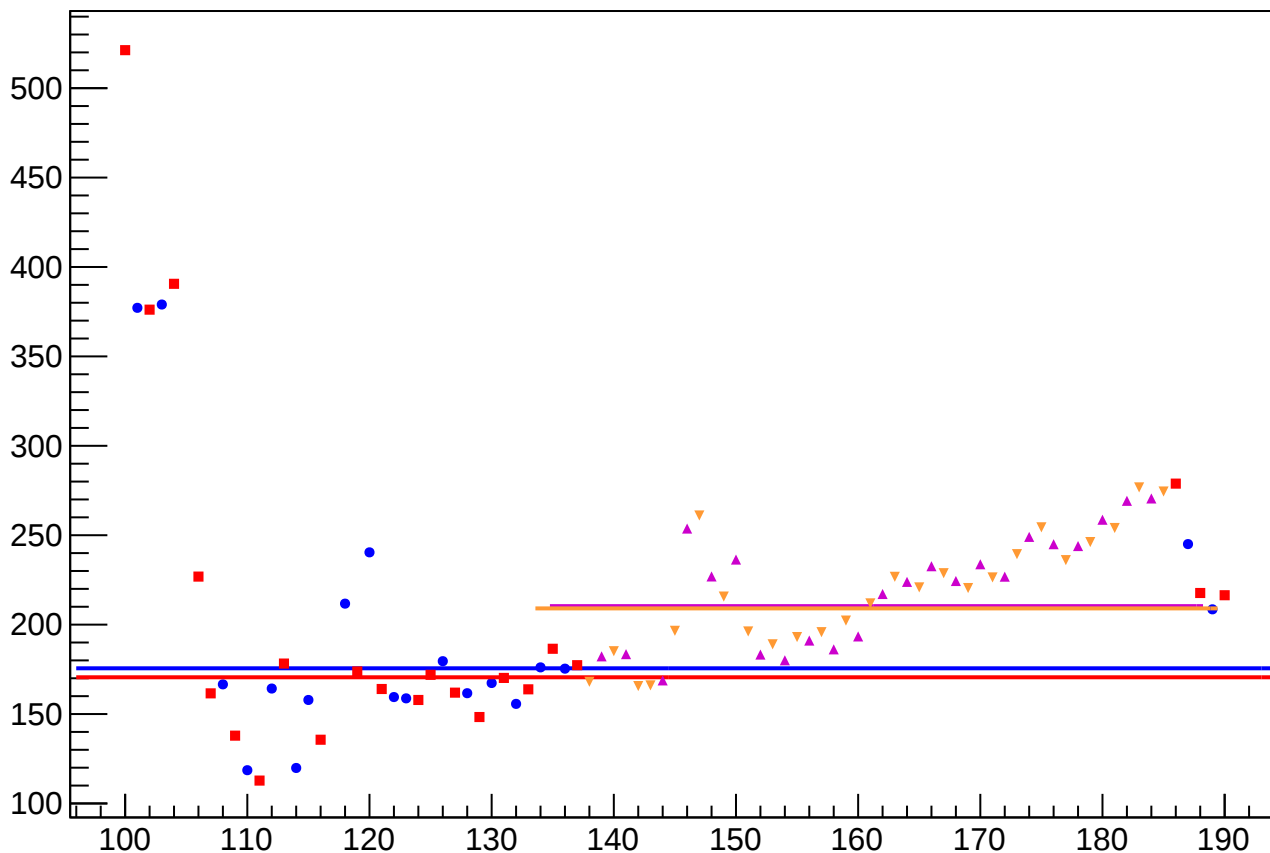
All: 188.671 $\pm$ 0.019  $\chi^2$ /NDF: 5296461.2/88

# yield\_bpm0i07WS\_mean vs Slug, Sign Corrected



|                                   |                                 |                               |                                 |
|-----------------------------------|---------------------------------|-------------------------------|---------------------------------|
| Right In: 151402.986 $\pm$ 0.070  | $\chi^2$ /NDF: 4820368810.9/18  | 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: 150931.794 $\pm$ 0.046 | $\chi^2$ /NDF: 15903578381.1/18 |
| Right Out: 150558.273 $\pm$ 0.062 | $\chi^2$ /NDF: 11001642413.1/21 | In: 151377.152 $\pm$ 0.041    | $\chi^2$ /NDF: 6242241723.2/41  |
| Left In: 151363.165 $\pm$ 0.051   | $\chi^2$ /NDF: 1421662089.0/22  | Out: 151124.434 $\pm$ 0.039   | $\chi^2$ /NDF: 12618954422.1/18 |
|                                   |                                 | All: 151242.416 $\pm$ 0.028   | $\chi^2$ /NDF: 188810618.1/18   |

# yield\_bpm0i07WS\_rms vs Slug, Sign Corrected



Right In: 175.581+/-0.049  $\chi^2/\text{NDF}$ : 995842.4/18

Left Out: 209.076+/-0.035  $\chi^2/\text{NDF}$ : 708260.3/24

Right Out: 170.554+/-0.044  $\chi^2/\text{NDF}$ : 1285741.8/21

Left In: 210.345+/-0.036  $\chi^2/\text{NDF}$ : 677747.7/22

Left: 209.687+/-0.025  $\chi^2/\text{NDF}$ : 1386640.1/47

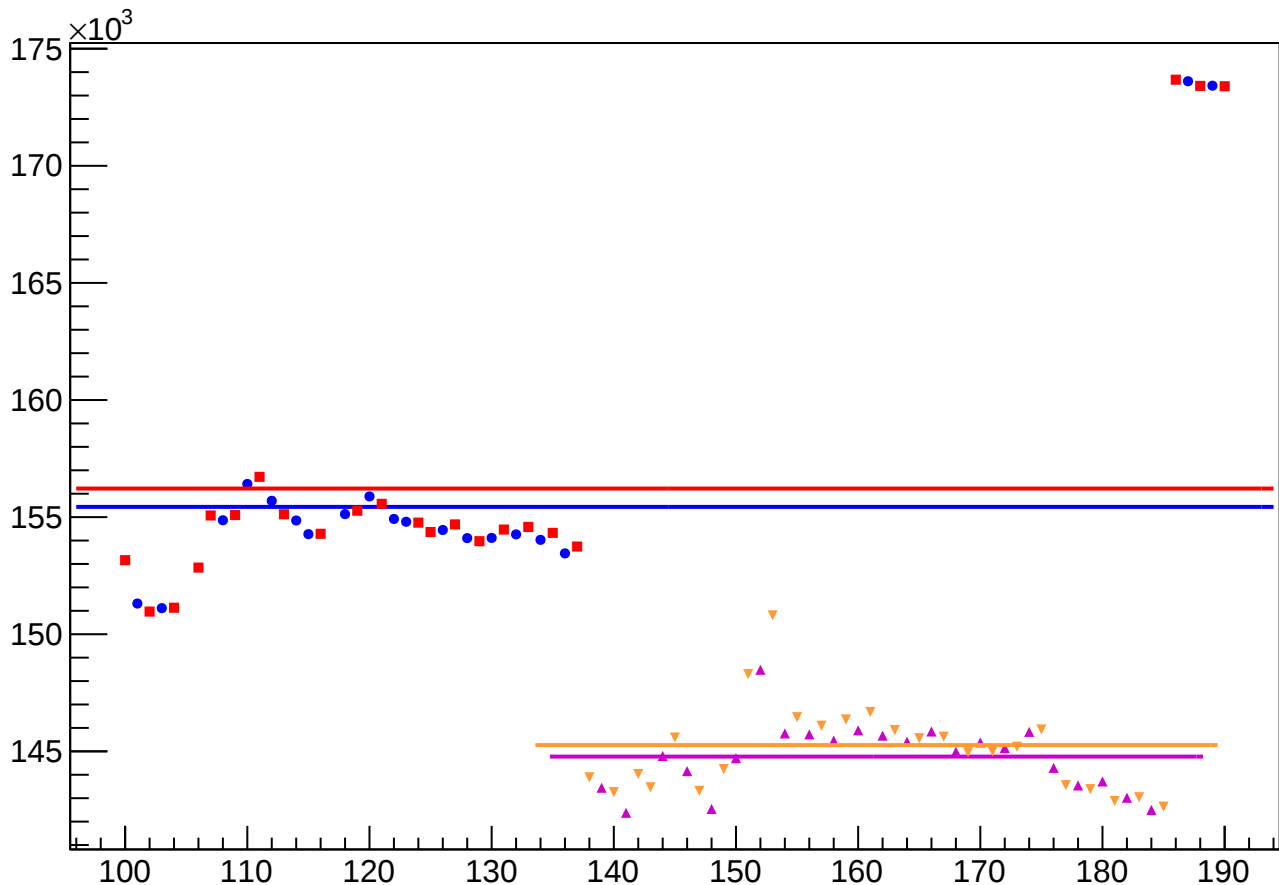
Right: 172.777+/-0.033  $\chi^2/\text{NDF}$ : 2287360.5/40

In: 198.134+/-0.029  $\chi^2/\text{NDF}$ : 1994936.5/41

Out: 194.129+/-0.027  $\chi^2/\text{NDF}$ : 2463547.5/46

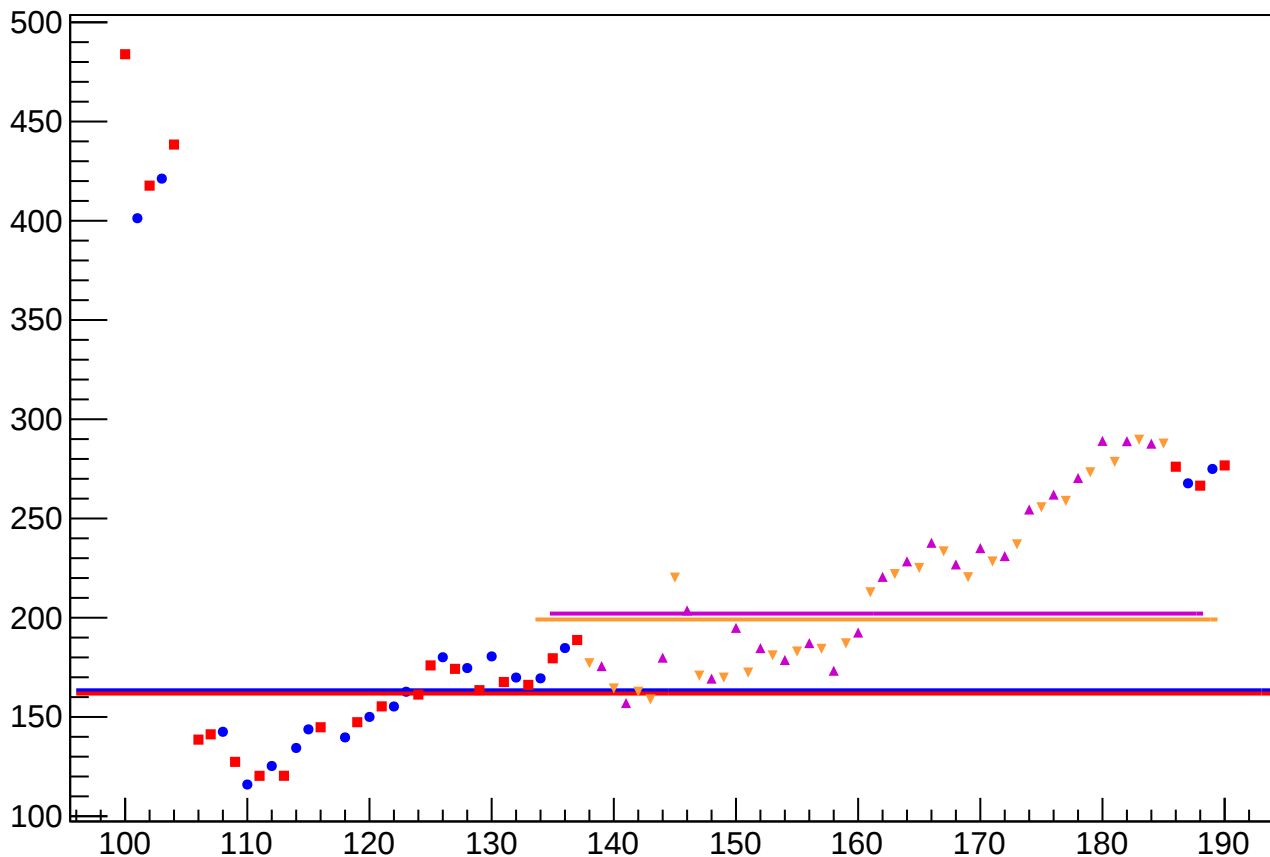
All: 195.999+/-0.020  $\chi^2/\text{NDF}$ : 4468459.8/88

yield\_bpm1i02WS\_mean vs Slug, Sign Corrected



Right In: 155437.237 $\pm$ 0.064  $\chi^2$ /NDF: 3108414641.4/18  
 Left Out: 145266.717 $\pm$ 0.047  $\chi^2$ /NDF: 1717707352.7/24  
 Right Out: 156220.992 $\pm$ 0.059  $\chi^2$ /NDF: 7325718536.7/21  
 Left In: 144776.016 $\pm$ 0.050  $\chi^2$ /NDF: 918120275.4/22  
 Left: 145032.324 $\pm$ 0.034  $\chi^2$ /NDF: 2687033506.0/18  
 Right: 155865.695 $\pm$ 0.043  $\chi^2$ /NDF: 10515302230.7/18  
 In: 148747.602 $\pm$ 0.039  $\chi^2$ /NDF: 21265545701.9/18  
 Out: 149601.000 $\pm$ 0.037  $\chi^2$ /NDF: 30181226583.5/18  
 All: 149201.352 $\pm$ 0.027  $\chi^2$ /NDF: 516980272.0/18

# yield\_bpm1i02WS\_rms vs Slug, Sign Corrected



Right In: 163.429+/-0.045  $\chi^2/\text{NDF}$ : 1342379.5/18

Left Out: 199.118+/-0.034  $\chi^2/\text{NDF}$ : 1152231.0/24

Right Out: 161.801+/-0.041  $\chi^2/\text{NDF}$ : 1732608.6/21

Left In: 202.090+/-0.035  $\chi^2/\text{NDF}$ : 1057833.2/22

Left: 200.538+/-0.024  $\chi^2/\text{NDF}$ : 2213821.5/47

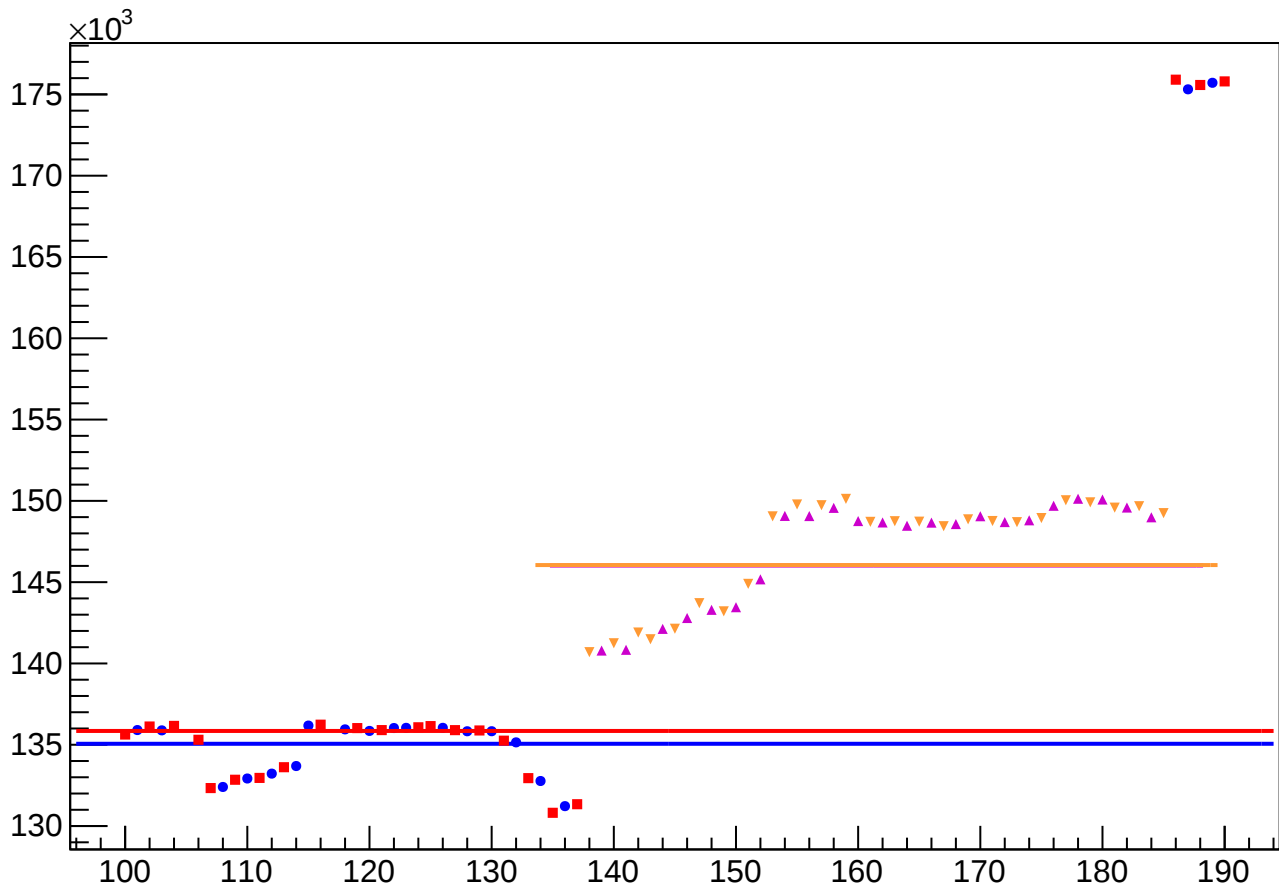
Right: 162.539+/-0.031  $\chi^2/\text{NDF}$ : 3075688.9/40

In: 187.688+/-0.028  $\chi^2/\text{NDF}$ : 2853610.2/41

Out: 184.353+/-0.026  $\chi^2/\text{NDF}$ : 3375460.9/46

All: 185.915+/-0.019  $\chi^2/\text{NDF}$ : 6236746.7/88

# yield\_bpm1i04WS\_mean vs Slug, Sign Corrected



Right In: 135059.461+/-0.050

$\chi^2/\text{NDF}$ : 13550395240.3/18

Left: 146036.626+/-0.035

$\chi^2/\text{NDF}$ : 9994930852.8/4

Right: 135482.675+/-0.034

$\chi^2/\text{NDF}$ : 46025545437.5/18

Left Out: 146051.733+/-0.048

$\chi^2/\text{NDF}$ : 5403300123.1/24

In: 140461.032+/-0.036

$\chi^2/\text{NDF}$ : 41889614307.0/4

Right Out: 135848.663+/-0.046

$\chi^2/\text{NDF}$ : 32341176772.9/21

Out: 140748.644+/-0.033

$\chi^2/\text{NDF}$ : 60933894271.5/21

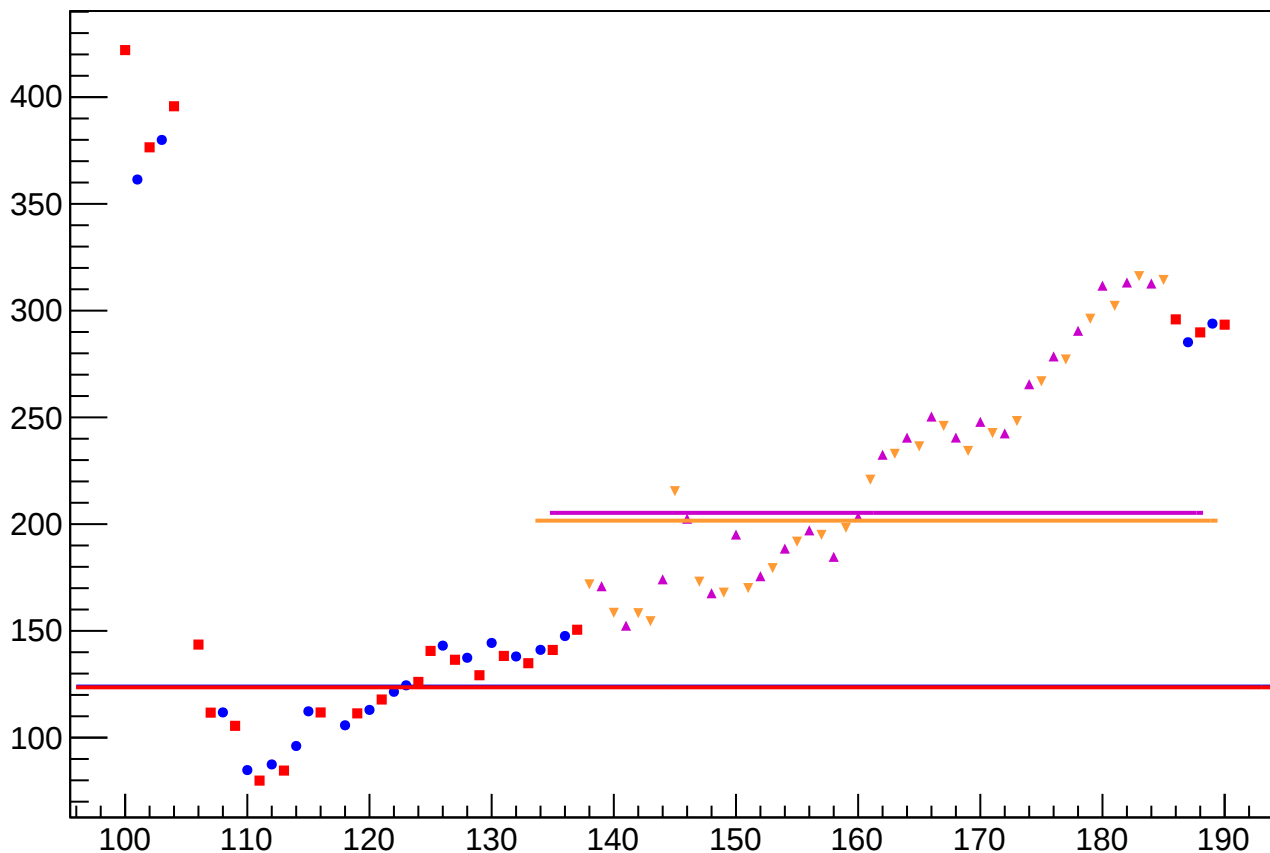
Left In: 146020.015+/-0.051

$\chi^2/\text{NDF}$ : 4591425371.4/22

All: 140613.512+/-0.024

$\chi^2/\text{NDF}$ : 102858192.0/100

# yield\_bpm1i04WS\_rms vs Slug, Sign Corrected



Right In: 123.907 $\pm$ 0.035  $\chi^2$ /NDF: 1890272.8/18

Left Out: 201.632 $\pm$ 0.034  $\chi^2$ /NDF:1589564.0/24

Right Out: 123.569 $\pm$ 0.033  $\chi^2$ /NDF: 2647751.9/21

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

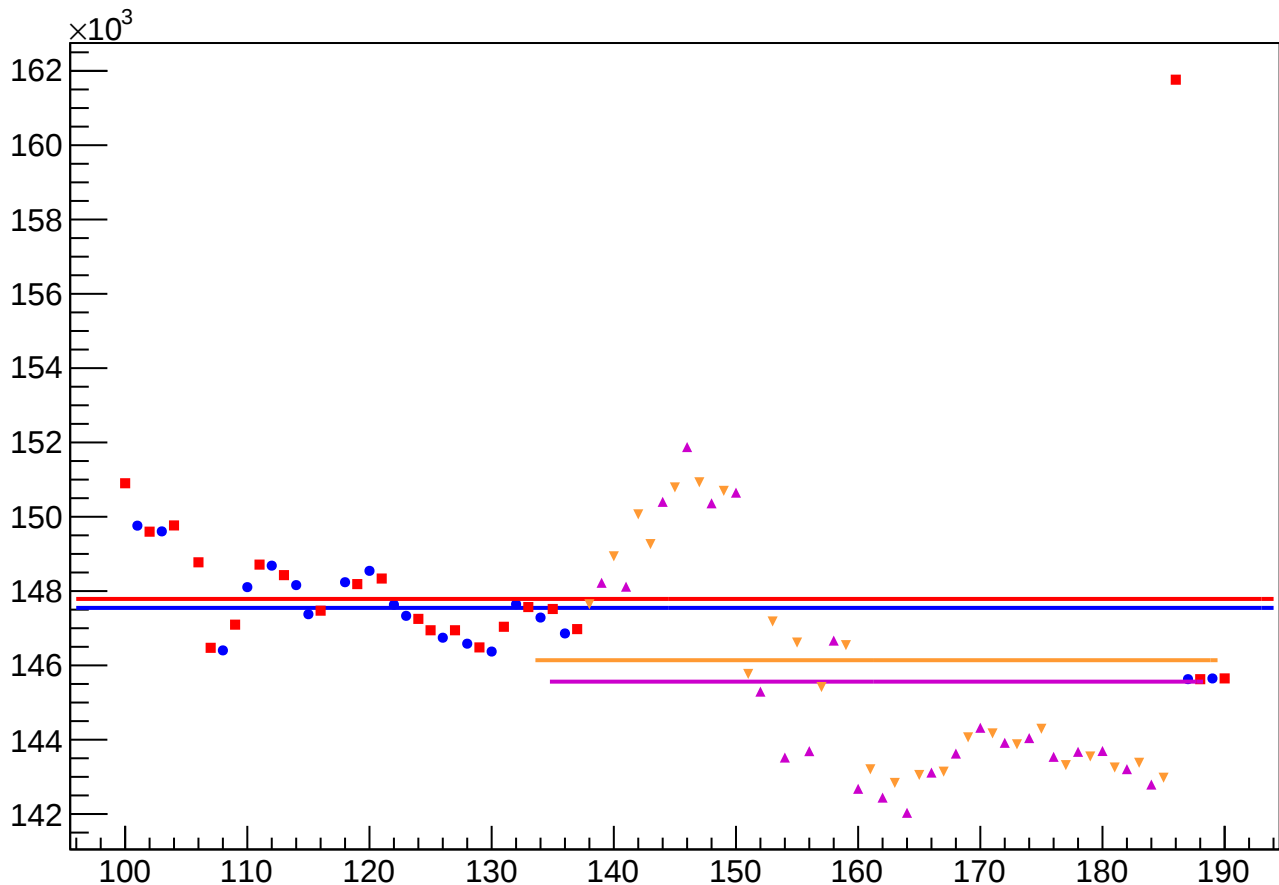
Right: 123.726 $\pm$ 0.024  $\chi^2$ /NDF: 4538073.8/40

In: 164.012 $\pm$ 0.025  $\chi^2$ /NDF:5933816.7/41

Out: 161.058 $\pm$ 0.024  $\chi^2$ /NDF:6952125.7/46

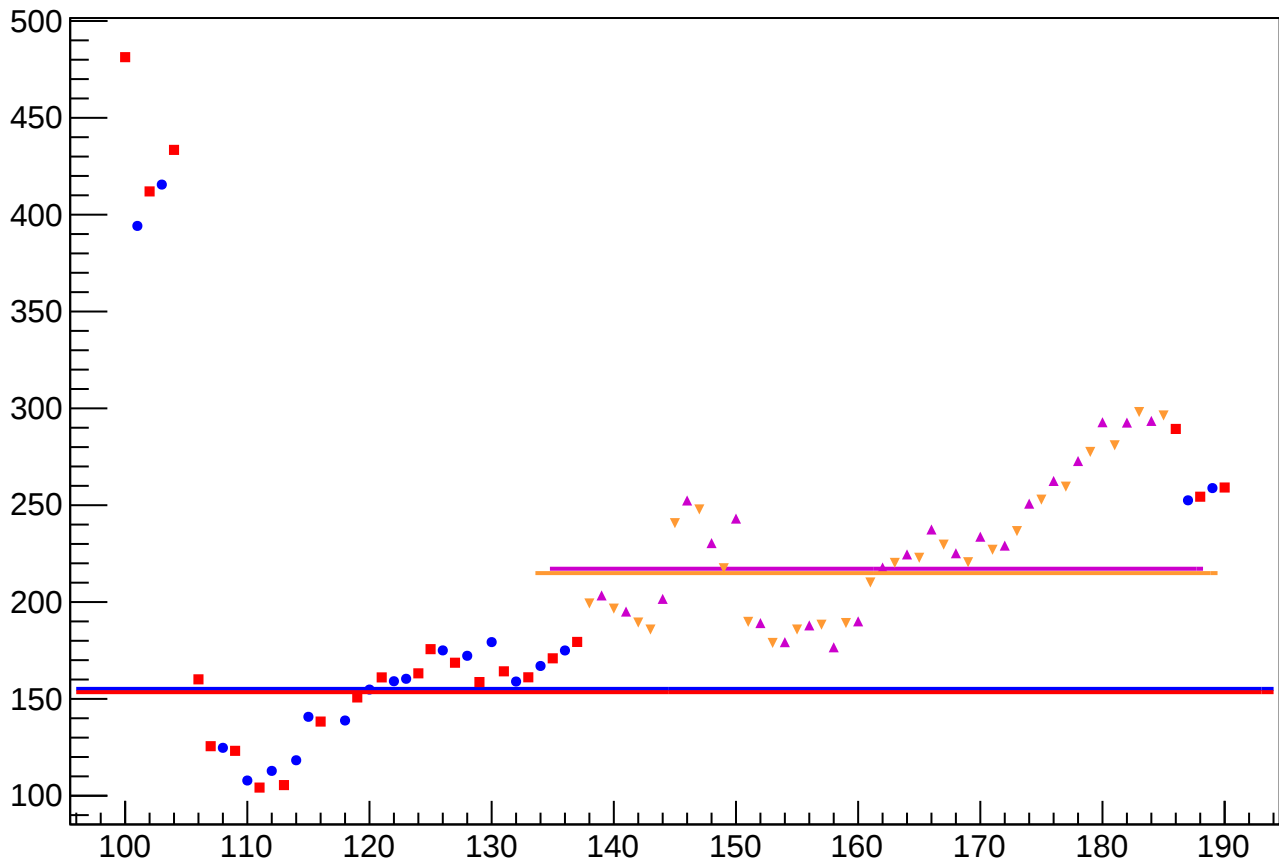
All: 162.446 $\pm$ 0.017  $\chi^2$ /NDF: 12893260.1/88

# yield\_bpm1i06WS\_mean vs Slug, Sign Corrected



|                                   |                                |                               |                               |
|-----------------------------------|--------------------------------|-------------------------------|-------------------------------|
| Right In: 147547.271 $\pm$ 0.061  | $\chi^2$ /NDF: 234359574.5/18  | 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: 147678.730 $\pm$ 0.041 | $\chi^2$ /NDF: 1419222488.1/4 |
| Right Out: 147788.547 $\pm$ 0.056 | $\chi^2$ /NDF: 1176463225.7/21 | In: 146410.319 $\pm$ 0.040    | $\chi^2$ /NDF: 3886633935.9/4 |
| Left In: 145562.386 $\pm$ 0.053   | $\chi^2$ /NDF: 3054641996.0/22 | Out: 146883.129 $\pm$ 0.038   | $\chi^2$ /NDF: 4349387769.1/4 |
|                                   |                                | All: 146661.557 $\pm$ 0.027   | $\chi^2$ /NDF: 830965979.1/4  |

# yield\_bpm1i06WS\_rms vs Slug, Sign Corrected



Right In: 155.169+/-0.043  $\chi^2/\text{NDF}$ : 1465798.1/18

Left Out: 214.945+/-0.036  $\chi^2/\text{NDF}$ : 728515.5/24

Right Out: 153.471+/-0.040  $\chi^2/\text{NDF}$ : 1973031.3/21

Left In: 217.203+/-0.038  $\chi^2/\text{NDF}$ : 764798.3/22

Left: 216.027+/-0.026  $\chi^2/\text{NDF}$ : 1495200.1/47

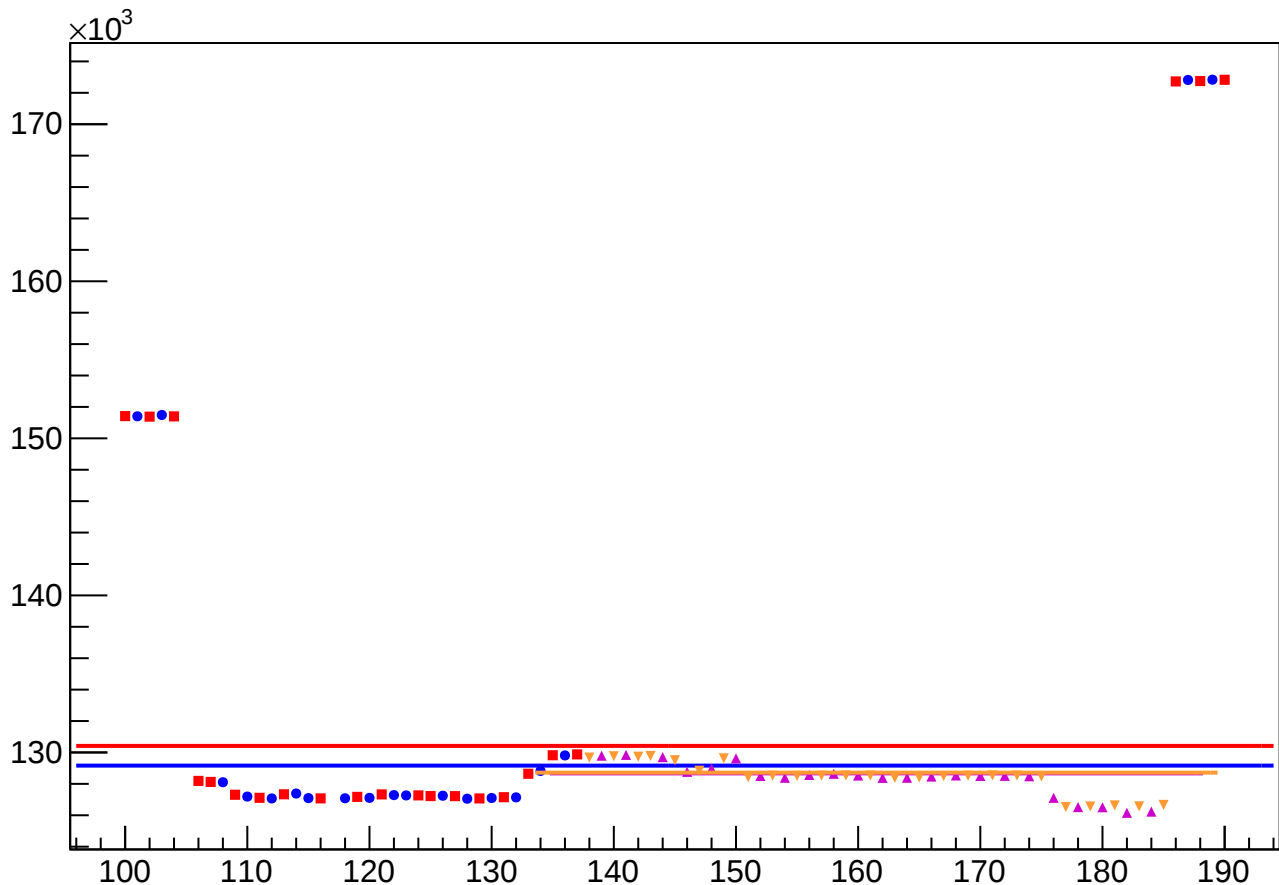
Right: 154.244+/-0.029  $\chi^2/\text{NDF}$ : 3439661.3/40

In: 190.703+/-0.028  $\chi^2/\text{NDF}$ : 3398084.6/41

Out: 187.220+/-0.027  $\chi^2/\text{NDF}$ : 4016941.6/46

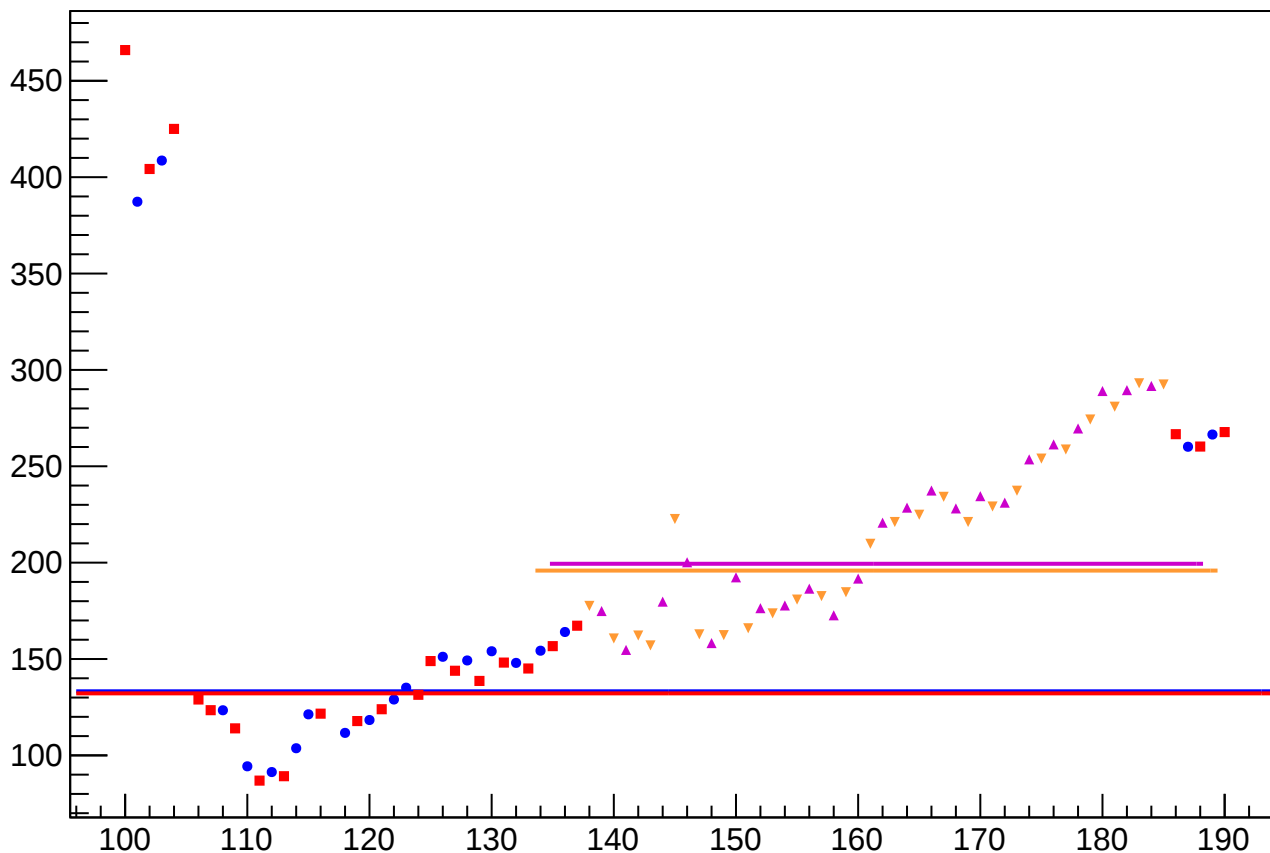
All: 188.852+/-0.019  $\chi^2/\text{NDF}$ : 7423016.0/88

# yield\_bpm2i01WS\_mean vs Slug, Sign Corrected



Right In: 129162.130+/-0.054  $\chi^2/\text{NDF}$ : 21890497397.3/18  
 Left Out: 128714.507+/-0.047  $\chi^2/\text{NDF}$ : 348178101.1/24  
 Right Out: 130416.465+/-0.049  $\chi^2/\text{NDF}$ : 47656286646.3/21  
 Left In: 128667.013+/-0.049  $\chi^2/\text{NDF}$ : 333059477.6/22  
 Left: 128691.898+/-0.034  $\chi^2/\text{NDF}$ : 681729975.4/47  
 Right: 129844.730+/-0.036  $\chi^2/\text{NDF}$ : 69845779399.8/47  
 In: 128892.780+/-0.036  $\chi^2/\text{NDF}$ : 22270127137.4/47  
 Out: 129525.008+/-0.034  $\chi^2/\text{NDF}$ : 48637029336.1/47  
 All: 129230.014+/-0.025  $\chi^2/\text{NDF}$ : 710704383.1/94

# yield\_bpm2i01WS\_rms vs Slug, Sign Corrected



Right In: 133.243 $\pm$ 0.038  $\chi^2/\text{NDF}$ : 1803280.0/18

Left Out: 195.883 $\pm$ 0.033  $\chi^2/\text{NDF}$ :1313361.5/24

Right Out: 132.175 $\pm$ 0.035  $\chi^2/\text{NDF}$ : 2368302.2/21

Left In: 199.413 $\pm$ 0.035  $\chi^2/\text{NDF}$ :1165698.7/22

Left: 197.564 $\pm$ 0.024  $\chi^2/\text{NDF}$ : 2484502.8/47

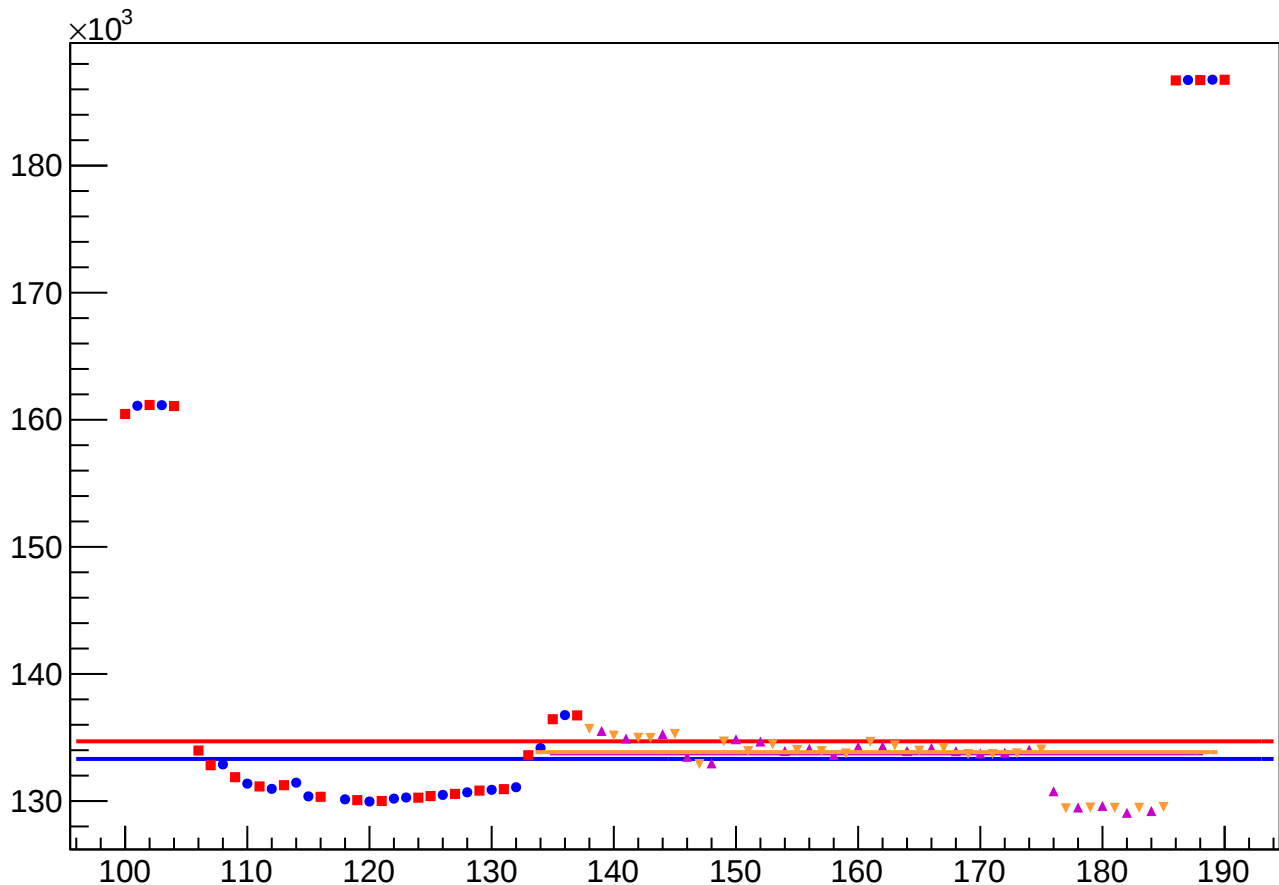
Right: 132.661 $\pm$ 0.026  $\chi^2/\text{NDF}$ : 4172015.8/40

In: 169.240 $\pm$ 0.026  $\chi^2/\text{NDF}$ :4632608.9/41

Out: 165.544 $\pm$ 0.024  $\chi^2/\text{NDF}$ :5454329.1/46

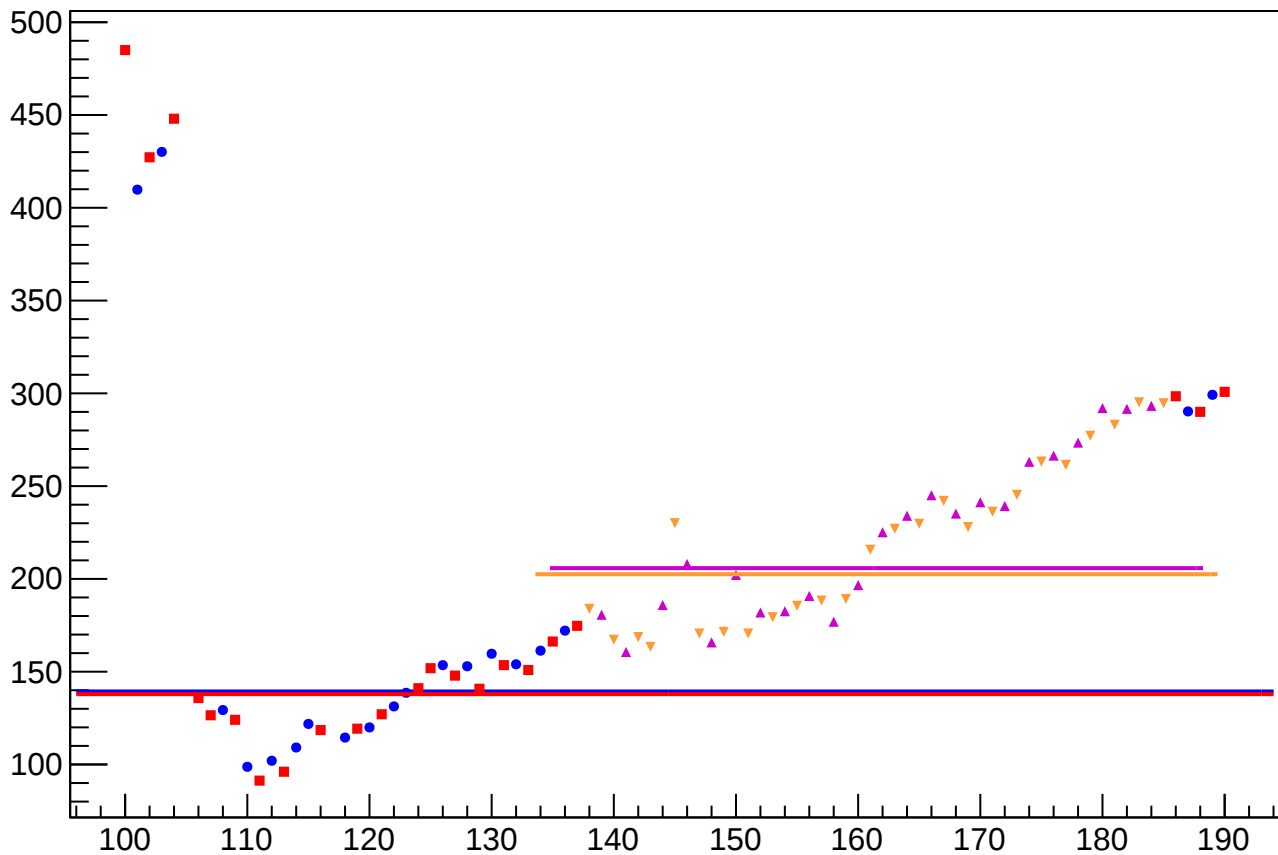
All: 167.269 $\pm$ 0.017  $\chi^2/\text{NDF}$ : 10098102.2/88

# yield\_bpm2i02WS\_mean vs Slug, Sign Corrected



|                                   |                                 |                               |                                 |
|-----------------------------------|---------------------------------|-------------------------------|---------------------------------|
| Right In: 133313.414 $\pm$ 0.056  | $\chi^2$ /NDF: 27598097794.4/18 | Left: 133802.452 $\pm$ 0.035  | $\chi^2$ /NDF: 2036267179.3/4   |
| Left Out: 133850.586 $\pm$ 0.048  | $\chi^2$ /NDF: 1080107831.1/24  | Right: 134066.564 $\pm$ 0.038 | $\chi^2$ /NDF: 86511434334.1/18 |
| Right Out: 134697.834 $\pm$ 0.051 | $\chi^2$ /NDF: 58580533910.5/21 | In: 133553.826 $\pm$ 0.038    | $\chi^2$ /NDF: 28585640304.3/4  |
| Left In: 133749.630 $\pm$ 0.051   | $\chi^2$ /NDF: 954069486.7/22   | Out: 134248.478 $\pm$ 0.035   | $\chi^2$ /NDF: 59805620612.1/18 |
|                                   |                                 | All: 133923.925 $\pm$ 0.026   | $\chi^2$ /NDF: 885740718.1/18   |

# yield\_bpm2i02WS\_rms vs Slug, Sign Corrected



Right In: 139.338 $\pm$ 0.040  $\chi^2$ /NDF: 1805815.2/18

Left Out: 202.527 $\pm$ 0.034  $\chi^2$ /NDF:1211991.5/24

Right Out: 137.901 $\pm$ 0.036  $\chi^2$ /NDF: 2450470.0/21

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

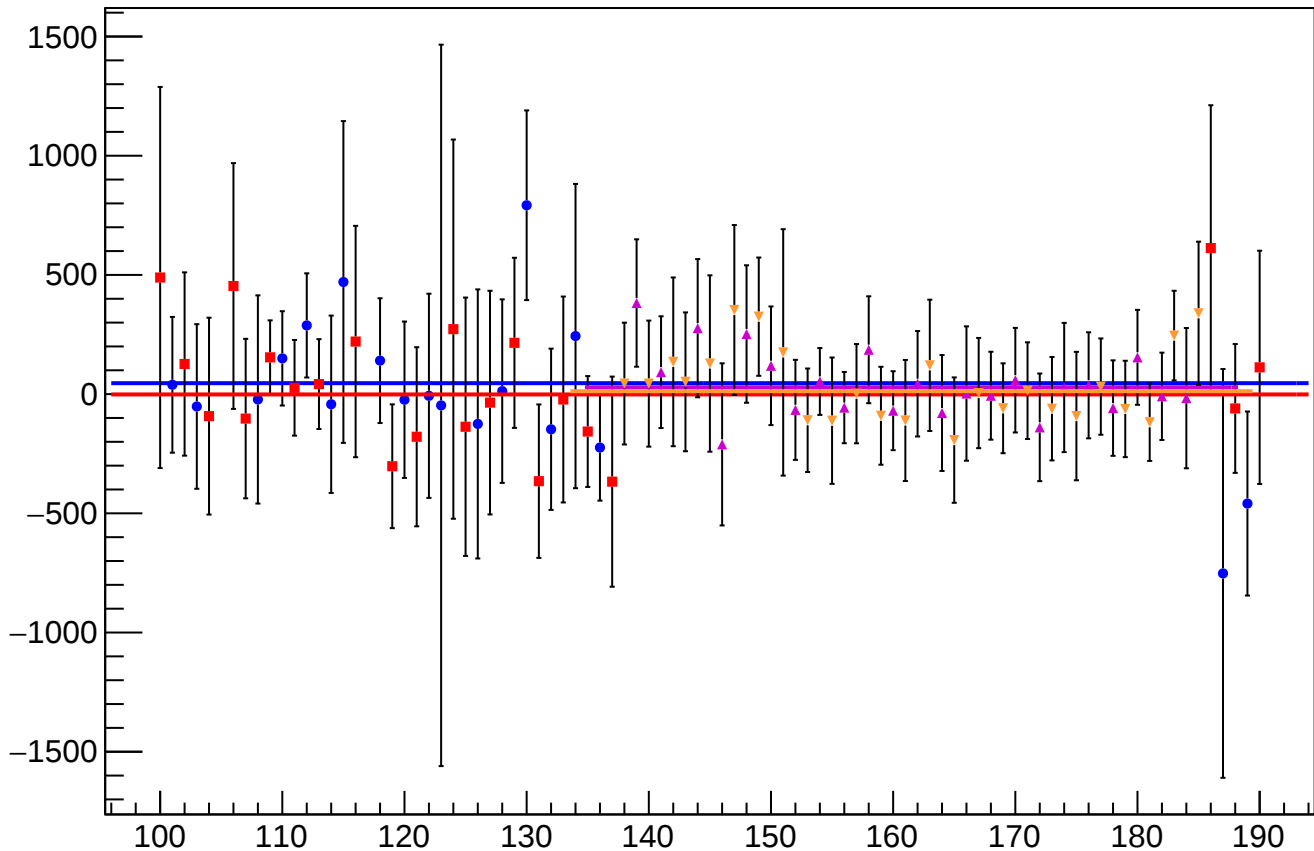
Right: 138.556 $\pm$ 0.027  $\chi^2$ /NDF: 4257002.6/40

In: 175.972 $\pm$ 0.027  $\chi^2$ /NDF:4454566.0/41

Out: 172.177 $\pm$ 0.025  $\chi^2$ /NDF:5349529.3/46

All: 173.950 $\pm$ 0.018  $\chi^2$ /NDF: 9815006.1/88

# asym\_bcm\_an\_ds\_mean vs Slug, Sign Corrected



Right In: 45.939+/-77.298  $\chi^2/\text{NDF}$ : 10.4/18

Left Out: 12.180+/-47.531  $\chi^2/\text{NDF}$ : 8.6/24

Right Out: -1.273+/-66.773  $\chi^2/\text{NDF}$ : 8.4/21

Left In: 28.452+/-44.688  $\chi^2/\text{NDF}$ : 6.7/22

Left: 20.817+/-32.558  $\chi^2/\text{NDF}$ : 15.3/47

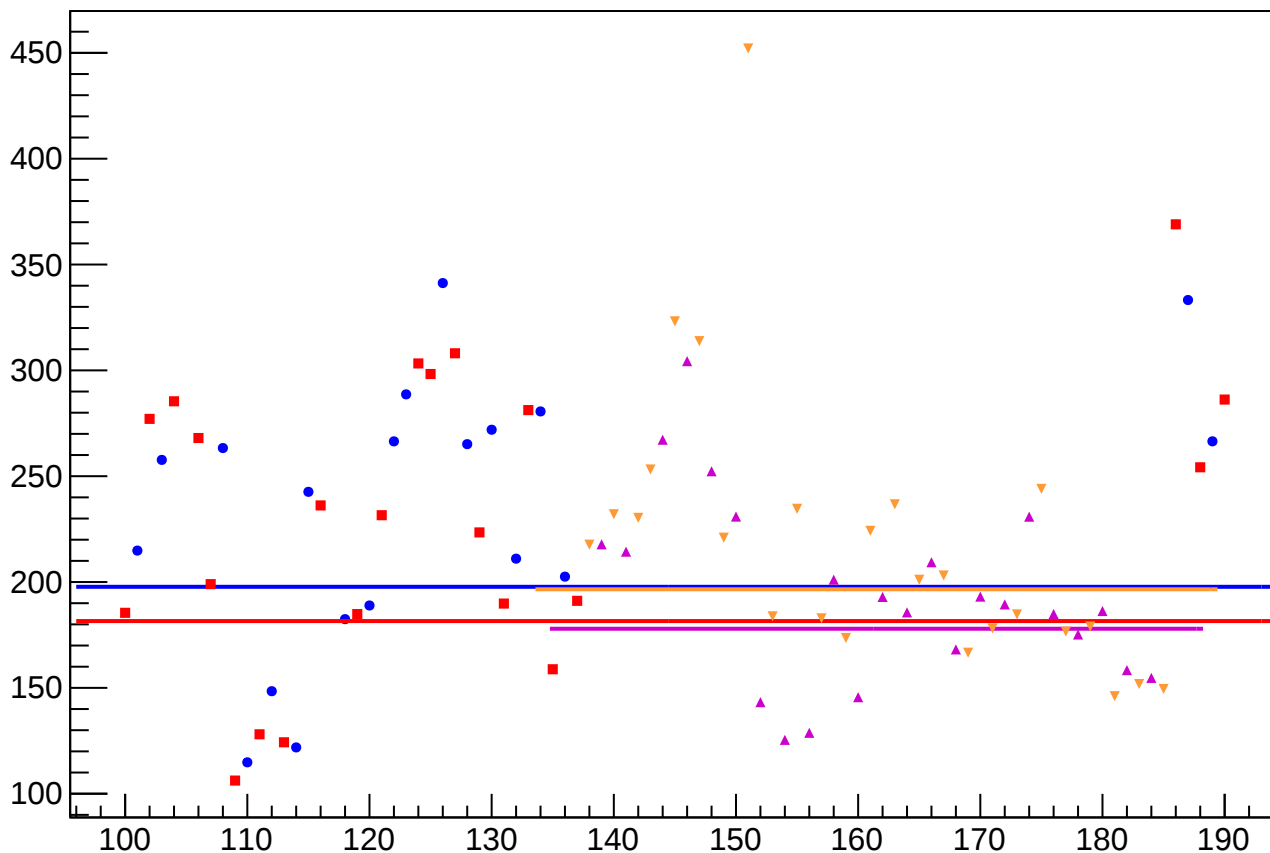
Right: 18.902+/-50.530  $\chi^2/\text{NDF}$ : 18.9/40

In: 32.832+/-38.688  $\chi^2/\text{NDF}$ : 17.0/41

Out: 7.656+/-38.722  $\chi^2/\text{NDF}$ : 17.0/46

All: 20.255+/-27.369  $\chi^2/\text{NDF}$ : 34.2/88

# asym\_bcm\_an\_ds\_rms vs Slug, Sign Corrected



Right In:  $197.749 \pm 0.055$   $\chi^2/NDF: 1136653.6/18$

Left Out:  $196.576 \pm 0.034$   $\chi^2/NDF: 1778719.0/24$

Right Out:  $181.565 \pm 0.047$   $\chi^2/NDF: 2043896.0/21$

Left In:  $177.933 \pm 0.032$   $\chi^2/NDF: 1605780.8/22$

Left:  $186.680 \pm 0.023$   $\chi^2/NDF: 3547823.4/47$

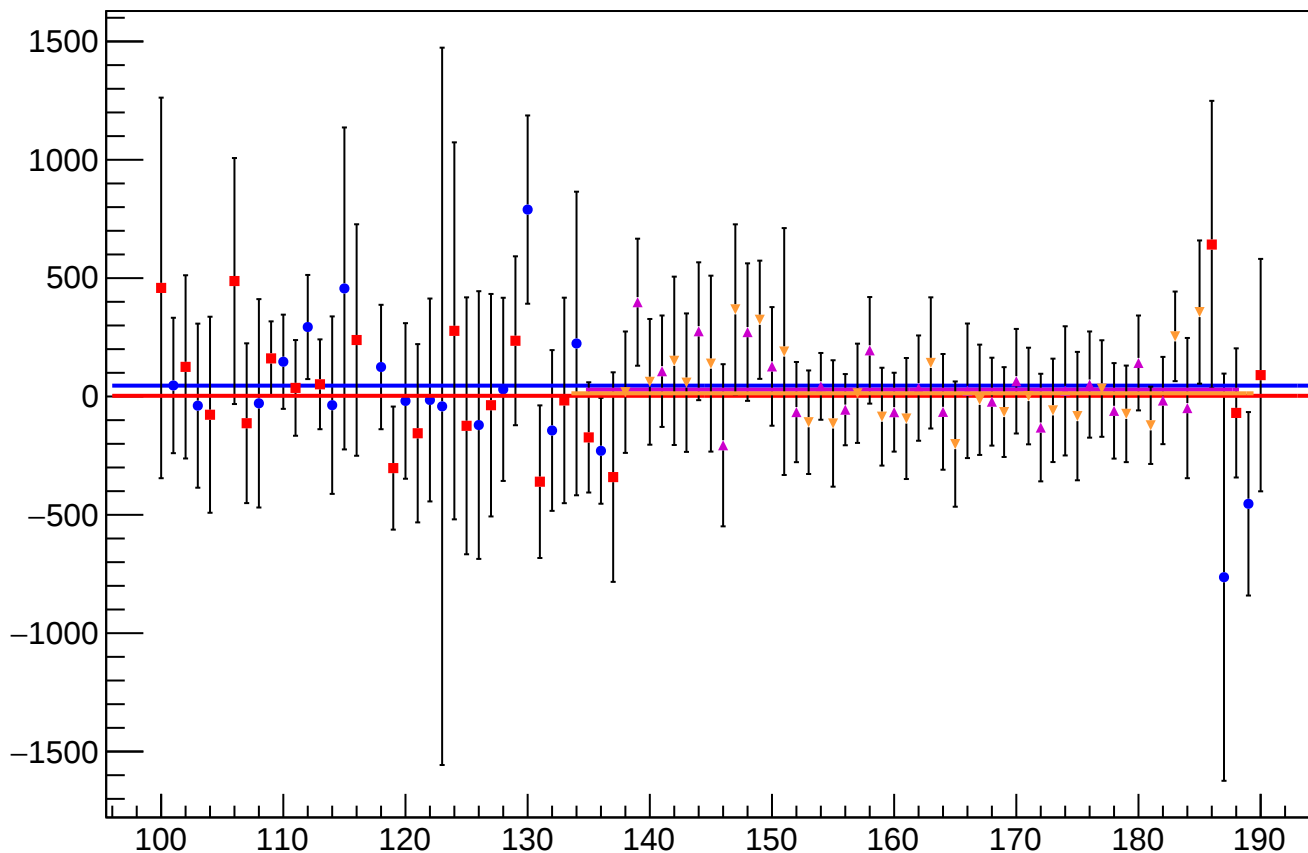
Right:  $188.481 \pm 0.036$   $\chi^2/NDF: 3230759.1/40$

In:  $182.897 \pm 0.027$   $\chi^2/NDF: 2840951.7/41$

Out:  $191.528 \pm 0.027$   $\chi^2/NDF: 3889701.0/46$

All:  $187.209 \pm 0.019$   $\chi^2/NDF: 6780377.2/88$

# asym\_bcm\_an\_ds3\_mean vs Slug, Sign Corrected



Right In: 45.820+/-77.673  $\chi^2/\text{NDF}$ : 10.2/18

Left Out: 13.395+/-47.862  $\chi^2/\text{NDF}$ : 9.0/24

Right Out: 2.863+/-67.149  $\chi^2/\text{NDF}$ : 8.6/21

Left In: 28.806+/-44.980  $\chi^2/\text{NDF}$ : 6.8/22

Left: 21.578+/-32.777  $\chi^2/\text{NDF}$ : 15.9/47

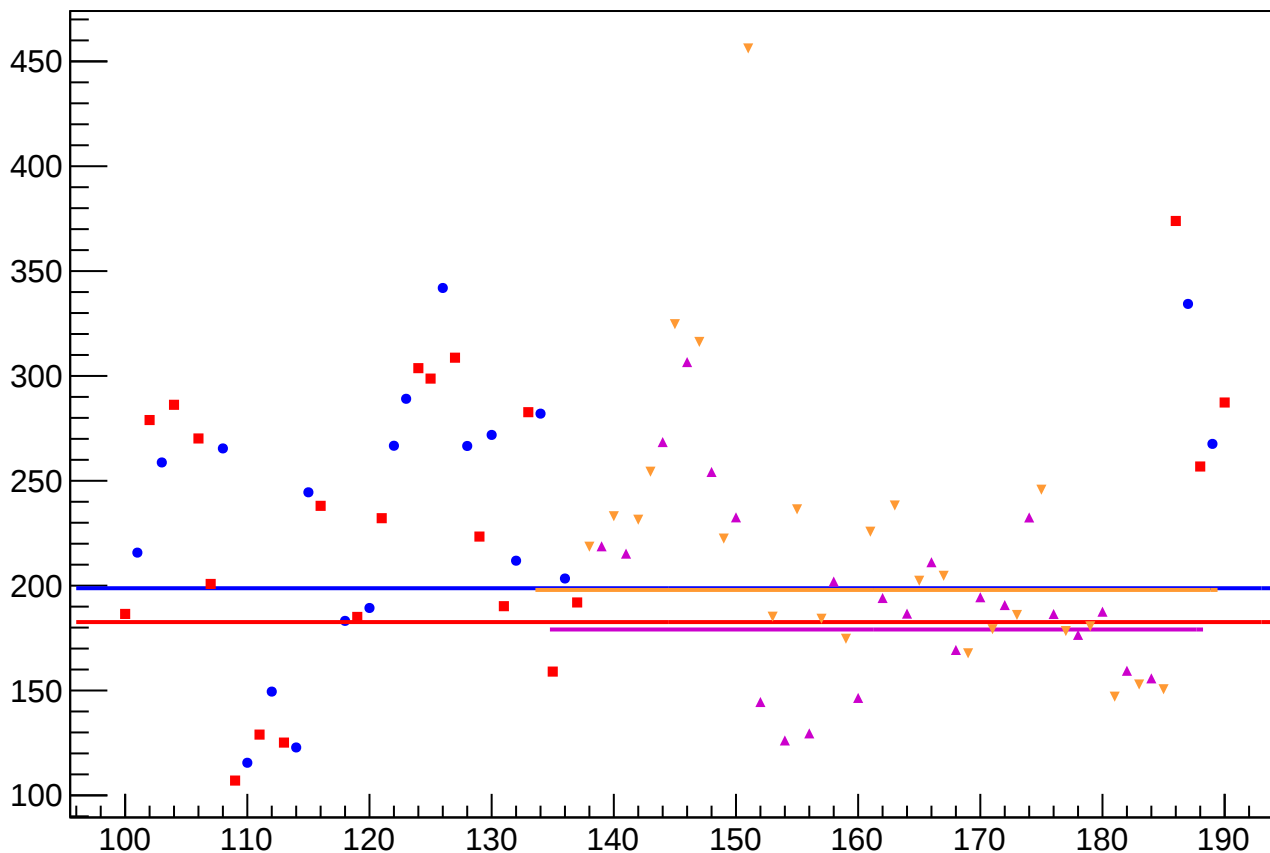
Right: 21.236+/-50.798  $\chi^2/\text{NDF}$ : 19.0/40

In: 33.079+/-38.924  $\chi^2/\text{NDF}$ : 17.1/41

Out: 9.847+/-38.975  $\chi^2/\text{NDF}$ : 17.6/46

All: 21.478+/-27.541  $\chi^2/\text{NDF}$ : 34.9/88

# asym\_bcm\_an\_ds3\_rms vs Slug, Sign Corrected



Right In:  $198.771 \pm 0.055$   $\chi^2/\text{NDF}: 1127583.7/18$

Left Out:  $197.953 \pm 0.034$   $\chi^2/\text{NDF}: 1774524.3/24$

Right Out:  $182.632 \pm 0.047$   $\chi^2/\text{NDF}: 2037288.6/21$

Left In:  $179.090 \pm 0.032$   $\chi^2/\text{NDF}: 1605113.3/22$

Left:  $187.936 \pm 0.023$   $\chi^2/\text{NDF}: 3544595.8/47$

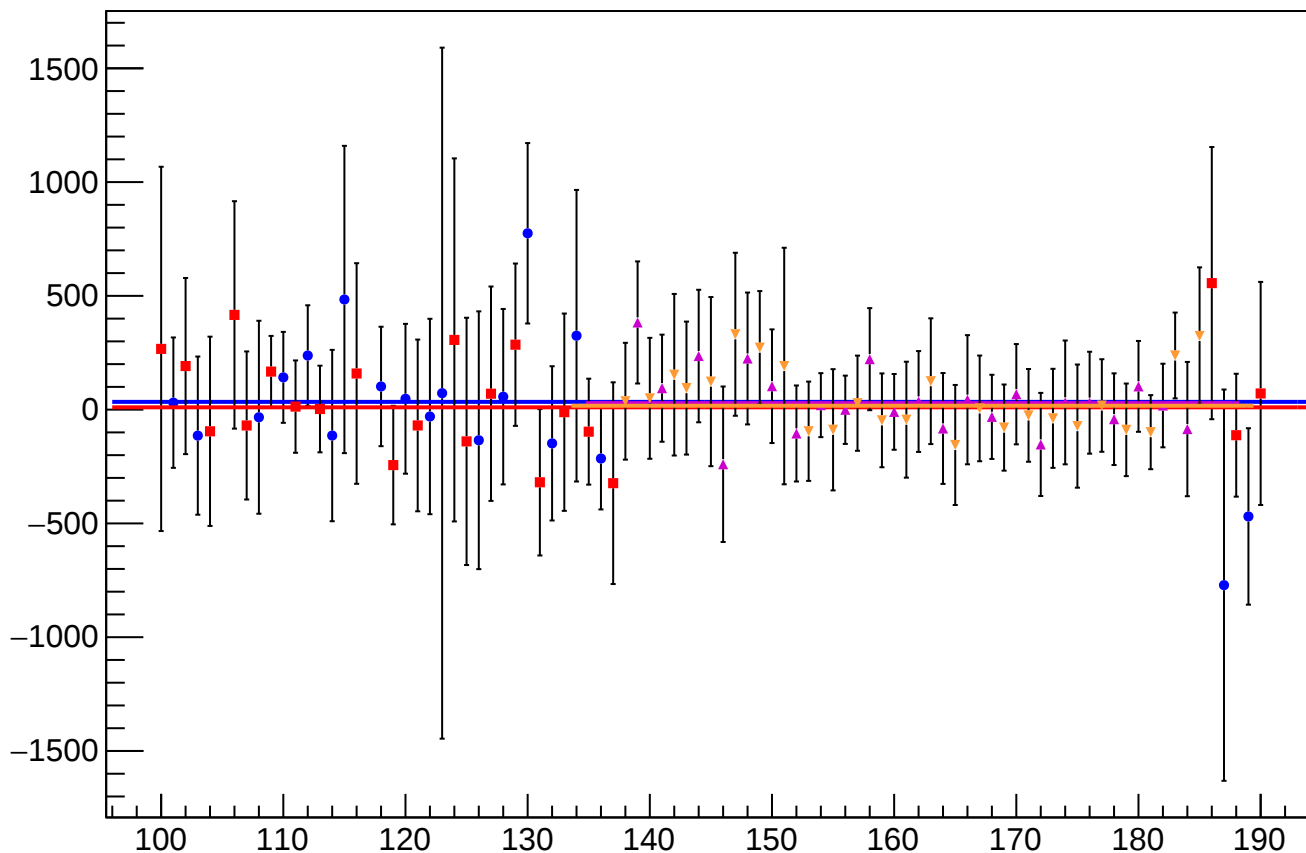
Right:  $189.535 \pm 0.036$   $\chi^2/\text{NDF}: 3214286.4/40$

In:  $184.032 \pm 0.028$   $\chi^2/\text{NDF}: 2828855.8/41$

Out:  $192.791 \pm 0.028$   $\chi^2/\text{NDF}: 3880853.9/46$

All:  $188.406 \pm 0.019$   $\chi^2/\text{NDF}: 6760280.5/88$

# asym\_bcm\_an\_us\_mean vs Slug, Sign Corrected



Right In: 34.141 $\pm$ 77.670  $\chi^2$ /NDF: 9.9/18

Left Out: 17.142 $\pm$ 47.738  $\chi^2$ /NDF:7.1/24

Right Out: 10.156 $\pm$ 67.025  $\chi^2$ /NDF: 6.9/21

Left In: 28.655 $\pm$ 44.859  $\chi^2$ /NDF:6.1/22

Left: 23.256 $\pm$ 32.690  $\chi^2$ /NDF: 13.2/47

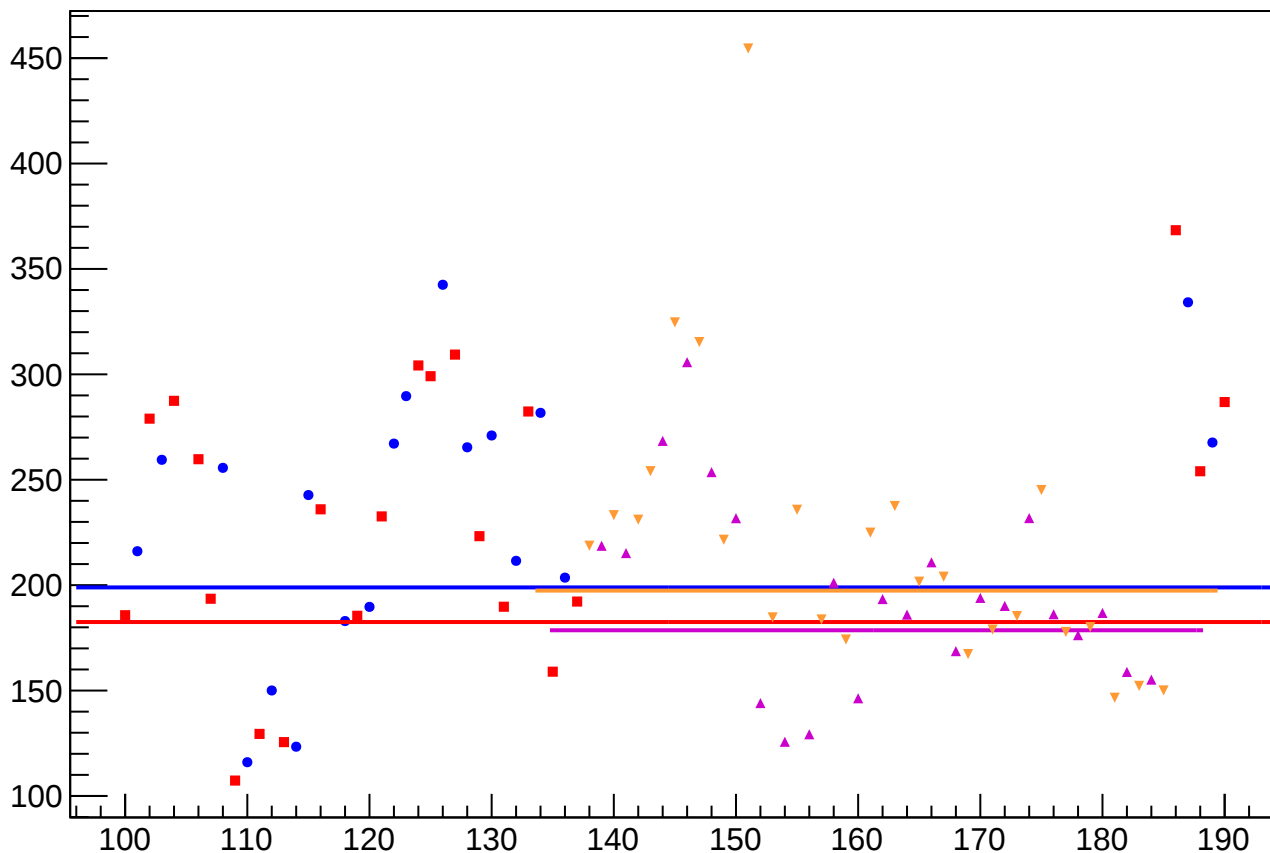
Right: 20.393 $\pm$ 50.743  $\chi^2$ /NDF: 16.9/40

In: 30.028 $\pm$ 38.846  $\chi^2$ /NDF:16.1/41

Out: 14.791 $\pm$ 38.883  $\chi^2$ /NDF:14.0/46

All: 22.416 $\pm$ 27.481  $\chi^2$ /NDF: 30.1/88

# asym\_bcm\_an\_us\_rms vs Slug, Sign Corrected



Right In: 198.927 $\pm$ 0.055  $\chi^2$ /NDF: 1105104.1/18

Left Out: 197.422 $\pm$ 0.034  $\chi^2$ /NDF: 1780261.9/24

Right Out: 182.509 $\pm$ 0.047  $\chi^2$ /NDF: 2000281.6/21

Left In: 178.601 $\pm$ 0.032  $\chi^2$ /NDF: 1608998.1/22

Left: 187.427 $\pm$ 0.023  $\chi^2$ /NDF: 3554344.1/47

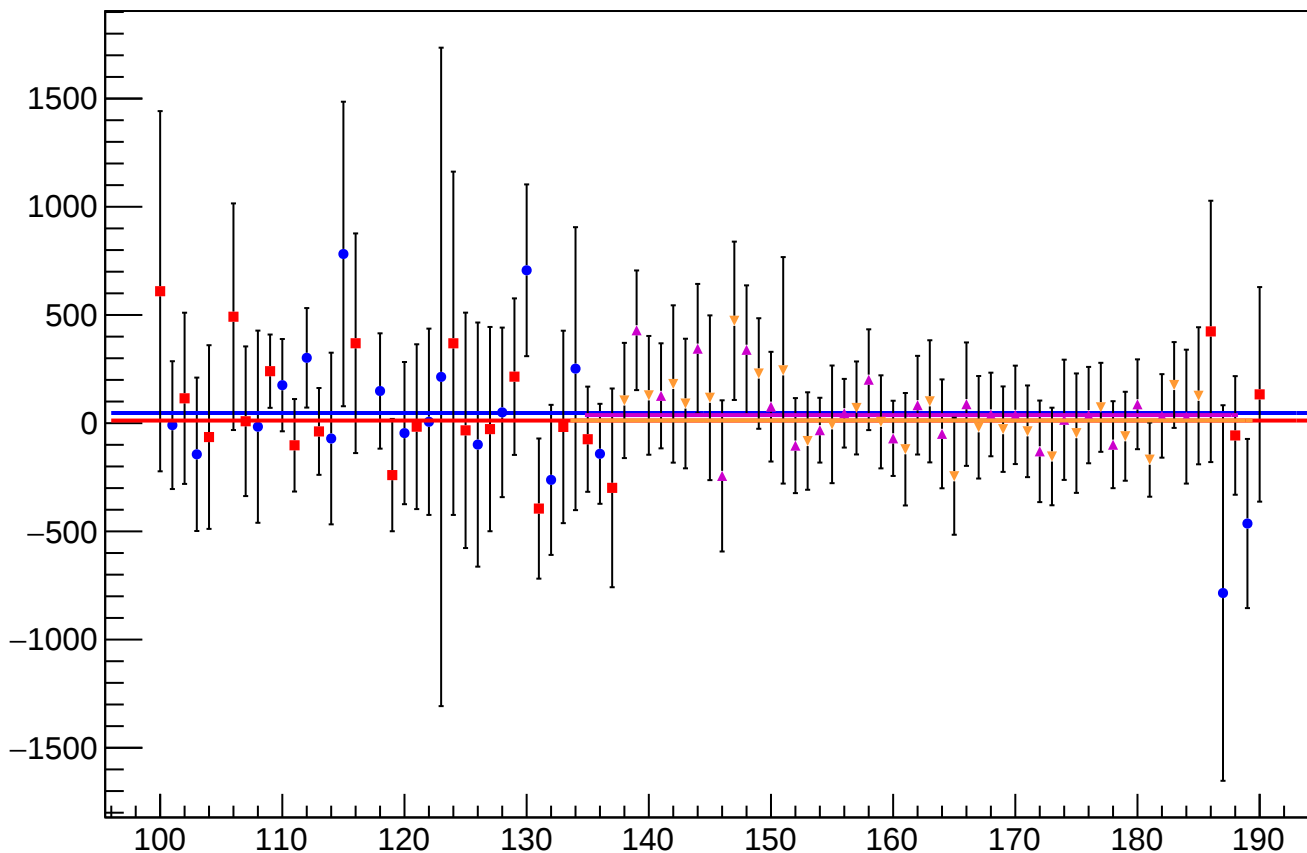
Right: 189.517 $\pm$ 0.036  $\chi^2$ /NDF: 3156610.0/40

In: 183.686 $\pm$ 0.027  $\chi^2$ /NDF: 2816810.4/41

Out: 192.403 $\pm$ 0.027  $\chi^2$ /NDF: 3846232.4/46

All: 188.040 $\pm$ 0.019  $\chi^2$ /NDF: 6713350.7/88

# asym\_bcm\_dg\_us\_mean vs Slug, Sign Corrected



Right In: 47.054+/-80.003  $\chi^2/\text{NDF}$ : 10.4/18

Left Out: 12.632+/-49.242  $\chi^2/\text{NDF}$ : 7.5/24

Right Out: 12.159+/-69.654  $\chi^2/\text{NDF}$ : 8.3/21

Left In: 37.460+/-46.479  $\chi^2/\text{NDF}$ : 7.6/22

Left: 25.762+/-33.800  $\chi^2/\text{NDF}$ : 15.3/47

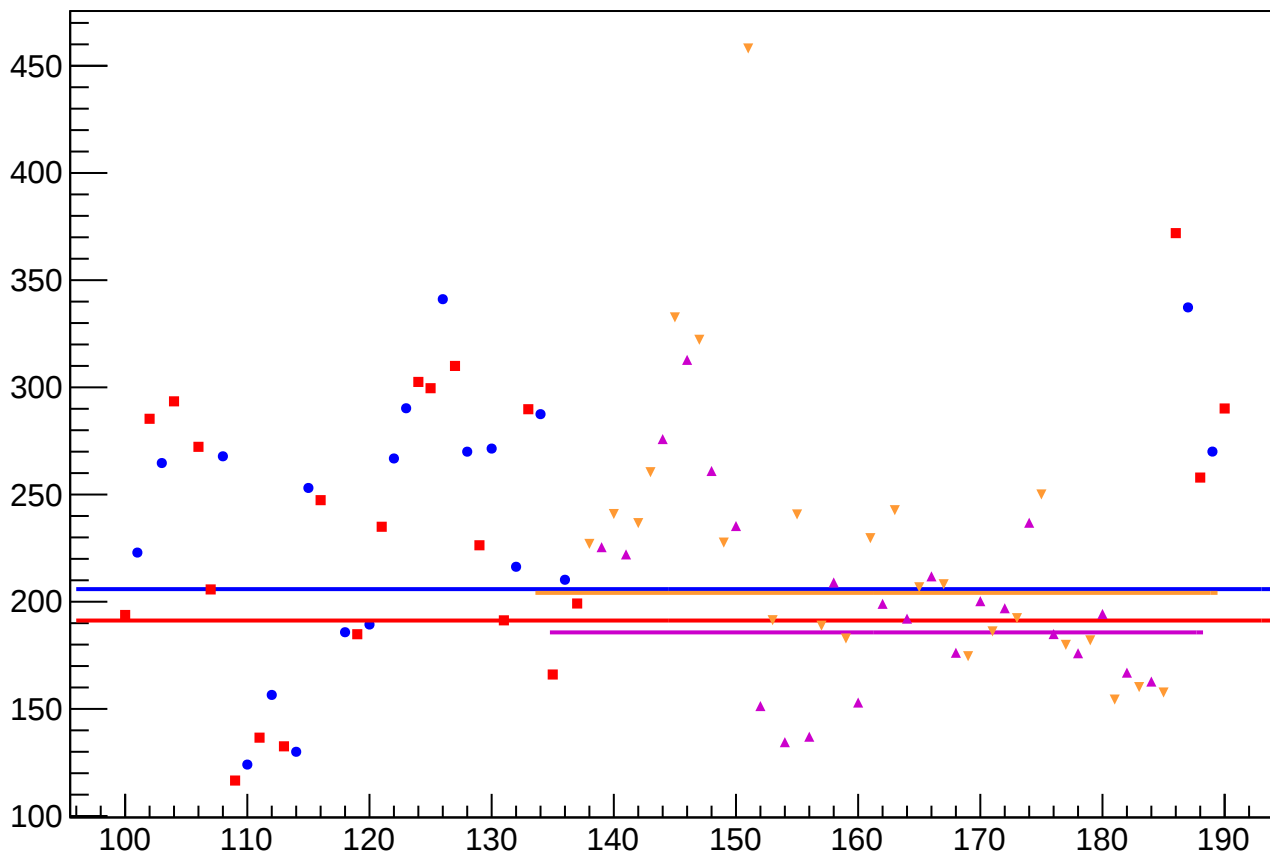
Right: 27.205+/-52.533  $\chi^2/\text{NDF}$ : 18.8/40

In: 39.881+/-40.189  $\chi^2/\text{NDF}$ : 18.0/41

Out: 12.475+/-40.209  $\chi^2/\text{NDF}$ : 15.9/46

All: 26.185+/-28.425  $\chi^2/\text{NDF}$ : 34.1/88

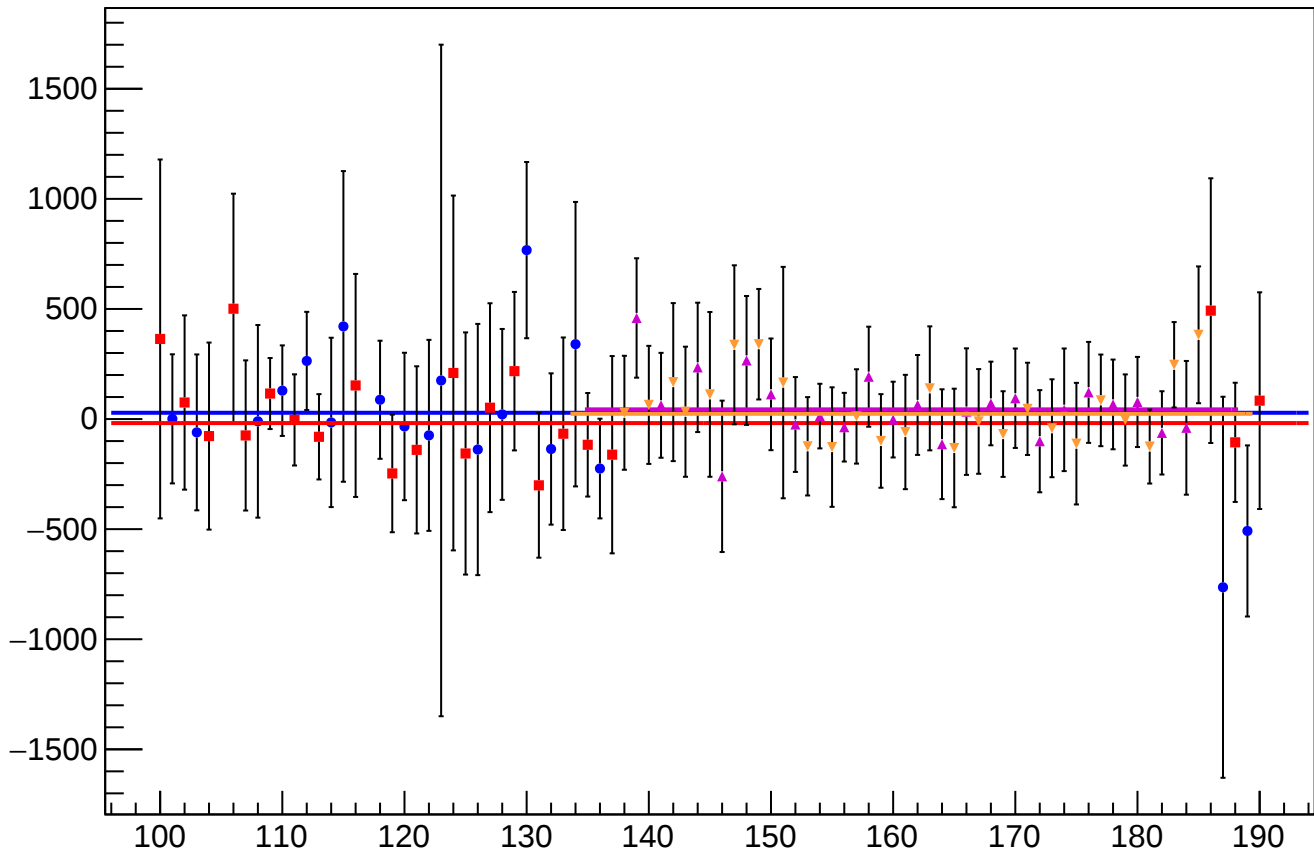
# asym\_bcm\_dg\_us\_rms vs Slug, Sign Corrected



Right In: 205.879 $\pm$ 0.057  $\chi^2/\text{NDF}$ : 988925.4/18  
 Left Out: 204.132 $\pm$ 0.035  $\chi^2/\text{NDF}$ :1672287.6/24  
 Right Out: 191.229 $\pm$ 0.049  $\chi^2/\text{NDF}$ : 1784879.4/21  
 Left In: 185.694 $\pm$ 0.033  $\chi^2/\text{NDF}$ :1447767.0/22

Left: 194.381 $\pm$ 0.024  $\chi^2/\text{NDF}$ : 3268347.9/47  
 Right: 197.546 $\pm$ 0.037  $\chi^2/\text{NDF}$ : 2811956.3/40  
 In: 190.787 $\pm$ 0.028  $\chi^2/\text{NDF}$ :2531885.6/41  
 Out: 199.832 $\pm$ 0.028  $\chi^2/\text{NDF}$ :3502928.8/46  
 All: 195.307 $\pm$ 0.020  $\chi^2/\text{NDF}$ : 6085437.8/88

asym\_bcm\_dg\_ds\_mean vs Slug, Sign Corrected



Right In: 28.541 $\pm$ 78.999  $\chi^2$ /NDF: 9.9/18

Left Out: 23.843 $\pm$ 48.783  $\chi^2$ /NDF:8.5/24

Right Out: -18.256 $\pm$ 68.344  $\chi^2$ /NDF: 5.6/21

Left In: 43.978 $\pm$ 45.981  $\chi^2$ /NDF:6.5/22

Left: 34.506 $\pm$ 33.460  $\chi^2$ /NDF: 15.1/47

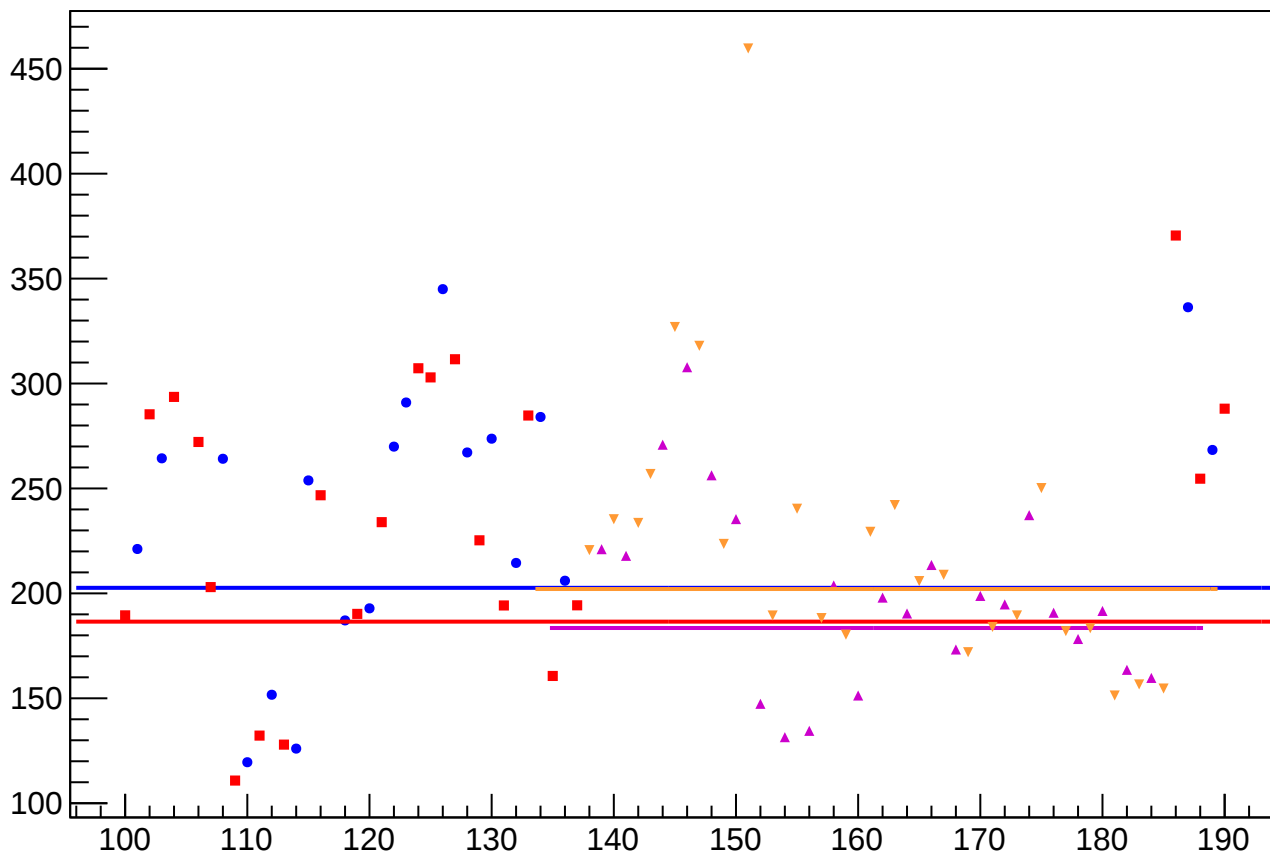
Right: 1.776 $\pm$ 51.686  $\chi^2$ /NDF: 15.6/40

In: 40.072 $\pm$ 39.739  $\chi^2$ /NDF:16.4/41

Out: 9.634 $\pm$ 39.706  $\chi^2$ /NDF:14.3/46

All: 24.840 $\pm$ 28.088  $\chi^2$ /NDF: 31.0/88

# asym\_bcm\_dg\_ds\_rms vs Slug, Sign Corrected



Right In:  $202.645 \pm 0.056$   $\chi^2/\text{NDF}$ : 1074955.2/18

Left Out:  $202.081 \pm 0.034$   $\chi^2/\text{NDF}$ : 1692787.9/24

Right Out:  $186.531 \pm 0.048$   $\chi^2/\text{NDF}$ : 1954119.0/21

Left In:  $183.498 \pm 0.033$   $\chi^2/\text{NDF}$ : 1483383.4/22

Left:  $192.240 \pm 0.024$   $\chi^2/\text{NDF}$ : 3329846.6/47

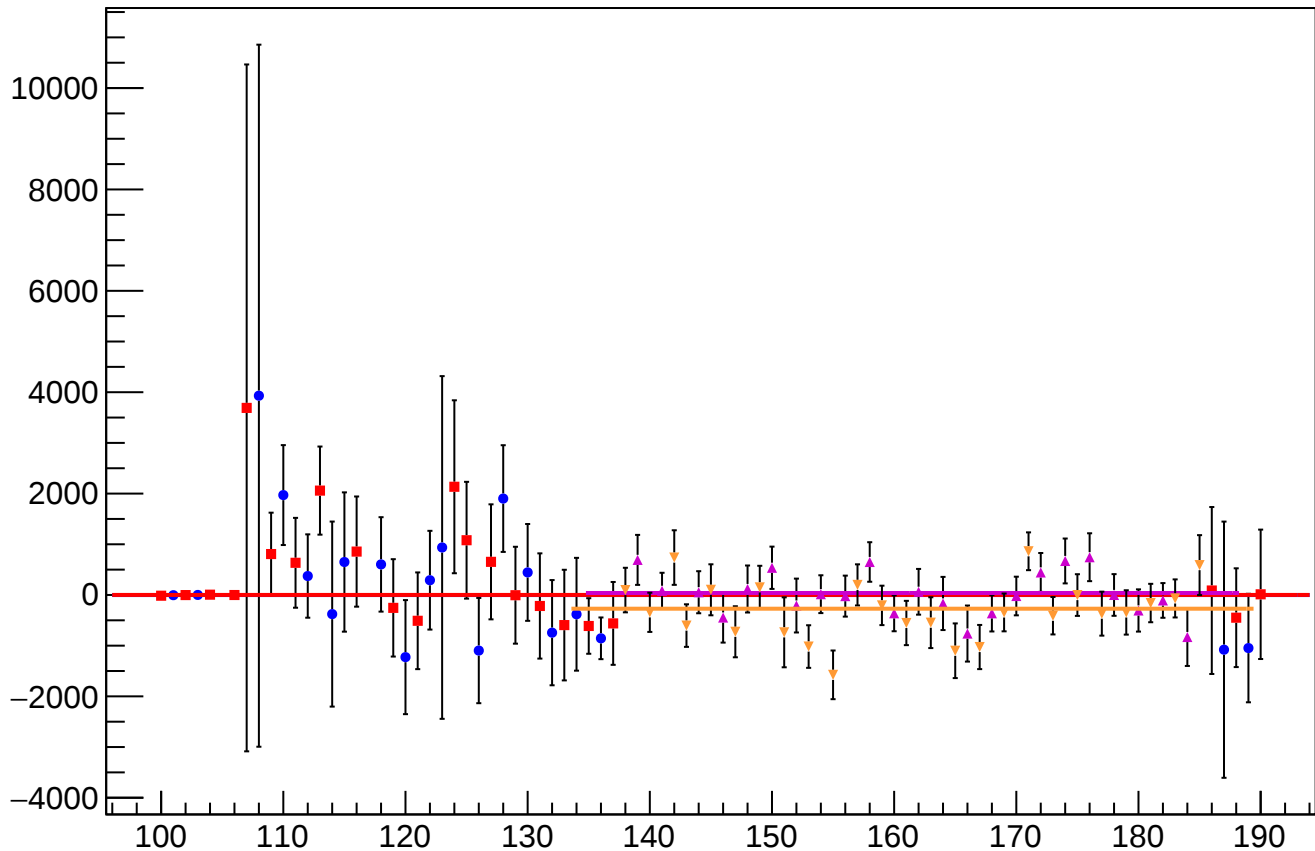
Right:  $193.429 \pm 0.037$   $\chi^2/\text{NDF}$ : 3076667.0/40

In:  $188.343 \pm 0.028$   $\chi^2/\text{NDF}$ : 2646094.5/41

Out:  $196.832 \pm 0.028$   $\chi^2/\text{NDF}$ : 3715492.8/46

All:  $192.591 \pm 0.020$   $\chi^2/\text{NDF}$ : 6407258.7/88

# asym\_cav4bQ\_mean vs Slug, Sign Corrected



Right In: -1.535 $\pm$ 2.251  $\chi^2/\text{NDF}$ : 18.6/18

Left Out: -270.969 $\pm$ 86.967  $\chi^2/\text{NDF}$ : 38.1/24

Right Out: 0.724 $\pm$ 2.111  $\chi^2/\text{NDF}$ : 19.3/21

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

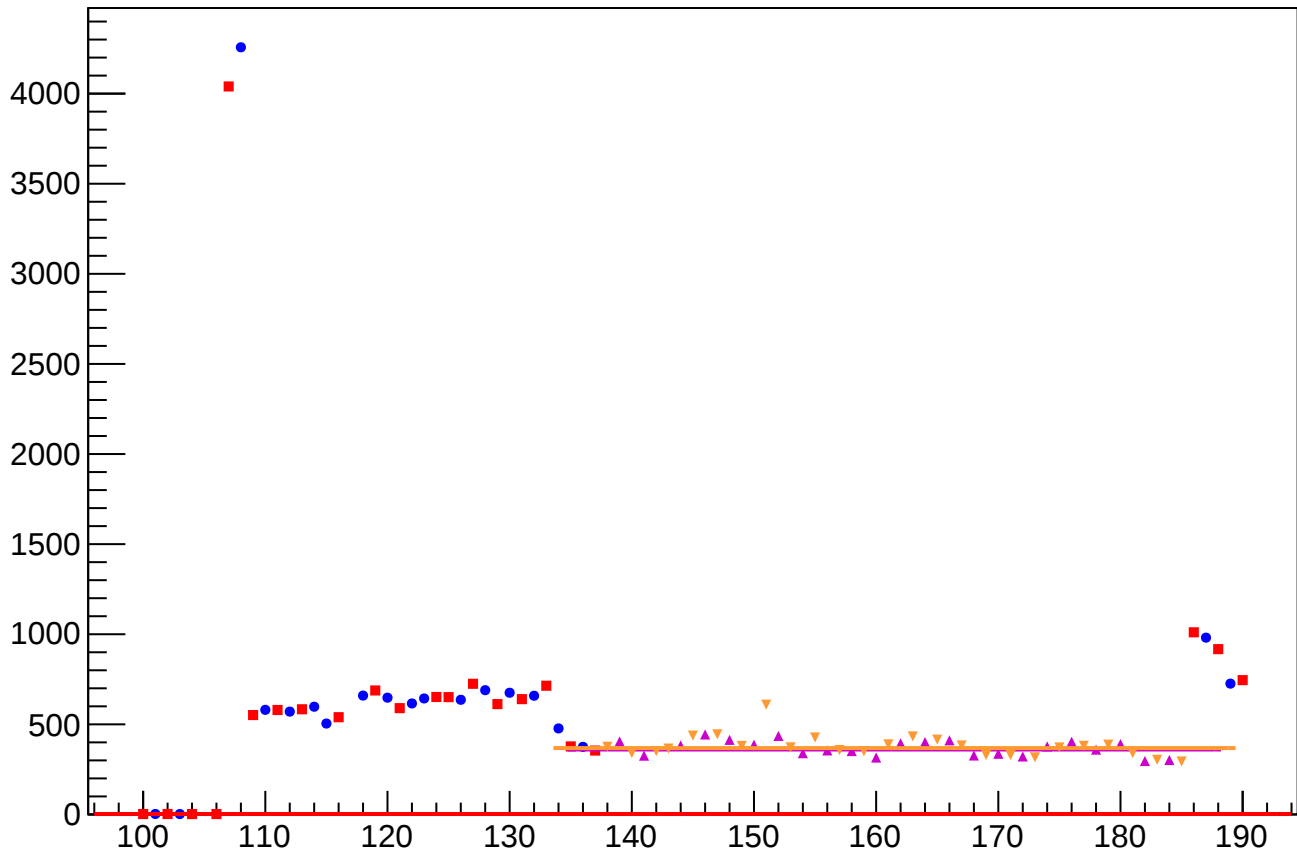
Right: -0.333 $\pm$ 1.540  $\chi^2/\text{NDF}$ : 38.4/40

In: -1.508 $\pm$ 2.251  $\chi^2/\text{NDF}$ : 39.0/41

Out: 0.564 $\pm$ 2.110  $\chi^2/\text{NDF}$ : 67.2/46

All: -0.406 $\pm$ 1.540  $\chi^2/\text{NDF}$ : 106.7/88

# asym\_cav4bQ\_rms vs Slug, Sign Corrected



Right In: 2.460+/-0.002  $\chi^2/\text{NDF}$ : 12022446.5/18

Left Out: 368.397+/-0.061  $\chi^2/\text{NDF}$ : 622466.1/24

Right Out: 2.445+/-0.001  $\chi^2/\text{NDF}$ : 14292484.0/21

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

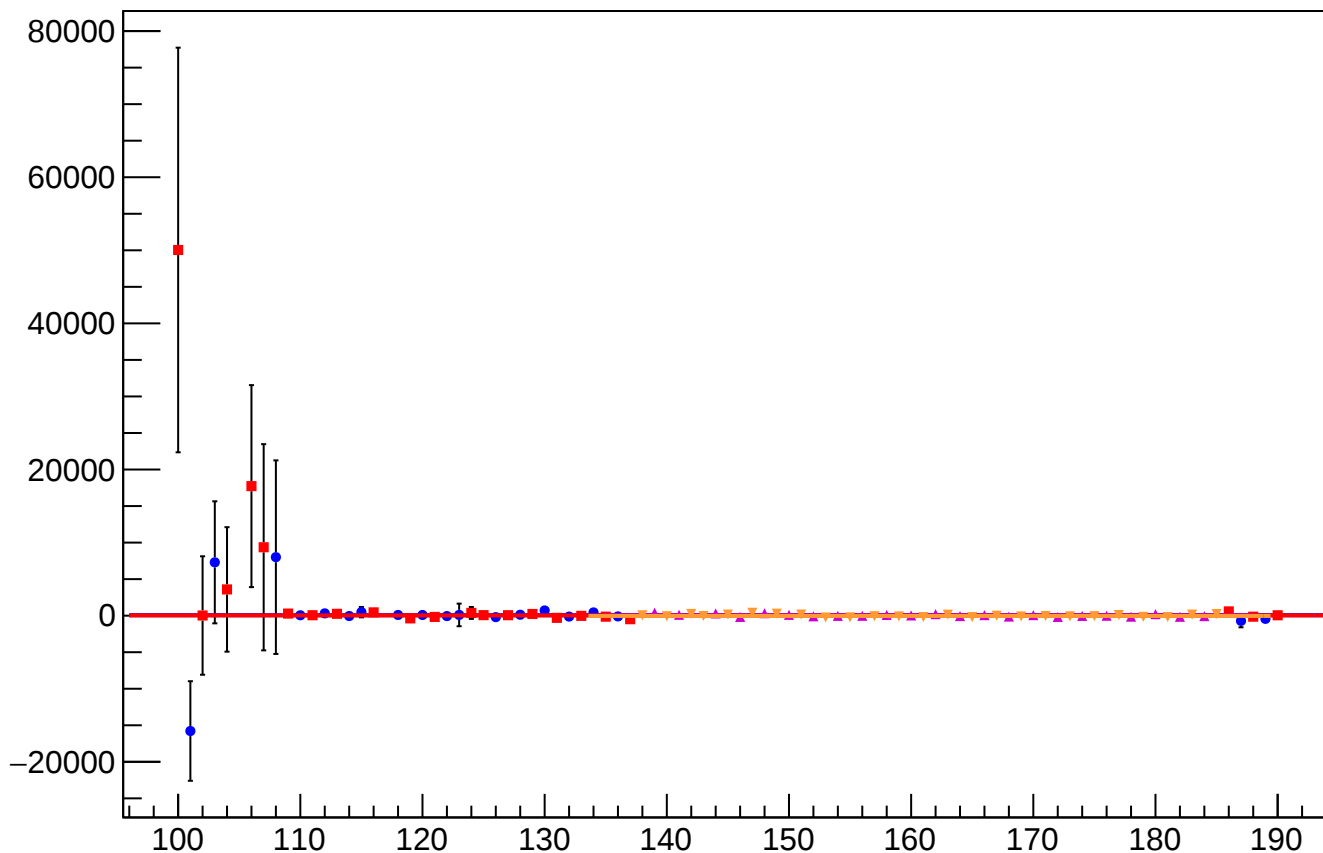
Right: 2.452+/-0.001  $\chi^2/\text{NDF}$ : 26314983.2/40

In: 2.696+/-0.002  $\chi^2/\text{NDF}$ : 45682932.2/41

Out: 2.660+/-0.001  $\chi^2/\text{NDF}$ : 50307464.7/46

All: 2.677+/-0.001  $\chi^2/\text{NDF}$ : 95990664.6/88

# asym\_cav4cQ\_mean vs Slug, Sign Corrected



Right In: 65.498+/-88.363  $\chi^2/\text{NDF}$ : 14.6/18

Left Out: -38.013+/-49.628  $\chi^2/\text{NDF}$ : 9.3/24

Right Out: 33.224+/-79.125  $\chi^2/\text{NDF}$ : 15.3/21

Left In: 28.205+/-48.167  $\chi^2/\text{NDF}$ : 9.2/22

Left: -3.915+/-34.564  $\chi^2/\text{NDF}$ : 19.4/47

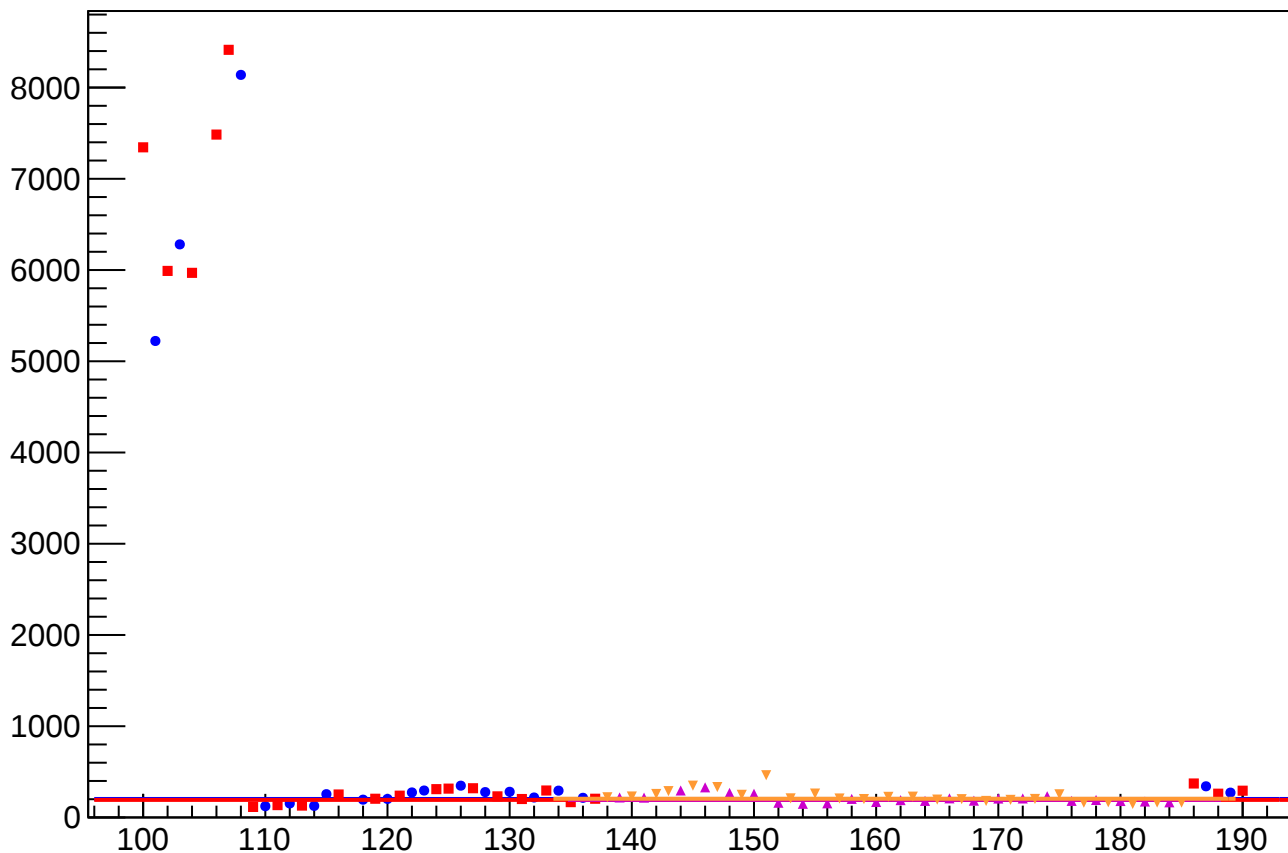
Right: 47.586+/-58.946  $\chi^2/\text{NDF}$ : 29.9/40

In: 36.747+/-42.292  $\chi^2/\text{NDF}$ : 23.9/41

Out: -17.901+/-42.043  $\chi^2/\text{NDF}$ : 25.1/46

All: 9.262+/-29.816  $\chi^2/\text{NDF}$ : 49.9/88

# asym\_cav4cQ\_rms vs Slug, Sign Corrected



Right In: 202.531 $\pm$ 0.062  $\chi^2/\text{NDF}$ : 3815342.9/18

Left Out: 205.027 $\pm$ 0.035  $\chi^2/\text{NDF}$ : 1956045.1/24

Right Out: 192.472 $\pm$ 0.056  $\chi^2/\text{NDF}$ : 4739581.7/21

Left In: 193.405 $\pm$ 0.034  $\chi^2/\text{NDF}$ : 1172169.3/22

Left: 199.042 $\pm$ 0.024  $\chi^2/\text{NDF}$ : 3184695.4/47

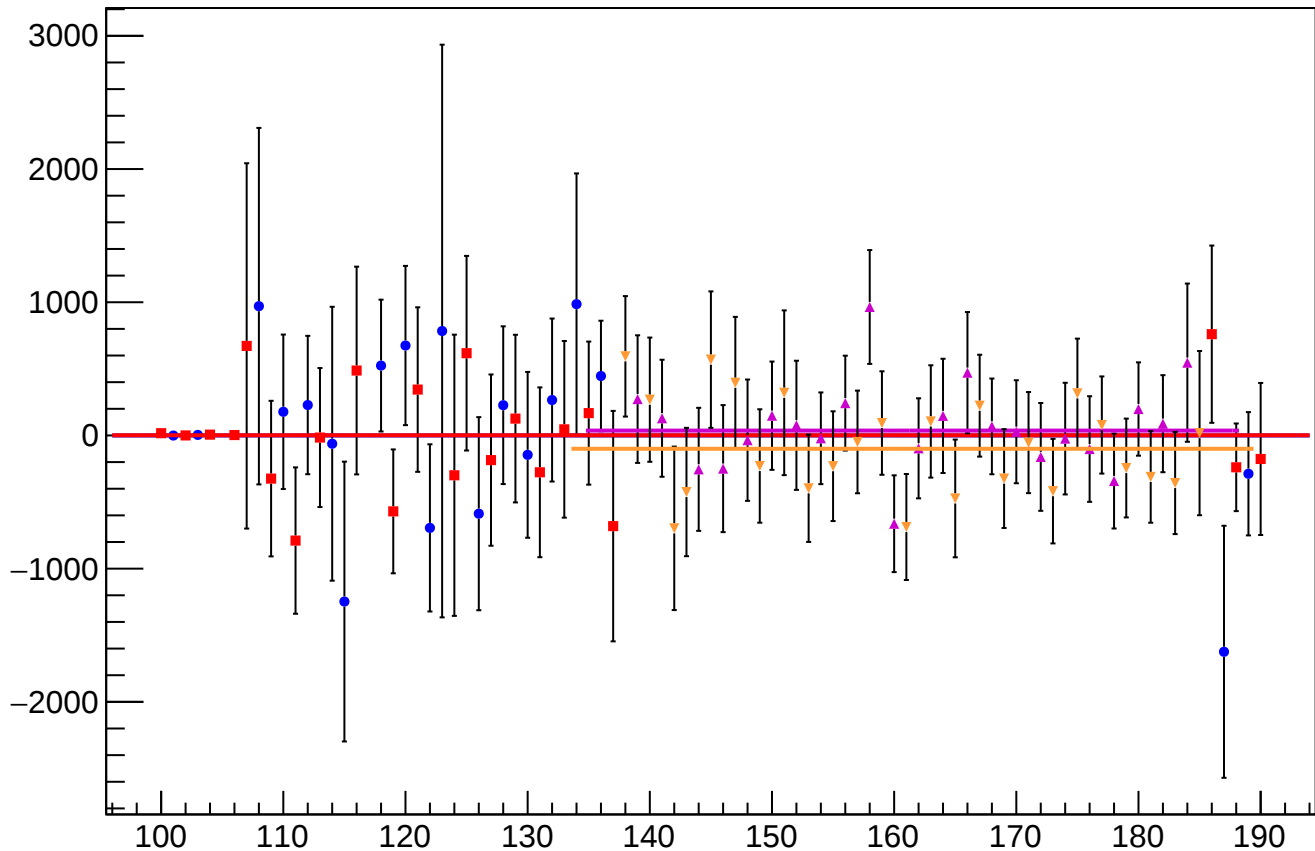
Right: 196.948 $\pm$ 0.042  $\chi^2/\text{NDF}$ : 8569306.1/40

In: 195.495 $\pm$ 0.030  $\chi^2/\text{NDF}$ : 5003957.6/41

Out: 201.482 $\pm$ 0.030  $\chi^2/\text{NDF}$ : 6731761.4/46

All: 198.506 $\pm$ 0.021  $\chi^2/\text{NDF}$ : 11755879.3/88

# asym\_cav4dQ\_mean vs Slug, Sign Corrected



Right In:  $-0.149 \pm 1.737$   $\chi^2/\text{NDF}$ : 13.4/18

Left Out:  $-100.058 \pm 84.190$   $\chi^2/\text{NDF}$ : 15.7/24

Right Out:  $1.320 \pm 1.623$   $\chi^2/\text{NDF}$ : 11.3/21

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

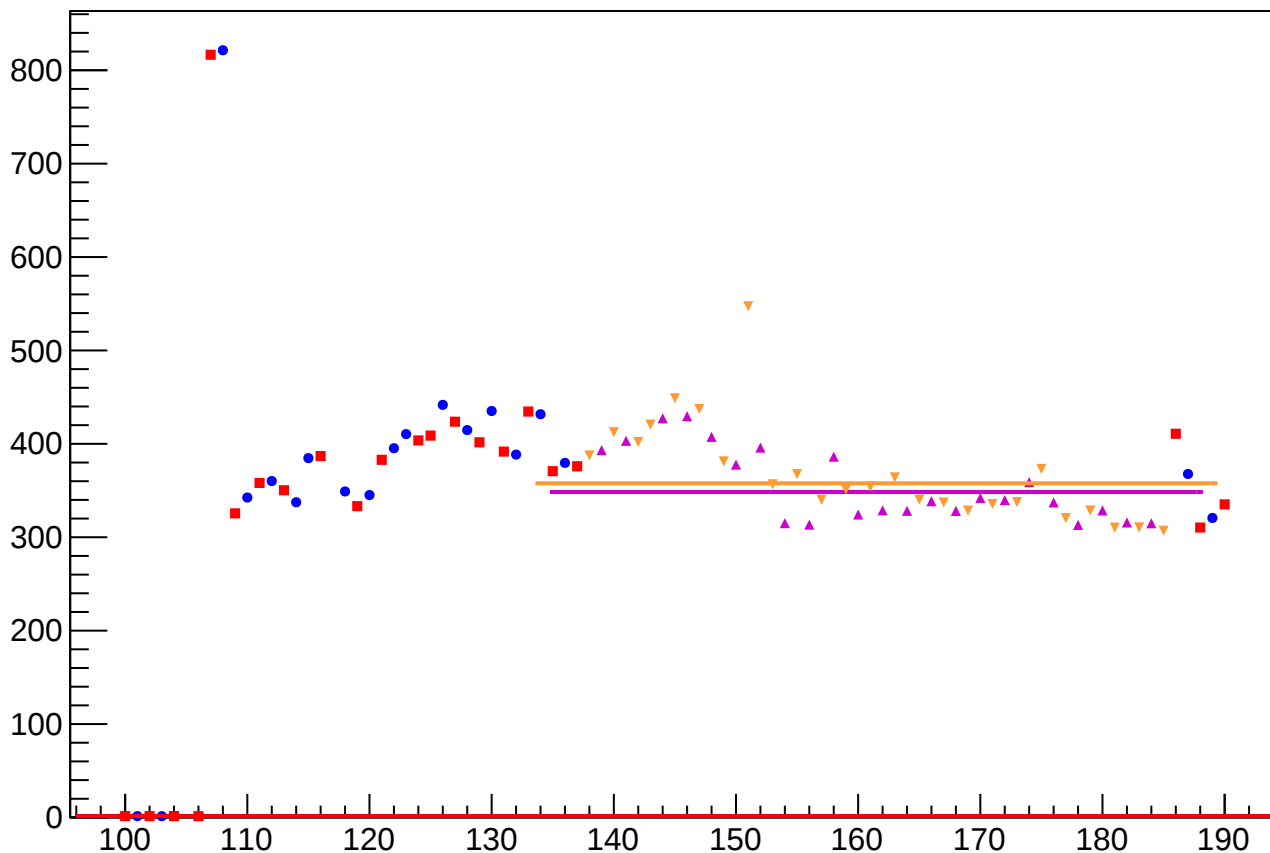
Right:  $0.635 \pm 1.186$   $\chi^2/\text{NDF}$ : 25.1/40

In:  $-0.134 \pm 1.736$   $\chi^2/\text{NDF}$ : 27.1/41

Out:  $1.282 \pm 1.622$   $\chi^2/\text{NDF}$ : 28.5/46

All:  $0.622 \pm 1.185$   $\chi^2/\text{NDF}$ : 55.9/88

# asym\_cav4dQ\_rms vs Slug, Sign Corrected



Right In:  $1.458 \pm 0.001$   $\chi^2/\text{NDF}: 12165964.3/18$

Left Out:  $357.771 \pm 0.060$   $\chi^2/\text{NDF}: 547124.8/24$

Right Out:  $1.464 \pm 0.001$   $\chi^2/\text{NDF}: 14042931.2/21$

Left In:  $348.464 \pm 0.060$   $\chi^2/\text{NDF}: 360425.7/22$

Left:  $353.145 \pm 0.042$   $\chi^2/\text{NDF}: 919701.2/47$

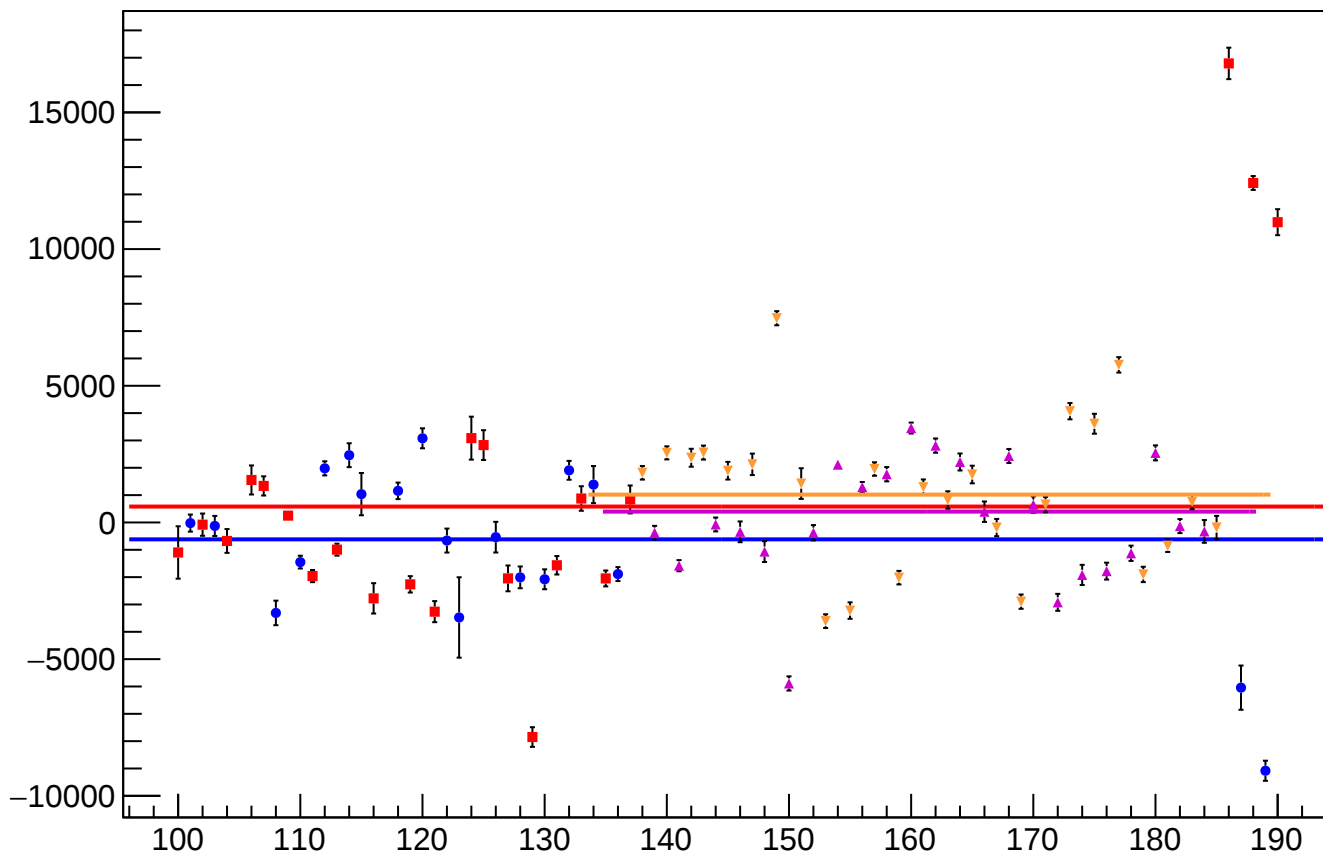
Right:  $1.461 \pm 0.001$   $\chi^2/\text{NDF}: 26208905.2/40$

In:  $1.604 \pm 0.001$   $\chi^2/\text{NDF}: 46100716.2/41$

Out:  $1.596 \pm 0.001$   $\chi^2/\text{NDF}: 50399721.7/46$

All:  $1.600 \pm 0.001$   $\chi^2/\text{NDF}: 96500462.7/88$

# asym\_bcm0l02\_mean vs Slug, Sign Corrected



Right In:  $-617.514 \pm 84.895$   $\chi^2/\text{NDF}: 1039.8/18$

Left Out:  $1018.965 \pm 57.402$   $\chi^2/\text{NDF}: 2310.1/24$

Right Out:  $581.876 \pm 73.427$   $\chi^2/\text{NDF}: 4607.7/21$

Left In:  $396.609 \pm 55.090$   $\chi^2/\text{NDF}: 1581.0/22$

Left:  $695.002 \pm 39.747$   $\chi^2/\text{NDF}: 3952.3/47$

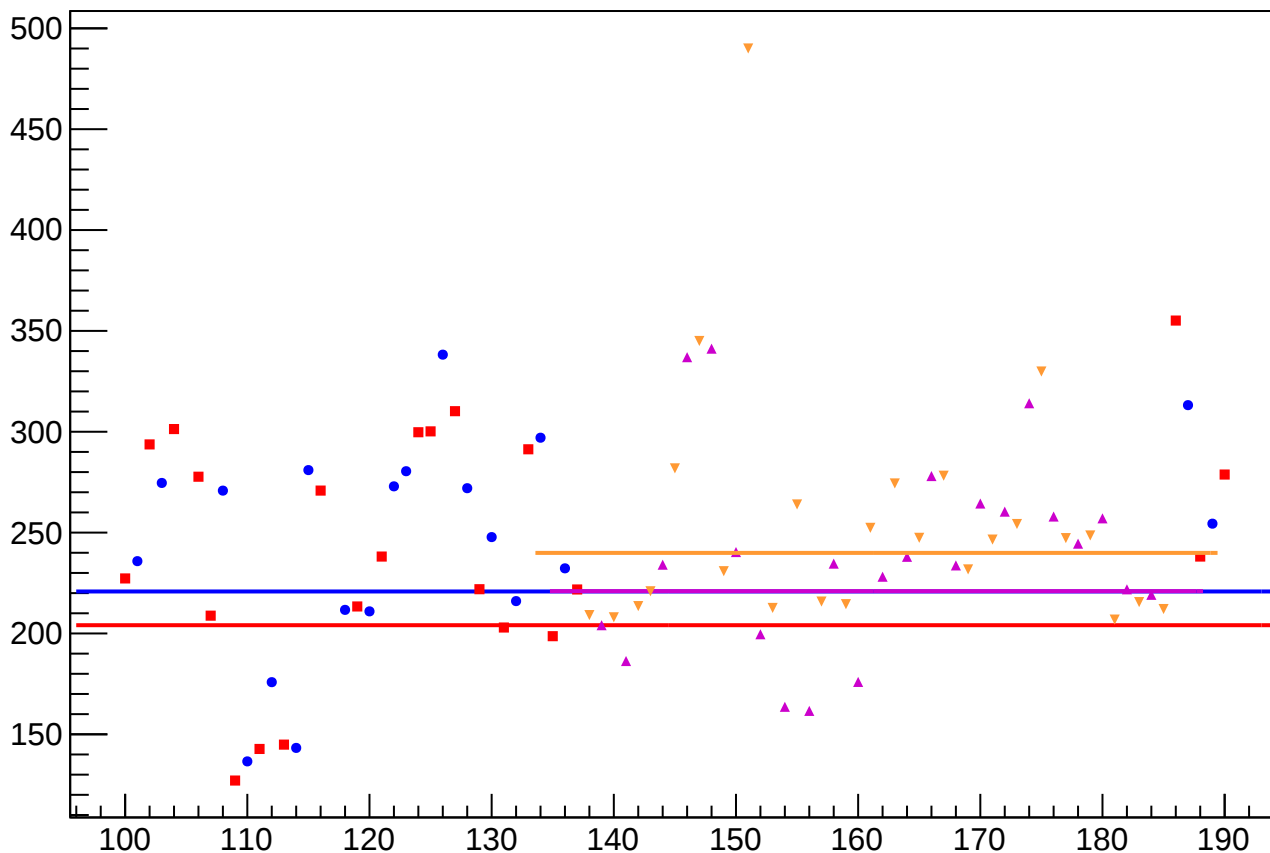
Right:  $68.609 \pm 55.536$   $\chi^2/\text{NDF}: 5761.8/40$

In:  $96.108 \pm 46.213$   $\chi^2/\text{NDF}: 2721.3/41$

Out:  $853.167 \pm 45.223$   $\chi^2/\text{NDF}: 6939.8/46$

All:  $482.831 \pm 32.322$   $\chi^2/\text{NDF}: 9798.2/88$

# asym\_bcm0l02\_rms vs Slug, Sign Corrected



Right In:  $220.816 \pm 0.060$   $\chi^2/\text{NDF}$ : 706170.2/18

Left Out:  $239.942 \pm 0.041$   $\chi^2/\text{NDF}$ : 1000770.0/24

Right Out:  $204.093 \pm 0.052$   $\chi^2/\text{NDF}$ : 1433214.4/21

Left In:  $220.972 \pm 0.039$   $\chi^2/\text{NDF}$ : 1327680.6/22

Left:  $230.067 \pm 0.028$   $\chi^2/\text{NDF}$ : 2442154.9/47

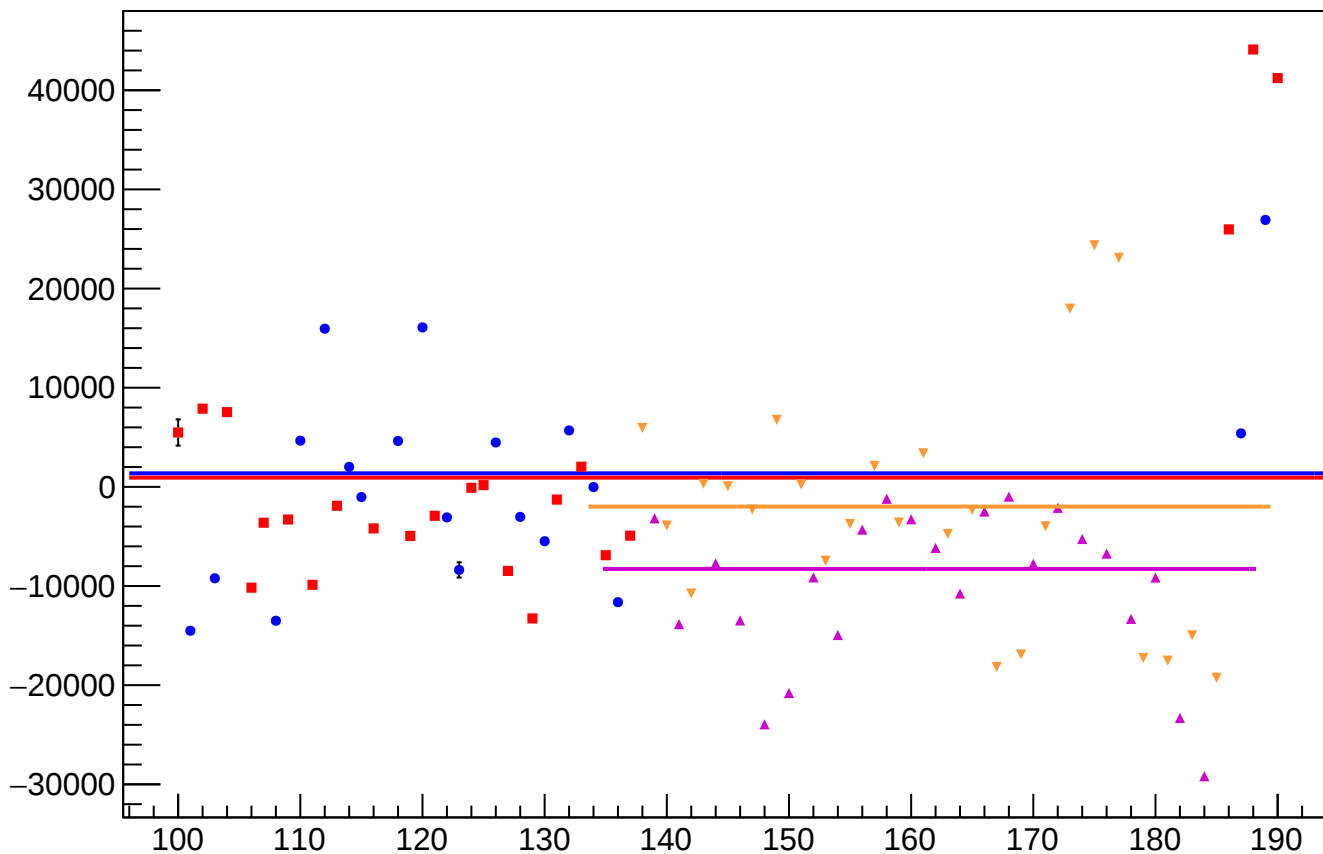
Right:  $211.249 \pm 0.039$   $\chi^2/\text{NDF}$ : 2183778.8/40

In:  $220.925 \pm 0.033$   $\chi^2/\text{NDF}$ : 2033855.5/41

Out:  $226.343 \pm 0.032$   $\chi^2/\text{NDF}$ : 2729882.8/46

All:  $223.693 \pm 0.023$   $\chi^2/\text{NDF}$ : 4777781.3/88

asym\_bpm0i02WS\_mean vs Slug, Sign Corrected



Right In: 1363.967+/-53.358  $\chi^2/\text{NDF}$ : 40765.8/18

Left Out: -1991.788+/-42.427  $\chi^2/\text{NDF}$ : 63766.6/24

Right Out: 930.138+/-49.056  $\chi^2/\text{NDF}$ : 97003.8/21

Left In: -8273.228+/-44.301  $\chi^2/\text{NDF}$ : 22870.2/22

Left: -4996.810+/-30.641  $\chi^2/\text{NDF}$ : 97123.2/47

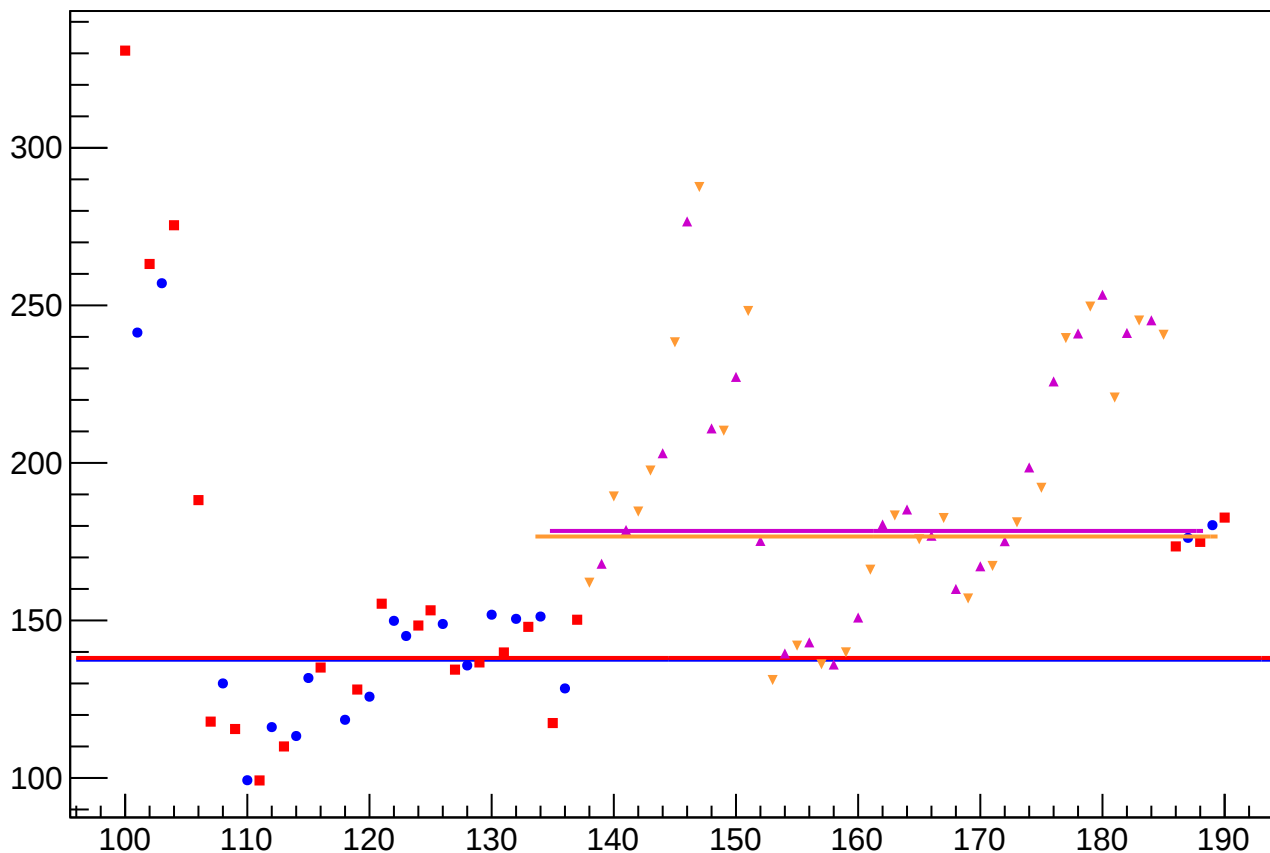
Right: 1128.861+/-36.113  $\chi^2/\text{NDF}$ : 137805.4/40

In: -4340.735+/-34.084  $\chi^2/\text{NDF}$ : 82946.2/41

Out: -741.446+/-32.090  $\chi^2/\text{NDF}$ : 162800.0/46

All: -2432.705+/-23.364  $\chi^2/\text{NDF}$ : 251657.6/8

# asym\_bpm0i02WS\_rms vs Slug, Sign Corrected



Right In:  $137.539 \pm 0.038$   $\chi^2/\text{NDF}: 729283.6/18$

Left Out:  $176.641 \pm 0.030$   $\chi^2/\text{NDF}: 1551048.8/24$

Right Out:  $138.098 \pm 0.035$   $\chi^2/\text{NDF}: 1000942.6/21$

Left In:  $178.413 \pm 0.031$   $\chi^2/\text{NDF}: 1293736.2/22$

Left:  $177.489 \pm 0.022$   $\chi^2/\text{NDF}: 2846455.0/47$

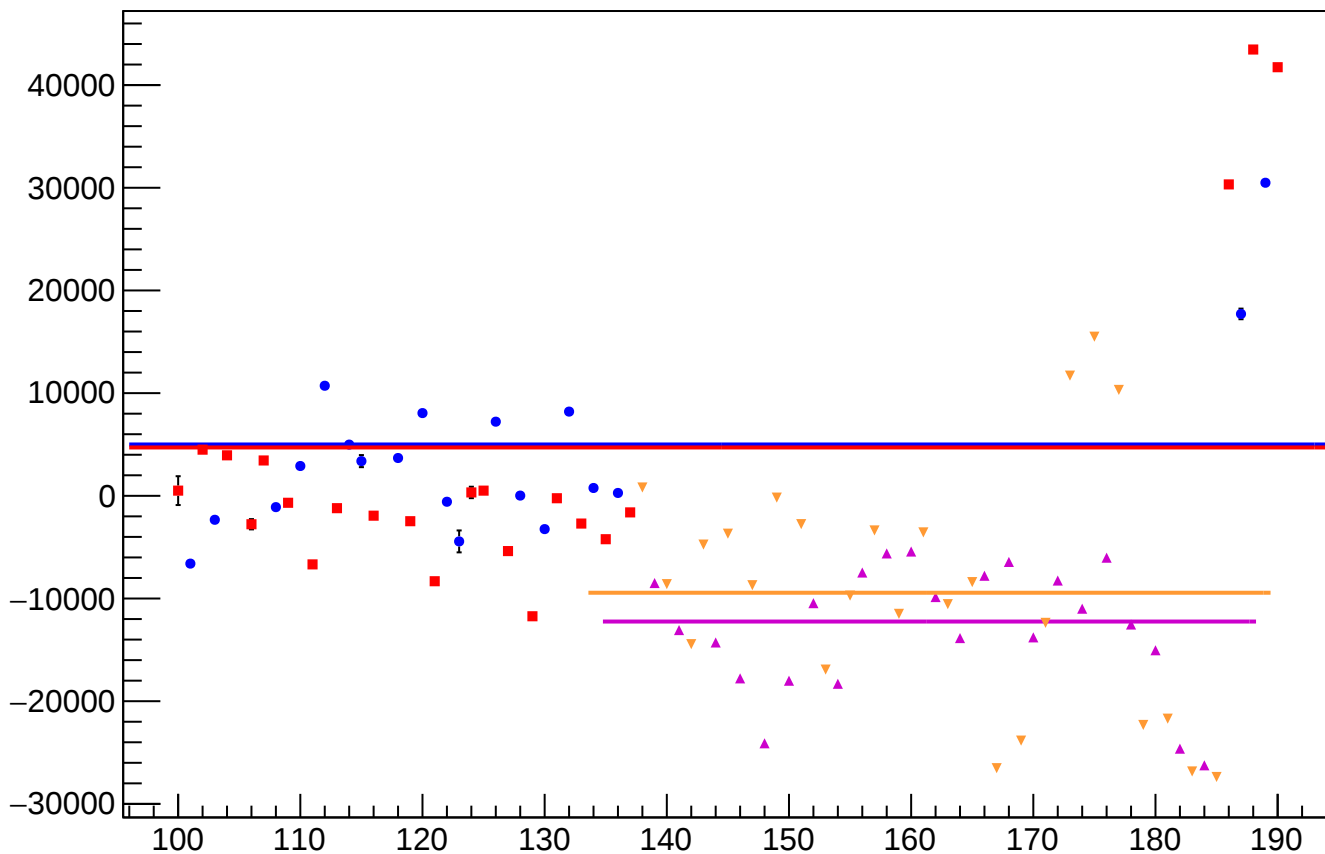
Right:  $137.842 \pm 0.026$   $\chi^2/\text{NDF}: 1730345.4/40$

In:  $161.734 \pm 0.024$   $\chi^2/\text{NDF}: 2717753.8/41$

Out:  $160.148 \pm 0.023$   $\chi^2/\text{NDF}: 3258290.4/46$

All:  $160.893 \pm 0.017$   $\chi^2/\text{NDF}: 5978341.5/88$

# asym\_bpm0i02aWS\_mean vs Slug, Sign Corrected



Right In: 5000.320+/-67.782  $\chi^2/\text{NDF}$ : 15402.1/18

Left Out: -9437.408+/-45.534  $\chi^2/\text{NDF}$ : 62220.4/24

Right Out: 4710.138+/-59.983  $\chi^2/\text{NDF}$ : 79137.6/21

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

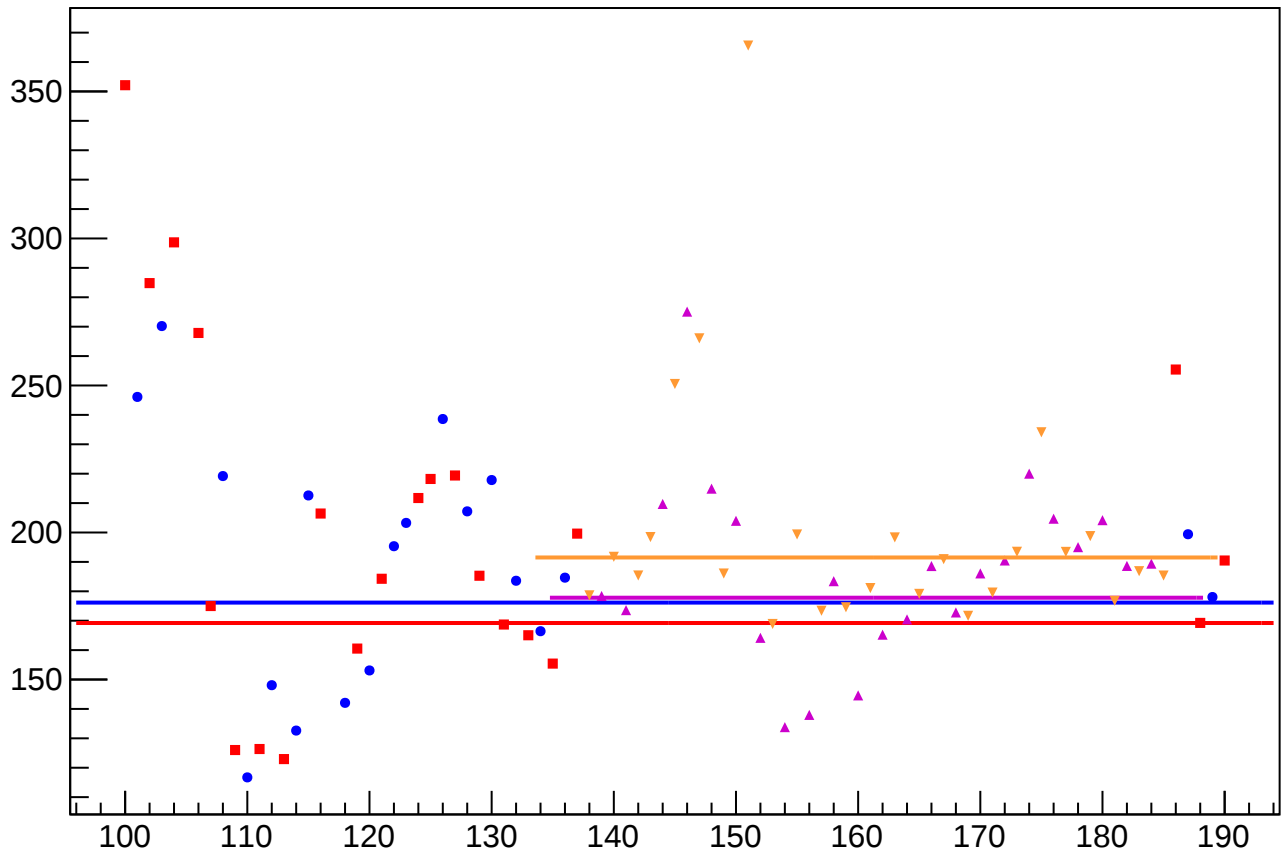
Right: 4837.581+/-44.920  $\chi^2/\text{NDF}$ : 94549.9/40

In: -7139.638+/-36.873  $\chi^2/\text{NDF}$ : 77577.9/41

Out: -4265.259+/-36.268  $\chi^2/\text{NDF}$ : 176649.8/46

All: -5678.669+/-25.857  $\chi^2/\text{NDF}$ : 257316.3/8

# asym\_bpm0i02aWS\_rms vs Slug, Sign Corrected



Right In: 176.161+/-0.048  $\chi^2/\text{NDF}$ : 692130.0/18

Left Out: 191.507+/-0.032  $\chi^2/\text{NDF}$ : 727251.6/24

Right Out: 169.220+/-0.042  $\chi^2/\text{NDF}$ : 1024919.0/21

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

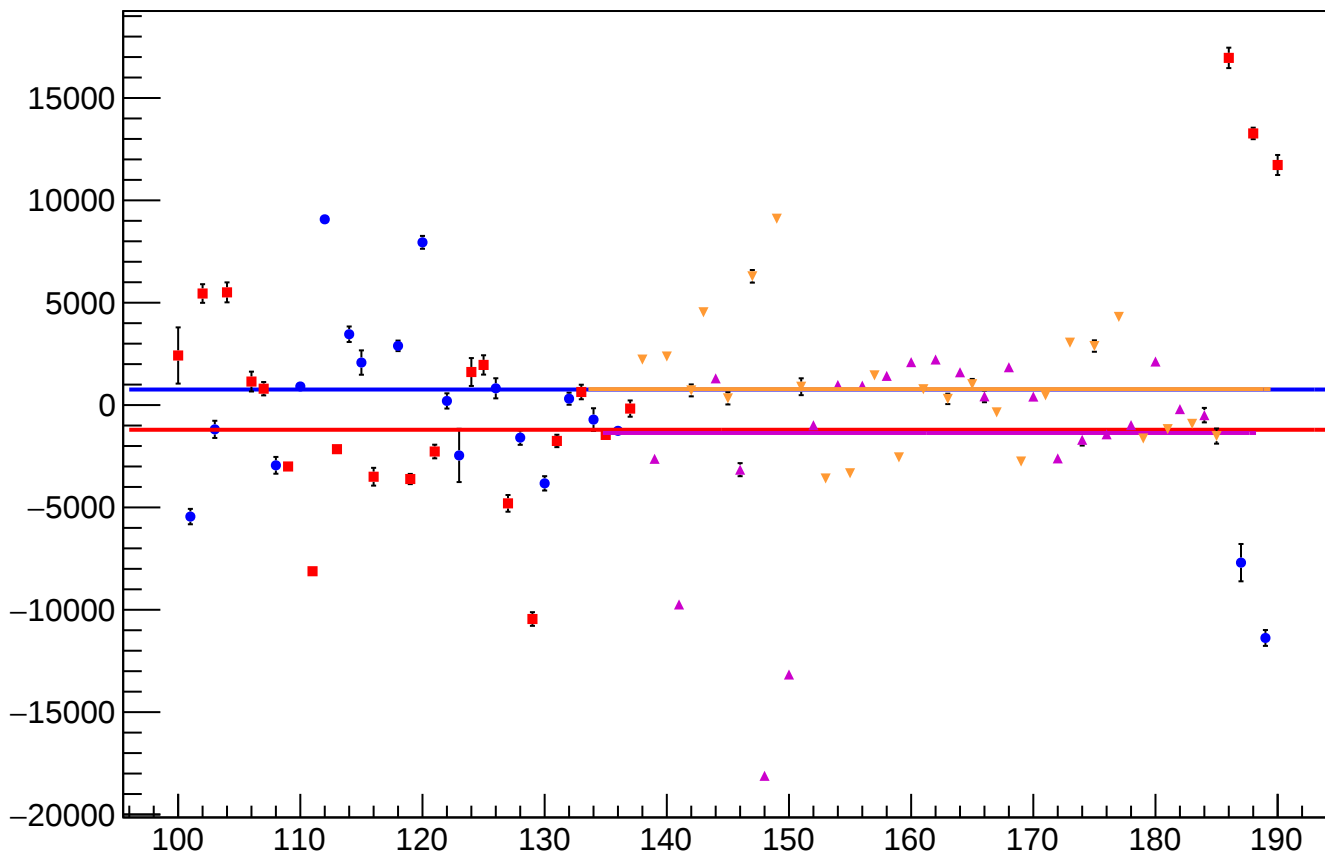
Right: 172.268+/-0.032  $\chi^2/\text{NDF}$ : 1728810.0/40

In: 177.330+/-0.026  $\chi^2/\text{NDF}$ : 1555469.9/41

Out: 183.359+/-0.026  $\chi^2/\text{NDF}$ : 1927336.1/46

All: 180.394+/-0.018  $\chi^2/\text{NDF}$ : 3509982.2/88

# asym\_bpm0i05WS\_mean vs Slug, Sign Corrected



Right In:  $759.226 \pm 75.568$   $\chi^2/\text{NDF}: 3765.5/18$

Left Out:  $779.983 \pm 47.457$   $\chi^2/\text{NDF}: 4260.8/24$

Right Out:  $-1206.600 \pm 66.682$   $\chi^2/\text{NDF}: 7653.5/21$

Left In:  $-1363.043 \pm 45.807$   $\chi^2/\text{NDF}: 11632.9/22$

Left:  $-329.448 \pm 32.958$   $\chi^2/\text{NDF}: 16949.3/47$

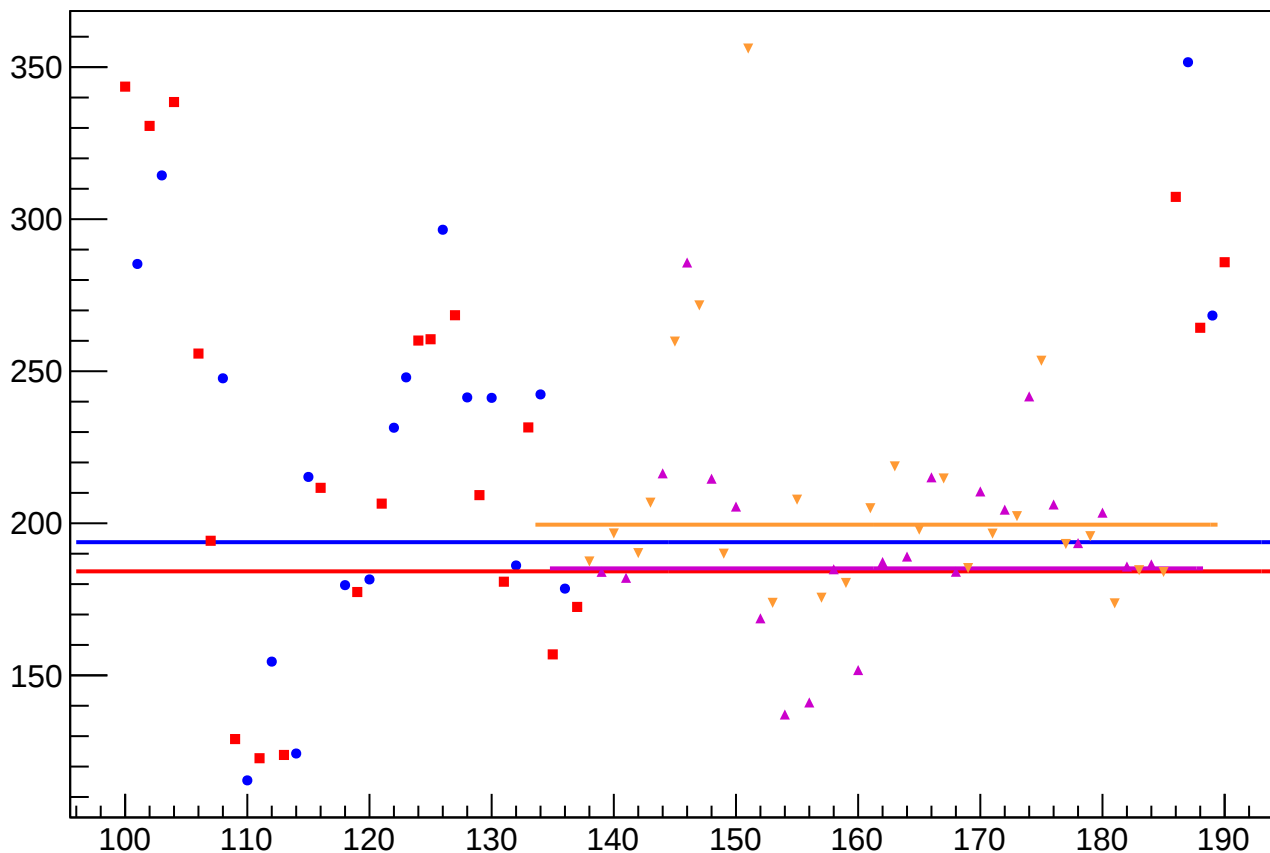
Right:  $-346.010 \pm 49.999$   $\chi^2/\text{NDF}: 11799.5/40$

In:  $-792.784 \pm 39.172$   $\chi^2/\text{NDF}: 15975.2/41$

Out:  $112.067 \pm 38.665$   $\chi^2/\text{NDF}: 12503.4/46$

All:  $-334.465 \pm 27.518$   $\chi^2/\text{NDF}: 28748.9/88$

# asym\_bpm0i05WS\_rms vs Slug, Sign Corrected



Right In: 193.788 $\pm$ 0.053  $\chi^2/\text{NDF}$ : 1116703.6/18

Left Out: 199.547 $\pm$ 0.034  $\chi^2/\text{NDF}$ : 729356.3/24

Right Out: 184.194 $\pm$ 0.047  $\chi^2/\text{NDF}$ : 1698831.4/21

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

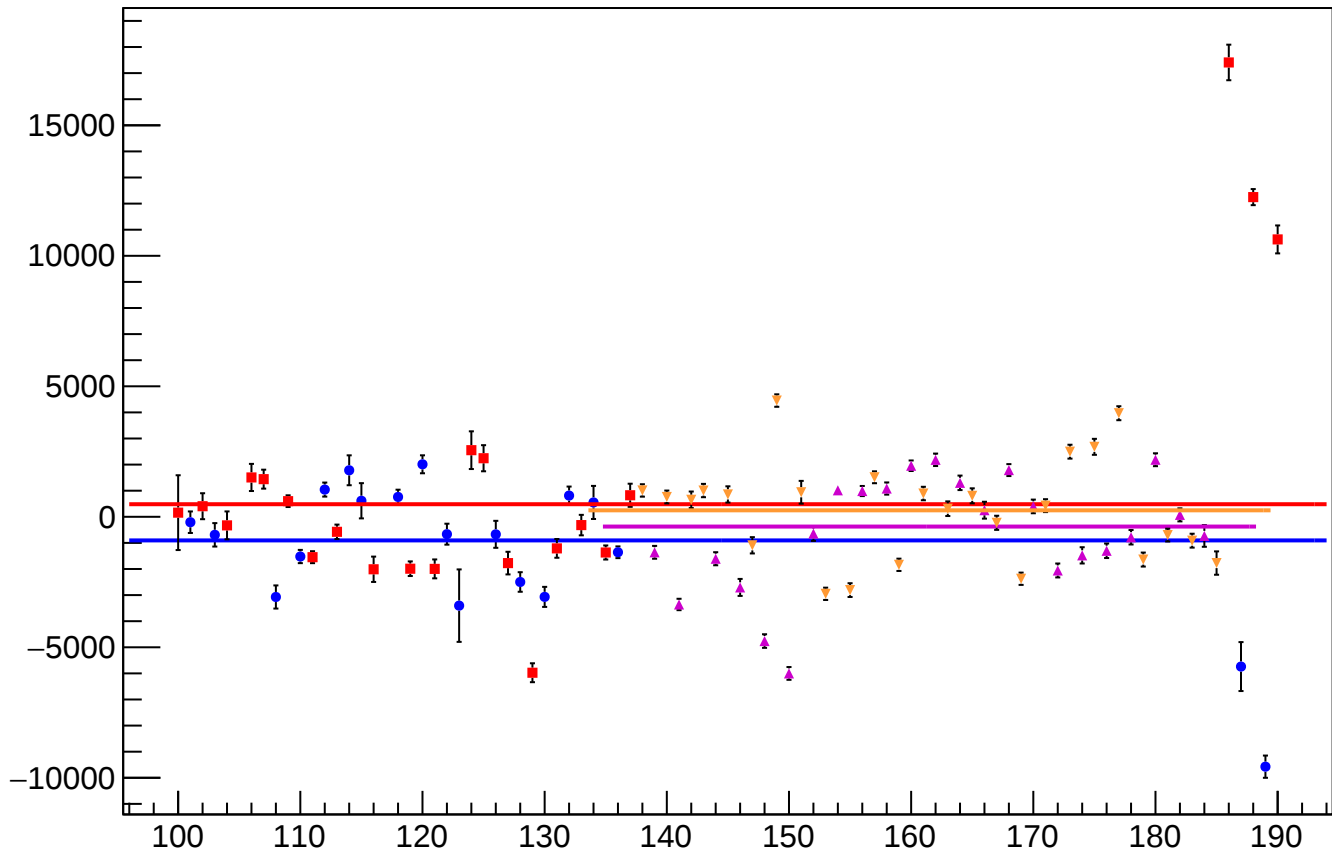
Right: 188.394 $\pm$ 0.035  $\chi^2/\text{NDF}$ : 2833658.0/40

In: 187.486 $\pm$ 0.028  $\chi^2/\text{NDF}$ : 2018474.8/41

Out: 194.385 $\pm$ 0.027  $\chi^2/\text{NDF}$ : 2498559.8/46

All: 190.980 $\pm$ 0.019  $\chi^2/\text{NDF}$ : 4548457.1/88

# asym\_bpm0i07WS\_mean vs Slug, Sign Corrected



Right In:  $-904.794 \pm 86.550$   $\chi^2/\text{NDF}: 748.2/18$

Left Out:  $247.844 \pm 53.555$   $\chi^2/\text{NDF}: 1355.1/24$

Right Out:  $482.134 \pm 78.077$   $\chi^2/\text{NDF}: 3129.4/21$

Left In:  $-374.122 \pm 52.049$   $\chi^2/\text{NDF}: 1801.0/22$

Left:  $-72.006 \pm 37.325$   $\chi^2/\text{NDF}: 3225.5/47$

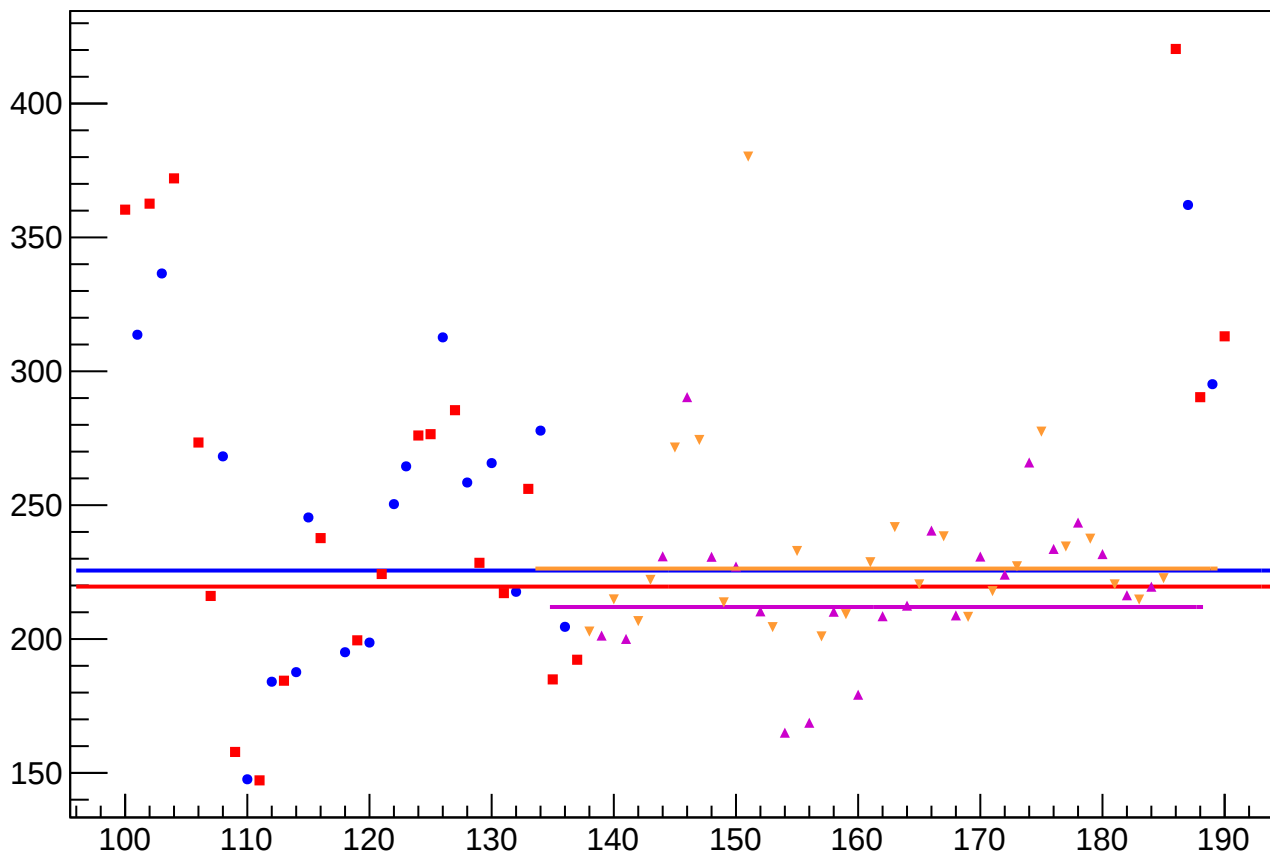
Right:  $-140.135 \pm 57.974$   $\chi^2/\text{NDF}: 4019.1/40$

In:  $-515.066 \pm 44.605$   $\chi^2/\text{NDF}: 2576.8/41$

Out:  $322.806 \pm 44.164$   $\chi^2/\text{NDF}: 4490.6/46$

All:  $-91.971 \pm 31.383$   $\chi^2/\text{NDF}: 7245.6/88$

# asym\_bpm0i07WS\_rms vs Slug, Sign Corrected



Right In:  $225.585 \pm 0.061$   $\chi^2/\text{NDF}: 745846.6/18$

Left Out:  $226.322 \pm 0.038$   $\chi^2/\text{NDF}: 521041.8/24$

Right Out:  $219.589 \pm 0.055$   $\chi^2/\text{NDF}: 1249771.8/21$

Left In:  $211.970 \pm 0.037$   $\chi^2/\text{NDF}: 584344.5/22$

Left:  $218.941 \pm 0.026$   $\chi^2/\text{NDF}: 1179246.7/47$

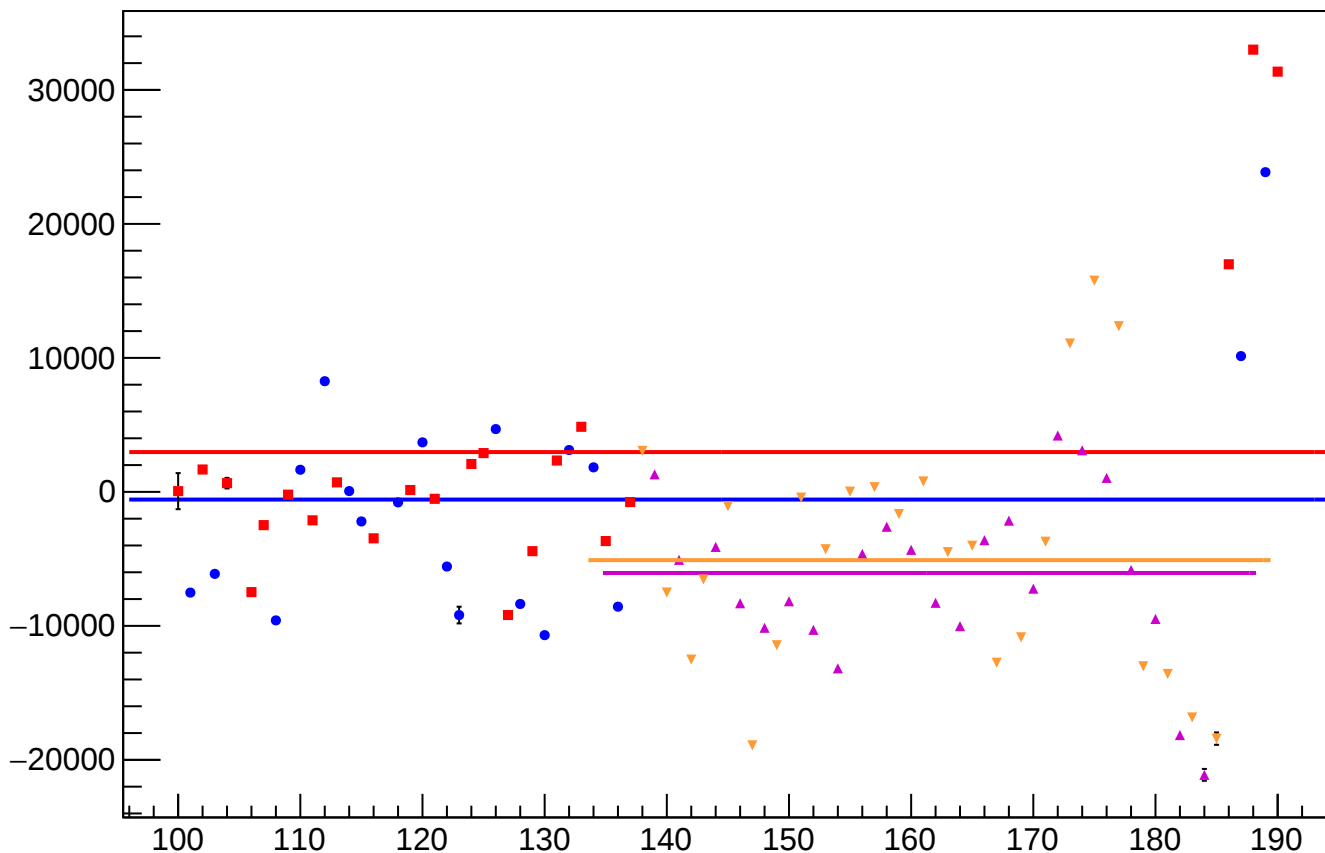
Right:  $222.279 \pm 0.041$   $\chi^2/\text{NDF}: 2000910.5/40$

In:  $215.586 \pm 0.032$   $\chi^2/\text{NDF}: 1366537.0/41$

Out:  $224.168 \pm 0.031$   $\chi^2/\text{NDF}: 1780927.0/46$

All:  $219.920 \pm 0.022$   $\chi^2/\text{NDF}: 3184844.4/88$

asym\_bpm1i02WS\_mean vs Slug, Sign Corrected



Right In: -573.110+/-45.816  $\chi^2/\text{NDF}$ : 32640.7/18

Left Out: -5095.305+/-33.703  $\chi^2/\text{NDF}$ : 54395.4/24

Right Out: 2971.379+/-41.682  $\chi^2/\text{NDF}$ : 73268.3/21

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

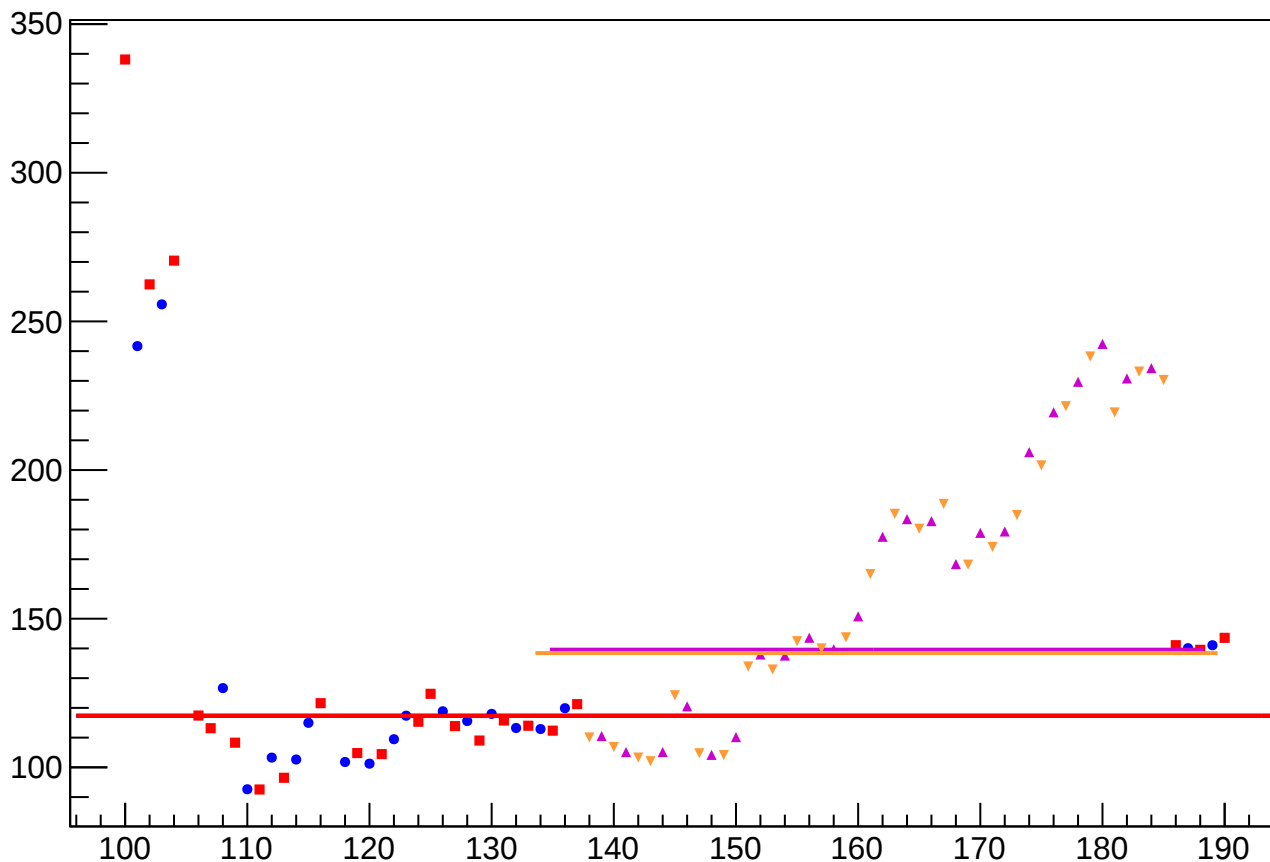
Right: 1366.232+/-30.832  $\chi^2/\text{NDF}$ : 109183.6/40

In: -4034.078+/-27.812  $\chi^2/\text{NDF}$ : 59266.8/41

Out: -1906.284+/-26.208  $\chi^2/\text{NDF}$ : 150310.3/46

All: -2907.050+/-19.074  $\chi^2/\text{NDF}$ : 212677.4/8

# asym\_bpm1i02WS\_rms vs Slug, Sign Corrected



Right In: 117.422+/-0.032  $\chi^2/\text{NDF}$ : 780564.1/18

Left Out: 138.436+/-0.024  $\chi^2/\text{NDF}$ : 2549435.8/24

Right Out: 117.269+/-0.029  $\chi^2/\text{NDF}$ : 899905.4/21

Left In: 139.578+/-0.025  $\chi^2/\text{NDF}$ : 2413658.9/22

Left: 138.985+/-0.017  $\chi^2/\text{NDF}$ : 4964199.7/47

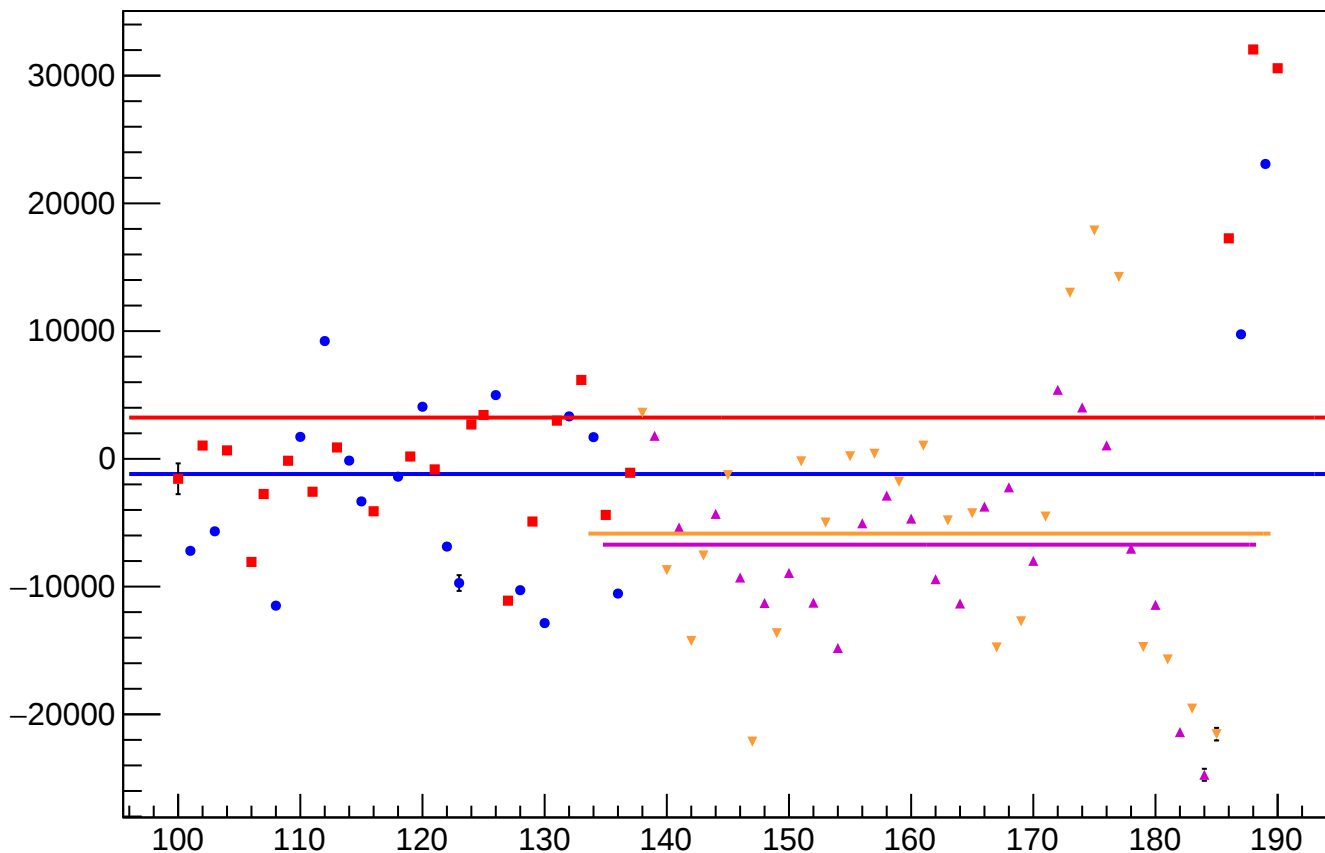
Right: 117.338+/-0.022  $\chi^2/\text{NDF}$ : 1680481.7/40

In: 131.413+/-0.020  $\chi^2/\text{NDF}$ : 3489586.5/41

Out: 130.068+/-0.019  $\chi^2/\text{NDF}$ : 3761193.2/46

All: 130.701+/-0.013  $\chi^2/\text{NDF}$ : 7253259.4/88

asym\_bpm2i01WS\_mean vs Slug, Sign Corrected



Right In: -1187.988+/-46.599  $\chi^2/\text{NDF}$ : 37999.0/18

Left Out: -5852.544+/-35.880  $\chi^2/\text{NDF}$ : 63411.4/24

Right Out: 3230.310+/-42.564  $\chi^2/\text{NDF}$ : 76085.3/21

Left In: -6718.475+/-37.276  $\chi^2/\text{NDF}$ : 20934.3/22

Left: -6268.993+/-25.850  $\chi^2/\text{NDF}$ : 84625.8/47

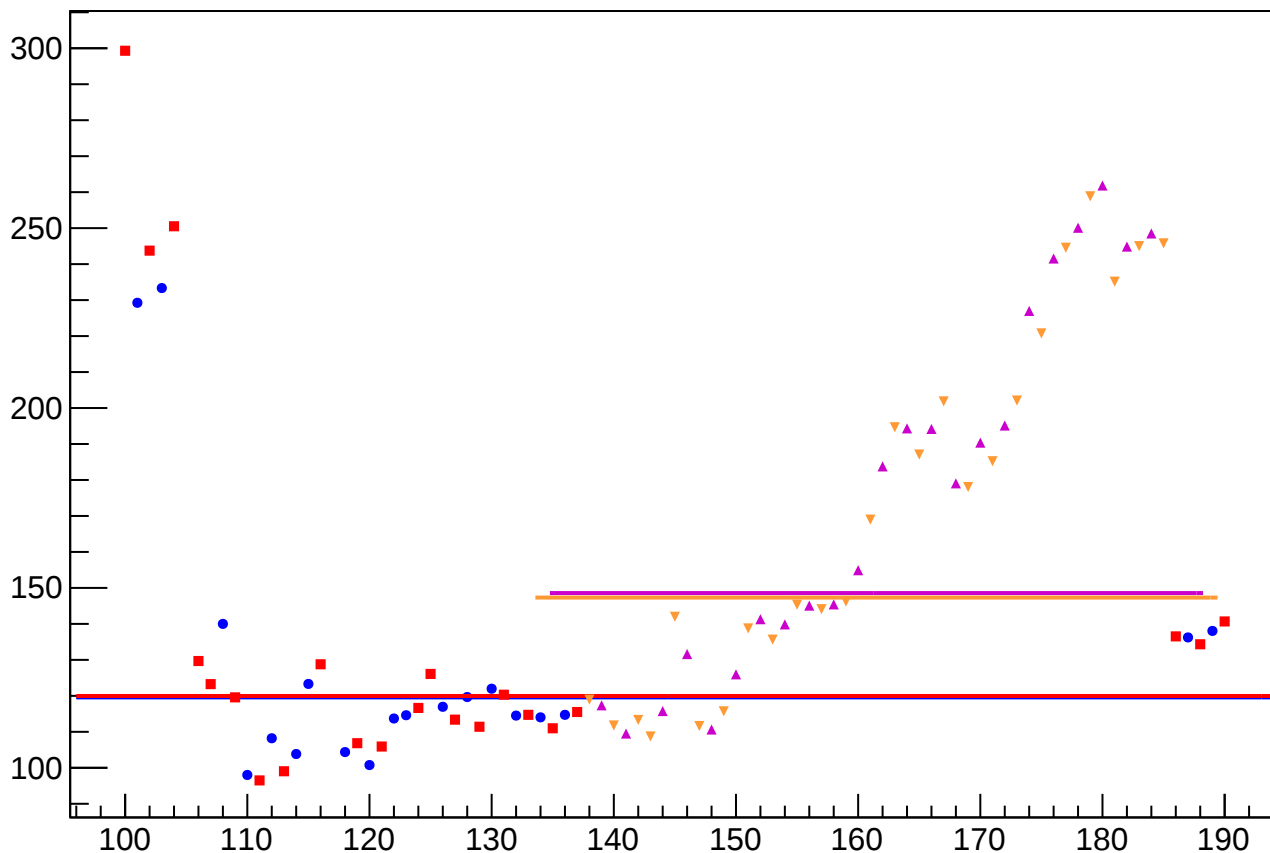
Right: 1220.694+/-31.427  $\chi^2/\text{NDF}$ : 118985.1/40

In: -4560.507+/-29.109  $\chi^2/\text{NDF}$ : 67522.6/41

Out: -2079.529+/-27.433  $\chi^2/\text{NDF}$ : 166116.9/46

All: -3246.580+/-19.964  $\chi^2/\text{NDF}$ : 237486.8/8

# asym\_bpm2i01WS\_rms vs Slug, Sign Corrected



Right In: 119.574+/-0.033  $\chi^2/\text{NDF}$ : 659419.8/18

Left Out: 147.317+/-0.025  $\chi^2/\text{NDF}$ : 2511679.9/24

Right Out: 119.963+/-0.030  $\chi^2/\text{NDF}$ : 744245.2/21

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

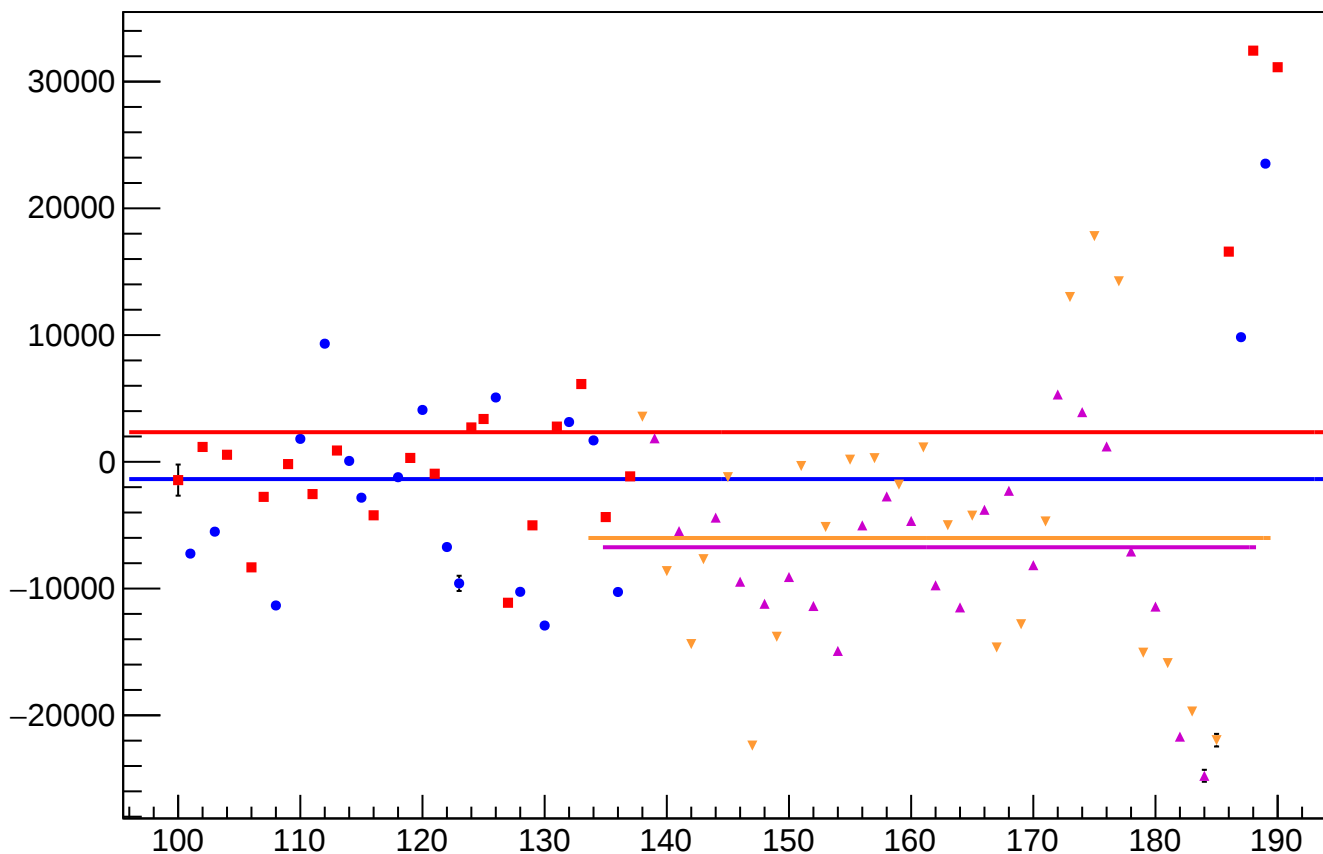
Right: 119.786+/-0.022  $\chi^2/\text{NDF}$ : 1403740.9/40

In: 137.255+/-0.021  $\chi^2/\text{NDF}$ : 3524768.9/41

Out: 135.954+/-0.019  $\chi^2/\text{NDF}$ : 3738818.8/46

All: 136.566+/-0.014  $\chi^2/\text{NDF}$ : 7265703.2/88

asym\_bpm2i02WS\_mean vs Slug, Sign Corrected



Right In: -1362.049+/-45.053  $\chi^2/\text{NDF}$ : 37971.3/18

Left Out: -6009.913+/-35.082  $\chi^2/\text{NDF}$ : 67852.2/24

Right Out: 2337.935+/-41.486  $\chi^2/\text{NDF}$ : 69926.8/21

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

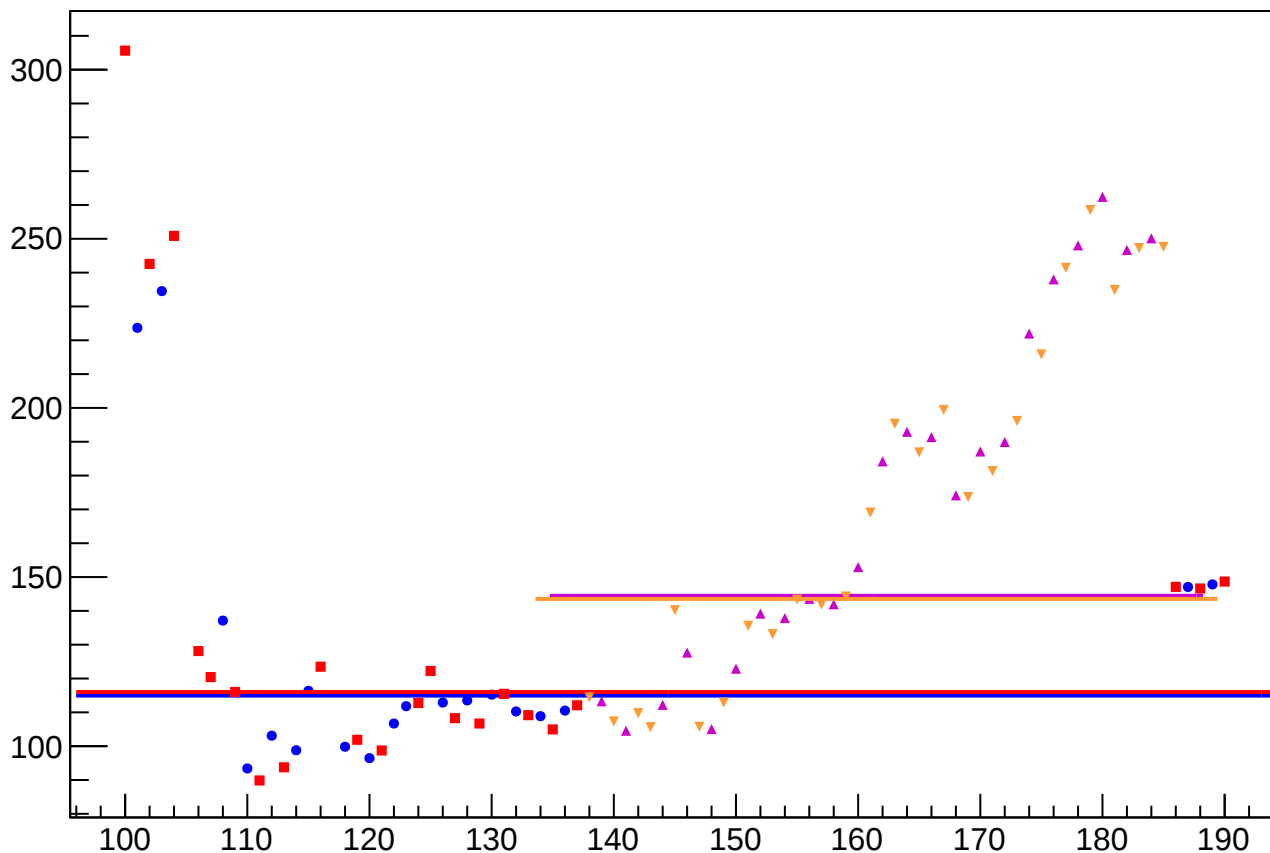
Right: 640.194+/-30.519  $\chi^2/\text{NDF}$ : 111547.9/40

In: -4617.851+/-28.304  $\chi^2/\text{NDF}$ : 68670.4/41

Out: -2529.333+/-26.788  $\chi^2/\text{NDF}$ : 161386.5/46

All: -3516.171+/-19.456  $\chi^2/\text{NDF}$ : 232929.0/8

# asym\_bpm2i02WS\_rms vs Slug, Sign Corrected



Right In:  $114.956 \pm 0.032$   $\chi^2/\text{NDF}$ : 745248.8/18

Left Out:  $143.531 \pm 0.025$   $\chi^2/\text{NDF}$ : 2704790.3/24

Right Out:  $116.006 \pm 0.029$   $\chi^2/\text{NDF}$ : 929375.3/21

Left In:  $144.440 \pm 0.026$   $\chi^2/\text{NDF}$ : 2586926.1/22

Left:  $143.969 \pm 0.018$   $\chi^2/\text{NDF}$ : 5292363.3/47

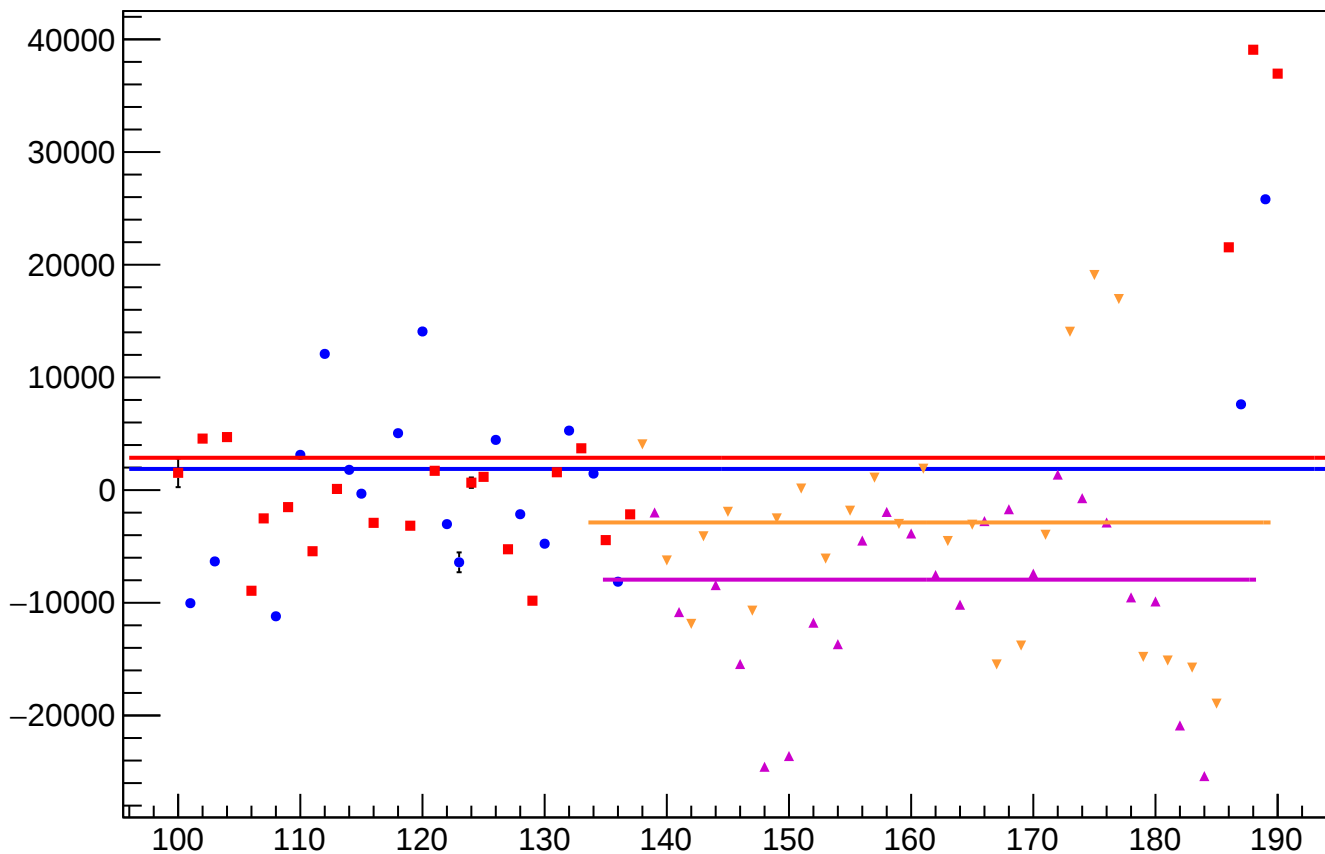
Right:  $115.524 \pm 0.022$   $\chi^2/\text{NDF}$ : 1675212.4/40

In:  $132.803 \pm 0.020$   $\chi^2/\text{NDF}$ : 3850643.7/41

Out:  $132.055 \pm 0.019$   $\chi^2/\text{NDF}$ : 4147452.4/46

All:  $132.408 \pm 0.014$   $\chi^2/\text{NDF}$ : 7998834.0/88

# asym\_bpm0i01WS\_mean vs Slug, Sign Corrected



Right In: 1878.604 $\pm$ 54.415  $\chi^2/\text{NDF}$ : 27858.7/18

Left Out: -2870.473 $\pm$ 39.482  $\chi^2/\text{NDF}$ : 46420.3/24

Right Out: 2869.453 $\pm$ 50.143  $\chi^2/\text{NDF}$ : 69488.4/21

Left In: -7947.160 $\pm$ 41.726  $\chi^2/\text{NDF}$ : 23874.5/22

Left: -5268.670 $\pm$ 28.678  $\chi^2/\text{NDF}$ : 78105.0/47

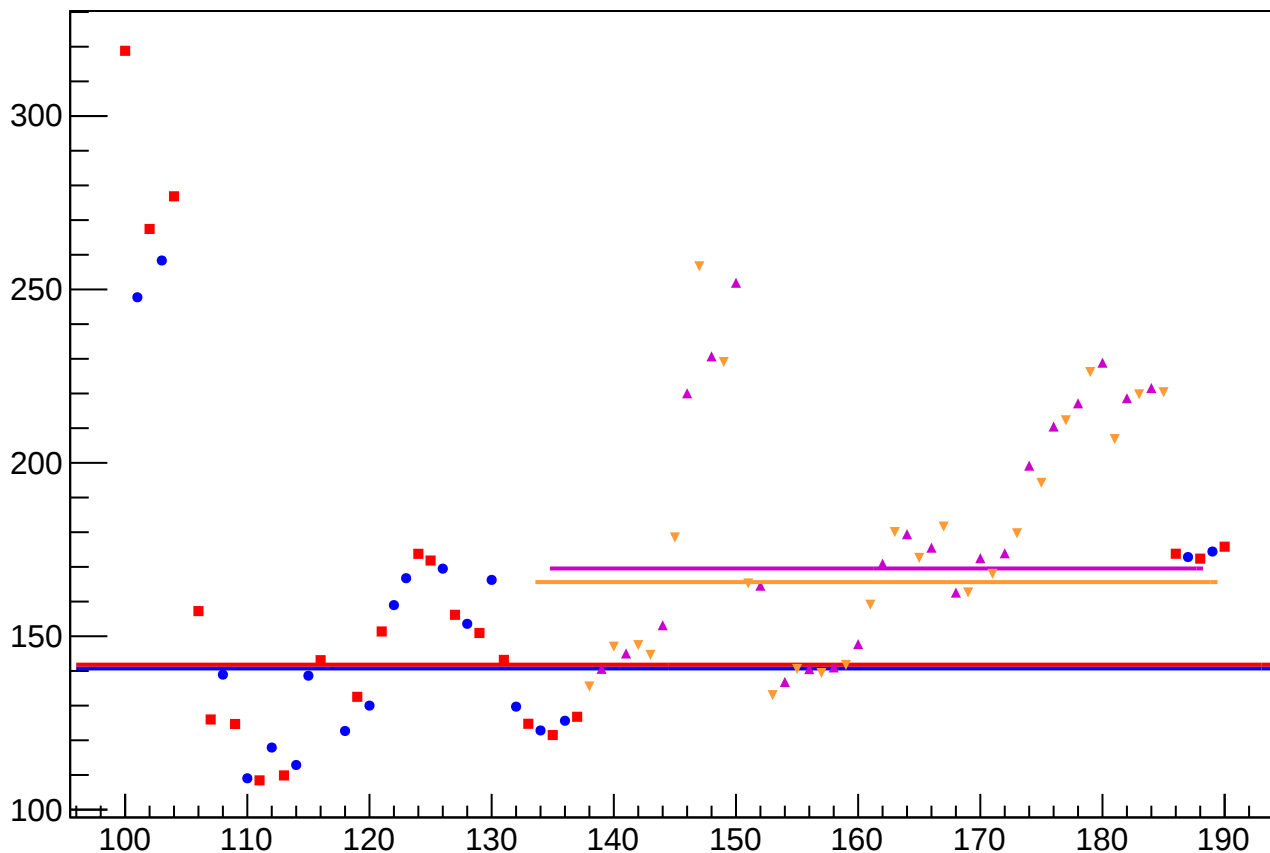
Right: 2414.446 $\pm$ 36.875  $\chi^2/\text{NDF}$ : 97526.3/40

In: -4308.979 $\pm$ 33.112  $\chi^2/\text{NDF}$ : 72265.7/41

Out: -673.755 $\pm$ 31.020  $\chi^2/\text{NDF}$ : 123997.3/46

All: -2372.948 $\pm$ 22.638  $\chi^2/\text{NDF}$ : 202682.3/8

# asym\_bpm0i01WS\_rms vs Slug, Sign Corrected



Right In: 140.713+/-0.038  $\chi^2/\text{NDF}$ : 716395.5/18

Left Out: 165.616+/-0.028  $\chi^2/\text{NDF}$ :1144779.3/24

Right Out: 141.815+/-0.035  $\chi^2/\text{NDF}$ : 875335.9/21

Left In: 169.542+/-0.030  $\chi^2/\text{NDF}$ :1159241.9/22

Left: 167.471+/-0.020  $\chi^2/\text{NDF}$ : 2313359.6/47

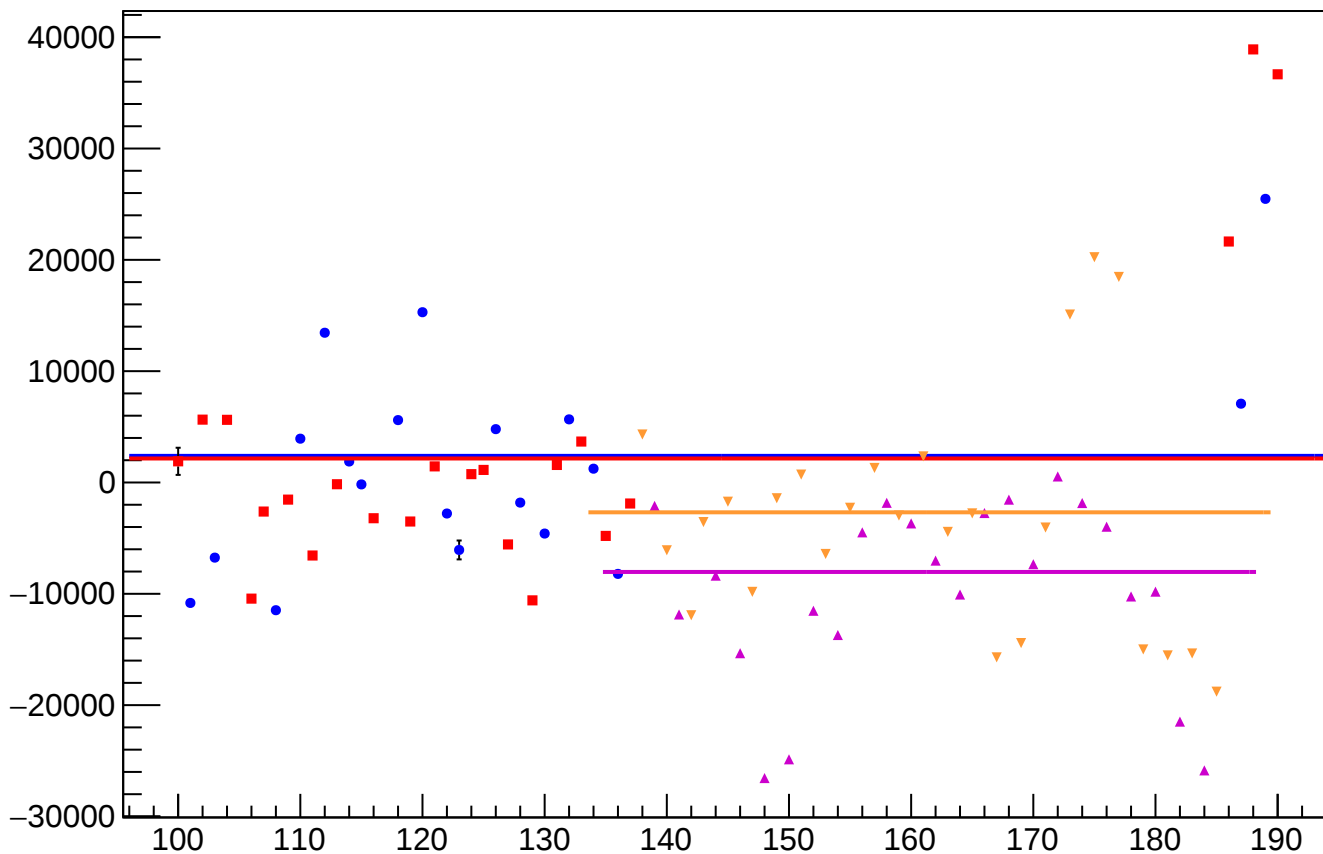
Right: 141.309+/-0.026  $\chi^2/\text{NDF}$ : 1592174.7/40

In: 158.867+/-0.023  $\chi^2/\text{NDF}$ :2229137.4/41

Out: 156.507+/-0.022  $\chi^2/\text{NDF}$ :2298289.1/46

All: 157.610+/-0.016  $\chi^2/\text{NDF}$ : 4532837.7/88

asym\_bpm0i01aWS\_mean vs Slug, Sign Corrected



Right In: 2390.763+/-45.311  $\chi^2/\text{NDF}$ : 42352.8/18

Left Out: -2680.012+/-35.764  $\chi^2/\text{NDF}$ : 56820.4/24

Right Out: 2156.033+/-41.421  $\chi^2/\text{NDF}$ : 97675.6/21

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

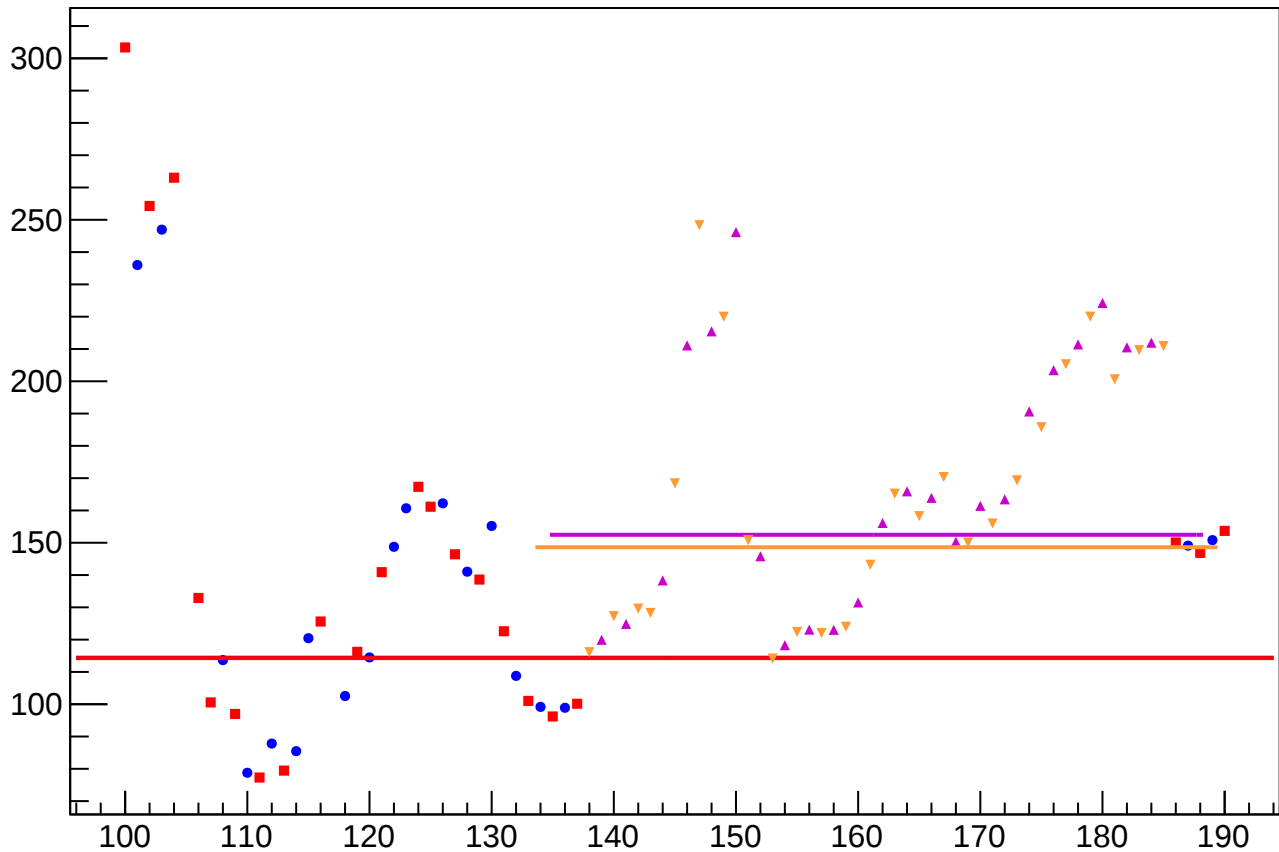
Right: 2262.892+/-30.572  $\chi^2/\text{NDF}$ : 140043.0/40

In: -3741.186+/-29.082  $\chi^2/\text{NDF}$ : 102758.4/41

Out: -614.572+/-27.070  $\chi^2/\text{NDF}$ : 162305.4/46

All: -2065.968+/-19.814  $\chi^2/\text{NDF}$ : 271256.7/8

# asym\_bpm0i01aWS\_rms vs Slug, Sign Corrected



Right In:  $114.400 \pm 0.032$   $\chi^2/\text{NDF}$ : 1199106.3/18

Left Out:  $148.611 \pm 0.025$   $\chi^2/\text{NDF}$ : 1685424.1/24

Right Out:  $114.278 \pm 0.029$   $\chi^2/\text{NDF}$ : 1463385.0/21

Left In:  $152.463 \pm 0.027$   $\chi^2/\text{NDF}$ : 1691517.7/22

Left:  $150.424 \pm 0.018$   $\chi^2/\text{NDF}$ : 3387867.0/47

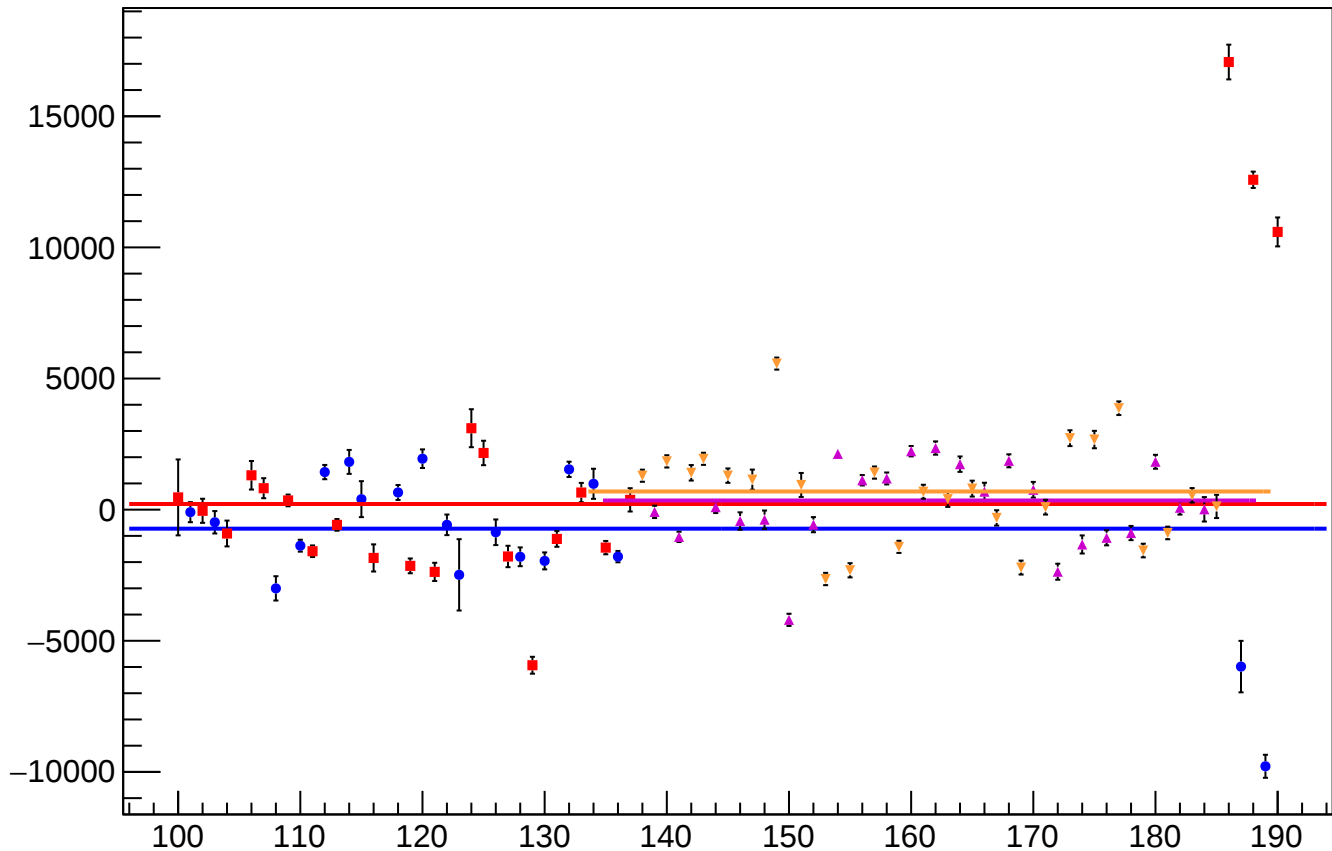
Right:  $114.333 \pm 0.022$   $\chi^2/\text{NDF}$ : 2662499.1/40

In:  $136.783 \pm 0.021$   $\chi^2/\text{NDF}$ : 3720592.5/41

Out:  $133.948 \pm 0.019$   $\chi^2/\text{NDF}$ : 3936002.2/46

All:  $135.264 \pm 0.014$   $\chi^2/\text{NDF}$ : 7666781.6/88

# asym\_bpm0l01WS\_mean vs Slug, Sign Corrected



Right In: -725.287 $\pm$ 82.228  $\chi^2/\text{NDF}$ : 784.6/18

Left Out: 692.998 $\pm$ 54.303  $\chi^2/\text{NDF}$ :1422.0/24

Right Out: 215.380 $\pm$ 74.187  $\chi^2/\text{NDF}$ : 3292.3/21

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

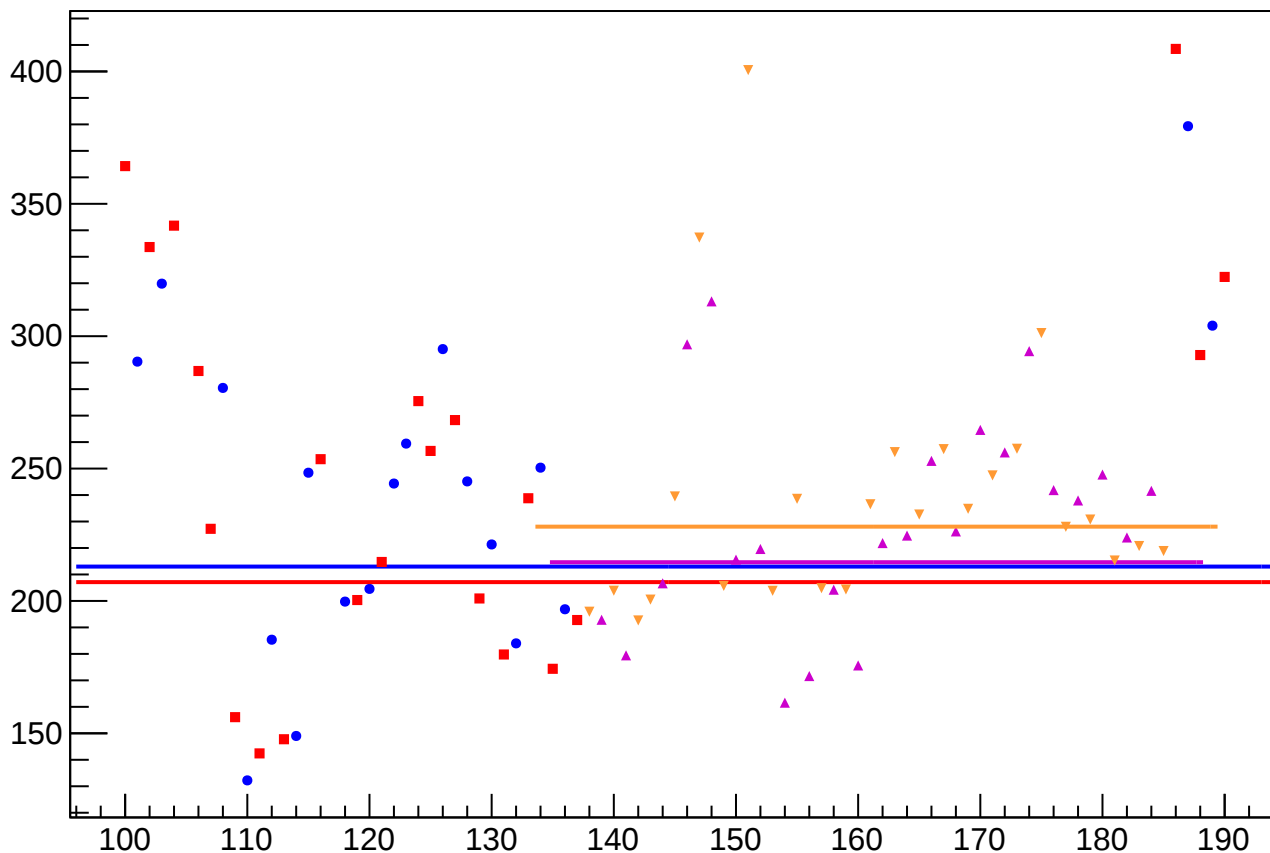
Right: -206.723 $\pm$ 55.082  $\chi^2/\text{NDF}$ : 4149.1/40

In: 33.338 $\pm$ 44.604  $\chi^2/\text{NDF}$ :1886.2/41

Out: 526.370 $\pm$ 43.819  $\chi^2/\text{NDF}$ :4741.4/46

All: 284.231 $\pm$ 31.258  $\chi^2/\text{NDF}$ : 6689.7/88

# asym\_bpm0l01WS\_rms vs Slug, Sign Corrected



Right In: 212.981+/-0.058  $\chi^2/\text{NDF}$ : 846206.2/18

Left Out: 228.061+/-0.038  $\chi^2/\text{NDF}$ :826343.8/24

Right Out: 207.108+/-0.052  $\chi^2/\text{NDF}$ : 1385022.7/21

Left In: 214.627+/-0.038  $\chi^2/\text{NDF}$ :1025683.3/22

Left: 221.193+/-0.027  $\chi^2/\text{NDF}$ : 1914604.4/47

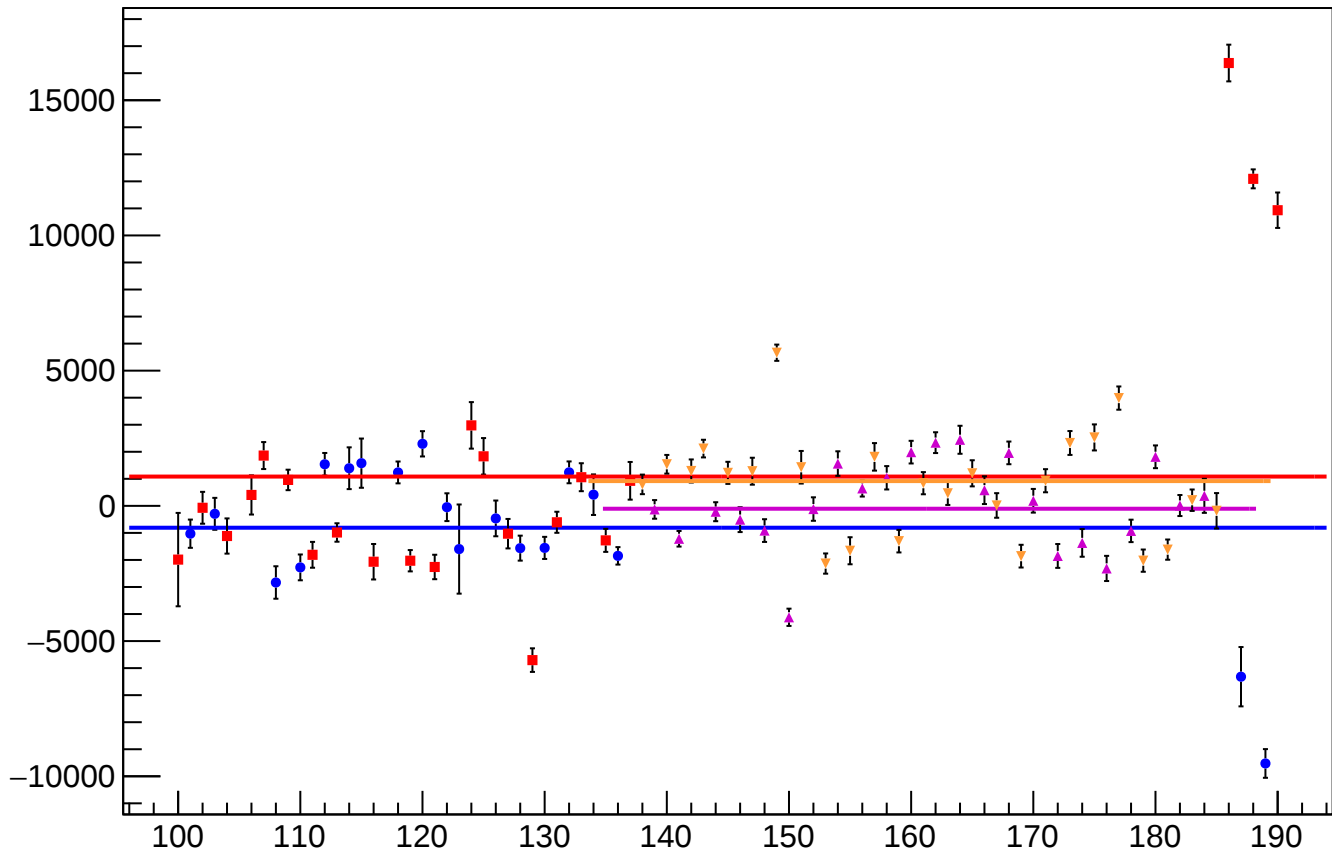
Right: 209.743+/-0.039  $\chi^2/\text{NDF}$ : 2236853.1/40

In: 214.143+/-0.032  $\chi^2/\text{NDF}$ :1872455.3/41

Out: 220.751+/-0.031  $\chi^2/\text{NDF}$ :2315246.0/46

All: 217.505+/-0.022  $\chi^2/\text{NDF}$ : 4210041.3/88

# asym\_bpm0l02WS\_mean vs Slug, Sign Corrected



Right In:  $-808.493 \pm 117.807$   $\chi^2/\text{NDF}: 480.8/18$

Left Out:  $915.968 \pm 83.398$   $\chi^2/\text{NDF}: 618.3/24$

Right Out:  $1083.399 \pm 106.711$   $\chi^2/\text{NDF}: 2269.5/21$

Left In:  $-106.116 \pm 84.393$   $\chi^2/\text{NDF}: 390.3/22$

Left:  $410.985 \pm 59.320$   $\chi^2/\text{NDF}: 1082.8/47$

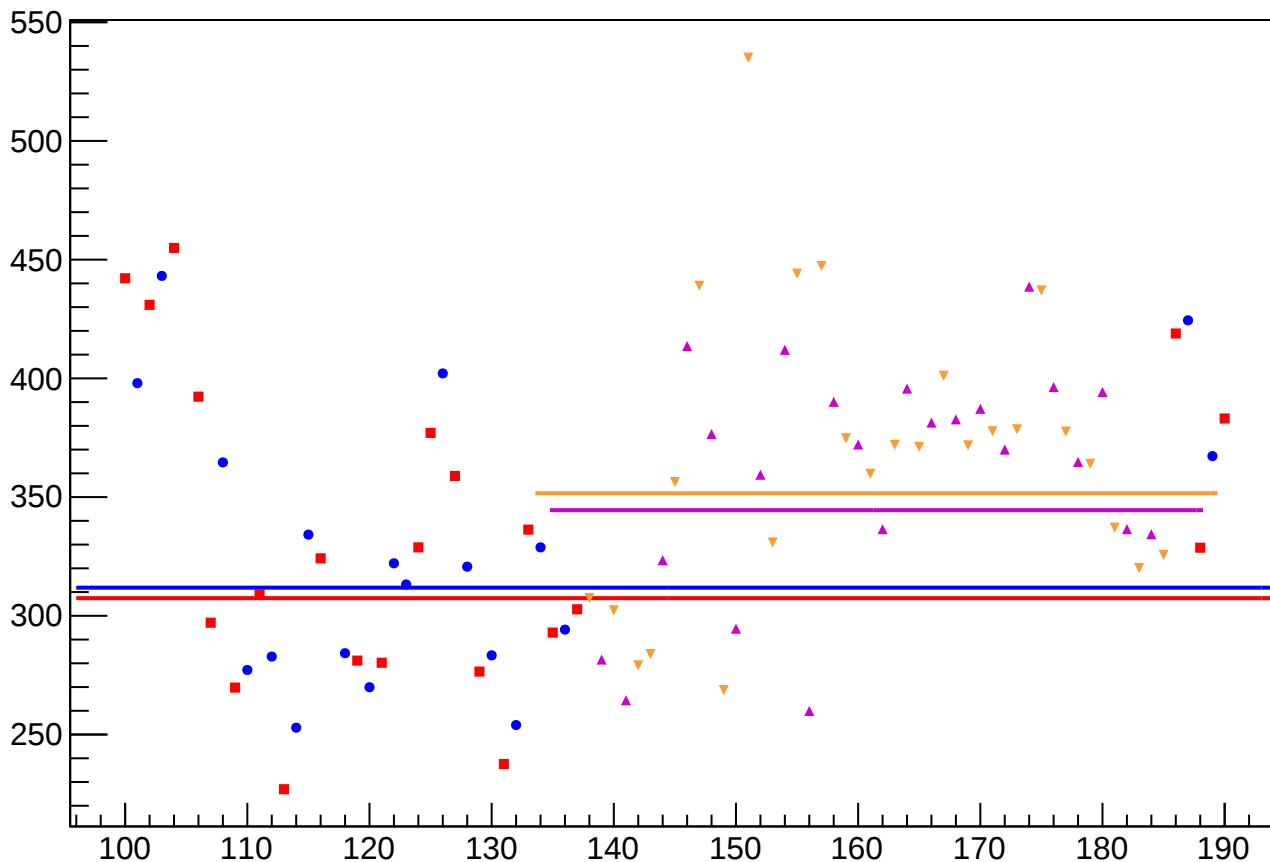
Right:  $230.729 \pm 79.089$   $\chi^2/\text{NDF}: 2892.0/40$

In:  $-344.319 \pm 68.606$   $\chi^2/\text{NDF}: 894.6/41$

Out:  $979.456 \pm 65.711$   $\chi^2/\text{NDF}: 2889.4/46$

All:  $346.088 \pm 47.455$   $\chi^2/\text{NDF}: 3978.1/88$

# asym\_bpm0l02WS\_rms vs Slug, Sign Corrected



Right In:  $311.858 \pm 0.083$   $\chi^2/\text{NDF}: 366900.1/18$

Left Out:  $351.633 \pm 0.059$   $\chi^2/\text{NDF}: 907849.3/24$

Right Out:  $307.444 \pm 0.075$   $\chi^2/\text{NDF}: 590825.7/21$

Left In:  $344.491 \pm 0.060$   $\chi^2/\text{NDF}: 768885.4/22$

Left:  $348.104 \pm 0.042$   $\chi^2/\text{NDF}: 1683981.7/47$

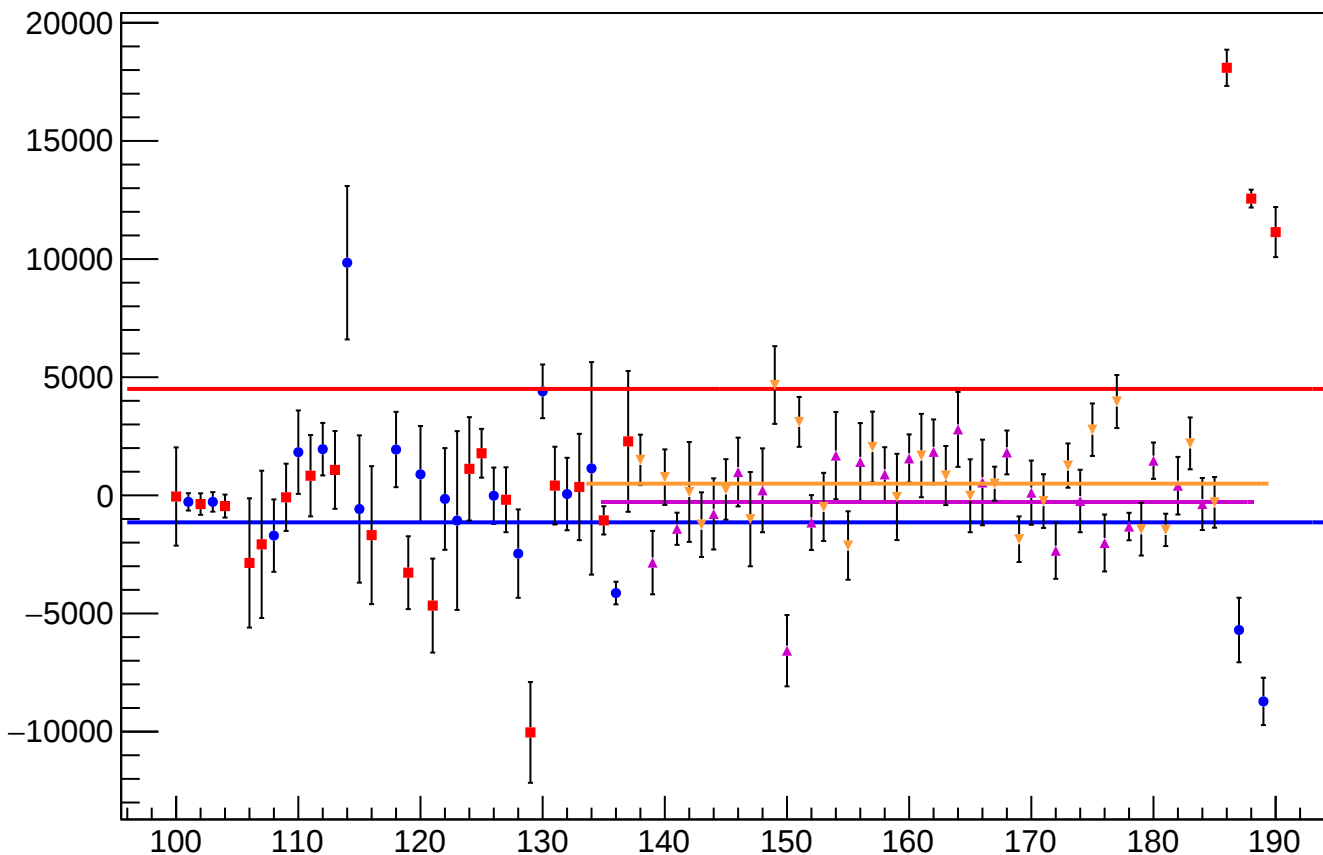
Right:  $309.434 \pm 0.056$   $\chi^2/\text{NDF}: 959267.9/40$

In:  $333.424 \pm 0.049$   $\chi^2/\text{NDF}: 1237199.9/41$

Out:  $334.877 \pm 0.046$   $\chi^2/\text{NDF}: 1711583.2/46$

All:  $334.182 \pm 0.034$   $\chi^2/\text{NDF}: 2949251.2/88$

# asym\_bpm0l03WS\_mean vs Slug, Sign Corrected



Right In:  $-1142.381 \pm 203.700$   $\chi^2/\text{NDF}: 170.7/18$

Left Out:  $495.014 \pm 231.058$   $\chi^2/\text{NDF}: 56.2/24$

Right Out:  $4504.046 \pm 194.408$   $\chi^2/\text{NDF}: 1276.1/21$

Left In:  $-280.692 \pm 232.048$   $\chi^2/\text{NDF}: 57.2/22$

Left:  $108.818 \pm 163.732$   $\chi^2/\text{NDF}: 119.1/47$

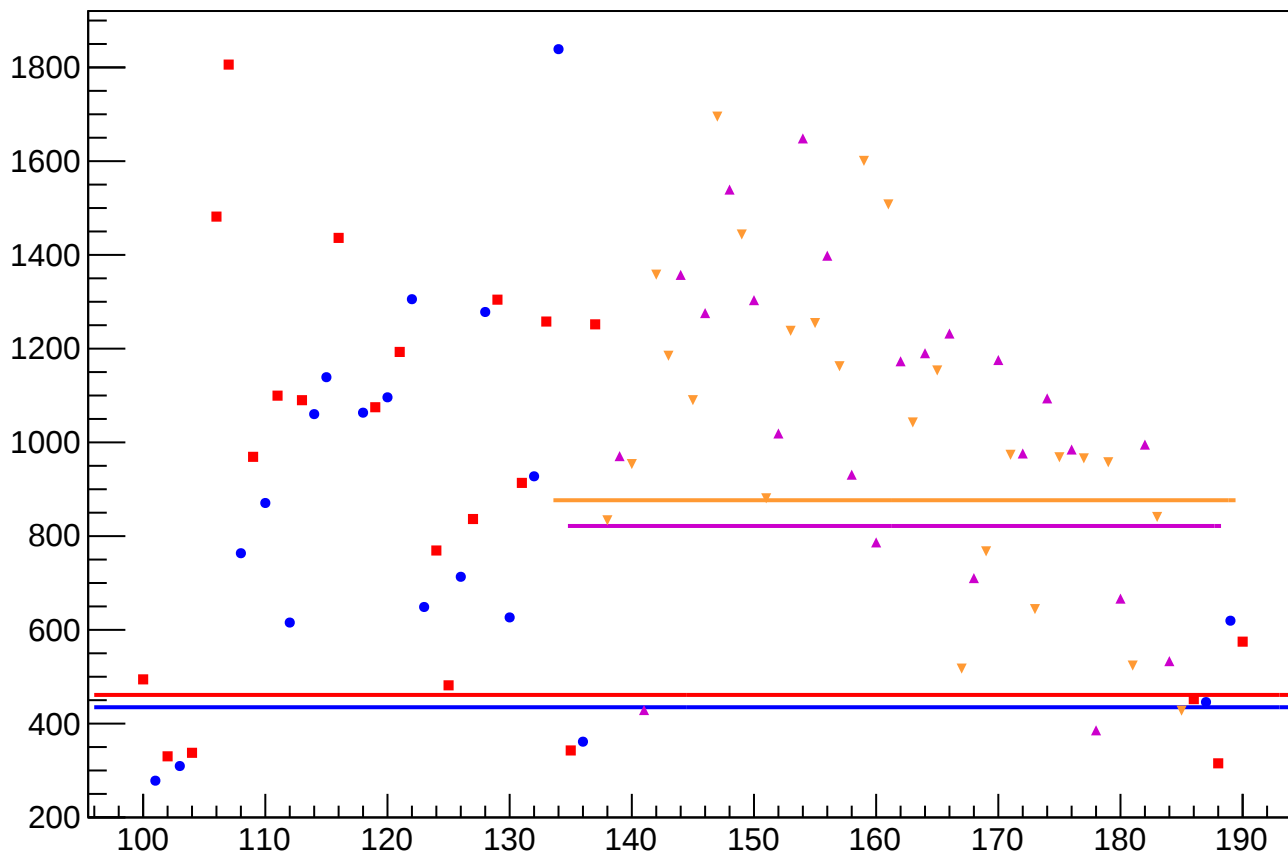
Right:  $1812.561 \pm 140.637$   $\chi^2/\text{NDF}: 1848.9/40$

In:  $-767.357 \pm 153.085$   $\chi^2/\text{NDF}: 235.7/41$

Out:  $2842.334 \pm 148.758$   $\chi^2/\text{NDF}: 1508.6/46$

All:  $1089.222 \pm 106.684$   $\chi^2/\text{NDF}: 2030.3/88$

# asym\_bpm0l03WS\_rms vs Slug, Sign Corrected



Right In:  $434.938 \pm 0.144$   $\chi^2/\text{NDF}$ : 2934365.4/18

Left Out:  $876.560 \pm 0.163$   $\chi^2/\text{NDF}$ : 3434698.7/24

Right Out:  $461.199 \pm 0.137$   $\chi^2/\text{NDF}$ : 4022848.6/21

Left In:  $821.657 \pm 0.164$   $\chi^2/\text{NDF}$ : 4443094.2/22

Left:  $849.226 \pm 0.116$   $\chi^2/\text{NDF}$ : 7934012.4/47

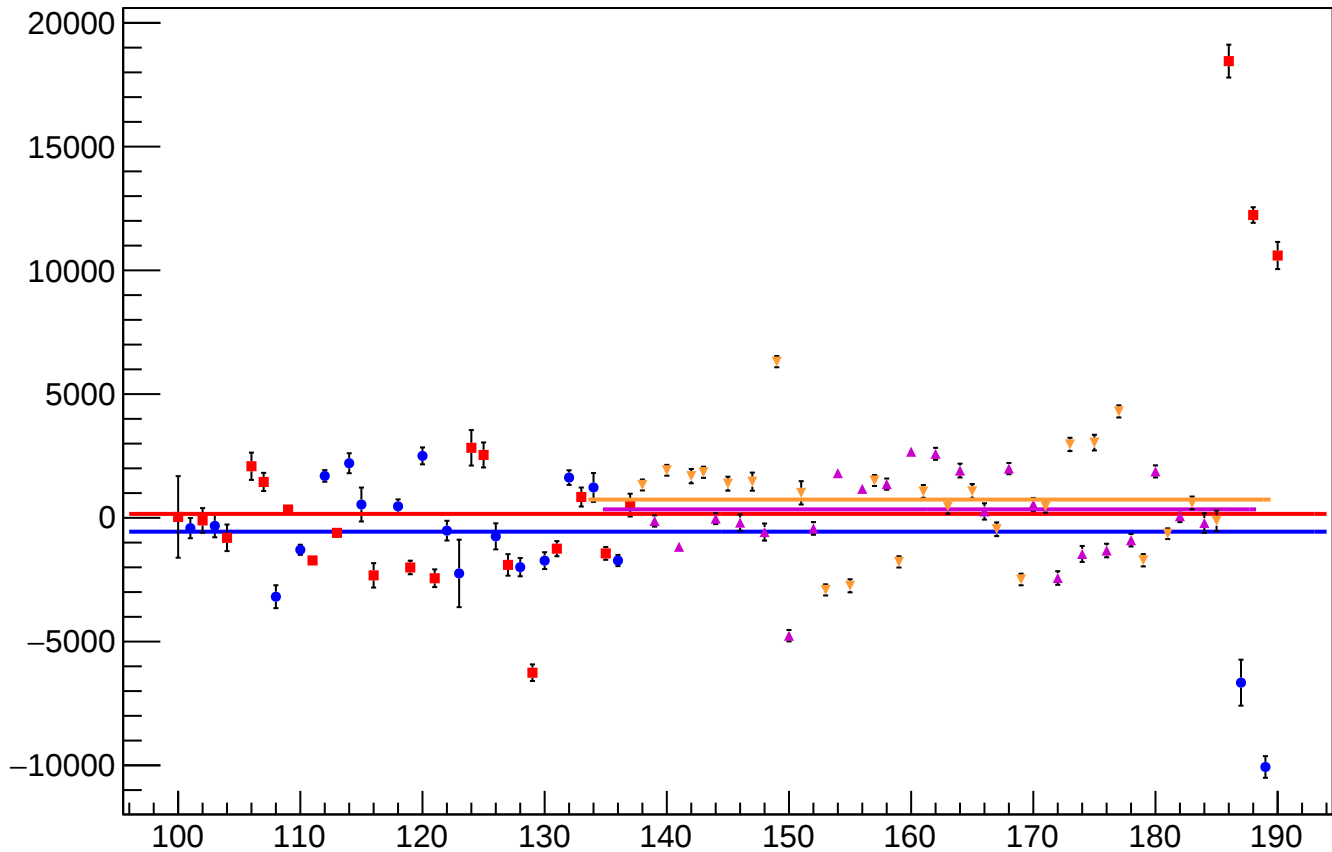
Right:  $448.681 \pm 0.099$   $\chi^2/\text{NDF}$ : 6974609.6/40

In:  $603.246 \pm 0.108$   $\chi^2/\text{NDF}$ : 10514693.2/41

Out:  $633.363 \pm 0.105$   $\chi^2/\text{NDF}$ : 11241729.2/46

All:  $618.736 \pm 0.075$   $\chi^2/\text{NDF}$ : 21796235.9/88

# asym\_bpm0l04WS\_mean vs Slug, Sign Corrected



Right In:  $-558.908 \pm 80.807$   $\chi^2/\text{NDF}$ : 913.5/18

Left Out:  $738.847 \pm 51.649$   $\chi^2/\text{NDF}$ : 1935.2/24

Right Out:  $159.415 \pm 71.999$   $\chi^2/\text{NDF}$ : 3344.5/21

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

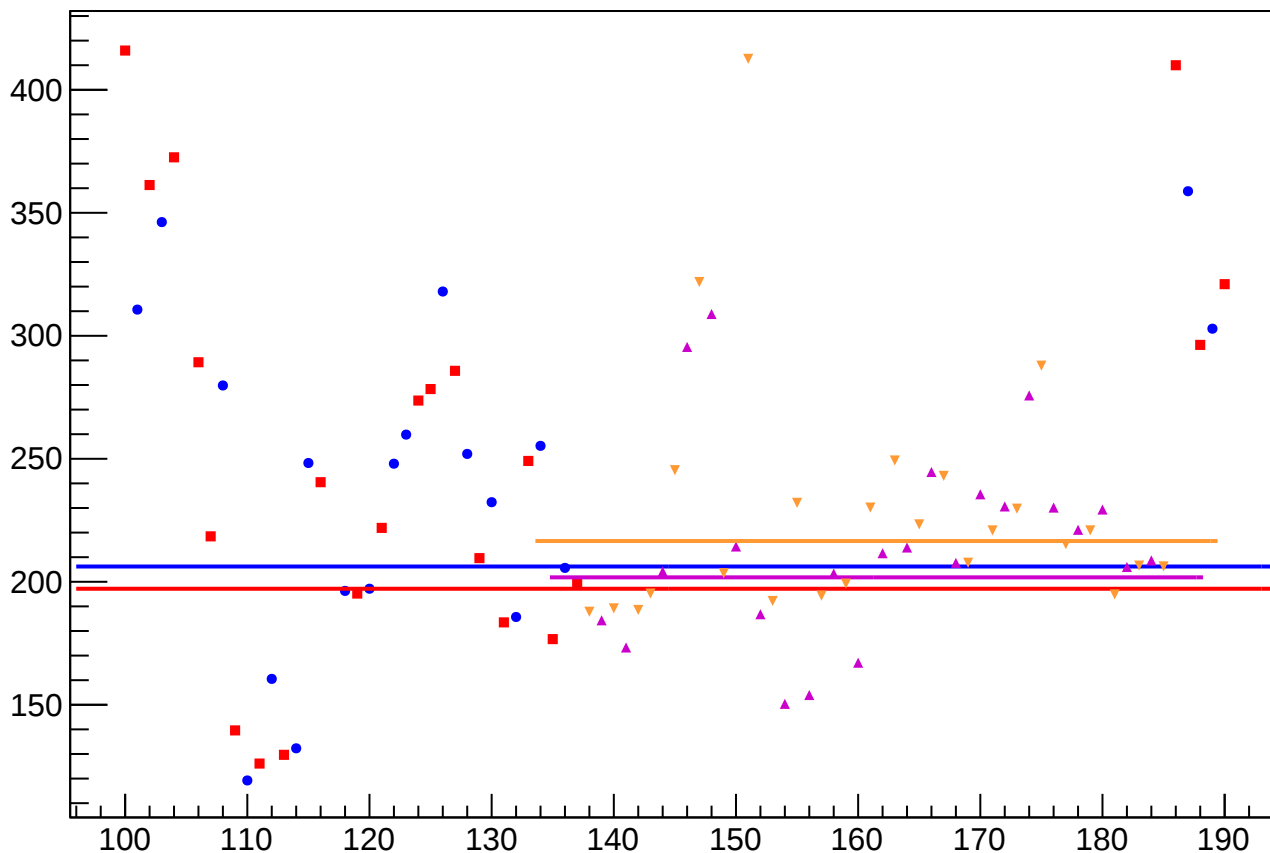
Right:  $-158.480 \pm 53.756$   $\chi^2/\text{NDF}$ : 4302.1/40

In:  $92.588 \pm 42.546$   $\chi^2/\text{NDF}$ : 2258.3/41

Out:  $541.979 \pm 41.967$   $\chi^2/\text{NDF}$ : 5322.5/46

All:  $320.360 \pm 29.878$   $\chi^2/\text{NDF}$ : 7637.4/88

# asym\_bpm0l04WS\_rms vs Slug, Sign Corrected



Right In: 206.215 $\pm$ 0.057  $\chi^2/\text{NDF}$ : 1210167.7/18

Left Out: 216.574 $\pm$ 0.037  $\chi^2/\text{NDF}$ : 886214.1/24

Right Out: 197.168 $\pm$ 0.051  $\chi^2/\text{NDF}$ : 1932764.6/21

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

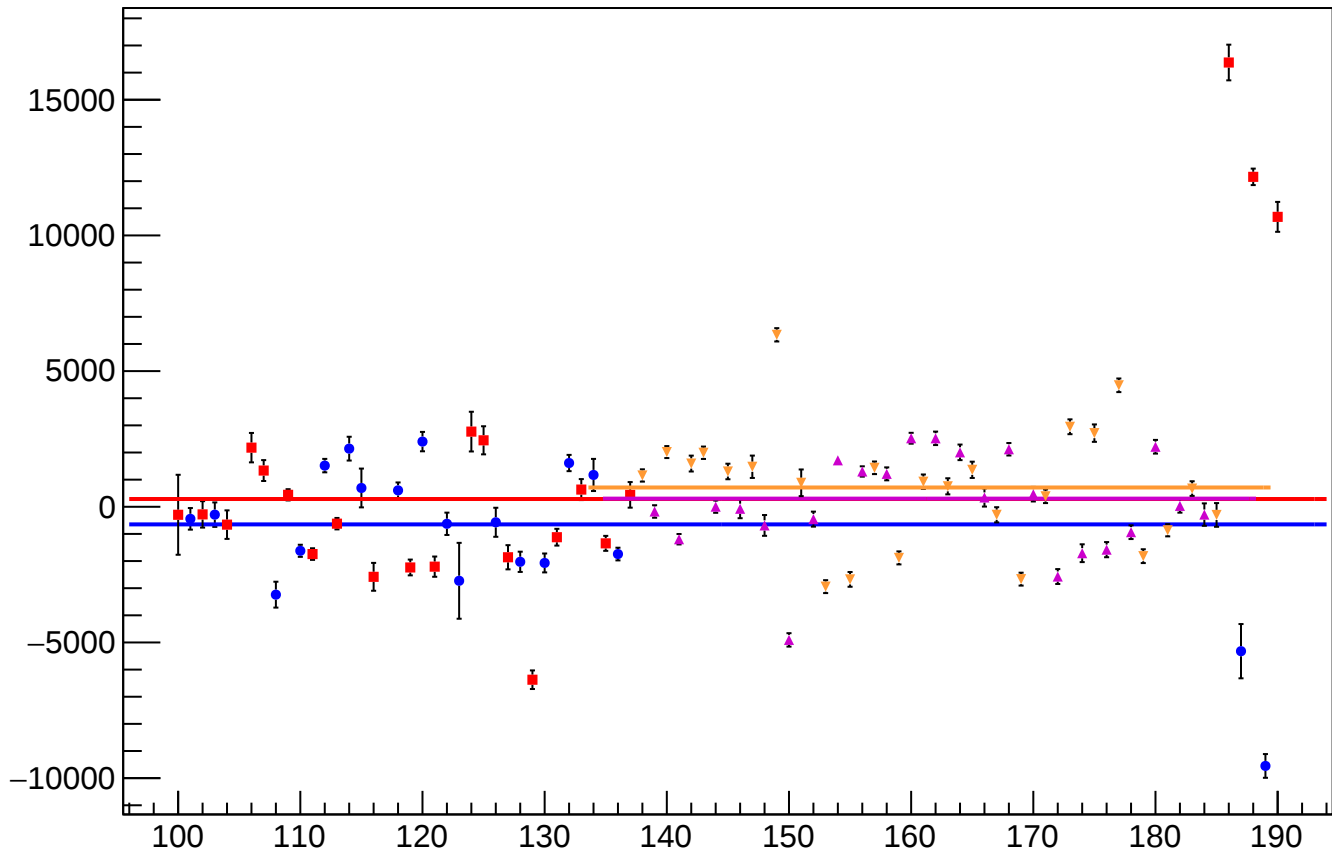
Right: 201.172 $\pm$ 0.038  $\chi^2/\text{NDF}$ : 3156906.5/40

In: 203.028 $\pm$ 0.030  $\chi^2/\text{NDF}$ : 2301716.0/41

Out: 209.981 $\pm$ 0.030  $\chi^2/\text{NDF}$ : 2914905.8/46

All: 206.552 $\pm$ 0.021  $\chi^2/\text{NDF}$ : 5243694.5/88

# asym\_bpm0l05WS\_mean vs Slug, Sign Corrected



Right In:  $-648.763 \pm 83.739$   $\chi^2/\text{NDF}: 818.0/18$

Left Out:  $711.174 \pm 53.245$   $\chi^2/\text{NDF}: 1835.3/24$

Right Out:  $286.491 \pm 74.712$   $\chi^2/\text{NDF}: 3254.8/21$

Left In:  $300.516 \pm 51.984$   $\chi^2/\text{NDF}: 1208.6/22$

Left:  $500.925 \pm 37.196$   $\chi^2/\text{NDF}: 3074.4/47$

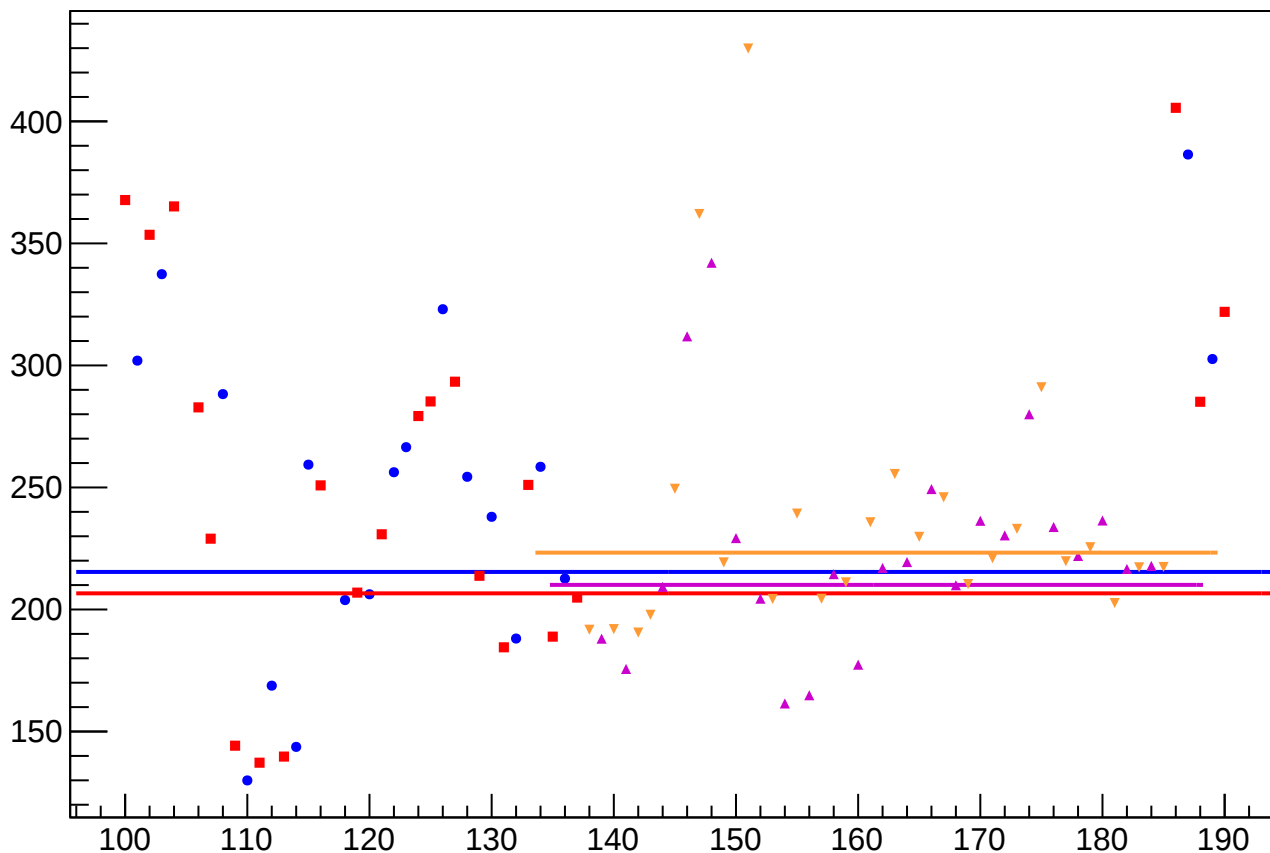
Right:  $-128.022 \pm 55.749$   $\chi^2/\text{NDF}: 4142.3/40$

In:  $36.454 \pm 44.166$   $\chi^2/\text{NDF}: 2119.4/41$

Out:  $568.129 \pm 43.360$   $\chi^2/\text{NDF}: 5111.5/46$

All:  $307.184 \pm 30.941$   $\chi^2/\text{NDF}: 7304.7/88$

# asym\_bpm0l05WS\_rms vs Slug, Sign Corrected



Right In:  $215.389 \pm 0.059$   $\chi^2/\text{NDF}$ : 1016963.8/18

Left Out:  $223.296 \pm 0.038$   $\chi^2/\text{NDF}$ : 922768.4/24

Right Out:  $206.613 \pm 0.053$   $\chi^2/\text{NDF}$ : 1641223.2/21

Left In:  $210.080 \pm 0.037$   $\chi^2/\text{NDF}$ : 1015274.5/22

Left:  $216.530 \pm 0.026$   $\chi^2/\text{NDF}$ : 2001132.1/47

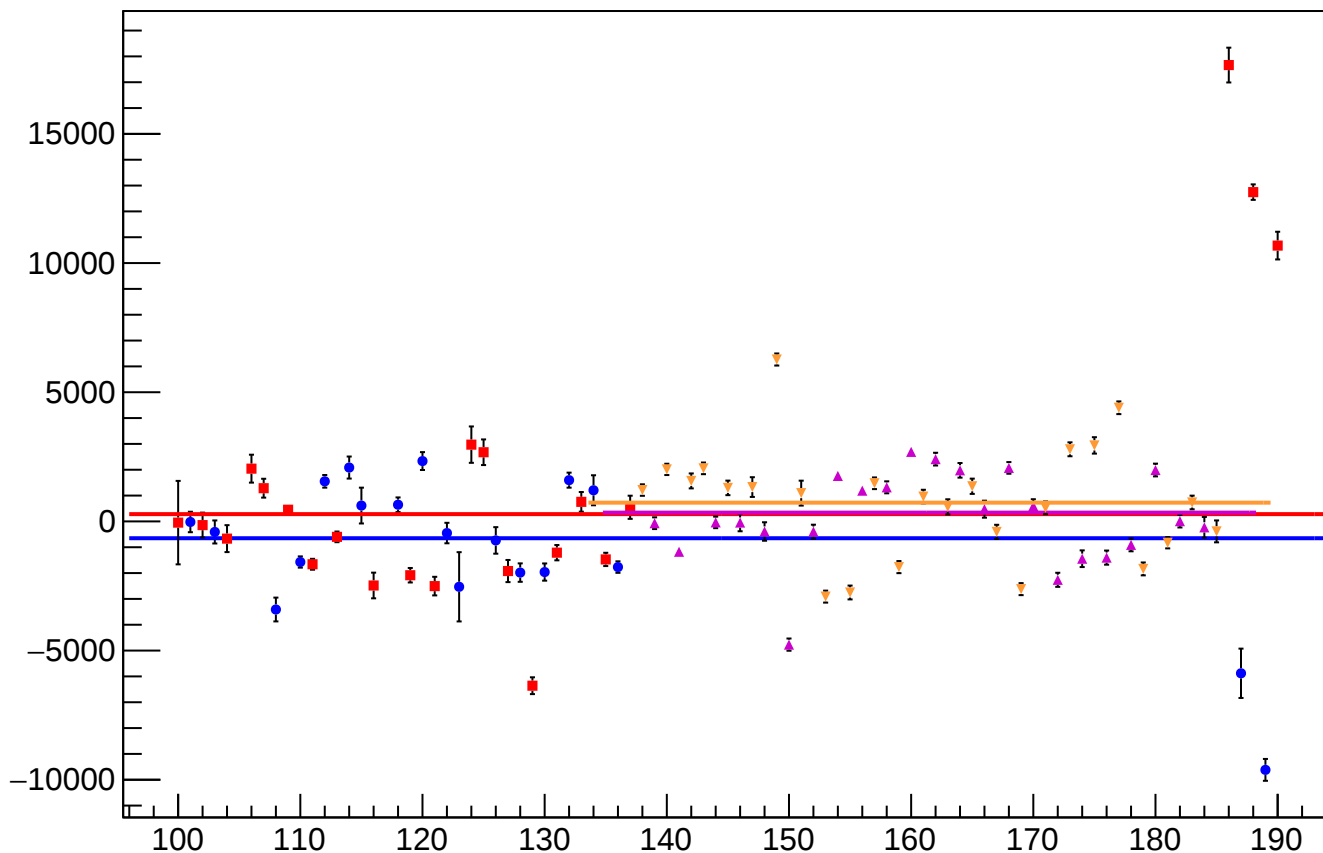
Right:  $210.503 \pm 0.039$   $\chi^2/\text{NDF}$ : 2670417.3/40

In:  $211.557 \pm 0.031$   $\chi^2/\text{NDF}$ : 2038041.7/41

Out:  $217.677 \pm 0.031$   $\chi^2/\text{NDF}$ : 2630125.4/46

All:  $214.673 \pm 0.022$   $\chi^2/\text{NDF}$ : 4687723.4/88

# asym\_bpm0l06WS\_mean vs Slug, Sign Corrected



Right In:  $-651.386 \pm 81.149$   $\chi^2/\text{NDF}: 884.2/18$

Left Out:  $725.866 \pm 52.158$   $\chi^2/\text{NDF}: 1912.7/24$

Right Out:  $281.606 \pm 72.100$   $\chi^2/\text{NDF}: 3610.5/21$

Left In:  $340.502 \pm 50.802$   $\chi^2/\text{NDF}: 1201.8/22$

Left:  $528.110 \pm 36.393$   $\chi^2/\text{NDF}: 3142.6/47$

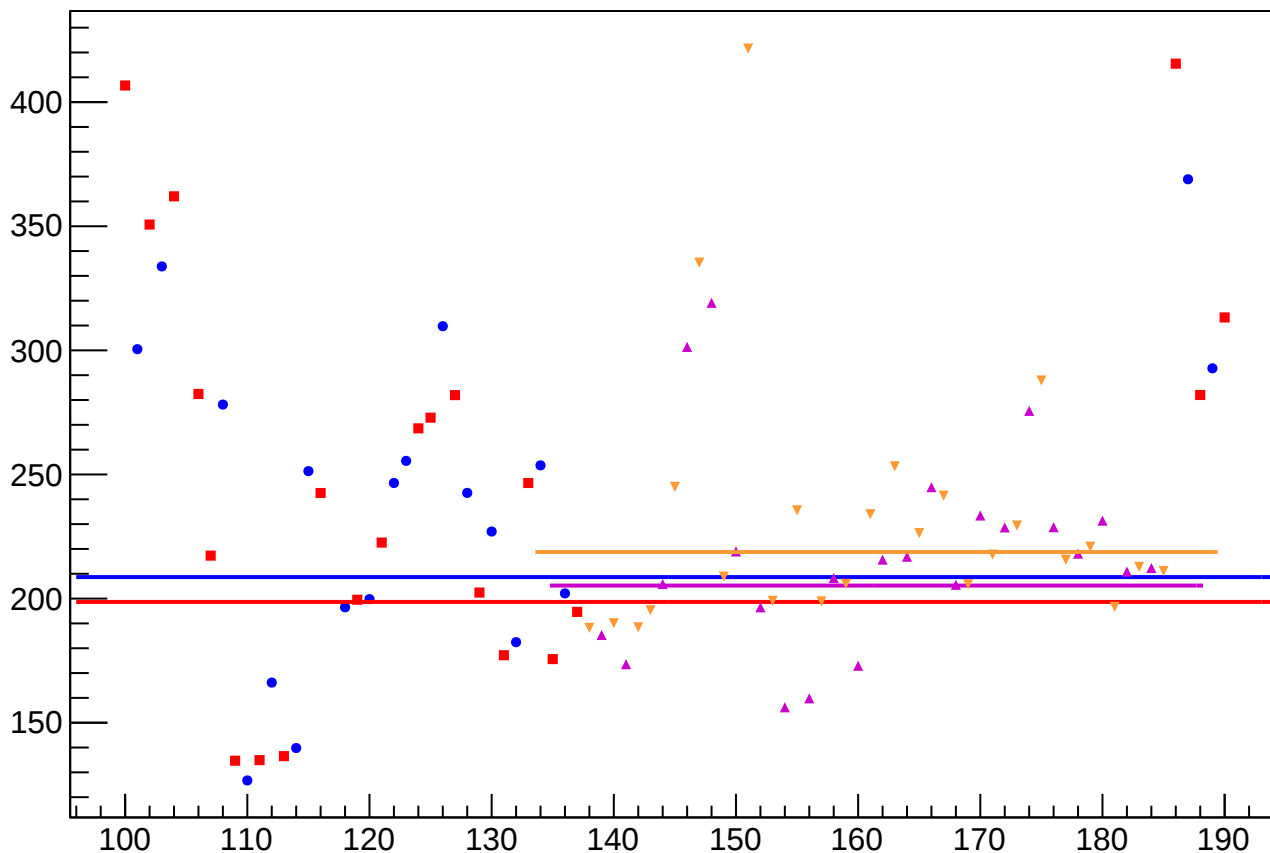
Right:  $-129.991 \pm 53.899$   $\chi^2/\text{NDF}: 4568.6/40$

In:  $61.217 \pm 43.060$   $\chi^2/\text{NDF}: 2193.4/41$

Out:  $573.244 \pm 42.260$   $\chi^2/\text{NDF}: 5548.1/46$

All:  $322.034 \pm 30.161$   $\chi^2/\text{NDF}: 7813.5/88$

# asym\_bpm0l06WS\_rms vs Slug, Sign Corrected



Right In:  $208.661 \pm 0.057$   $\chi^2/\text{NDF}: 1007285.3/18$

Left Out:  $218.768 \pm 0.037$   $\chi^2/\text{NDF}: 896914.5/24$

Right Out:  $198.653 \pm 0.051$   $\chi^2/\text{NDF}: 1737959.0/21$

Left In:  $205.249 \pm 0.036$   $\chi^2/\text{NDF}: 997168.8/22$

Left:  $211.831 \pm 0.026$   $\chi^2/\text{NDF}: 1963037.5/47$

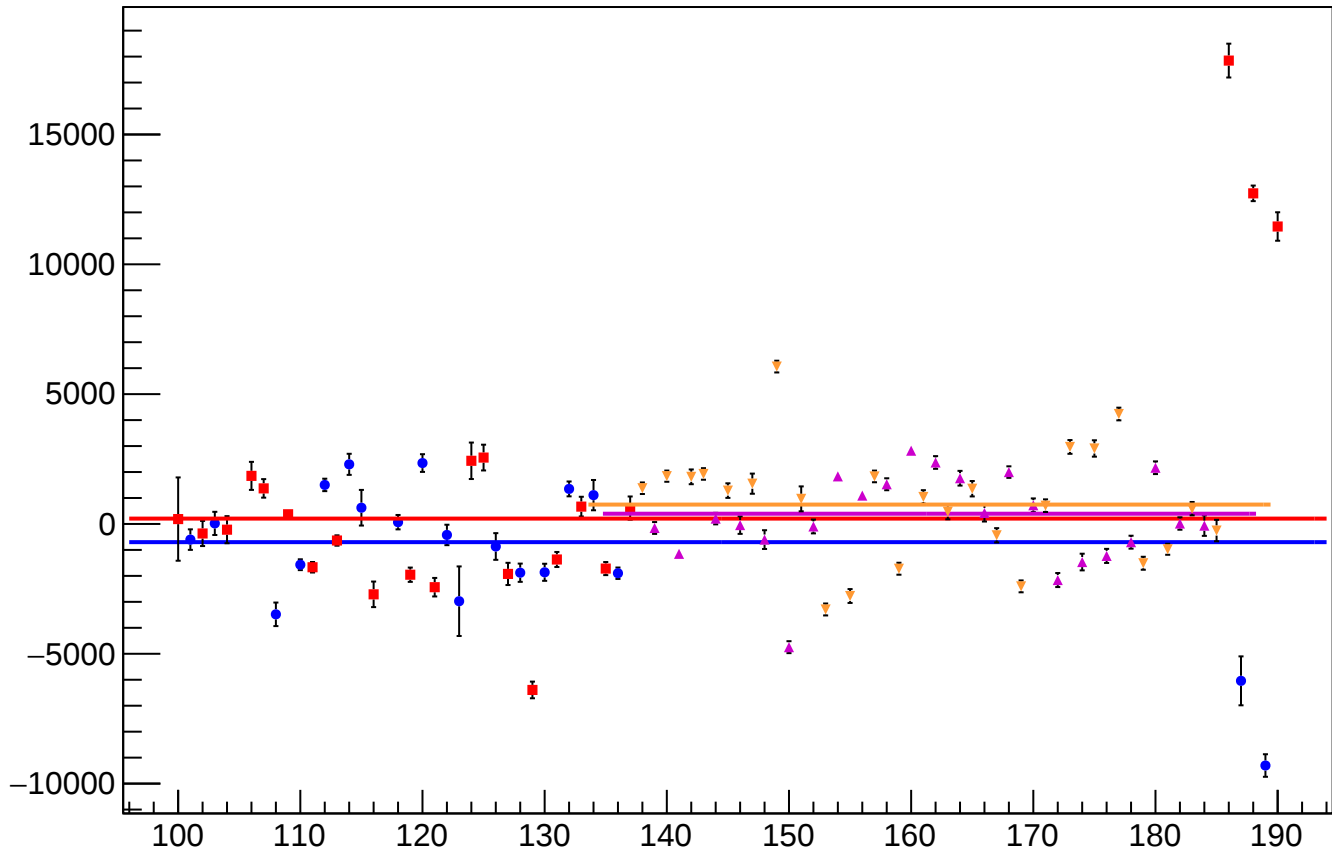
Right:  $203.068 \pm 0.038$   $\chi^2/\text{NDF}: 2762243.0/40$

In:  $206.210 \pm 0.030$   $\chi^2/\text{NDF}: 2006993.6/41$

Out:  $211.858 \pm 0.030$   $\chi^2/\text{NDF}: 2737068.0/46$

All:  $209.087 \pm 0.021$   $\chi^2/\text{NDF}: 4761590.7/88$

# asym\_bpm0l07WS\_mean vs Slug, Sign Corrected



Right In:  $-700.676 \pm 79.831$   $\chi^2/\text{NDF}: 830.2/18$

Left Out:  $746.405 \pm 51.592$   $\chi^2/\text{NDF}: 1942.1/24$

Right Out:  $206.360 \pm 70.683$   $\chi^2/\text{NDF}: 3747.8/21$

Left In:  $394.379 \pm 50.311$   $\chi^2/\text{NDF}: 1236.4/22$

Left:  $565.969 \pm 36.020$   $\chi^2/\text{NDF}: 3202.4/47$

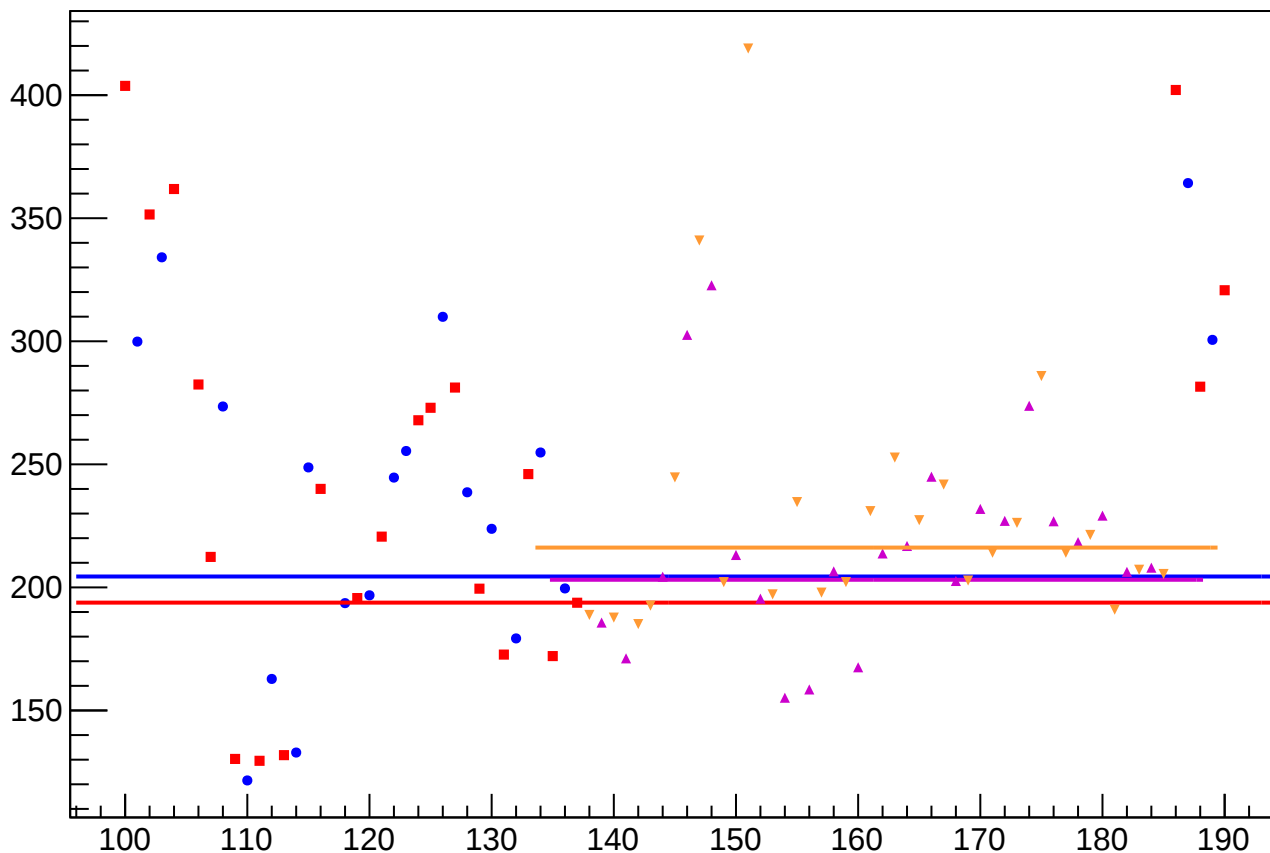
Right:  $-192.234 \pm 52.920$   $\chi^2/\text{NDF}: 4650.3/40$

In:  $83.083 \pm 42.564$   $\chi^2/\text{NDF}: 2201.3/41$

Out:  $558.695 \pm 41.672$   $\chi^2/\text{NDF}: 5728.0/46$

All:  $325.924 \pm 29.777$   $\chi^2/\text{NDF}: 7993.0/88$

# asym\_bpm0l07WS\_rms vs Slug, Sign Corrected



Right In:  $204.428 \pm 0.056$   $\chi^2/\text{NDF}: 1102615.8/18$

Left Out:  $216.178 \pm 0.036$   $\chi^2/\text{NDF}: 946050.8/24$

Right Out:  $193.815 \pm 0.050$   $\chi^2/\text{NDF}: 1867689.2/21$

Left In:  $203.101 \pm 0.036$   $\chi^2/\text{NDF}: 1038013.0/22$

Left:  $209.475 \pm 0.025$   $\chi^2/\text{NDF}: 2049926.5/47$

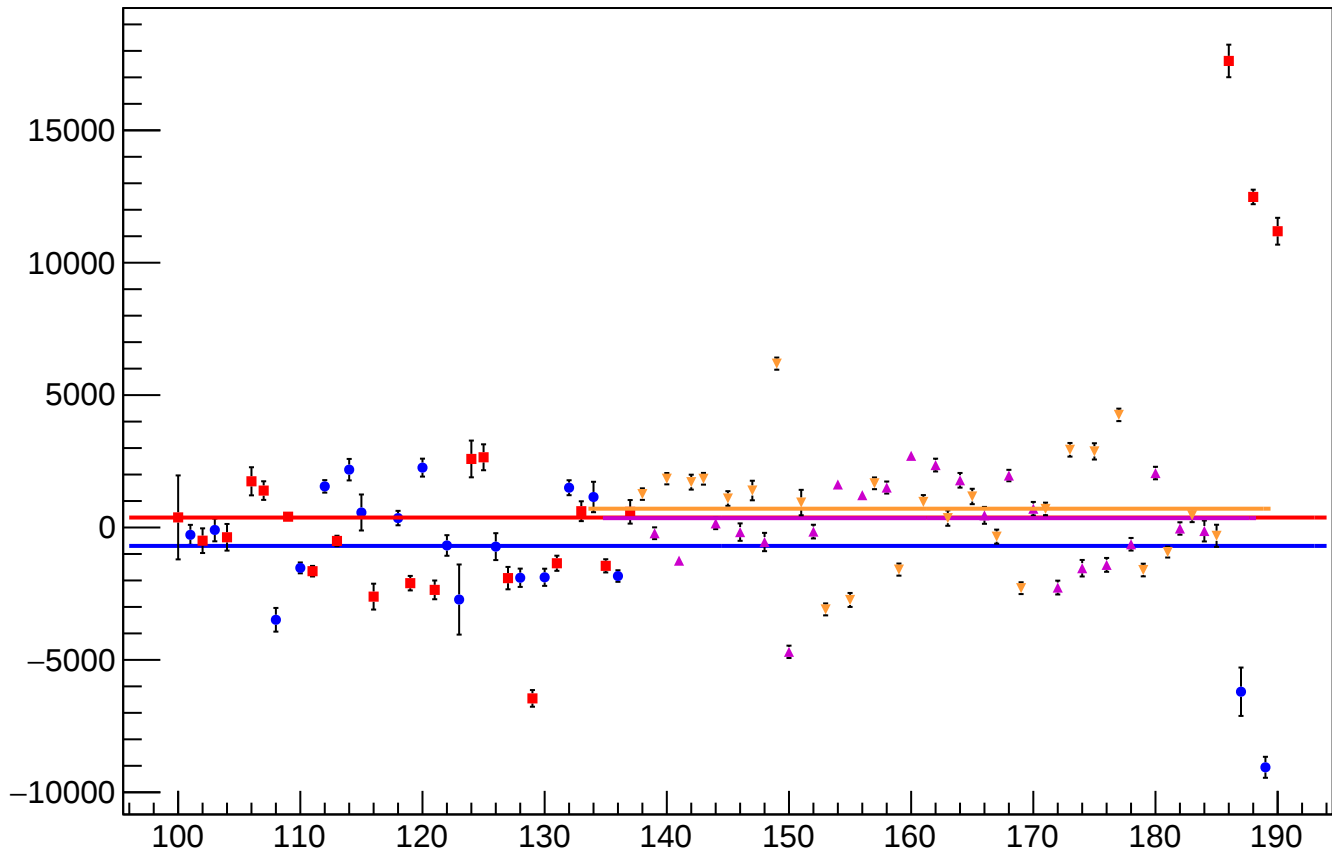
Right:  $198.479 \pm 0.037$   $\chi^2/\text{NDF}: 2990120.4/40$

In:  $203.478 \pm 0.030$   $\chi^2/\text{NDF}: 2141024.6/41$

Out:  $208.405 \pm 0.029$   $\chi^2/\text{NDF}: 2944350.4/46$

All:  $205.994 \pm 0.021$   $\chi^2/\text{NDF}: 5099057.1/88$

# asym\_bpm0l08WS\_mean vs Slug, Sign Corrected



Right In:  $-695.393 \pm 78.465$   $\chi^2/\text{NDF}: 900.4/18$

Left Out:  $710.238 \pm 50.750$   $\chi^2/\text{NDF}: 1932.3/24$

Right Out:  $376.111 \pm 69.176$   $\chi^2/\text{NDF}: 4138.4/21$

Left In:  $352.432 \pm 49.316$   $\chi^2/\text{NDF}: 1233.1/22$

Left:  $526.207 \pm 35.368$   $\chi^2/\text{NDF}: 3190.9/47$

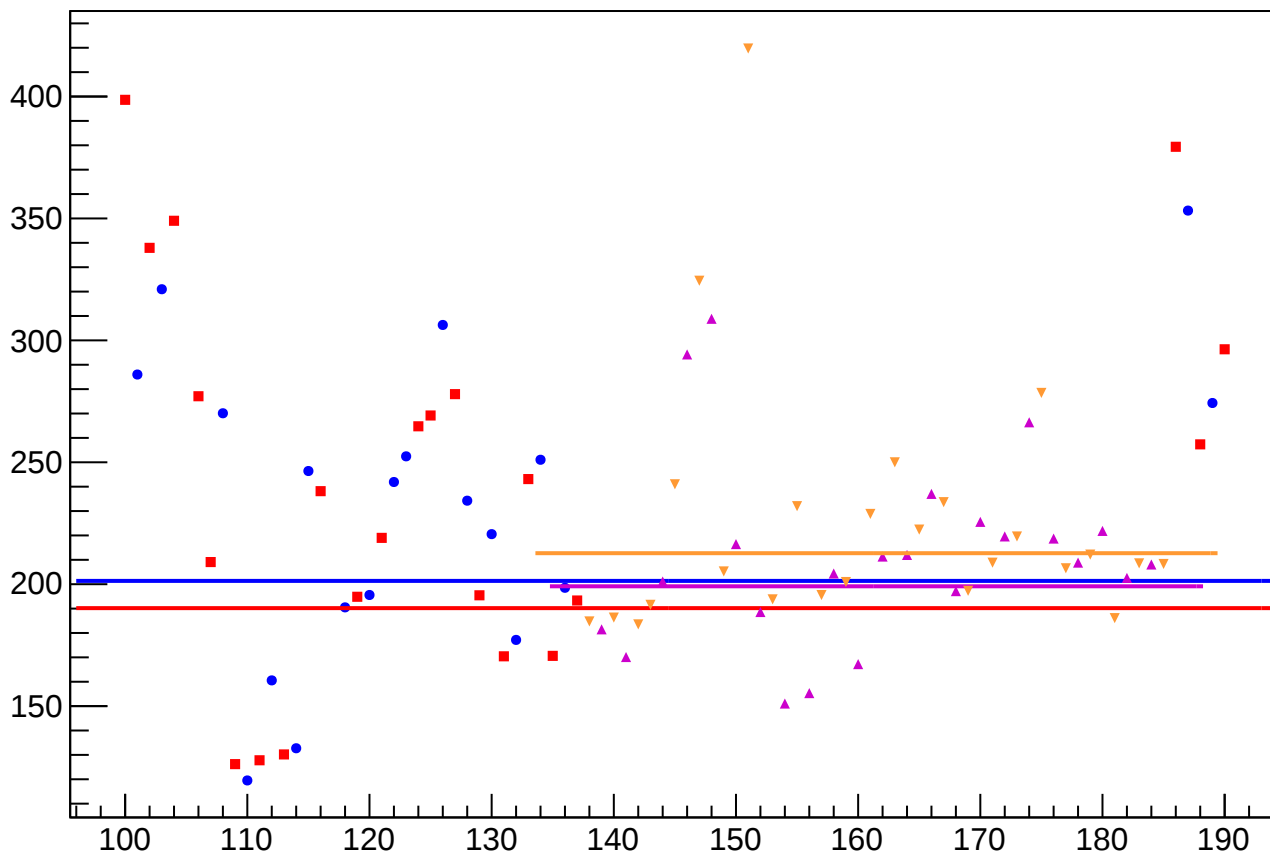
Right:  $-92.490 \pm 51.890$   $\chi^2/\text{NDF}: 5143.8/40$

In:  $55.723 \pm 41.754$   $\chi^2/\text{NDF}: 2261.3/41$

Out:  $593.325 \pm 40.919$   $\chi^2/\text{NDF}: 6085.9/46$

All:  $329.951 \pm 29.225$   $\chi^2/\text{NDF}: 8431.8/88$

# asym\_bpm0l08WS\_rms vs Slug, Sign Corrected



Right In:  $201.356 \pm 0.055$   $\chi^2/\text{NDF}$ : 1038294.6/18

Left Out:  $212.718 \pm 0.036$   $\chi^2/\text{NDF}$ : 916225.9/24

Right Out:  $190.186 \pm 0.049$   $\chi^2/\text{NDF}$ : 1773820.3/21

Left In:  $199.142 \pm 0.035$   $\chi^2/\text{NDF}$ : 985932.4/22

Left:  $205.736 \pm 0.025$   $\chi^2/\text{NDF}$ : 1975772.3/47

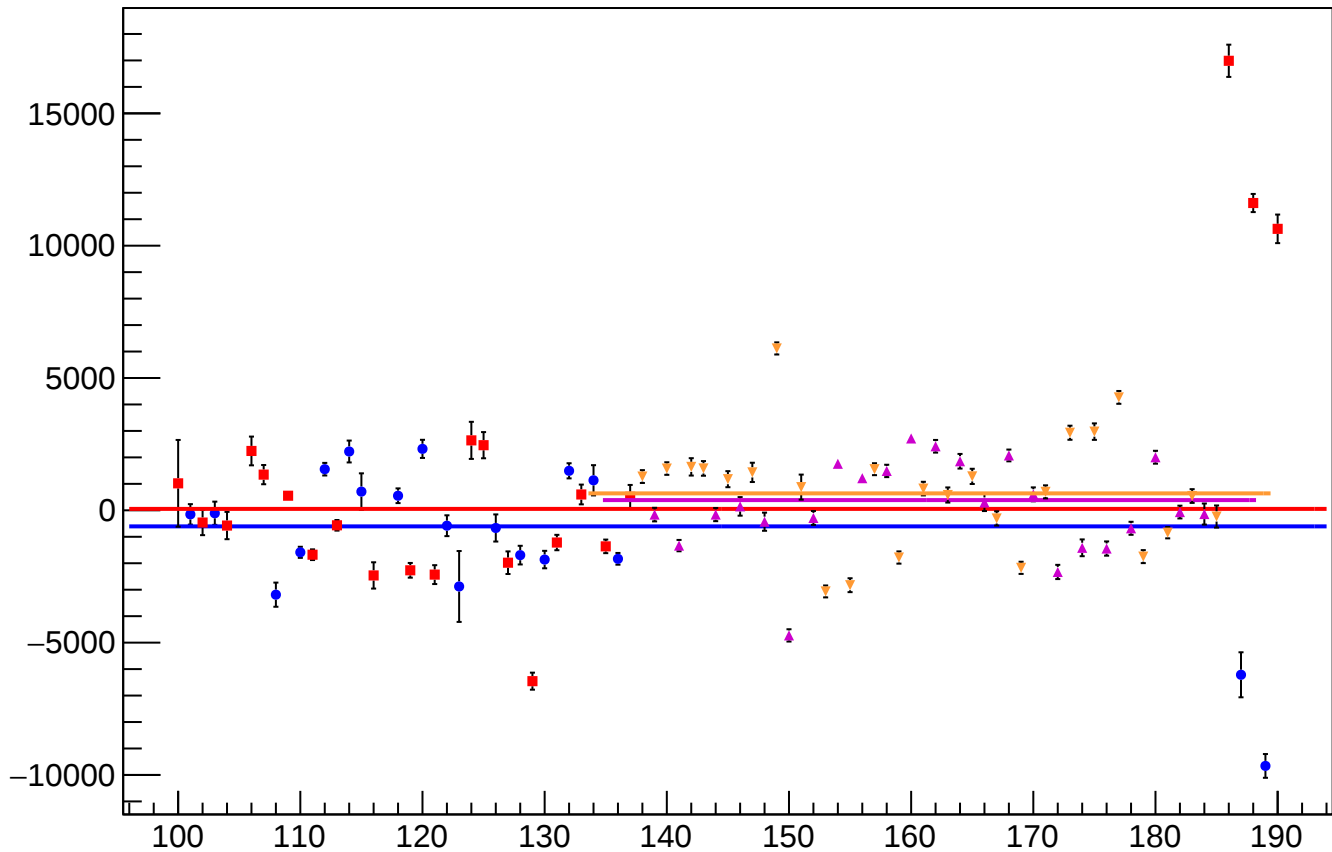
Right:  $195.071 \pm 0.037$   $\chi^2/\text{NDF}$ : 2834920.4/40

In:  $199.769 \pm 0.030$   $\chi^2/\text{NDF}$ : 2025368.6/41

Out:  $204.834 \pm 0.029$   $\chi^2/\text{NDF}$ : 2827991.7/46

All:  $202.353 \pm 0.021$   $\chi^2/\text{NDF}$ : 4868374.1/88

# asym\_bpm0l09WS\_mean vs Slug, Sign Corrected



Right In:  $-606.910 \pm 79.924$   $\chi^2/\text{NDF}: 850.1/18$

Left Out:  $639.995 \pm 52.708$   $\chi^2/\text{NDF}: 1859.2/24$

Right Out:  $53.778 \pm 71.353$   $\chi^2/\text{NDF}: 3080.2/21$

Left In:  $386.248 \pm 50.994$   $\chi^2/\text{NDF}: 1238.0/22$

Left:  $508.926 \pm 36.649$   $\chi^2/\text{NDF}: 3109.2/47$

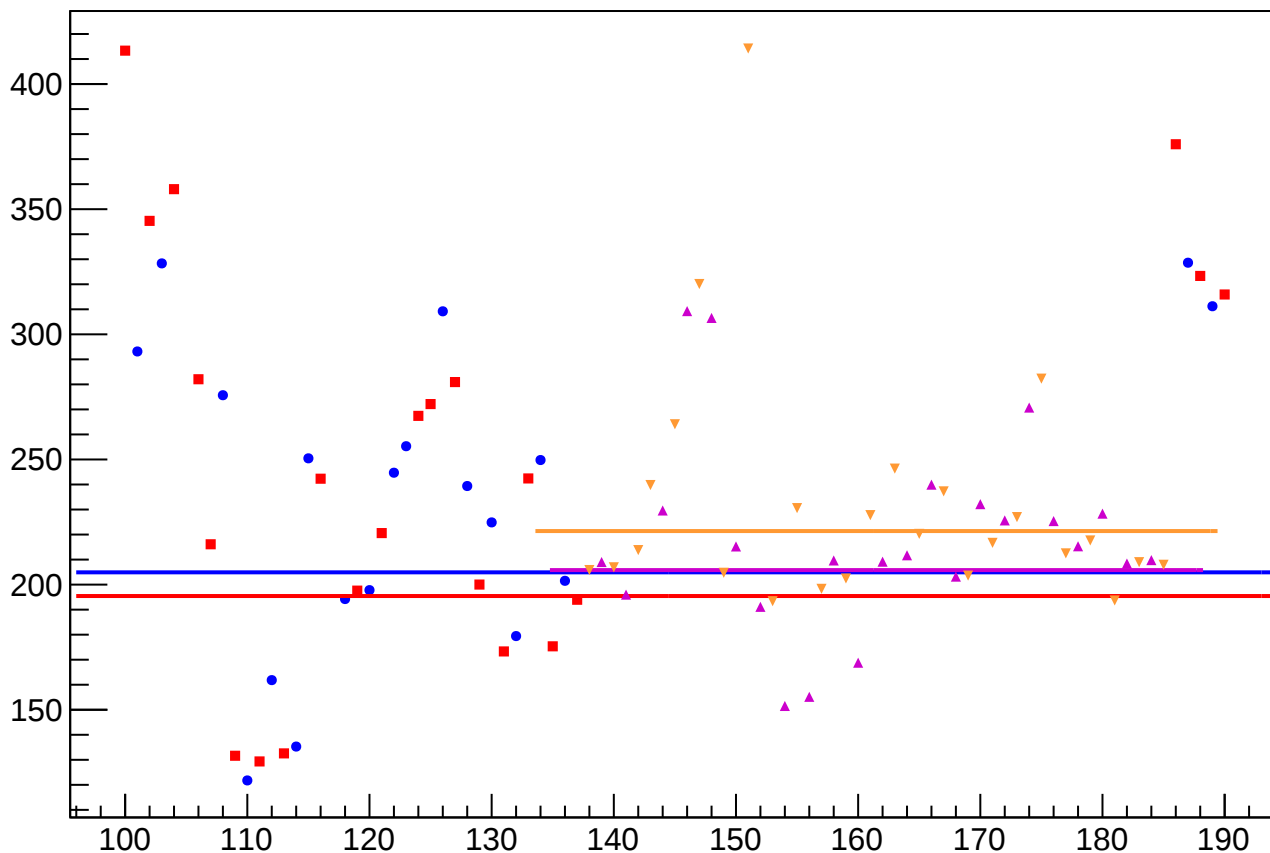
Right:  $-239.254 \pm 53.227$   $\chi^2/\text{NDF}: 3968.3/40$

In:  $98.920 \pm 42.989$   $\chi^2/\text{NDF}: 2197.9/41$

Out:  $433.041 \pm 42.396$   $\chi^2/\text{NDF}: 4983.1/46$

All:  $268.302 \pm 30.186$   $\chi^2/\text{NDF}: 7211.6/88$

# asym\_bpm0l09WS\_rms vs Slug, Sign Corrected



Right In: 204.905 $\pm$ 0.057  $\chi^2/\text{NDF}$ : 1076837.3/18

Left Out: 221.398 $\pm$ 0.037  $\chi^2/\text{NDF}$ : 777833.8/24

Right Out: 195.440 $\pm$ 0.050  $\chi^2/\text{NDF}$ : 1911438.2/21

Left In: 205.803 $\pm$ 0.036  $\chi^2/\text{NDF}$ : 994903.5/22

Left: 213.343 $\pm$ 0.026  $\chi^2/\text{NDF}$ : 1863169.5/47

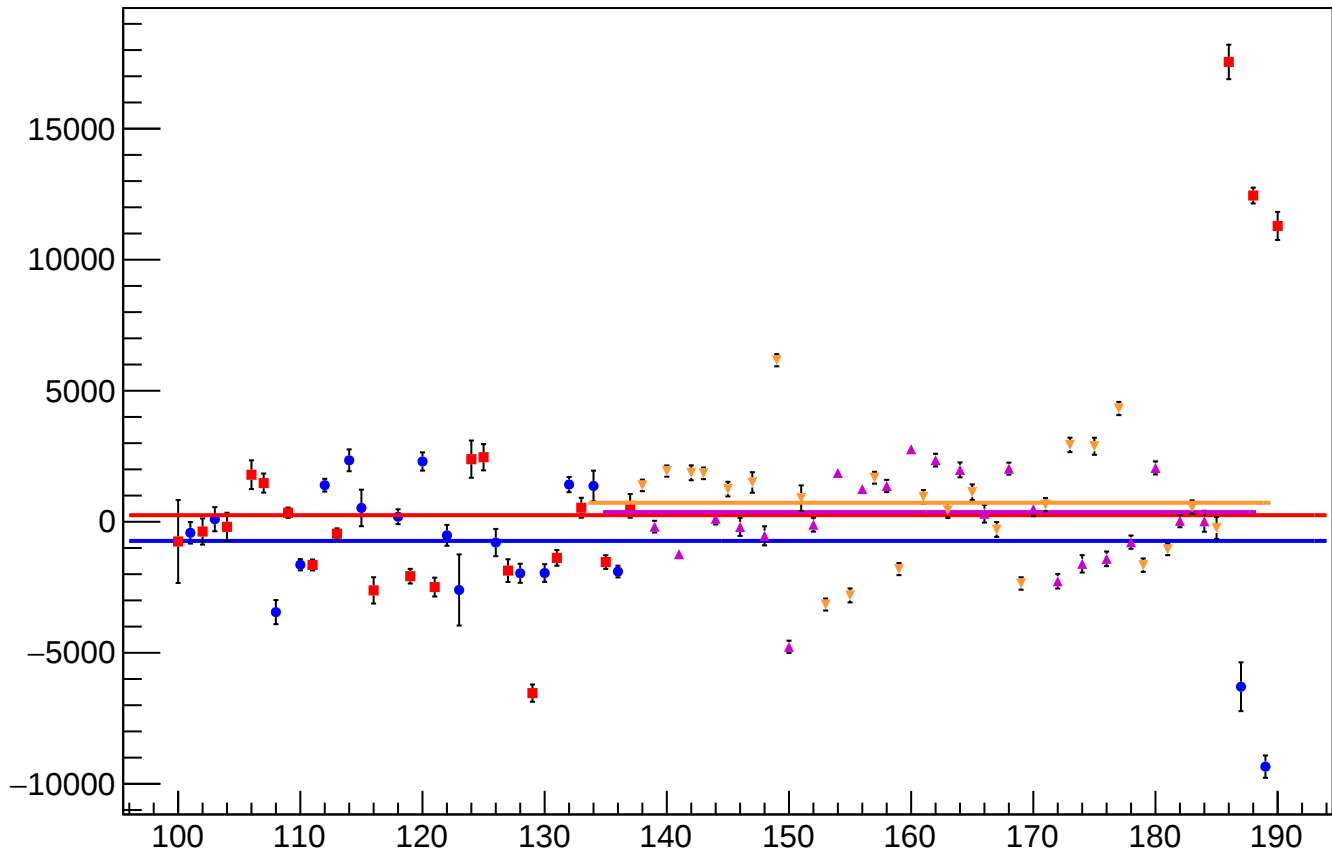
Right: 199.638 $\pm$ 0.038  $\chi^2/\text{NDF}$ : 3003882.9/40

In: 205.543 $\pm$ 0.030  $\chi^2/\text{NDF}$ : 2071920.4/41

Out: 212.234 $\pm$ 0.030  $\chi^2/\text{NDF}$ : 2860521.6/46

All: 208.935 $\pm$ 0.021  $\chi^2/\text{NDF}$ : 4957001.6/88

# asym\_bpm0l10WS\_mean vs Slug, Sign Corrected



Right In: -730.619 $\pm$ 81.456  $\chi^2$ /NDF: 843.9/18

Left Out: 725.250 $\pm$ 52.307  $\chi^2$ /NDF:1883.1/24

Right Out: 251.981 $\pm$ 72.320  $\chi^2$ /NDF: 3575.8/21

Left In: 370.408 $\pm$ 50.884  $\chi^2$ /NDF:1223.2/22

Left: 542.938 $\pm$ 36.473  $\chi^2$ /NDF: 3129.9/47

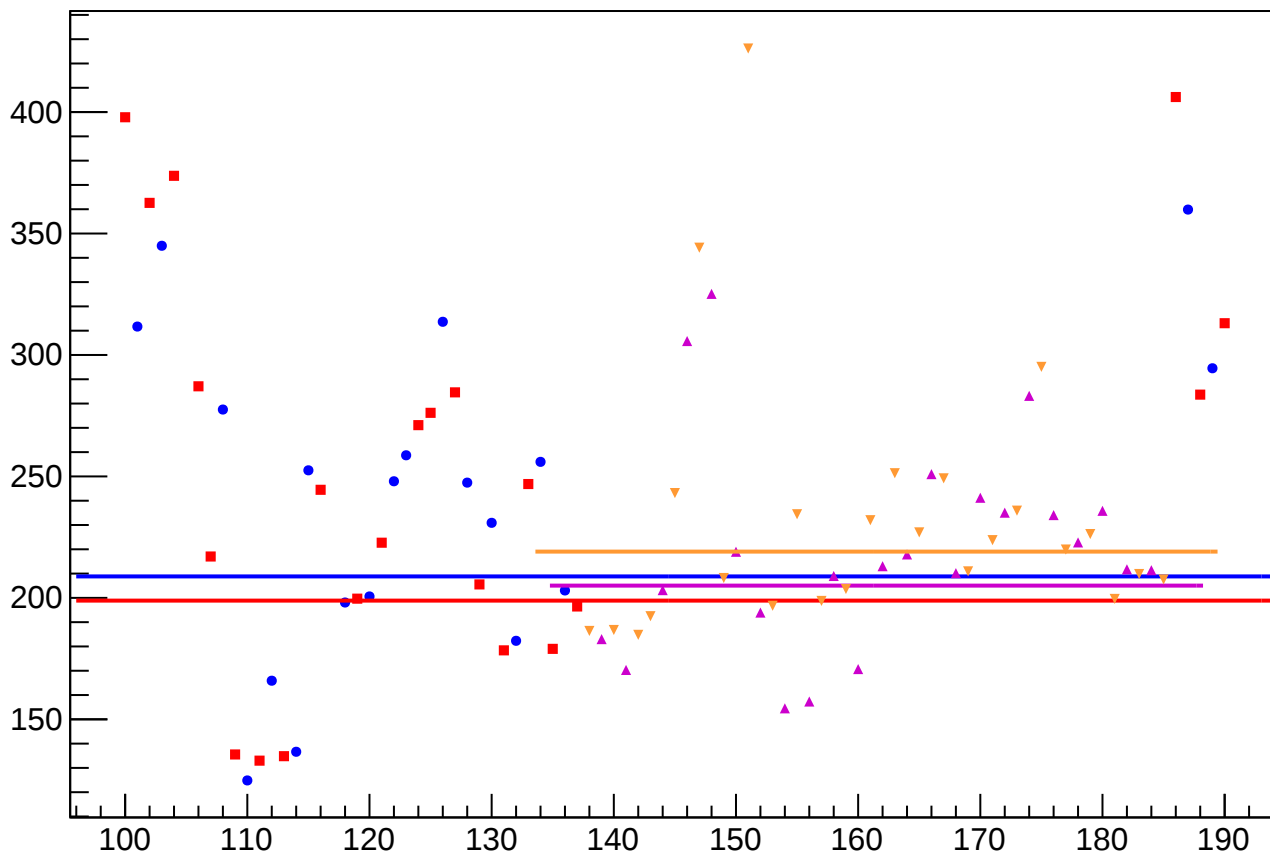
Right: -181.144 $\pm$ 54.081  $\chi^2$ /NDF: 4501.1/40

In: 61.356 $\pm$ 43.156  $\chi^2$ /NDF:2198.4/41

Out: 562.703 $\pm$ 42.383  $\chi^2$ /NDF:5487.1/46

All: 316.559 $\pm$ 30.239  $\chi^2$ /NDF: 7754.2/88

# asym\_bpm0l10WS\_rms vs Slug, Sign Corrected



Right In:  $208.834 \pm 0.058$   $\chi^2/\text{NDF}: 1084365.0/18$

Left Out:  $219.049 \pm 0.037$   $\chi^2/\text{NDF}: 975564.4/24$

Right Out:  $198.875 \pm 0.051$   $\chi^2/\text{NDF}: 1795331.4/21$

Left In:  $205.046 \pm 0.036$   $\chi^2/\text{NDF}: 1144197.1/22$

Left:  $211.855 \pm 0.026$   $\chi^2/\text{NDF}: 2193394.9/47$

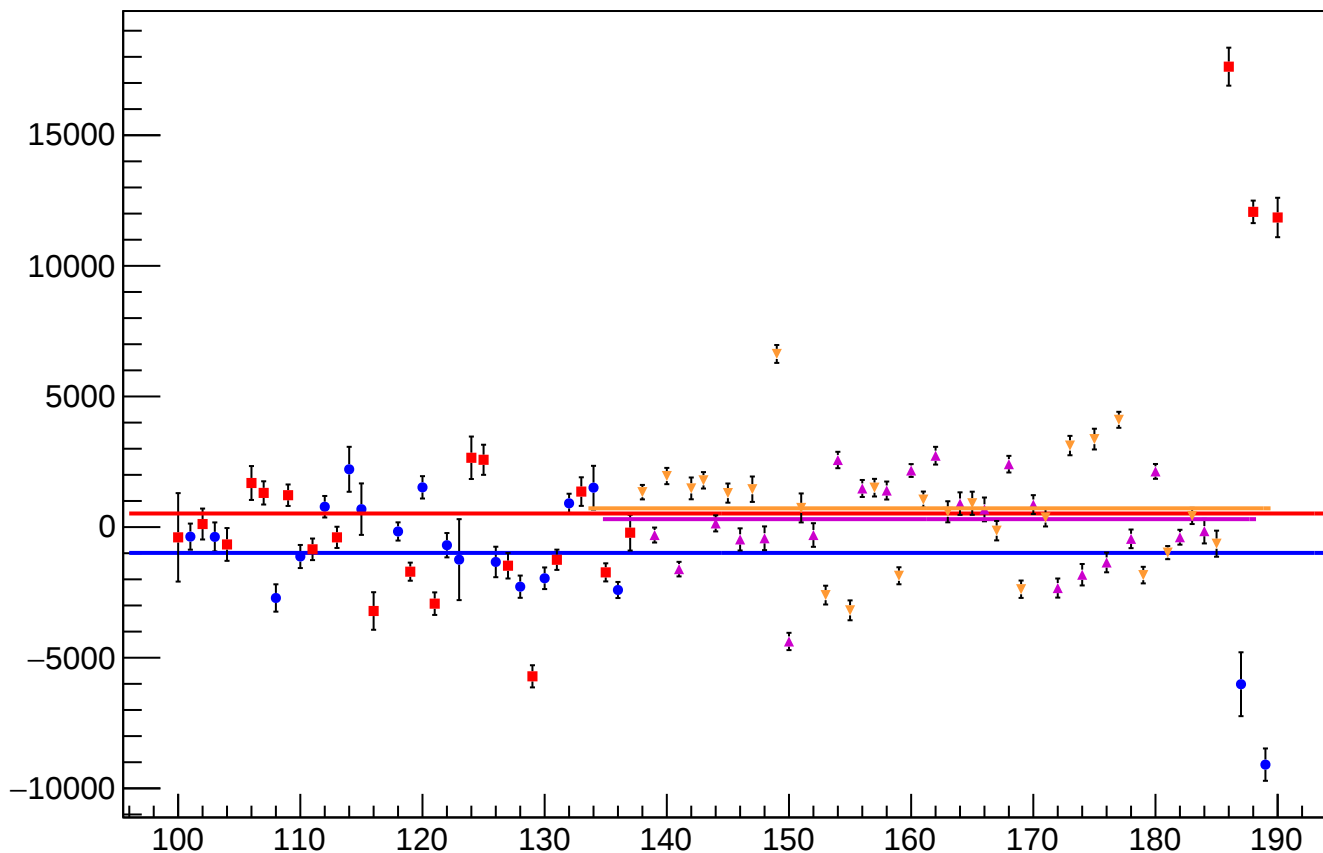
Right:  $203.265 \pm 0.038$   $\chi^2/\text{NDF}: 2896415.3/40$

In:  $206.110 \pm 0.031$   $\chi^2/\text{NDF}: 2231672.6/41$

Out:  $212.120 \pm 0.030$   $\chi^2/\text{NDF}: 2873072.3/46$

All:  $209.169 \pm 0.021$   $\chi^2/\text{NDF}: 5124490.2/88$

# asym\_bpm0r03WS\_mean vs Slug, Sign Corrected



Right In:  $-987.760 \pm 111.824$   $\chi^2/\text{NDF}$ : 349.5/18

Left Out:  $718.705 \pm 69.601$   $\chi^2/\text{NDF}$ : 1018.5/24

Right Out:  $520.694 \pm 105.162$   $\chi^2/\text{NDF}$ : 1977.3/21

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

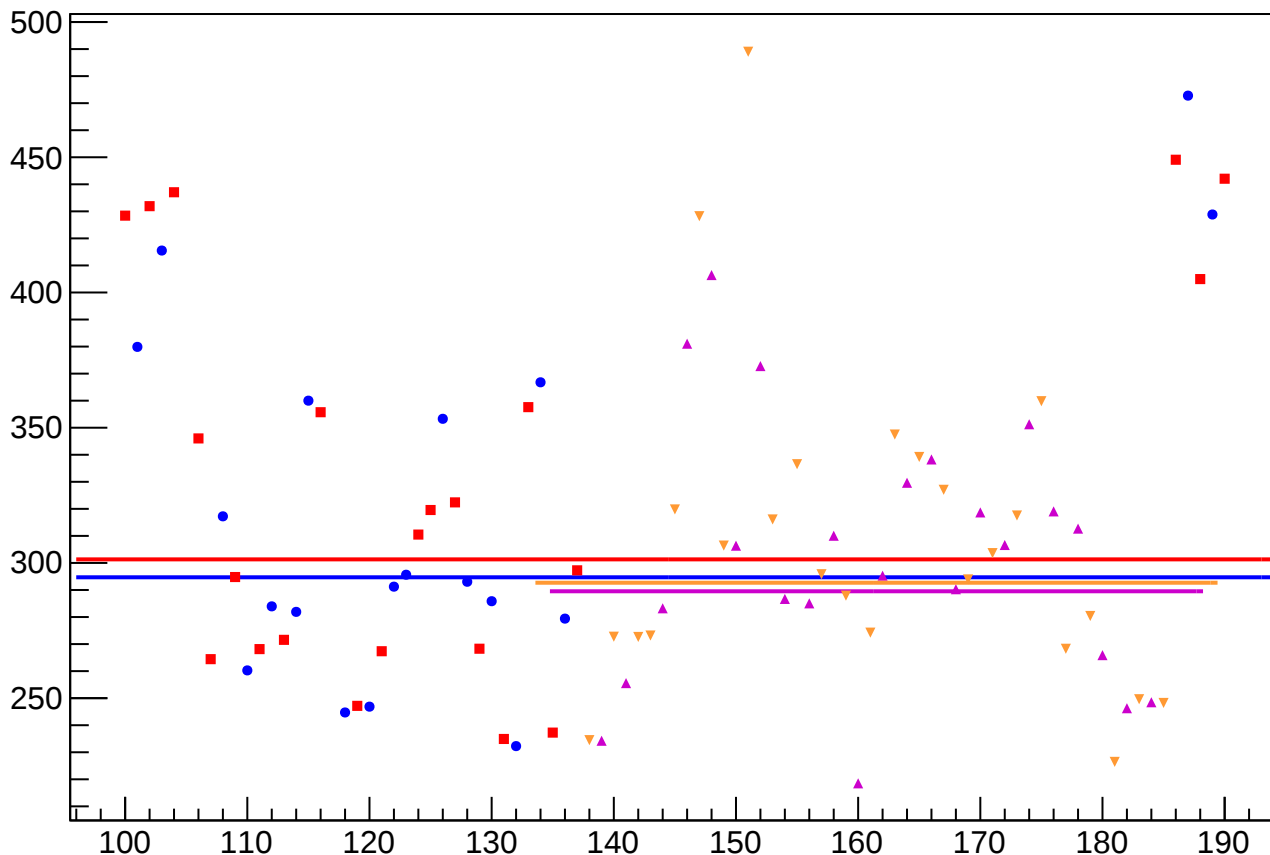
Right:  $-187.264 \pm 76.608$   $\chi^2/\text{NDF}$ : 2423.3/40

In:  $-66.703 \pm 59.913$   $\chi^2/\text{NDF}$ : 1088.2/41

Out:  $658.390 \pm 58.040$   $\chi^2/\text{NDF}$ : 2998.3/46

All:  $307.356 \pm 41.687$   $\chi^2/\text{NDF}$ : 4162.0/88

# asym\_bpm0r03WS\_rms vs Slug, Sign Corrected



Right In:  $294.695 \pm 0.079$   $\chi^2/\text{NDF}: 480896.6/18$

Left Out:  $292.686 \pm 0.049$   $\chi^2/\text{NDF}: 925193.6/24$

Right Out:  $301.320 \pm 0.074$   $\chi^2/\text{NDF}: 756670.0/21$

Left In:  $289.522 \pm 0.050$   $\chi^2/\text{NDF}: 777901.0/22$

Left:  $291.134 \pm 0.035$   $\chi^2/\text{NDF}: 1705121.5/47$

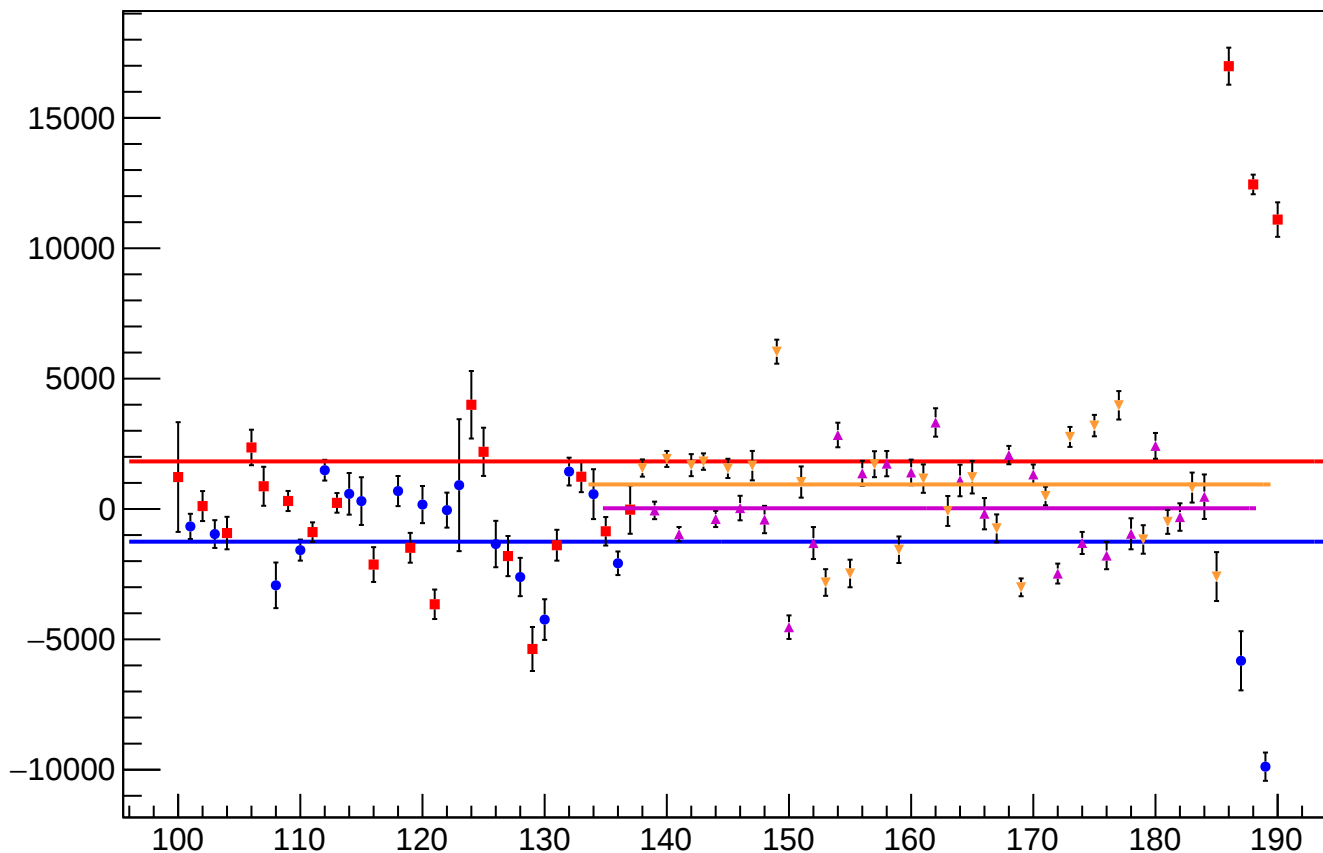
Right:  $298.211 \pm 0.054$   $\chi^2/\text{NDF}: 1241291.5/40$

In:  $291.007 \pm 0.042$   $\chi^2/\text{NDF}: 1261849.7/41$

Out:  $295.316 \pm 0.041$   $\chi^2/\text{NDF}: 1691238.5/46$

All:  $293.230 \pm 0.029$   $\chi^2/\text{NDF}: 2958425.1/88$

# asym\_bpm0r05WS\_mean vs Slug, Sign Corrected



Right In:  $-1253.875 \pm 141.277$   $\chi^2/\text{NDF}: 401.3/18$

Left Out:  $941.598 \pm 89.119$   $\chi^2/\text{NDF}: 544.6/24$

Right Out:  $1824.382 \pm 123.463$   $\chi^2/\text{NDF}: 1886.8/21$

Left In:  $27.763 \pm 92.331$   $\chi^2/\text{NDF}: 362.5/22$

Left:  $500.853 \pm 64.122$   $\chi^2/\text{NDF}: 957.8/47$

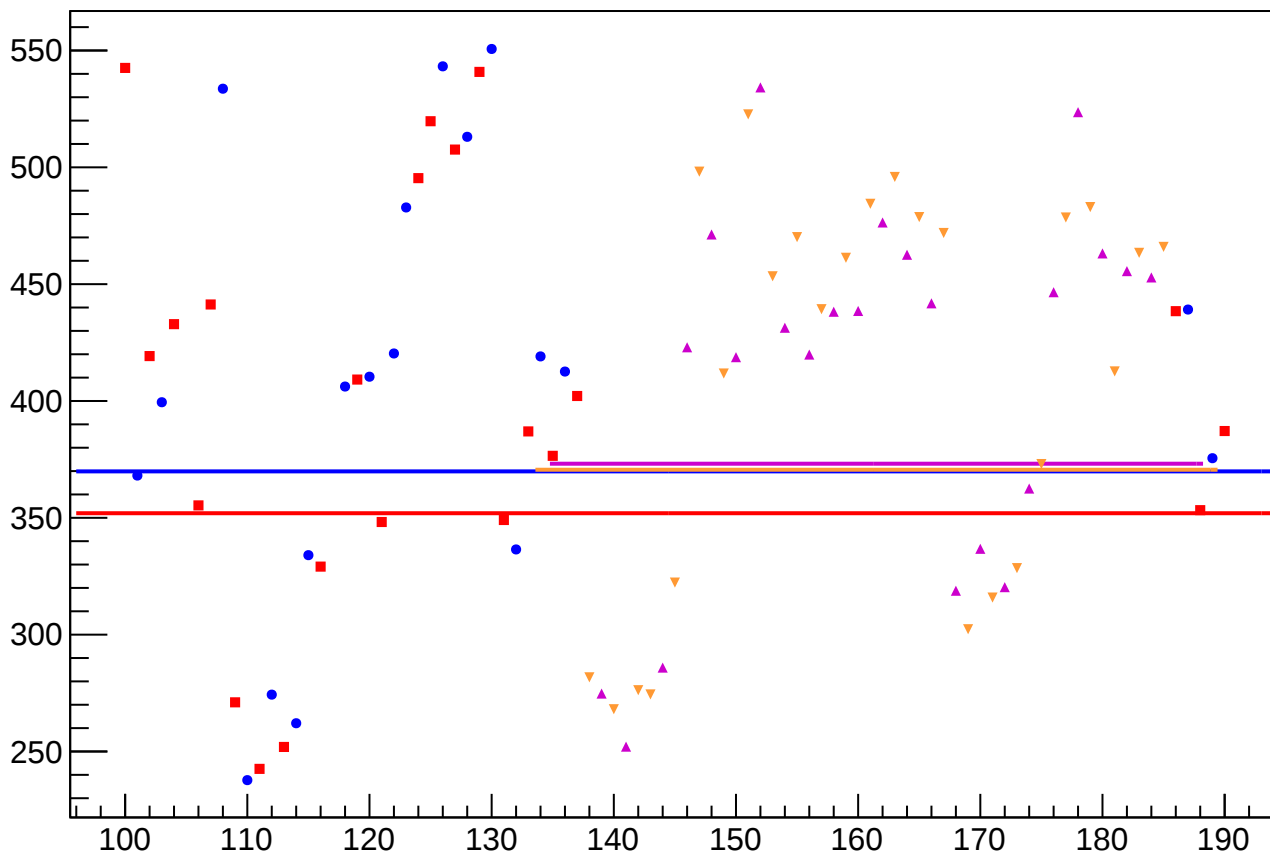
Right:  $491.452 \pm 92.966$   $\chi^2/\text{NDF}: 2557.3/40$

In:  $-355.818 \pm 77.289$   $\chi^2/\text{NDF}: 821.5/41$

Out:  $1243.999 \pm 72.260$   $\chi^2/\text{NDF}: 2465.0/46$

All:  $497.822 \pm 52.784$   $\chi^2/\text{NDF}: 3515.1/88$

# asym\_bpm0r05WS\_rms vs Slug, Sign Corrected



Right In: 369.877 $\pm$ 0.100  $\chi^2/\text{NDF}$ : 773318.7/18

Left Out: 370.580 $\pm$ 0.063  $\chi^2/\text{NDF}$ : 1878118.9/24

Right Out: 351.969 $\pm$ 0.087  $\chi^2/\text{NDF}$ : 854136.7/21

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

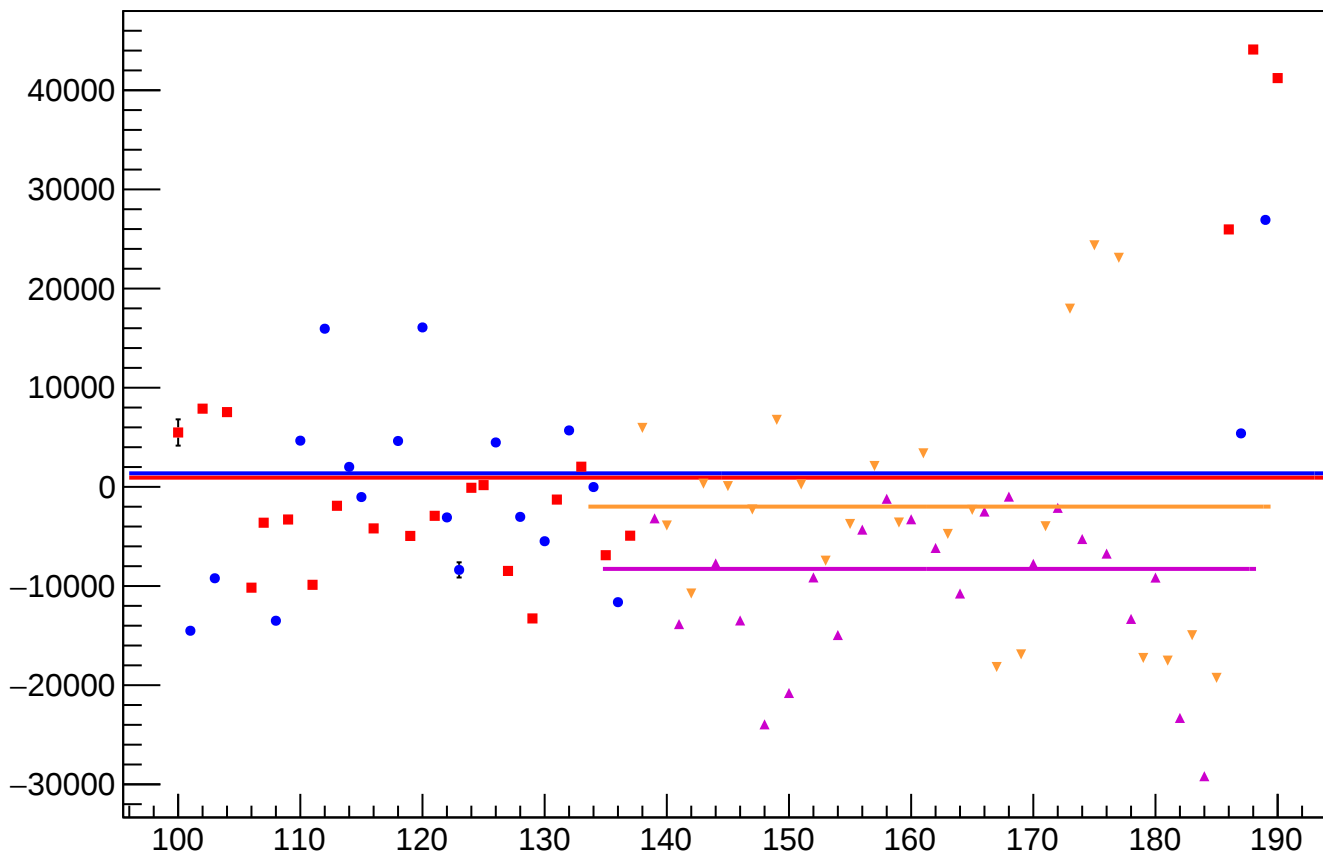
Right: 359.724 $\pm$ 0.066  $\chi^2/\text{NDF}$ : 1645676.2/40

In: 372.178 $\pm$ 0.055  $\chi^2/\text{NDF}$ : 2410319.8/41

Out: 364.205 $\pm$ 0.051  $\chi^2/\text{NDF}$ : 2762132.0/46

All: 367.924 $\pm$ 0.037  $\chi^2/\text{NDF}$ : 5183809.8/88

asym\_bpm0i02WS\_mean vs Slug, Sign Corrected



Right In: 1363.967+/-53.358  $\chi^2/\text{NDF}$ : 40765.8/18

Left Out: -1991.788+/-42.427  $\chi^2/\text{NDF}$ : 63766.6/24

Right Out: 930.138+/-49.056  $\chi^2/\text{NDF}$ : 97003.8/21

Left In: -8273.228+/-44.301  $\chi^2/\text{NDF}$ : 22870.2/22

Left: -4996.810+/-30.641  $\chi^2/\text{NDF}$ : 97123.2/47

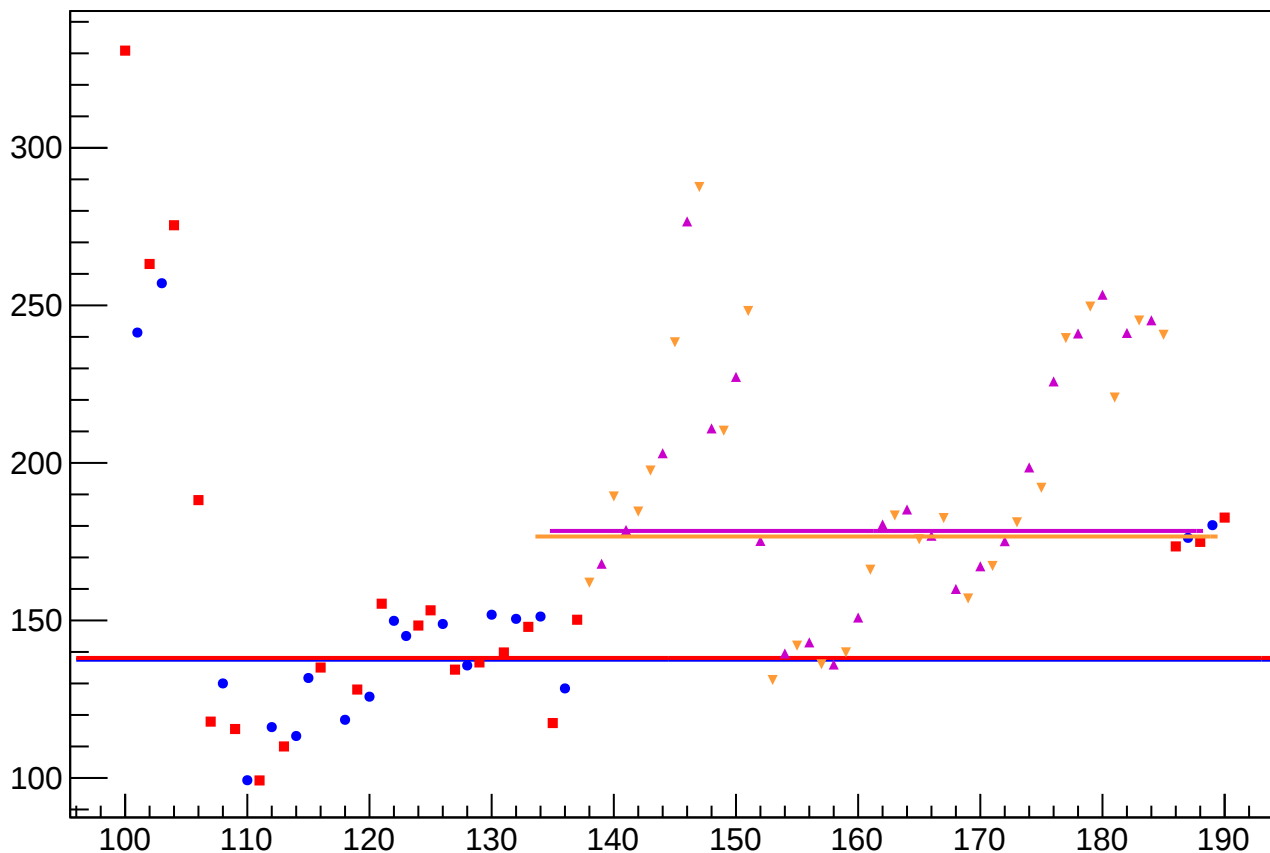
Right: 1128.861+/-36.113  $\chi^2/\text{NDF}$ : 137805.4/40

In: -4340.735+/-34.084  $\chi^2/\text{NDF}$ : 82946.2/41

Out: -741.446+/-32.090  $\chi^2/\text{NDF}$ : 162800.0/46

All: -2432.705+/-23.364  $\chi^2/\text{NDF}$ : 251657.6/8

# asym\_bpm0i02WS\_rms vs Slug, Sign Corrected



Right In: 137.539+/-0.038  $\chi^2/\text{NDF}$ : 729283.6/18

Left Out: 176.641+/-0.030  $\chi^2/\text{NDF}$ :1551048.8/24

Right Out: 138.098+/-0.035  $\chi^2/\text{NDF}$ : 1000942.6/21

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

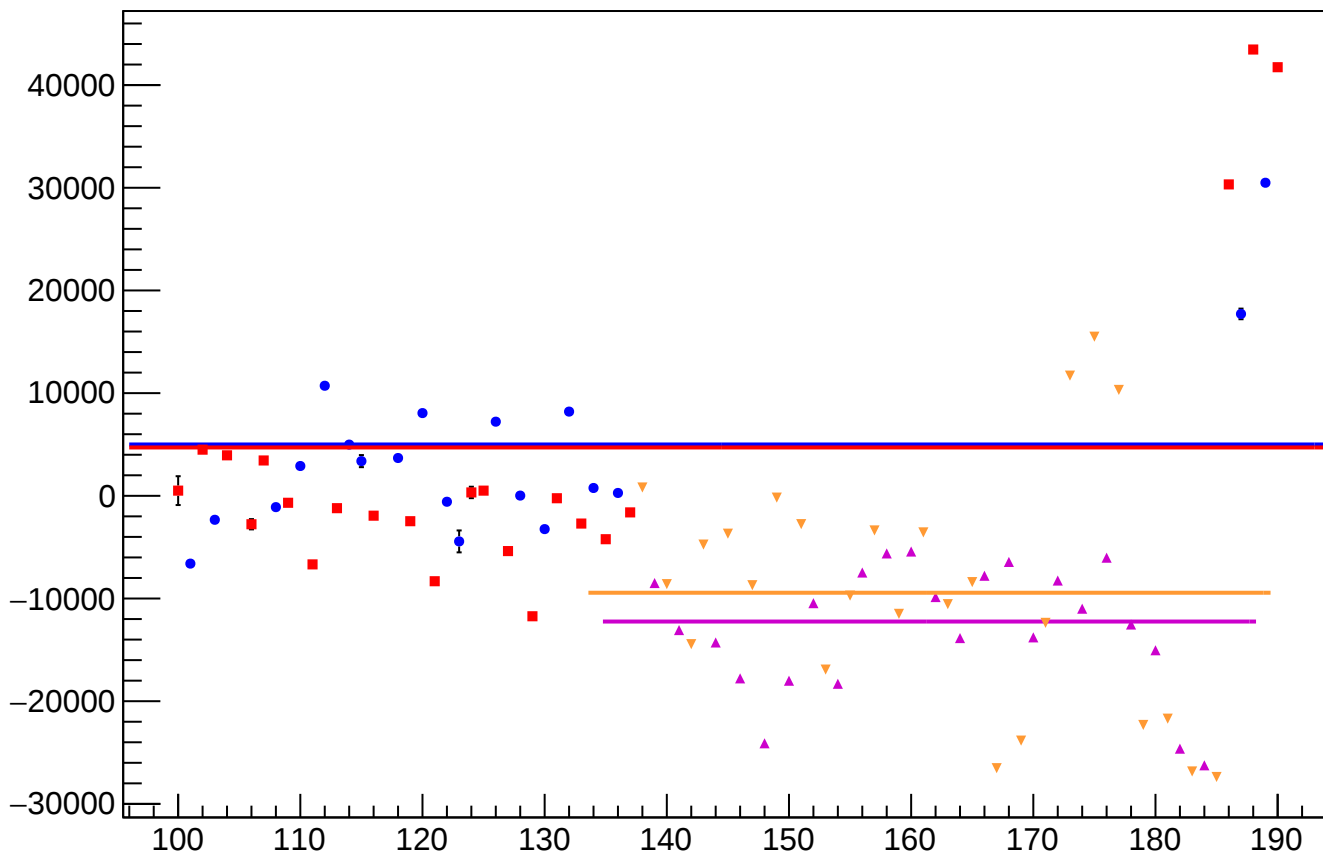
Right: 137.842+/-0.026  $\chi^2/\text{NDF}$ : 1730345.4/40

In: 161.734+/-0.024  $\chi^2/\text{NDF}$ :2717753.8/41

Out: 160.148+/-0.023  $\chi^2/\text{NDF}$ :3258290.4/46

All: 160.893+/-0.017  $\chi^2/\text{NDF}$ : 5978341.5/88

# asym\_bpm0i02aWS\_mean vs Slug, Sign Corrected



Right In: 5000.320+/-67.782  $\chi^2/\text{NDF}$ : 15402.1/18

Left Out: -9437.408+/-45.534  $\chi^2/\text{NDF}$ : 62220.4/24

Right Out: 4710.138+/-59.983  $\chi^2/\text{NDF}$ : 79137.6/21

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

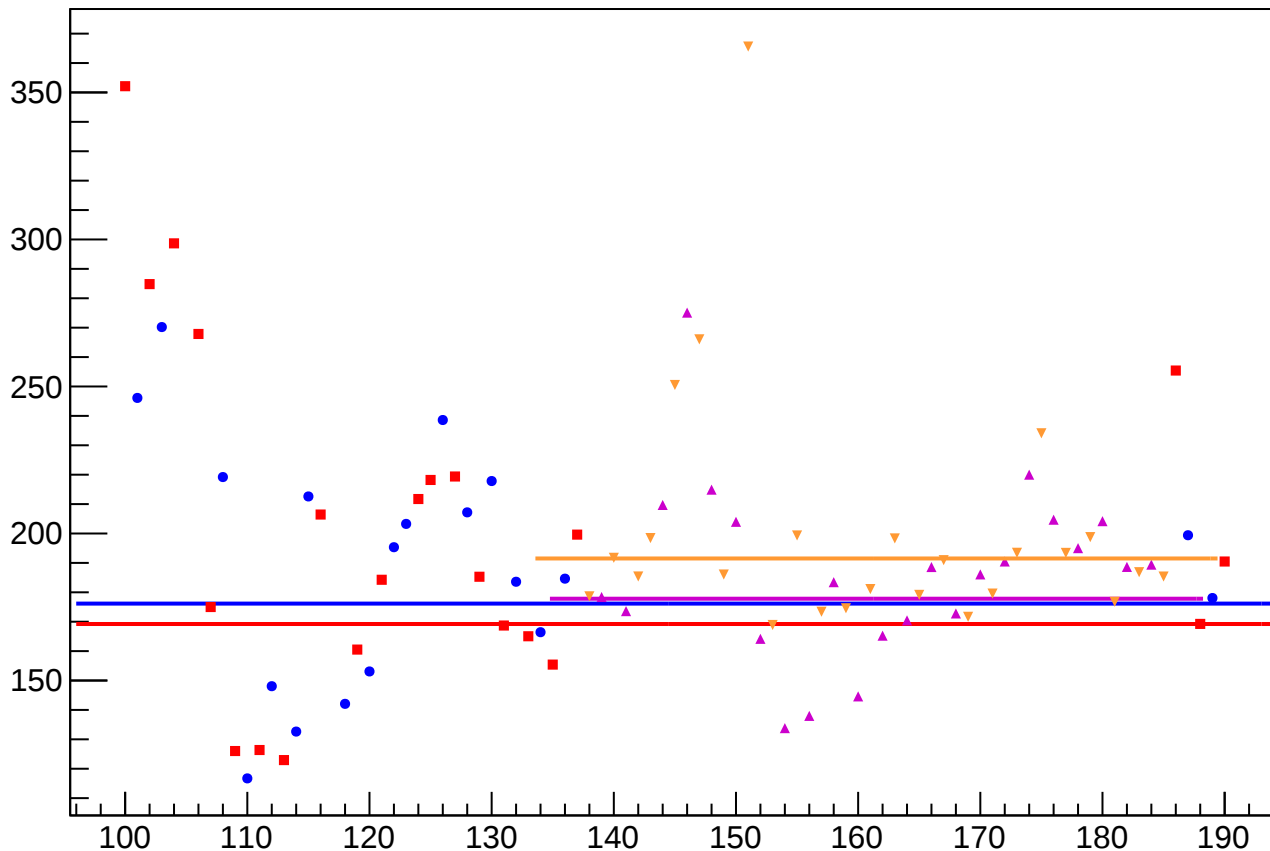
Right: 4837.581+/-44.920  $\chi^2/\text{NDF}$ : 94549.9/40

In: -7139.638+/-36.873  $\chi^2/\text{NDF}$ : 77577.9/41

Out: -4265.259+/-36.268  $\chi^2/\text{NDF}$ : 176649.8/46

All: -5678.669+/-25.857  $\chi^2/\text{NDF}$ : 257316.3/8

asym\_bpm0i02aWS\_rms vs Slug, Sign Corrected



Right In: 176.161+/-0.048  $\chi^2/\text{NDF}$ : 692130.0/18

Left Out: 191.507+/-0.032  $\chi^2/\text{NDF}$ : 727251.6/24

Right Out: 169.220+/-0.042  $\chi^2/\text{NDF}$ : 1024919.0/21

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

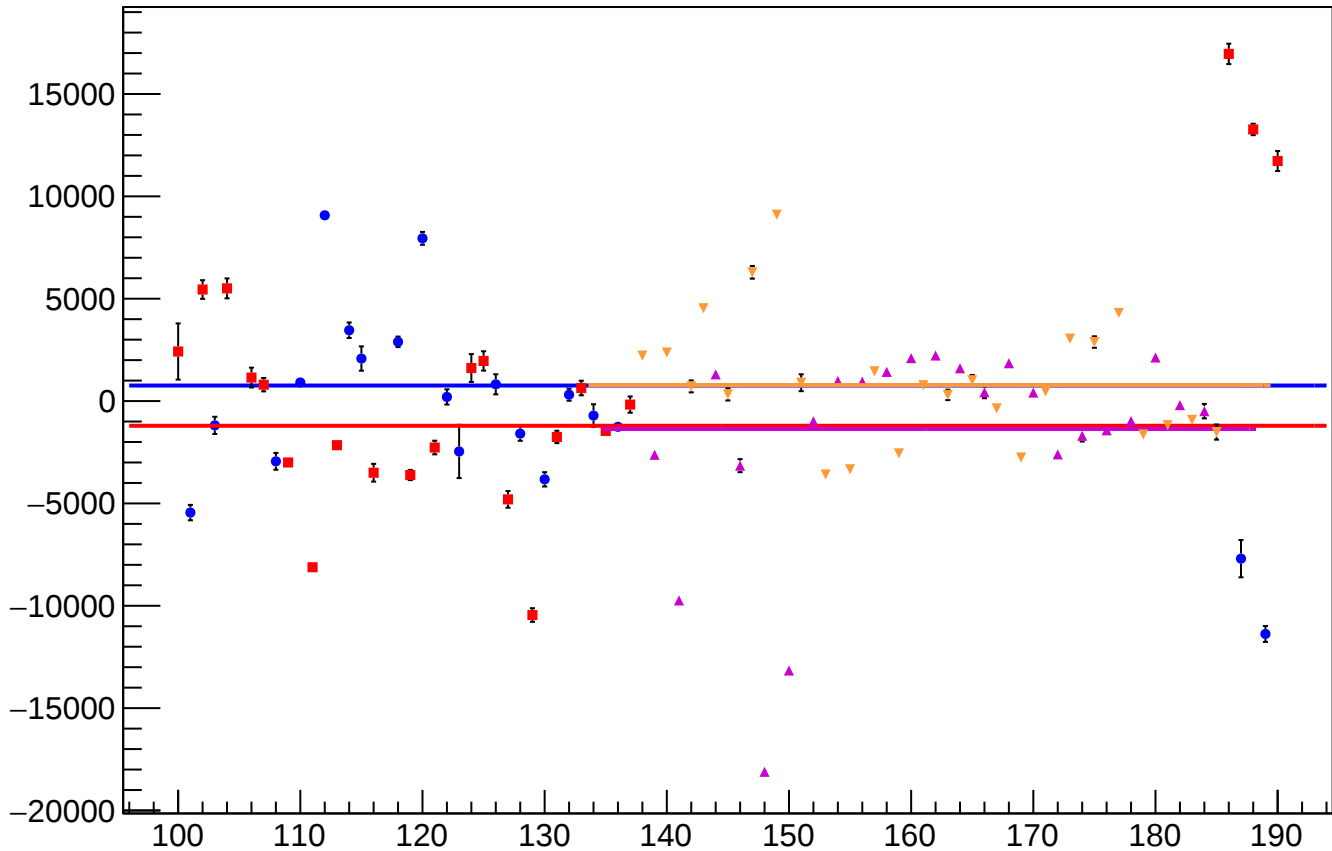
Right: 172.268+/-0.032  $\chi^2/\text{NDF}$ : 1728810.0/40

In: 177.330+/-0.026  $\chi^2/\text{NDF}$ : 1555469.9/41

Out: 183.359+/-0.026  $\chi^2/\text{NDF}$ : 1927336.1/46

All: 180.394+/-0.018  $\chi^2/\text{NDF}$ : 3509982.2/88

# asym\_bpm0i05WS\_mean vs Slug, Sign Corrected



Right In: 759.226+/-75.568  $\chi^2/\text{NDF}$ : 3765.5/18

Left Out: 779.983+/-47.457  $\chi^2/\text{NDF}$ : 4260.8/24

Right Out: -1206.600+/-66.682  $\chi^2/\text{NDF}$ : 7653.5/21

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

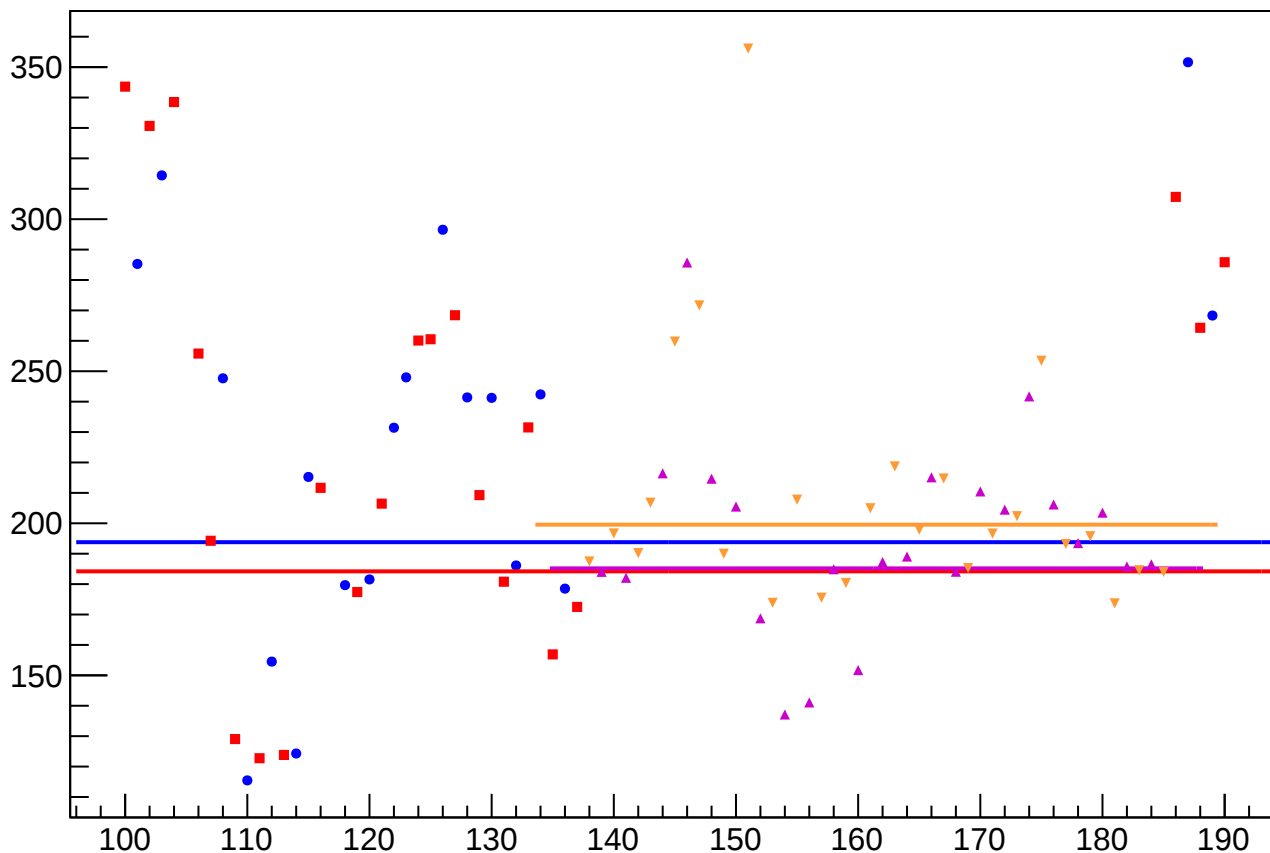
Right: -346.010+/-49.999  $\chi^2/\text{NDF}$ : 11799.5/40

In: -792.784+/-39.172  $\chi^2/\text{NDF}$ : 15975.2/41

Out: 112.067+/-38.665  $\chi^2/\text{NDF}$ : 12503.4/46

All: -334.465+/-27.518  $\chi^2/\text{NDF}$ : 28748.9/88

# asym\_bpm0i05WS\_rms vs Slug, Sign Corrected



Right In: 193.788 $\pm$ 0.053  $\chi^2$ /NDF: 1116703.6/18

Left Out: 199.547 $\pm$ 0.034  $\chi^2$ /NDF: 729356.3/24

Right Out: 184.194 $\pm$ 0.047  $\chi^2$ /NDF: 1698831.4/21

Left In: 185.171 $\pm$ 0.032  $\chi^2$ /NDF: 882752.2/22

Left: 192.104 $\pm$ 0.023  $\chi^2$ /NDF: 1707122.0/47

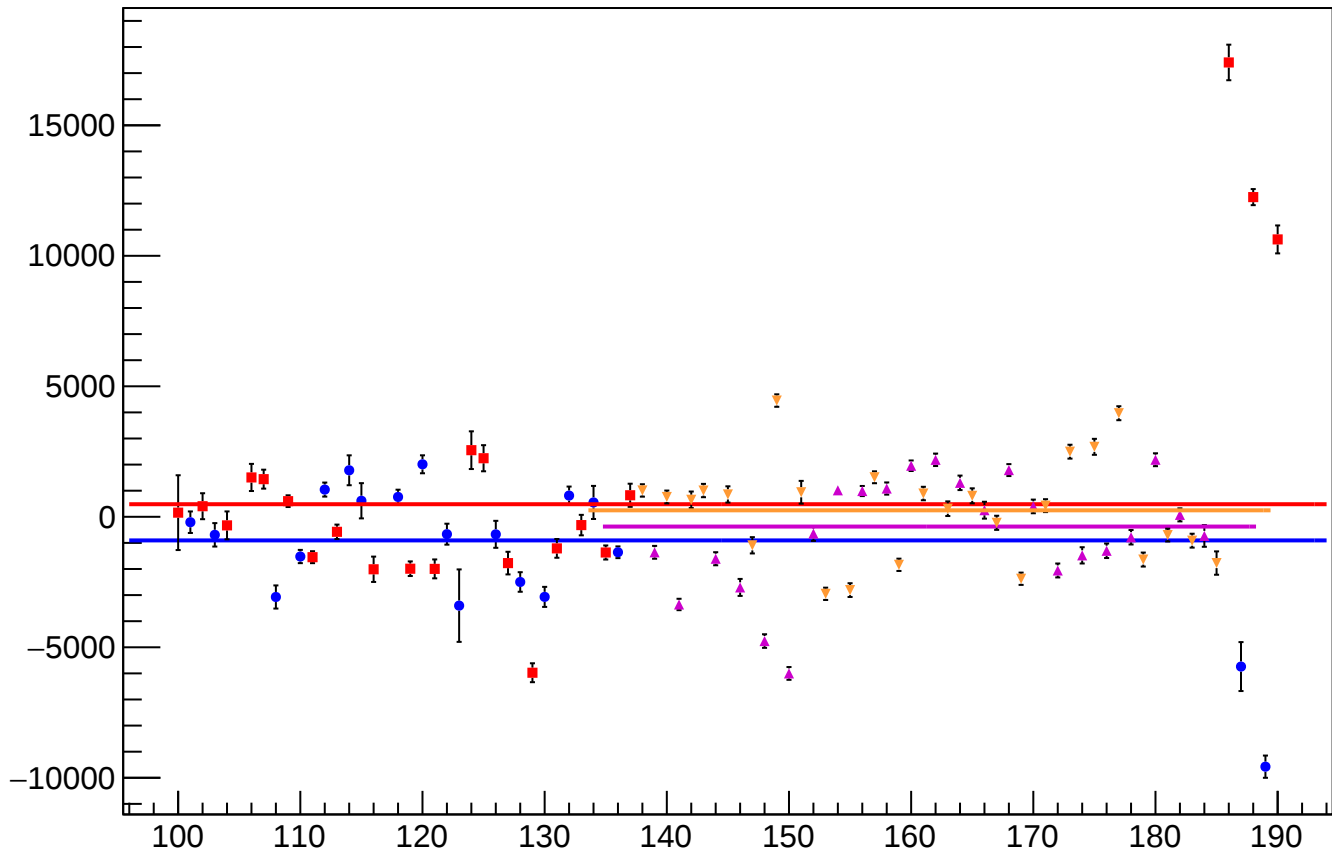
Right: 188.394 $\pm$ 0.035  $\chi^2$ /NDF: 2833658.0/40

In: 187.486 $\pm$ 0.028  $\chi^2$ /NDF: 2018474.8/41

Out: 194.385 $\pm$ 0.027  $\chi^2$ /NDF: 2498559.8/46

All: 190.980 $\pm$ 0.019  $\chi^2$ /NDF: 4548457.1/88

# asym\_bpm0i07WS\_mean vs Slug, Sign Corrected



Right In:  $-904.794 \pm 86.550$   $\chi^2/\text{NDF}: 748.2/18$

Left Out:  $247.844 \pm 53.555$   $\chi^2/\text{NDF}: 1355.1/24$

Right Out:  $482.134 \pm 78.077$   $\chi^2/\text{NDF}: 3129.4/21$

Left In:  $-374.122 \pm 52.049$   $\chi^2/\text{NDF}: 1801.0/22$

Left:  $-72.006 \pm 37.325$   $\chi^2/\text{NDF}: 3225.5/47$

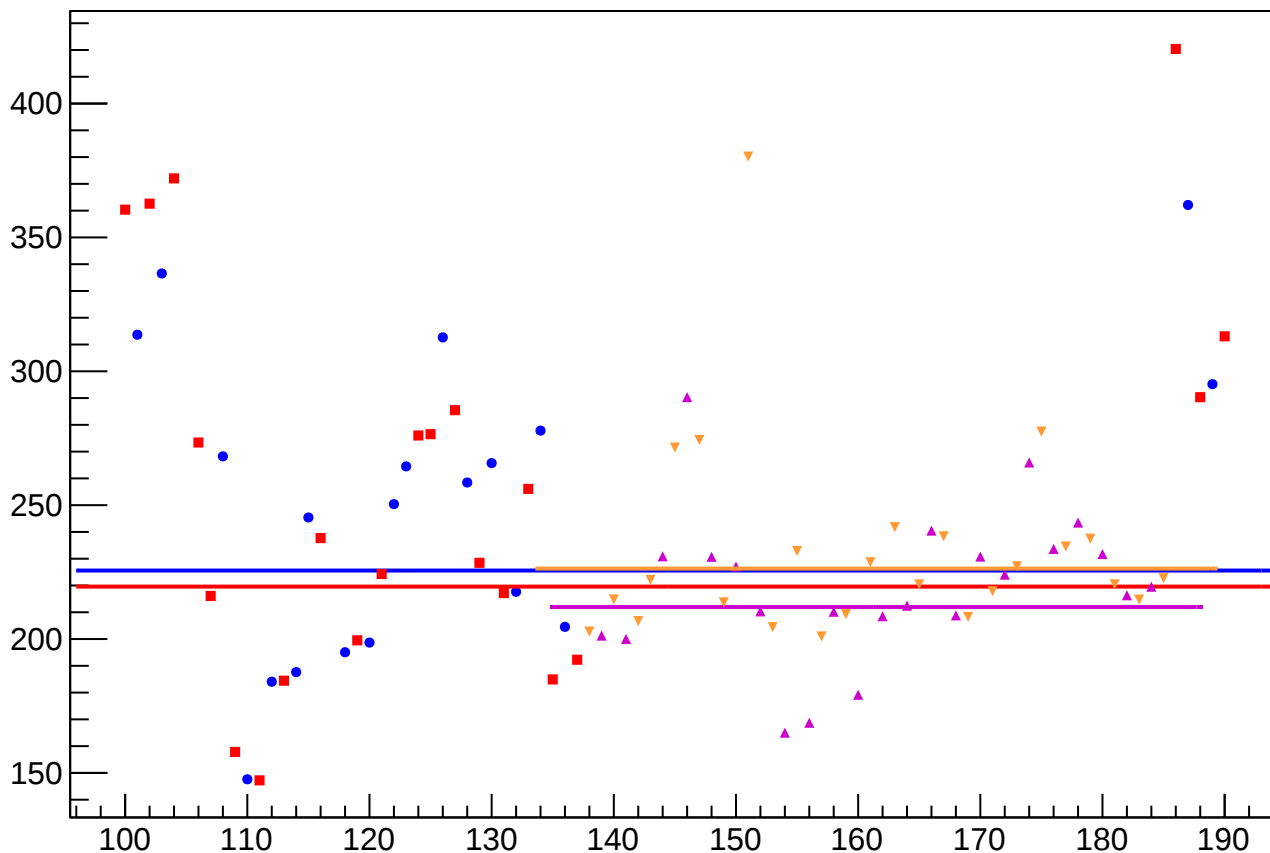
Right:  $-140.135 \pm 57.974$   $\chi^2/\text{NDF}: 4019.1/40$

In:  $-515.066 \pm 44.605$   $\chi^2/\text{NDF}: 2576.8/41$

Out:  $322.806 \pm 44.164$   $\chi^2/\text{NDF}: 4490.6/46$

All:  $-91.971 \pm 31.383$   $\chi^2/\text{NDF}: 7245.6/88$

# asym\_bpm0i07WS\_rms vs Slug, Sign Corrected



Right In:  $225.585 \pm 0.061$   $\chi^2/\text{NDF}: 745846.6/18$

Left Out:  $226.322 \pm 0.038$   $\chi^2/\text{NDF}: 521041.8/24$

Right Out:  $219.589 \pm 0.055$   $\chi^2/\text{NDF}: 1249771.8/21$

Left In:  $211.970 \pm 0.037$   $\chi^2/\text{NDF}: 584344.5/22$

Left:  $218.941 \pm 0.026$   $\chi^2/\text{NDF}: 1179246.7/47$

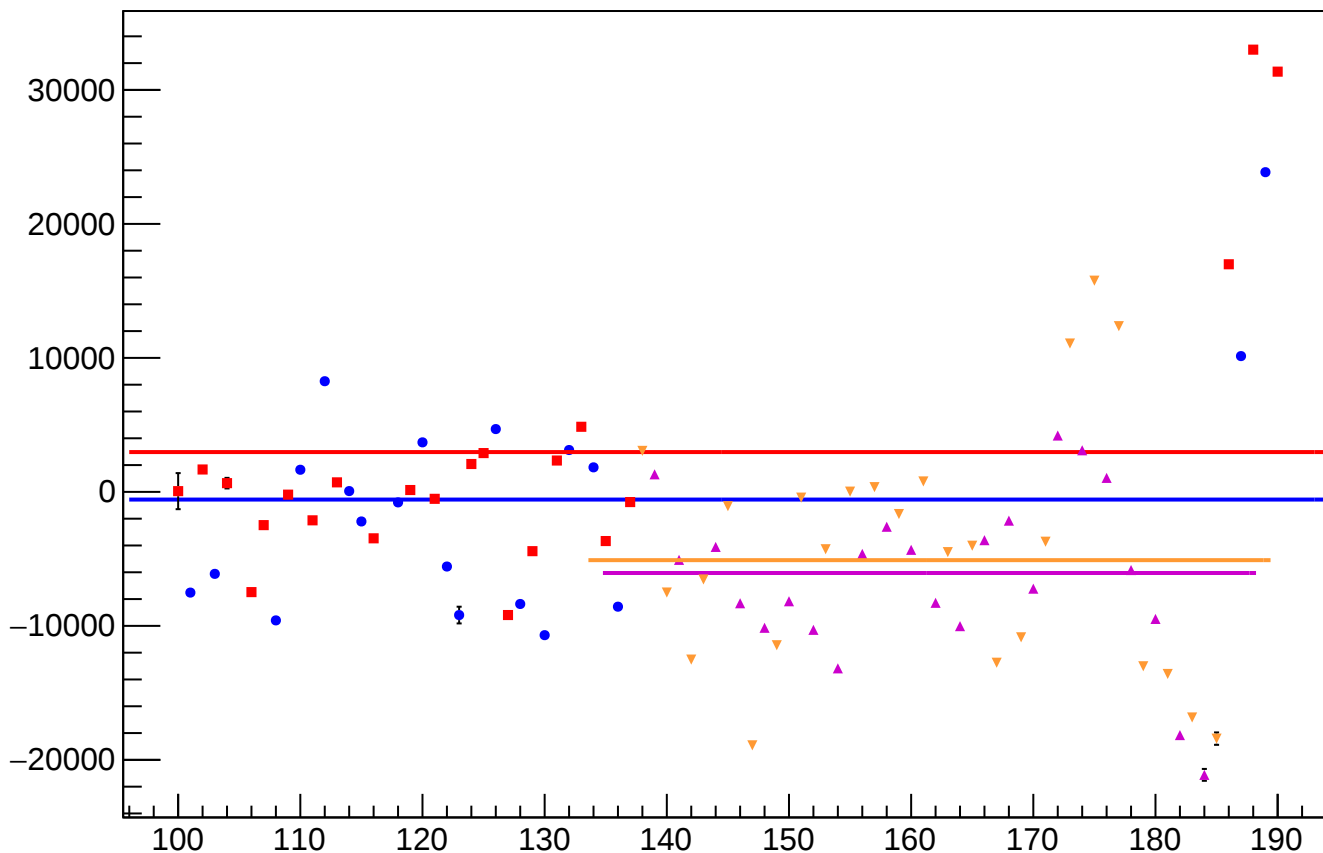
Right:  $222.279 \pm 0.041$   $\chi^2/\text{NDF}: 2000910.5/40$

In:  $215.586 \pm 0.032$   $\chi^2/\text{NDF}: 1366537.0/41$

Out:  $224.168 \pm 0.031$   $\chi^2/\text{NDF}: 1780927.0/46$

All:  $219.920 \pm 0.022$   $\chi^2/\text{NDF}: 3184844.4/88$

asym\_bpm1i02WS\_mean vs Slug, Sign Corrected



Right In: -573.110+/-45.816  $\chi^2/\text{NDF}$ : 32640.7/18

Left Out: -5095.305+/-33.703  $\chi^2/\text{NDF}$ : 54395.4/24

Right Out: 2971.379+/-41.682  $\chi^2/\text{NDF}$ : 73268.3/21

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

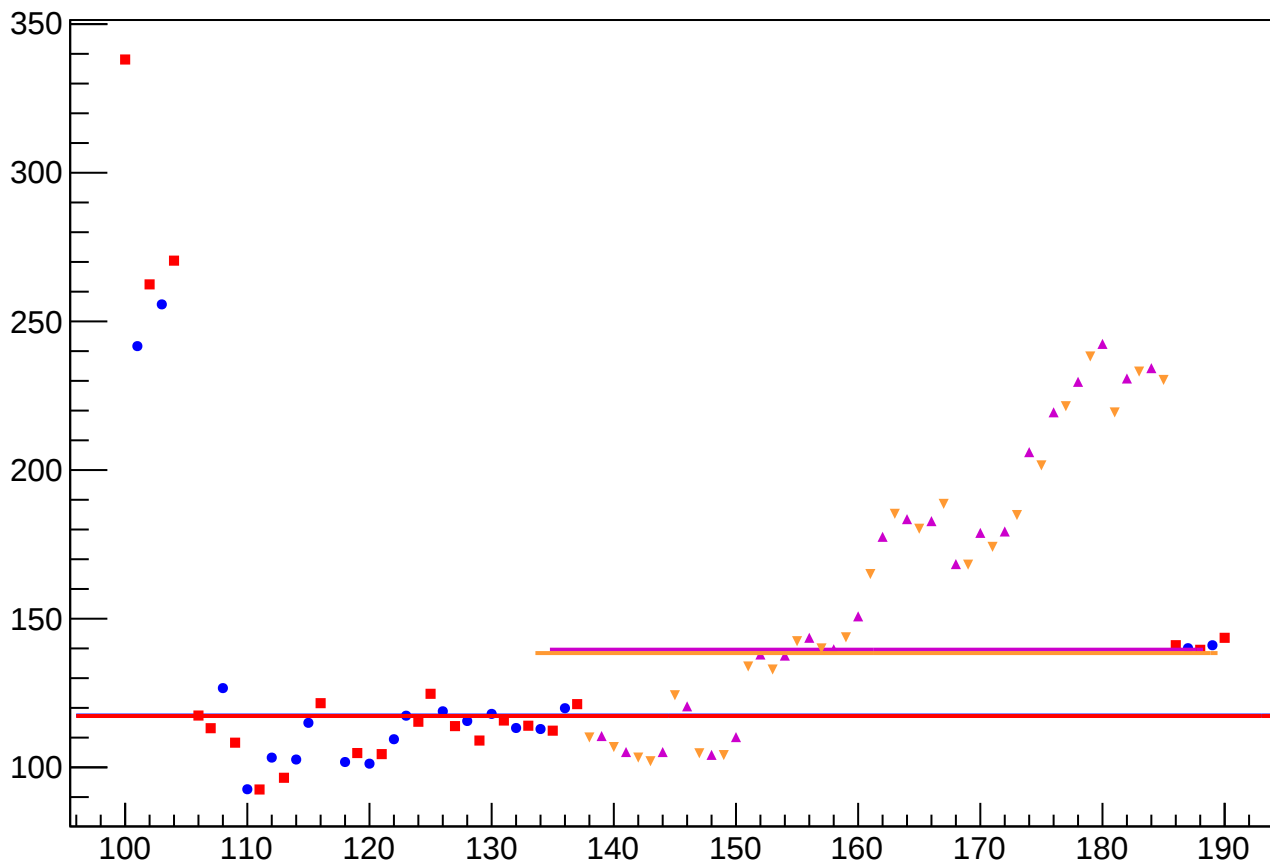
Right: 1366.232+/-30.832  $\chi^2/\text{NDF}$ : 109183.6/40

In: -4034.078+/-27.812  $\chi^2/\text{NDF}$ : 59266.8/41

Out: -1906.284+/-26.208  $\chi^2/\text{NDF}$ : 150310.3/46

All: -2907.050+/-19.074  $\chi^2/\text{NDF}$ : 212677.4/8

# asym\_bpm1i02WS\_rms vs Slug, Sign Corrected



Right In: 117.422 $\pm$ 0.032  $\chi^2$ /NDF: 780564.1/18

Left Out: 138.436 $\pm$ 0.024  $\chi^2$ /NDF: 2549435.8/24

Right Out: 117.269 $\pm$ 0.029  $\chi^2$ /NDF: 899905.4/21

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

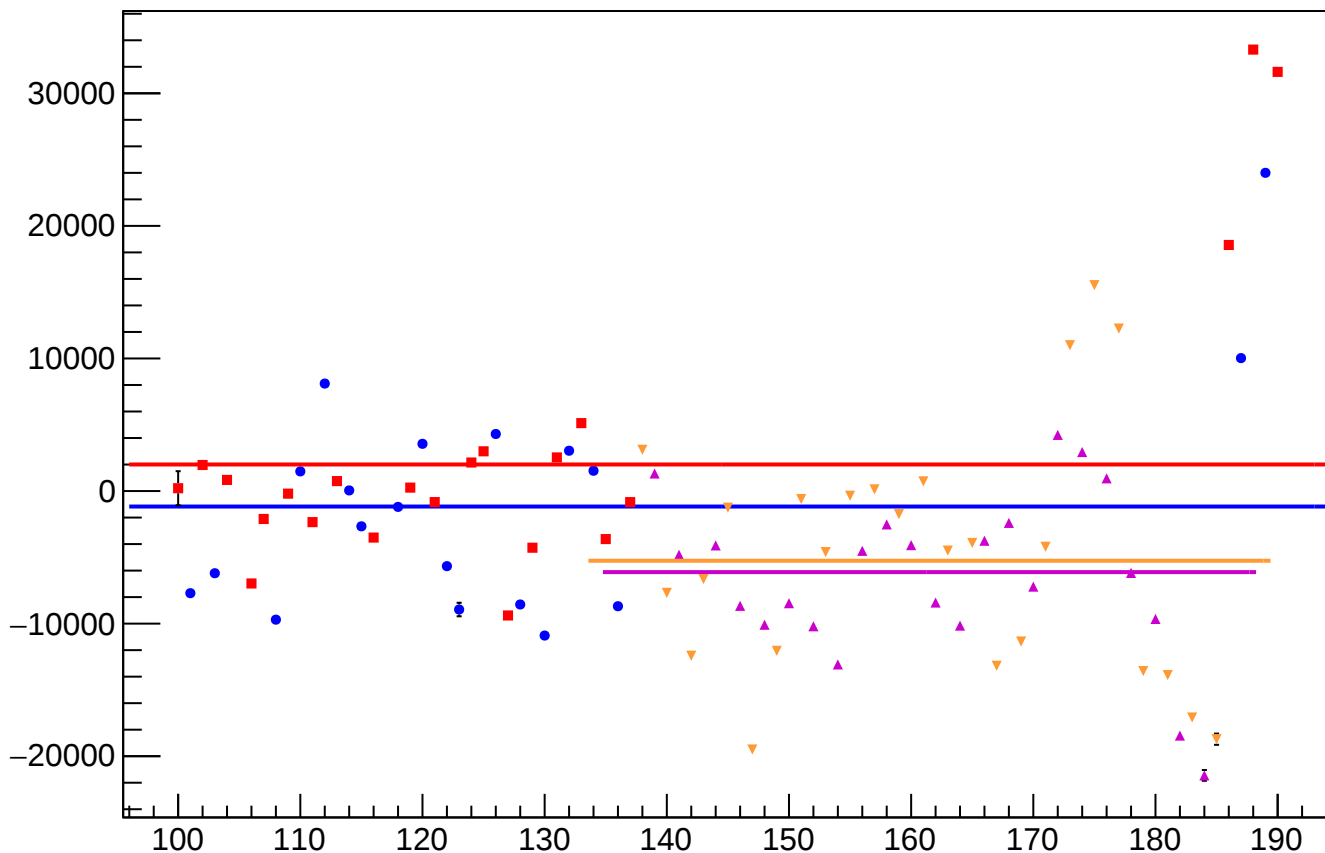
Right: 117.338 $\pm$ 0.022  $\chi^2$ /NDF: 1680481.7/40

In: 131.413 $\pm$ 0.020  $\chi^2$ /NDF: 3489586.5/41

Out: 130.068 $\pm$ 0.019  $\chi^2$ /NDF: 3761193.2/46

All: 130.701 $\pm$ 0.013  $\chi^2$ /NDF: 7253259.4/88

# asym\_bpm1i04WS\_mean vs Slug, Sign Corrected



Right In: -1168.164 $\pm$ 39.097  $\chi^2/\text{NDF}$ : 38380.5/18

Left Out: -5255.652 $\pm$ 30.622  $\chi^2/\text{NDF}$ : 64324.6/24

Right Out: 2003.259 $\pm$ 35.965  $\chi^2/\text{NDF}$ : 81006.0/21

Left In: -6114.901 $\pm$ 32.126  $\chi^2/\text{NDF}$ : 21260.9/22

Left: -5664.697 $\pm$ 22.166  $\chi^2/\text{NDF}$ : 85960.3/47

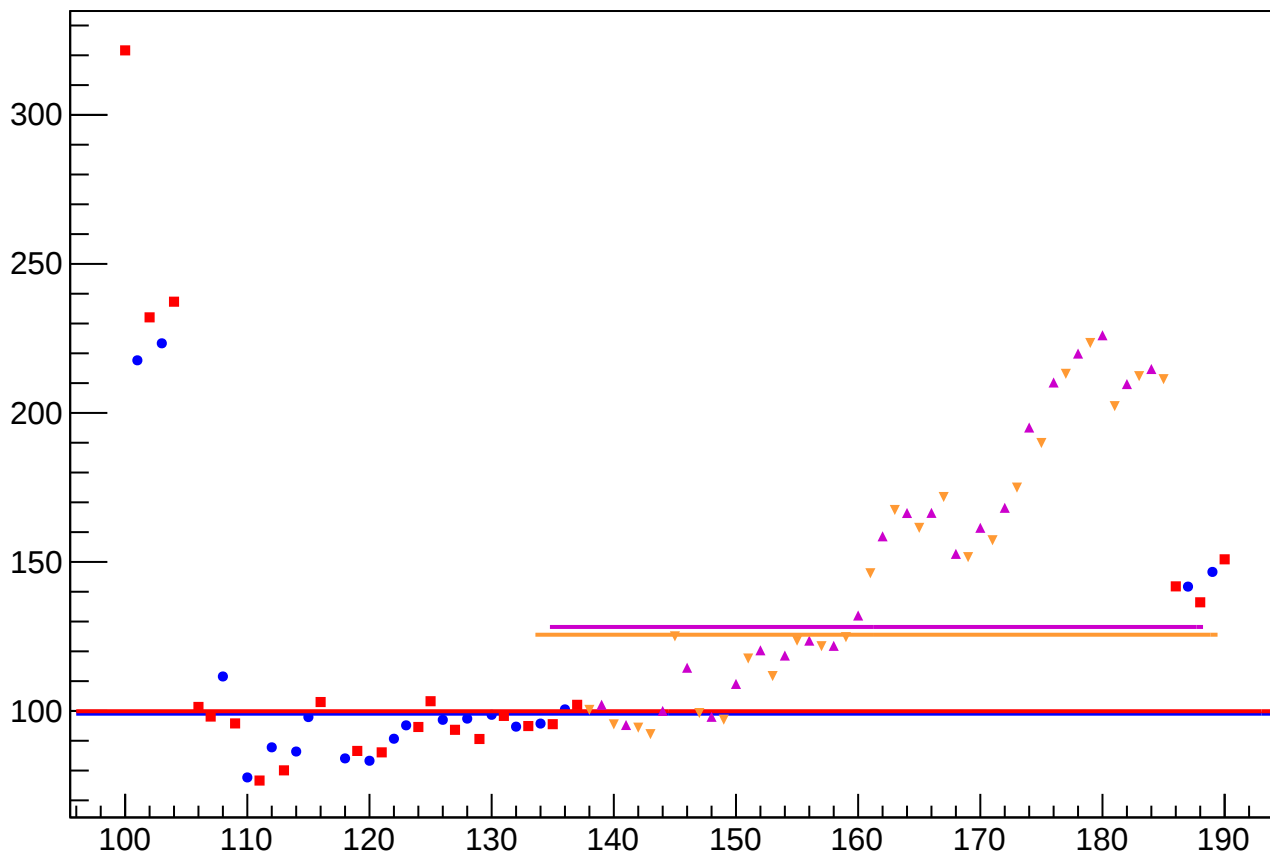
Right: 549.633 $\pm$ 26.469  $\chi^2/\text{NDF}$ : 122950.6/40

In: -4121.119 $\pm$ 24.821  $\chi^2/\text{NDF}$ : 69197.8/41

Out: -2204.949 $\pm$ 23.316  $\chi^2/\text{NDF}$ : 168946.6/46

All: -3103.163 $\pm$ 16.994  $\chi^2/\text{NDF}$ : 241310.5/8

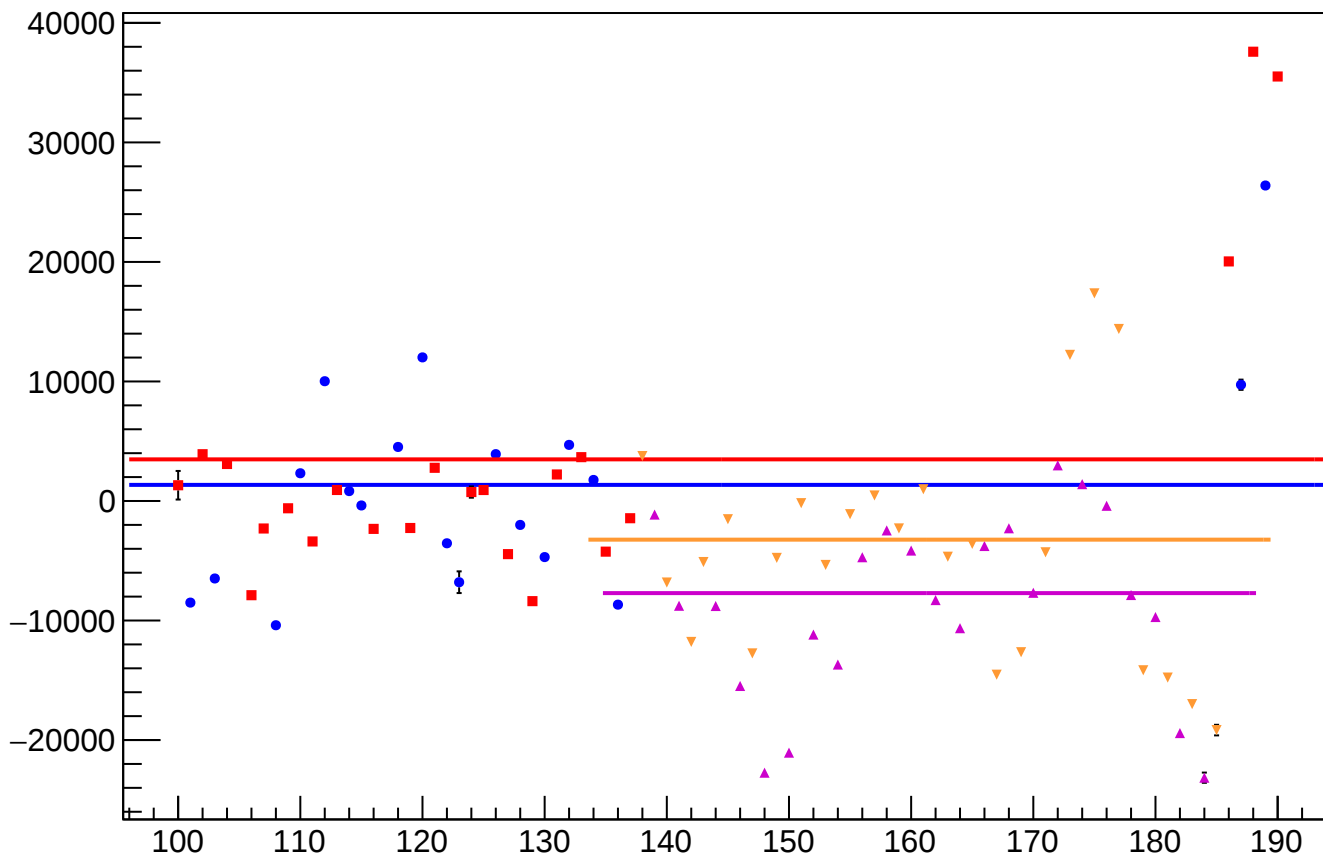
# asym\_bpm1i04WS\_rms vs Slug, Sign Corrected



Right In: 99.084 $\pm$ 0.028  $\chi^2$ /NDF: 950008.4/18  
 Left Out: 125.577 $\pm$ 0.022  $\chi^2$ /NDF: 2595752.6/24  
 Right Out: 99.904 $\pm$ 0.025  $\chi^2$ /NDF: 1161878.4/21  
 Left In: 128.184 $\pm$ 0.023  $\chi^2$ /NDF: 2332977.5/22

Left: 126.818 $\pm$ 0.016  $\chi^2$ /NDF: 4935627.6/47  
 Right: 99.528 $\pm$ 0.019  $\chi^2$ /NDF: 2112363.4/40  
 In: 116.455 $\pm$ 0.018  $\chi^2$ /NDF: 3944389.6/41  
 Out: 114.787 $\pm$ 0.016  $\chi^2$ /NDF: 4348457.3/46  
 All: 115.569 $\pm$ 0.012  $\chi^2$ /NDF: 8297642.1/88

# asym\_bpm1i06WS\_mean vs Slug, Sign Corrected



Right In: 1347.541+/-53.016  $\chi^2/\text{NDF}$ : 27730.9/18

Left Out: -3234.922+/-40.583  $\chi^2/\text{NDF}$ : 36739.9/24

Right Out: 3482.553+/-48.536  $\chi^2/\text{NDF}$ : 67615.3/21

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

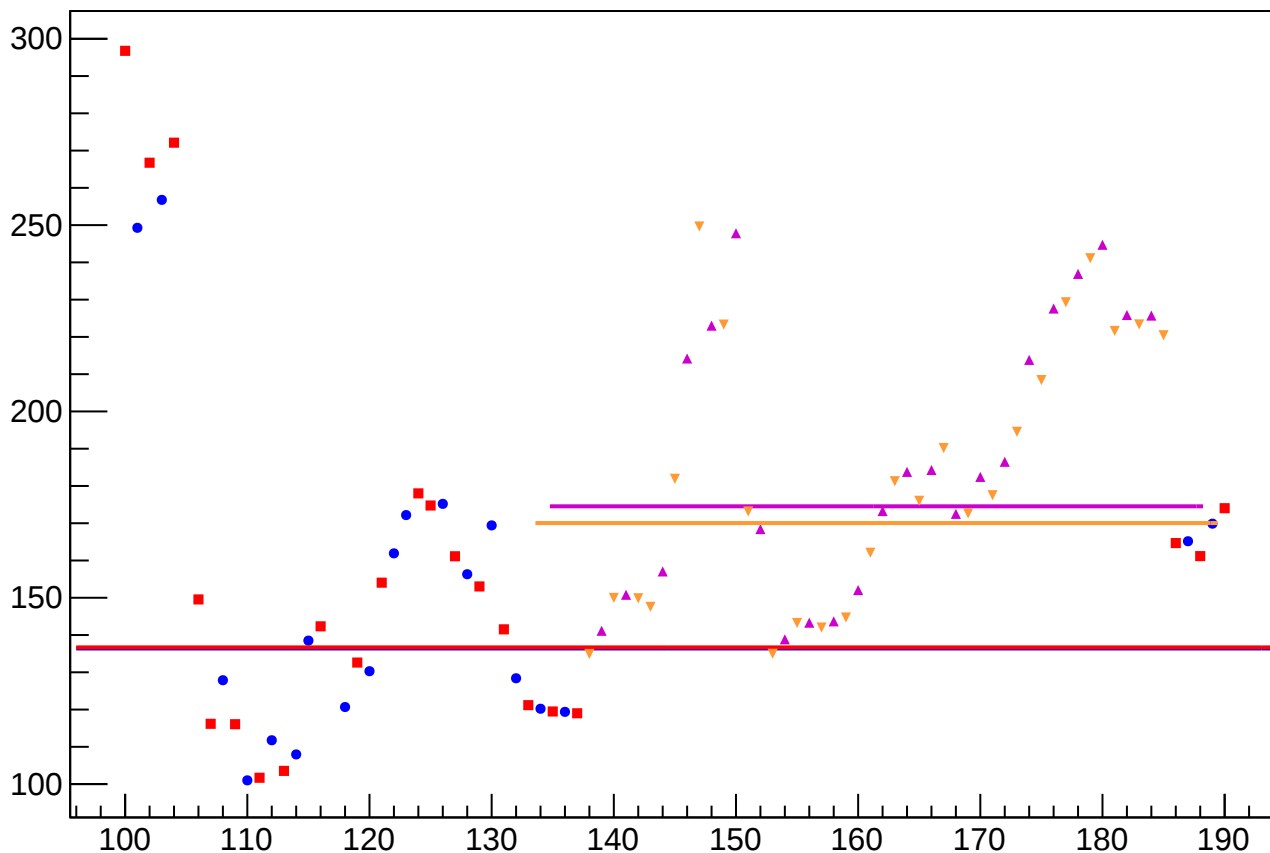
Right: 2509.052+/-35.800  $\chi^2/\text{NDF}$ : 96228.5/40

In: -4115.192+/-33.392  $\chi^2/\text{NDF}$ : 66597.0/41

Out: -470.969+/-31.134  $\chi^2/\text{NDF}$ : 115628.6/46

All: -2165.714+/-22.771  $\chi^2/\text{NDF}$ : 188597.3/8

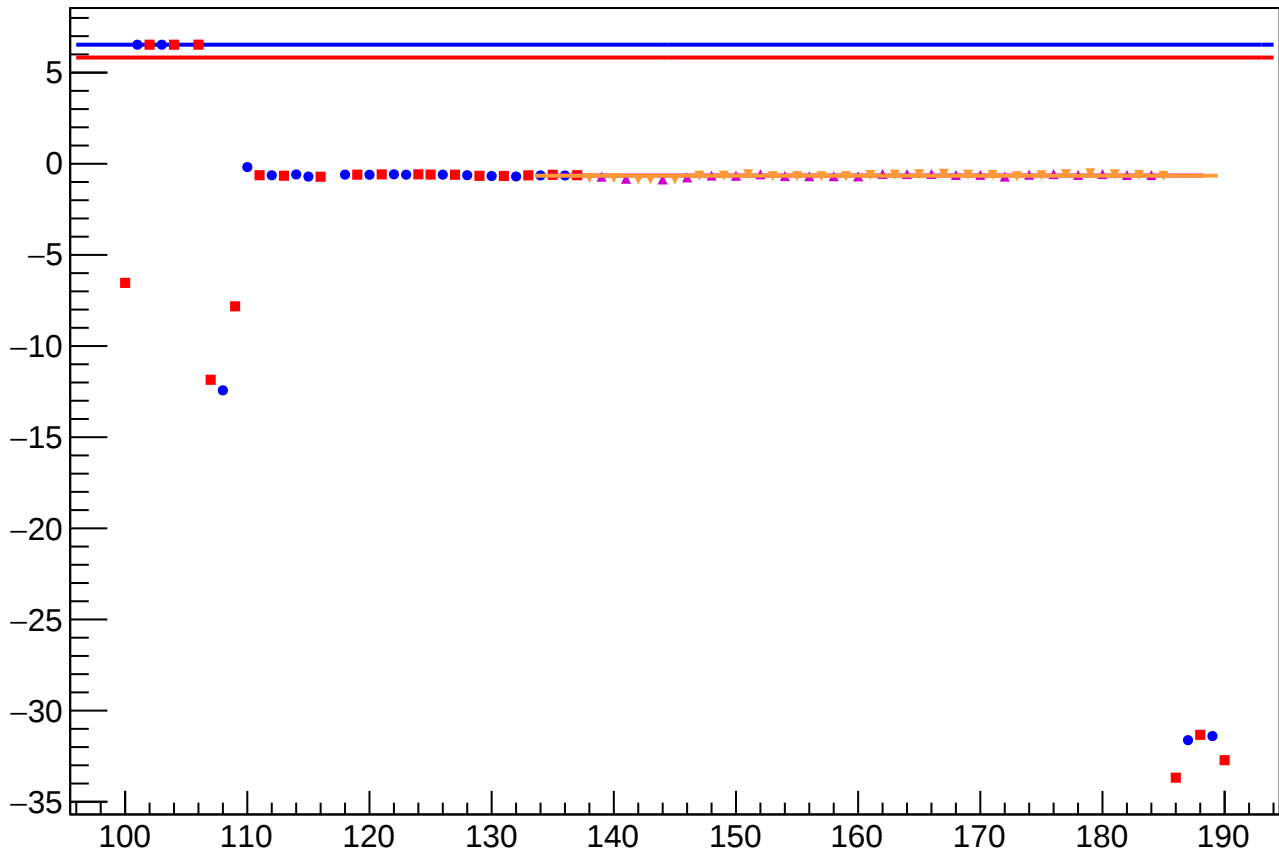
# asym\_bpm1i06WS\_rms vs Slug, Sign Corrected



Right In: 136.396 $\pm$ 0.037  $\chi^2$ /NDF: 836158.8/18  
 Left Out: 170.050 $\pm$ 0.029  $\chi^2$ /NDF:1240866.9/24  
 Right Out: 136.681 $\pm$ 0.034  $\chi^2$ /NDF: 974520.6/21  
 Left In: 174.539 $\pm$ 0.030  $\chi^2$ /NDF:1210071.2/22

Left: 172.165 $\pm$ 0.021  $\chi^2$ /NDF: 2462472.2/47  
 Right: 136.551 $\pm$ 0.025  $\chi^2$ /NDF: 1810710.8/40  
 In: 159.408 $\pm$ 0.024  $\chi^2$ /NDF:2670810.5/41  
 Out: 156.320 $\pm$ 0.022  $\chi^2$ /NDF:2771753.6/46  
 All: 157.756 $\pm$ 0.016  $\chi^2$ /NDF: 5451716.3/88

# yield\_cav4bX\_mean vs Slug, Sign Corrected



Right In: 6.532+/-0.000  $\chi^2/\text{NDF}$ : 127627934831.1/18

Left Out: -0.654+/-0.000  $\chi^2/\text{NDF}$ : 179109810.4/24

Right Out: 5.827+/-0.000  $\chi^2/\text{NDF}$ : 755947493976401.1/21

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

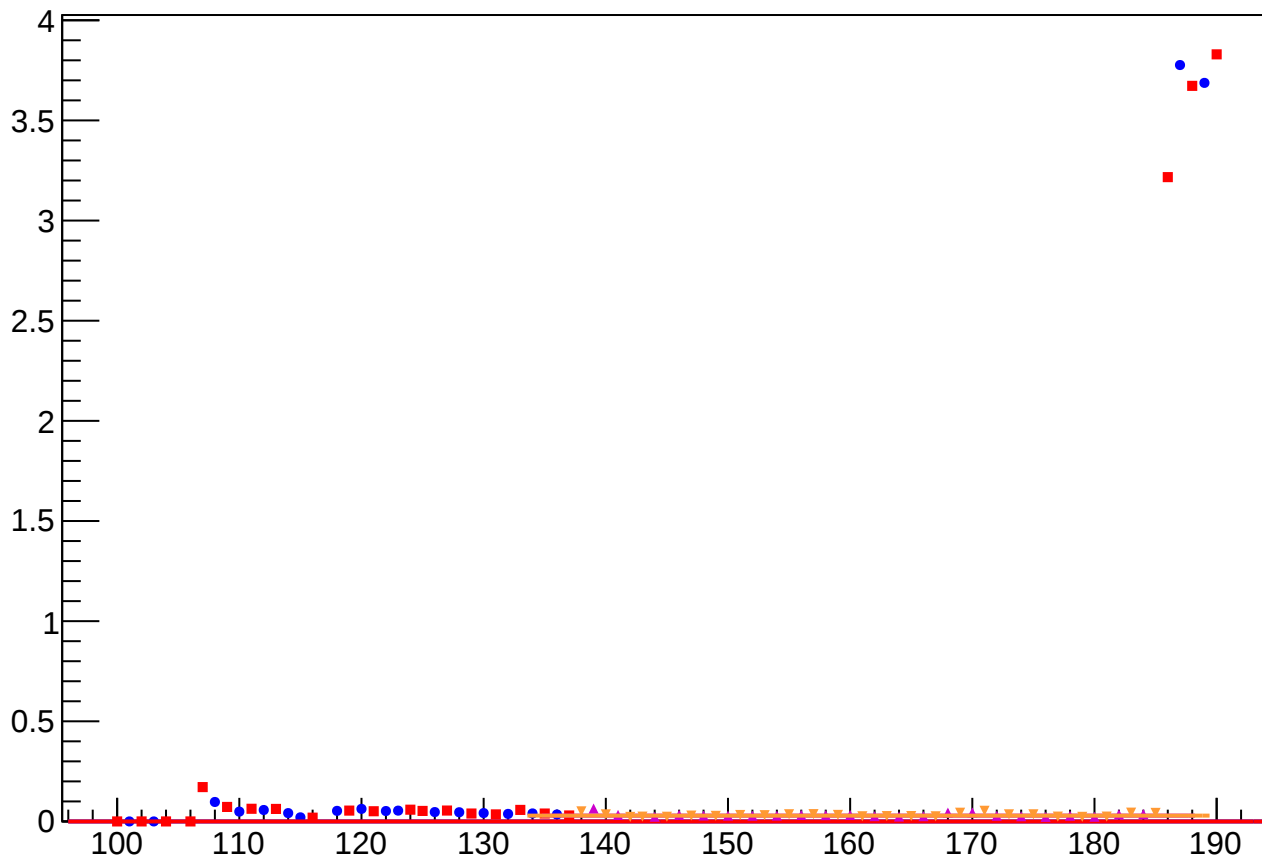
Right: 6.155+/-0.000  $\chi^2/\text{NDF}$ : 776078291070451.2/48

In: 6.530+/-0.000  $\chi^2/\text{NDF}$ : 952975347663.4/41

Out: 5.826+/-0.000  $\chi^2/\text{NDF}$ : 756656522643022.9/42

All: 6.153+/-0.000  $\chi^2/\text{NDF}$ : 77760166086675.0/95

# yield\_cav4bX\_rms vs Slug, Sign Corrected



Right In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 10205352.5/18

Left Out: 0.029+/-0.000  $\chi^2/\text{NDF}$ :1487017.7/24

Right Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 12438243.0/21

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

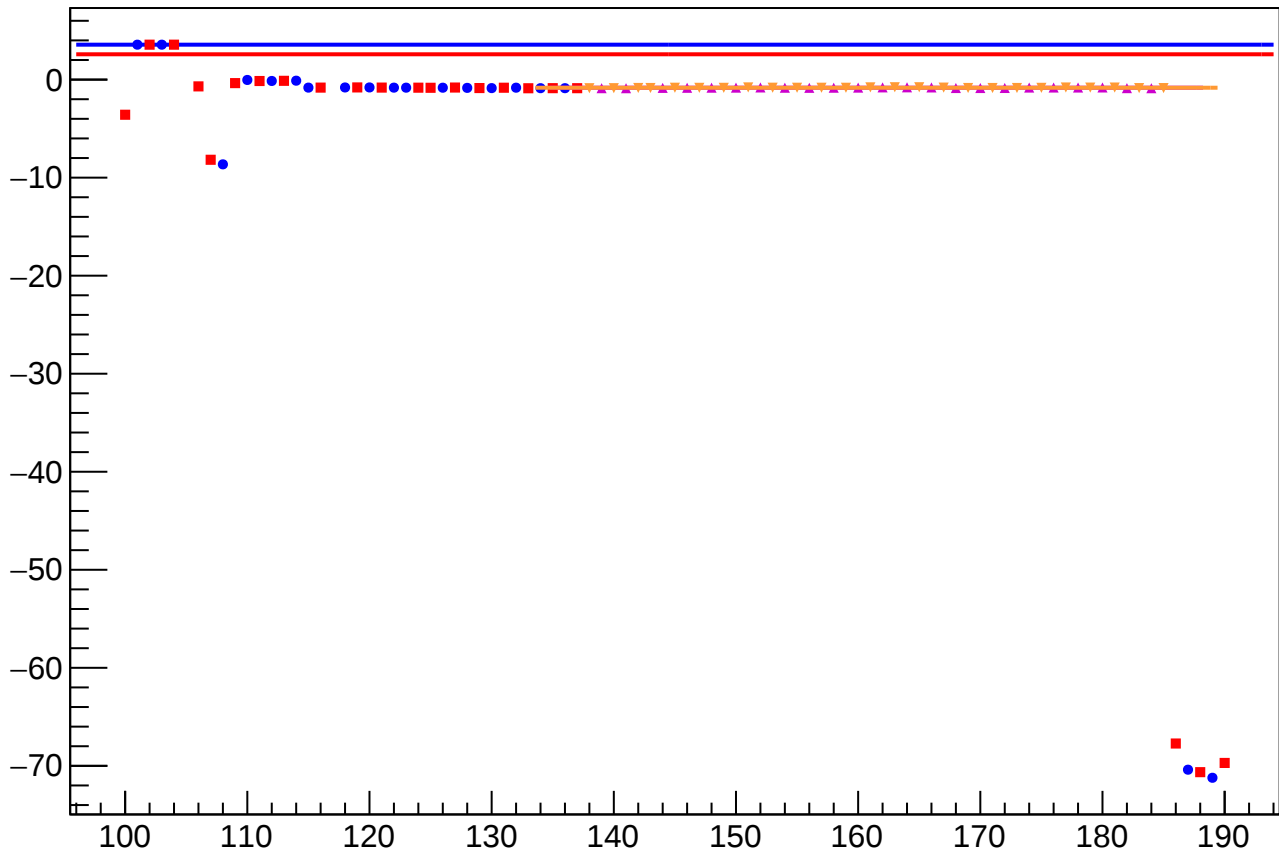
Right: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 22643845.0/40

In: 0.000+/-0.000  $\chi^2/\text{NDF}$ :38167054.4/41

Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ :42313935.6/46

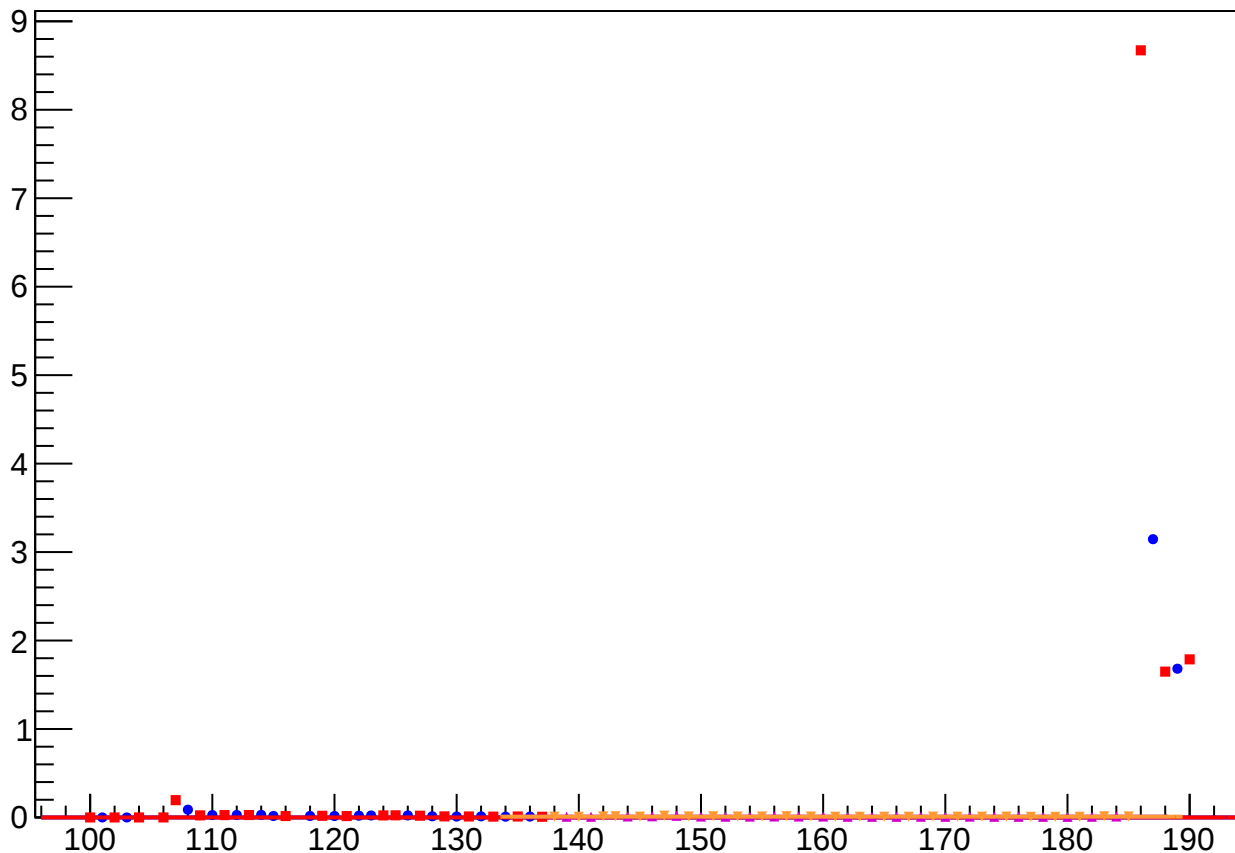
All: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 80481404.9/88

# yield\_cav4bY\_mean vs Slug, Sign Corrected

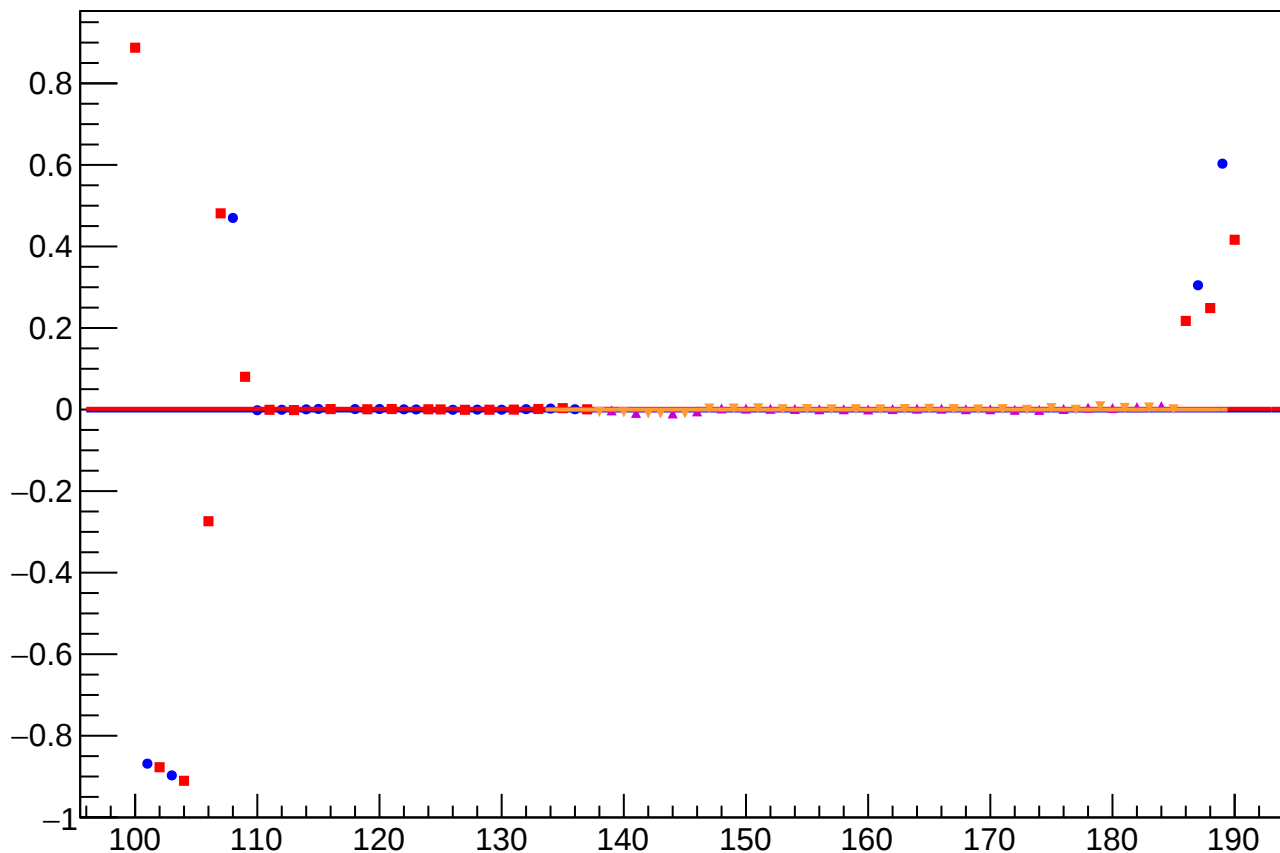


|                          |                                             |                      |                                          |
|--------------------------|---------------------------------------------|----------------------|------------------------------------------|
| Right In: 3.563+/-0.000  | $\chi^2/\text{NDF}$ : 485939329249.8/18     | Left: -0.827+/-0.000 | $\chi^2/\text{NDF}$ : 340927693.4/47     |
| Left Out: -0.828+/-0.000 | $\chi^2/\text{NDF}$ : 168178464.8/24        | Right: 3.040+/-0.000 | $\chi^2/\text{NDF}$ : 1382263854879845.0 |
| Right Out: 2.583+/-0.000 | $\chi^2/\text{NDF}$ : 1253506714118498.8/21 | In: 3.560+/-0.000    | $\chi^2/\text{NDF}$ : 4131692674187.1/41 |
| Left In: -0.827+/-0.000  | $\chi^2/\text{NDF}$ : 172640246.1/22        | Out: 2.581+/-0.000   | $\chi^2/\text{NDF}$ : 1255729046585810.5 |
|                          |                                             | All: 3.038+/-0.000   | $\chi^2/\text{NDF}$ : 13879503303013.0   |

# yield\_cav4bY\_rms vs Slug, Sign Corrected



# yield\_cav4cX\_mean vs Slug, Sign Corrected



Right In: -0.002 $\pm$ 0.000  $\chi^2$ /NDF: 9795560562.2/18

Left Out: -0.000 $\pm$ 0.000  $\chi^2$ /NDF: 151482851.1/24

Right Out: 0.002 $\pm$ 0.000  $\chi^2$ /NDF: 3041402520.2/21

Left In: 0.001 $\pm$ 0.000  $\chi^2$ /NDF: 101439617.3/22

Left: 0.000 $\pm$ 0.000  $\chi^2$ /NDF: 254436385.6/47

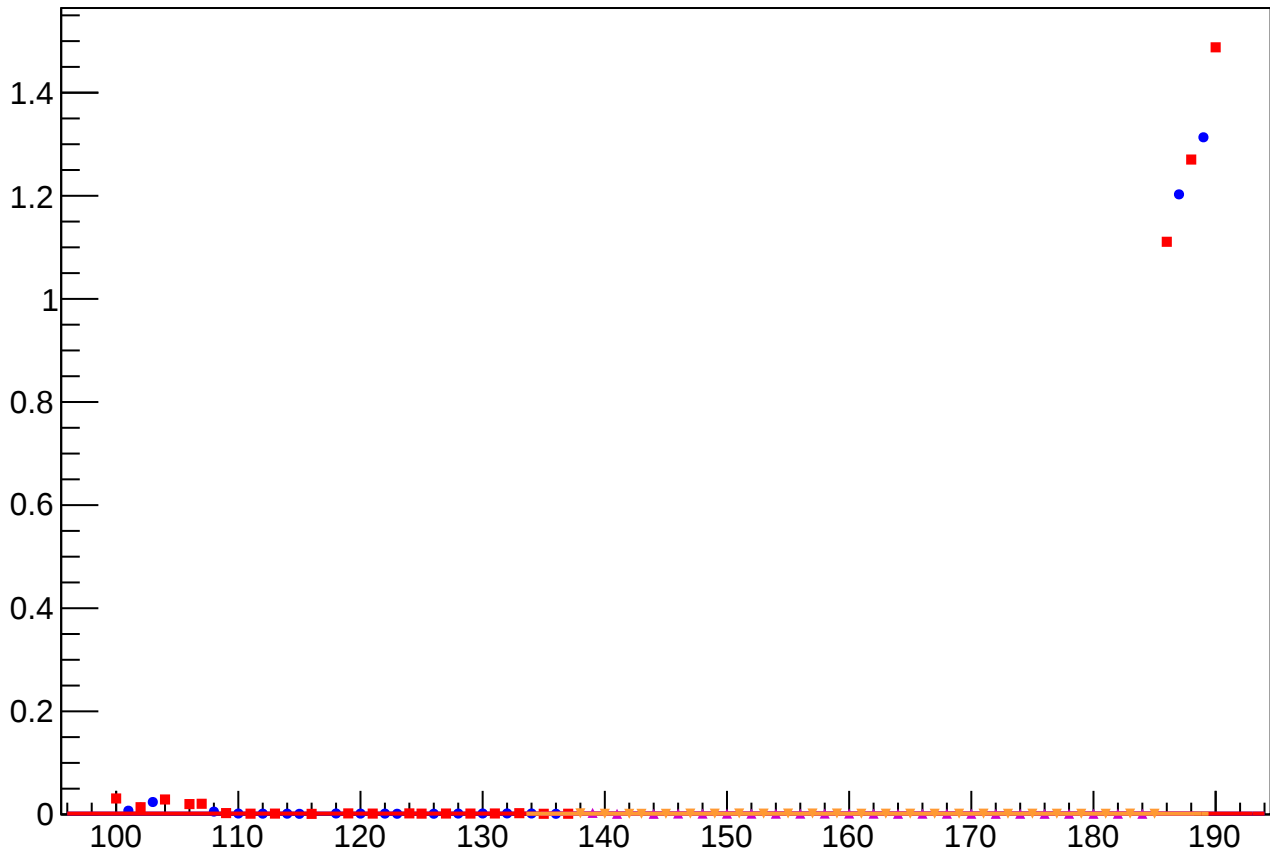
Right: -0.000 $\pm$ 0.000  $\chi^2$ /NDF: 12850730306.9/40

In: -0.000 $\pm$ 0.000  $\chi^2$ /NDF: 9908019182.0/41

Out: 0.000 $\pm$ 0.000  $\chi^2$ /NDF: 3197612416.0/46

All: 0.000 $\pm$ 0.000  $\chi^2$ /NDF: 13105968571.1/8

# yield\_cav4cX\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 3104027.1/18

Left Out: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 539817.3/24

Right Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 6093185.5/21

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

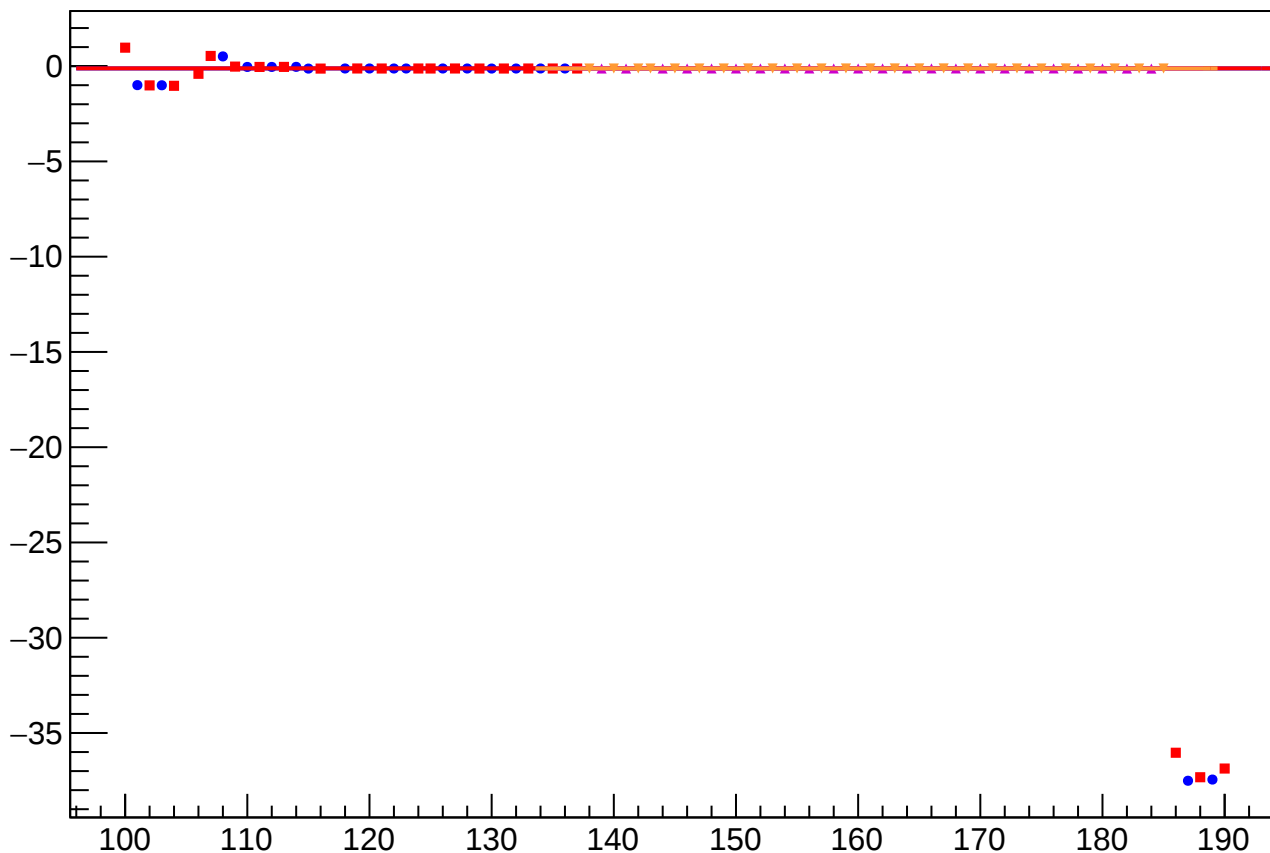
Right: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 9205701.7/40

In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 3780174.1/41

Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 6769360.6/46

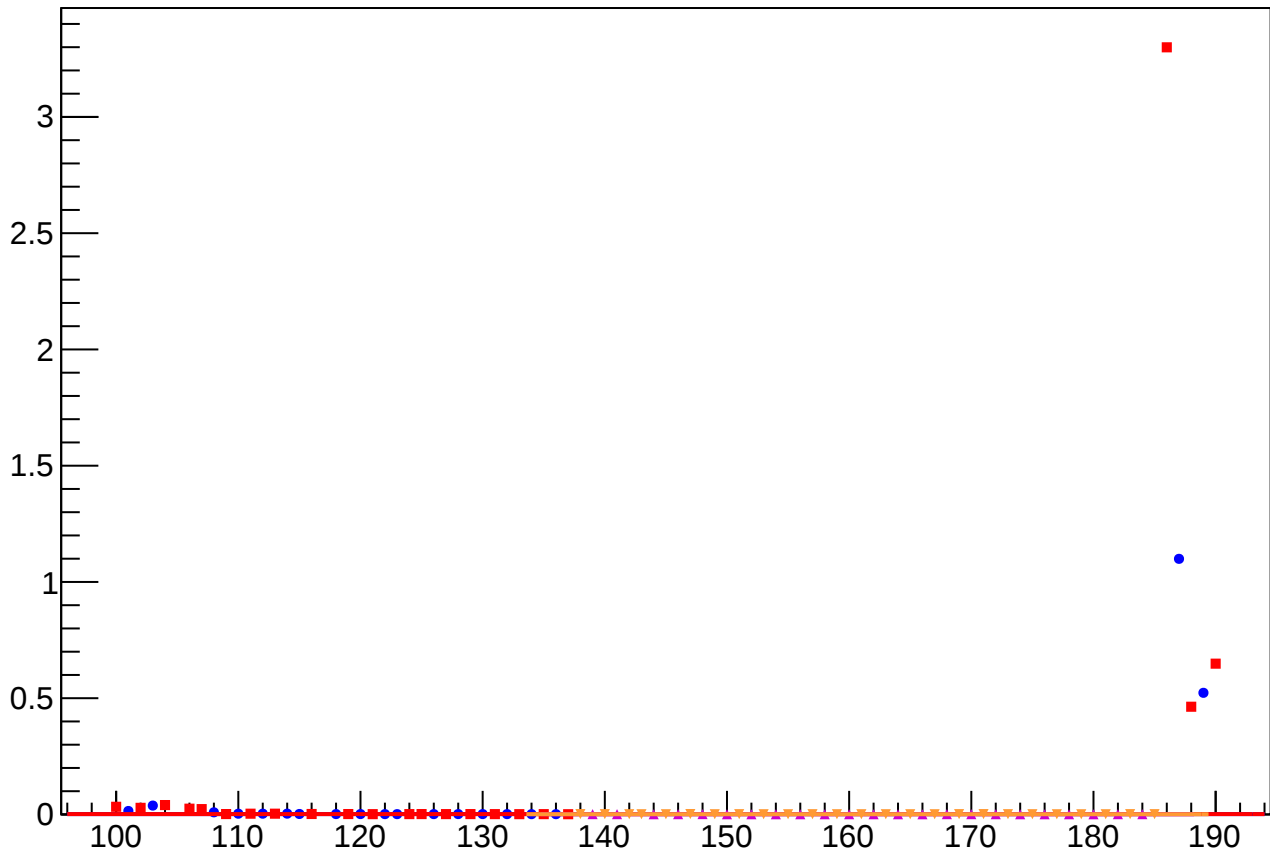
All: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 10550438.4/88

# yield\_cav4cY\_mean vs Slug, Sign Corrected



|                           |                                       |                       |                                        |
|---------------------------|---------------------------------------|-----------------------|----------------------------------------|
| Right In: -0.120+/-0.000  | $\chi^2/\text{NDF}$ : 6293033068.3/18 | Left: -0.121+/-0.000  | $\chi^2/\text{NDF}$ : 110482905.6/47   |
| Left Out: -0.121+/-0.000  | $\chi^2/\text{NDF}$ : 58120109.3/24   | Right: -0.118+/-0.000 | $\chi^2/\text{NDF}$ : 15191090842.5/40 |
| Right Out: -0.115+/-0.000 | $\chi^2/\text{NDF}$ : 8875513913.0/21 | In: -0.121+/-0.000    | $\chi^2/\text{NDF}$ : 6345646432.2/41  |
| Left In: -0.121+/-0.000   | $\chi^2/\text{NDF}$ : 52113932.9/22   | Out: -0.121+/-0.000   | $\chi^2/\text{NDF}$ : 8987108785.0/46  |
|                           |                                       | All: -0.121+/-0.000   | $\chi^2/\text{NDF}$ : 15333677268.7/   |

# yield\_cav4cY\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 4042224.5/18

Left Out: 0.001+/-0.000  $\chi^2/\text{NDF}$ :1363316.8/24

Right Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 6532907.3/21

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

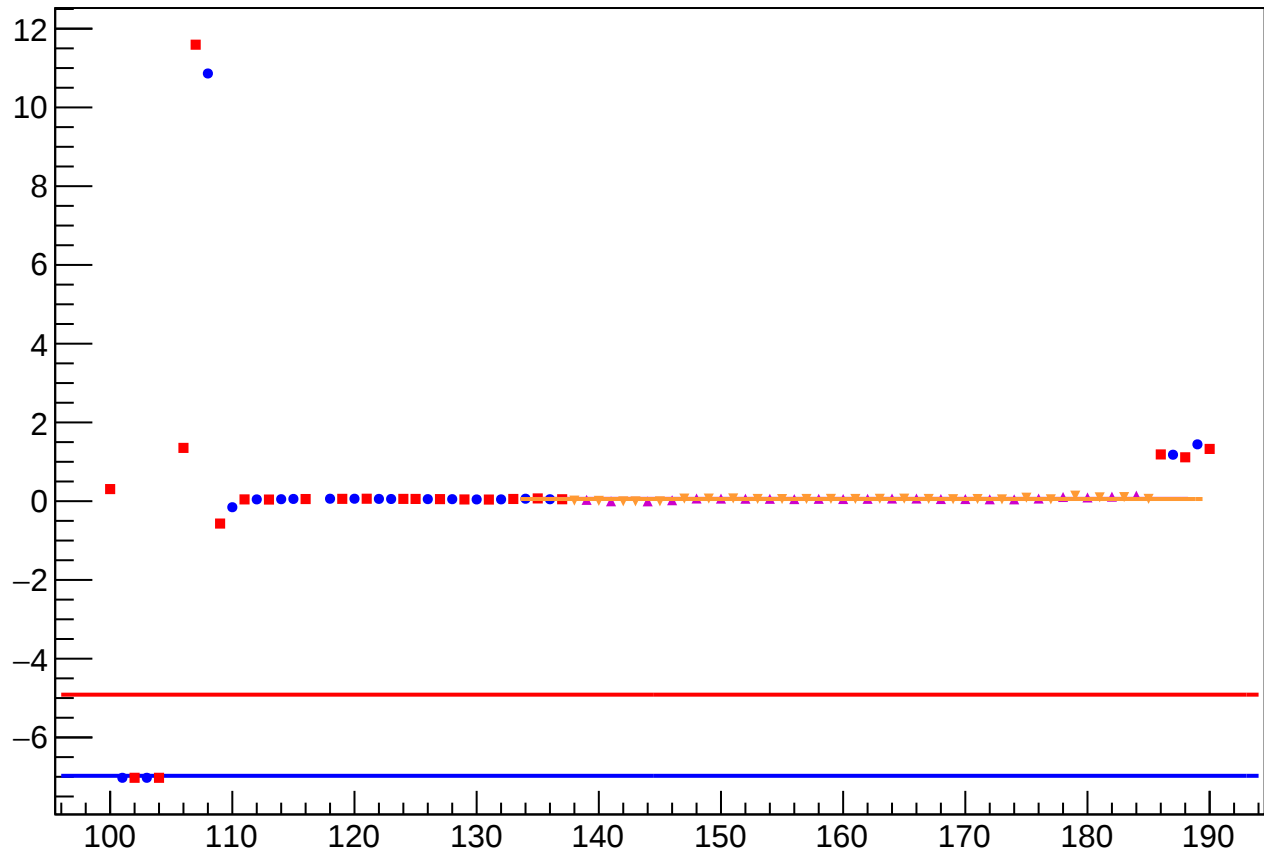
Right: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 10575246.2/40

In: 0.001+/-0.000  $\chi^2/\text{NDF}$ :6155049.7/41

Out: 0.001+/-0.000  $\chi^2/\text{NDF}$ :9044299.0/46

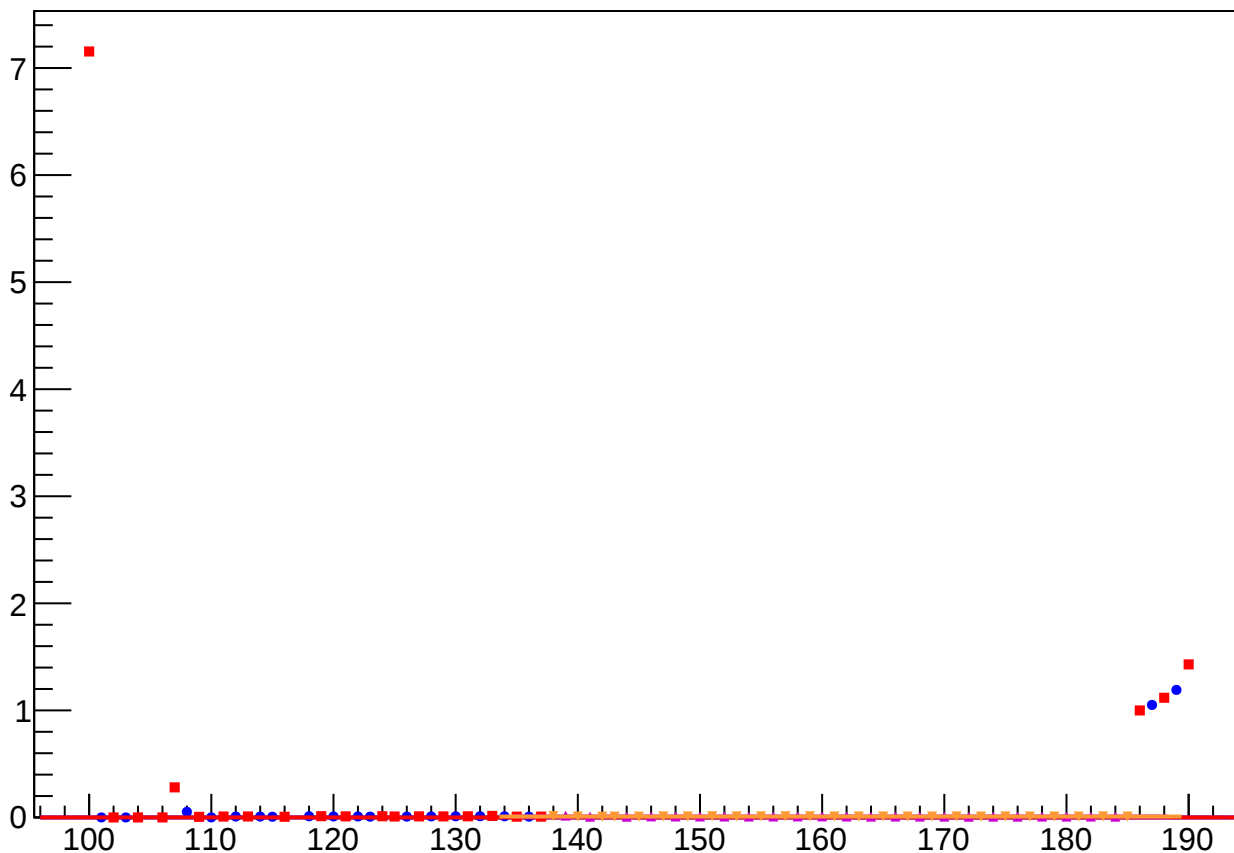
All: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 15201879.3/88

# yield\_cav4dX\_mean vs Slug, Sign Corrected



Right In:  $-6.975 \pm 0.000$   $\chi^2/\text{NDF}: 8797389084913.4/18$  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:  $-5.900 \pm 0.000$   $\chi^2/\text{NDF}: 430333349967331.9$   
 Right Out:  $-4.914 \pm 0.000$   $\chi^2/\text{NDF}: 365352700698316.8/21$  In:  $-6.926 \pm 0.000$   $\chi^2/\text{NDF}: 17552909167298.7/41$   
 Left In:  $0.059 \pm 0.000$   $\chi^2/\text{NDF}: 178541521.9/22$  Out:  $-4.879 \pm 0.000$   $\chi^2/\text{NDF}: 370165264937363.2/21$   
 All:  $-5.858 \pm 0.000$   $\chi^2/\text{NDF}: 4435286434426$

# yield\_cav4dX\_rms vs Slug, Sign Corrected



Right In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 9536508.2/18

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 514432.8/24

Right Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 11859044.1/21

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

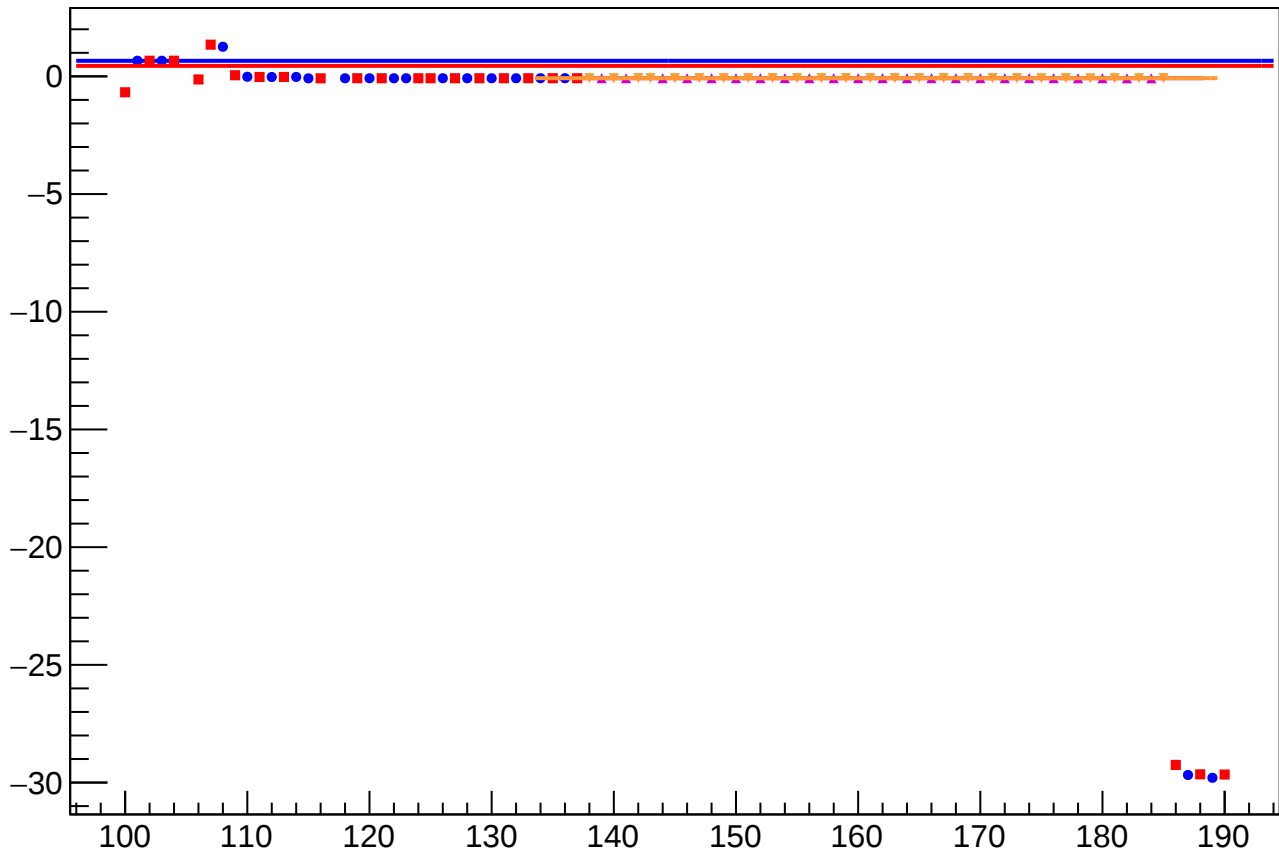
Right: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 21395897.7/40

In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 36955360.0/41

Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 40804023.8/46

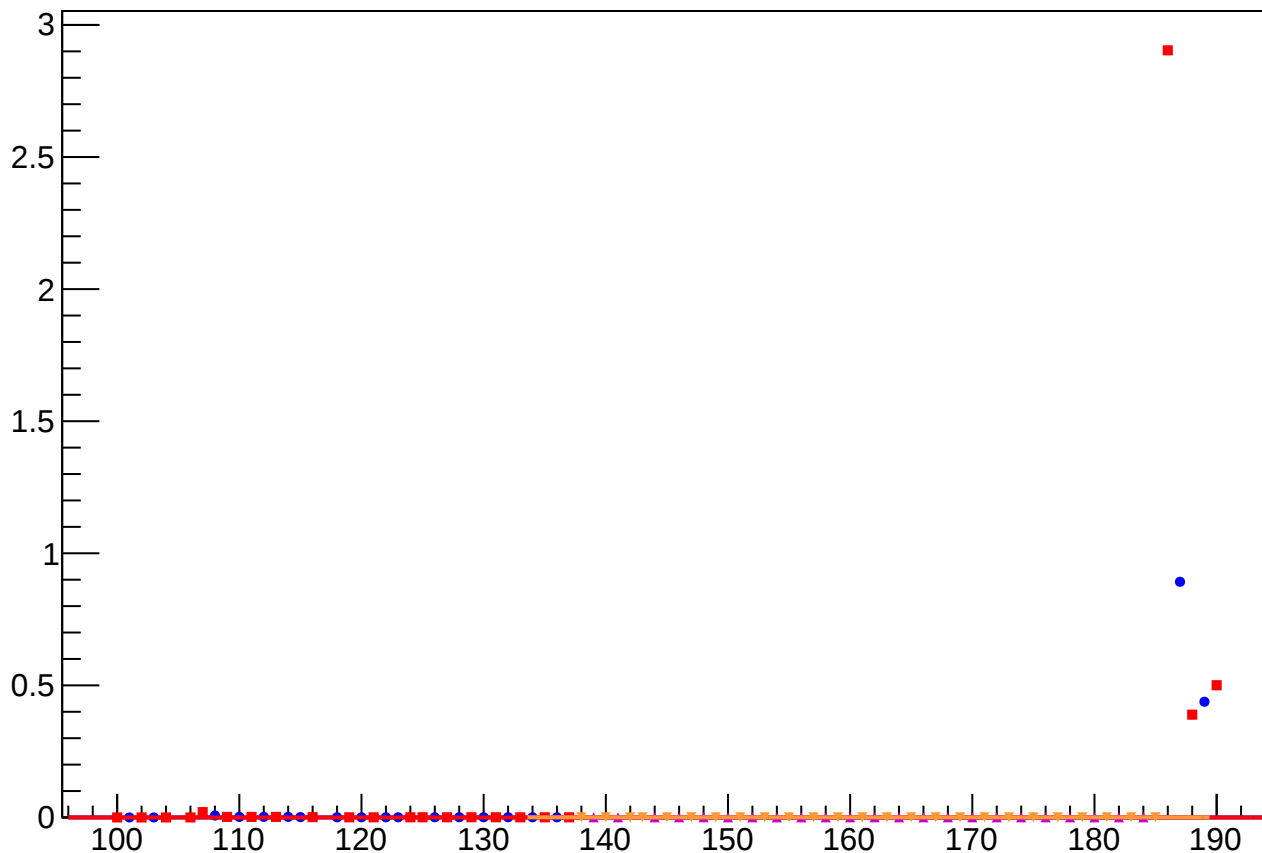
All: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 77759845.6/88

# yield\_cav4dY\_mean vs Slug, Sign Corrected



|                          |                                            |                      |                                           |
|--------------------------|--------------------------------------------|----------------------|-------------------------------------------|
| Right In: 0.661+/-0.000  | $\chi^2/\text{NDF}$ : 5660987652808.9/18   | 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 | $\chi^2/\text{NDF}$ : 474008957152575.8   |
| Right Out: 0.446+/-0.000 | $\chi^2/\text{NDF}$ : 405434655273750.2/21 | In: 0.647+/-0.000    | $\chi^2/\text{NDF}$ : 33701720603131.4/41 |
| Left In: -0.077+/-0.000  | $\chi^2/\text{NDF}$ : 110762924.1/22       | Out: 0.436+/-0.000   | $\chi^2/\text{NDF}$ : 420595769841591.9/4 |
|                          |                                            | All: 0.537+/-0.000   | $\chi^2/\text{NDF}$ : 51585343258154      |

# yield\_cav4dY\_rms vs Slug, Sign Corrected



Right In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 11130346.5/18

Left Out: 0.001+/-0.000  $\chi^2/\text{NDF}$ : 465981.8/24

Right Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 12501151.8/21

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

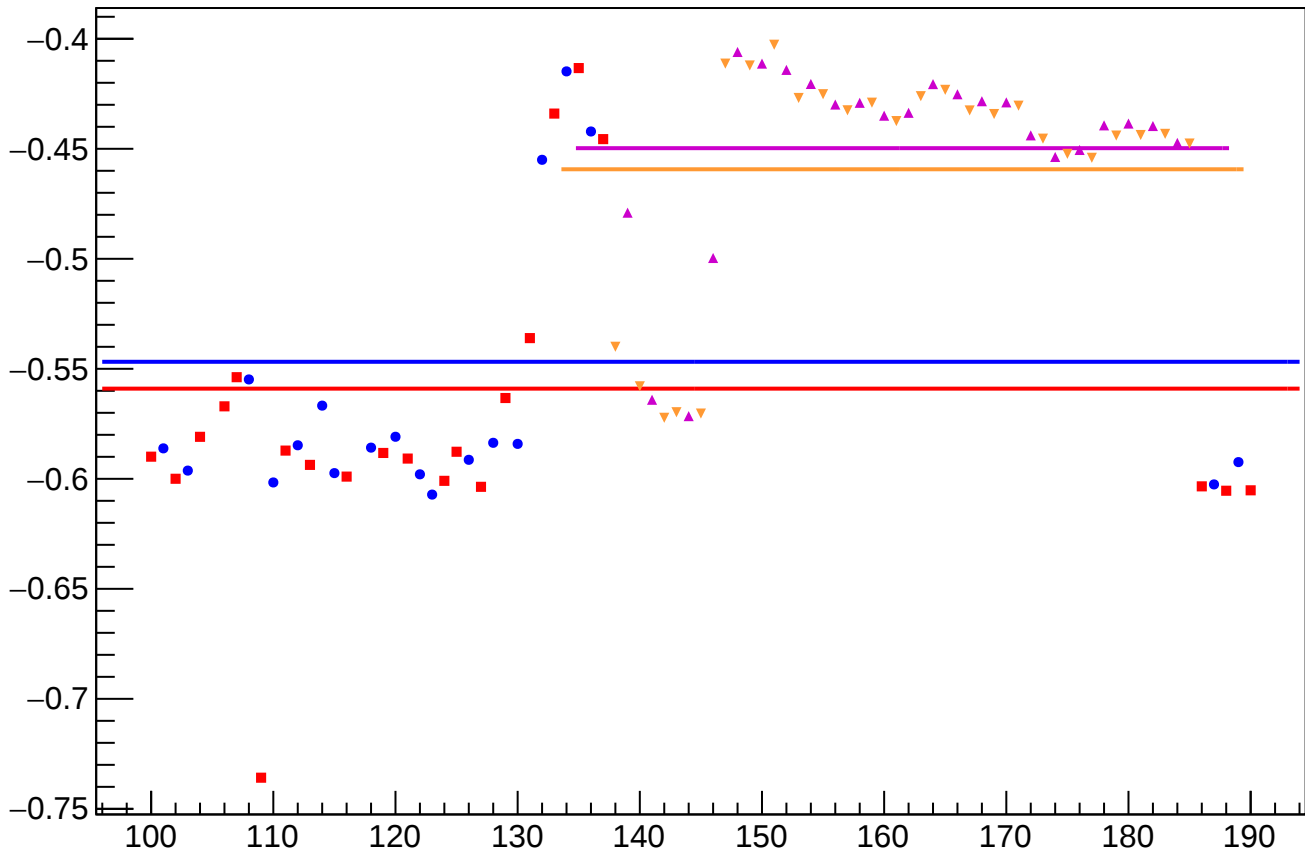
Right: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 23631513.7/40

In: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 41863433.7/41

Out: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 45123061.3/46

All: 0.000+/-0.000  $\chi^2/\text{NDF}$ : 86986829.8/88

# yield\_bpm4aX\_mean vs Slug, Sign Corrected



Right In: -0.547+/-0.000  $\chi^2/\text{NDF}$ : 46920498.7/18

Left Out: -0.459+/-0.000  $\chi^2/\text{NDF}$ :113602161.0/24

Right Out: -0.559+/-0.000  $\chi^2/\text{NDF}$ : 65511502.5/21

Left In: -0.450+/-0.000  $\chi^2/\text{NDF}$ :76117957.8/22

Left: -0.455+/-0.000  $\chi^2/\text{NDF}$ : 191493218.8/47

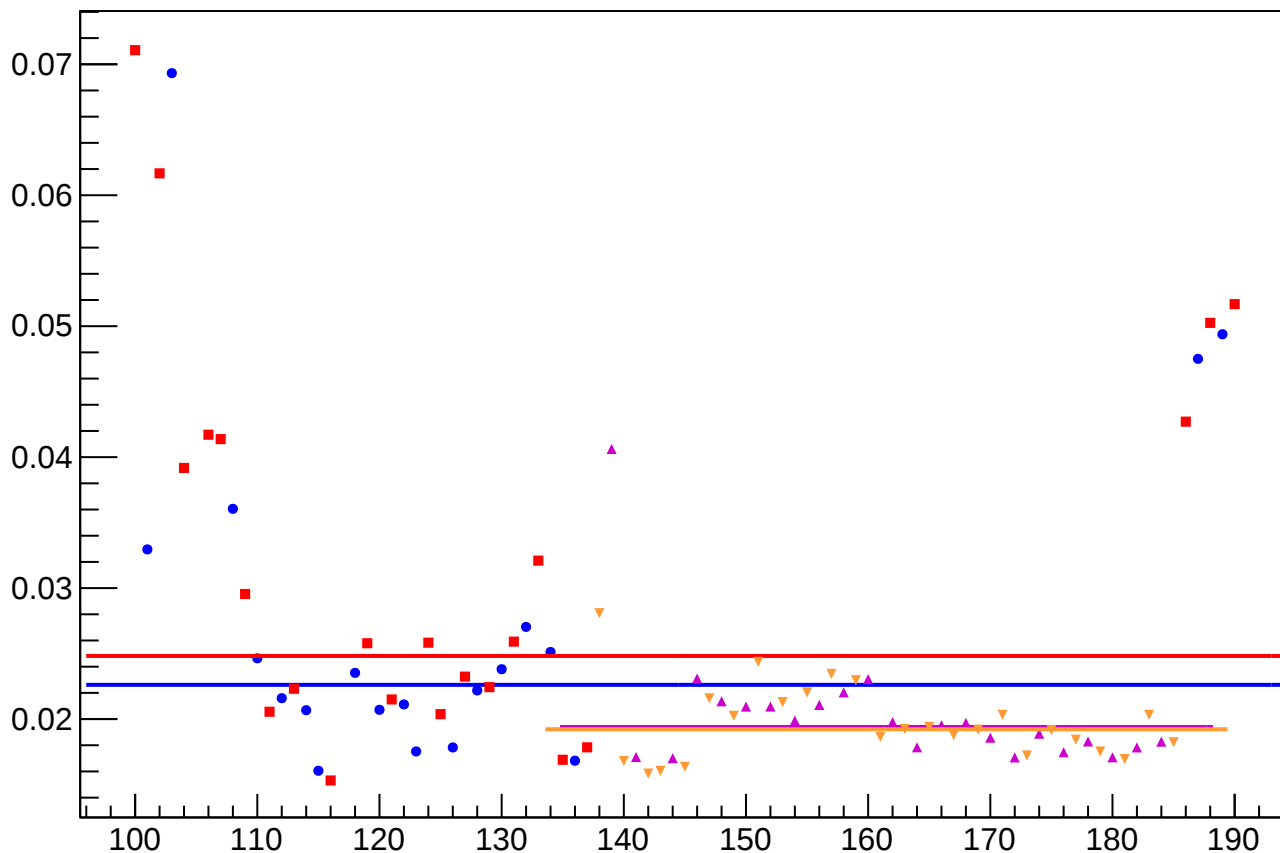
Right: -0.553+/-0.000  $\chi^2/\text{NDF}$ : 113223313.4/40

In: -0.472+/-0.000  $\chi^2/\text{NDF}$ :201775417.8/41

Out: -0.480+/-0.000  $\chi^2/\text{NDF}$ :261731162.4/46

All: -0.476+/-0.000  $\chi^2/\text{NDF}$ : 465224710.1/88

# yield\_bpm4aX\_rms vs Slug, Sign Corrected



Right In: 0.023+/-0.000  $\chi^2/\text{NDF}$ : 1307936.8/18

Left Out: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 501711.6/24

Right Out: 0.025+/-0.000  $\chi^2/\text{NDF}$ : 1937511.6/21

Left In: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 626443.5/22

Left: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 1129330.7/47

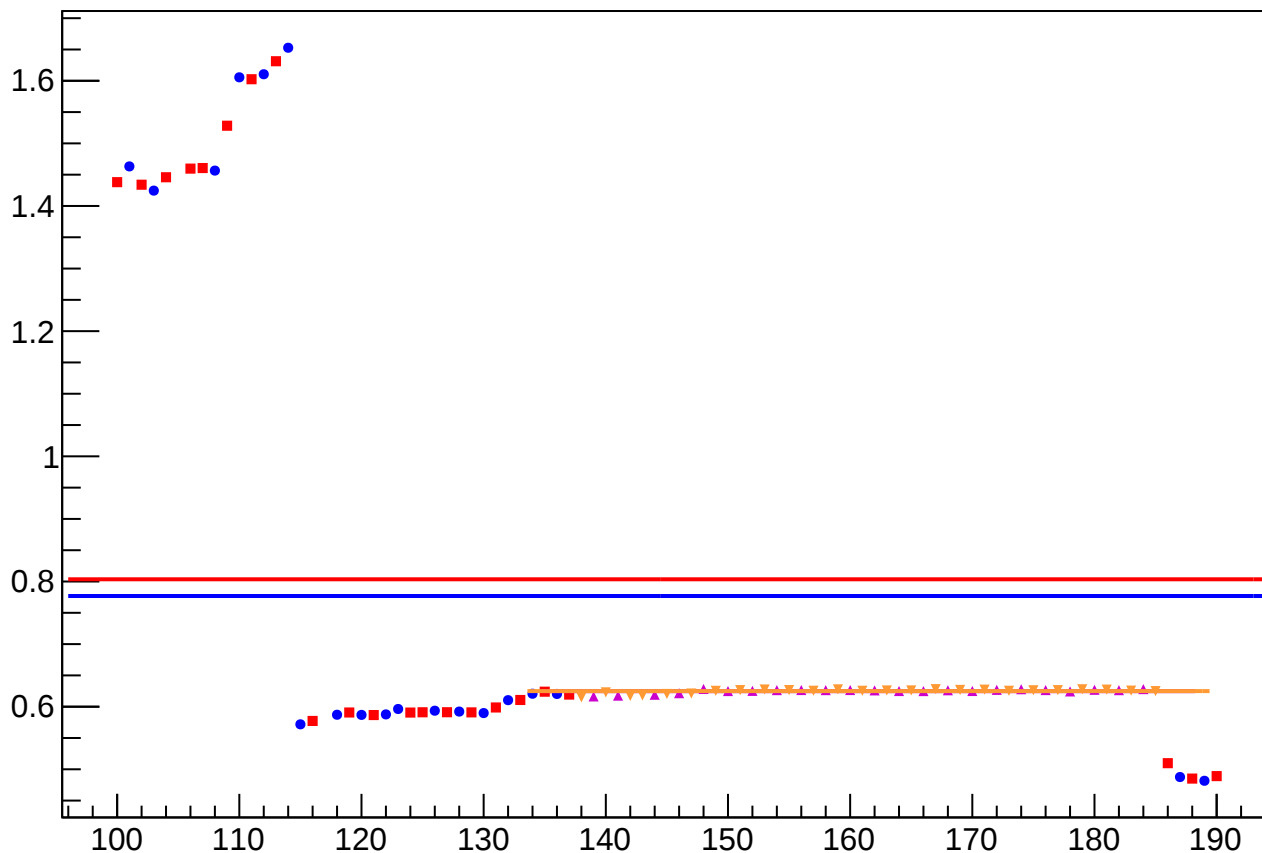
Right: 0.024+/-0.000  $\chi^2/\text{NDF}$ : 3297162.4/40

In: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 2107503.1/41

Out: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 2960425.5/46

All: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 5071236.4/88

# yield\_bpm4aY\_mean vs Slug, Sign Corrected



Right In: 0.777 $\pm$ 0.000  $\chi^2$ /NDF: 3674170770.5/18

Left Out: 0.625 $\pm$ 0.000  $\chi^2$ /NDF:1445169.1/24

Right Out: 0.804 $\pm$ 0.000  $\chi^2$ /NDF: 4446155691.3/21

Left In: 0.625 $\pm$ 0.000  $\chi^2$ /NDF:1143954.1/22

Left: 0.625 $\pm$ 0.000  $\chi^2$ /NDF: 2589565.7/47

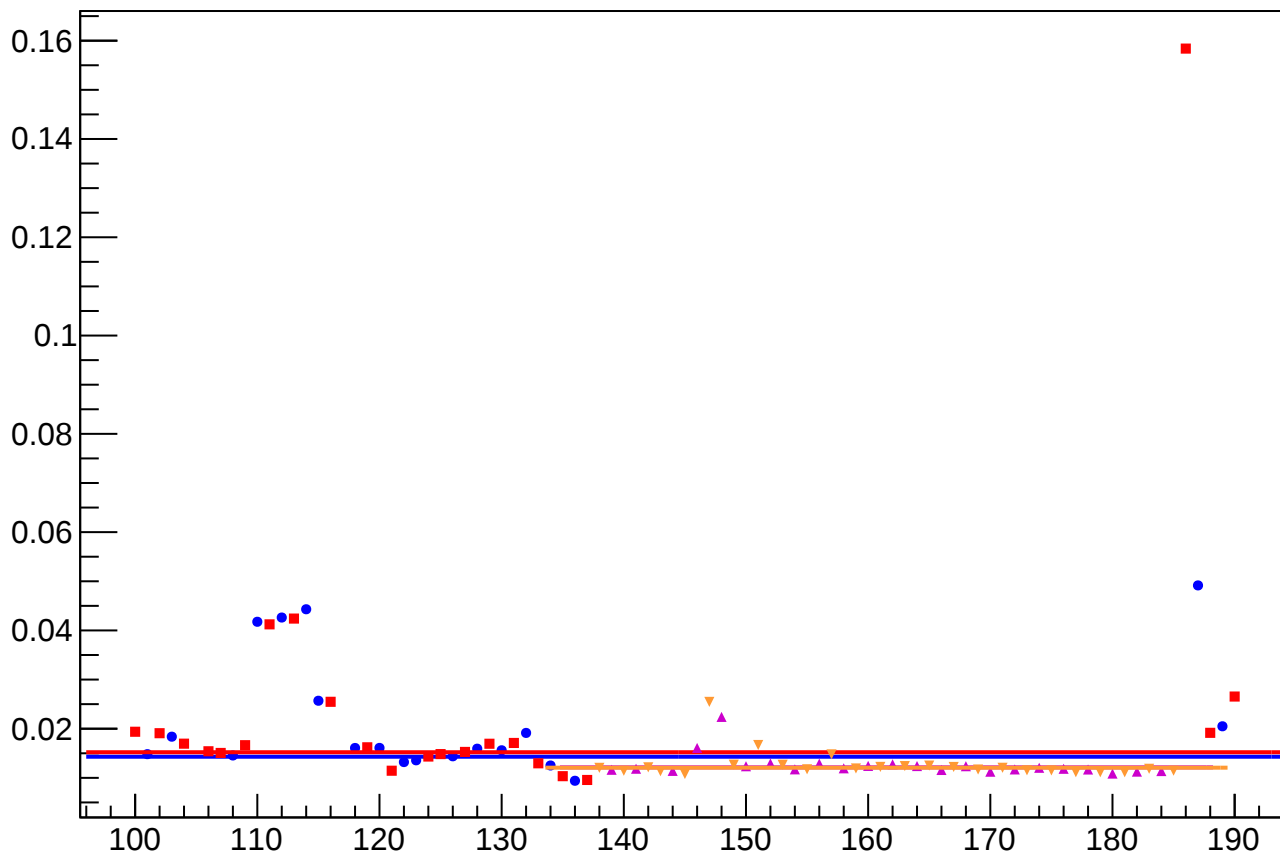
Right: 0.790 $\pm$ 0.000  $\chi^2$ /NDF: 8131098954.3/40

In: 0.656 $\pm$ 0.000  $\chi^2$ /NDF:4220986885.7/41

Out: 0.661 $\pm$ 0.000  $\chi^2$ /NDF:5226671067.4/46

All: 0.659 $\pm$ 0.000  $\chi^2$ /NDF: 9449109402.9/88

# yield\_bpm4aY\_rms vs Slug, Sign Corrected



Right In: 0.014 $\pm$ 0.000  $\chi^2$ /NDF: 1621721.0/18

Left Out: 0.012 $\pm$ 0.000  $\chi^2$ /NDF: 657199.9/24

Right Out: 0.015 $\pm$ 0.000  $\chi^2$ /NDF: 2038667.6/21

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

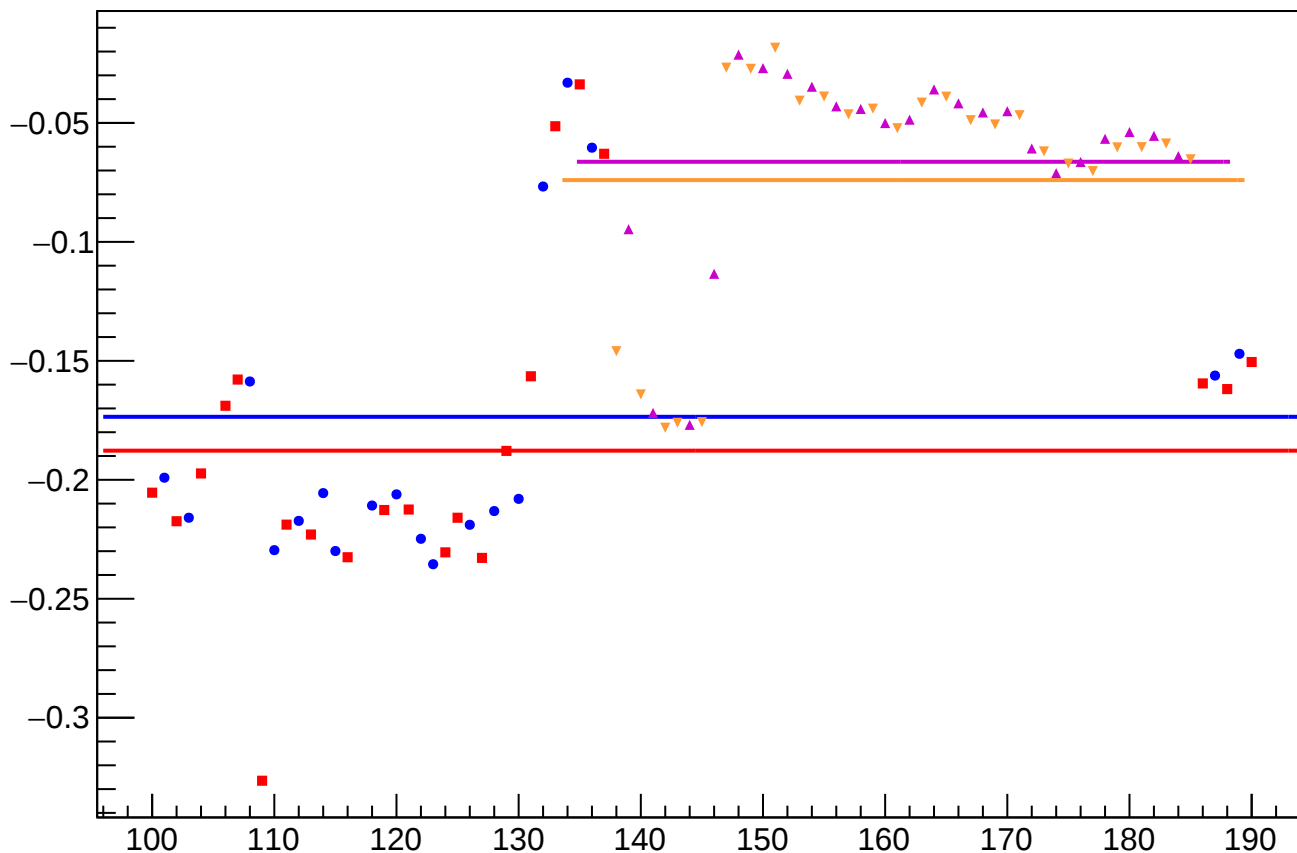
Right: 0.015 $\pm$ 0.000  $\chi^2$ /NDF: 3685609.1/40

In: 0.013 $\pm$ 0.000  $\chi^2$ /NDF: 2331293.6/41

Out: 0.013 $\pm$ 0.000  $\chi^2$ /NDF: 3178290.8/46

All: 0.013 $\pm$ 0.000  $\chi^2$ /NDF: 5511627.4/88

# yield\_bpm4eX\_mean vs Slug, Sign Corrected



Right In: -0.174+/-0.000  $\chi^2/\text{NDF}$ : 66903938.2/18

Left Out: -0.074+/-0.000  $\chi^2/\text{NDF}$ :107676601.9/24

Right Out: -0.188+/-0.000  $\chi^2/\text{NDF}$ : 82464964.5/21

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

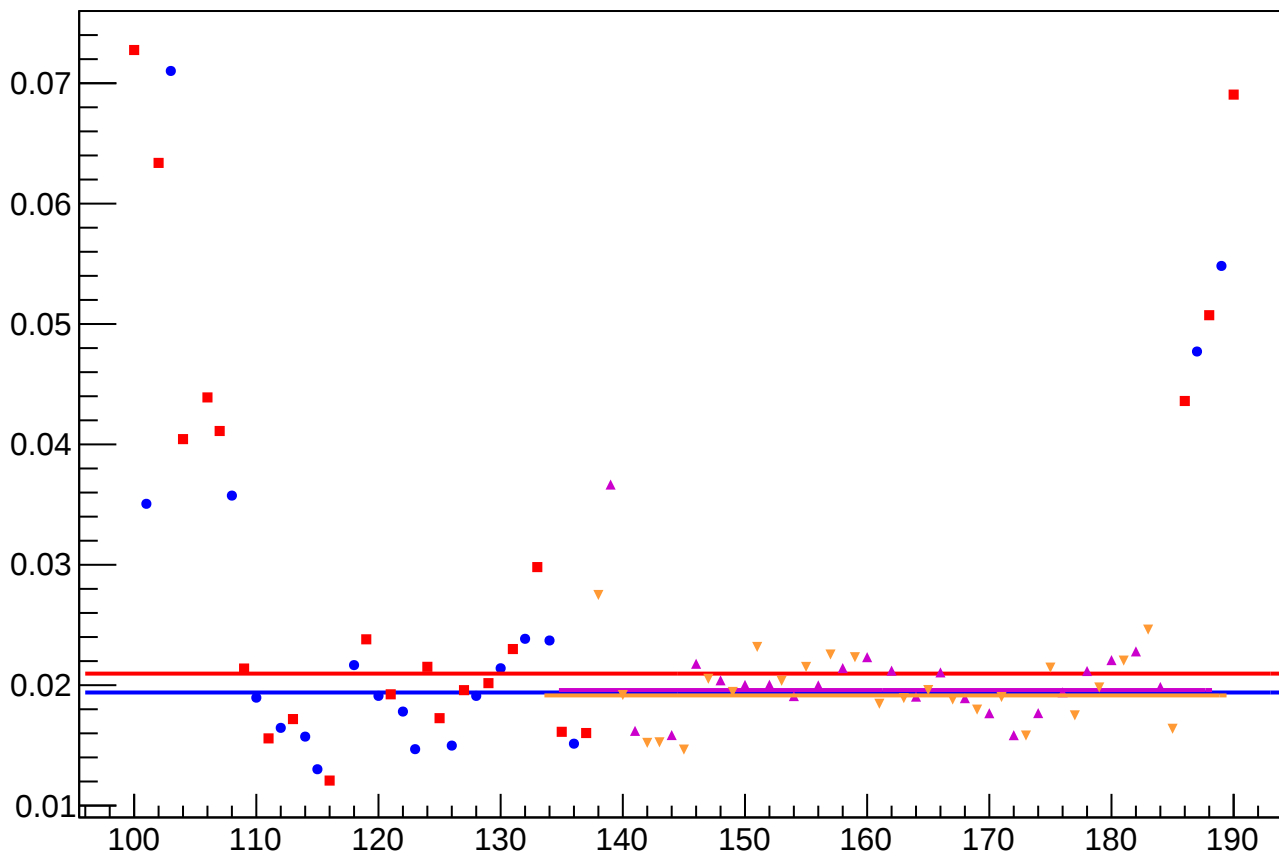
Right: -0.181+/-0.000  $\chi^2/\text{NDF}$ : 150796955.3/40

In: -0.096+/-0.000  $\chi^2/\text{NDF}$ :261321661.3/41

Out: -0.103+/-0.000  $\chi^2/\text{NDF}$ :325155192.6/46

All: -0.100+/-0.000  $\chi^2/\text{NDF}$ : 587734622.0/88

# yield\_bpm4eX\_rms vs Slug, Sign Corrected



Right In: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 1695031.4/18

Left Out: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 641277.0/24

Right Out: 0.021+/-0.000  $\chi^2/\text{NDF}$ : 2607687.4/21

Left In: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 623148.2/22

Left: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 1272240.9/47

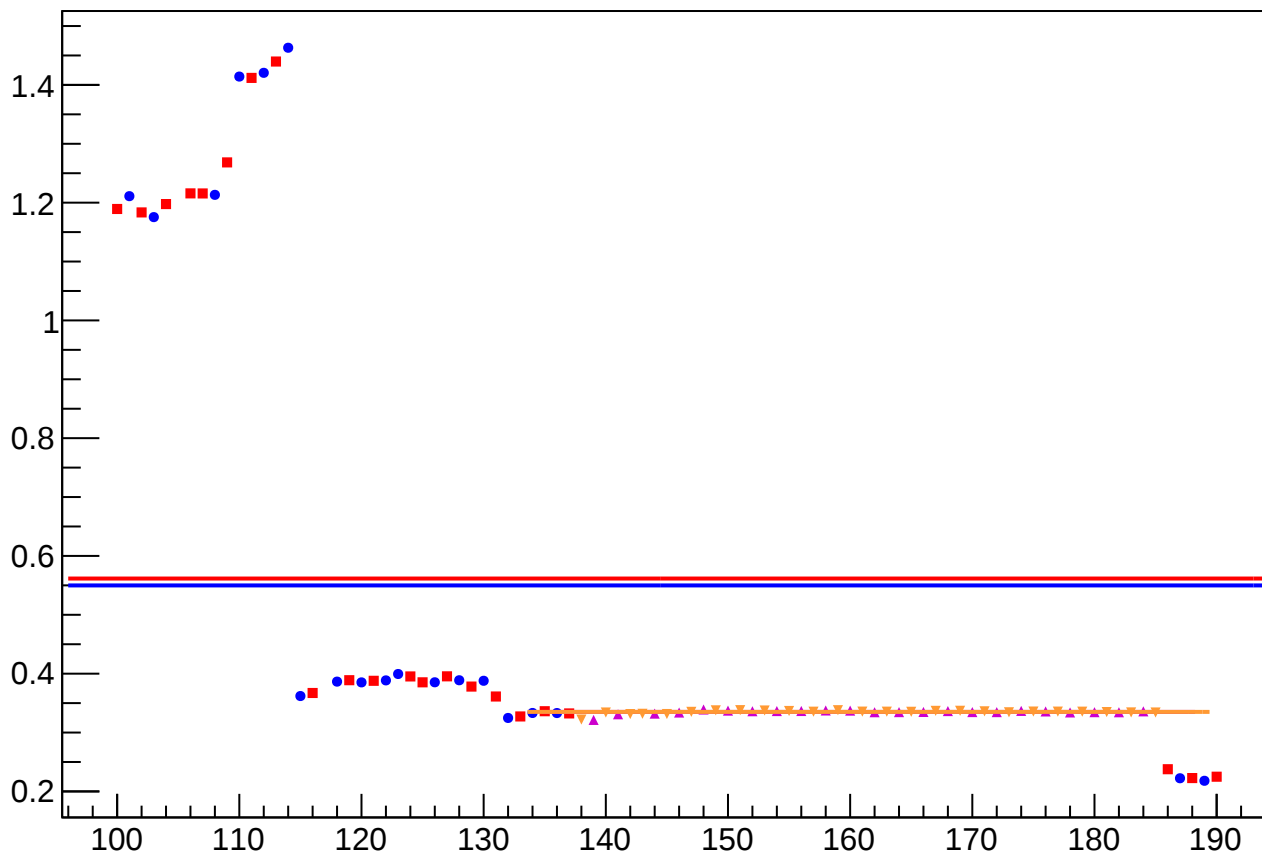
Right: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 4337412.0/40

In: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 2319039.8/41

Out: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 3317459.8/46

All: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 5636752.3/88

# yield\_bpm4eY\_mean vs Slug, Sign Corrected



Right In: 0.550+/-0.000  $\chi^2/\text{NDF}$ : 5232824607.5/18

Left Out: 0.335+/-0.000  $\chi^2/\text{NDF}$ : 1154310.3/24

Right Out: 0.562+/-0.000  $\chi^2/\text{NDF}$ : 6150607214.5/21

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

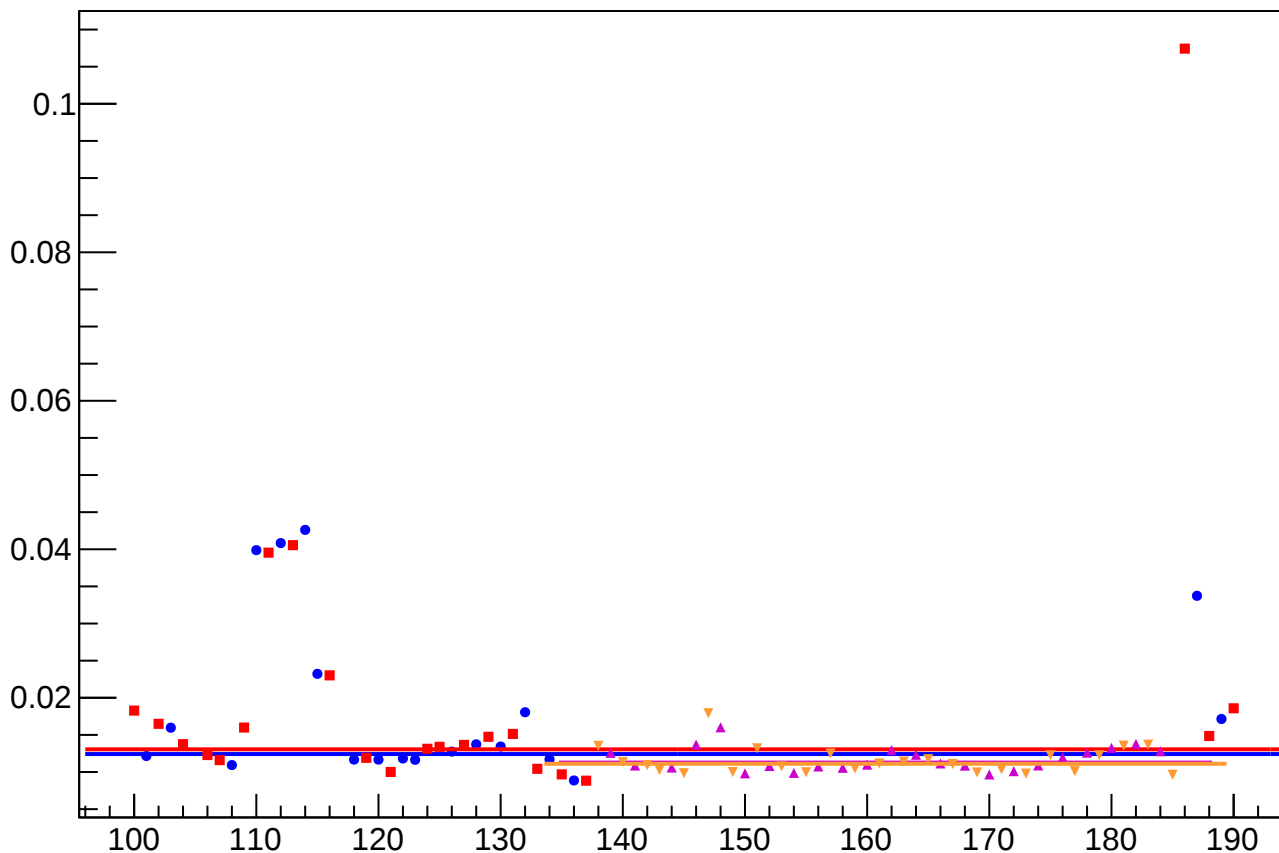
Right: 0.556+/-0.000  $\chi^2/\text{NDF}$ : 11386217913.6/40

In: 0.386+/-0.000  $\chi^2/\text{NDF}$ : 6642350066.9/41

Out: 0.387+/-0.000  $\chi^2/\text{NDF}$ : 7798299508.2/46

All: 0.386+/-0.000  $\chi^2/\text{NDF}$ : 14440734522.9/86

# yield\_bpm4eY\_rms vs Slug, Sign Corrected



Right In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 1491297.3/18

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 607532.0/24

Right Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 1914250.4/21

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

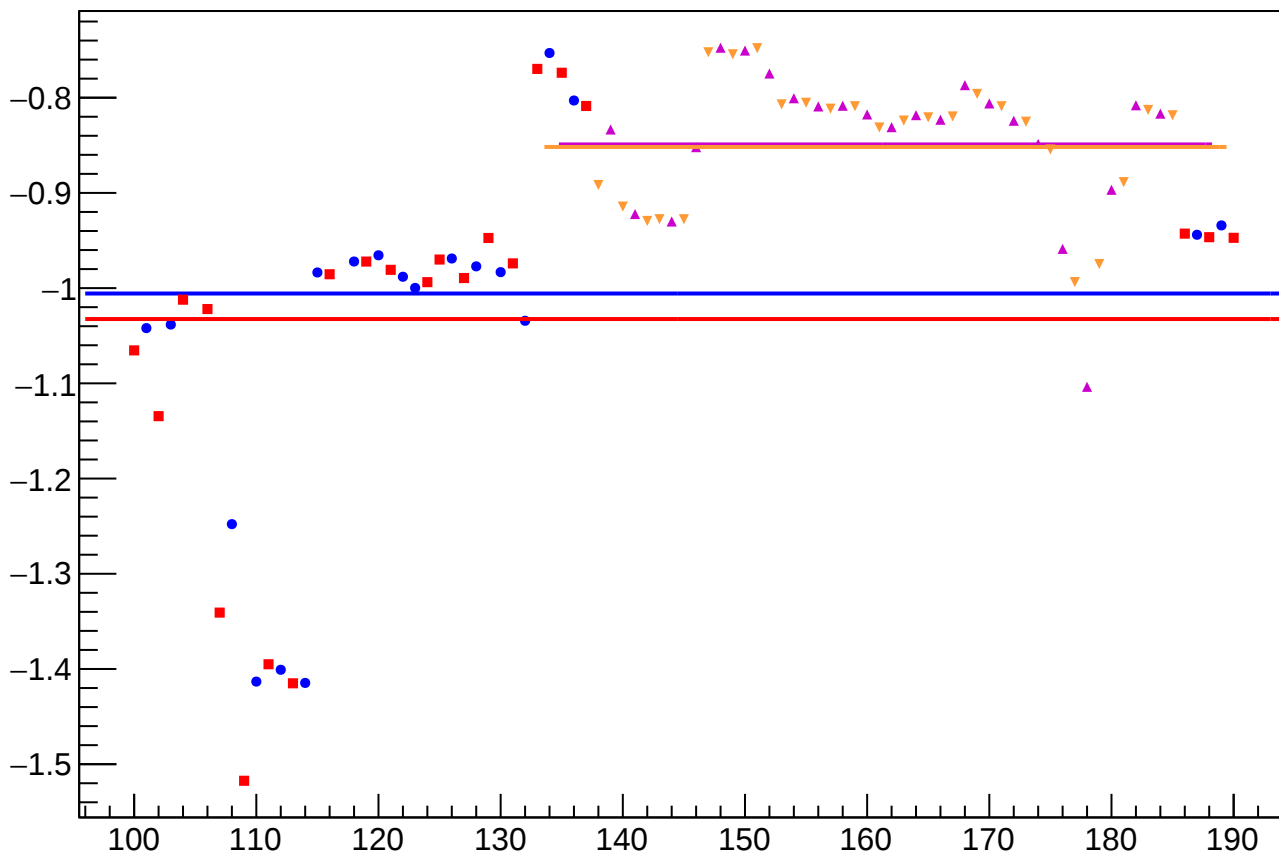
Right: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 3421962.1/40

In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 2074310.7/41

Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 2764531.7/46

All: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 4838863.6/88

# yield\_bpm4acX\_mean vs Slug, Sign Corrected



Right In:  $-1.006 \pm 0.000$   $\chi^2/\text{NDF}$ : 394858375.4/18

Left Out:  $-0.852 \pm 0.000$   $\chi^2/\text{NDF}$ : 189103962.4/24

Right Out:  $-1.032 \pm 0.000$   $\chi^2/\text{NDF}$ : 541135526.4/21

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

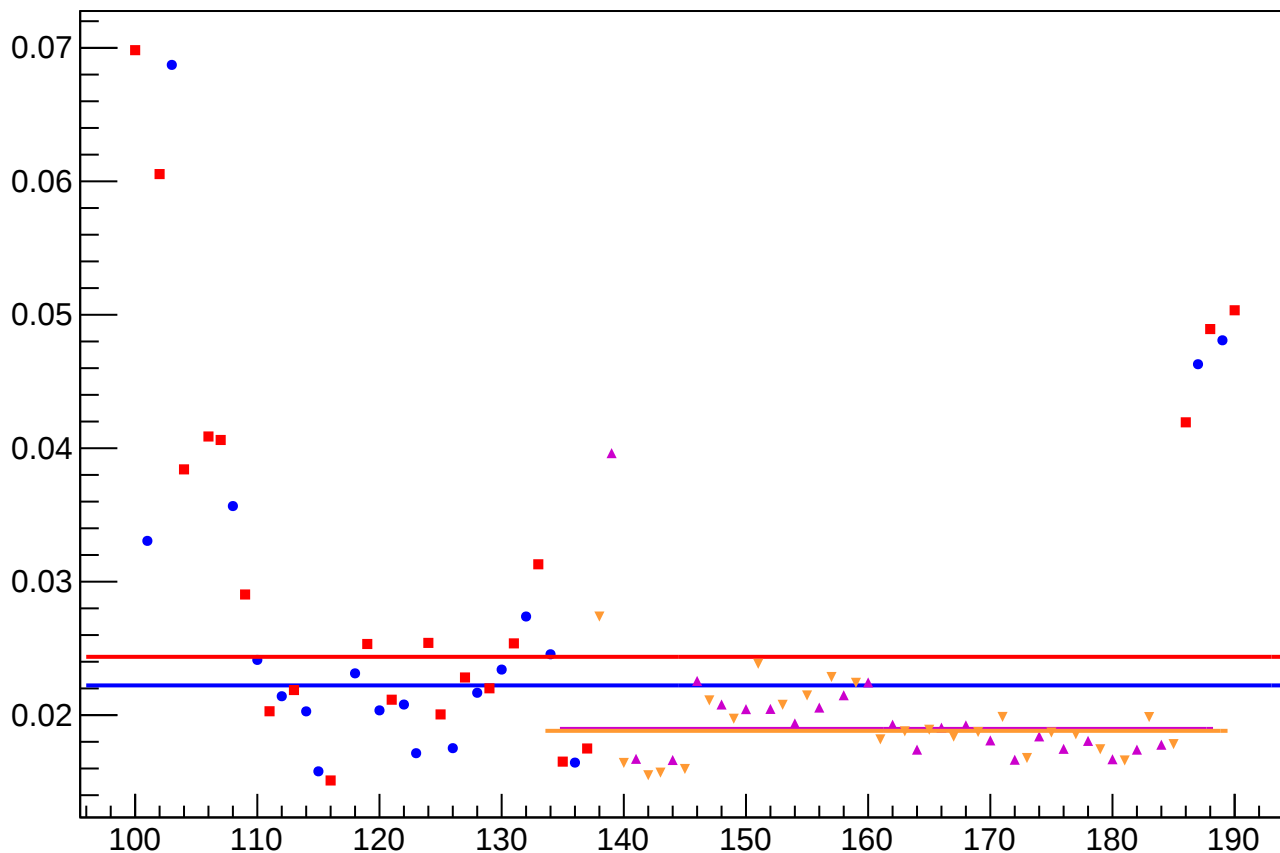
Right:  $-1.019 \pm 0.000$   $\chi^2/\text{NDF}$ : 939949303.8/40

In:  $-0.884 \pm 0.000$   $\chi^2/\text{NDF}$ : 863473788.3/41

Out:  $-0.889 \pm 0.000$   $\chi^2/\text{NDF}$ : 1011847495.9/46

All:  $-0.887 \pm 0.000$   $\chi^2/\text{NDF}$ : 1875951045.8/8

# yield\_bpm4acX\_rms vs Slug, Sign Corrected



Right In: 0.022+/-0.000  $\chi^2/\text{NDF}$ : 1327546.3/18

Left Out: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 490509.4/24

Right Out: 0.024+/-0.000  $\chi^2/\text{NDF}$ : 1924072.3/21

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

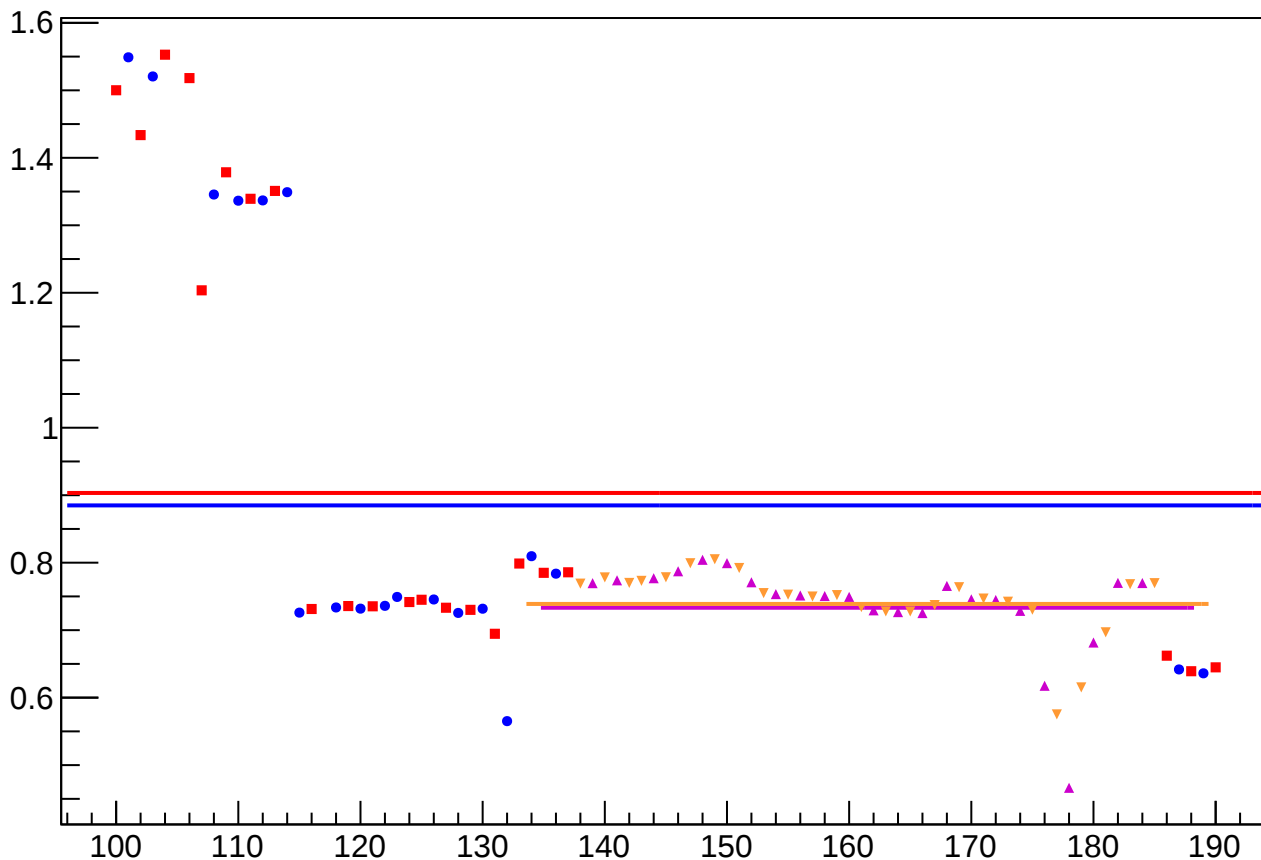
Right: 0.023+/-0.000  $\chi^2/\text{NDF}$ : 3302087.2/40

In: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 2126678.2/41

Out: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 2944868.7/46

All: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 5075318.7/88

# yield\_bpm4acY\_mean vs Slug, Sign Corrected



Right In: 0.885 $\pm$ 0.000  $\chi^2$ /NDF: 2465394481.3/18

Left Out: 0.739 $\pm$ 0.000  $\chi^2$ /NDF:333013236.5/24

Right Out: 0.903 $\pm$ 0.000  $\chi^2$ /NDF: 2628013030.6/21

Left In: 0.733 $\pm$ 0.000  $\chi^2$ /NDF:569611347.7/22

Left: 0.736 $\pm$ 0.000  $\chi^2$ /NDF: 904456968.5/47

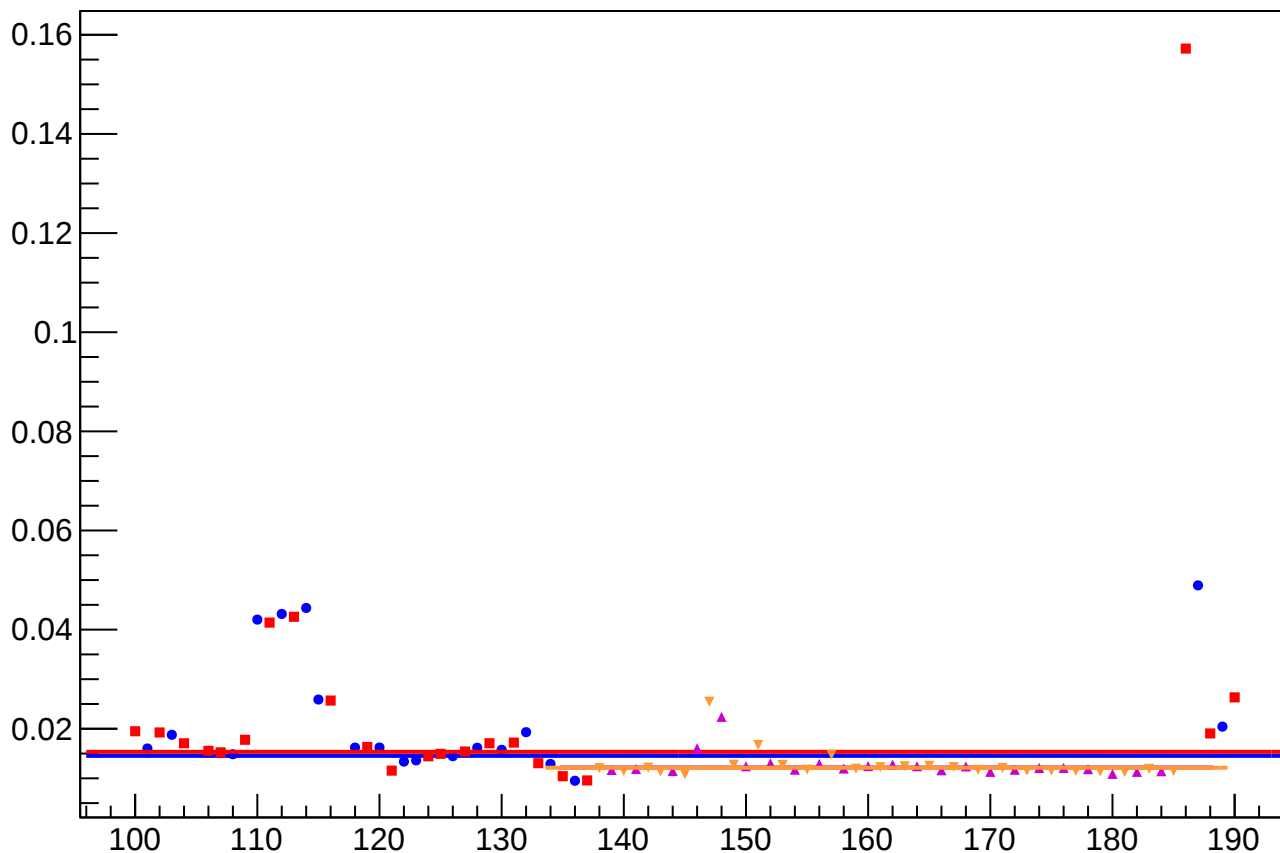
Right: 0.894 $\pm$ 0.000  $\chi^2$ /NDF: 5098400025.5/40

In: 0.764 $\pm$ 0.000  $\chi^2$ /NDF:3561313658.4/41

Out: 0.772 $\pm$ 0.000  $\chi^2$ /NDF:3609261253.8/46

All: 0.768 $\pm$ 0.000  $\chi^2$ /NDF: 7174879429.8/88

# yield\_bpm4acY\_rms vs Slug, Sign Corrected



Right In: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 1622677.4/18

Left Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 637986.2/24

Right Out: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 2033241.5/21

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

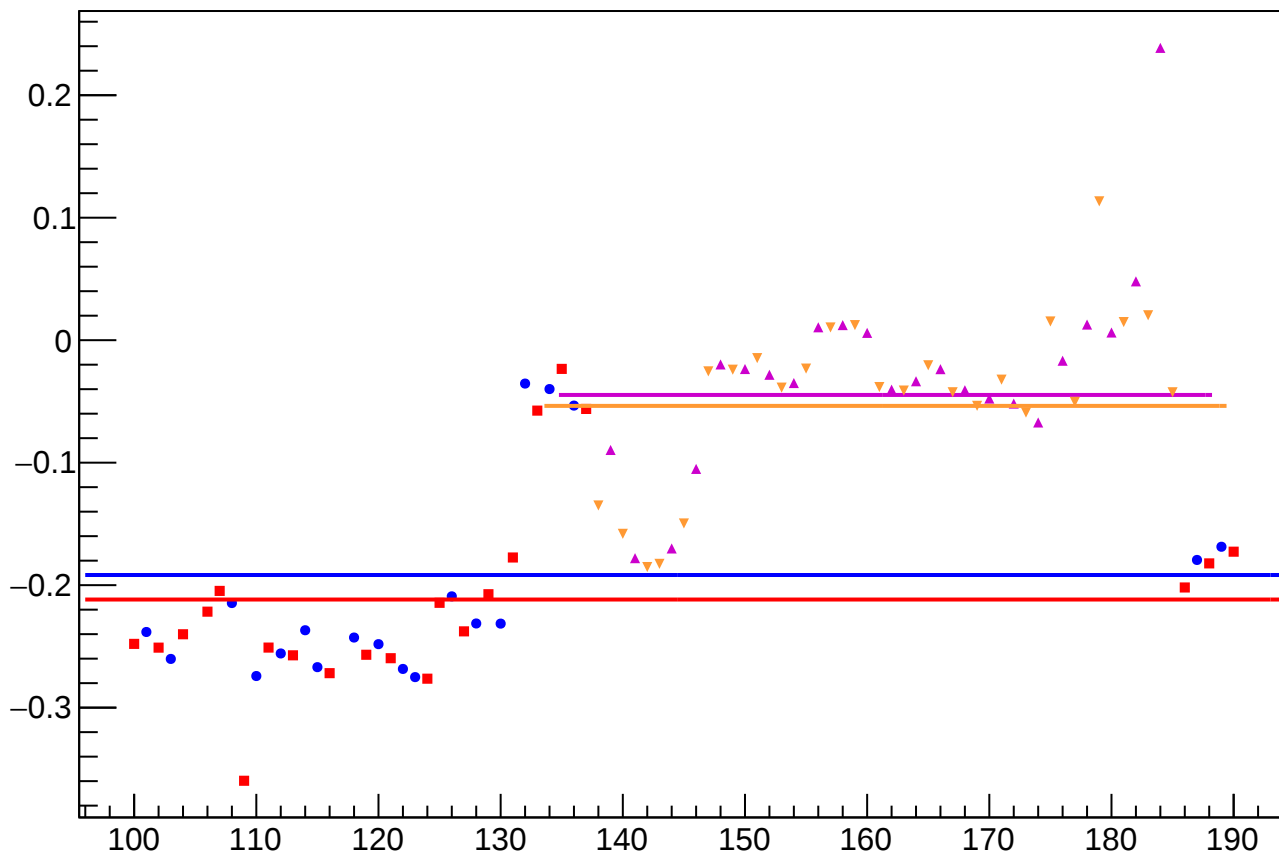
Right: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 3675332.3/40

In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 2355630.5/41

Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 3164277.9/46

All: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 5521800.9/88

# yield\_bpm4ecX\_mean vs Slug, Sign Corrected



Right In:  $-0.192 \pm 0.000$   $\chi^2/\text{NDF}: 106288927.3/18$

Left Out:  $-0.054 \pm 0.000$   $\chi^2/\text{NDF}: 167834173.6/24$

Right Out:  $-0.212 \pm 0.000$   $\chi^2/\text{NDF}: 110944322.5/21$

Left In:  $-0.045 \pm 0.000$   $\chi^2/\text{NDF}: 127192425.2/22$

Left:  $-0.049 \pm 0.000$   $\chi^2/\text{NDF}: 296566503.6/47$

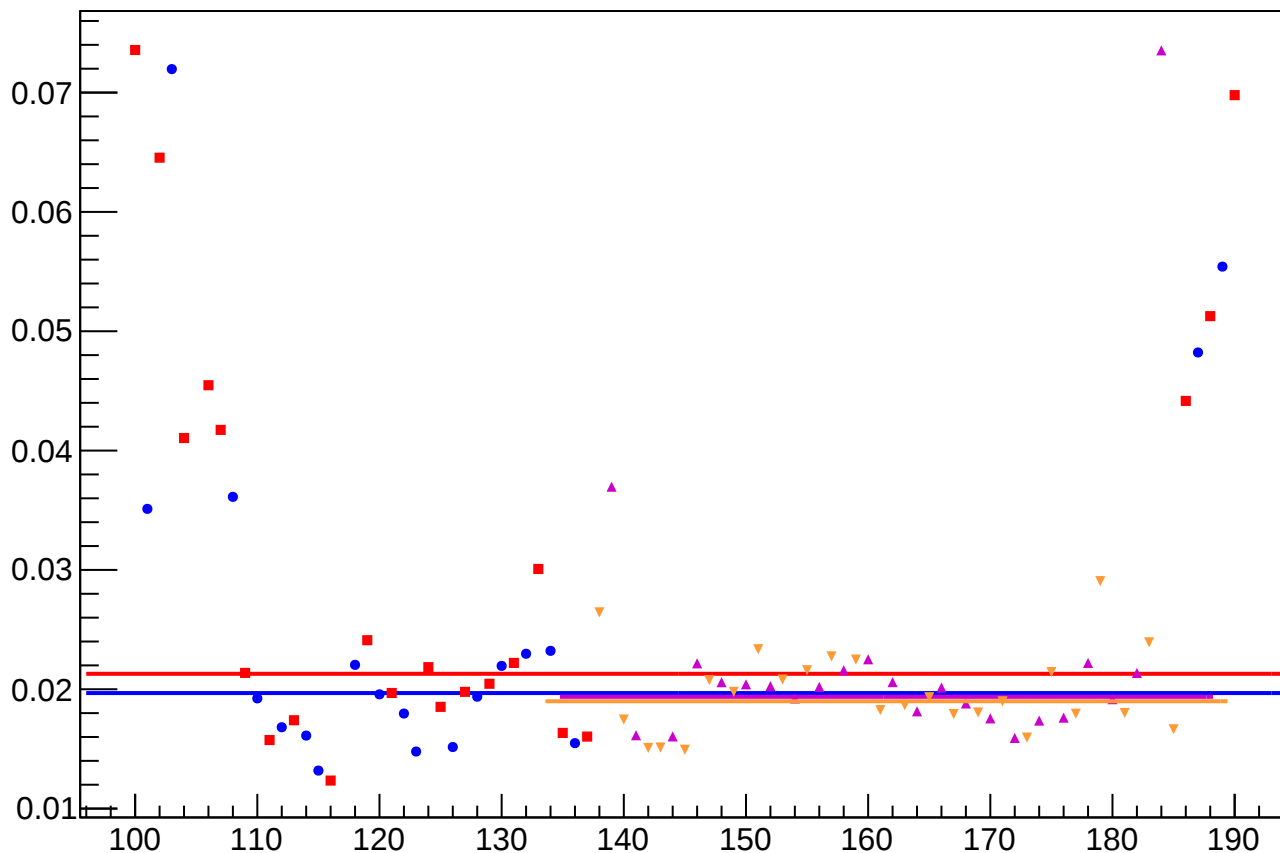
Right:  $-0.202 \pm 0.000$   $\chi^2/\text{NDF}: 219976976.1/40$

In:  $-0.085 \pm 0.000$   $\chi^2/\text{NDF}: 450947331.2/41$

Out:  $-0.093 \pm 0.000$   $\chi^2/\text{NDF}: 532413238.4/46$

All:  $-0.089 \pm 0.000$   $\chi^2/\text{NDF}: 985258691.4/88$

# yield\_bpm4ecX\_rms vs Slug, Sign Corrected



Right In: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 1663859.0/18

Left Out: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 700229.7/24

Right Out: 0.021+/-0.000  $\chi^2/\text{NDF}$ : 2591906.9/21

Left In: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 858216.8/22

Left: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 1563699.1/47

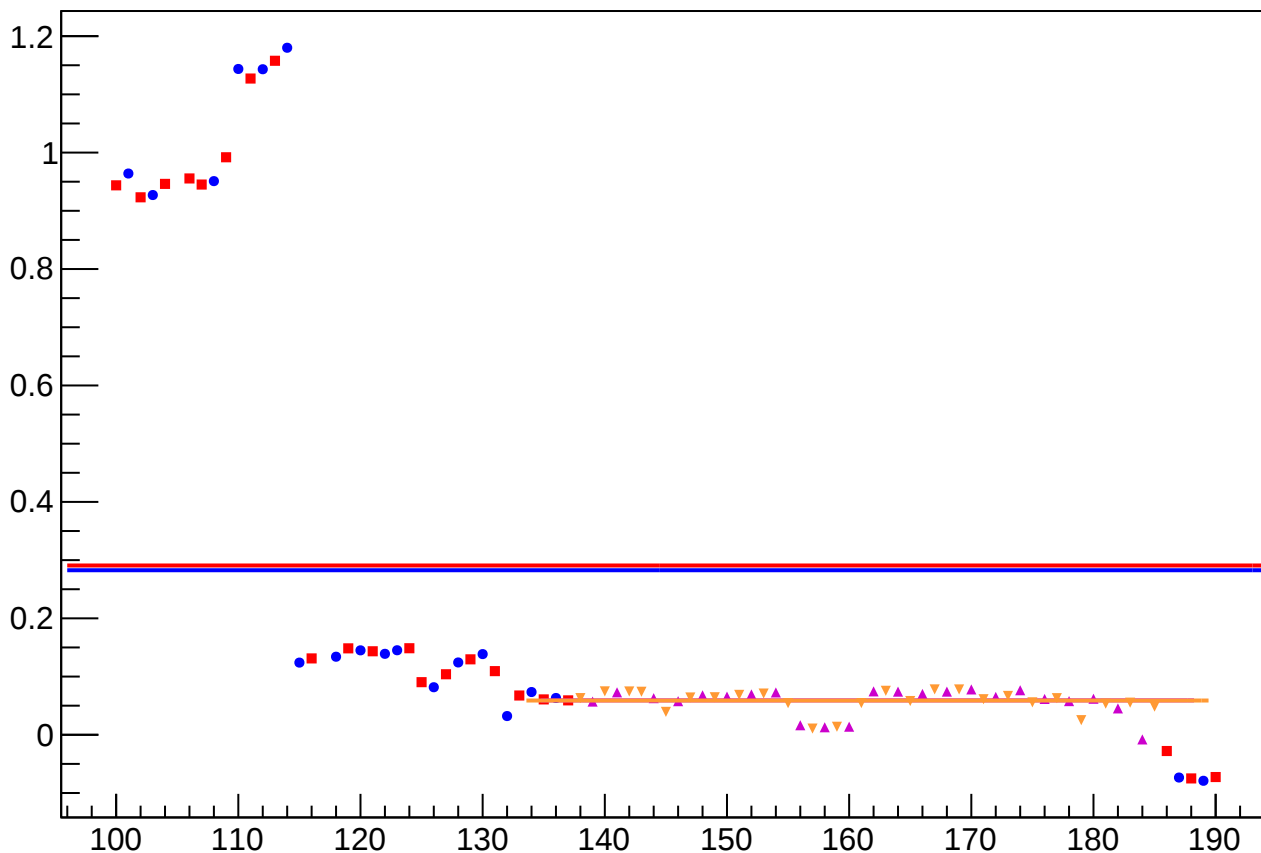
Right: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 4291446.4/40

In: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 2524087.5/41

Out: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 3399457.6/46

All: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 5924320.4/88

# yield\_bpm4ecY\_mean vs Slug, Sign Corrected



Right In: 0.283+/-0.000  $\chi^2/\text{NDF}$ : 5417364011.6/18

Left Out: 0.059+/-0.000  $\chi^2/\text{NDF}$ : 46821236.8/24

Right Out: 0.291+/-0.000  $\chi^2/\text{NDF}$ : 6227309158.1/21

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

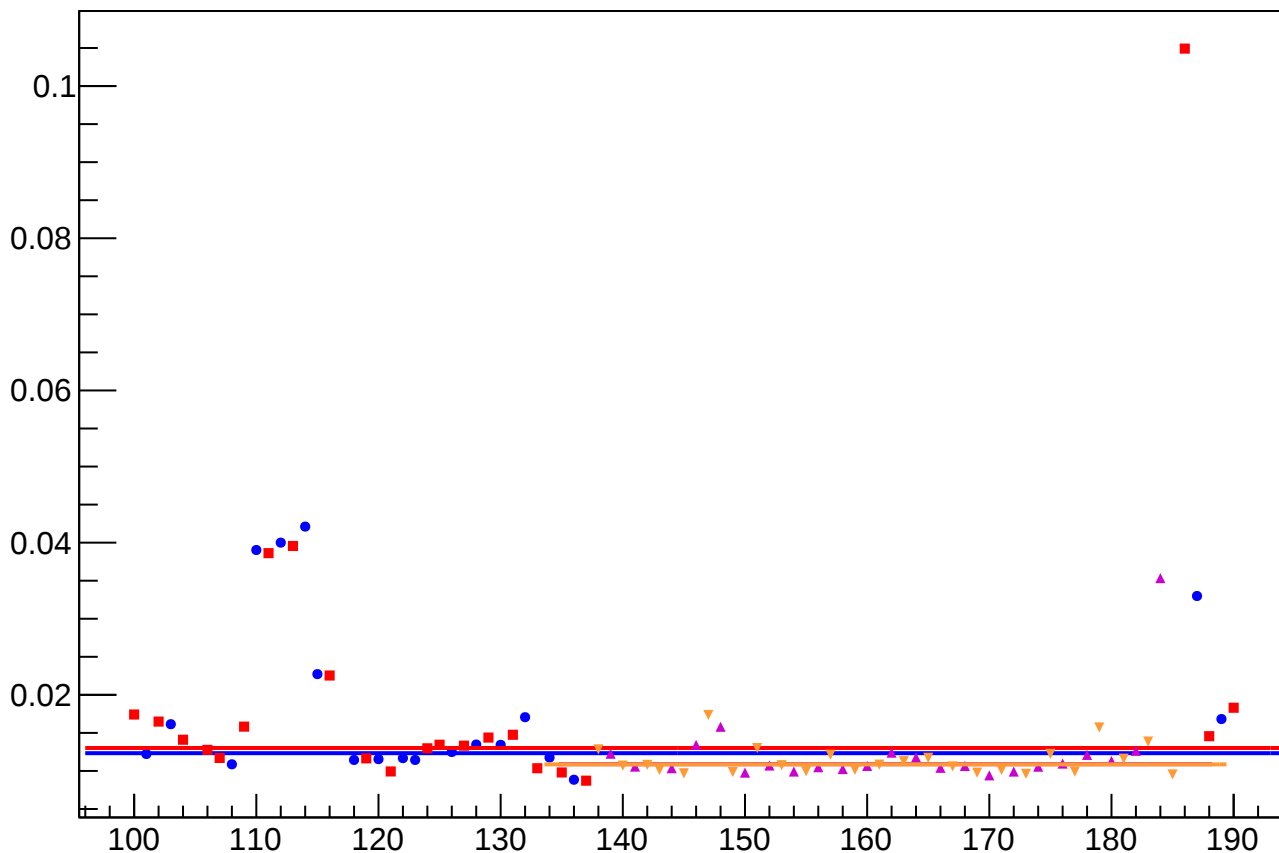
Right: 0.287+/-0.000  $\chi^2/\text{NDF}$ : 11646043954.1/40

In: 0.110+/-0.000  $\chi^2/\text{NDF}$ : 7035101725.8/41

Out: 0.111+/-0.000  $\chi^2/\text{NDF}$ : 8016966814.8/46

All: 0.111+/-0.000  $\chi^2/\text{NDF}$ : 15052104515.5/86

# yield\_bpm4ecY\_rms vs Slug, Sign Corrected



Right In: 0.012 $\pm$ 0.000  $\chi^2$ /NDF: 1457403.5/18

Left Out: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:604787.9/24

Right Out: 0.013 $\pm$ 0.000  $\chi^2$ /NDF: 1867958.1/21

Left In: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:530077.5/22

Left: 0.011 $\pm$ 0.000  $\chi^2$ /NDF: 1134994.9/47

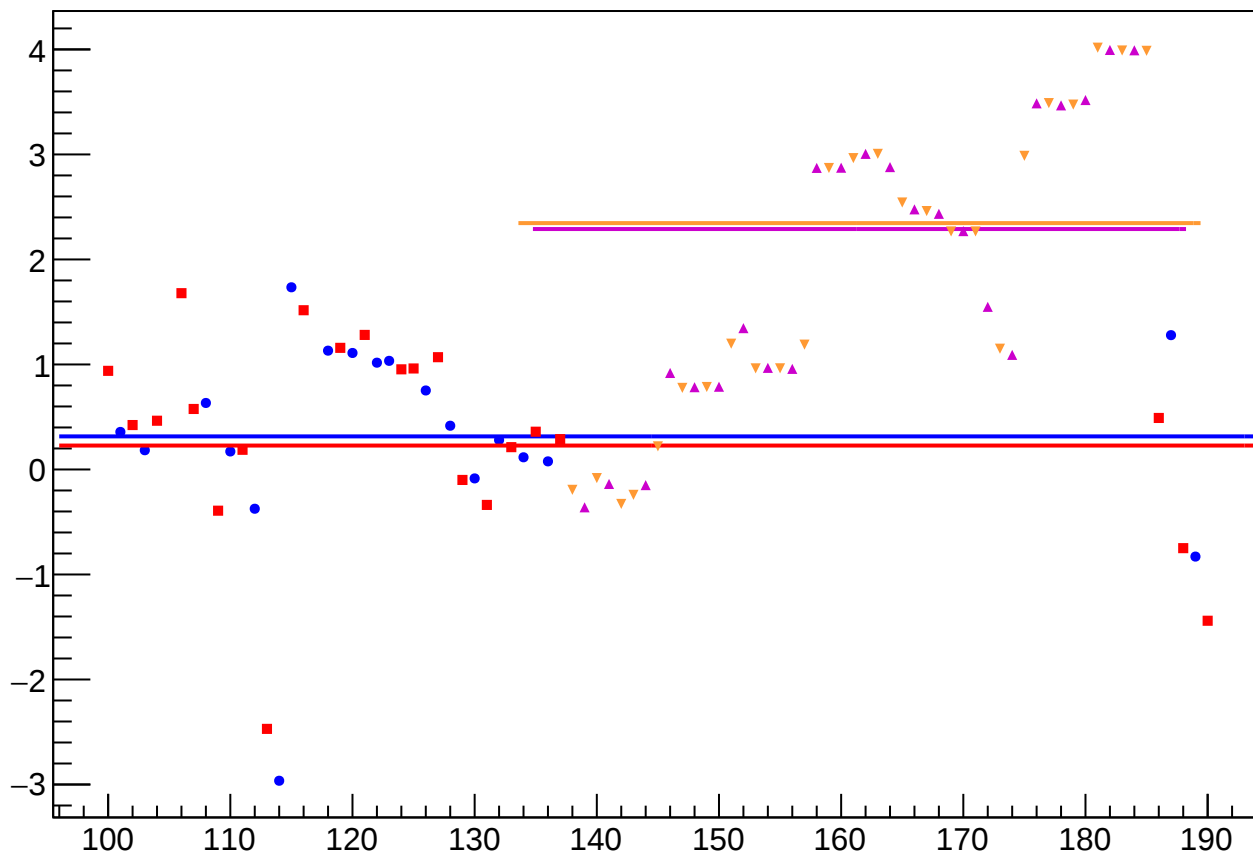
Right: 0.013 $\pm$ 0.000  $\chi^2$ /NDF: 3344673.5/40

In: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:2117395.3/41

Out: 0.011 $\pm$ 0.000  $\chi^2$ /NDF:2774592.3/46

All: 0.011 $\pm$ 0.000  $\chi^2$ /NDF: 4894770.1/88

# yield\_bpm1X\_mean vs Slug, Sign Corrected



Right In: 0.315 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 531791174.5/18

Left: 2.318 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 124438674298.4/47

Left Out: 2.346 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 63481331015.4/24

Right: 0.269 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 2183901275.6/40

Right Out: 0.228 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 1644182012.8/21

In: 2.217 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 68835030565.3/41

Left In: 2.290 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 60875537647.3/22

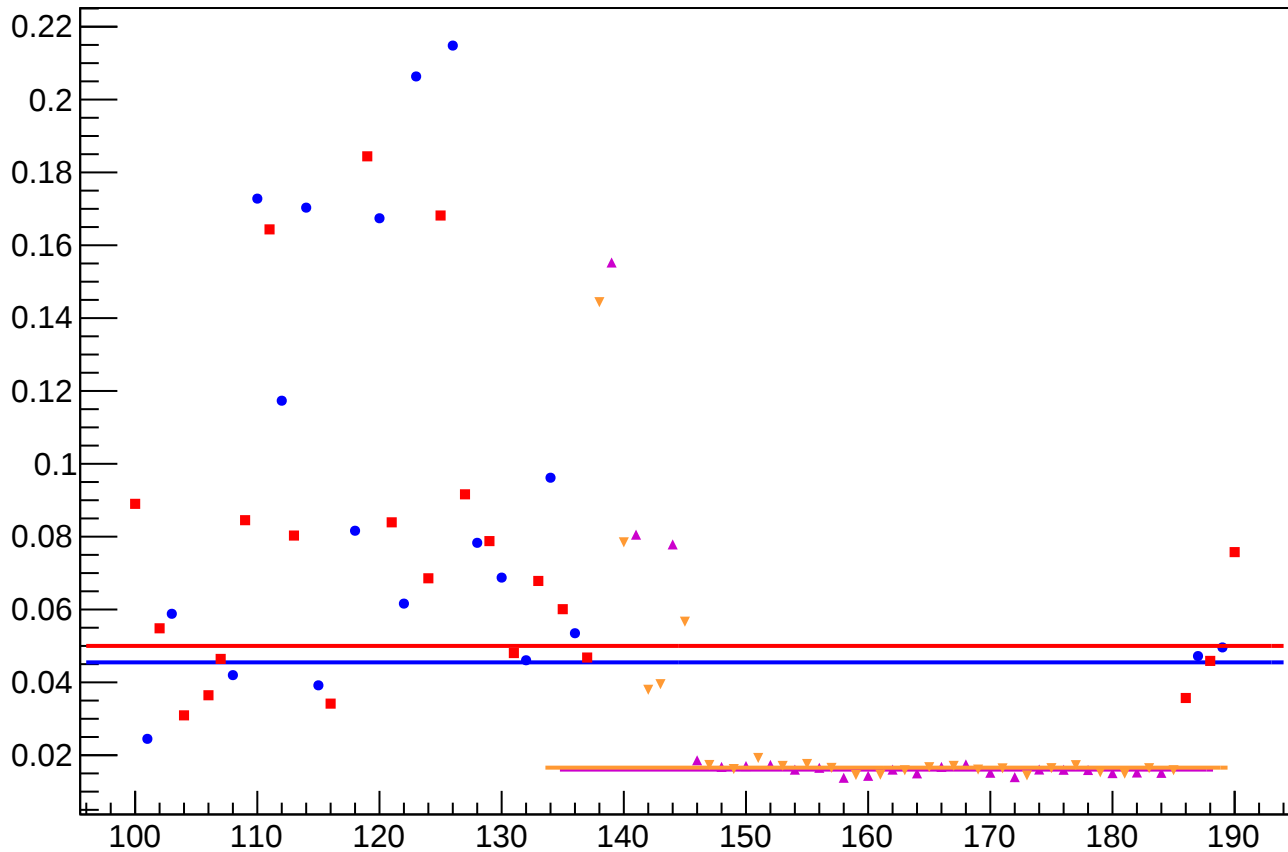
Out: 2.258 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 74571234516.1/46

All: 2.238 $\pm$ 0.000

$\chi^2/\text{NDF}$ : 143452214693.4

# yield\_bpm1X\_rms vs Slug, Sign Corrected



Right In: 0.045+/-0.000  $\chi^2/\text{NDF}$ : 2837353.1/18

Left Out: 0.017+/-0.000  $\chi^2/\text{NDF}$ : 2621162.1/24

Right Out: 0.050+/-0.000  $\chi^2/\text{NDF}$ : 2393321.6/21

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

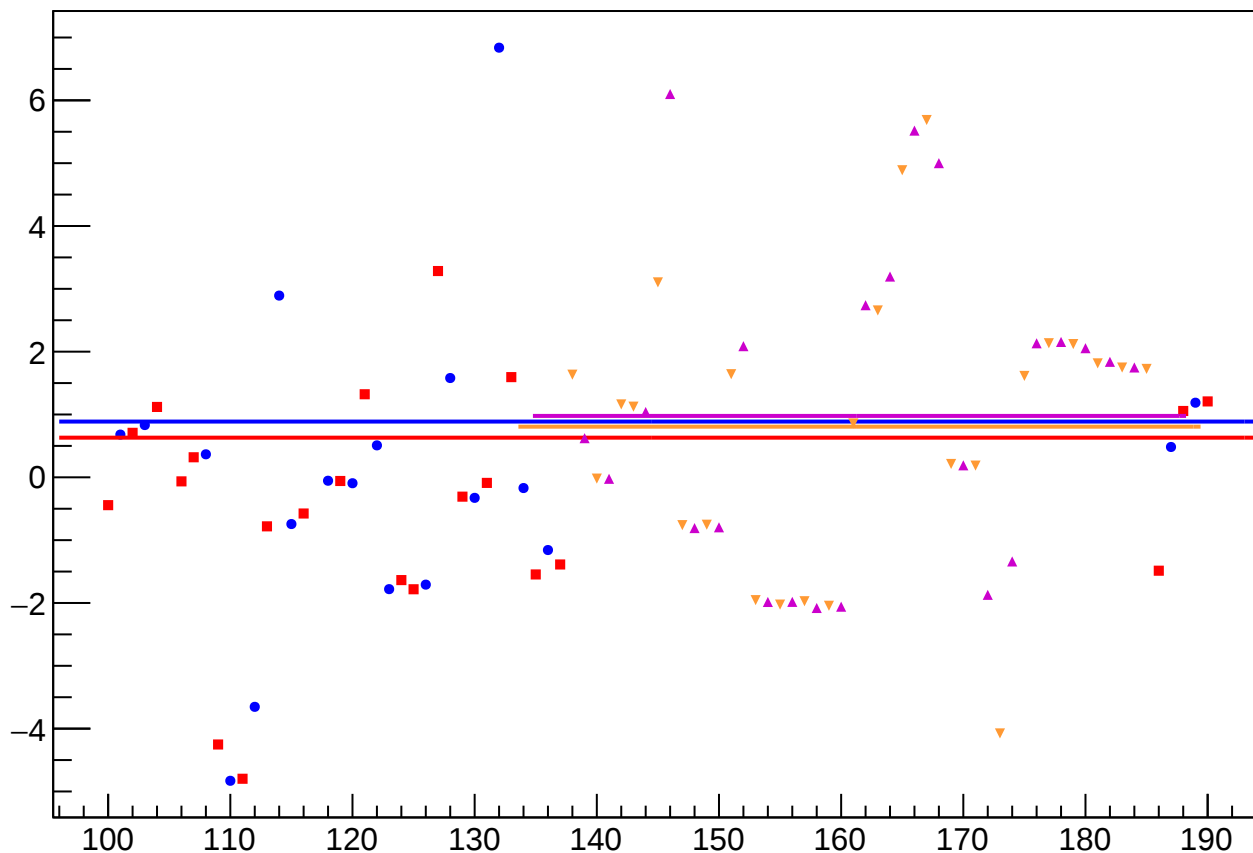
Right: 0.048+/-0.000  $\chi^2/\text{NDF}$ : 5273141.8/40

In: 0.017+/-0.000  $\chi^2/\text{NDF}$ : 8534522.4/41

Out: 0.018+/-0.000  $\chi^2/\text{NDF}$ : 9716954.3/46

All: 0.018+/-0.000  $\chi^2/\text{NDF}$ : 18288981.1/88

# yield\_bpm1Y\_mean vs Slug, Sign Corrected



Right In: 0.887 $\pm$ 0.000  $\chi^2$ /NDF: 11027125255.4/18

Left Out: 0.806 $\pm$ 0.000  $\chi^2$ /NDF: 507578952196.2/24

Right Out: 0.631 $\pm$ 0.000  $\chi^2$ /NDF: 5697082662.5/21

Left In: 0.977 $\pm$ 0.000  $\chi^2$ /NDF: 568209676597.4/22

Left: 0.892 $\pm$ 0.000  $\chi^2$ /NDF: 1077036497291.8/47

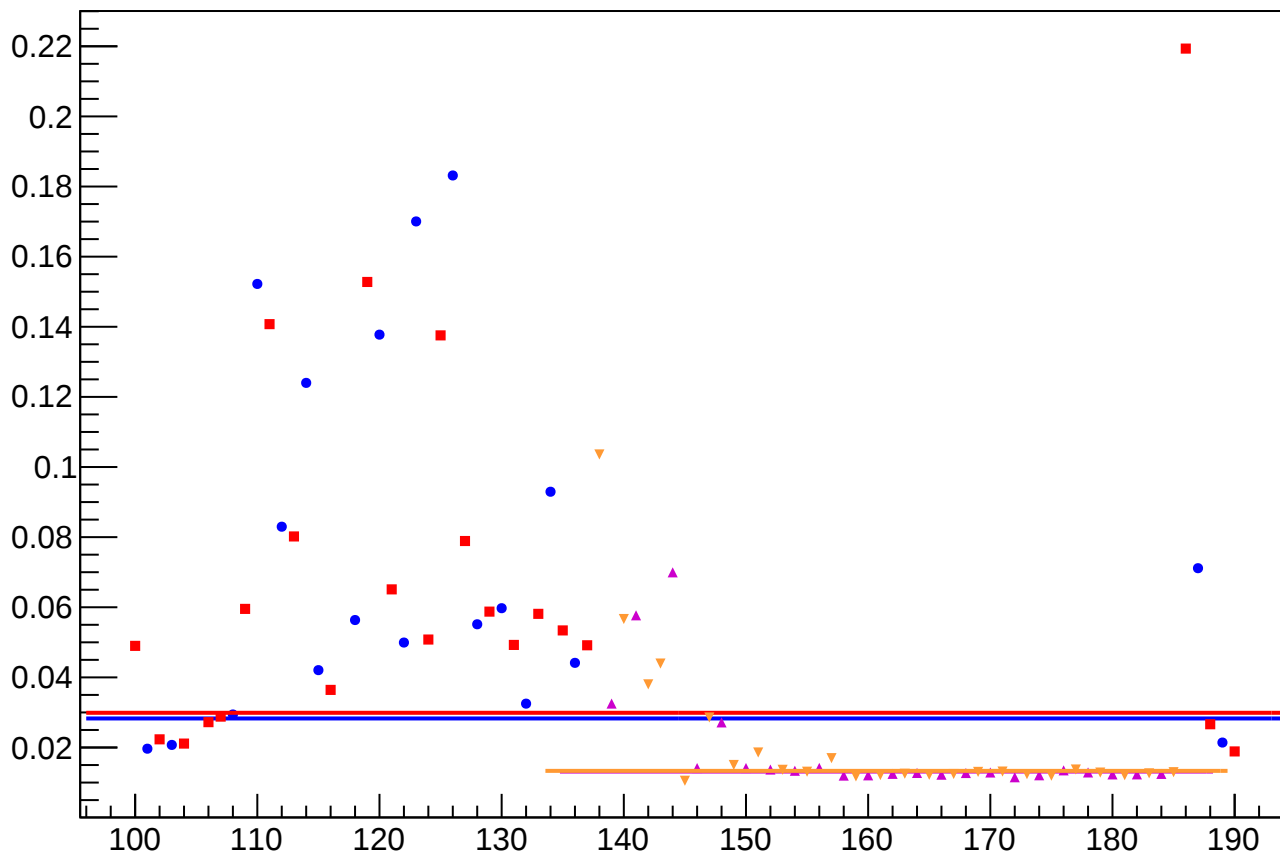
Right: 0.752 $\pm$ 0.000  $\chi^2$ /NDF: 16890159689.1/40

In: 0.973 $\pm$ 0.000  $\chi^2$ /NDF: 579273470668.9/41

Out: 0.796 $\pm$ 0.000  $\chi^2$ /NDF: 513430229668.6/46

All: 0.884 $\pm$ 0.000  $\chi^2$ /NDF: 1094113961769.

# yield\_bpm1Y\_rms vs Slug, Sign Corrected



Right In: 0.028+/-0.000  $\chi^2/\text{NDF}$ : 3222080.0/18

Left Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 2829753.9/24

Right Out: 0.030+/-0.000  $\chi^2/\text{NDF}$ : 3899731.7/21

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

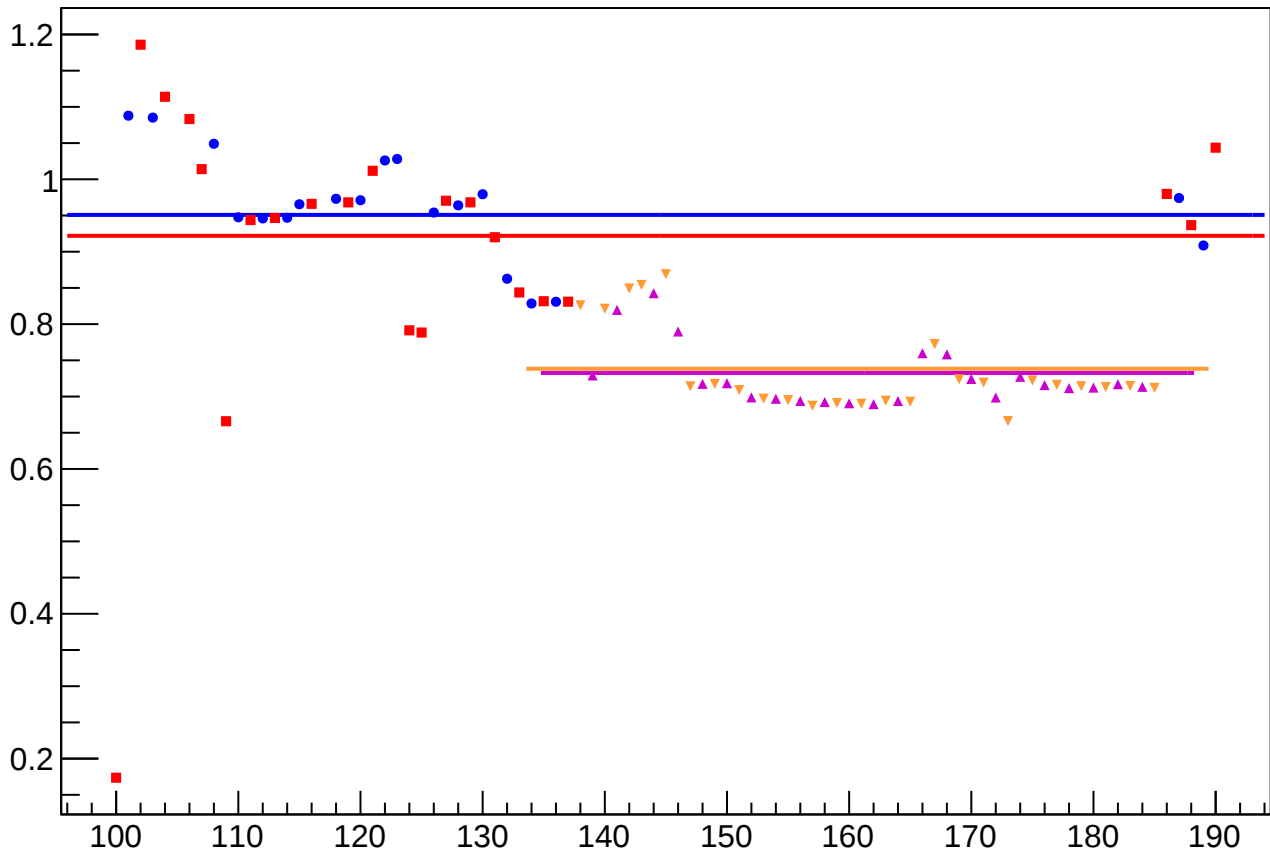
Right: 0.029+/-0.000  $\chi^2/\text{NDF}$ : 7135055.3/40

In: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 7245095.1/41

Out: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 9496436.1/46

All: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 16754550.5/88

# yield\_bpm11X\_mean vs Slug, Sign Corrected



Right In: 0.951 $\pm$ 0.000  $\chi^2$ /NDF: 175204395.5/18

Left Out: 0.738 $\pm$ 0.000  $\chi^2$ /NDF: 310195180.4/24

Right Out: 0.922 $\pm$ 0.000  $\chi^2$ /NDF: 381304817.4/21

Left In: 0.733 $\pm$ 0.000  $\chi^2$ /NDF: 170102394.7/22

Left: 0.736 $\pm$ 0.000  $\chi^2$ /NDF: 481708989.2/47

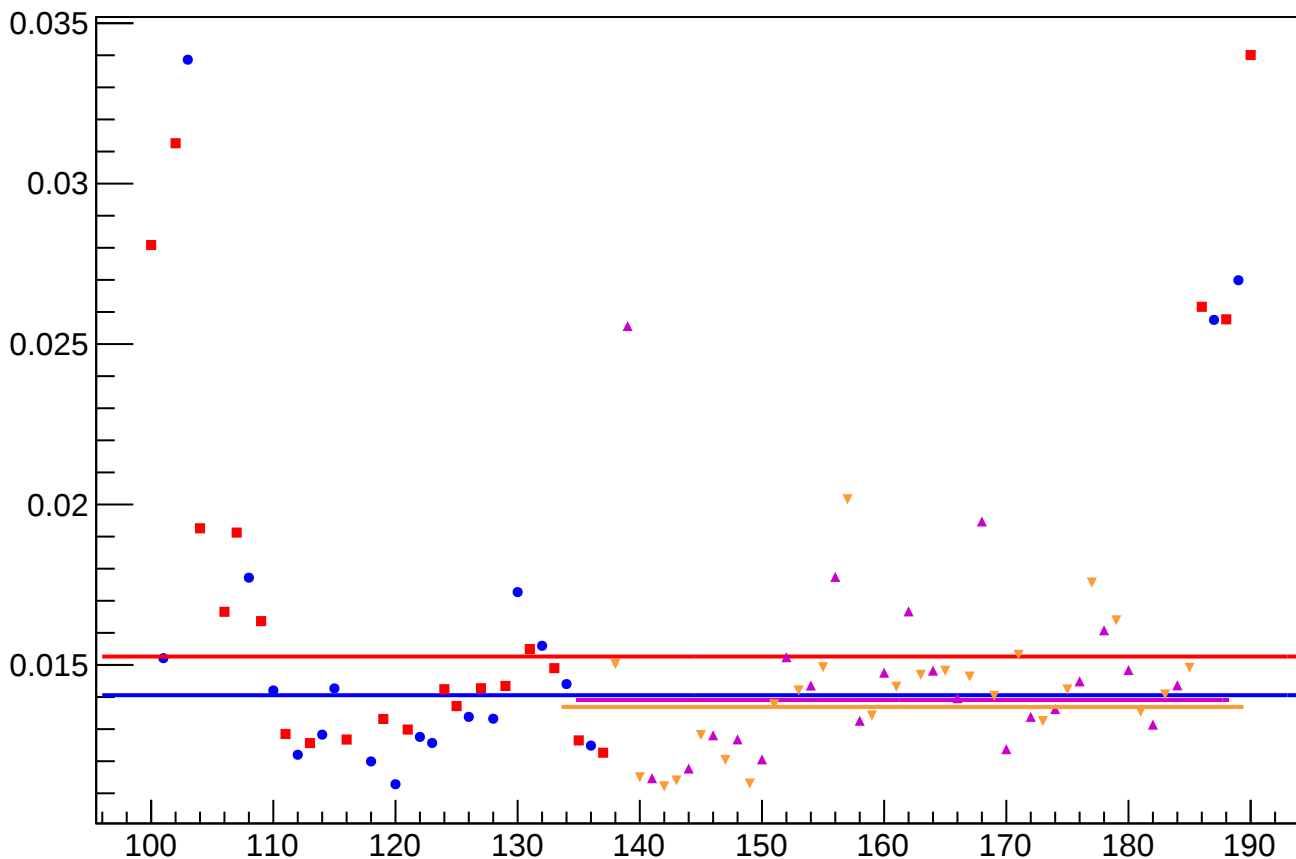
Right: 0.936 $\pm$ 0.000  $\chi^2$ /NDF: 569664240.2/40

In: 0.795 $\pm$ 0.000  $\chi^2$ /NDF: 1425608579.6/41

Out: 0.787 $\pm$ 0.000  $\chi^2$ /NDF: 1466719408.3/46

All: 0.791 $\pm$ 0.000  $\chi^2$ /NDF: 2895316071.4/88

# yield\_bpm11X\_rms vs Slug, Sign Corrected



Right In: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 821353.3/18

Left Out: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 528480.6/24

Right Out: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 1164937.5/21

Left In: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 768161.9/22

Left: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 1300553.4/47

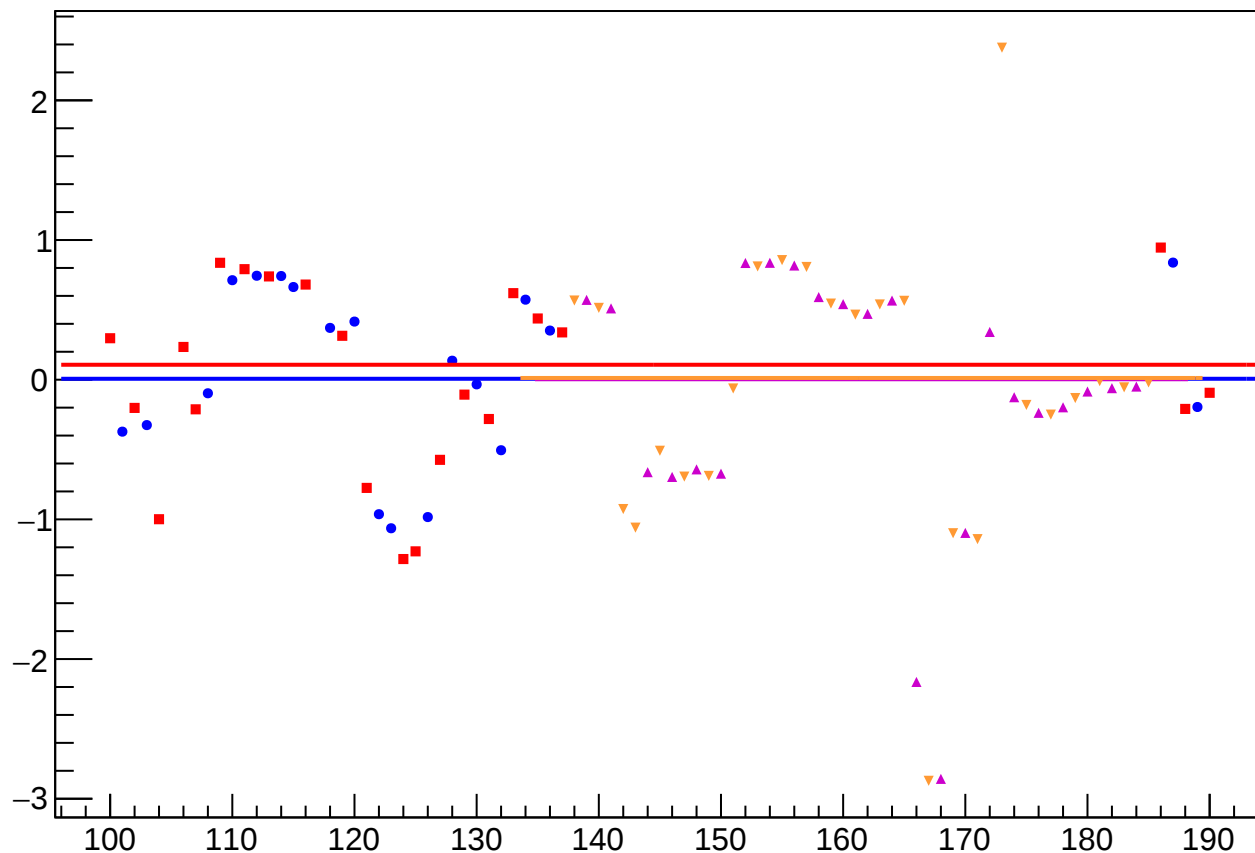
Right: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 2032084.9/40

In: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 1590529.4/41

Out: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 1807149.6/46

All: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 3400589.4/88

# yield\_bpm11Y\_mean vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 6457076370.9/18

Left Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 96383858927.1/24

Right Out: 0.107+/-0.000  $\chi^2/\text{NDF}$ : 13150829466.4/21

Left In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 78826489573.0/22

Left: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 175214894006.3/47

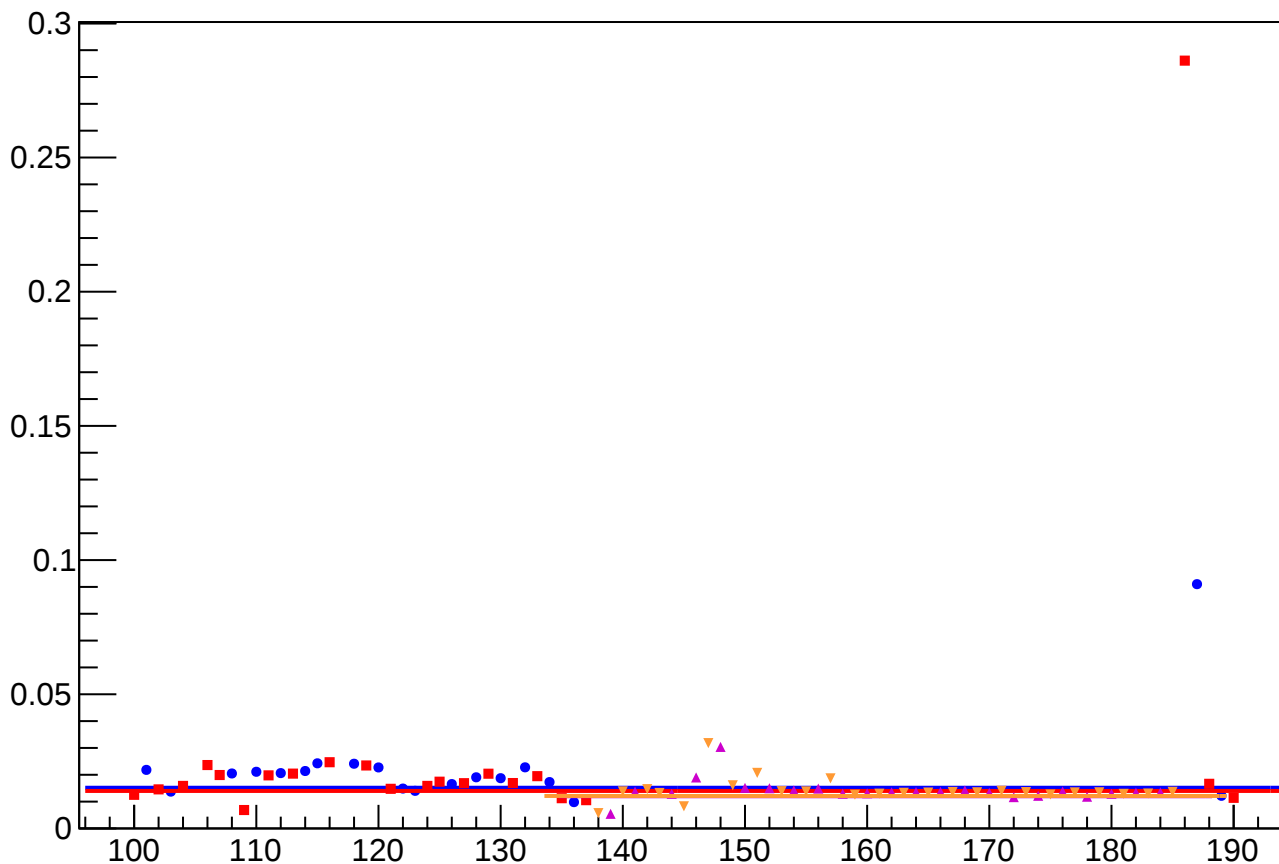
Right: 0.063+/-0.000  $\chi^2/\text{NDF}$ : 19755611075.7/40

In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 85283815441.5/41

Out: 0.034+/-0.000  $\chi^2/\text{NDF}$ : 109762922640.5/46

All: 0.020+/-0.000  $\chi^2/\text{NDF}$ : 195110720297.9

# yield\_bpm11Y\_rms vs Slug, Sign Corrected



Right In: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 1404426.2/18

Left Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 3105238.9/24

Right Out: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 2255683.0/21

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

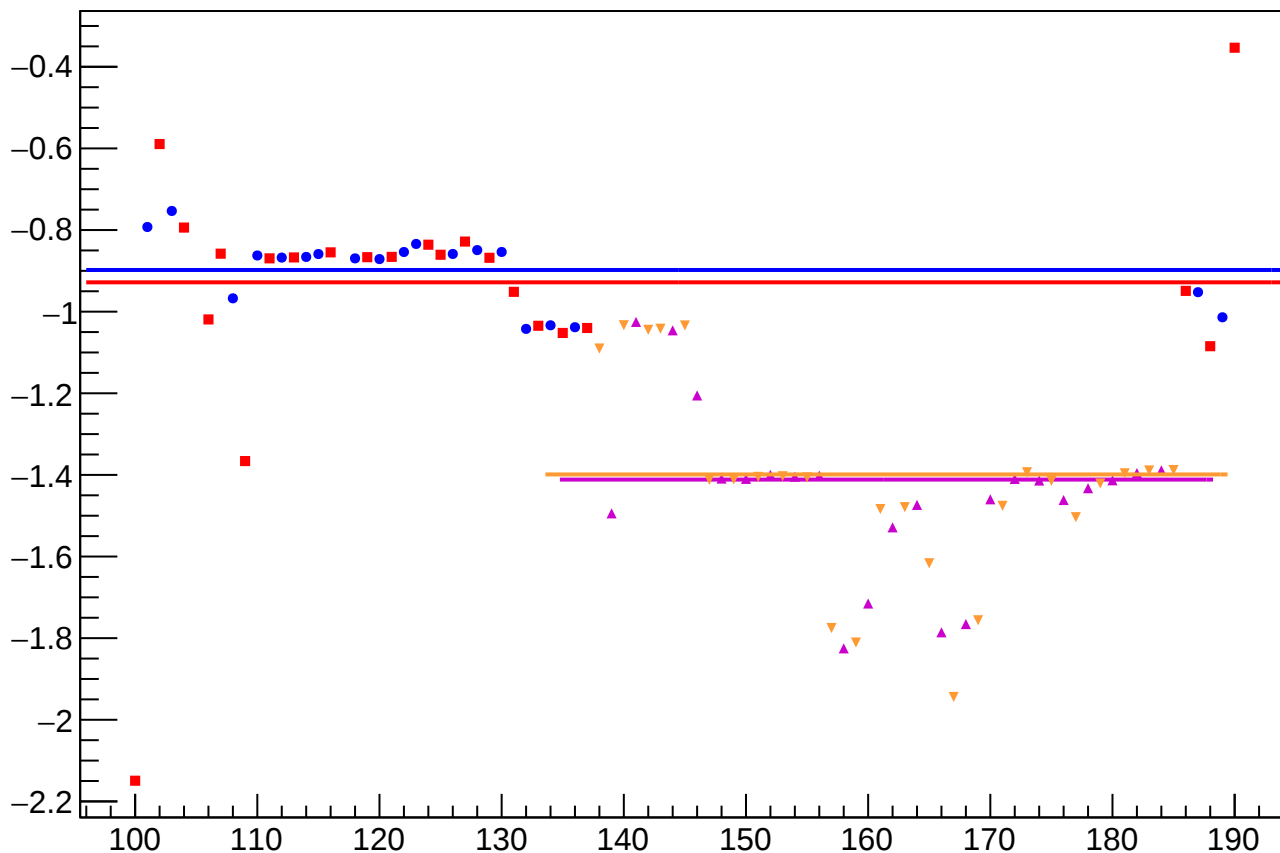
Right: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 3701746.3/40

In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 4829349.9/41

Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 5539390.3/46

All: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 10369833.3/88

# yield\_bpm12X\_mean vs Slug, Sign Corrected



Right In:  $-0.898 \pm 0.000$   $\chi^2/\text{NDF}: 39714991.8/18$

Left Out:  $-1.399 \pm 0.000$   $\chi^2/\text{NDF}: 738251911.1/24$

Right Out:  $-0.928 \pm 0.000$   $\chi^2/\text{NDF}: 151169333.0/21$

Left In:  $-1.411 \pm 0.000$   $\chi^2/\text{NDF}: 512547995.0/22$

Left:  $-1.405 \pm 0.000$   $\chi^2/\text{NDF}: 1251791467.1/47$

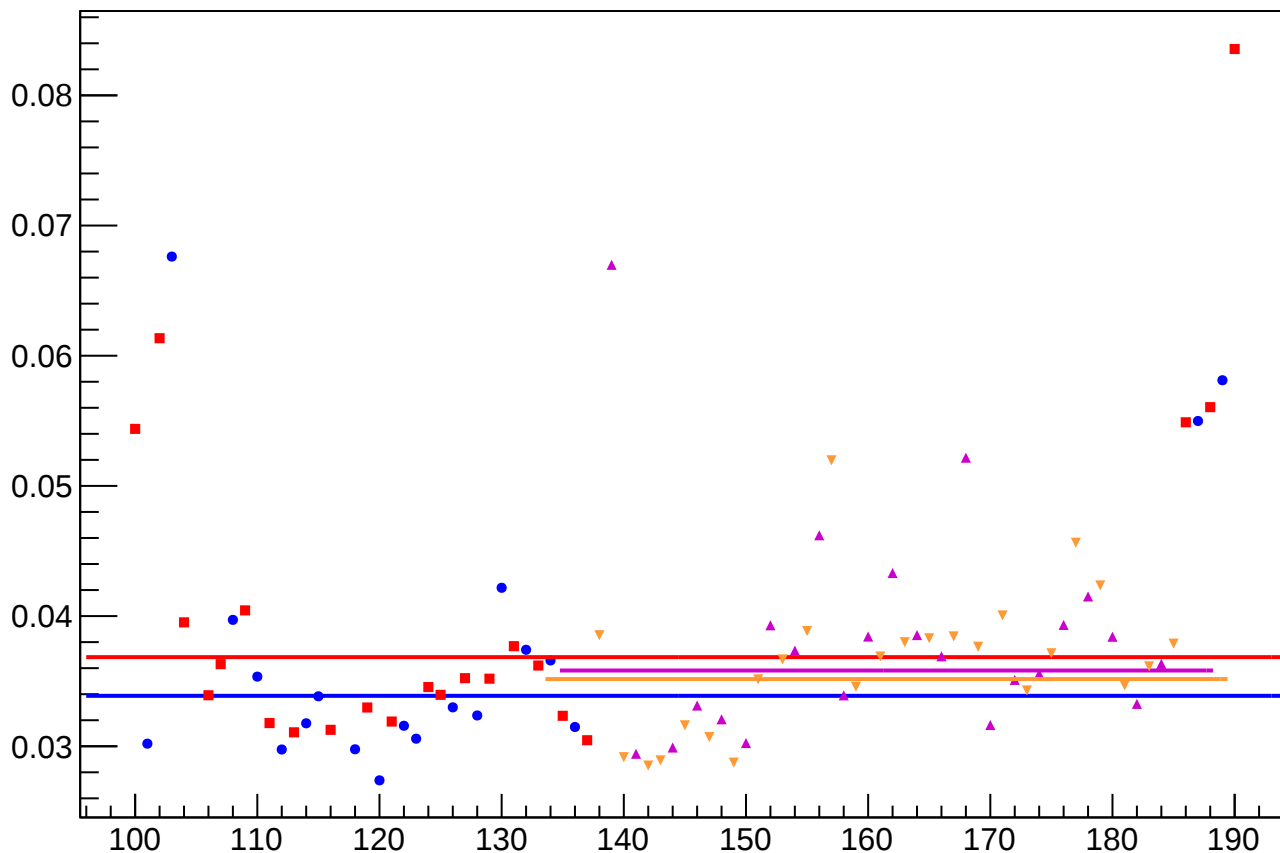
Right:  $-0.913 \pm 0.000$   $\chi^2/\text{NDF}: 193404280.0/40$

In:  $-1.249 \pm 0.000$   $\chi^2/\text{NDF}: 1547660740.9/41$

Out:  $-1.259 \pm 0.000$   $\chi^2/\text{NDF}: 1742541898.2/46$

All:  $-1.254 \pm 0.000$   $\chi^2/\text{NDF}: 3291166973.1/8$

# yield\_bpm12X\_rms vs Slug, Sign Corrected



Right In: 0.034 $\pm$ 0.000  $\chi^2$ /NDF: 613329.9/18

Left Out: 0.035 $\pm$ 0.000  $\chi^2$ /NDF:595219.5/24

Right Out: 0.037 $\pm$ 0.000  $\chi^2$ /NDF: 804177.3/21

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

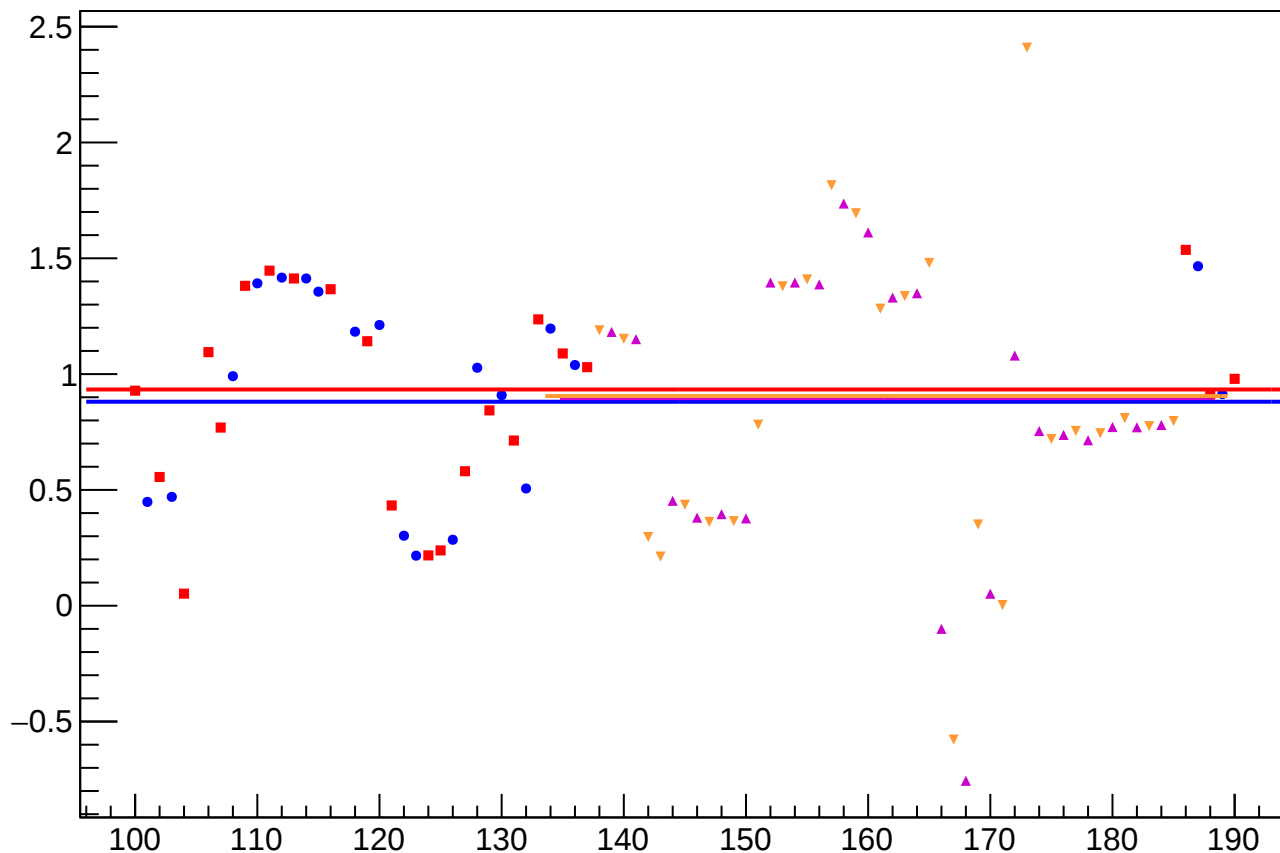
Right: 0.035 $\pm$ 0.000  $\chi^2$ /NDF: 1466093.5/40

In: 0.035 $\pm$ 0.000  $\chi^2$ /NDF:1506038.6/41

Out: 0.036 $\pm$ 0.000  $\chi^2$ /NDF:1421265.4/46

All: 0.035 $\pm$ 0.000  $\chi^2$ /NDF: 2931073.8/88

# yield\_bpm12Y\_mean vs Slug, Sign Corrected



Right In: 0.881 $\pm$ 0.000  $\chi^2$ /NDF: 6511289589.0/18

Left Out: 0.905 $\pm$ 0.000  $\chi^2$ /NDF: 84265726513.8/24

Right Out: 0.934 $\pm$ 0.000  $\chi^2$ /NDF: 9979546448.9/21

Left In: 0.896 $\pm$ 0.000  $\chi^2$ /NDF: 66594200889.6/22

Left: 0.901 $\pm$ 0.000  $\chi^2$ /NDF: 150868618084.6/47

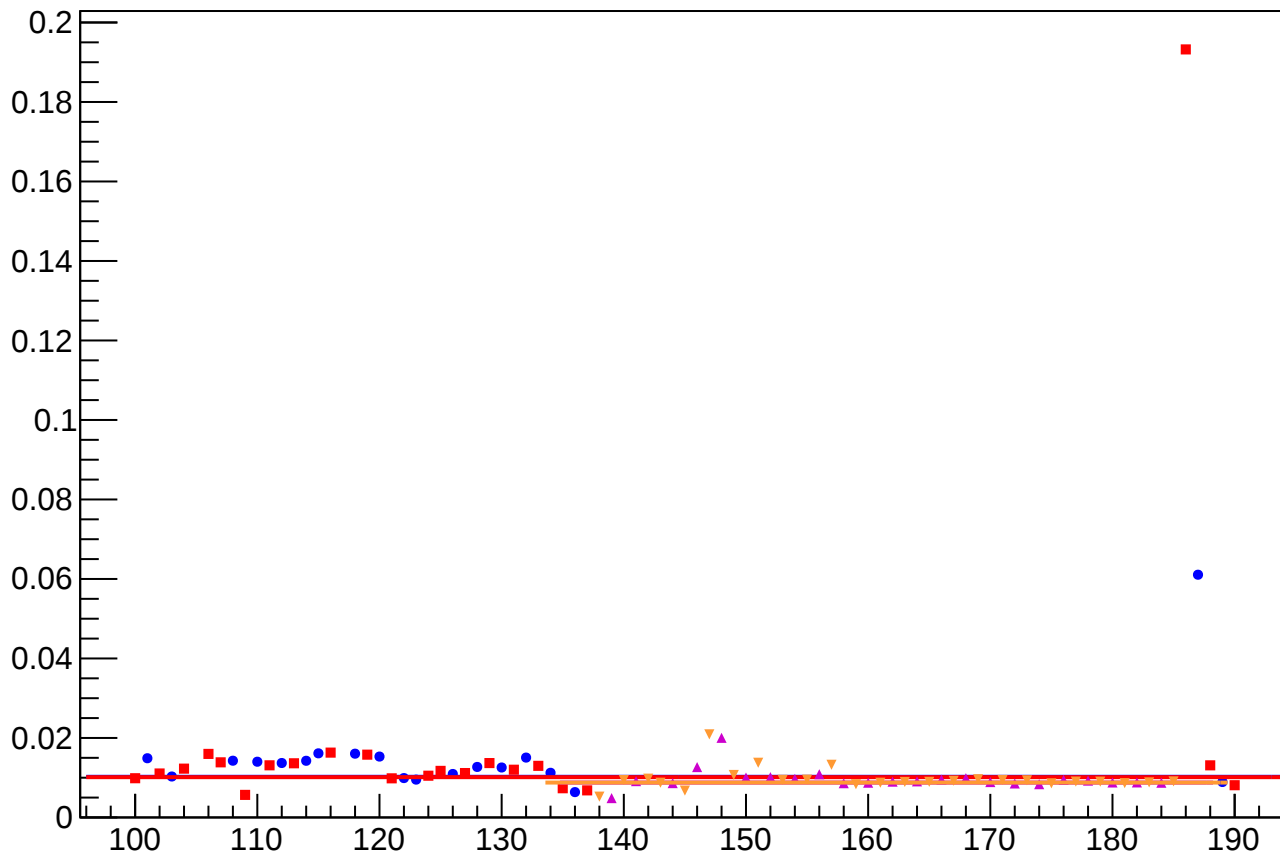
Right: 0.909 $\pm$ 0.000  $\chi^2$ /NDF: 16576839490.8/40

In: 0.893 $\pm$ 0.000  $\chi^2$ /NDF: 73116299180.6/41

Out: 0.912 $\pm$ 0.000  $\chi^2$ /NDF: 94286015120.6/46

All: 0.903 $\pm$ 0.000  $\chi^2$ /NDF: 167451715484.1

# yield\_bpm12Y\_rms vs Slug, Sign Corrected



Right In: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 1440917.2/18

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1697568.1/24

Right Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 1912228.3/21

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

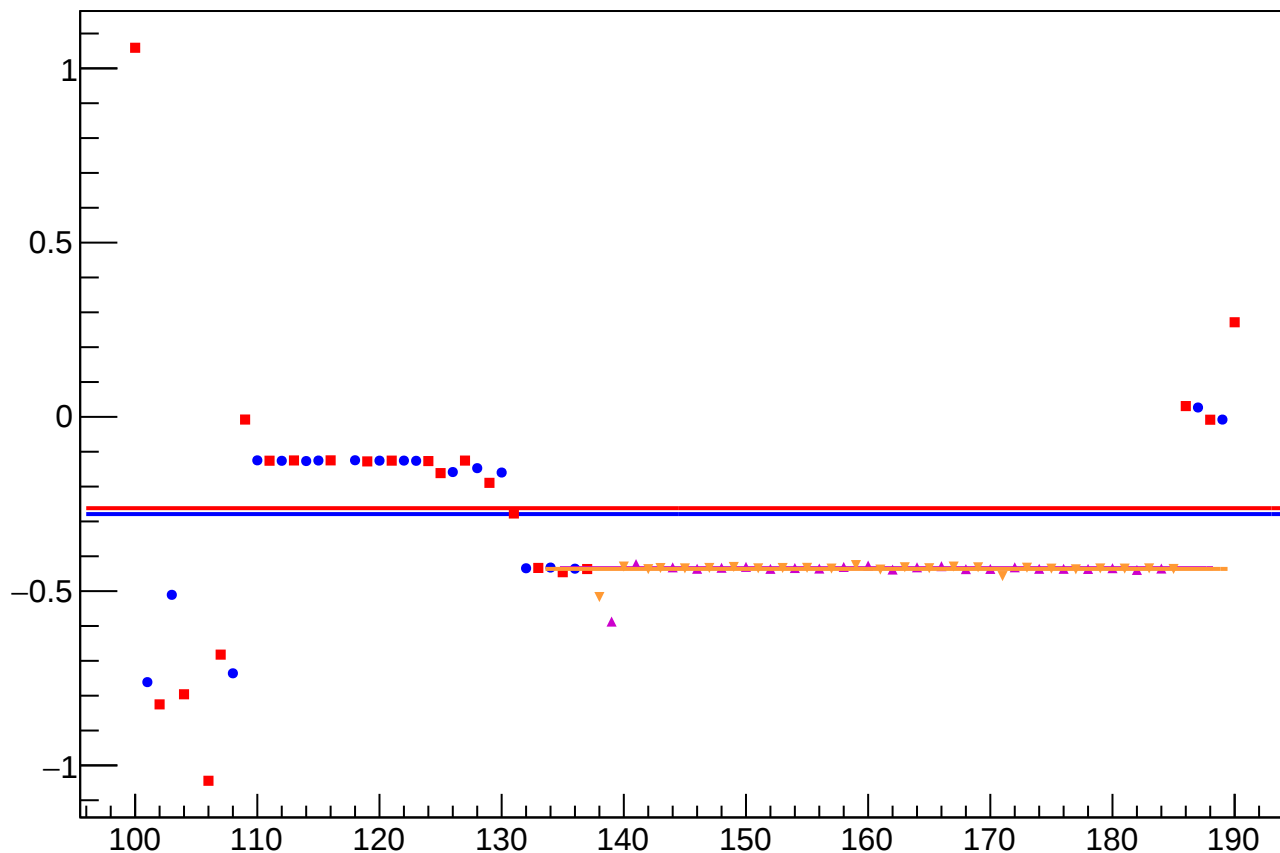
Right: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 3353672.5/40

In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 3238537.9/41

Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 3796058.2/46

All: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 7034596.7/88

# yield\_bpm16X\_mean vs Slug, Sign Corrected



Right In: -0.279+/-0.000  $\chi^2/\text{NDF}$ : 925286386.0/18

Left Out: -0.436+/-0.000  $\chi^2/\text{NDF}$ : 28774660.0/24

Right Out: -0.262+/-0.000  $\chi^2/\text{NDF}$ : 1028660846.4/21

Left In: -0.434+/-0.000  $\chi^2/\text{NDF}$ : 23984173.0/22

Left: -0.435+/-0.000  $\chi^2/\text{NDF}$ : 53122221.7/47

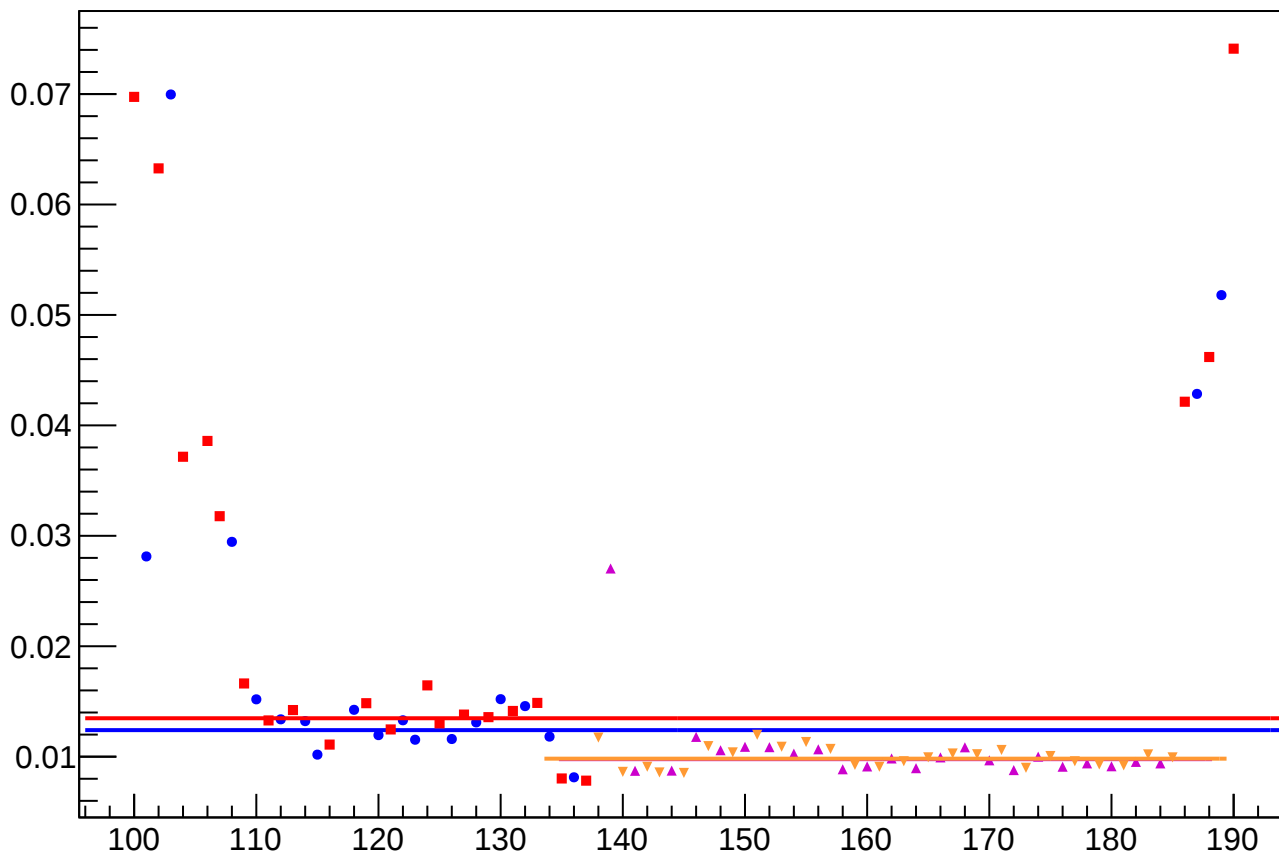
Right: -0.271+/-0.000  $\chi^2/\text{NDF}$ : 1958445042.4/40

In: -0.407+/-0.000  $\chi^2/\text{NDF}$ : 1589194179.7/41

Out: -0.409+/-0.000  $\chi^2/\text{NDF}$ : 1835543973.4/46

All: -0.408+/-0.000  $\chi^2/\text{NDF}$ : 3425003167.5/8

# yield\_bpm16X\_rms vs Slug, Sign Corrected



Right In: 0.012 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 2378847.2/18

Left Out: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 269242.6/24

Right Out: 0.013 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 3625525.1/21

Left In: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 747550.0/22

Left: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 1017115.3/47

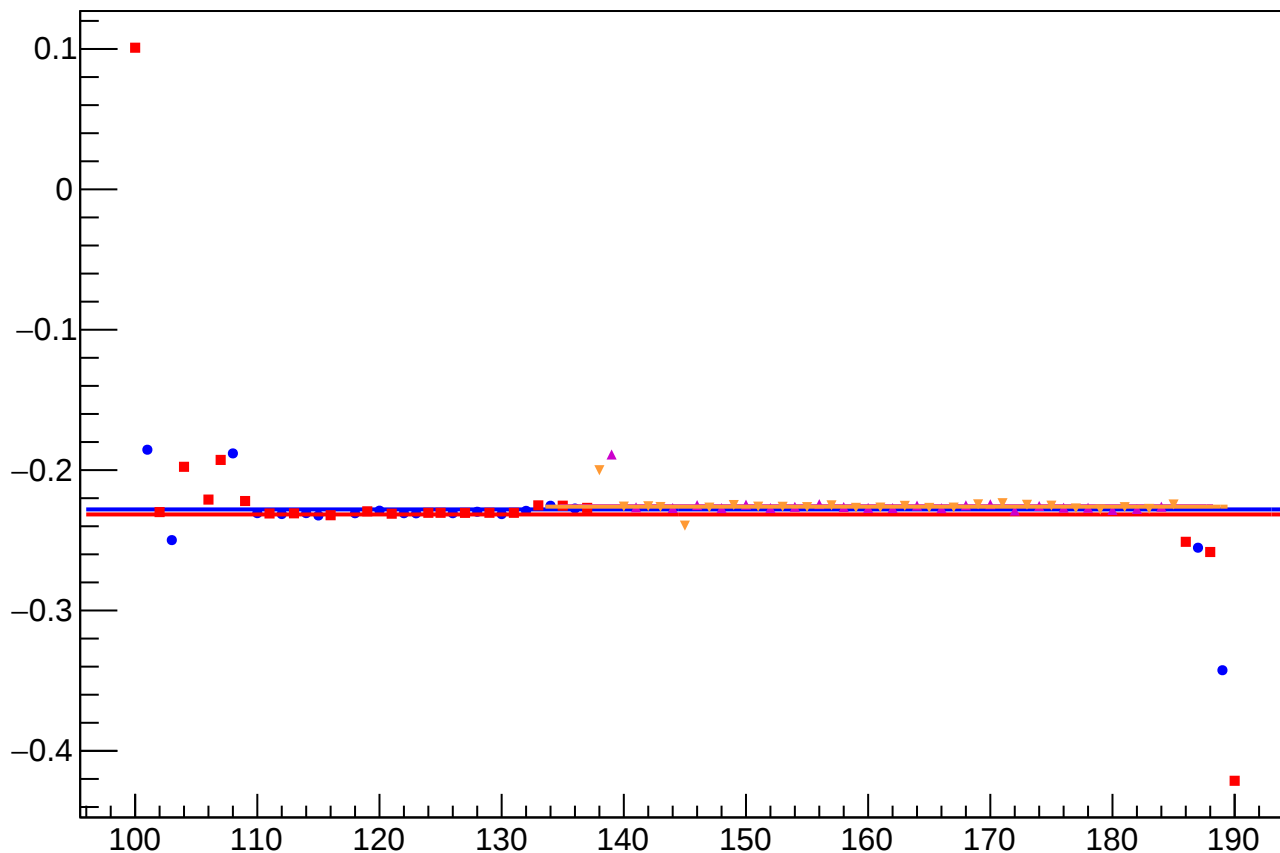
Right: 0.013 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 6040564.8/40

In: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 3494186.0/41

Out: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 4581292.9/46

All: 0.010 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 8080615.3/88

# yield\_bpm16Y\_mean vs Slug, Sign Corrected



Right In:  $-0.228 \pm 0.000$   $\chi^2/\text{NDF}: 207593460.2/18$

Left Out:  $-0.226 \pm 0.000$   $\chi^2/\text{NDF}: 21205667.4/24$

Right Out:  $-0.232 \pm 0.000$   $\chi^2/\text{NDF}: 532622617.2/21$

Left In:  $-0.226 \pm 0.000$   $\chi^2/\text{NDF}: 15245251.1/22$

Left:  $-0.226 \pm 0.000$   $\chi^2/\text{NDF}: 36480793.2/47$

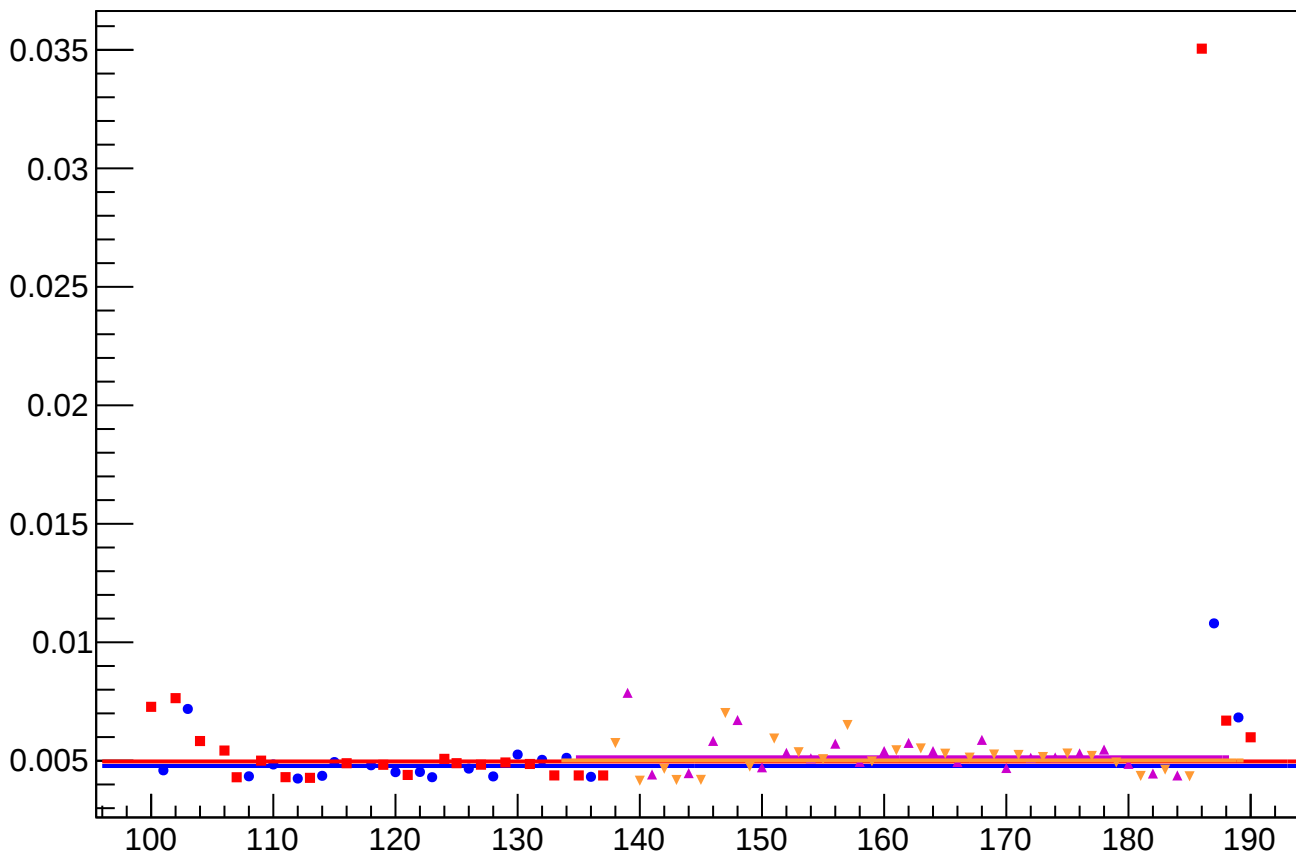
Right:  $-0.230 \pm 0.000$   $\chi^2/\text{NDF}: 742117791.4/40$

In:  $-0.226 \pm 0.000$   $\chi^2/\text{NDF}: 223845011.8/41$

Out:  $-0.228 \pm 0.000$   $\chi^2/\text{NDF}: 560356022.2/46$

All:  $-0.227 \pm 0.000$   $\chi^2/\text{NDF}: 784997583.7/88$

# yield\_bpm16Y\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 353941.6/18

Left Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 530632.6/24

Right Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 921124.1/21

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

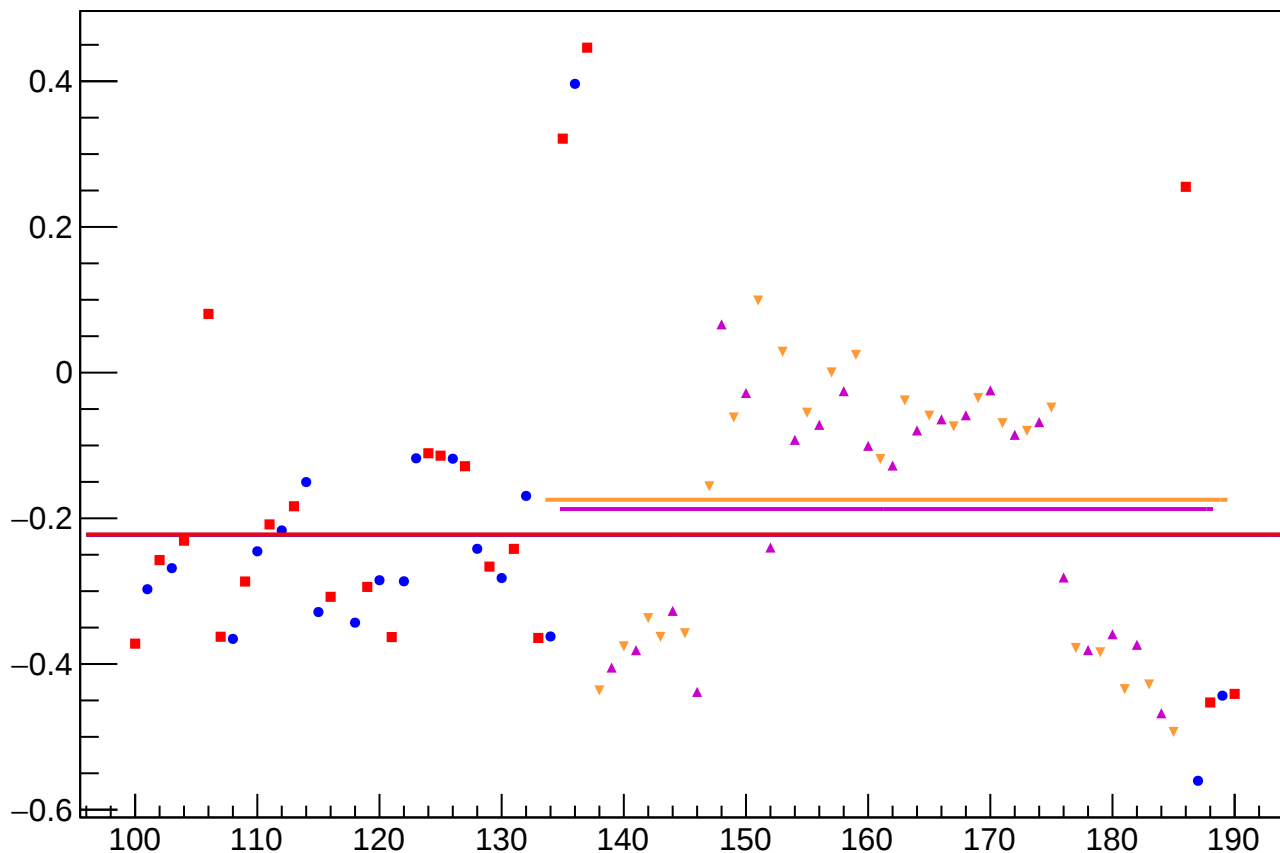
Right: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1285975.0/40

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 899631.2/41

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1452513.2/46

All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2352953.2/88

# yield\_bpm0i02X\_mean vs Slug, Sign Corrected



Right In:  $-0.223 \pm 0.000$

$\chi^2/\text{NDF}$ : 6841723559.2/18

Left:  $-0.181 \pm 0.000$

$\chi^2/\text{NDF}$ : 30888184231.6/47

Left Out:  $-0.174 \pm 0.000$

$\chi^2/\text{NDF}$ : 18025533236.1/24

Right:  $-0.222 \pm 0.000$

$\chi^2/\text{NDF}$ : 15024605745.4/40

Right Out:  $-0.222 \pm 0.000$

$\chi^2/\text{NDF}$ : 8182871659.4/21

In:  $-0.195 \pm 0.000$

$\chi^2/\text{NDF}$ : 19806398661.8/41

Out:  $-0.186 \pm 0.000$

$\chi^2/\text{NDF}$ : 26529401828.0/46

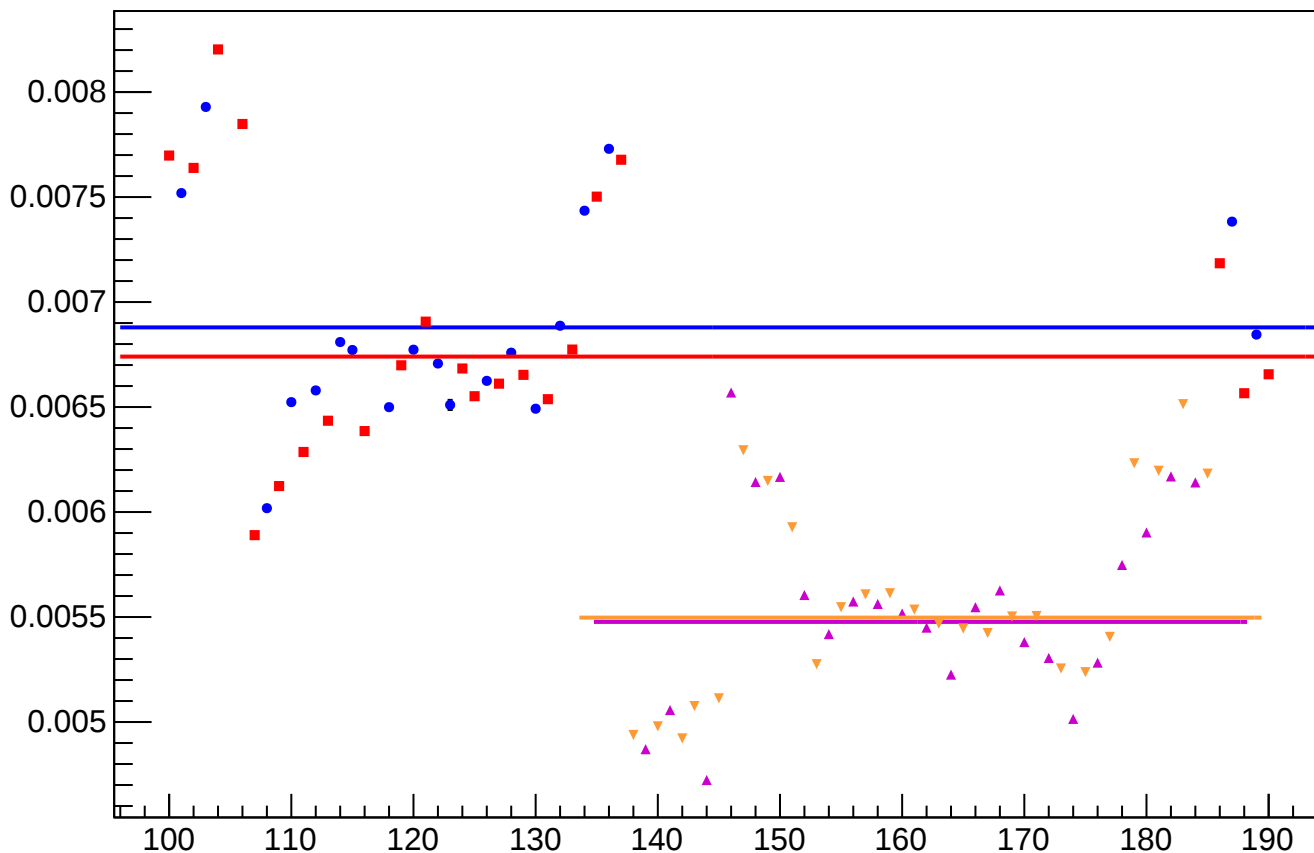
Left In:  $-0.187 \pm 0.000$

$\chi^2/\text{NDF}$ : 12816646575.4/22

All:  $-0.190 \pm 0.000$

$\chi^2/\text{NDF}$ : 46364198754.3/100

# yield\_bpm0i02X\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 80096.1/18

Left Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ :198746.4/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 109644.5/21

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

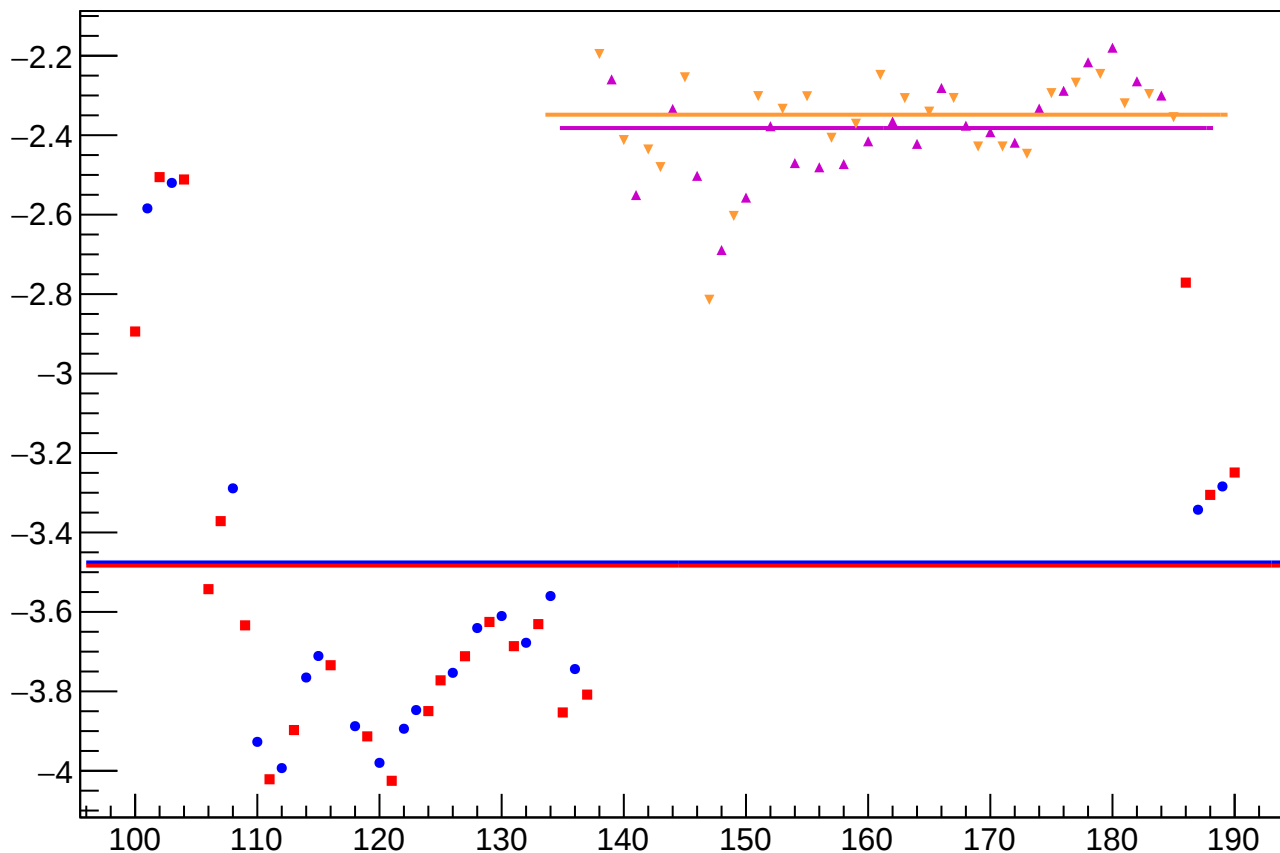
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 192965.5/40

In: 0.006+/-0.000  $\chi^2/\text{NDF}$ :748706.8/41

Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ :742966.6/46

All: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1491942.2/88

# yield\_bpm0i02Y\_mean vs Slug, Sign Corrected



Right In: -3.475+/-0.000  $\chi^2/\text{NDF}$ : 27298682883.6/18

Left Out: -2.348+/-0.000  $\chi^2/\text{NDF}$ : 2158686333.4/24

Right Out: -3.483+/-0.000  $\chi^2/\text{NDF}$ : 28359530479.8/21

Left In: -2.382+/-0.000  $\chi^2/\text{NDF}$ : 2318395228.4/22

Left: -2.365+/-0.000  $\chi^2/\text{NDF}$ : 4600738143.2/47

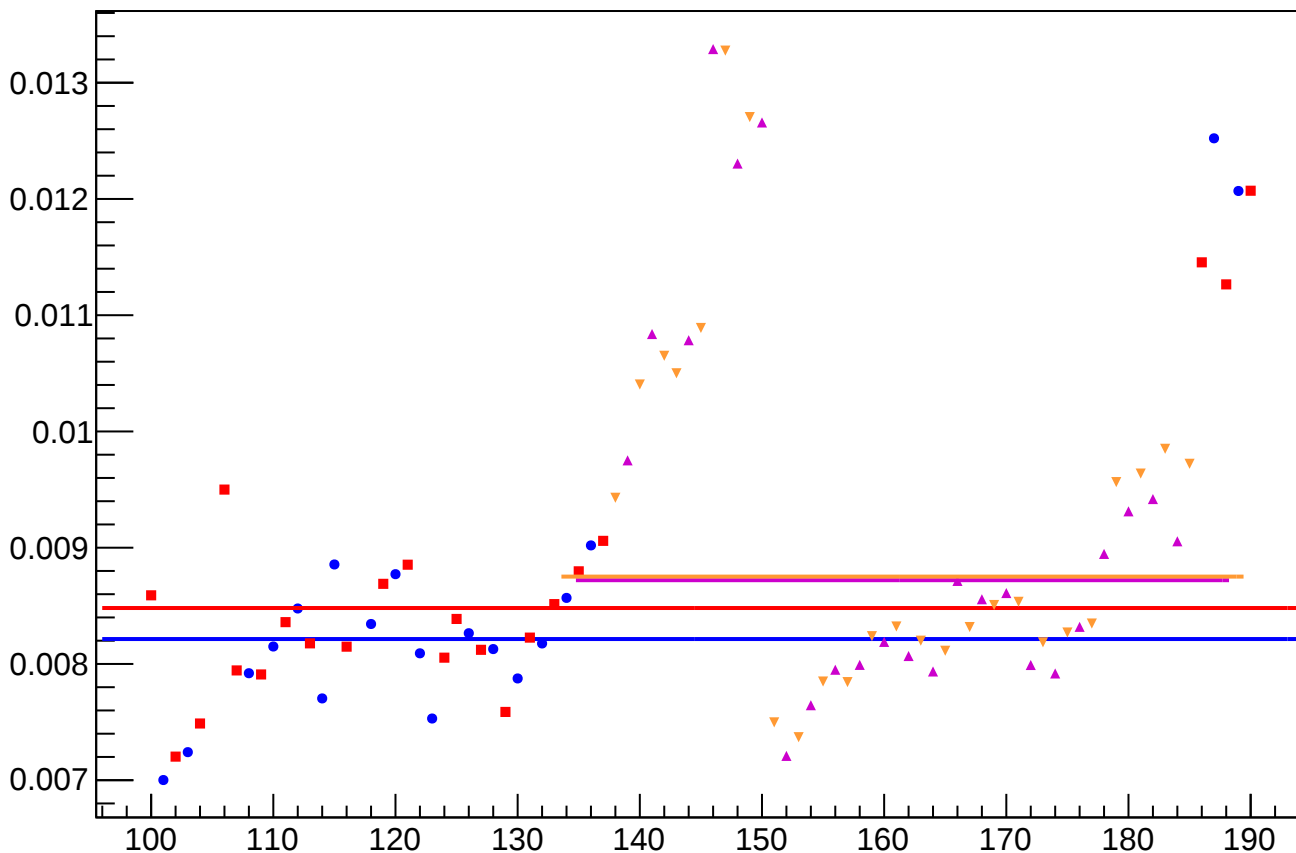
Right: -3.480+/-0.000  $\chi^2/\text{NDF}$ : 55661606660.1/40

In: -2.741+/-0.000  $\chi^2/\text{NDF}$ : 113372256179.4/41

Out: -2.731+/-0.000  $\chi^2/\text{NDF}$ : 128104822357.4/46

All: -2.736+/-0.000  $\chi^2/\text{NDF}$ : 241494572245.0

# yield\_bpm0i02Y\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 209176.7/18

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :663672.8/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 299985.5/21

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

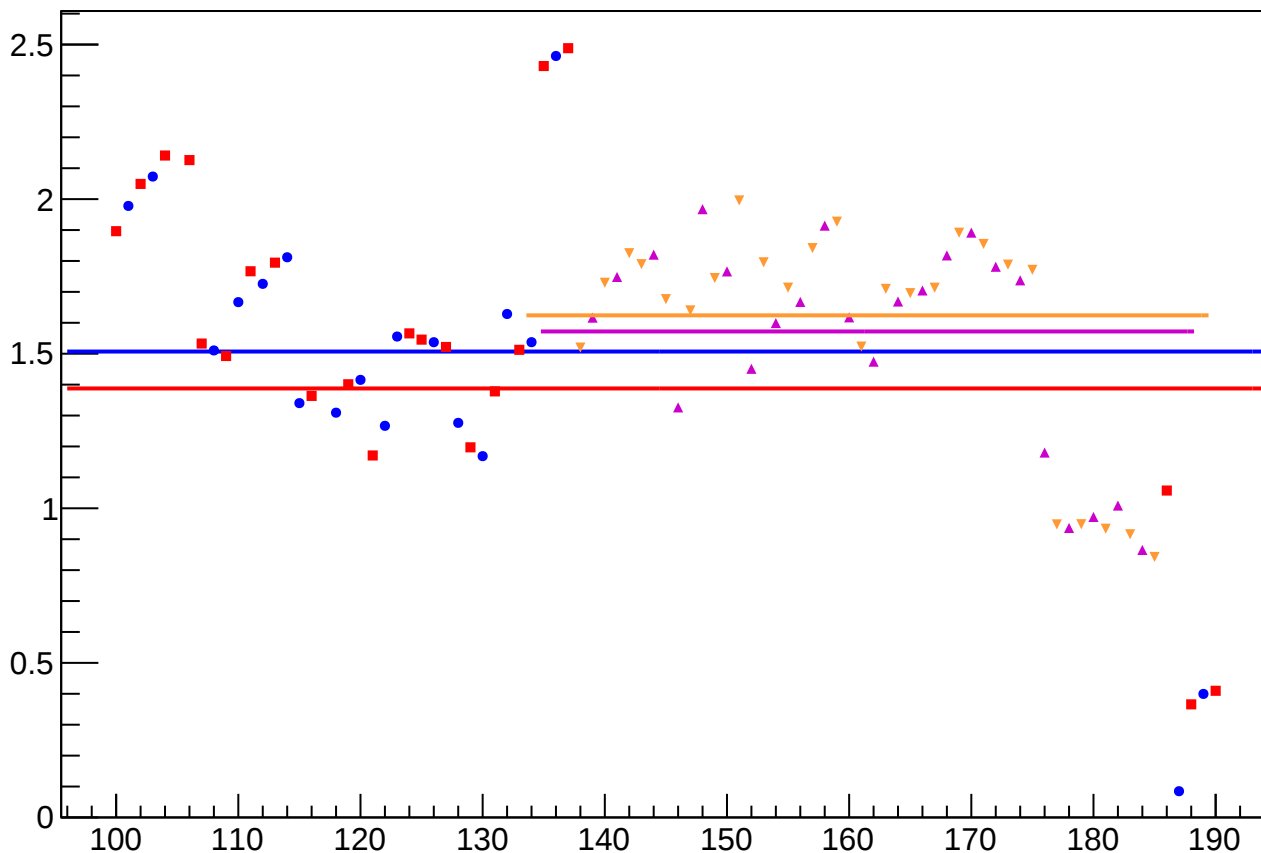
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 516924.9/40

In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :992935.8/41

Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :974722.6/46

All: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1971348.4/88

# yield\_bpm0i02aX\_mean vs Slug, Sign Corrected



Right In: 1.507 $\pm$ 0.000  $\chi^2$ /NDF: 14583339588.3/18

Left Out: 1.624 $\pm$ 0.000  $\chi^2$ /NDF:16631112386.4/24

Right Out: 1.388 $\pm$ 0.000  $\chi^2$ /NDF: 21188775259.2/21

Left In: 1.572 $\pm$ 0.000  $\chi^2$ /NDF:14230484809.4/22

Left: 1.599 $\pm$ 0.000  $\chi^2$ /NDF: 31067753064.6/47

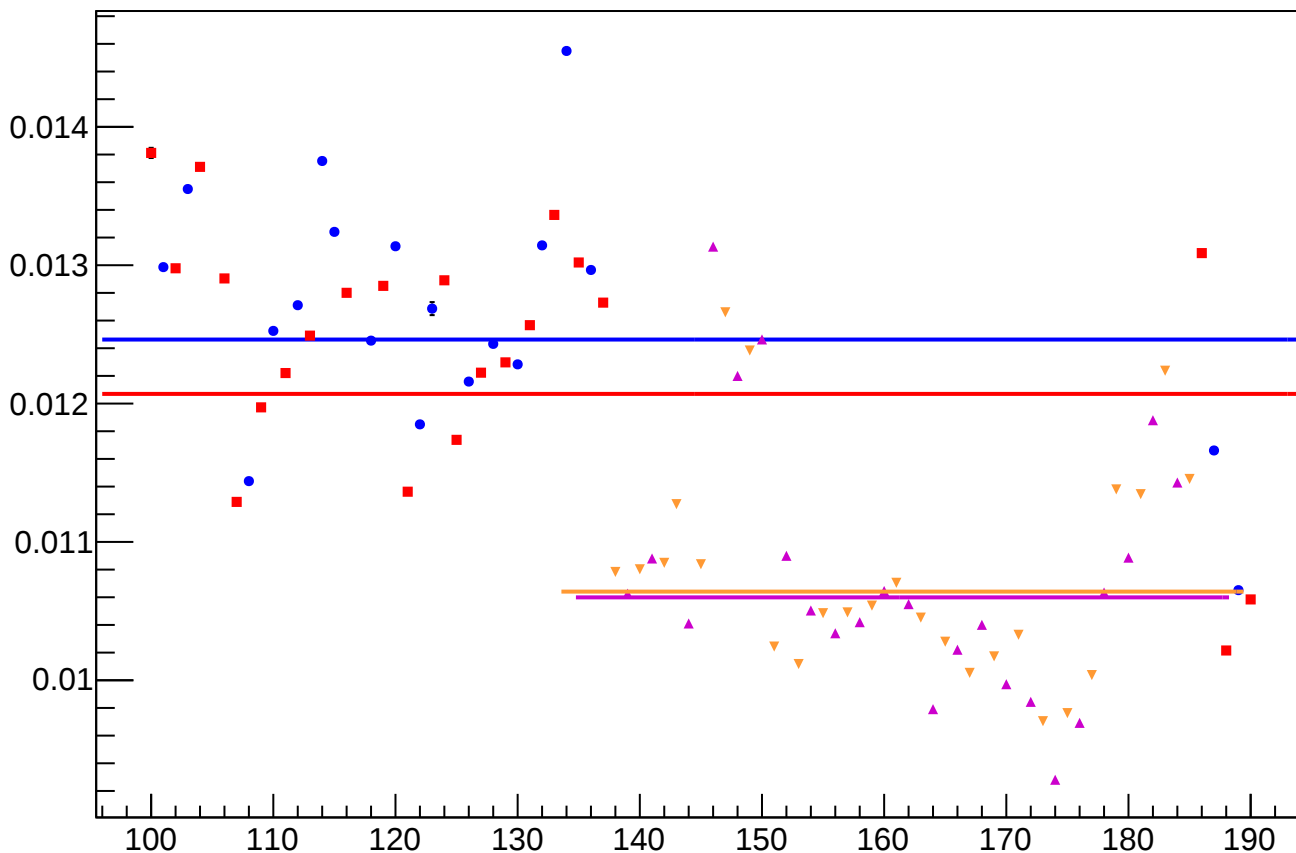
Right: 1.441 $\pm$ 0.000  $\chi^2$ /NDF: 36136935839.2/40

In: 1.557 $\pm$ 0.000  $\chi^2$ /NDF:28961671503.1/41

Out: 1.560 $\pm$ 0.000  $\chi^2$ /NDF:40175037342.3/46

All: 1.559 $\pm$ 0.000  $\chi^2$ /NDF: 69138107827.7/86

# yield\_bpm0i02aX\_rms vs Slug, Sign Corrected



Right In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 63823.7/18

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :159760.9/24

Right Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 128402.0/21

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

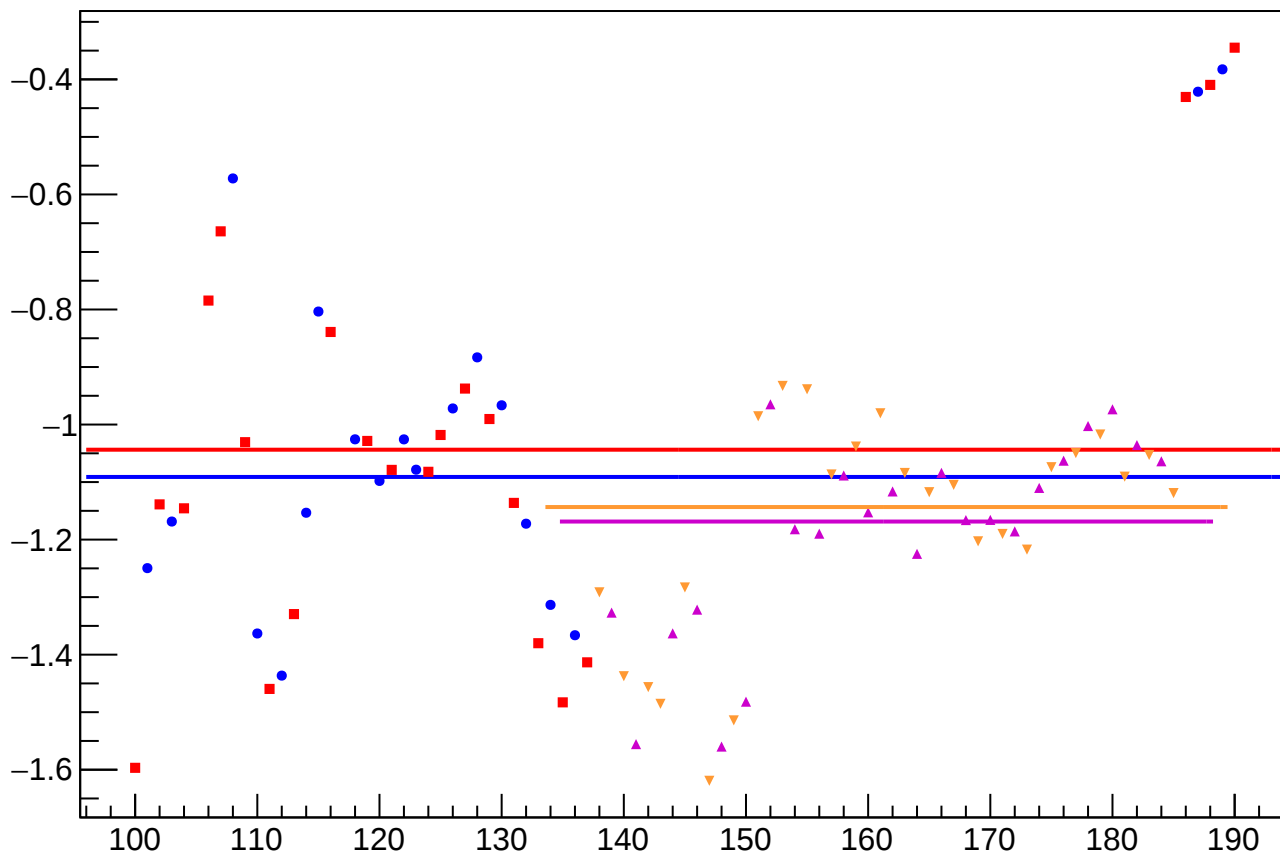
Right: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 200117.6/40

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :511769.4/41

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :460091.0/46

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 971904.6/88

# yield\_bpm0i02aY\_mean vs Slug, Sign Corrected



Right In: -1.091+/-0.000  $\chi^2/\text{NDF}$ : 5719667997.4/18

Left Out: -1.143+/-0.000  $\chi^2/\text{NDF}$ : 7976364534.0/24

Right Out: -1.044+/-0.000  $\chi^2/\text{NDF}$ : 9304673604.4/21

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

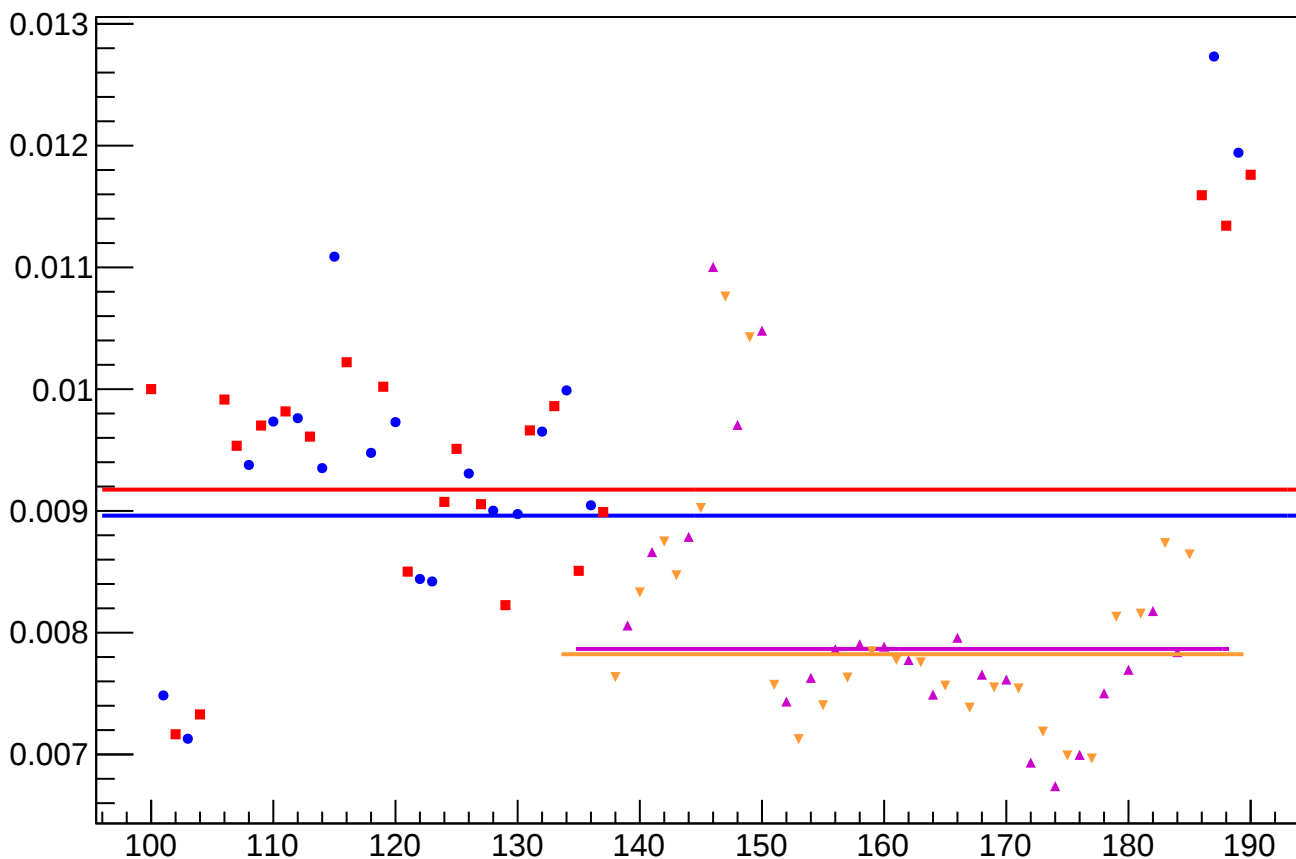
Right: -1.066+/-0.000  $\chi^2/\text{NDF}$ : 15126336178.2/40

In: -1.149+/-0.000  $\chi^2/\text{NDF}$ : 12472249899.9/41

Out: -1.118+/-0.000  $\chi^2/\text{NDF}$ : 17992038537.6/46

All: -1.133+/-0.000  $\chi^2/\text{NDF}$ : 30643596721.1/100

# yield\_bpm0i02aY\_rms vs Slug, Sign Corrected



Right In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 240351.5/18

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :336387.6/24

Right Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 319827.1/21

Left In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :379901.3/22

Left: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 716803.8/47

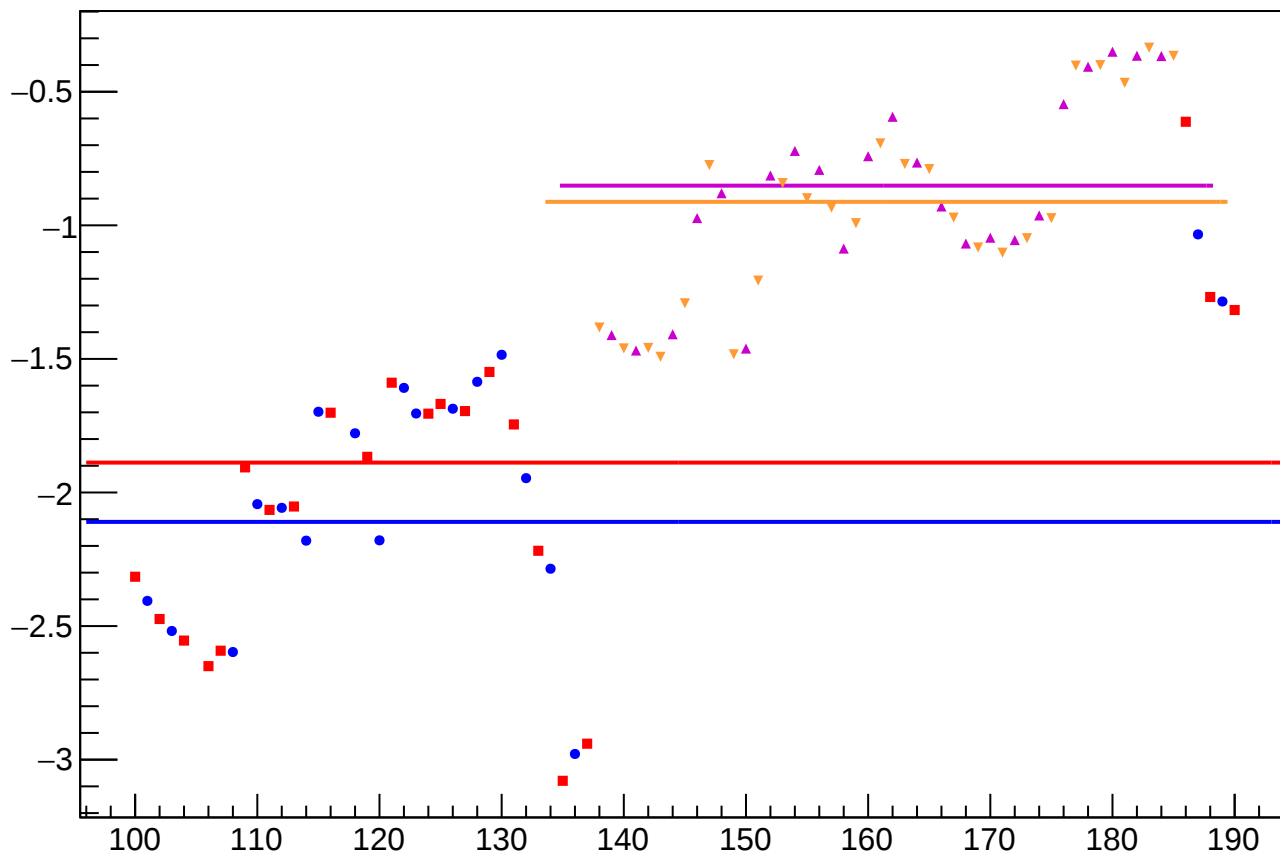
Right: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 564340.9/40

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :775687.0/41

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :917808.9/46

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1693843.0/88

# yield\_bpm0i05X\_mean vs Slug, Sign Corrected



Right In: -2.110 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 31981123593.3/18

Left Out: -0.912 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 49039425818.1/24

Right Out: -1.888 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 65668550824.8/21

Left In: -0.851 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 46438446008.2/22

Left: -0.882 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 96285672564.6/47

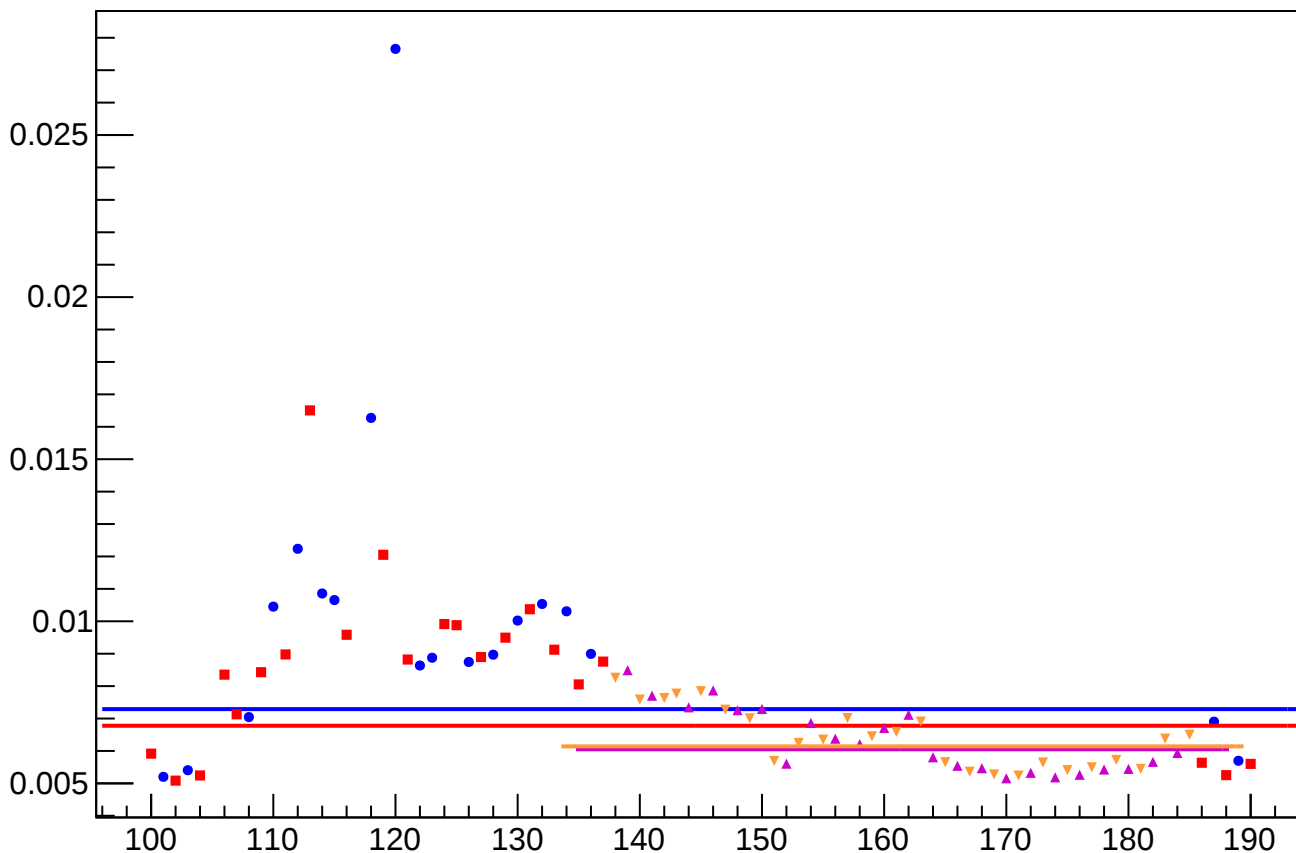
Right: -1.979 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 100691476351.1/40

In: -1.095 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 211741031764.2/41

Out: -1.159 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 222199322064.2/46

All: -1.129 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 435117065386.2

# yield\_bpm0i05X\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 1296920.7/18

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 637765.4/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 1226585.8/21

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

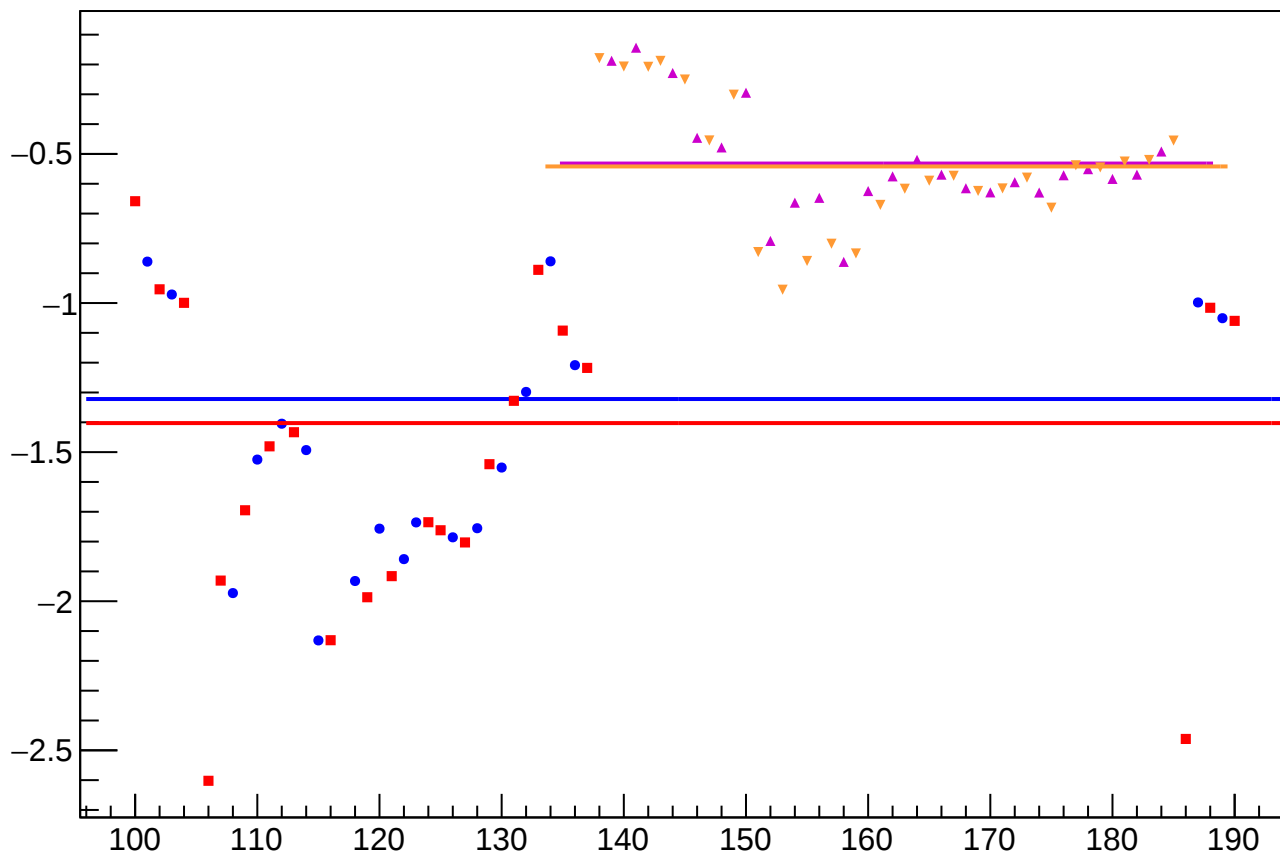
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 2555974.6/40

In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 2252542.5/41

Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1955575.0/46

All: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 4208187.6/88

# yield\_bpm0i05Y\_mean vs Slug, Sign Corrected



Right In: -1.322+/-0.000  $\chi^2/\text{NDF}$ : 22442804403.5/18

Left Out: -0.542+/-0.000  $\chi^2/\text{NDF}$ : 47268284910.3/24

Right Out: -1.403+/-0.000  $\chi^2/\text{NDF}$ : 68240224614.3/21

Left In: -0.532+/-0.000  $\chi^2/\text{NDF}$ : 30715235426.8/22

Left: -0.537+/-0.000  $\chi^2/\text{NDF}$ : 78028833870.1/47

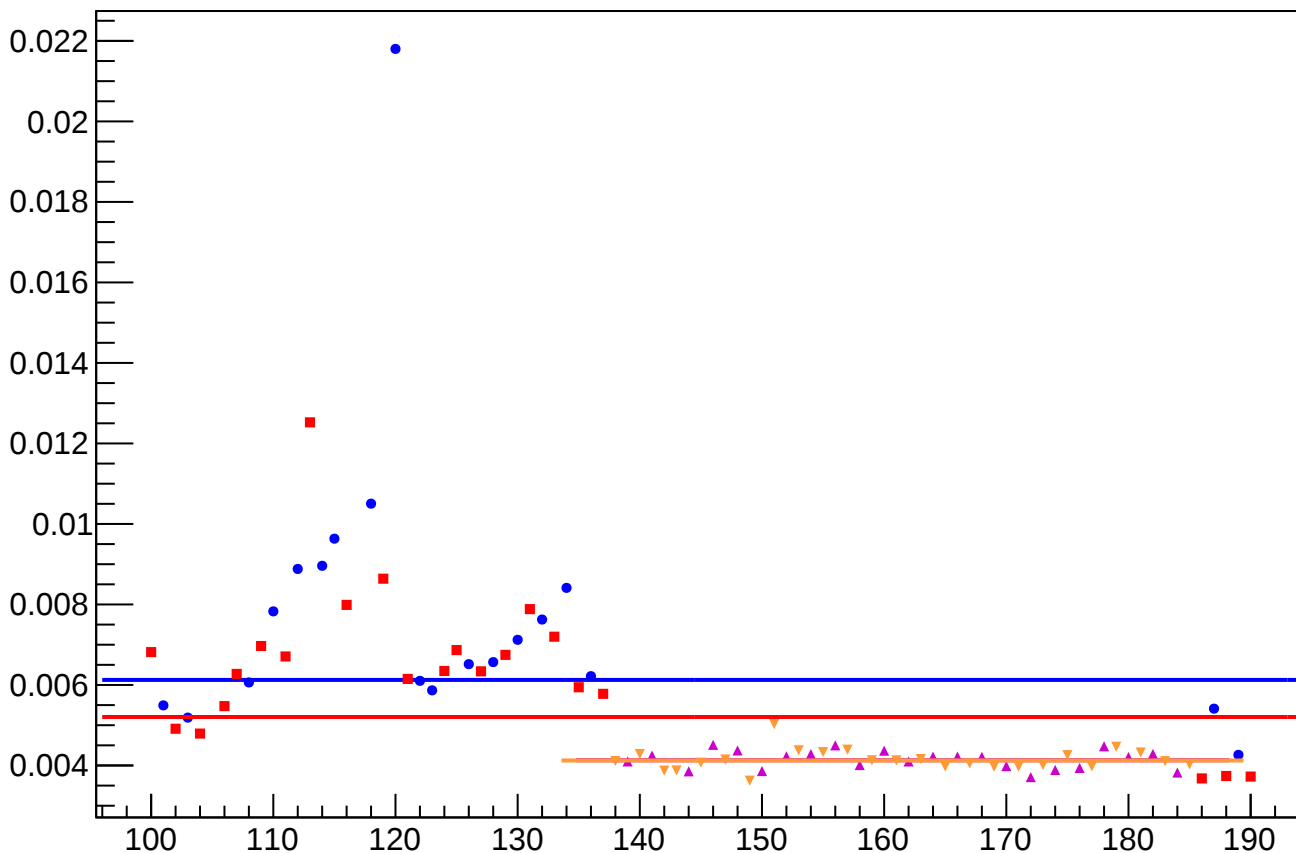
Right: -1.372+/-0.000  $\chi^2/\text{NDF}$ : 91313923457.7/40

In: -0.645+/-0.000  $\chi^2/\text{NDF}$ : 136611371053.5/41

Out: -0.718+/-0.000  $\chi^2/\text{NDF}$ : 265895701223.4/46

All: -0.684+/-0.000  $\chi^2/\text{NDF}$ : 405612225512.5

# yield\_bpm0i05Y\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 763989.9/18

Left Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :113033.9/24

Right Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1183866.5/21

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

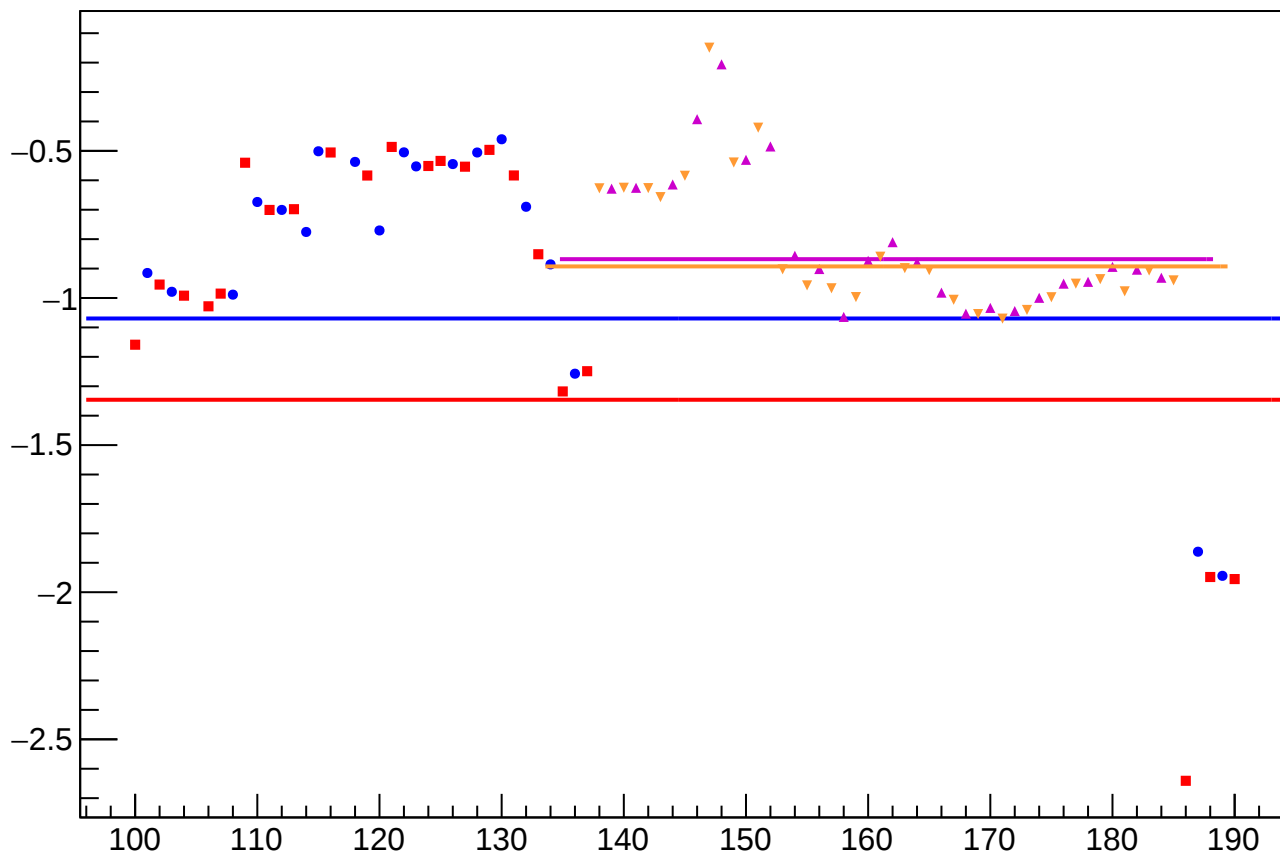
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 2112204.3/40

In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :1923207.9/41

Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :1770586.3/46

All: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 3699407.3/88

# yield\_bpm0i07X\_mean vs Slug, Sign Corrected



Right In:  $-1.070 \pm 0.000$   $\chi^2/\text{NDF}$ : 69434416634.0/18

Left Out:  $-0.893 \pm 0.000$   $\chi^2/\text{NDF}$ : 40787012603.8/24

Right Out:  $-1.346 \pm 0.000$   $\chi^2/\text{NDF}$ : 181659483214.6/21

Left In:  $-0.868 \pm 0.000$   $\chi^2/\text{NDF}$ : 43853190177.2/22

Left:  $-0.880 \pm 0.000$   $\chi^2/\text{NDF}$ : 84980637247.0/47

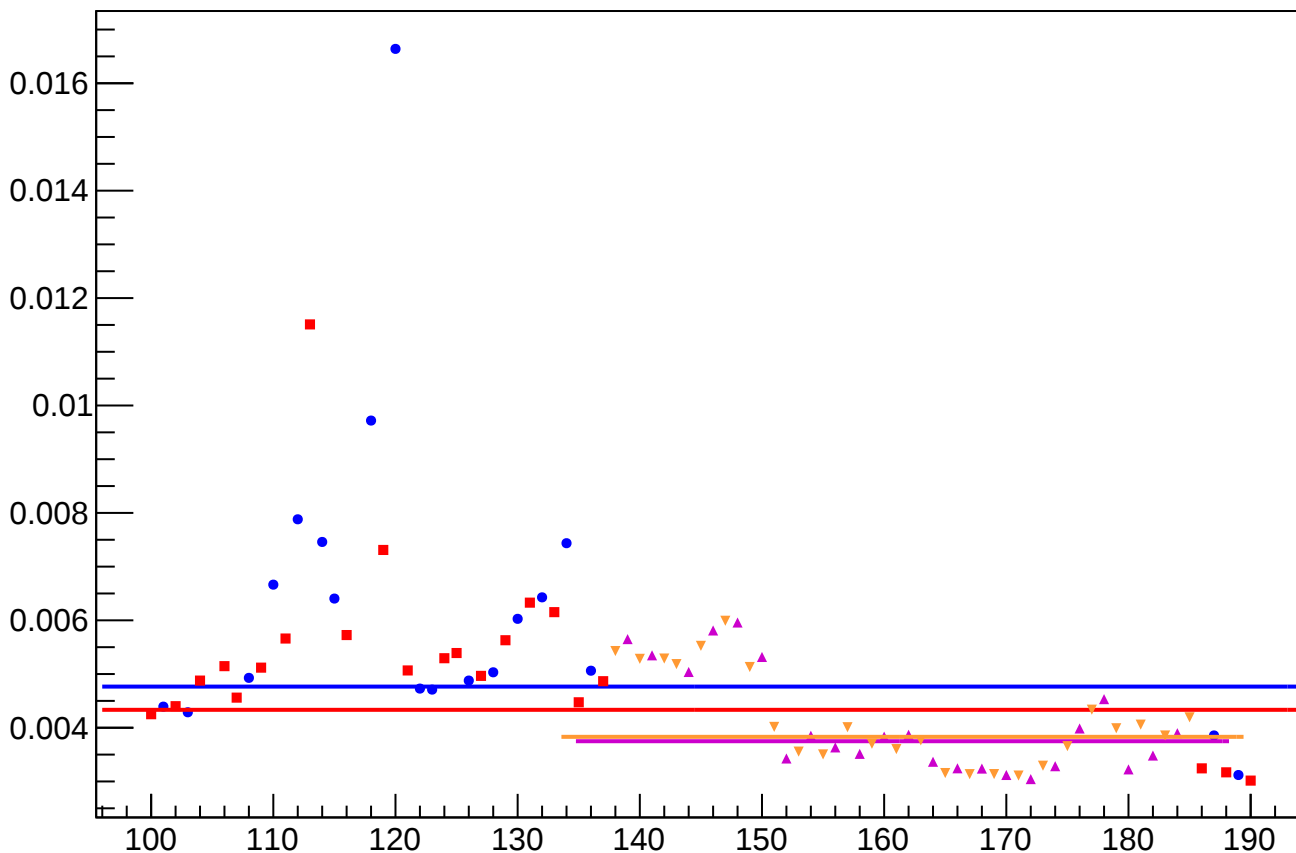
Right:  $-1.235 \pm 0.000$   $\chi^2/\text{NDF}$ : 262675353814.5/40

In:  $-0.905 \pm 0.000$   $\chi^2/\text{NDF}$ : 121684225750.0/41

Out:  $-1.007 \pm 0.000$   $\chi^2/\text{NDF}$ : 280625095529.0/46

All:  $-0.958 \pm 0.000$   $\chi^2/\text{NDF}$ : 409676258874.8

# yield\_bpm0i07X\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1018393.1/18

Left Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :1179801.7/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 1113396.7/21

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

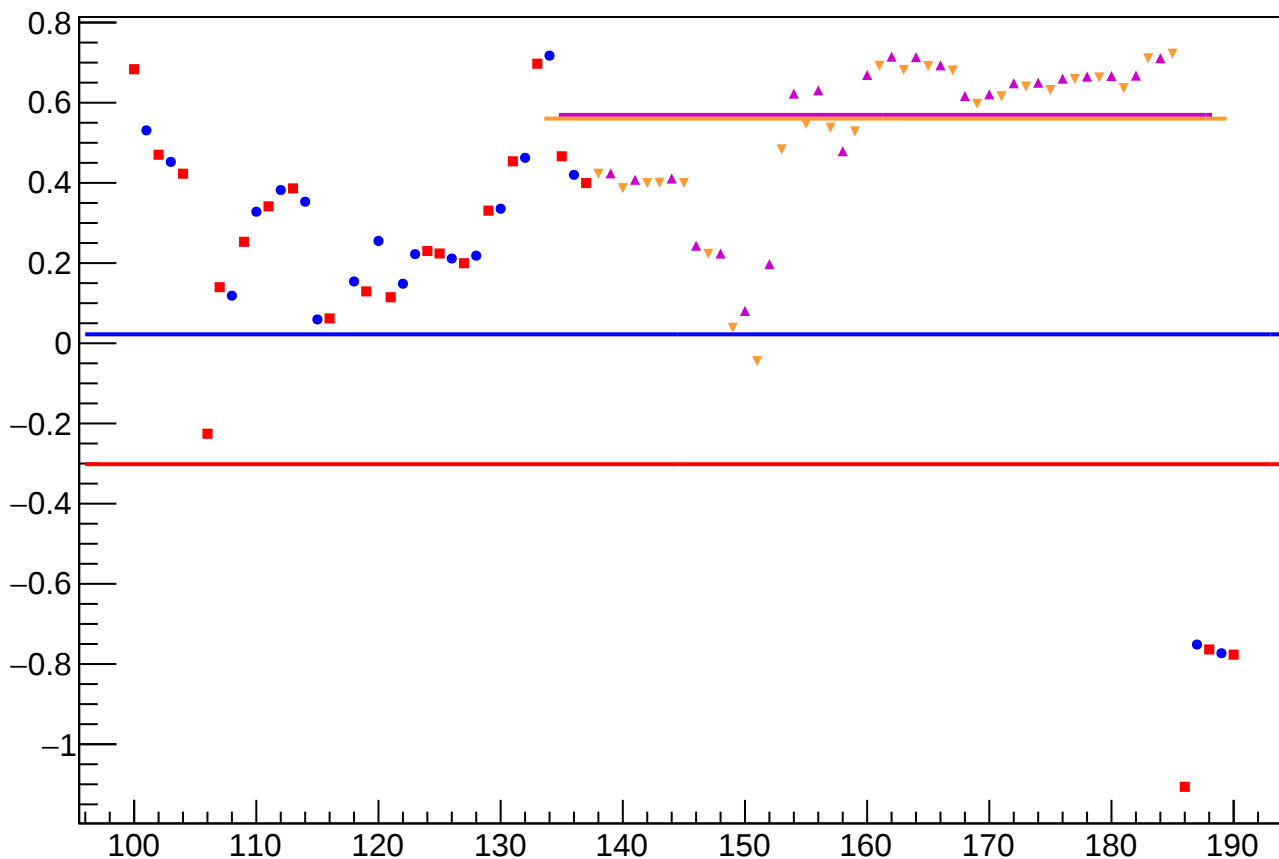
Right: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2188596.2/40

In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :2734260.9/41

Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :2436410.3/46

All: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 5171250.8/88

# yield\_bpm0i07Y\_mean vs Slug, Sign Corrected



Right In: 0.022 $\pm$ 0.000  $\chi^2$ /NDF: 134740339731.6/18

Left Out: 0.560 $\pm$ 0.000  $\chi^2$ /NDF: 45205806387.2/24

Right Out: -0.302 $\pm$ 0.000  $\chi^2$ /NDF: 305063853613.4/21

Left In: 0.570 $\pm$ 0.000  $\chi^2$ /NDF: 42104067973.0/22

Left: 0.565 $\pm$ 0.000  $\chi^2$ /NDF: 87378176036.1/47

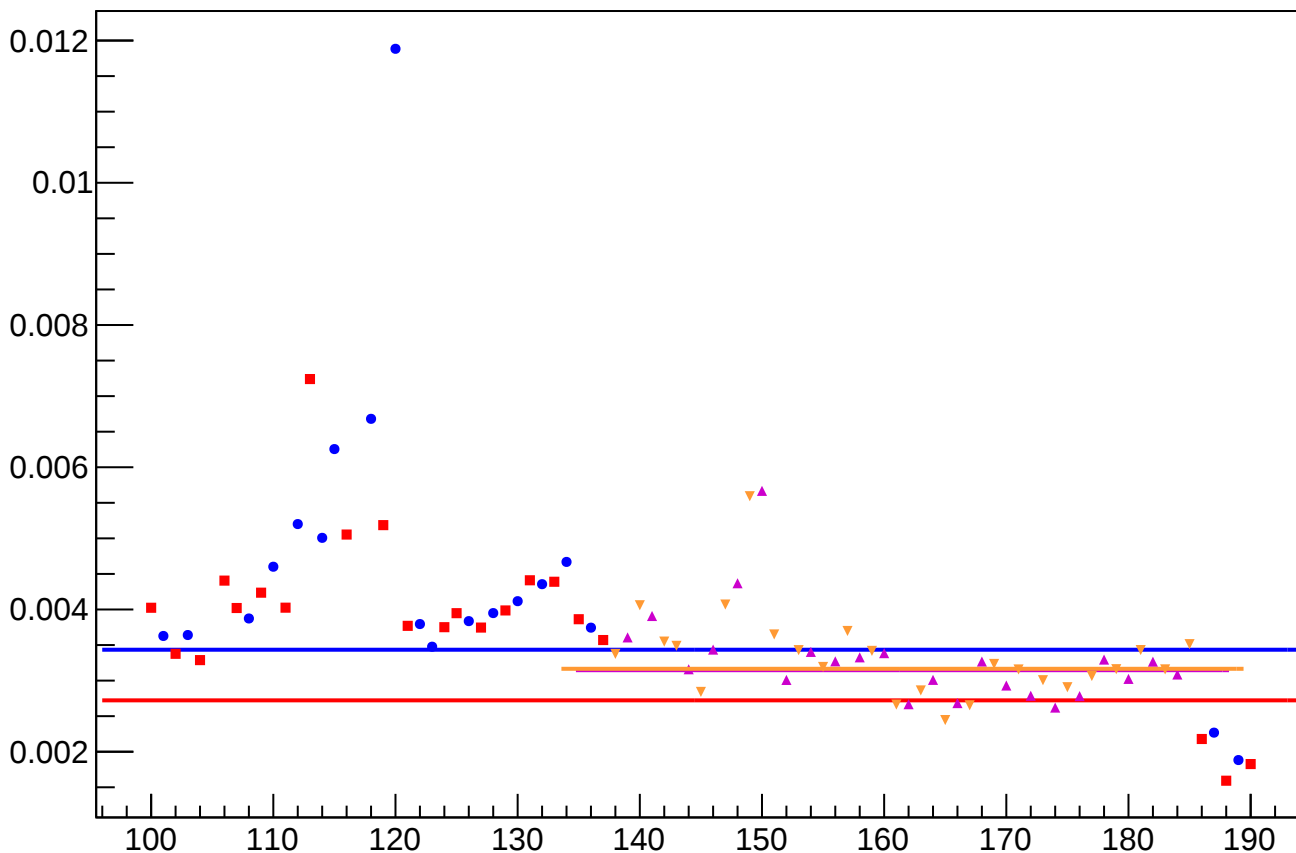
Right: -0.185 $\pm$ 0.000  $\chi^2$ /NDF: 472705115396.6/40

In: 0.439 $\pm$ 0.000  $\chi^2$ /NDF: 288303302167.2/41

Out: 0.258 $\pm$ 0.000  $\chi^2$ /NDF: 771893692650.3/46

All: 0.340 $\pm$ 0.000  $\chi^2$ /NDF: 1096904060338.0/95

# yield\_bpm0i07Y\_rms vs Slug, Sign Corrected



Right In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 1362548.7/18

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 744886.7/24

Right Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 2421443.7/21

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

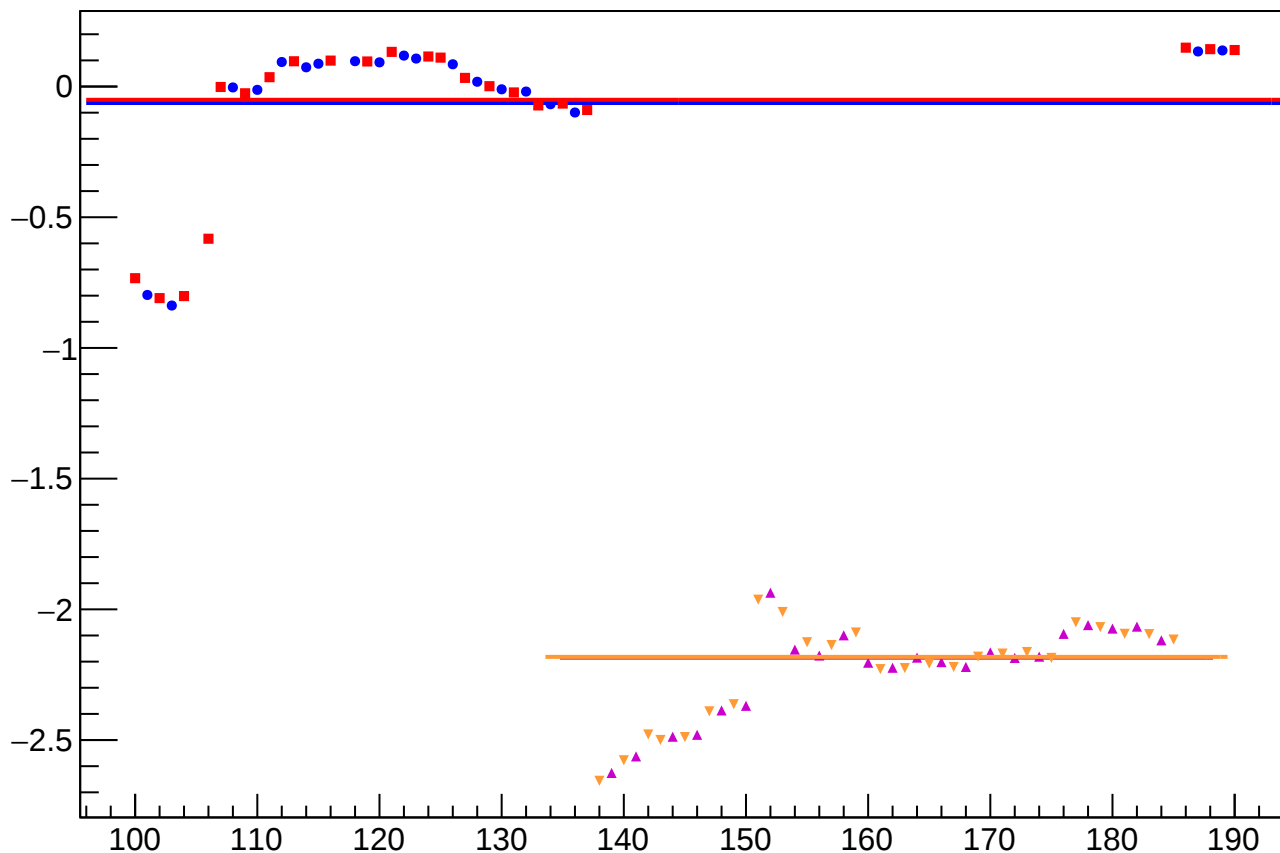
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 4101750.2/40

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 2140600.2/41

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 3389871.5/46

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 5624576.2/88

# yield\_bpm1i02X\_mean vs Slug, Sign Corrected



Right In: -0.063+/-0.000  $\chi^2/\text{NDF}$ : 5282517807.3/18

Left Out: -2.182+/-0.000  $\chi^2/\text{NDF}$ : 4008829567.0/24

Right Out: -0.051+/-0.000  $\chi^2/\text{NDF}$ : 6360741559.5/21

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

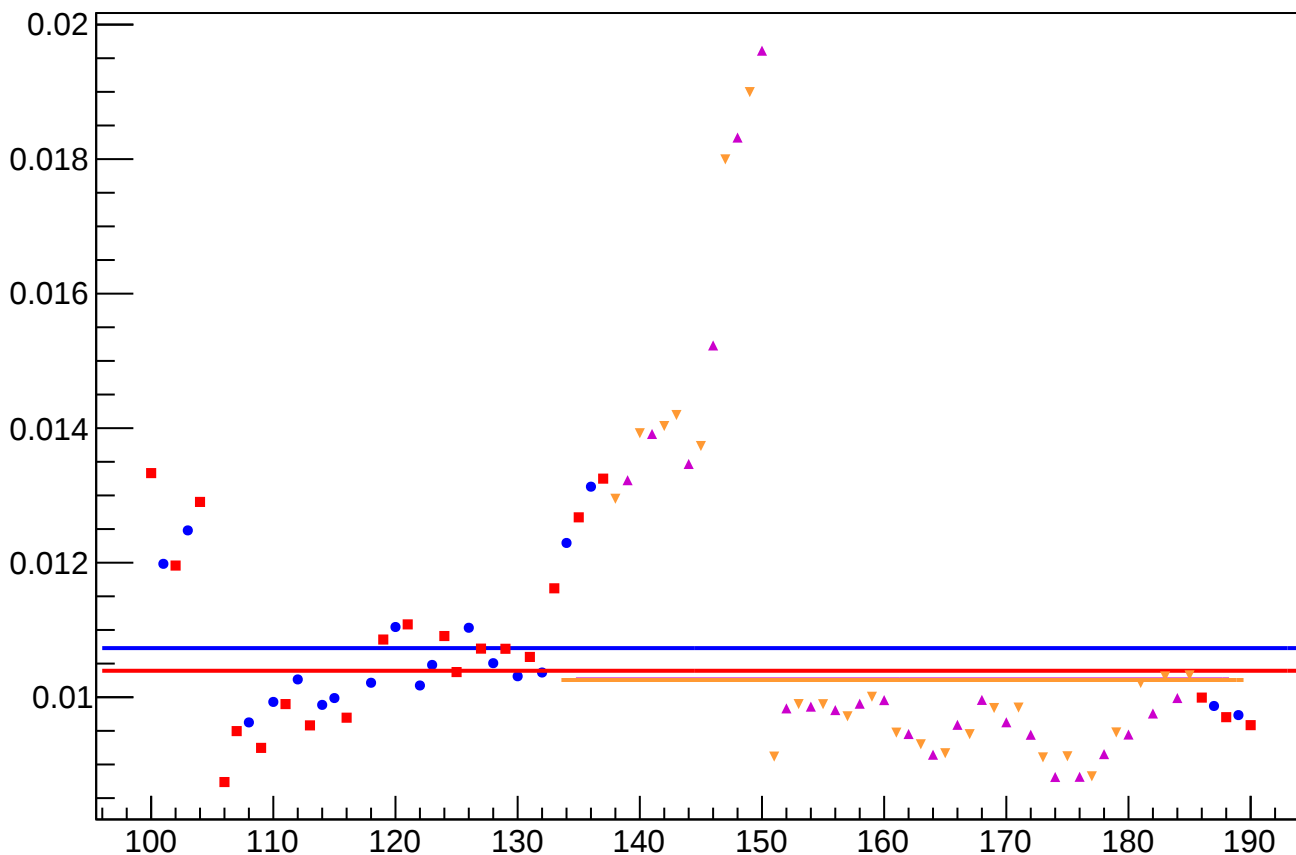
Right: -0.056+/-0.000  $\chi^2/\text{NDF}$ : 11648489638.1/40

In: -1.579+/-0.000  $\chi^2/\text{NDF}$ : 210938226622.8/41

Out: -1.496+/-0.000  $\chi^2/\text{NDF}$ : 255413179446.5/46

All: -1.535+/-0.000  $\chi^2/\text{NDF}$ : 467148961762.5

# yield\_bpm1i02X\_rms vs Slug, Sign Corrected



Right In: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 137984.3/18

Left Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ :1270617.6/24

Right Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 197738.6/21

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

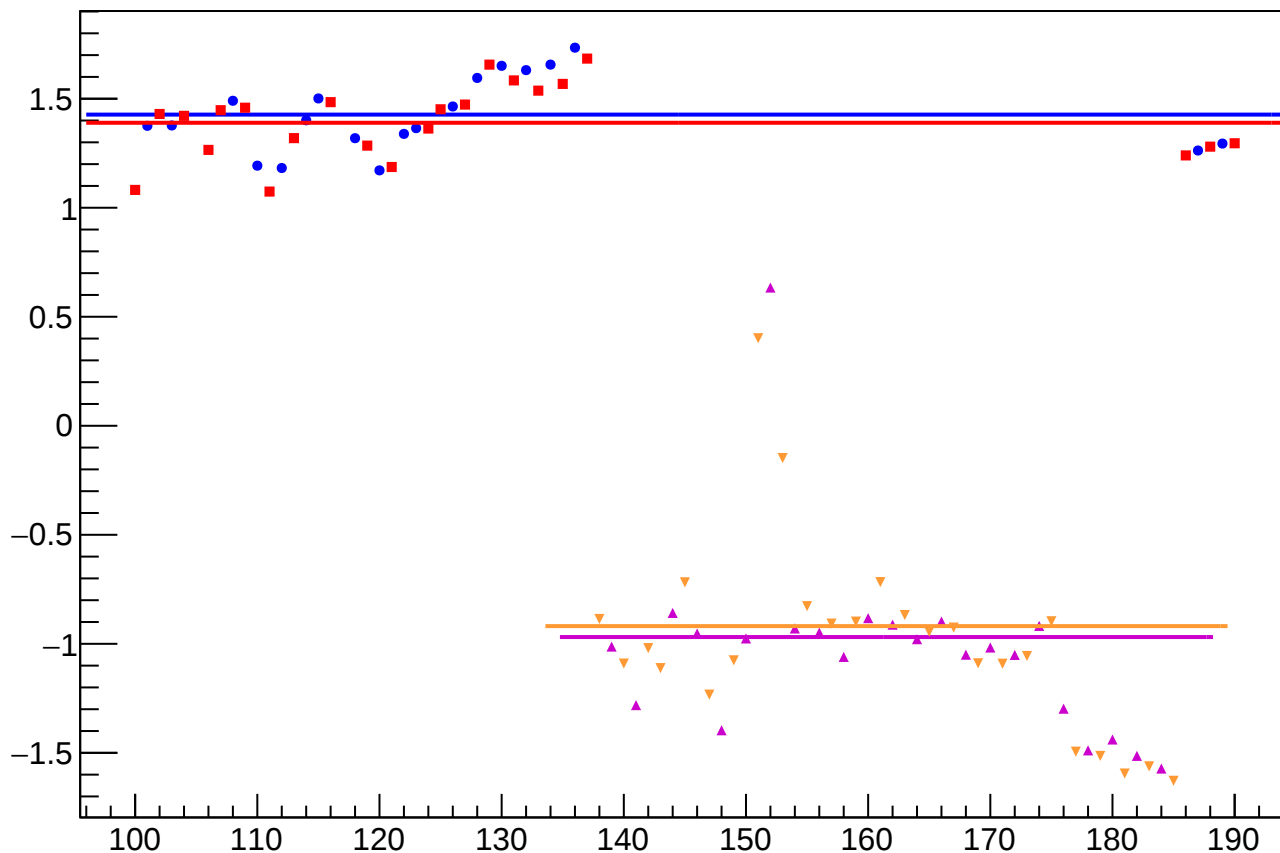
Right: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 343690.8/40

In: 0.010+/-0.000  $\chi^2/\text{NDF}$ :1497741.7/41

Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ :1470390.9/46

All: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 2970332.2/88

# yield\_bpm1i02Y\_mean vs Slug, Sign Corrected



Right In: 1.427 $\pm$ 0.000  $\chi^2$ /NDF: 3677585583.9/18

Left Out: -0.919 $\pm$ 0.000  $\chi^2$ /NDF: 55622252895.8/24

Right Out: 1.390 $\pm$ 0.000  $\chi^2$ /NDF: 3172063503.4/21

Left In: -0.969 $\pm$ 0.000  $\chi^2$ /NDF: 54895002535.8/22

Left: -0.943 $\pm$ 0.000  $\chi^2$ /NDF: 110825900215.1/47

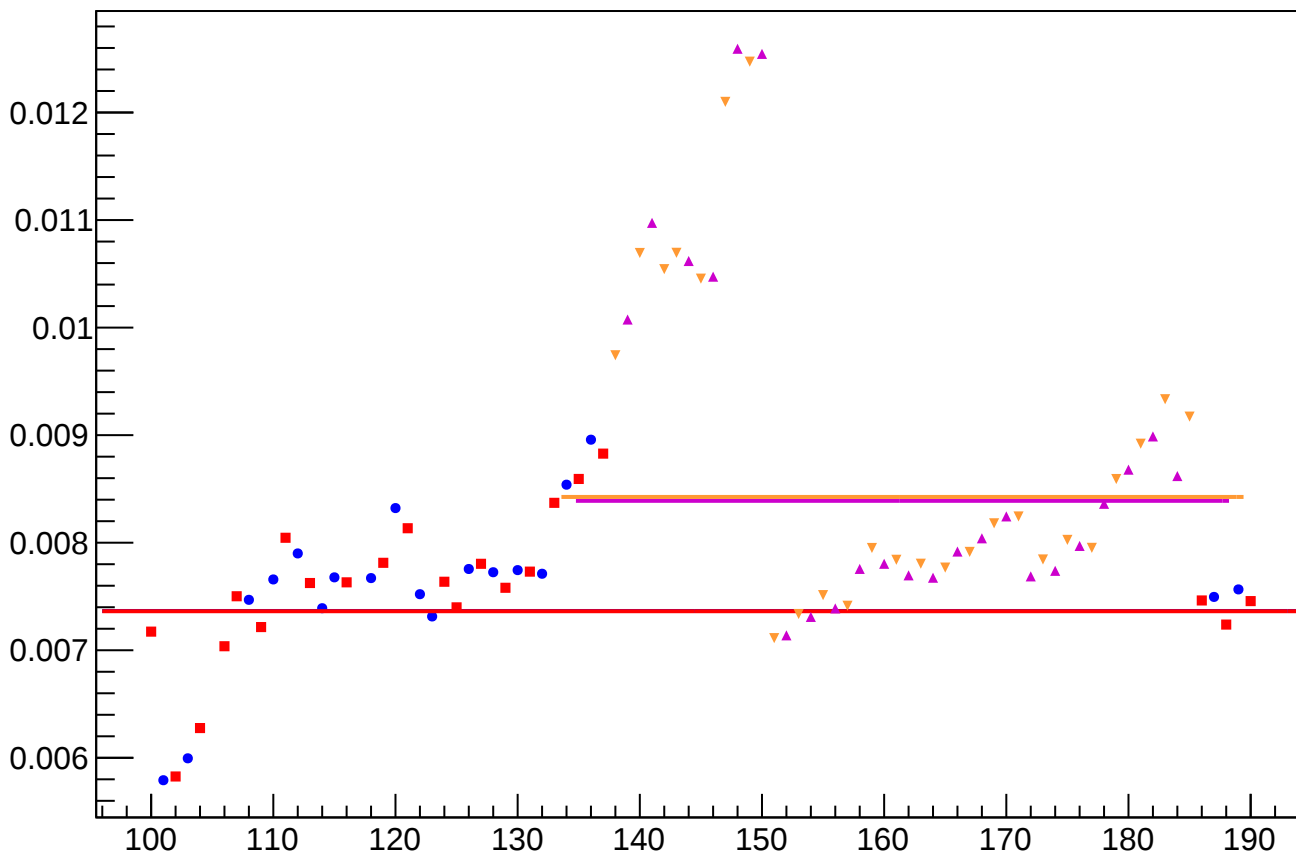
Right: 1.407 $\pm$ 0.000  $\chi^2$ /NDF: 6950972705.2/40

In: -0.115 $\pm$ 0.000  $\chi^2$ /NDF: 548296972375.8/41

Out: -0.027 $\pm$ 0.000  $\chi^2$ /NDF: 577755164903.3/46

All: -0.069 $\pm$ 0.000  $\chi^2$ /NDF: 1127569871753

# yield\_bpm1i02Y\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 229490.1/18

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 792337.0/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 173196.6/21

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

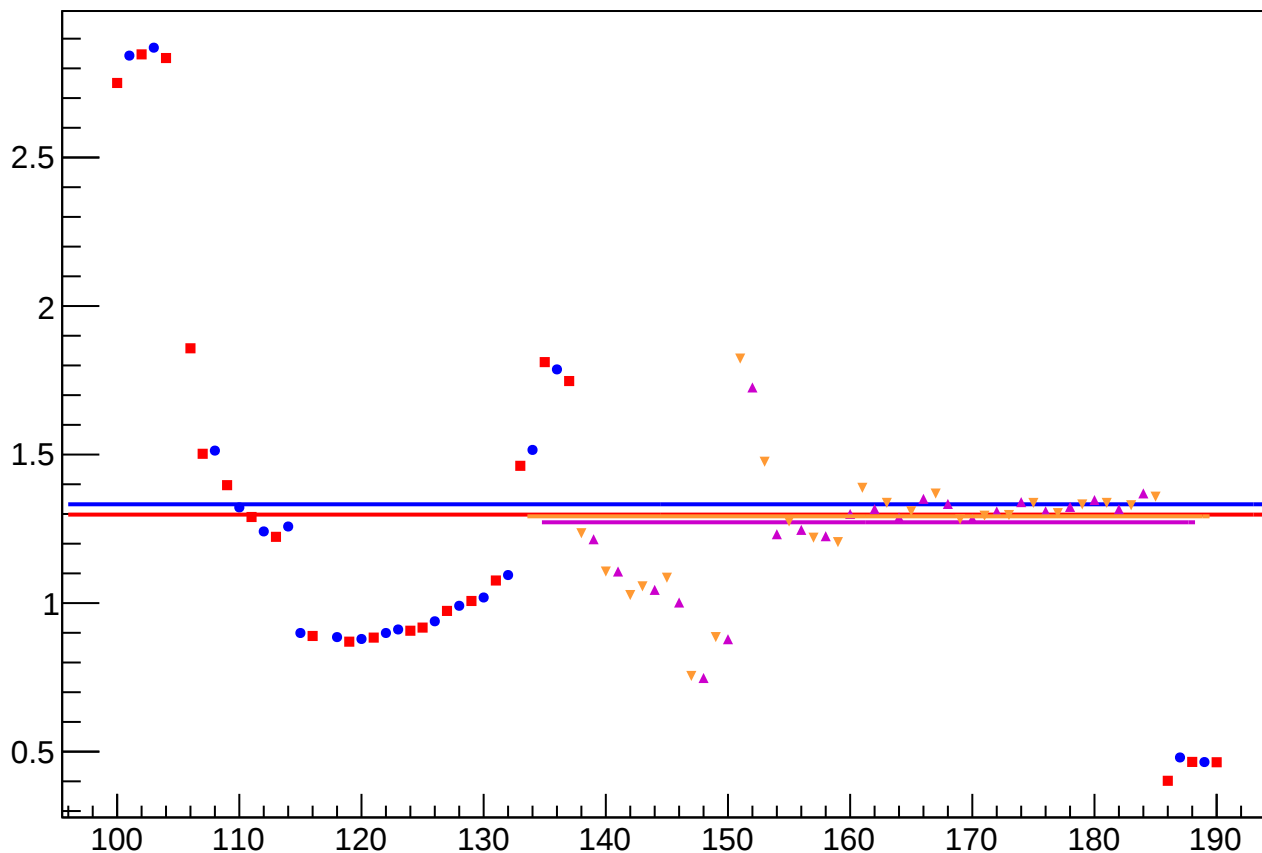
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 402687.4/40

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1248379.8/41

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1185408.1/46

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 2433822.7/88

# yield\_bpm1i04X\_mean vs Slug, Sign Corrected



Right In: 1.333+/-0.000  $\chi^2/\text{NDF}$ : 59075317136.2/18

Left Out: 1.292+/-0.000  $\chi^2/\text{NDF}$ : 9305298695.5/24

Right Out: 1.298+/-0.000  $\chi^2/\text{NDF}$ : 63105087550.9/21

Left In: 1.272+/-0.000  $\chi^2/\text{NDF}$ : 7573930981.2/22

Left: 1.282+/-0.000  $\chi^2/\text{NDF}$ : 16930321584.4/47

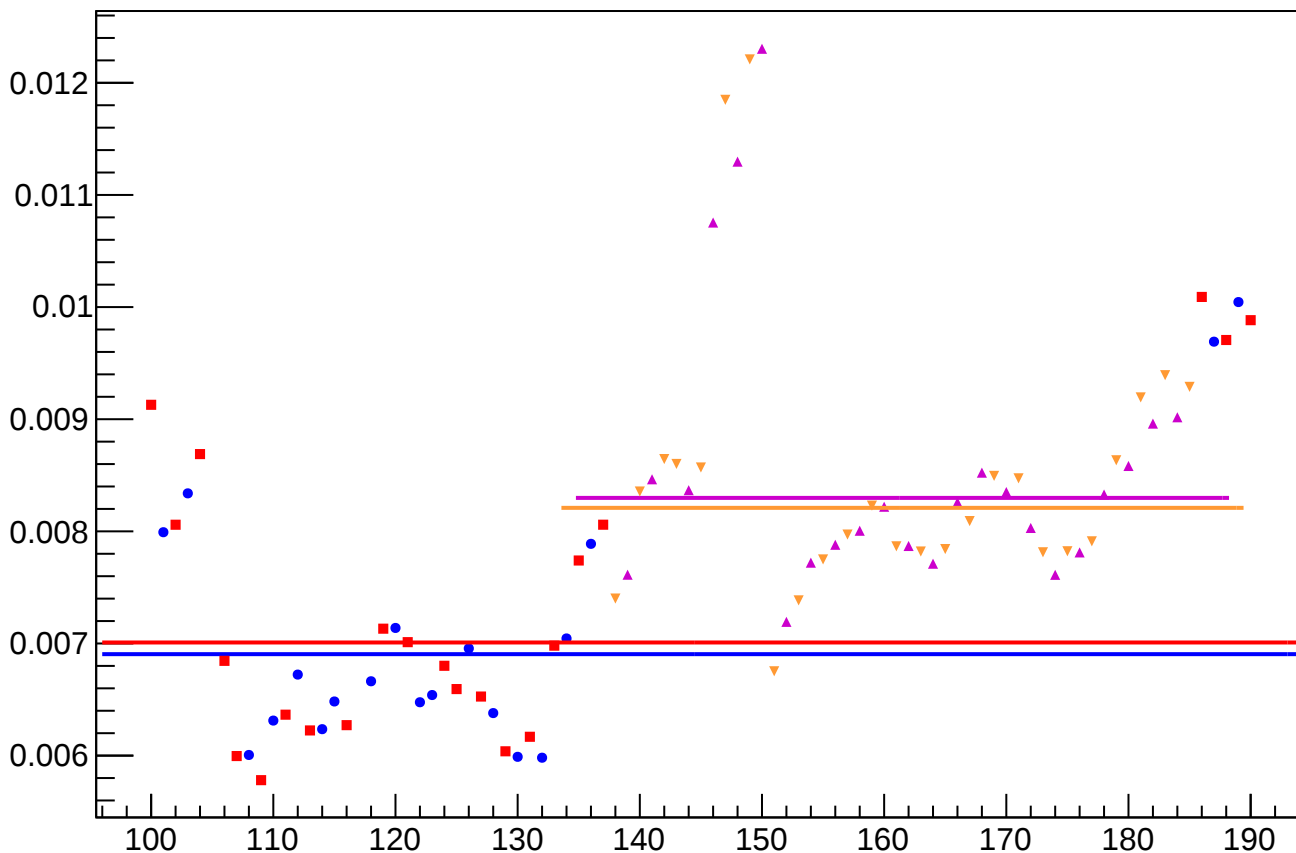
Right: 1.314+/-0.000  $\chi^2/\text{NDF}$ : 122276917985.3/40

In: 1.295+/-0.000  $\chi^2/\text{NDF}$ : 66990344725.9/41

Out: 1.294+/-0.000  $\chi^2/\text{NDF}$ : 72413872332.4/46

All: 1.295+/-0.000  $\chi^2/\text{NDF}$ : 139404324191.2

# yield\_bpm1i04X\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 282700.9/18

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :478864.9/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 484218.8/21

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

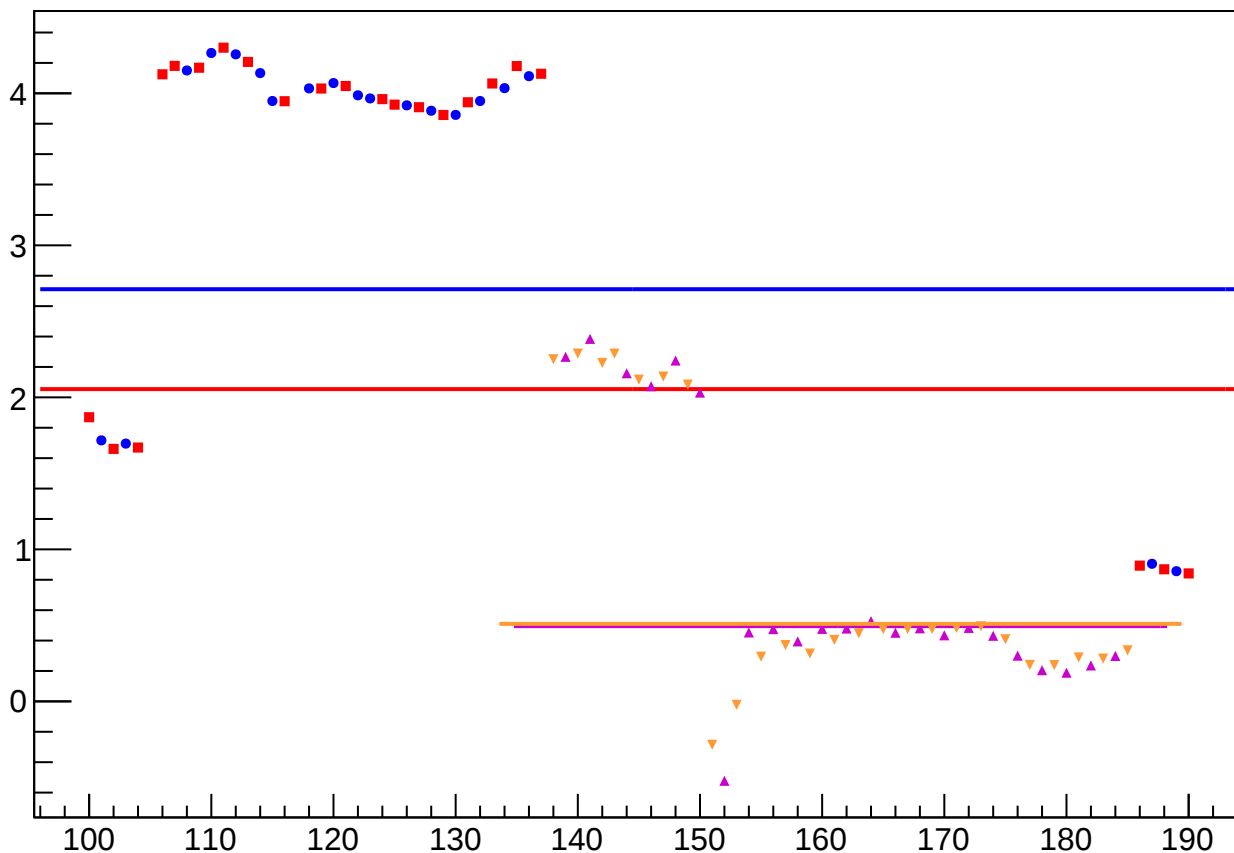
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 768656.3/40

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :1105489.4/41

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :1262738.8/46

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 2368649.5/88

# yield\_bpm1i04Y\_mean vs Slug, Sign Corrected



Right In: 2.711+/-0.000  $\chi^2/\text{NDF}$ : 707858543482.1/18

Left Out: 0.510+/-0.000  $\chi^2/\text{NDF}$ : 274818814912.4/24

Right Out: 2.054+/-0.000  $\chi^2/\text{NDF}$ : 1217675997756.3/21

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

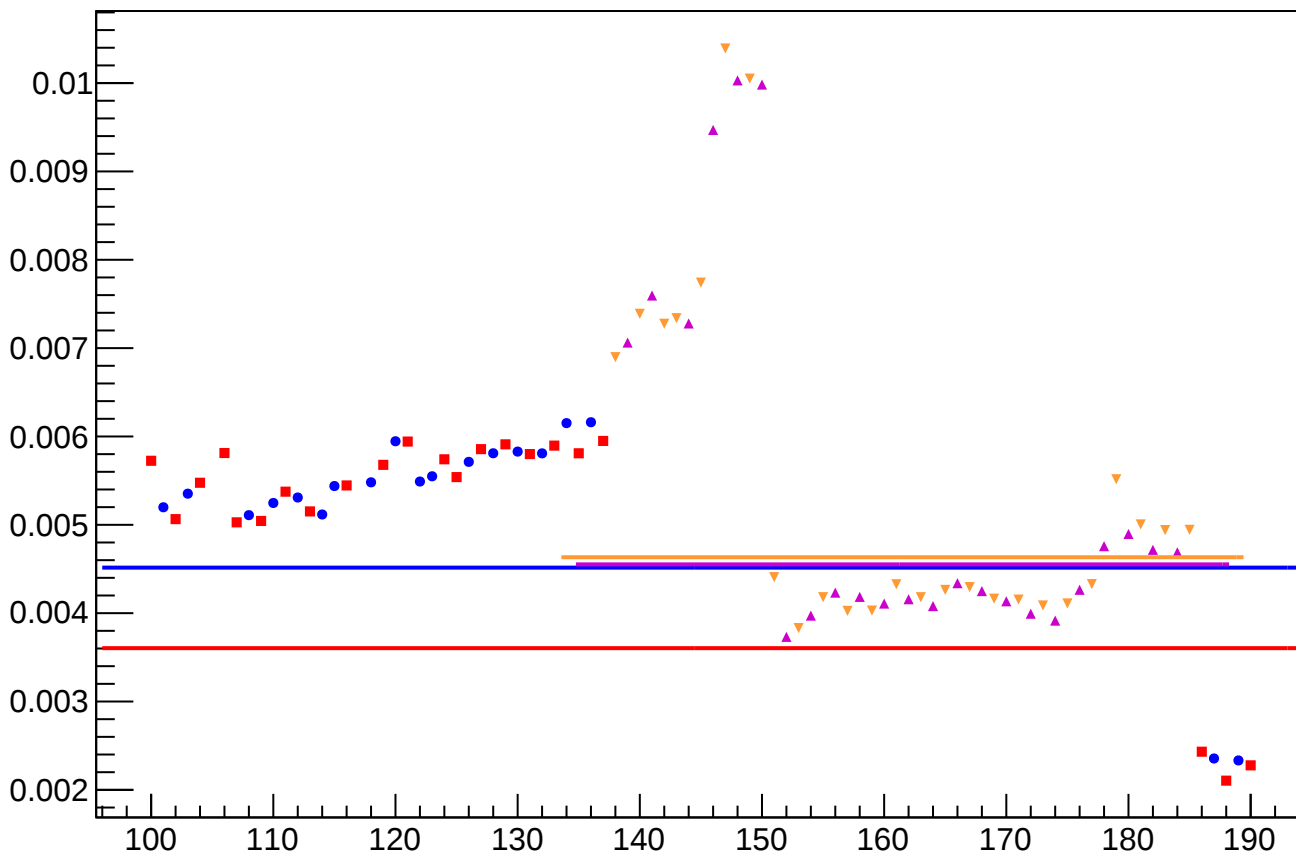
Right: 2.299+/-0.000  $\chi^2/\text{NDF}$ : 2011969764419.5/40

In: 1.151+/-0.000  $\chi^2/\text{NDF}$ : 2078949715404.3/41

Out: 1.142+/-0.000  $\chi^2/\text{NDF}$ : 2250429681134.1/46

All: 1.146+/-0.000  $\chi^2/\text{NDF}$ : 4329430522975.0

# yield\_bpm1i04Y\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1504570.0/18

Left Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2114007.7/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 2942921.8/21

Left In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2237666.9/22

Left: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 4356682.7/47

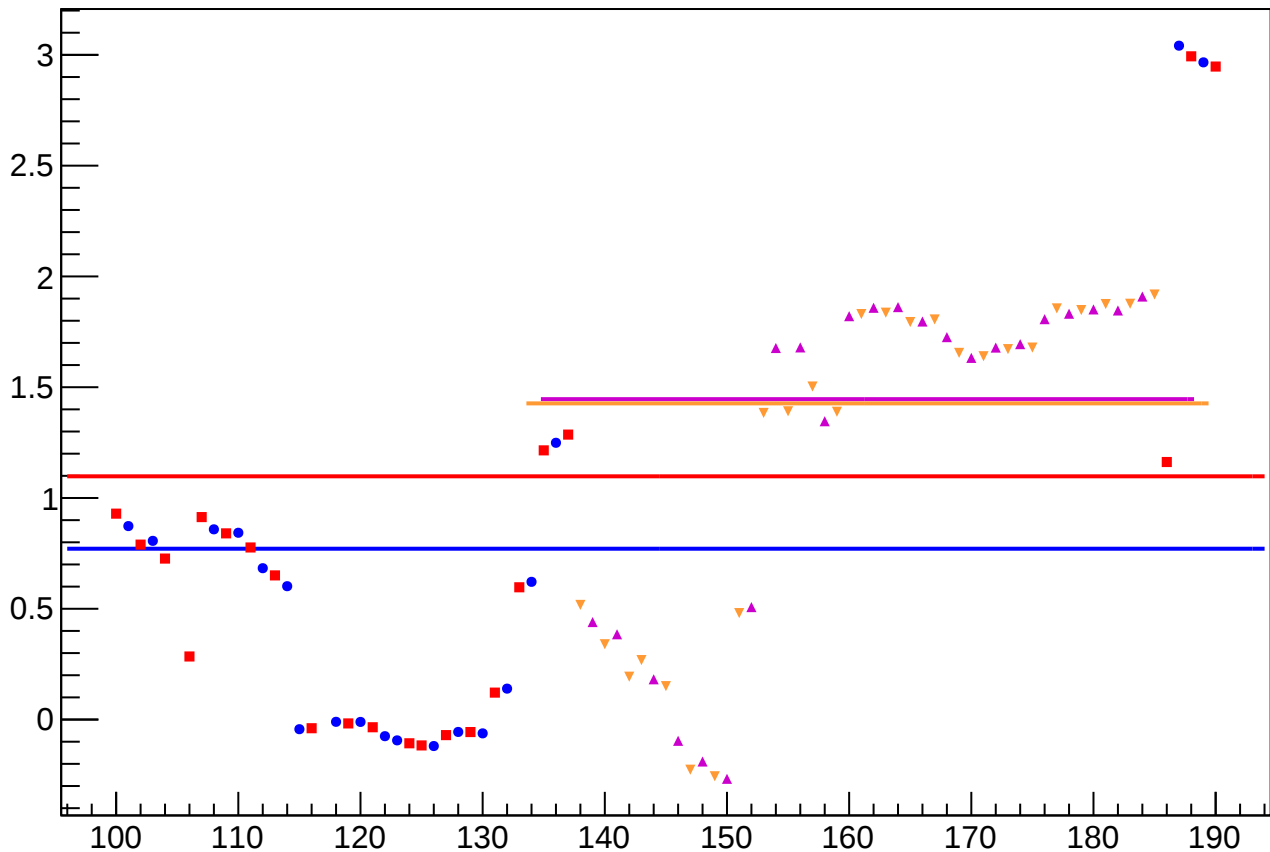
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 4780152.7/40

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 3742837.4/41

Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 5729929.4/46

All: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 9601250.6/88

# yield\_bpm1i06X\_mean vs Slug, Sign Corrected



Right In: 0.771 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 39033761084.7/18

Left Out: 1.427 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 49990787038.3/24

Right Out: 1.098 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 63091032331.3/21

Left In: 1.446 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 53752493130.3/22

Left: 1.436 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 103768857952.7/47

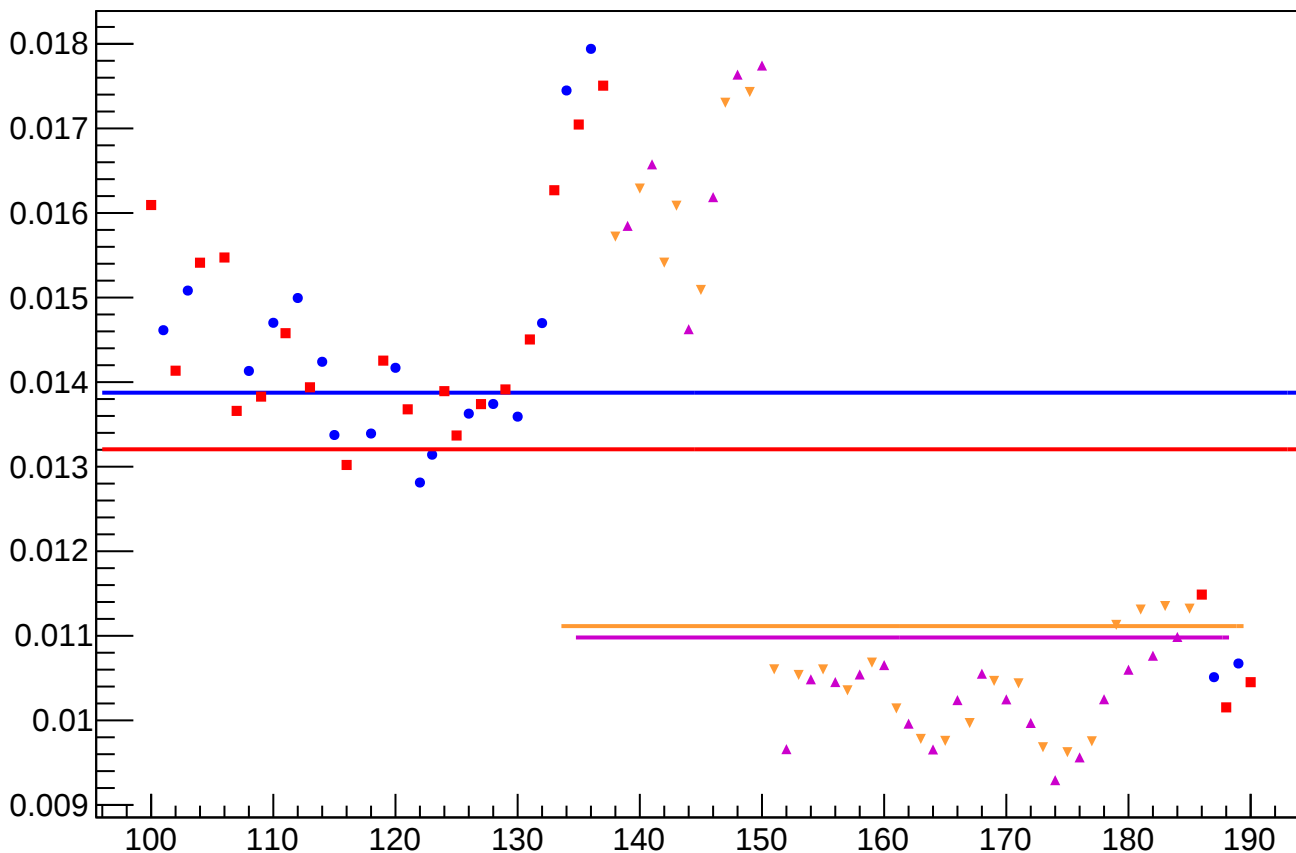
Right: 0.955 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 104361866263.4/40

In: 1.302 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 106124352339.9/41

Out: 1.344 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 116967774190.3/46

All: 1.324 $\pm$ 0.000  $\chi^2/\text{NDF}$ : 223250257138.6

# yield\_bpm1i06X\_rms vs Slug, Sign Corrected



Right In: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 246441.0/18

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :1227493.2/24

Right Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 392775.5/21

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

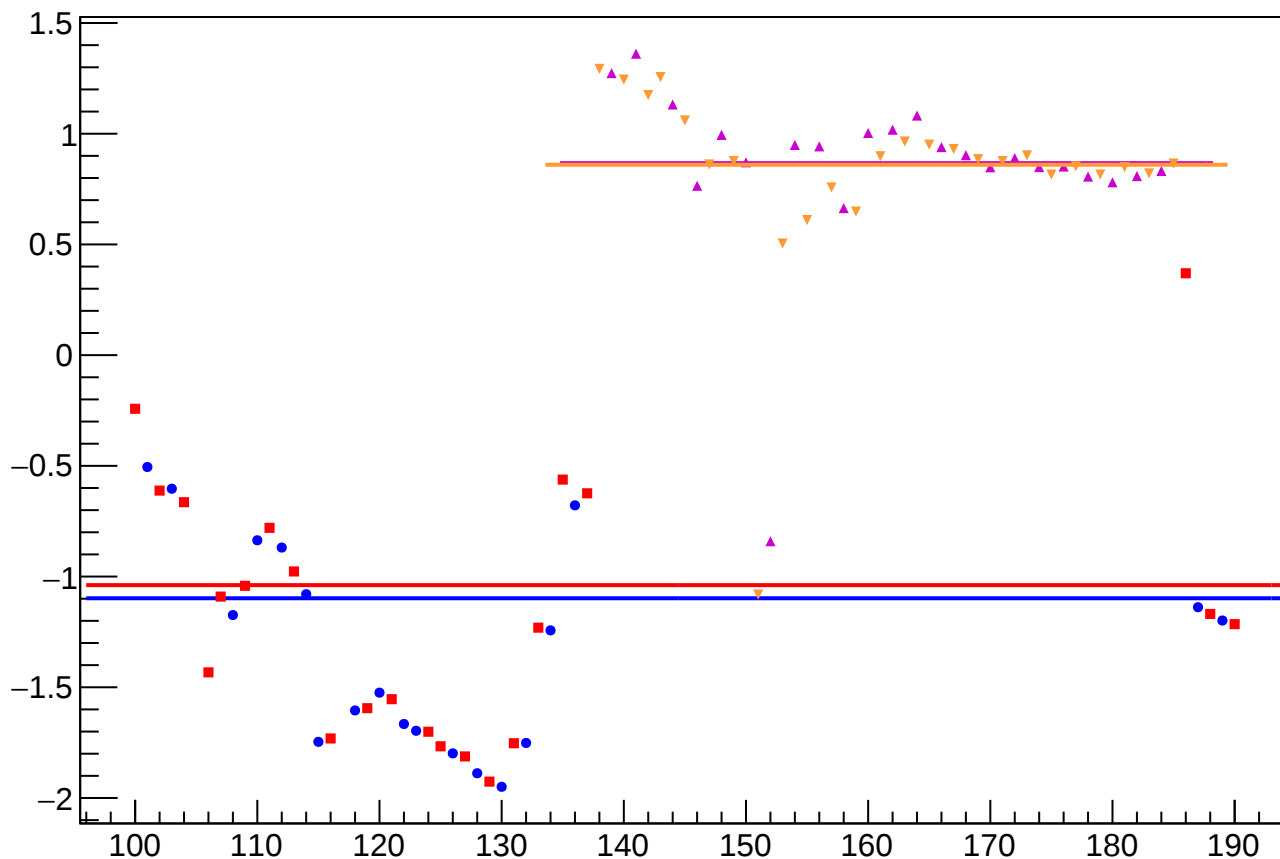
Right: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 657989.5/40

In: 0.012+/-0.000  $\chi^2/\text{NDF}$ :2001723.2/41

Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ :1933834.9/46

All: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 3935927.7/88

# yield\_bpm1i06Y\_mean vs Slug, Sign Corrected



Right In:  $-1.098 \pm 0.000$   $\chi^2/\text{NDF}: 55673872255.4/18$

Left Out:  $0.860 \pm 0.000$   $\chi^2/\text{NDF}: 126335891175.4/24$

Right Out:  $-1.039 \pm 0.000$   $\chi^2/\text{NDF}: 62636213469.3/21$

Left In:  $0.867 \pm 0.000$   $\chi^2/\text{NDF}: 147039402944.6/22$

Left:  $0.863 \pm 0.000$   $\chi^2/\text{NDF}: 273407894621.9/47$

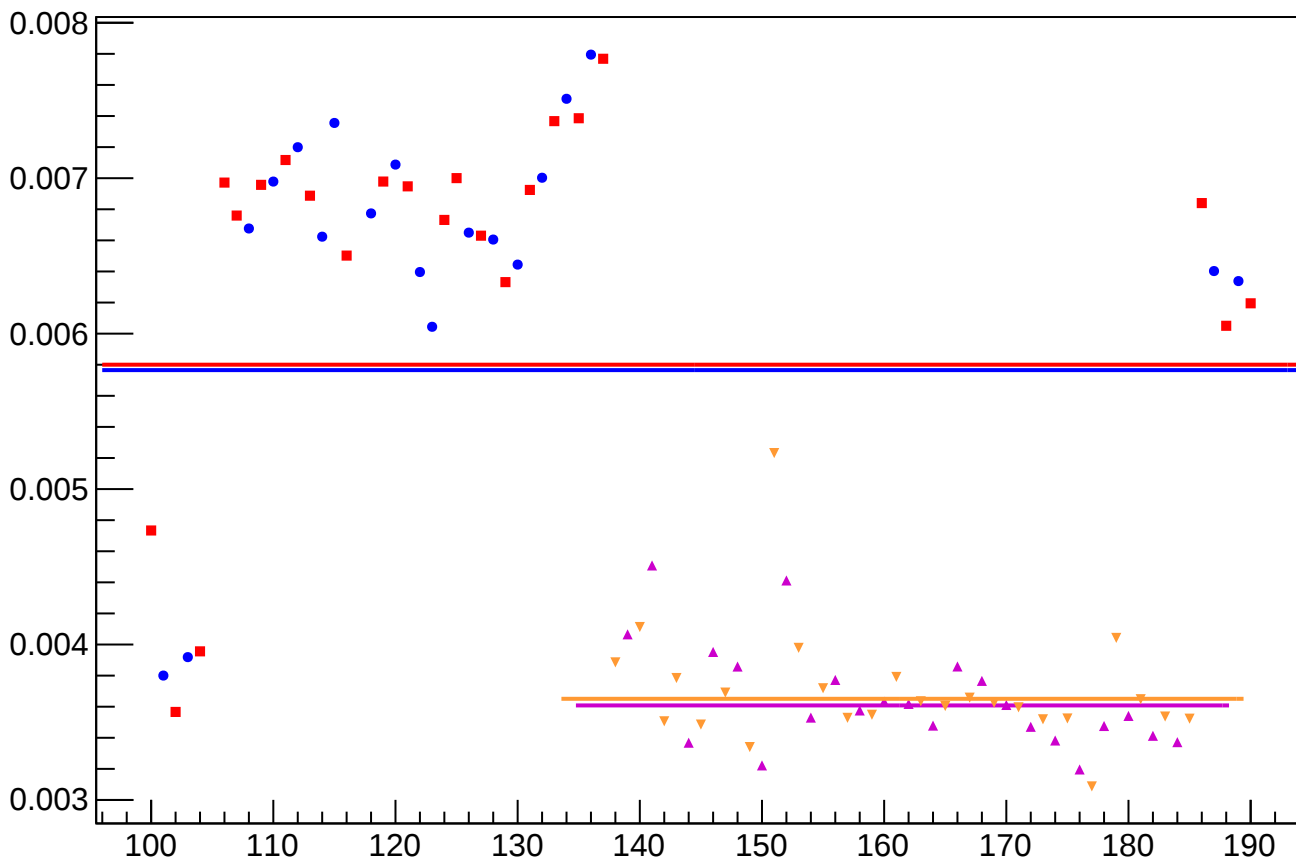
Right:  $-1.066 \pm 0.000$   $\chi^2/\text{NDF}: 118681289989.7/40$

In:  $0.593 \pm 0.000$   $\chi^2/\text{NDF}: 854038329912.3/41$

Out:  $0.567 \pm 0.000$   $\chi^2/\text{NDF}: 886567764400.1/46$

All:  $0.579 \pm 0.000$   $\chi^2/\text{NDF}: 1741088066356.$

# yield\_bpm1i06Y\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 849287.1/18

Left Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :237262.6/24

Right Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 946649.7/21

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

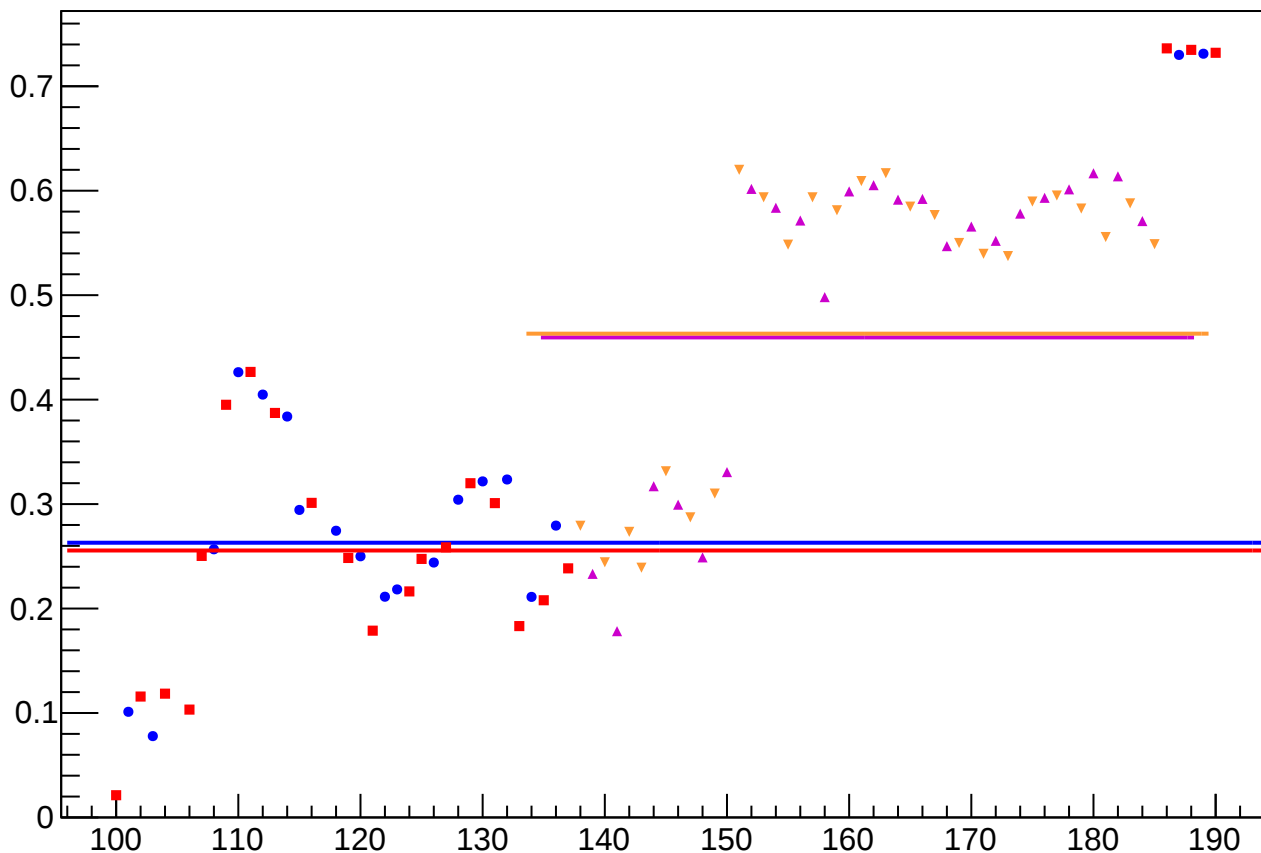
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1796193.9/40

In: 0.004+/-0.000  $\chi^2/\text{NDF}$ :2646890.5/41

Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ :2972220.2/46

All: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 5626819.0/88

# yield\_bpm2i01X\_mean vs Slug, Sign Corrected



Right In: 0.263+/-0.000  $\chi^2/\text{NDF}$ : 29973995757.0/18

Left Out: 0.463+/-0.000  $\chi^2/\text{NDF}$ : 102506270538.7/24

Right Out: 0.256+/-0.000  $\chi^2/\text{NDF}$ : 50504028776.9/21

Left In: 0.460+/-0.000  $\chi^2/\text{NDF}$ : 104559088628.4/22

Left: 0.461+/-0.000  $\chi^2/\text{NDF}$ : 207093695005.5/47

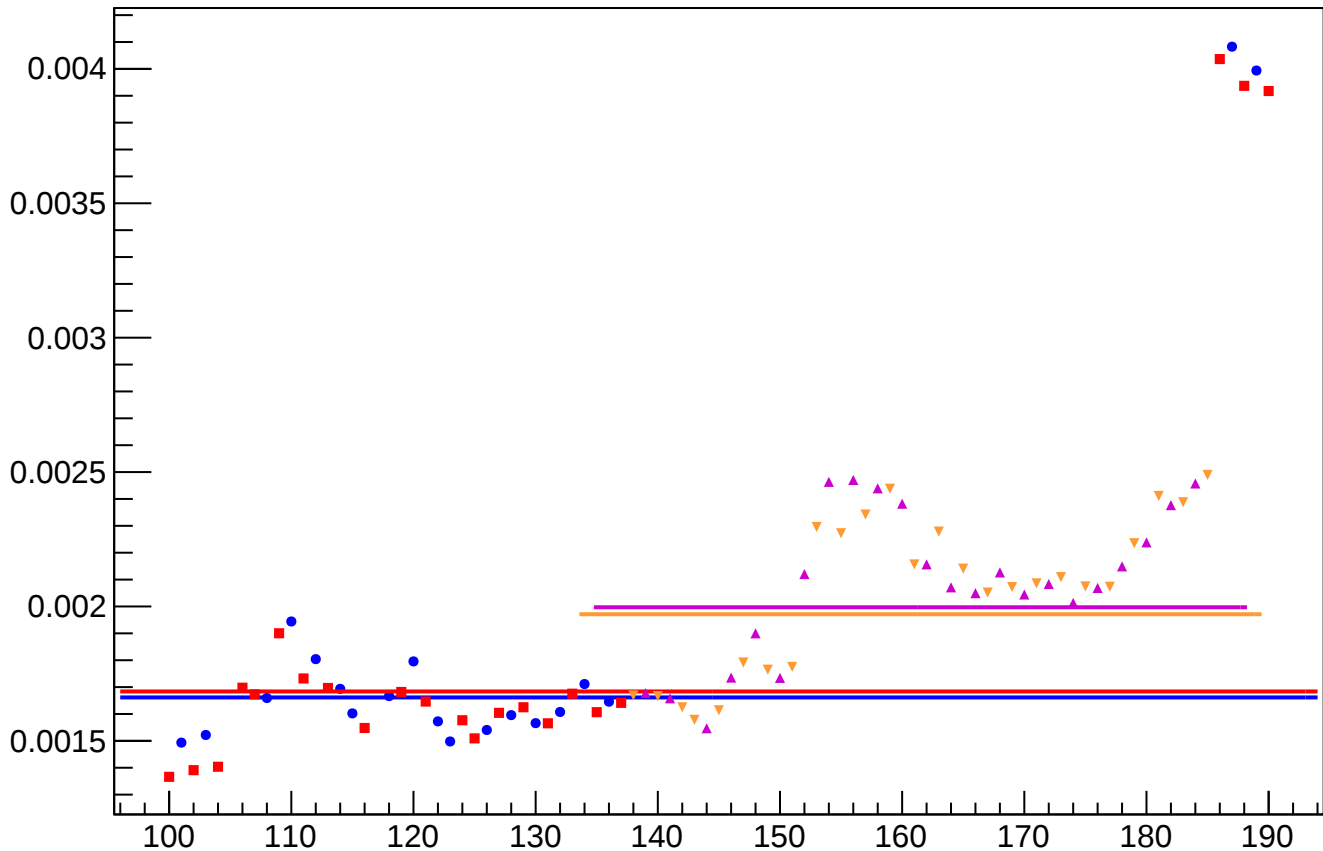
Right: 0.259+/-0.000  $\chi^2/\text{NDF}$ : 80550779449.0/40

In: 0.387+/-0.000  $\chi^2/\text{NDF}$ : 194705090077.1/41

Out: 0.384+/-0.000  $\chi^2/\text{NDF}$ : 228290578752.5/46

All: 0.385+/-0.000  $\chi^2/\text{NDF}$ : 423017327683.9

# yield\_bpm2i01X\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 490886.9/18

Left Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 730203.8/24

Right Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 1190902.7/21

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

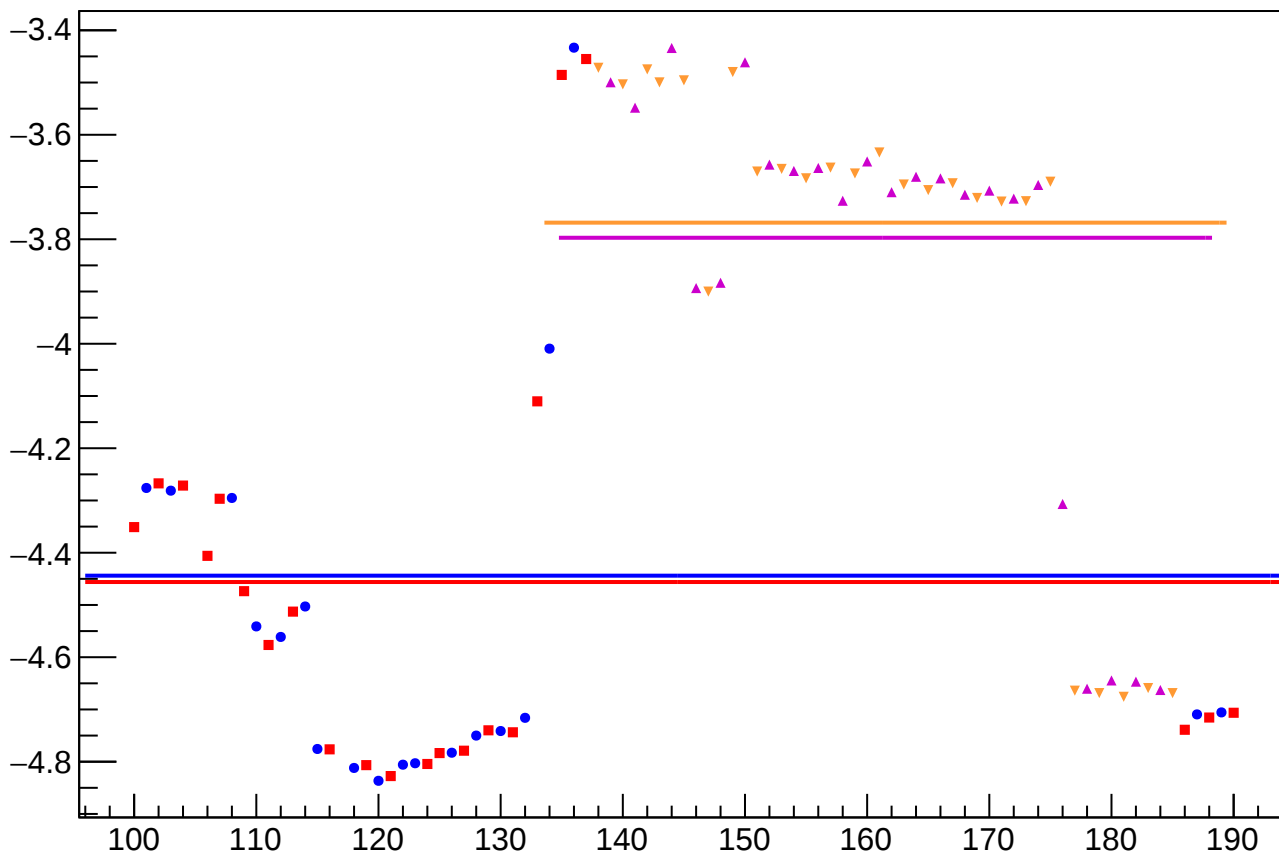
Right: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 1683094.9/40

In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 1507955.2/41

Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 2209436.6/46

All: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 3718224.5/88

# yield\_bpm2i01Y\_mean vs Slug, Sign Corrected



Right In: -4.444+/-0.000  $\chi^2/\text{NDF}$ : 396545808037.2/18

Left Out: -3.768+/-0.000  $\chi^2/\text{NDF}$ : 516780173940.8/24

Right Out: -4.456+/-0.000  $\chi^2/\text{NDF}$ : 337102537903.3/21

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

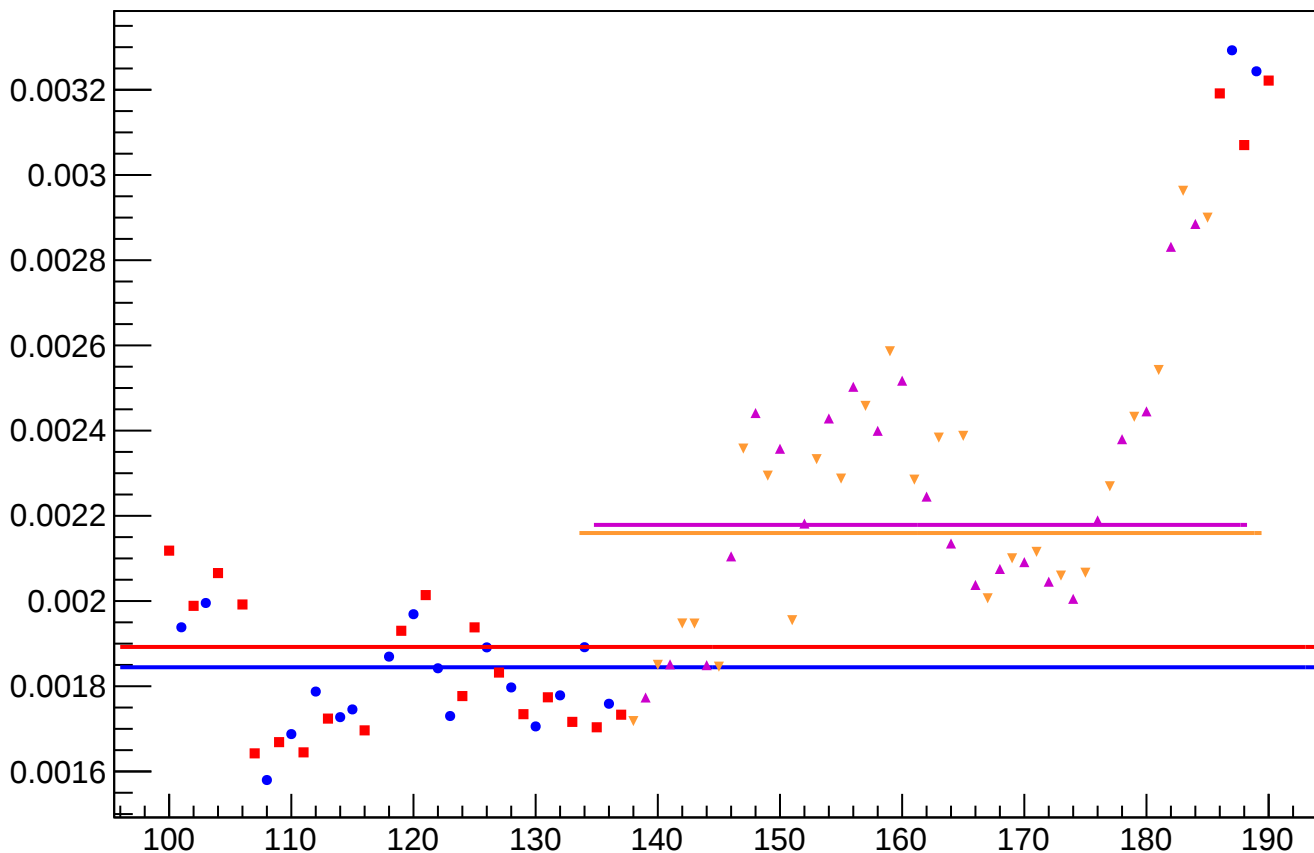
Right: -4.450+/-0.000  $\chi^2/\text{NDF}$ : 733808080832.1/40

In: -4.034+/-0.000  $\chi^2/\text{NDF}$ : 1385051972839.8/41

Out: -4.026+/-0.000  $\chi^2/\text{NDF}$ : 1529870057638.7/46

All: -4.030+/-0.000  $\chi^2/\text{NDF}$ : 2915106469157

# yield\_bpm2i01Y\_rms vs Slug, Sign Corrected



Right In: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 282613.4/18

Left Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :547831.5/24

Right Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 618856.5/21

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

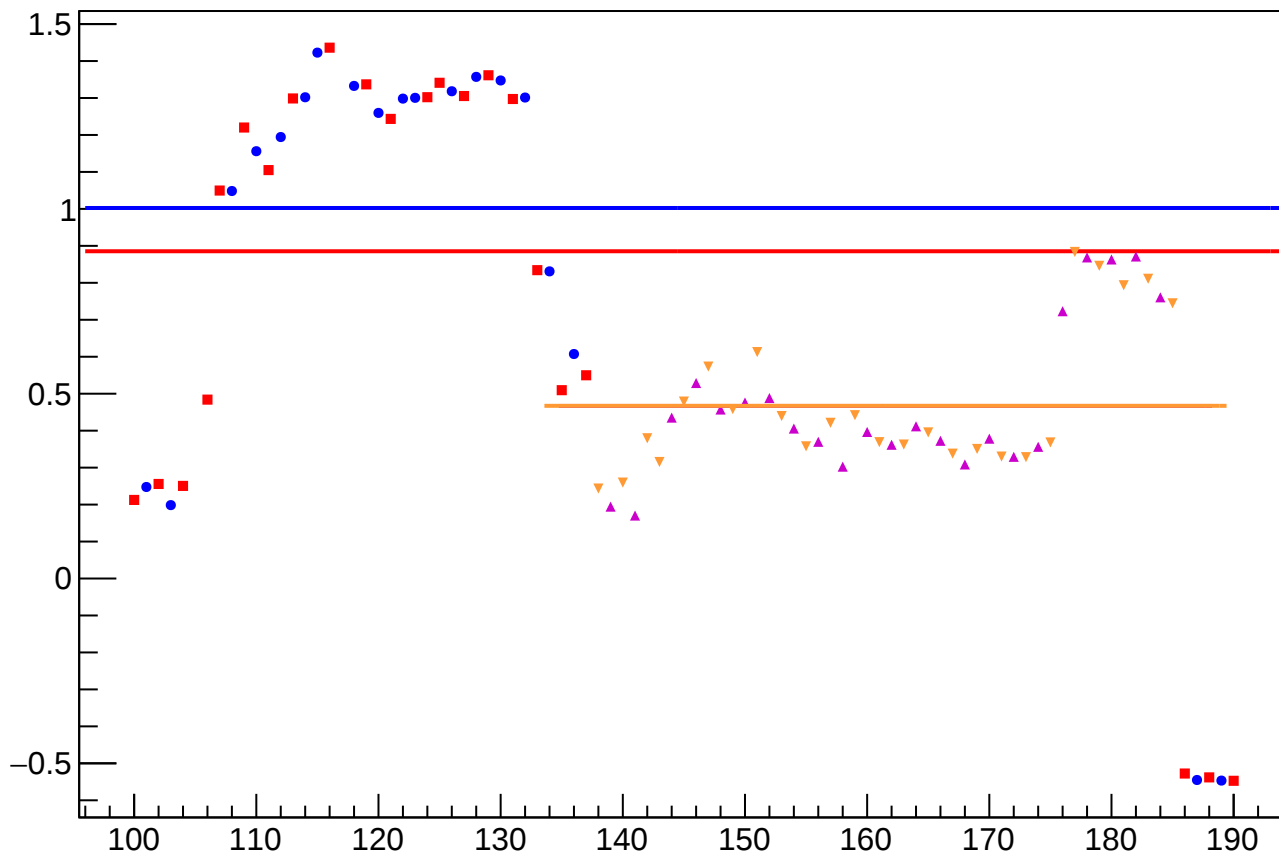
Right: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 906384.1/40

In: 0.002+/-0.000  $\chi^2/\text{NDF}$ :1036106.8/41

Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :1370978.1/46

All: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 2407139.3/88

# yield\_bpm2i02X\_mean vs Slug, Sign Corrected



Right In: 1.002 $\pm$ 0.000  $\chi^2$ /NDF: 32592881325.6/18

Left Out: 0.467 $\pm$ 0.000  $\chi^2$ /NDF: 7359344143.3/24

Right Out: 0.885 $\pm$ 0.000  $\chi^2$ /NDF: 54686160913.7/21

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

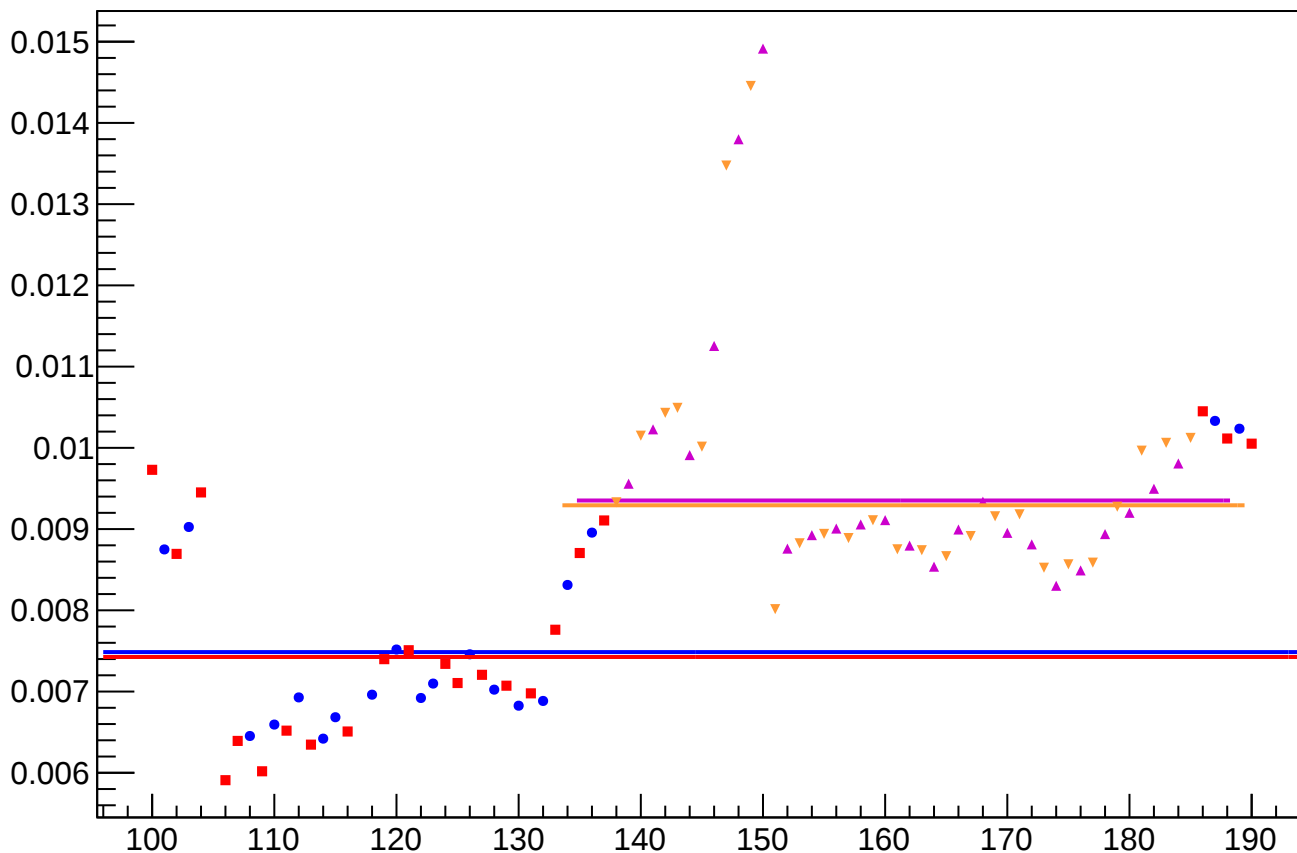
Right: 0.939 $\pm$ 0.000  $\chi^2$ /NDF: 88233482347.8/40

In: 0.679 $\pm$ 0.000  $\chi^2$ /NDF: 62754400387.5/41

Out: 0.644 $\pm$ 0.000  $\chi^2$ /NDF: 77487134509.6/46

All: 0.661 $\pm$ 0.000  $\chi^2$ /NDF: 140456783868.6

# yield\_bpm2i02X\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 277592.9/18

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :528279.5/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 521668.6/21

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

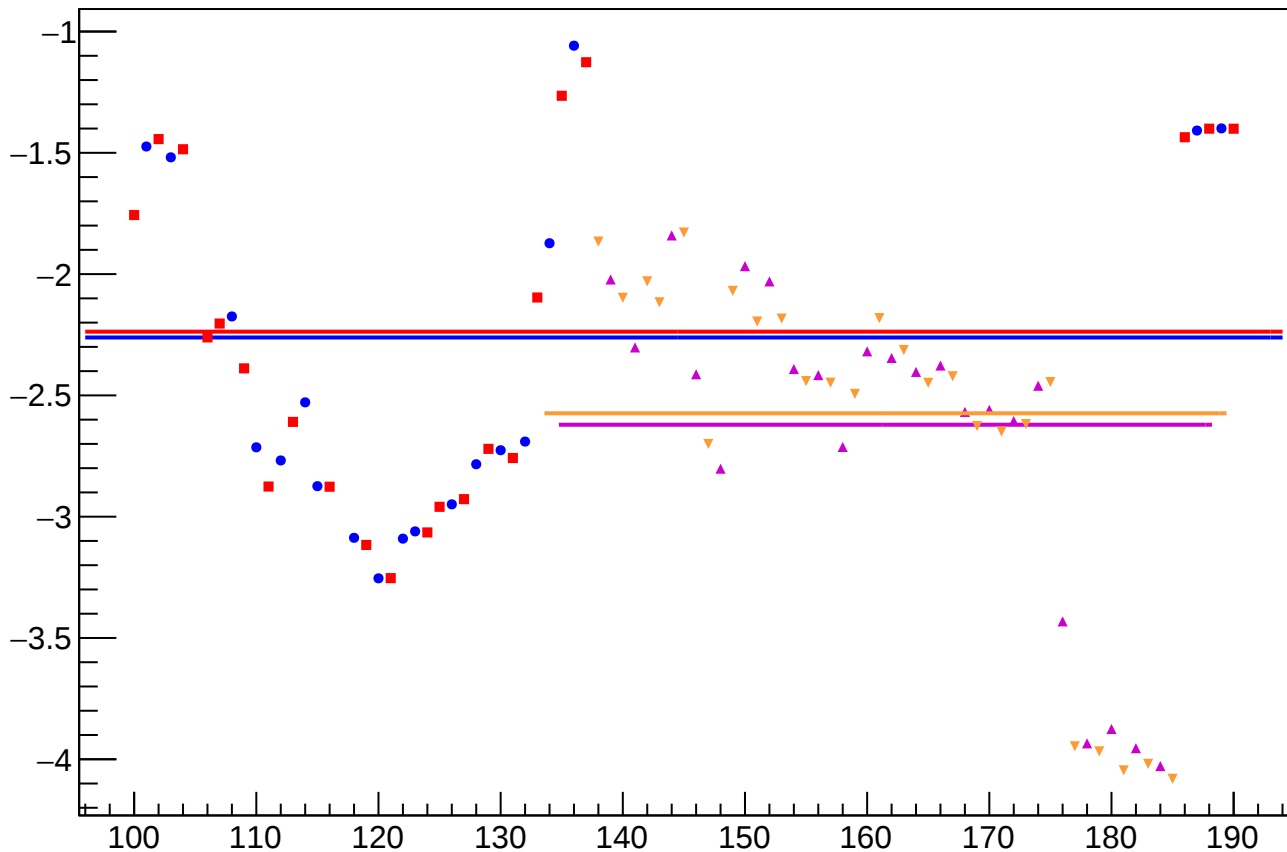
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 799765.2/40

In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1372383.2/41

Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1665726.5/46

All: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 3042037.7/88

# yield\_bpm2i02Y\_mean vs Slug, Sign Corrected



Right In:  $-2.261 \pm 0.000$   $\chi^2/\text{NDF}: 78650120549.9/18$

Left Out:  $-2.574 \pm 0.000$   $\chi^2/\text{NDF}: 99176112704.9/24$

Right Out:  $-2.237 \pm 0.000$   $\chi^2/\text{NDF}: 78034405281.3/21$

Left In:  $-2.621 \pm 0.000$   $\chi^2/\text{NDF}: 80862402796.4/22$

Left:  $-2.597 \pm 0.000$   $\chi^2/\text{NDF}: 180296288698.4/47$

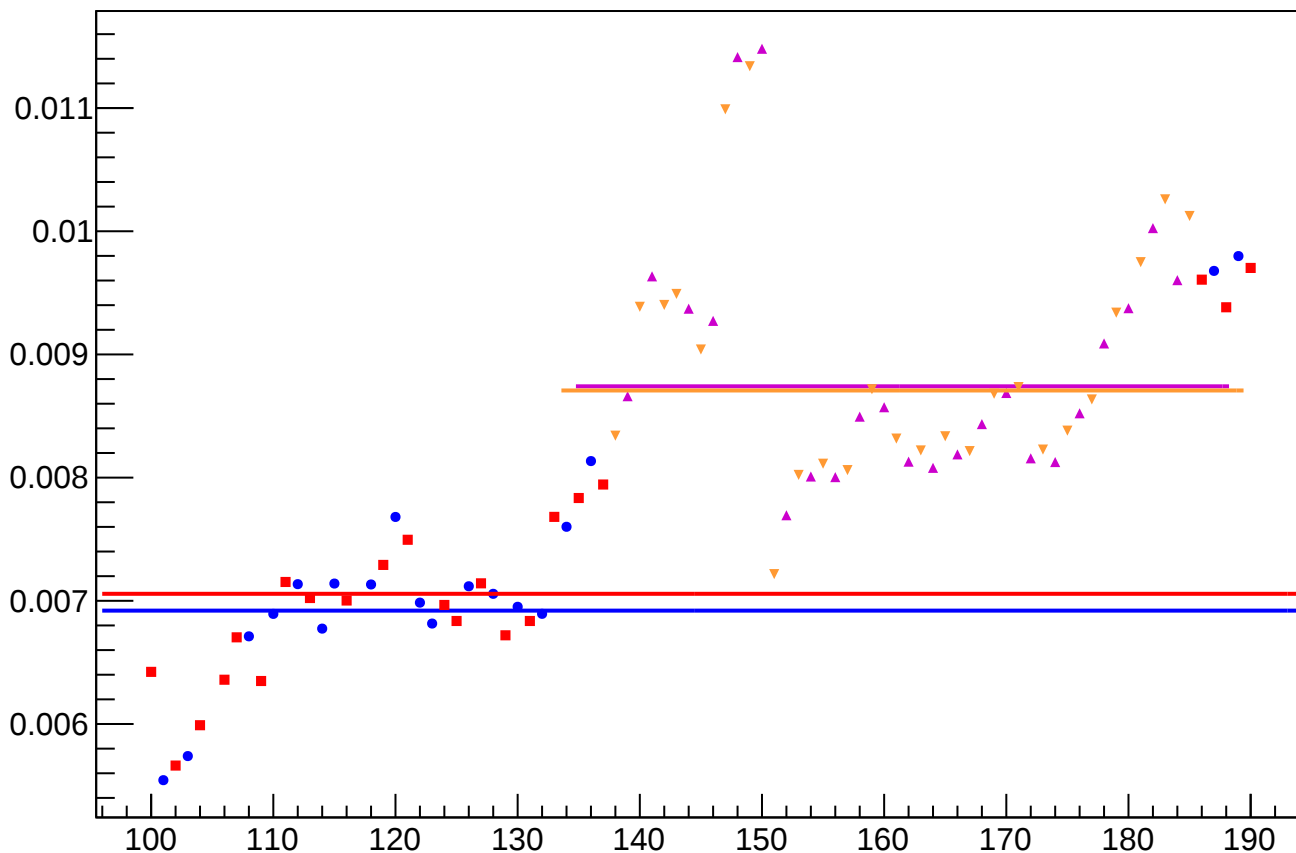
Right:  $-2.248 \pm 0.000$   $\chi^2/\text{NDF}: 156730892687.6/40$

In:  $-2.477 \pm 0.000$   $\chi^2/\text{NDF}: 171134488554.6/41$

Out:  $-2.433 \pm 0.000$   $\chi^2/\text{NDF}: 188518175432.9/46$

All:  $-2.454 \pm 0.000$   $\chi^2/\text{NDF}: 360020158084.0$

# yield\_bpm2i02Y\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 276663.8/18

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :369376.5/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 361887.1/21

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

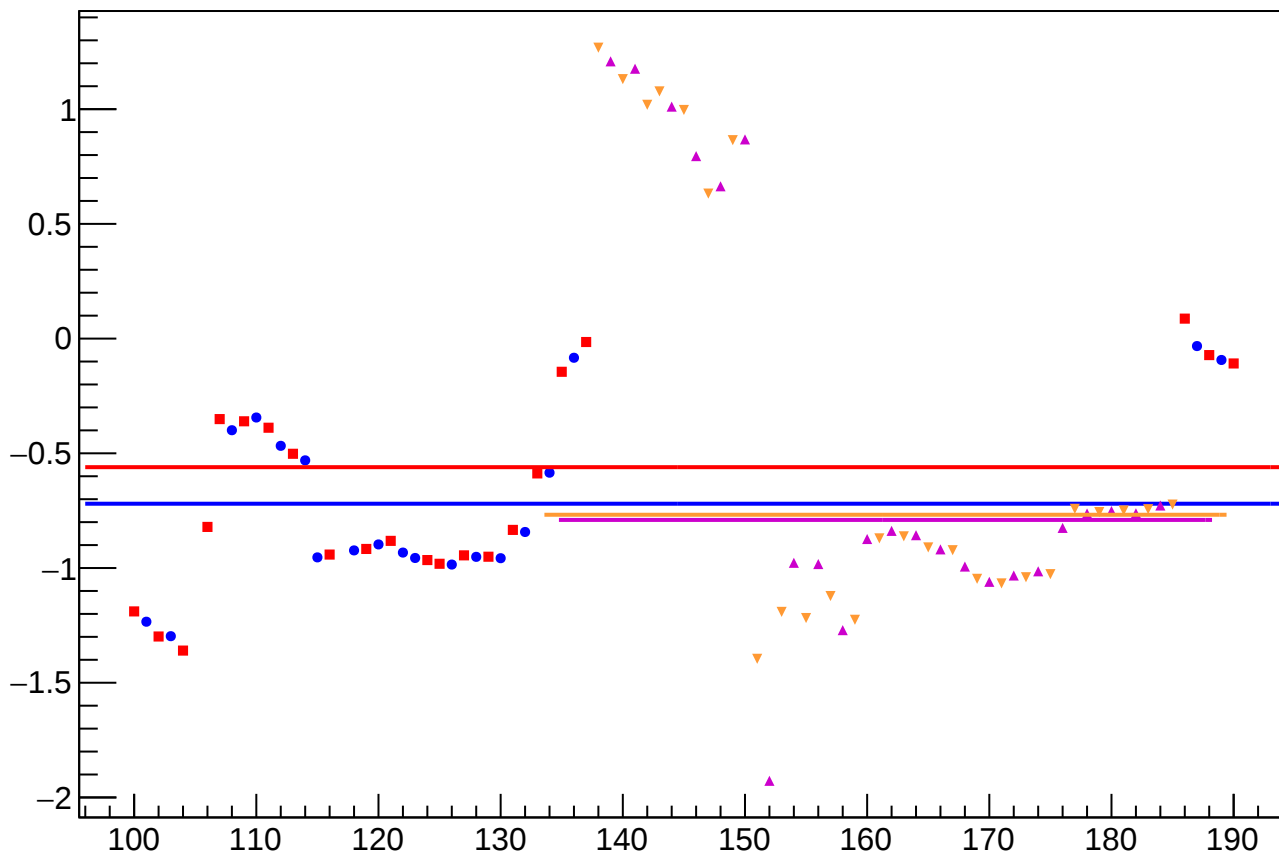
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 641530.1/40

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ :1226322.5/41

Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ :1275348.3/46

All: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 2501695.8/88

# yield\_bpm0i01X\_mean vs Slug, Sign Corrected



Right In: -0.720+/-0.000  $\chi^2/\text{NDF}$ : 11399025246.9/18

Left Out: -0.768+/-0.000  $\chi^2/\text{NDF}$ : 120774855982.9/24

Right Out: -0.560+/-0.000  $\chi^2/\text{NDF}$ : 18446594646.2/21

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

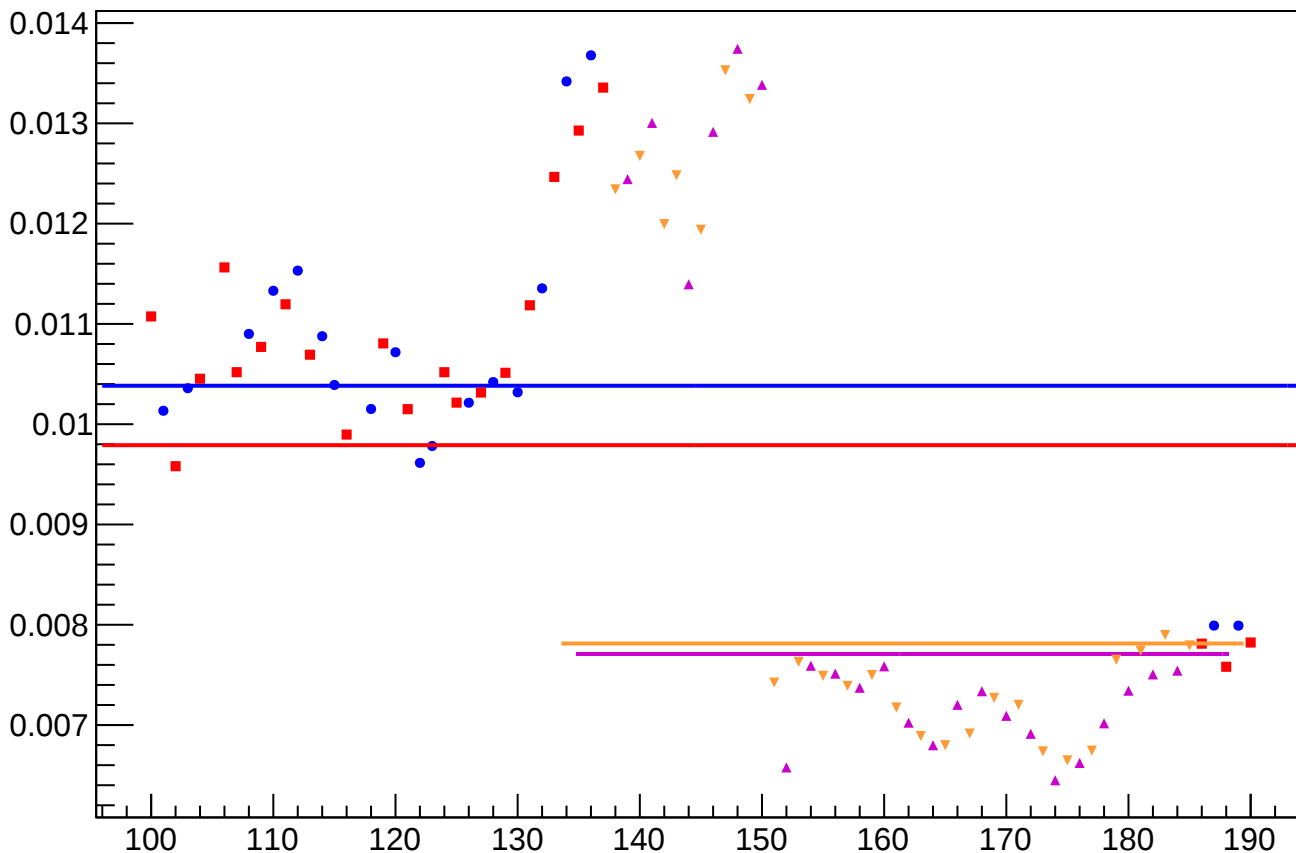
Right: -0.629+/-0.000  $\chi^2/\text{NDF}$ : 30795141894.8/40

In: -0.777+/-0.000  $\chi^2/\text{NDF}$ : 135116180576.6/41

Out: -0.719+/-0.000  $\chi^2/\text{NDF}$ : 142068975540.1/46

All: -0.747+/-0.000  $\chi^2/\text{NDF}$ : 277768044590.7

# yield\_bpm0i01X\_rms vs Slug, Sign Corrected



Right In: 0.010 $\pm$ 0.000  $\chi^2$ /NDF: 255838.7/18

Left Out: 0.008 $\pm$ 0.000  $\chi^2$ /NDF:1705997.6/24

Right Out: 0.010 $\pm$ 0.000  $\chi^2$ /NDF: 439758.1/21

Left In: 0.008 $\pm$ 0.000  $\chi^2$ /NDF:1746653.6/22

Left: 0.008 $\pm$ 0.000  $\chi^2$ /NDF: 3455681.9/47

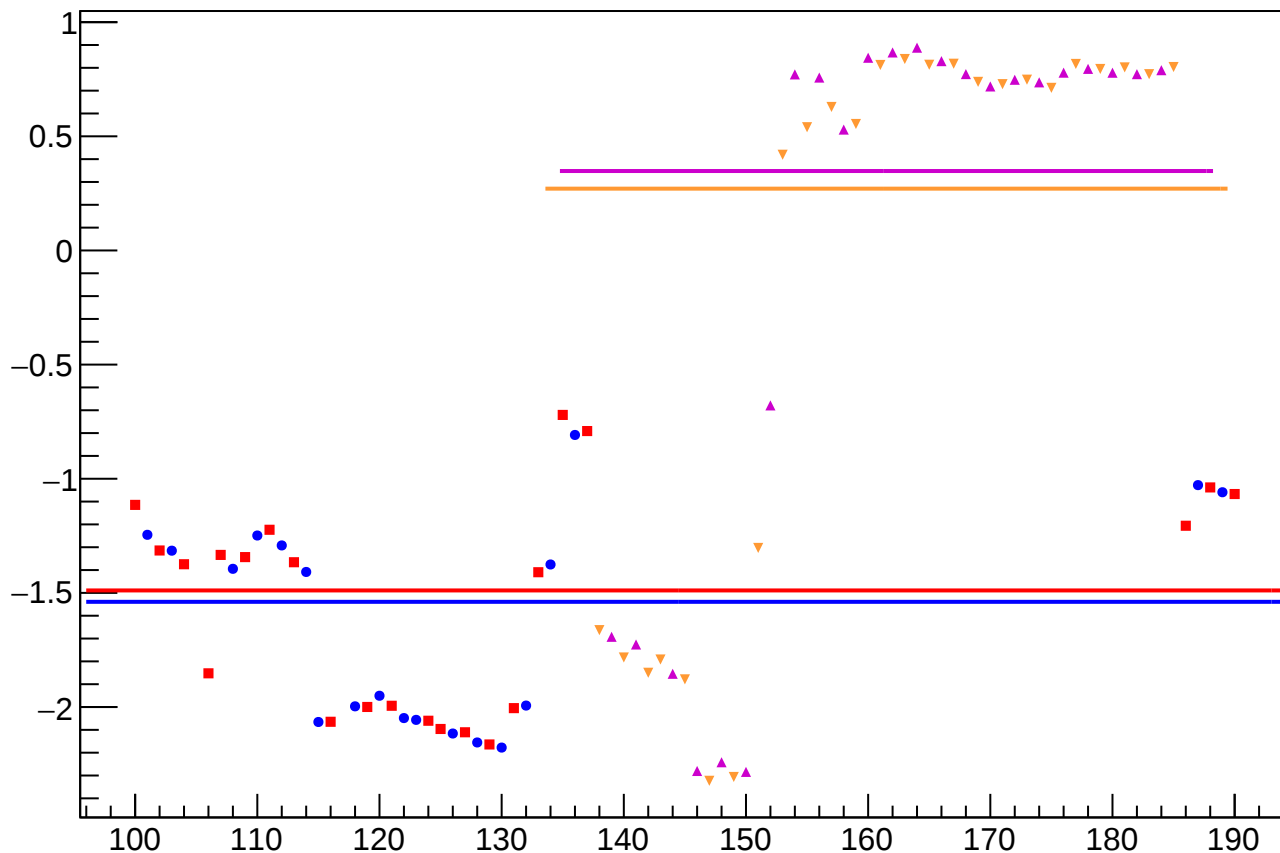
Right: 0.010 $\pm$ 0.000  $\chi^2$ /NDF: 721894.3/40

In: 0.008 $\pm$ 0.000  $\chi^2$ /NDF:2761797.8/41

Out: 0.008 $\pm$ 0.000  $\chi^2$ /NDF:2663539.9/46

All: 0.008 $\pm$ 0.000  $\chi^2$ /NDF: 5426141.2/88

# yield\_bpm0i01Y\_mean vs Slug, Sign Corrected



Right In:  $-1.539 \pm 0.000$   $\chi^2/\text{NDF}: 160005211512.8/18$

Left Out:  $0.271 \pm 0.000$   $\chi^2/\text{NDF}: 2583233987355.9/24$

Right Out:  $-1.489 \pm 0.000$   $\chi^2/\text{NDF}: 151074469014.1/21$

Left In:  $0.348 \pm 0.000$   $\chi^2/\text{NDF}: 2274004426513.8/22$

Left:  $0.308 \pm 0.000$   $\chi^2/\text{NDF}: 4864843200778.2/47$

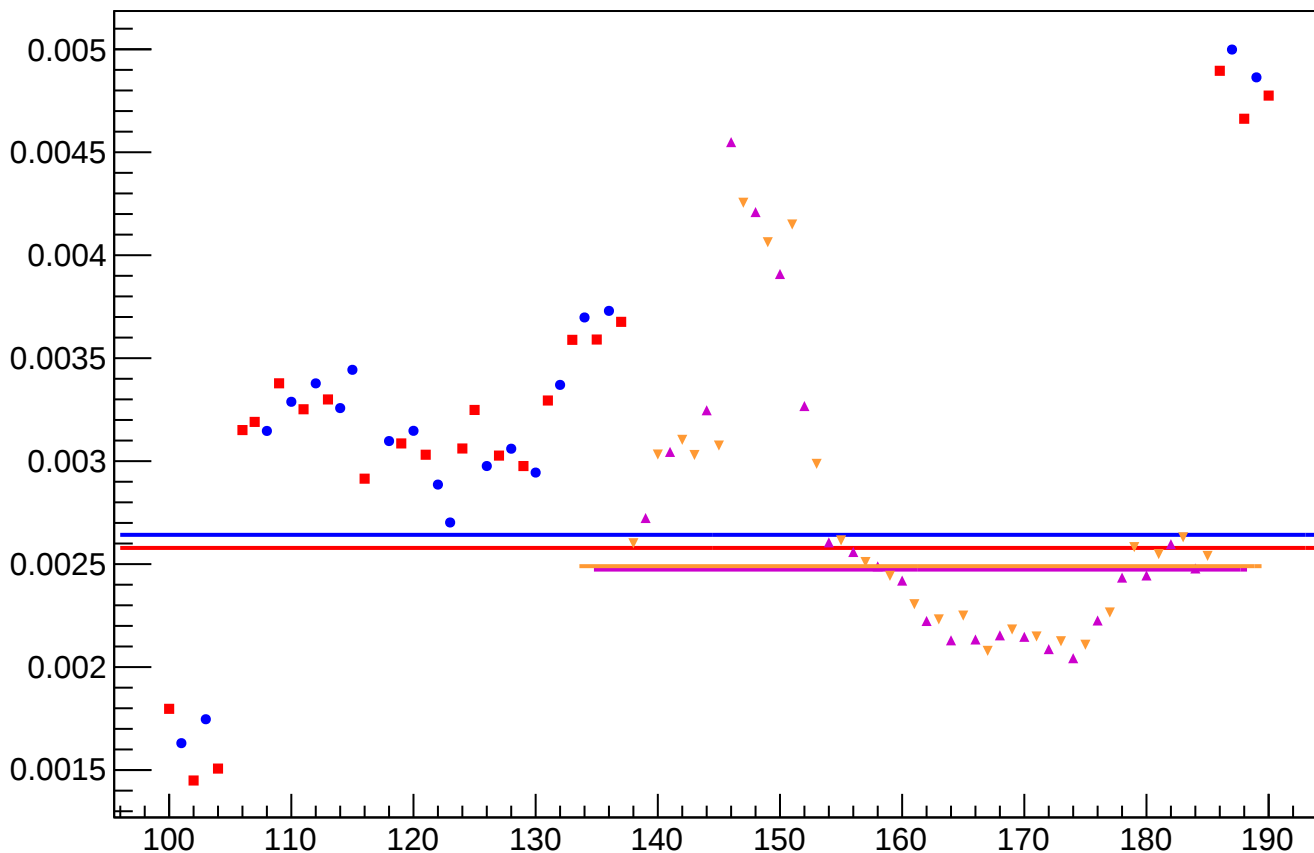
Right:  $-1.512 \pm 0.000$   $\chi^2/\text{NDF}: 312258777605.9/40$

In:  $-0.144 \pm 0.000$   $\chi^2/\text{NDF}: 4738695214328.4/41$

Out:  $-0.227 \pm 0.000$   $\chi^2/\text{NDF}: 5033522591859.4/46$

All:  $-0.188 \pm 0.000$   $\chi^2/\text{NDF}: 9784420225236$

# yield\_bpm0i01Y\_rms vs Slug, Sign Corrected



Right In: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 1280929.1/18

Left Out: 0.002 $\pm$ 0.000  $\chi^2$ /NDF:1070282.7/24

Right Out: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 2191961.5/21

Left In: 0.002 $\pm$ 0.000  $\chi^2$ /NDF:1135279.8/22

Left: 0.002 $\pm$ 0.000  $\chi^2$ /NDF: 2206266.8/47

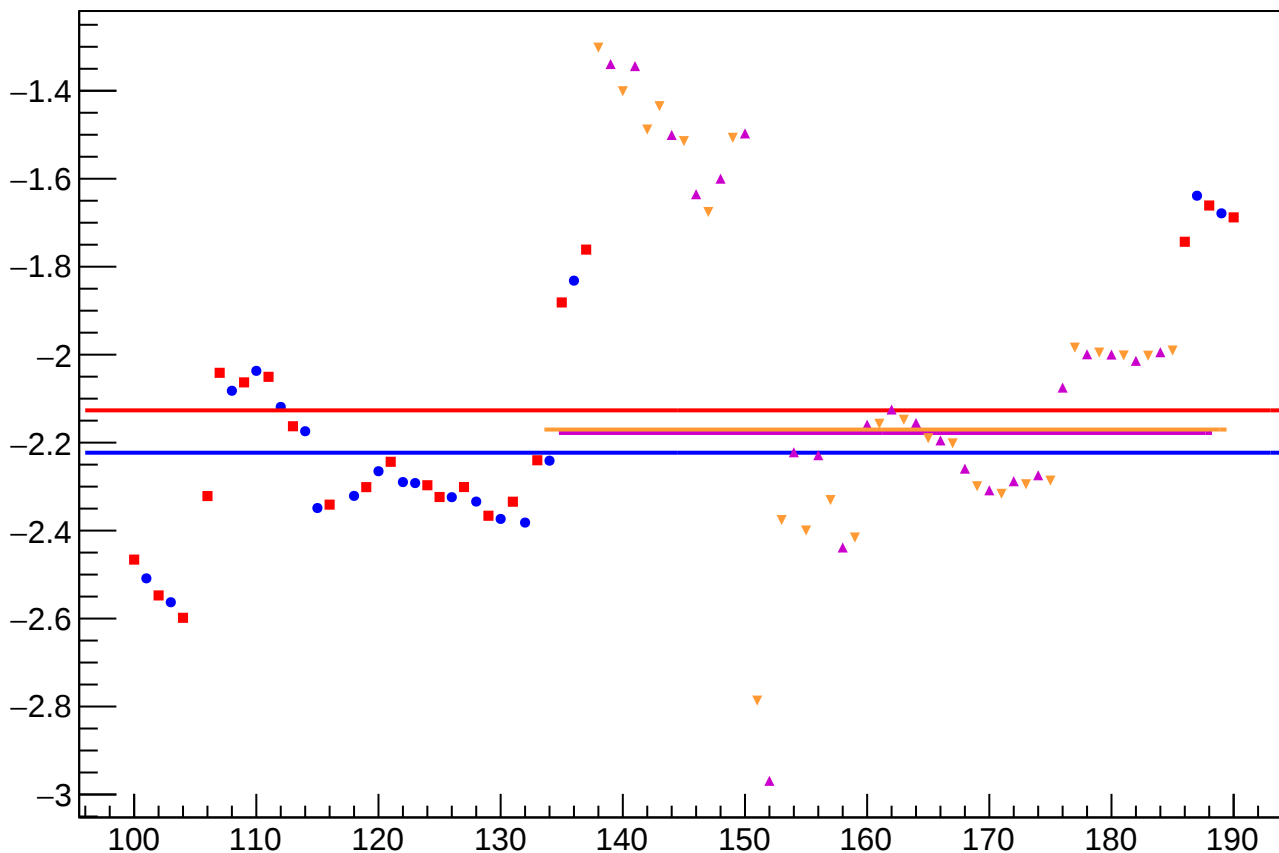
Right: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 3476723.8/40

In: 0.003 $\pm$ 0.000  $\chi^2$ /NDF:2453073.0/41

Out: 0.003 $\pm$ 0.000  $\chi^2$ /NDF:3273891.5/46

All: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 5726983.1/88

# yield\_bpm0i01aX\_mean vs Slug, Sign Corrected



Right In: -2.223+/-0.000  $\chi^2/\text{NDF}$ : 12743271507.0/18

Left Out: -2.170+/-0.000  $\chi^2/\text{NDF}$ : 59967315241.9/24

Right Out: -2.127+/-0.000  $\chi^2/\text{NDF}$ : 21617978998.1/21

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

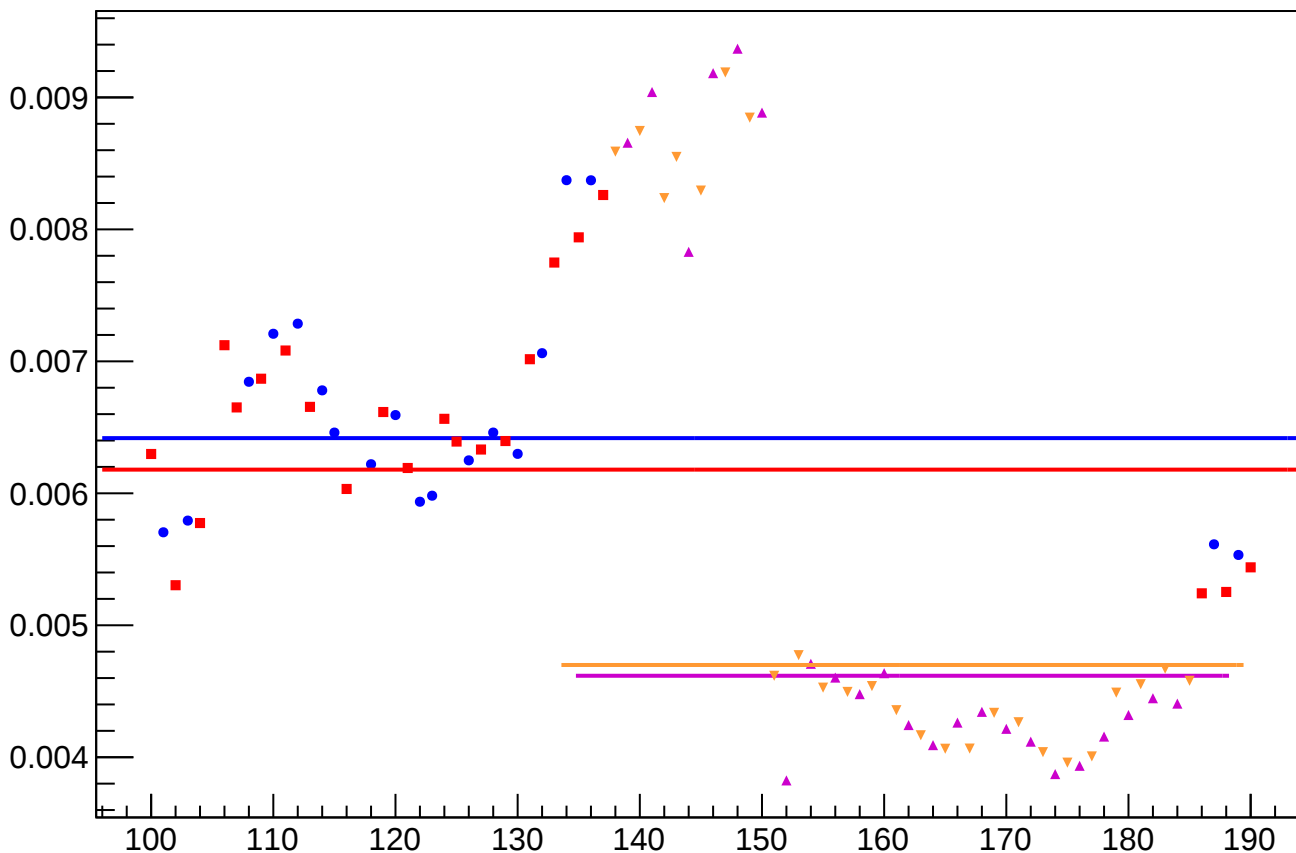
Right: -2.169+/-0.000  $\chi^2/\text{NDF}$ : 35248315947.4/40

In: -2.187+/-0.000  $\chi^2/\text{NDF}$ : 86424428673.1/41

Out: -2.160+/-0.000  $\chi^2/\text{NDF}$ : 81906053037.2/46

All: -2.173+/-0.000  $\chi^2/\text{NDF}$ : 168648160938.3

# yield\_bpm0i01aX\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 209664.2/18

Left Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ :2319588.7/24

Right Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 286635.1/21

Left In: 0.005+/-0.000  $\chi^2/\text{NDF}$ :2367440.9/22

Left: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 4691984.4/47

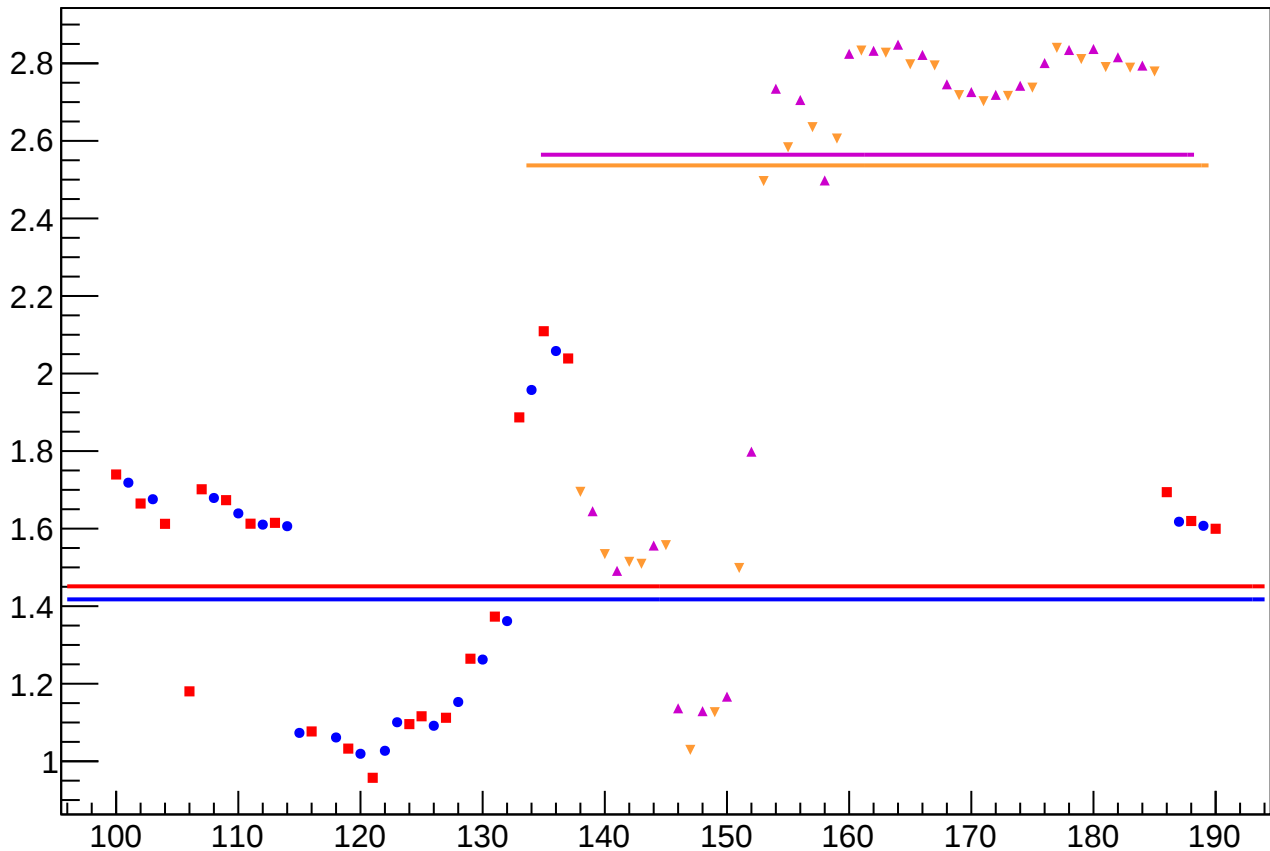
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 507204.9/40

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ :3476001.8/41

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ :3345351.7/46

All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 6826136.4/88

# yield\_bpm0i01aY\_mean vs Slug, Sign Corrected



Left: 2.550±/-0.000  $\chi^2/\text{NDF}$ : 530319507083.6/47

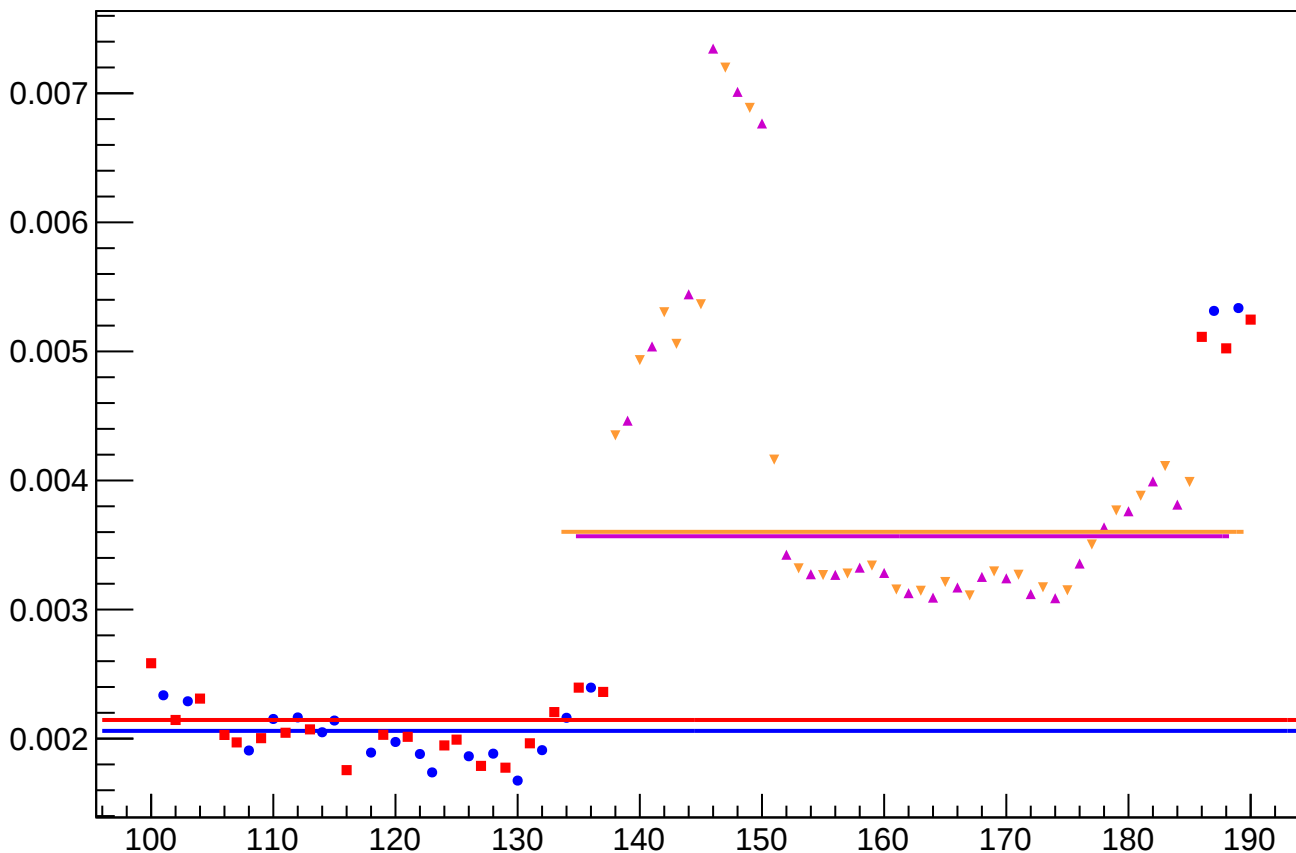
Right: 1.435±/-0.000  $\chi^2/\text{NDF}$ : 348527199649.2/40

In: 1.926±/-0.000  $\chi^2/\text{NDF}$ :1330323863916.5/41

Out: 1.930±/-0.000  $\chi^2/\text{NDF}$ :1293569383224.4/46

All: 1.928±/-0.000  $\chi^2/\text{NDF}$ : 2623912548368.

# yield\_bpm0i01aY\_rms vs Slug, Sign Corrected



Right In: 0.002 $\pm$ 0.000  $\chi^2$ /NDF: 624860.8/18

Left Out: 0.004 $\pm$ 0.000  $\chi^2$ /NDF:1410717.8/24

Right Out: 0.002 $\pm$ 0.000  $\chi^2$ /NDF: 1222467.3/21

Left In: 0.004 $\pm$ 0.000  $\chi^2$ /NDF:1563028.0/22

Left: 0.004 $\pm$ 0.000  $\chi^2$ /NDF: 2975225.3/47

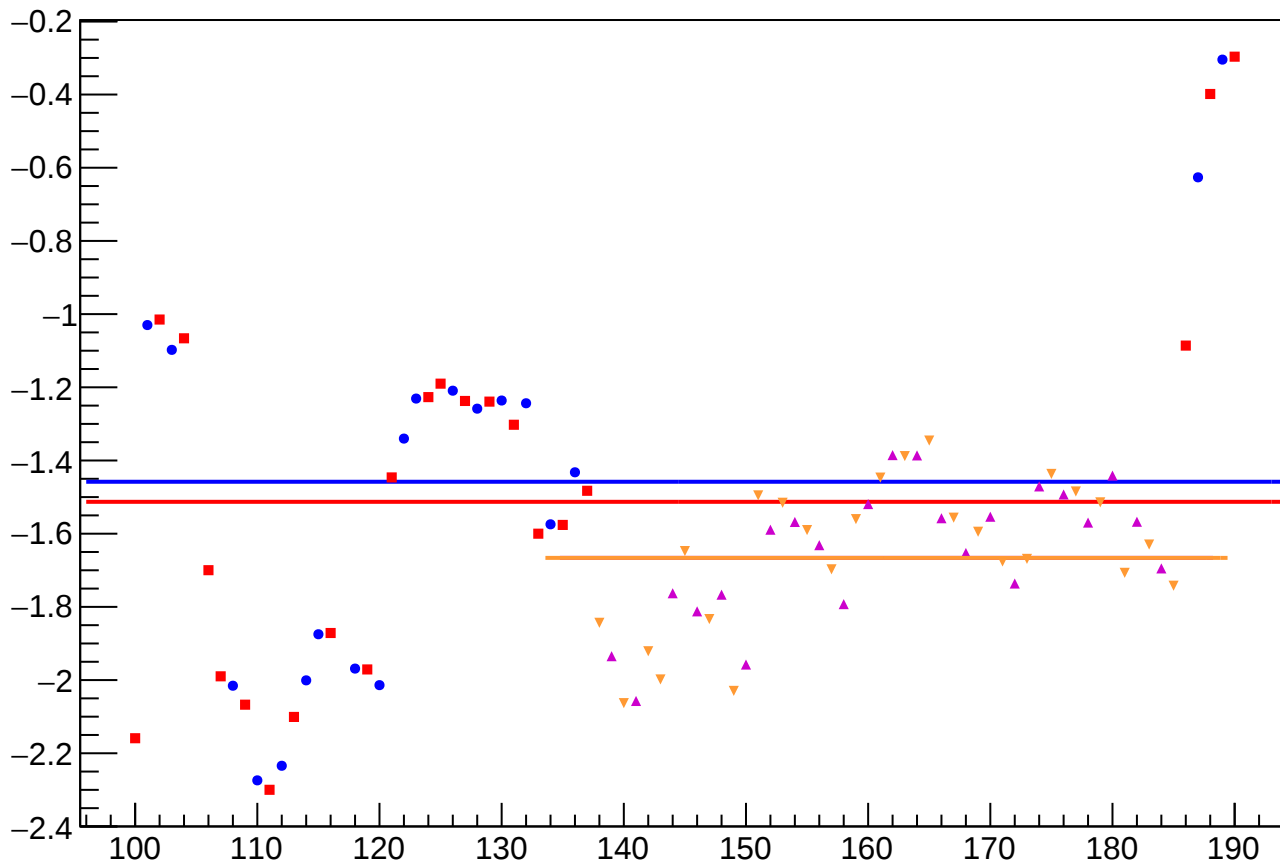
Right: 0.002 $\pm$ 0.000  $\chi^2$ /NDF: 1858652.9/40

In: 0.003 $\pm$ 0.000  $\chi^2$ /NDF:5291785.8/41

Out: 0.003 $\pm$ 0.000  $\chi^2$ /NDF:5694863.2/46

All: 0.003 $\pm$ 0.000  $\chi^2$ /NDF: 10996367.1/88

# yield\_bpm0l01X\_mean vs Slug, Sign Corrected



Right In: -1.458+/-0.000  $\chi^2/\text{NDF}$ : 28509110265.8/18

Left Out: -1.666+/-0.000  $\chi^2/\text{NDF}$ : 18325162131.2/24

Right Out: -1.513+/-0.000  $\chi^2/\text{NDF}$ : 46156629801.5/21

Left In: -1.666+/-0.000  $\chi^2/\text{NDF}$ : 14292570816.9/22

Left: -1.666+/-0.000  $\chi^2/\text{NDF}$ : 32617732948.1/47

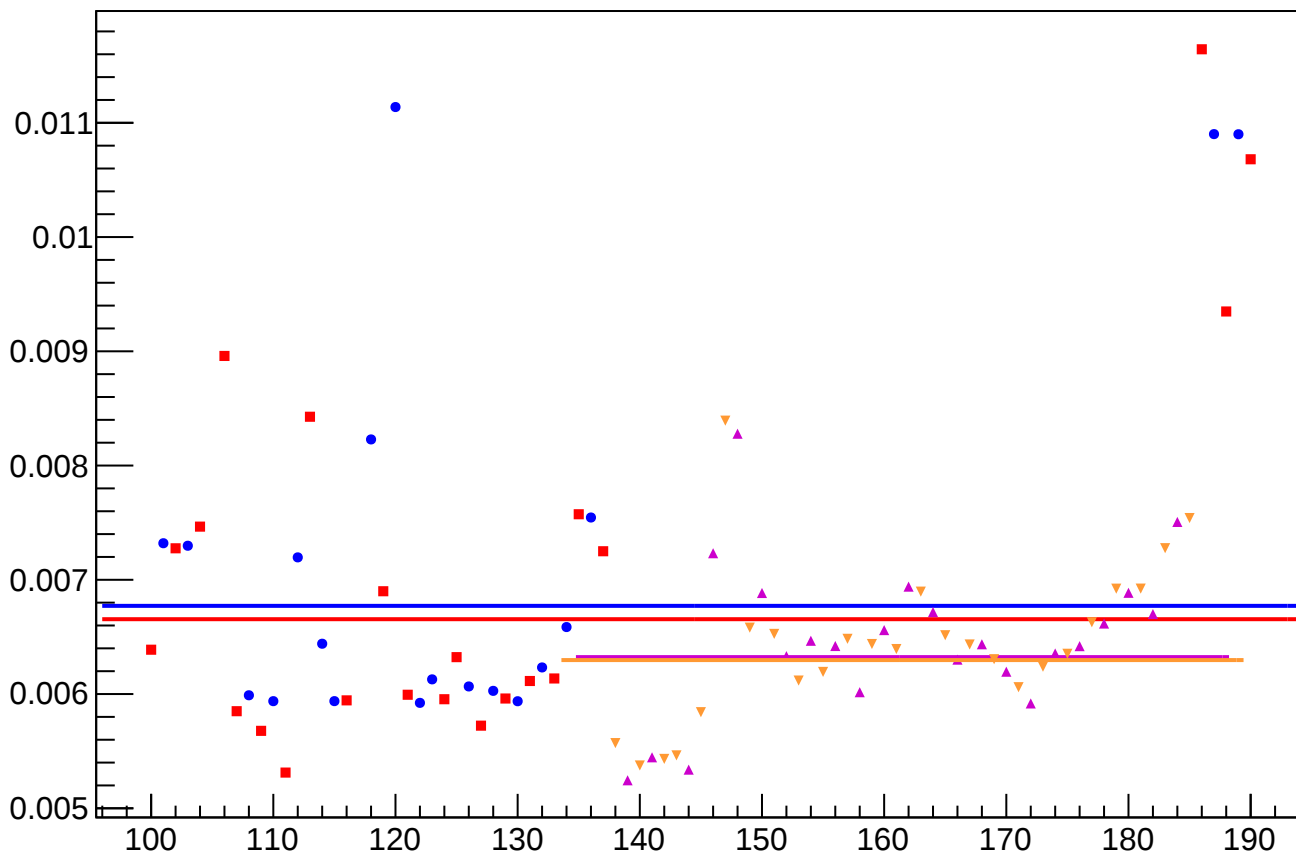
Right: -1.489+/-0.000  $\chi^2/\text{NDF}$ : 74904402508.8/40

In: -1.612+/-0.000  $\chi^2/\text{NDF}$ : 47393189164.4/41

Out: -1.622+/-0.000  $\chi^2/\text{NDF}$ : 67463737172.6/46

All: -1.617+/-0.000  $\chi^2/\text{NDF}$ : 114884321137.3

# yield\_bpm0l01X\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 404966.1/18

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 310757.0/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 620630.0/21

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

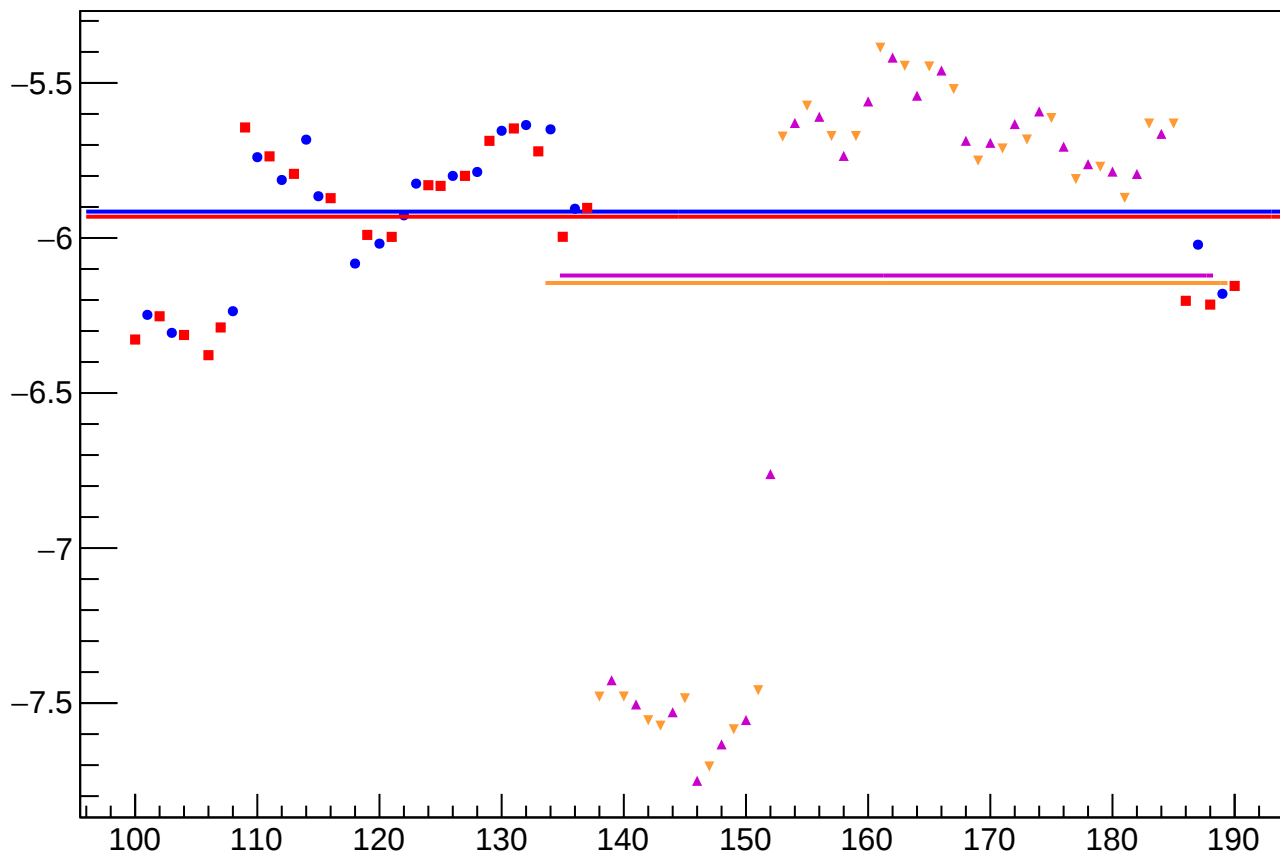
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 1027763.8/40

In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 778555.5/41

Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 963919.9/46

All: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1743360.6/88

# yield\_bpm0l01Y\_mean vs Slug, Sign Corrected



Right In: -5.915+/-0.000  $\chi^2/\text{NDF}$ : 11346729699.8/18

Left Out: -6.145+/-0.000  $\chi^2/\text{NDF}$ : 185364150237.7/24

Right Out: -5.931+/-0.000  $\chi^2/\text{NDF}$ : 13563566854.6/21

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

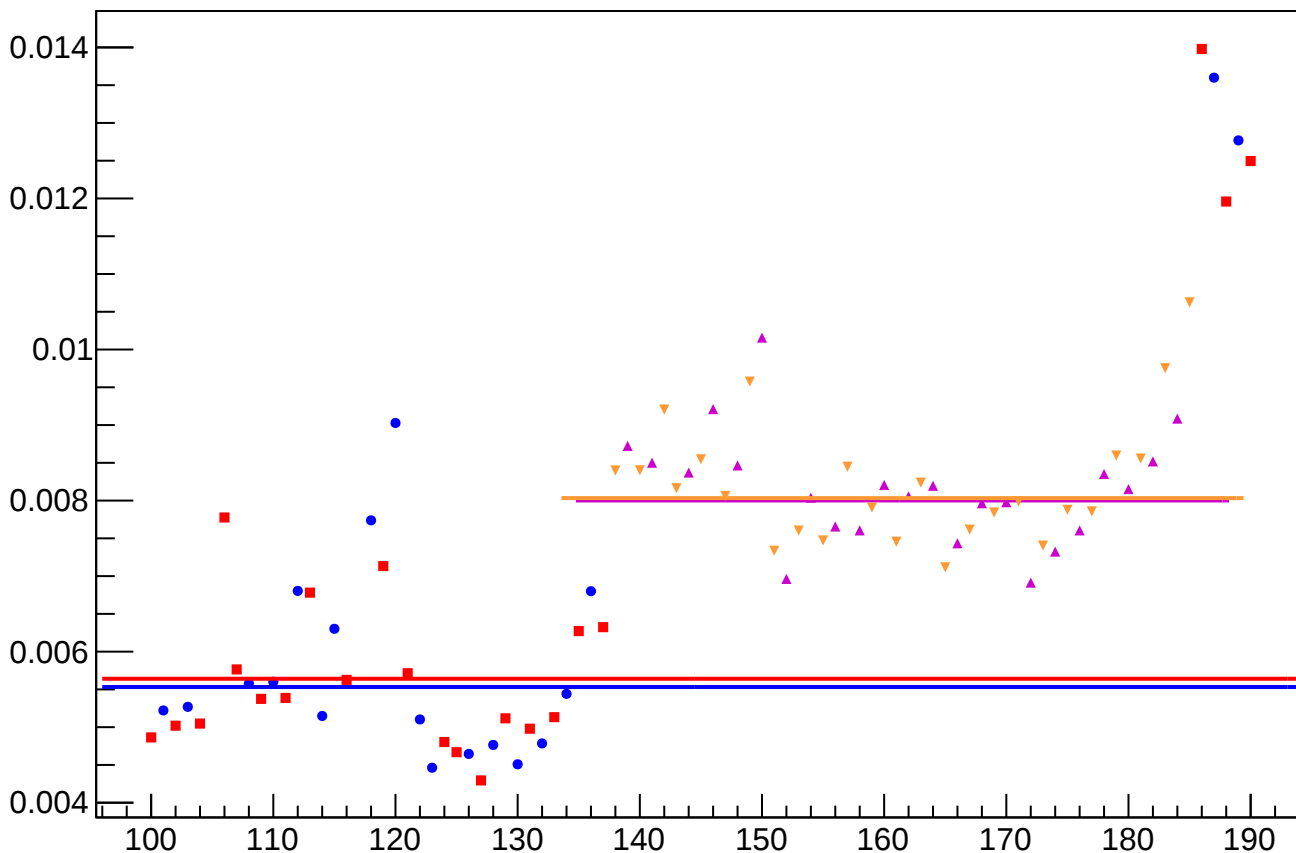
Right: -5.924+/-0.000  $\chi^2/\text{NDF}$ : 24939537224.1/40

In: -6.027+/-0.000  $\chi^2/\text{NDF}$ : 174422954267.1/41

Out: -6.044+/-0.000  $\chi^2/\text{NDF}$ : 204509763583.7/46

All: -6.036+/-0.000  $\chi^2/\text{NDF}$ : 378994477633.4

# yield\_bpm0l01Y\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 771148.7/18

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 205762.2/24

Right Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1214380.2/21

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

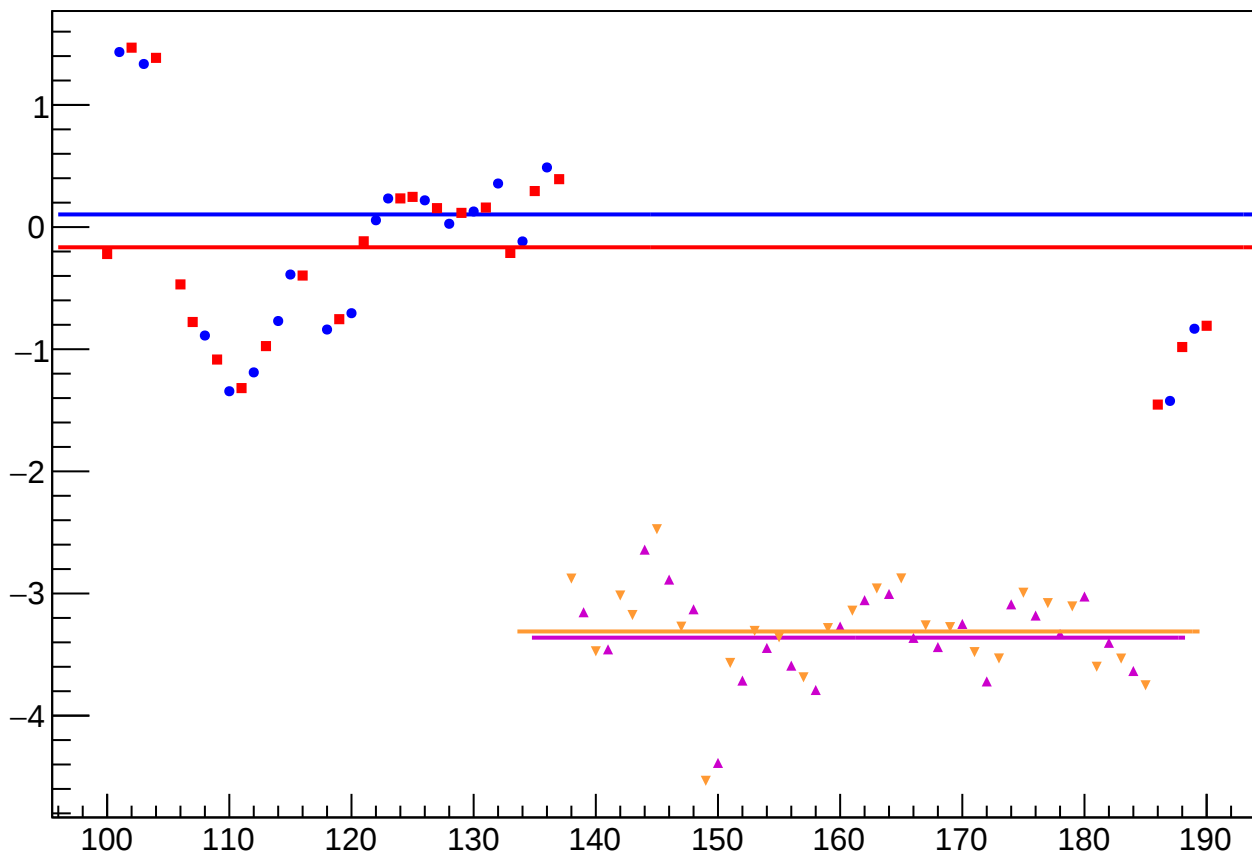
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1988157.0/40

In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 2359776.6/41

Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 2817035.5/46

All: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 5176964.2/88

# yield\_bpm0l02X\_mean vs Slug, Sign Corrected



Right In: 0.104+/-0.000  $\chi^2/\text{NDF}$ : 18833199567.7/18

Left Out: -3.311+/-0.000  $\chi^2/\text{NDF}$ : 9354397456.2/24

Right Out: -0.165+/-0.000  $\chi^2/\text{NDF}$ : 25676294377.2/21

Left In: -3.362+/-0.000  $\chi^2/\text{NDF}$ : 8171803777.4/22

Left: -3.336+/-0.000  $\chi^2/\text{NDF}$ : 17613895190.9/47

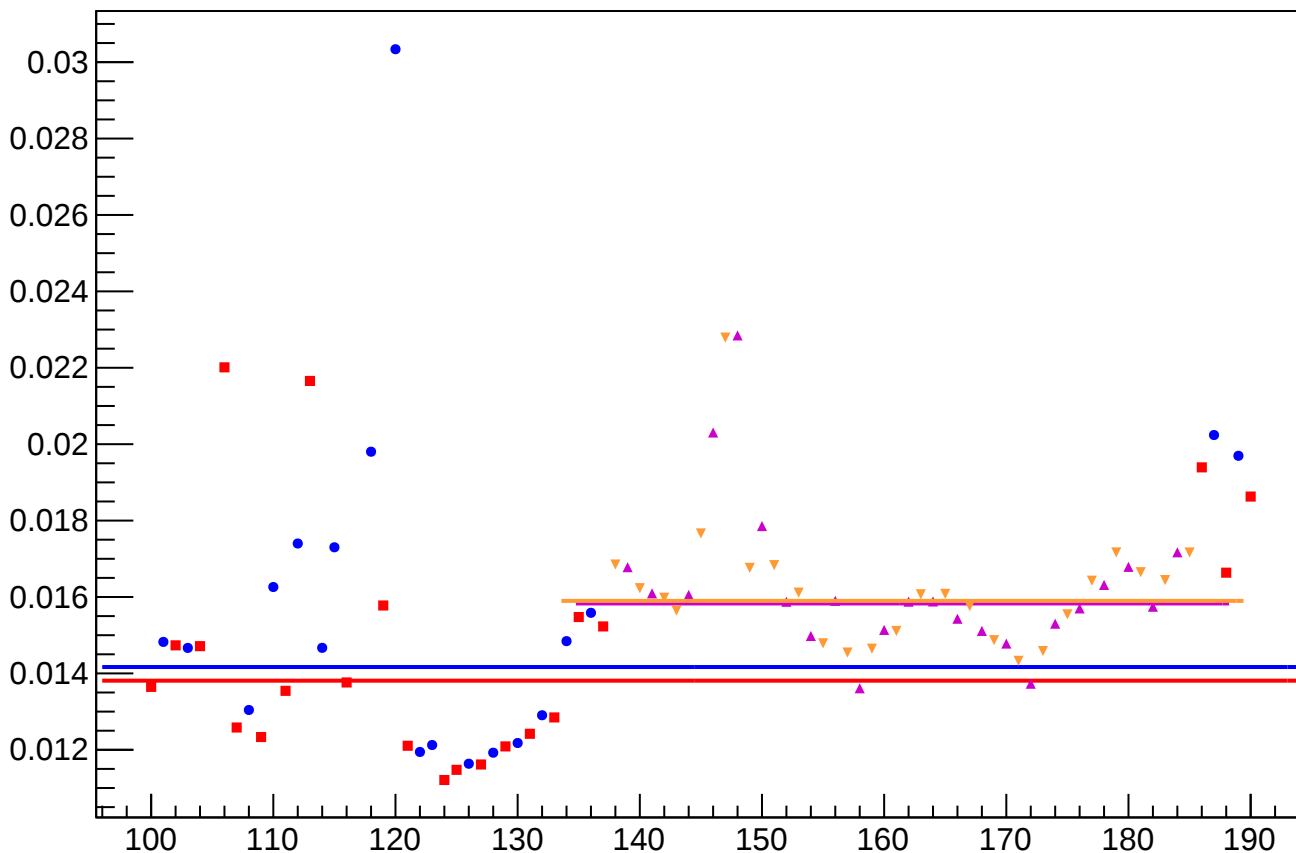
Right: -0.048+/-0.000  $\chi^2/\text{NDF}$ : 45815676619.0/40

In: -2.232+/-0.000  $\chi^2/\text{NDF}$ : 286453488240.4/41

Out: -2.143+/-0.000  $\chi^2/\text{NDF}$ : 291932306197.2/46

All: -2.185+/-0.000  $\chi^2/\text{NDF}$ : 578796020138.7

# yield\_bpm0l02X\_rms vs Slug, Sign Corrected



Right In: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 501409.0/18

Left Out: 0.016+/-0.000  $\chi^2/\text{NDF}$ :251912.7/24

Right Out: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 462278.1/21

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

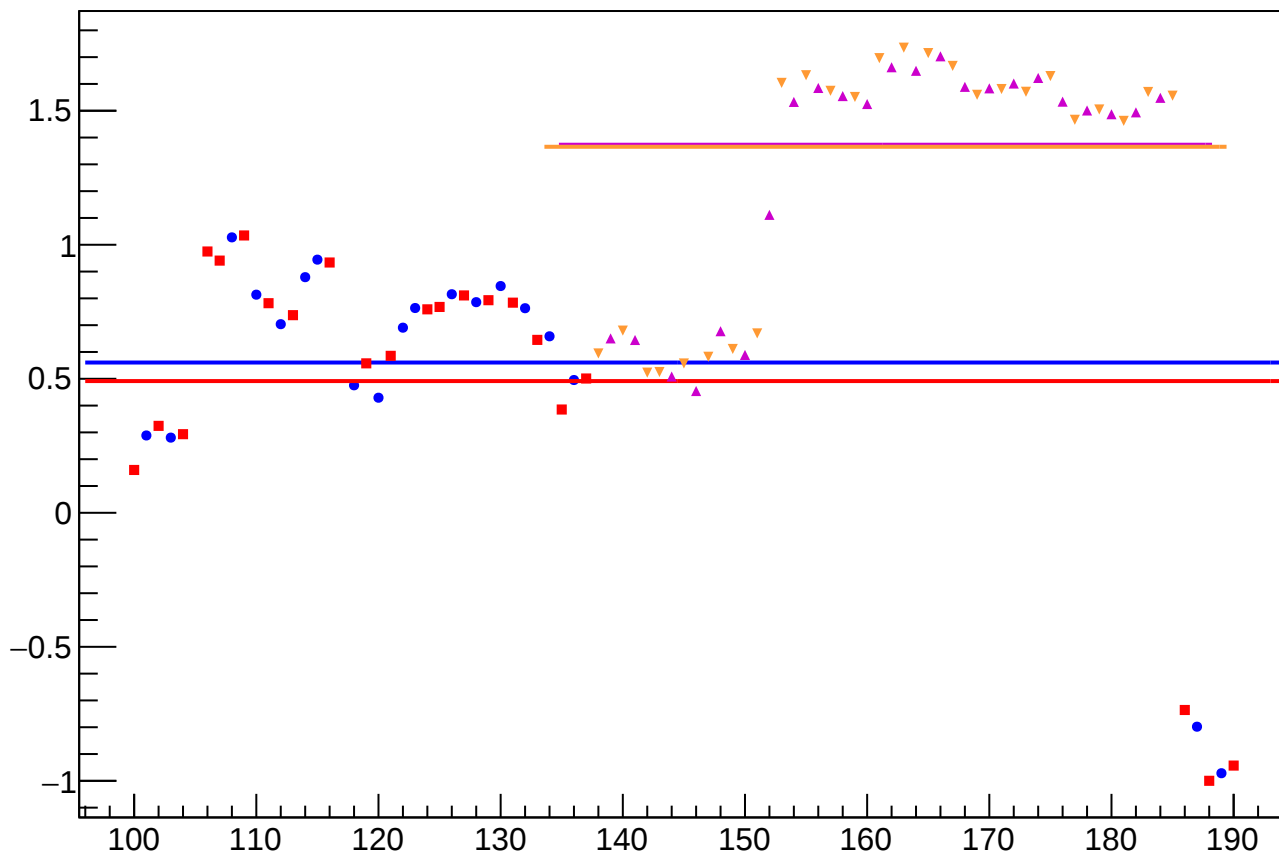
Right: 0.014+/-0.000  $\chi^2/\text{NDF}$ : 968296.6/40

In: 0.015+/-0.000  $\chi^2/\text{NDF}$ :960537.8/41

Out: 0.015+/-0.000  $\chi^2/\text{NDF}$ :940725.2/46

All: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 1904114.9/88

# yield\_bpm0l02Y\_mean vs Slug, Sign Corrected



Right In: 0.561+/-0.000

$\chi^2/\text{NDF}$ : 13865543577.6/18

Left: 1.369+/-0.000  $\chi^2/\text{NDF}$ : 138167468300.7/47

Right: 0.523+/-0.000  $\chi^2/\text{NDF}$ : 43517244744.3/40

Left Out: 1.366+/-0.000

$\chi^2/\text{NDF}$ : 74741956067.9/24

In: 1.221+/-0.000  $\chi^2/\text{NDF}$ : 130184747578.1/41

Right Out: 0.491+/-0.000

$\chi^2/\text{NDF}$ : 29393525215.8/21

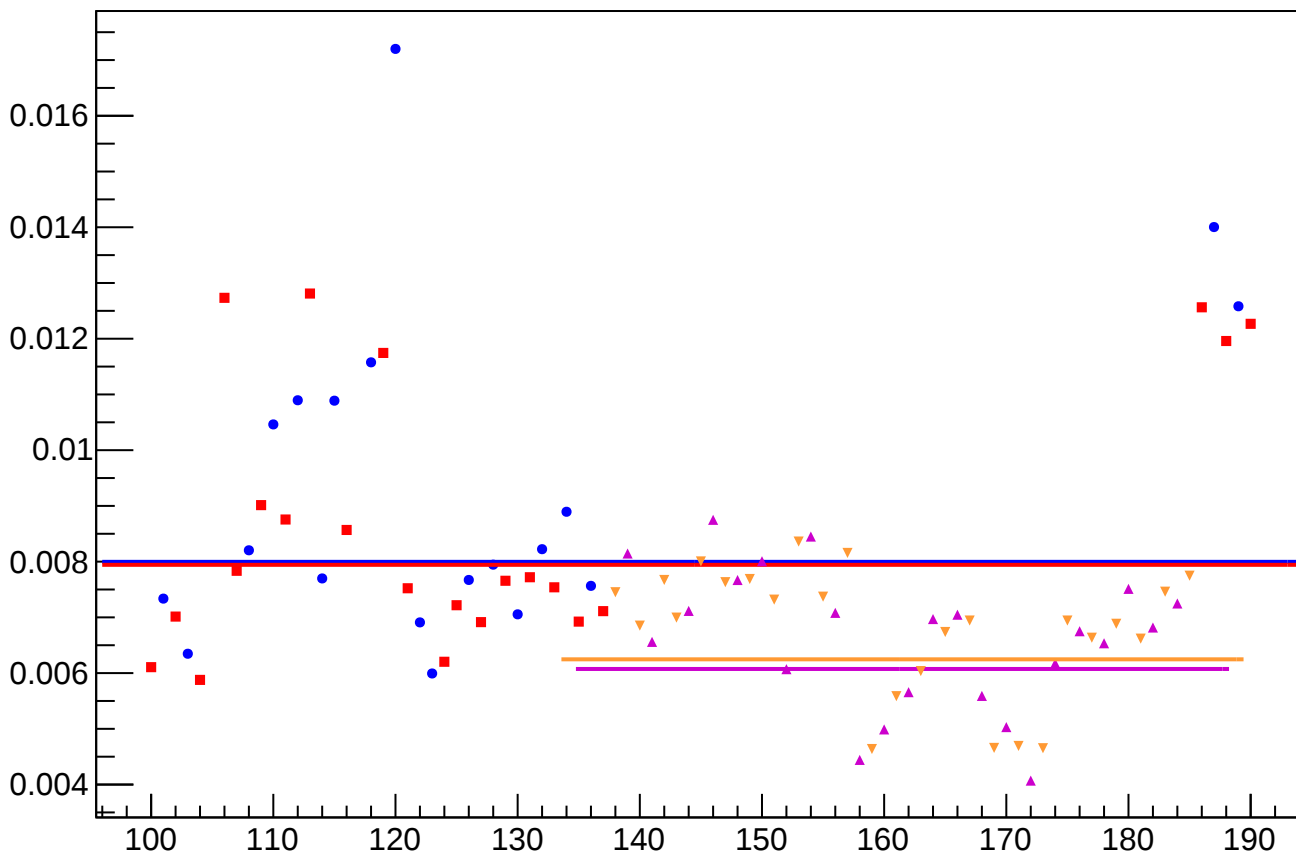
Out: 1.175+/-0.000  $\chi^2/\text{NDF}$ : 175191765273.1/46

Left In: 1.373+/-0.000

$\chi^2/\text{NDF}$ : 63413151416.3/22

All: 1.197+/-0.000  $\chi^2/\text{NDF}$ : 305945192615.2

# yield\_bpm0l02Y\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 646513.7/18

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ :1330867.5/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 844962.2/21

Left In: 0.006+/-0.000  $\chi^2/\text{NDF}$ :1431986.5/22

Left: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 2775615.7/47

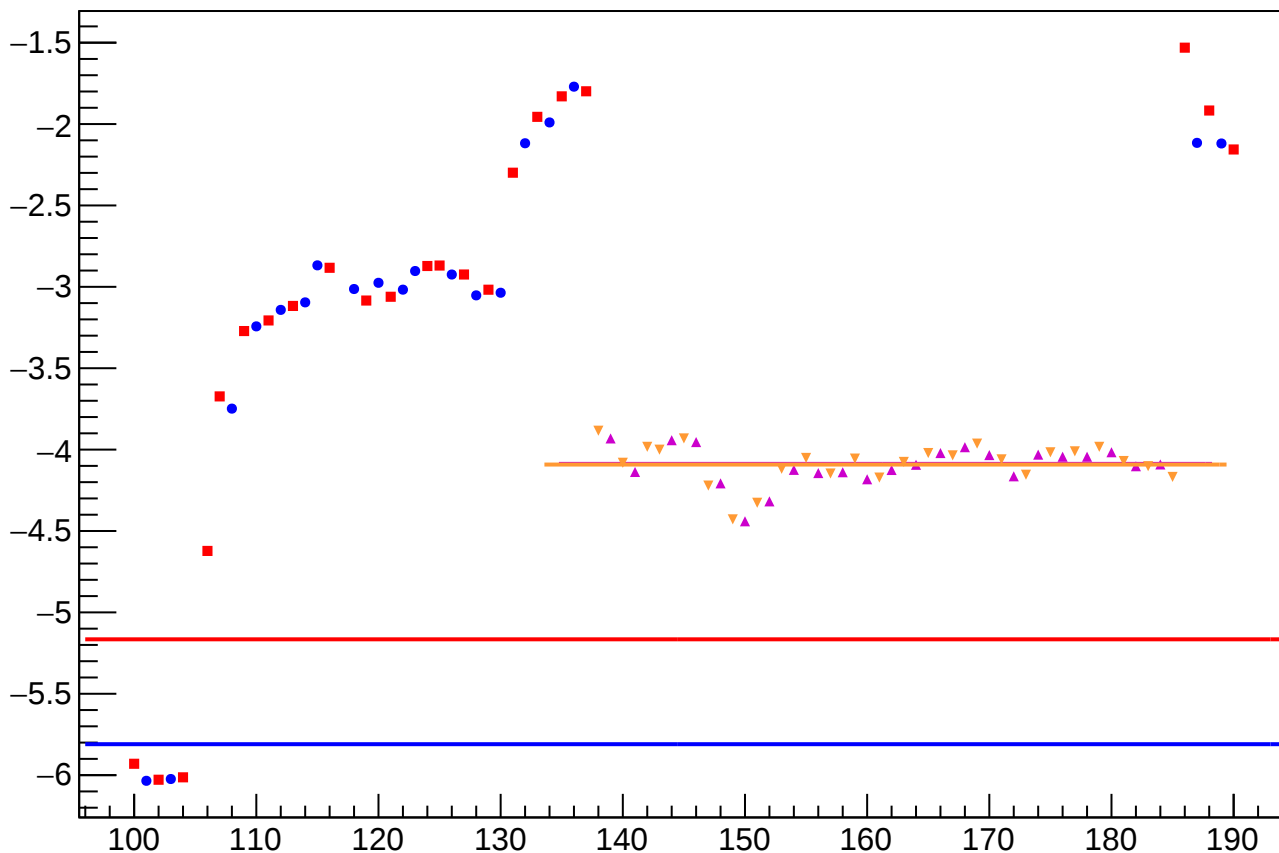
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 1491783.1/40

In: 0.006+/-0.000  $\chi^2/\text{NDF}$ :2670644.8/41

Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ :2710708.4/46

All: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 5399232.6/88

# yield\_bpm0l03X\_mean vs Slug, Sign Corrected



Right In: -5.810 $\pm$ 0.000  $\chi^2$ /NDF: 38076260148.0/18

Left Out: -4.092 $\pm$ 0.000  $\chi^2$ /NDF: 39806766.7/24

Right Out: -5.165 $\pm$ 0.000  $\chi^2$ /NDF: 130705426976.5/21

Left In: -4.088 $\pm$ 0.000  $\chi^2$ /NDF: 34412880.7/22

Left: -4.089 $\pm$ 0.000  $\chi^2$ /NDF: 74248792.8/47

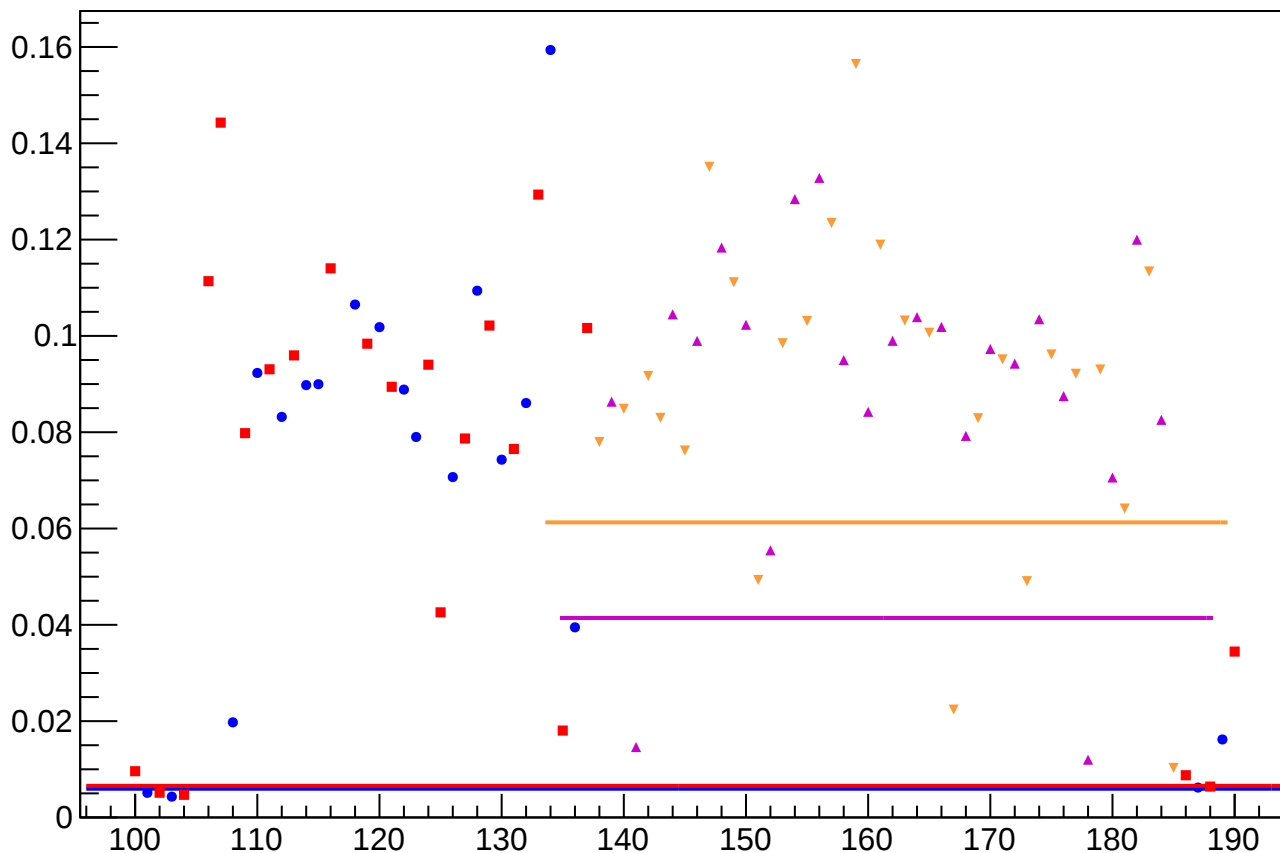
Right: -5.496 $\pm$ 0.000  $\chi^2$ /NDF: 178729096036.7/40

In: -5.672 $\pm$ 0.000  $\chi^2$ /NDF: 49747756325.8/41

Out: -5.102 $\pm$ 0.000  $\chi^2$ /NDF: 133947061675.3/46

All: -5.397 $\pm$ 0.000  $\chi^2$ /NDF: 192077400642.9

# yield\_bpm0l03X\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 7989218.2/18

Left Out: 0.061+/-0.000  $\chi^2/\text{NDF}$ : 8355266.0/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 8663905.9/21

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

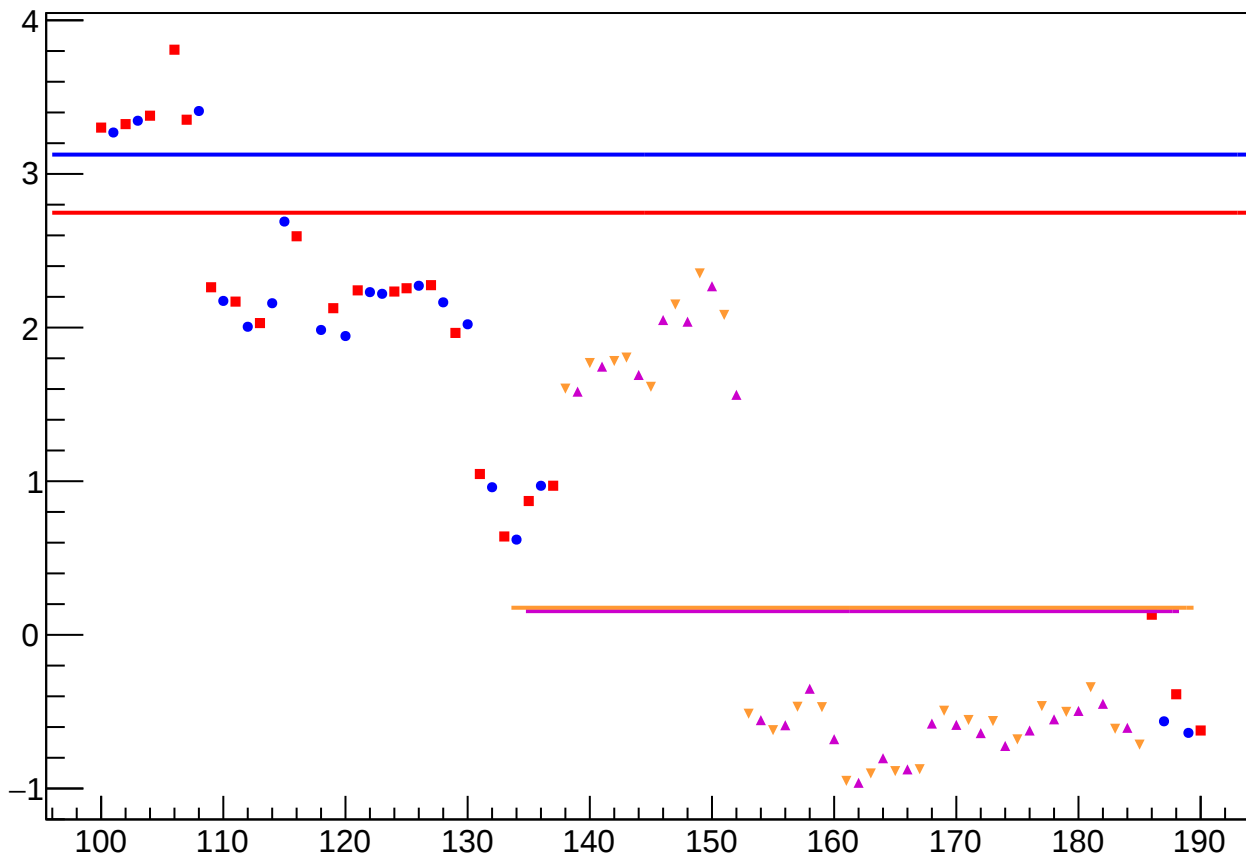
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 16669925.6/40

In: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 30979079.7/41

Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 33648949.6/46

All: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 64680661.2/88

# yield\_bpm0l03Y\_mean vs Slug, Sign Corrected



Right In: 3.126+/-0.000

$\chi^2/\text{NDF}$ : 17680810293.8/18

Left Out: 0.177+/-0.000

$\chi^2/\text{NDF}$ : 3275313367.7/24

Right Out: 2.747+/-0.000

$\chi^2/\text{NDF}$ : 54956477927.8/21

Left In: 0.154+/-0.000

$\chi^2/\text{NDF}$ : 3163553595.0/22

Left: 0.165+/-0.000

$\chi^2/\text{NDF}$ : 6439465655.5/47

Right: 2.932+/-0.000

$\chi^2/\text{NDF}$ : 74819830208.1/40

In: 2.889+/-0.000

$\chi^2/\text{NDF}$ : 41806053470.3/41

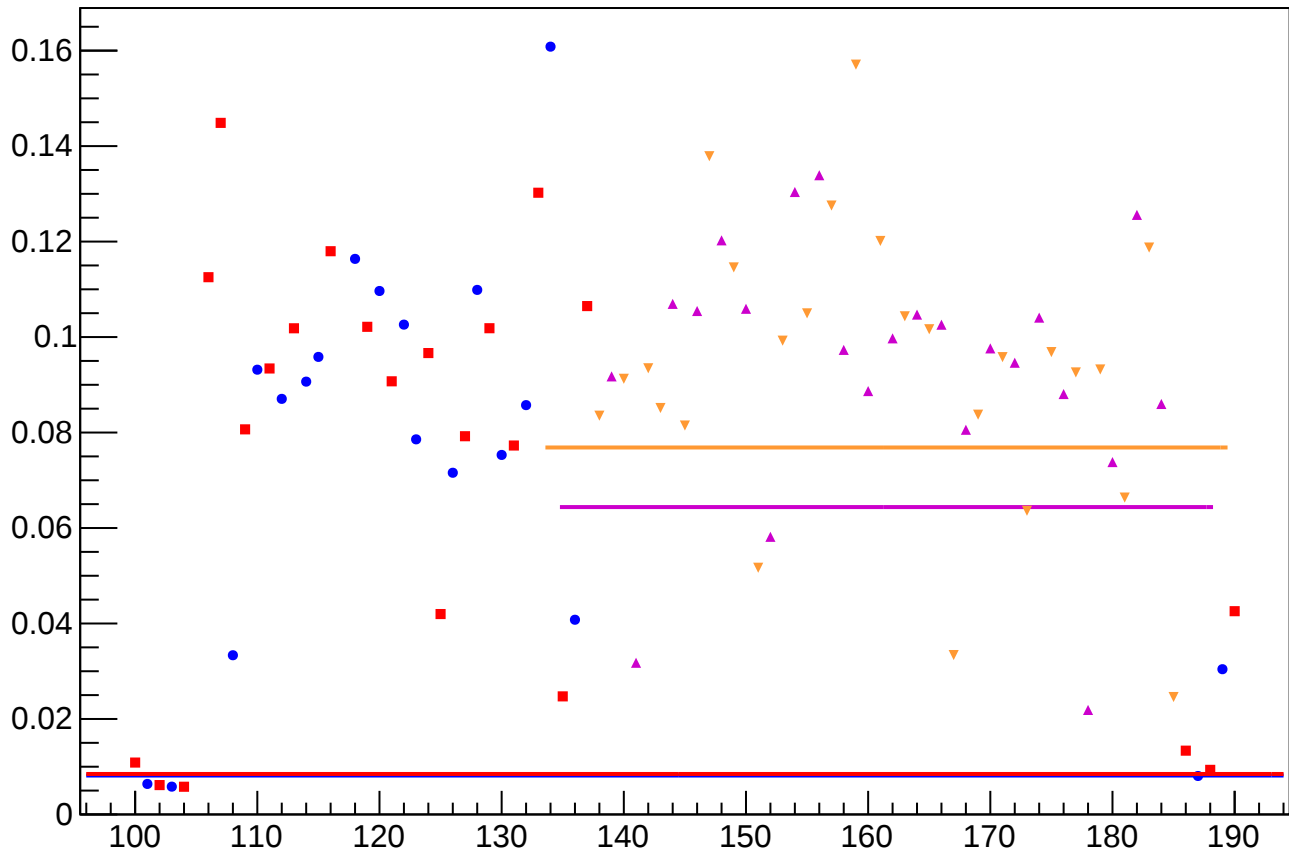
Out: 2.573+/-0.000

$\chi^2/\text{NDF}$ : 72201152451.6/46

All: 2.729+/-0.000

$\chi^2/\text{NDF}$ : 115649496511.6

# yield\_bpm0l03Y\_rms vs Slug, Sign Corrected



Right In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 7891362.2/18

Left Out: 0.077+/-0.000  $\chi^2/\text{NDF}$ : 4217954.3/24

Right Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 8547005.1/21

Left In: 0.064+/-0.000  $\chi^2/\text{NDF}$ : 6990231.5/22

Left: 0.070+/-0.000  $\chi^2/\text{NDF}$ : 11584112.3/47

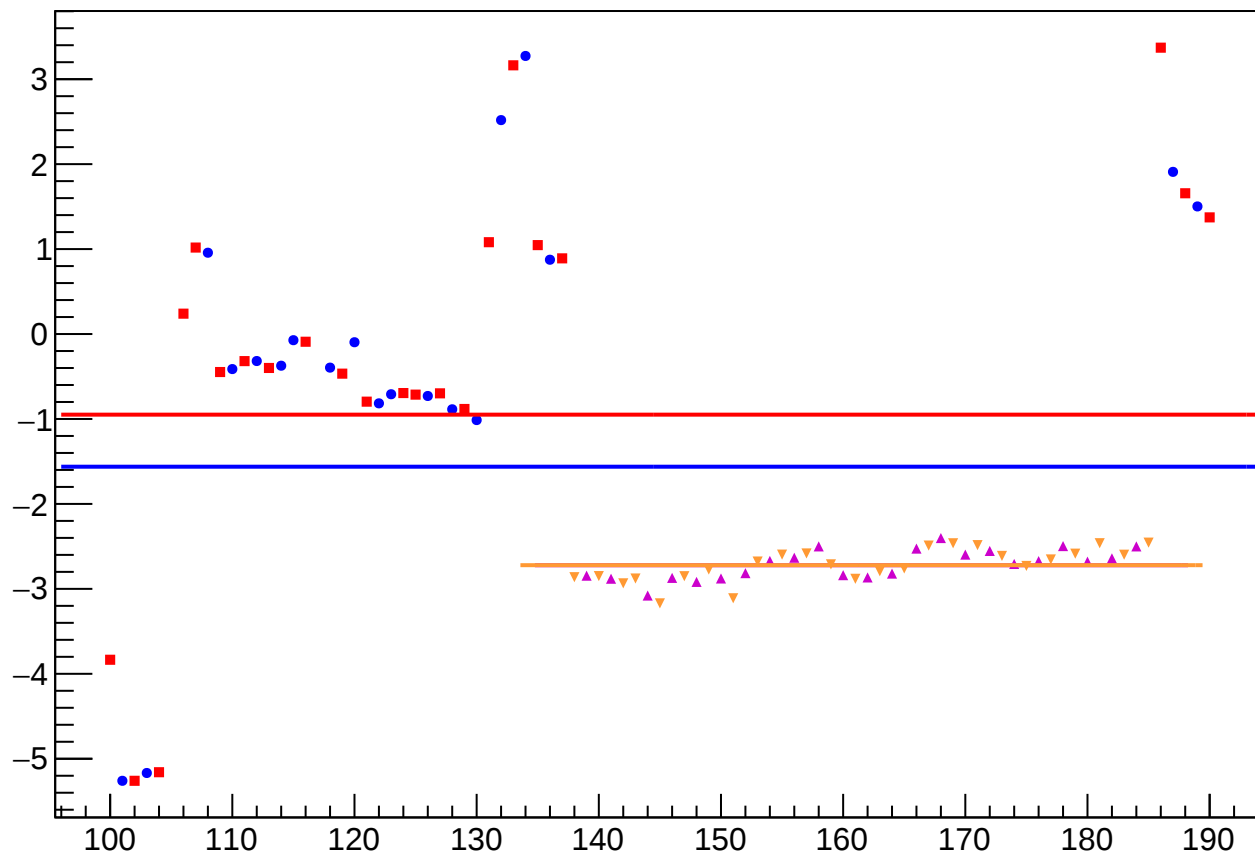
Right: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 16441537.1/40

In: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 29893278.9/41

Out: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 32535099.0/46

All: 0.013+/-0.000  $\chi^2/\text{NDF}$ : 62435864.1/88

# yield\_bpm0l04X\_mean vs Slug, Sign Corrected



Right In: -1.562+/-0.000  $\chi^2/\text{NDF}$ : 177031600221.0/18

Left Out: -2.721+/-0.000  $\chi^2/\text{NDF}$ : 10397156971.6/24

Right Out: -0.949+/-0.000  $\chi^2/\text{NDF}$ : 209206035340.7/21

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

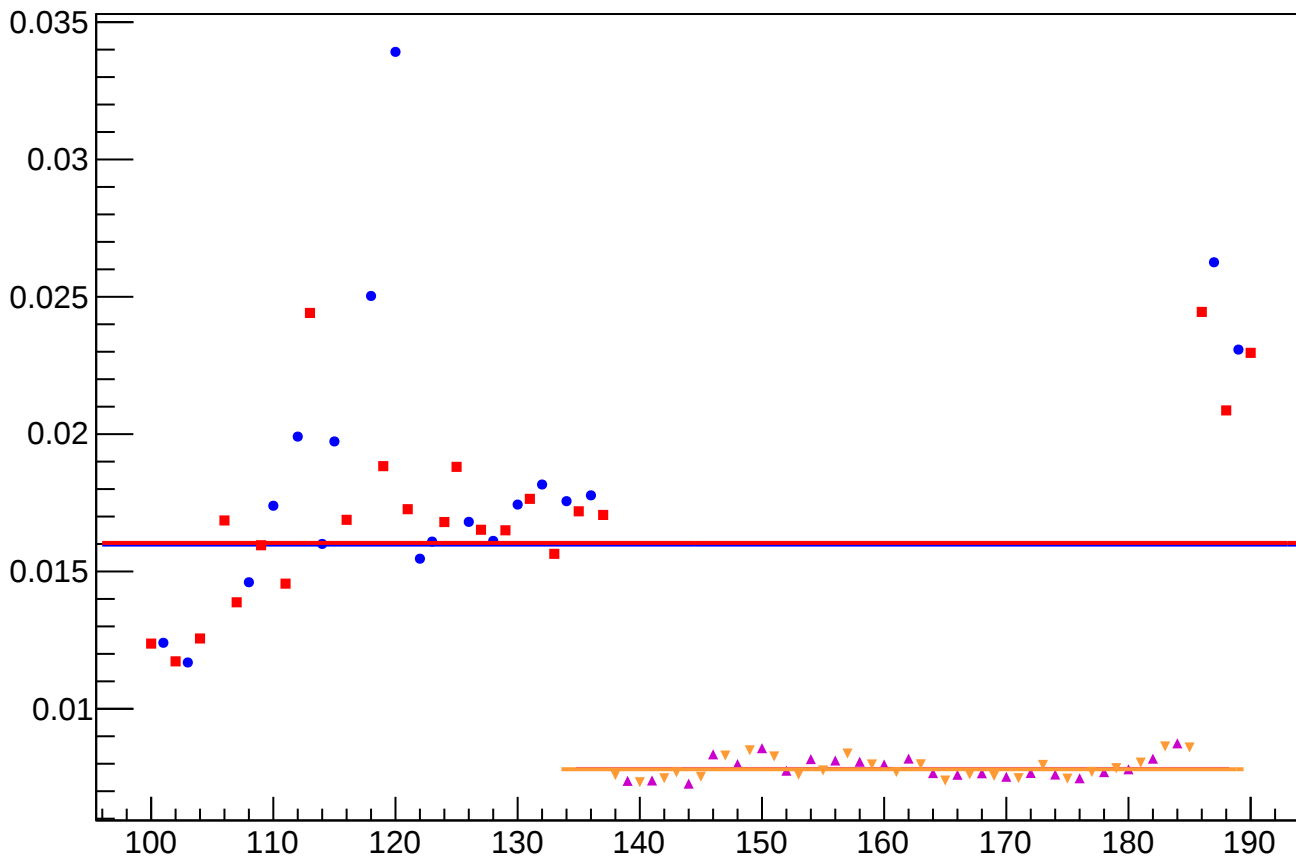
Right: -1.224+/-0.000  $\chi^2/\text{NDF}$ : 391201213685.8/40

In: -2.629+/-0.000  $\chi^2/\text{NDF}$ : 214811387264.7/41

Out: -2.558+/-0.000  $\chi^2/\text{NDF}$ : 303753445358.7/46

All: -2.592+/-0.000  $\chi^2/\text{NDF}$ : 519333757816.2

# yield\_bpm0l04X\_rms vs Slug, Sign Corrected



Right In: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 709402.5/18

Left Out: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 71164.4/24

Right Out: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 609693.0/21

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

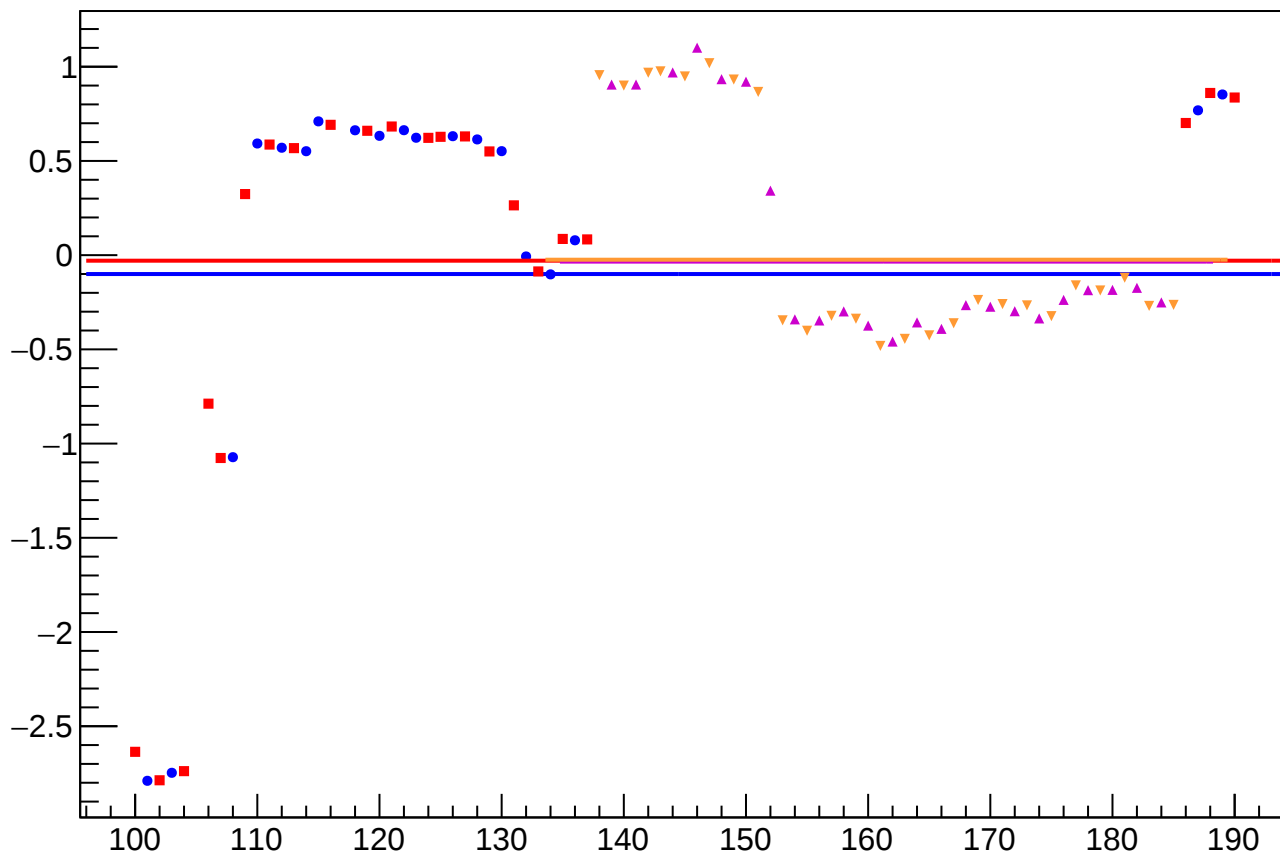
Right: 0.016+/-0.000  $\chi^2/\text{NDF}$ : 1319193.0/40

In: 0.008+/-0.000  $\chi^2/\text{NDF}$ : 3715701.6/41

Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 4319422.0/46

All: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 8037704.5/88

# yield\_bpm0l04Y\_mean vs Slug, Sign Corrected



Right In:  $-0.100 \pm 0.000$   $\chi^2/\text{NDF}: 734664243257.0/18$

Left Out:  $-0.024 \pm 0.000$   $\chi^2/\text{NDF}: 135451649275.0/24$

Right Out:  $-0.029 \pm 0.000$   $\chi^2/\text{NDF}: 812810563433.9/21$

Left In:  $-0.034 \pm 0.000$   $\chi^2/\text{NDF}: 113929060918.1/22$

Left:  $-0.029 \pm 0.000$   $\chi^2/\text{NDF}: 249405201350.6/47$

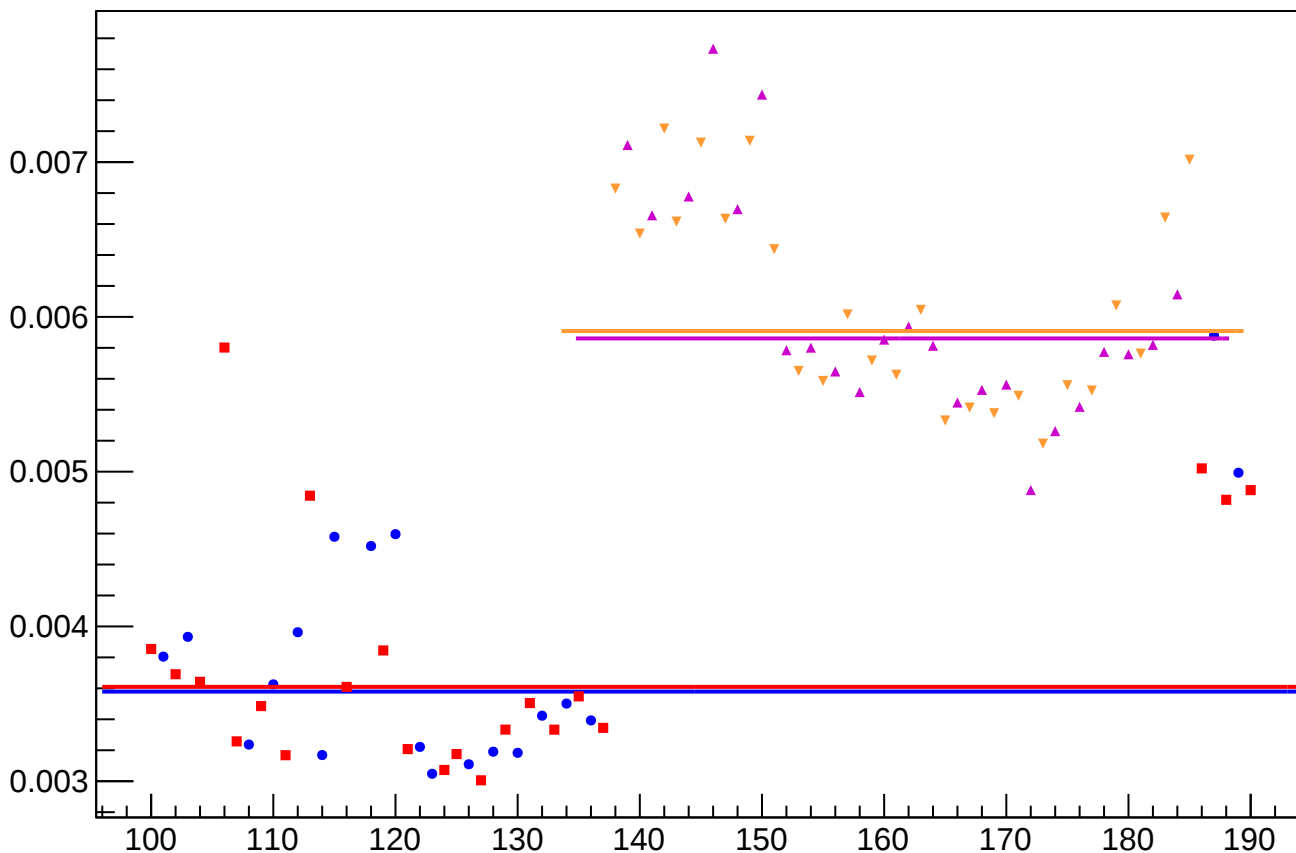
Right:  $-0.062 \pm 0.000$   $\chi^2/\text{NDF}: 1548915385387.2/47$

In:  $-0.070 \pm 0.000$   $\chi^2/\text{NDF}: 849673494717.6/41$

Out:  $-0.027 \pm 0.000$   $\chi^2/\text{NDF}: 948269707615.5/46$

All:  $-0.047 \pm 0.000$   $\chi^2/\text{NDF}: 1798885771766$

# yield\_bpm0l04Y\_rms vs Slug, Sign Corrected



Right In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 292140.0/18

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ :314309.7/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 446622.5/21

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

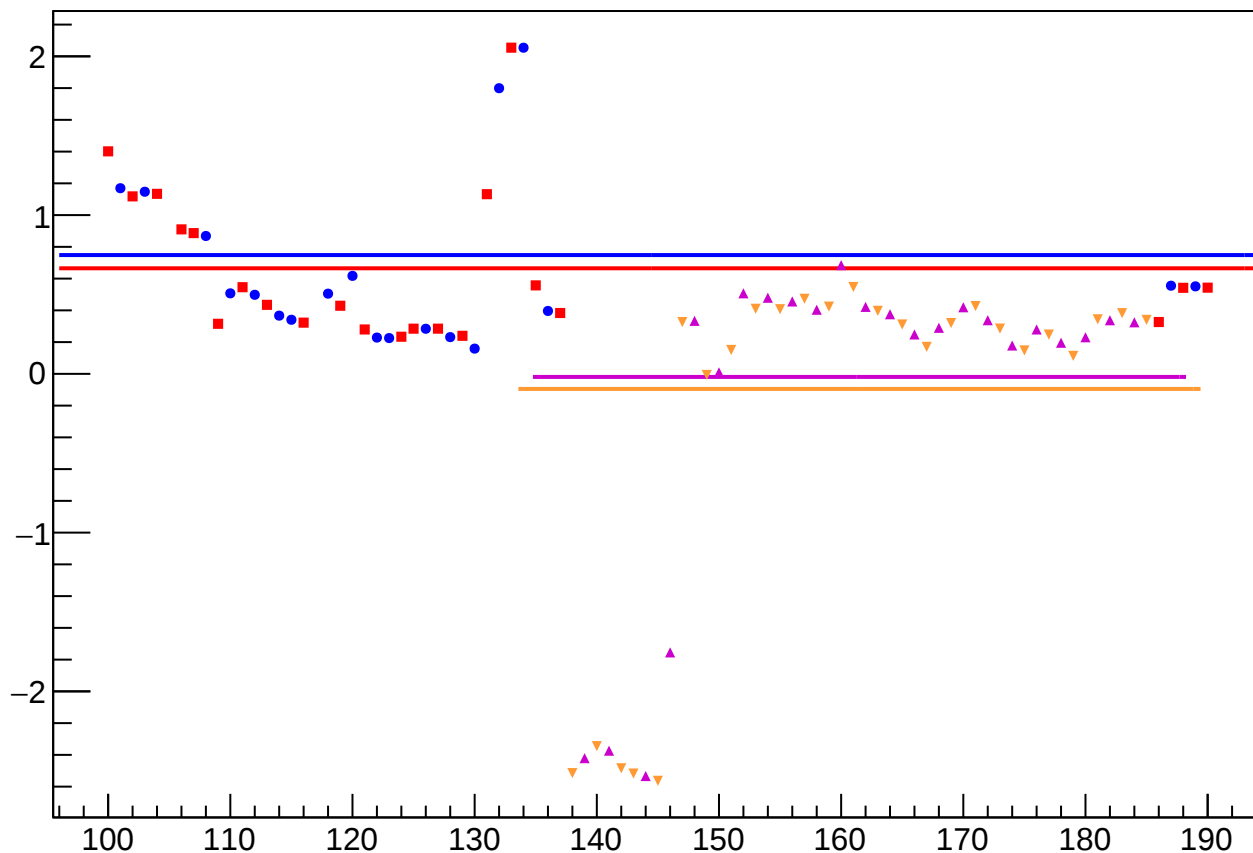
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 739299.4/40

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ :3244909.7/41

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ :3635489.0/46

All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 6881283.2/88

# yield\_bpm0l05X\_mean vs Slug, Sign Corrected



Right In: 0.748+/-0.000  $\chi^2/\text{NDF}$ : 34777959555.2/18

Left Out: -0.095+/-0.000  $\chi^2/\text{NDF}$ : 505606573631.9/24

Right Out: 0.665+/-0.000  $\chi^2/\text{NDF}$ : 42877217076.6/21

Left In: -0.019+/-0.000  $\chi^2/\text{NDF}$ : 417104863944.5/22

Left: -0.058+/-0.000  $\chi^2/\text{NDF}$ : 924153662333.7/47

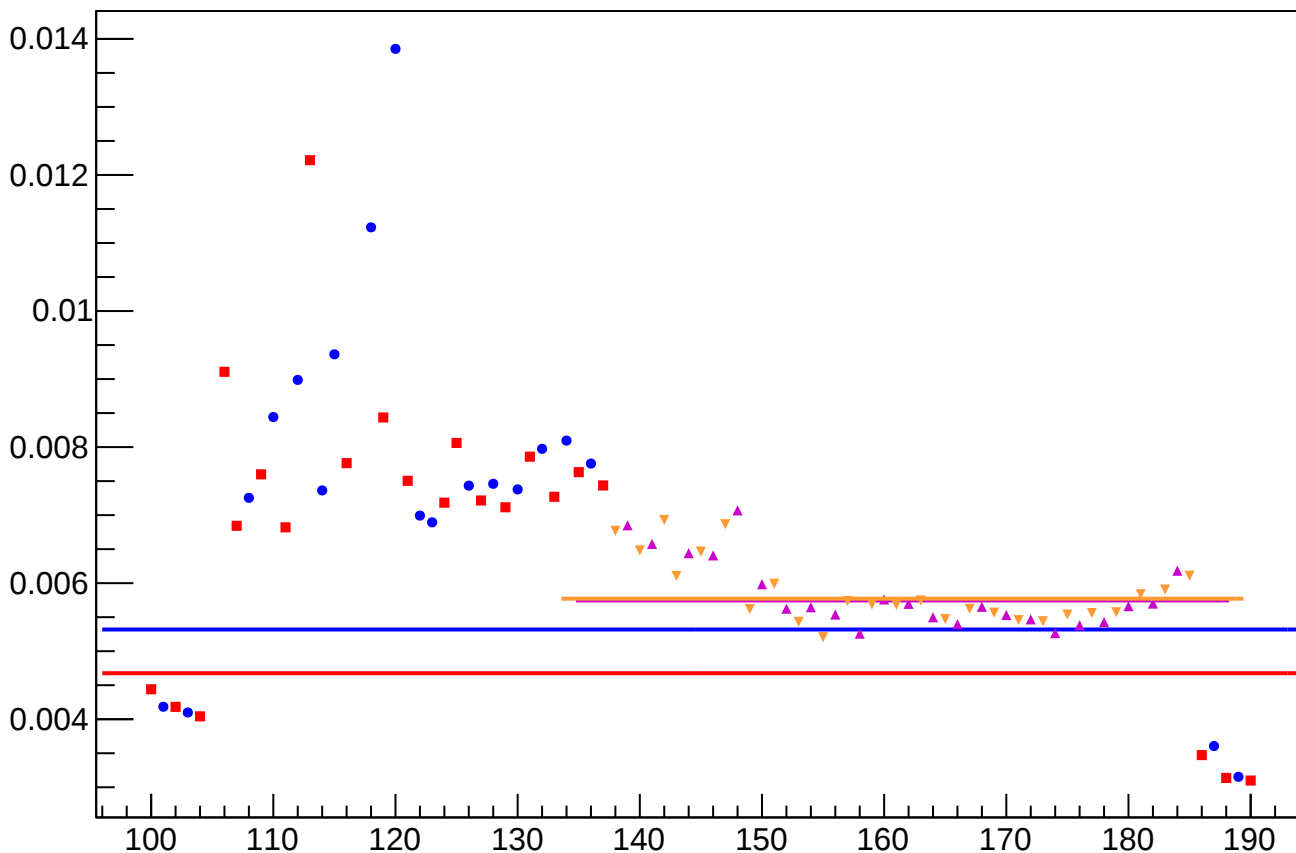
Right: 0.697+/-0.000  $\chi^2/\text{NDF}$ : 78486419922.8/40

In: 0.199+/-0.000  $\chi^2/\text{NDF}$ : 534624730224.1/41

Out: 0.188+/-0.000  $\chi^2/\text{NDF}$ : 659273506777.8/46

All: 0.193+/-0.000  $\chi^2/\text{NDF}$ : 1193944613185.0

# yield\_bpm0l05X\_rms vs Slug, Sign Corrected



Right In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 1925302.1/18

Left Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ :177680.7/24

Right Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2387265.6/21

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

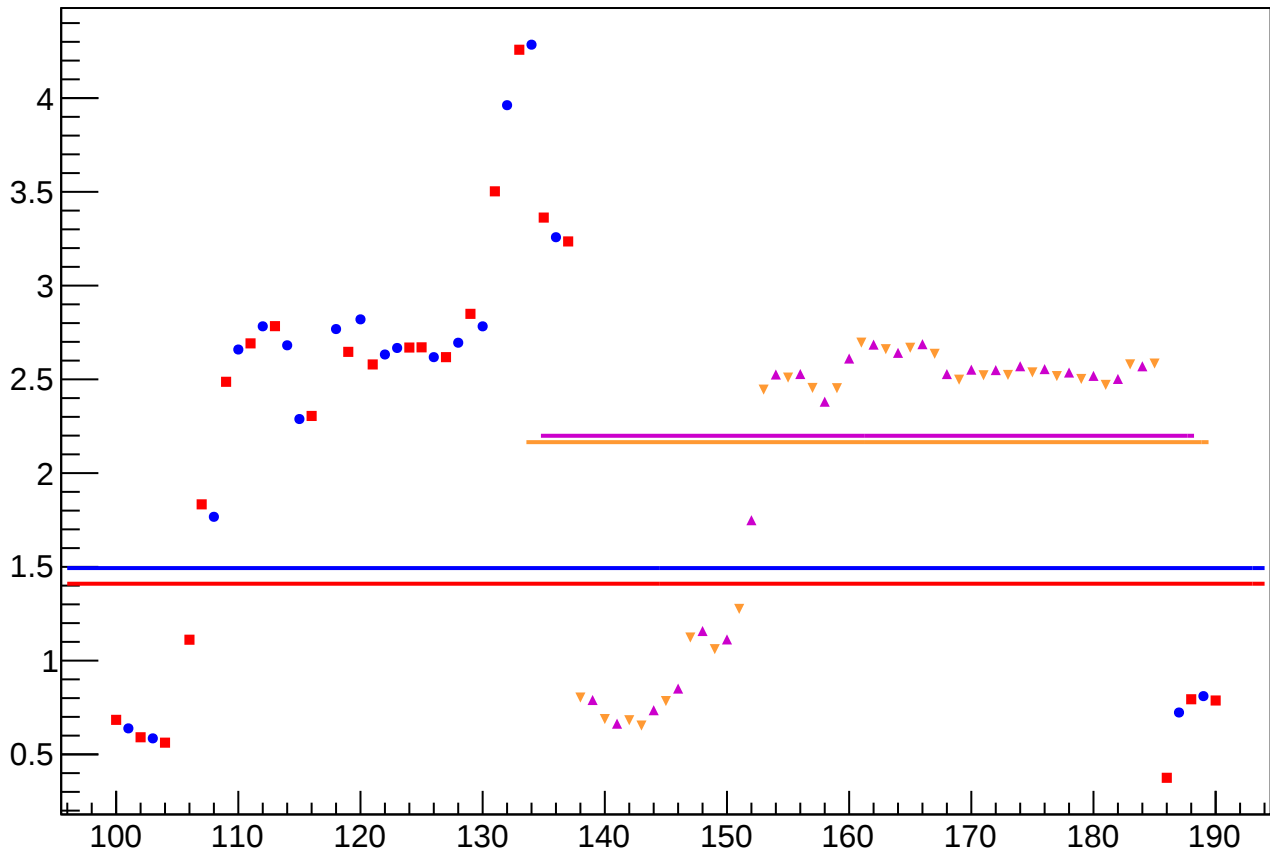
Right: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 4411311.8/40

In: 0.006+/-0.000  $\chi^2/\text{NDF}$ :2180697.3/41

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ :3025723.7/46

All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 5257413.1/88

# yield\_bpm0l05Y\_mean vs Slug, Sign Corrected



Right In: 1.494+/-0.000  $\chi^2/\text{NDF}$ : 217098805726.1/18

Left Out: 2.165+/-0.000  $\chi^2/\text{NDF}$ : 292800056899.6/24

Right Out: 1.410+/-0.000  $\chi^2/\text{NDF}$ : 272683297256.4/21

Left In: 2.199+/-0.000  $\chi^2/\text{NDF}$ : 253166239065.4/22

Left: 2.182+/-0.000  $\chi^2/\text{NDF}$ : 546302258971.9/47

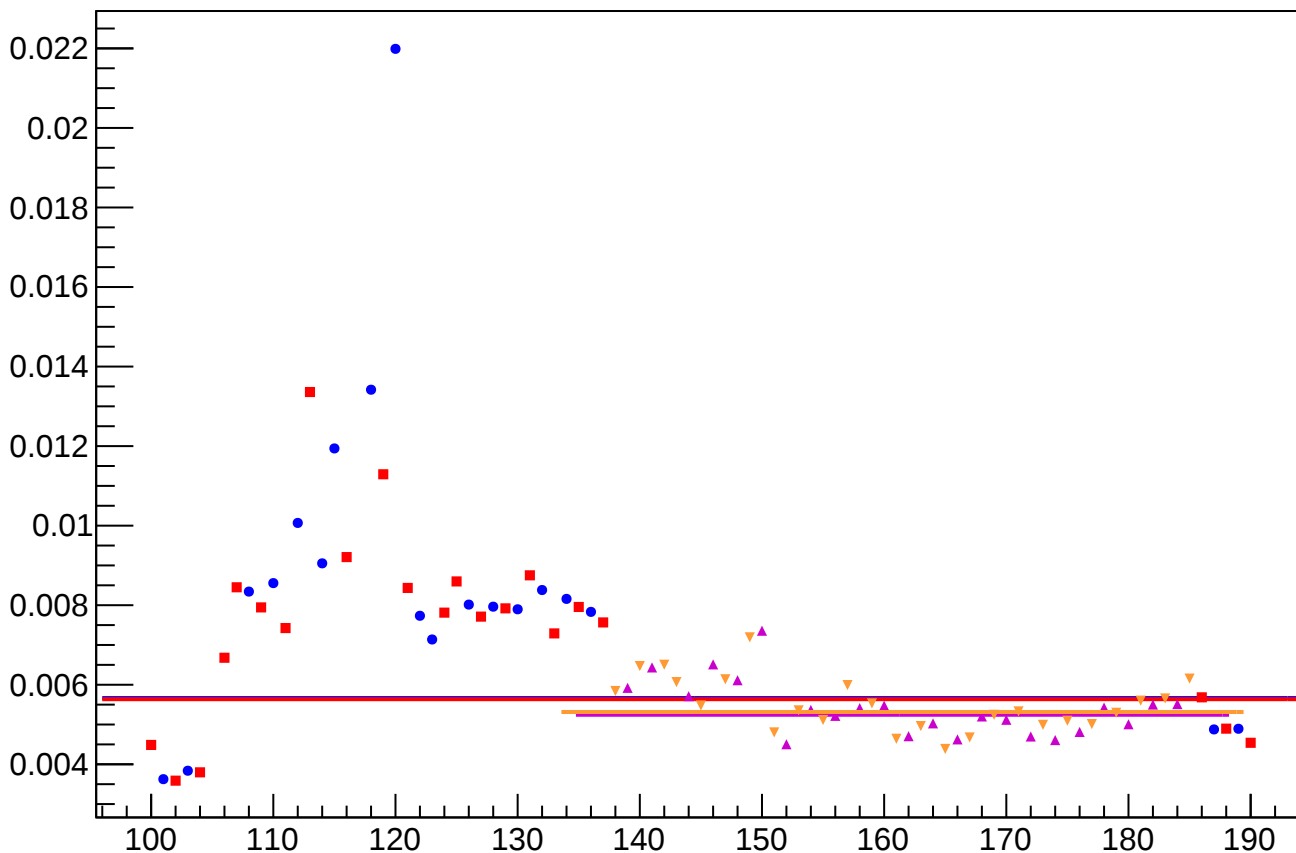
Right: 1.447+/-0.000  $\chi^2/\text{NDF}$ : 490439555727.5/40

In: 2.039+/-0.000  $\chi^2/\text{NDF}$ : 534897241979.6/41

Out: 1.962+/-0.000  $\chi^2/\text{NDF}$ : 655437058935.7/46

All: 1.999+/-0.000  $\chi^2/\text{NDF}$ : 1192610218183.0

# yield\_bpm0l05Y\_rms vs Slug, Sign Corrected



Right In: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1946470.9/18

Left Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 398795.0/24

Right Out: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 1780960.8/21

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

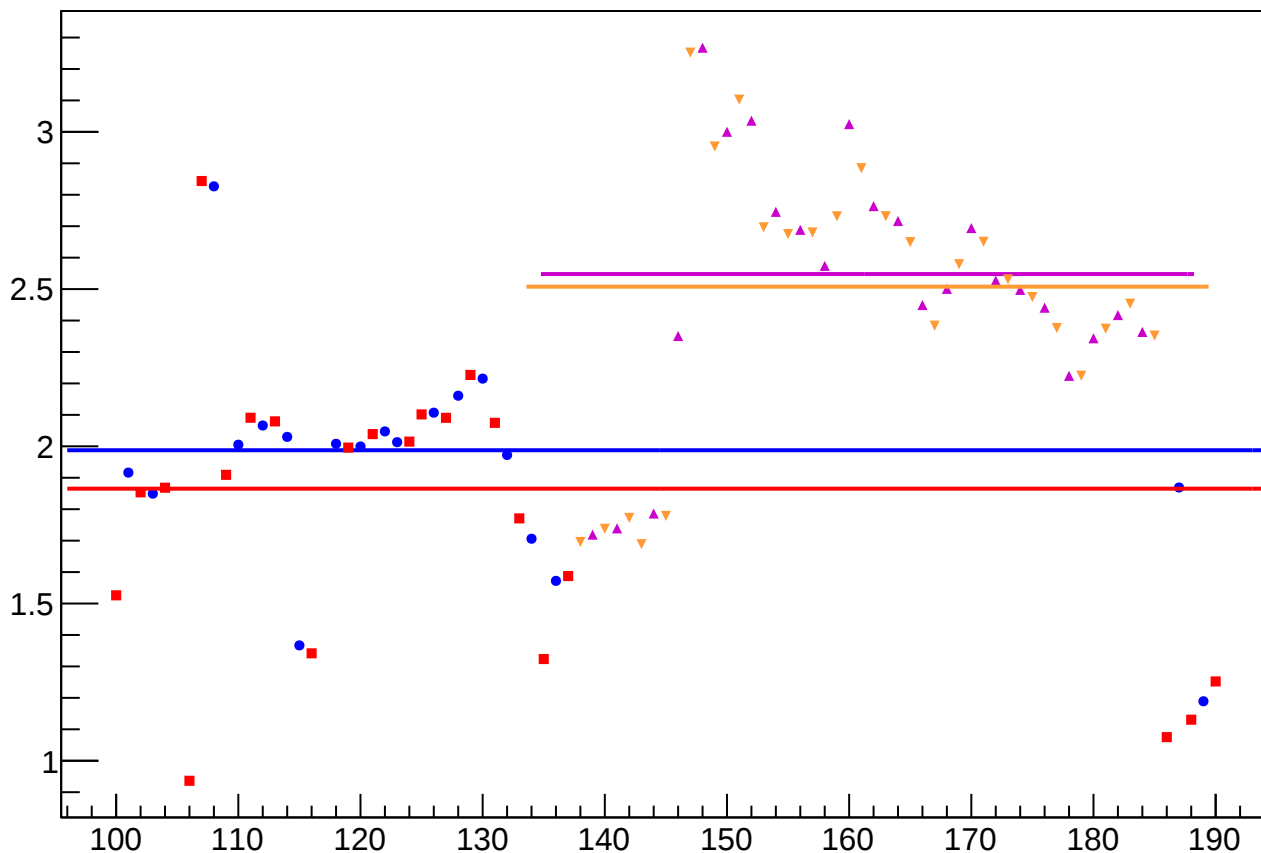
Right: 0.006+/-0.000  $\chi^2/\text{NDF}$ : 3727577.7/40

In: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2417976.1/41

Out: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 2212435.9/46

All: 0.005+/-0.000  $\chi^2/\text{NDF}$ : 4633283.9/88

# yield\_bpm0l06X\_mean vs Slug, Sign Corrected



Right In: 1.988 $\pm$ 0.000  $\chi^2$ /NDF: 15111816637.9/18

Left Out: 2.508 $\pm$ 0.000  $\chi^2$ /NDF: 52355332406.0/24

Right Out: 1.865 $\pm$ 0.000  $\chi^2$ /NDF: 30914465393.0/21

Left In: 2.548 $\pm$ 0.000  $\chi^2$ /NDF: 45350336058.7/22

Left: 2.527 $\pm$ 0.000  $\chi^2$ /NDF: 97963993742.3/47

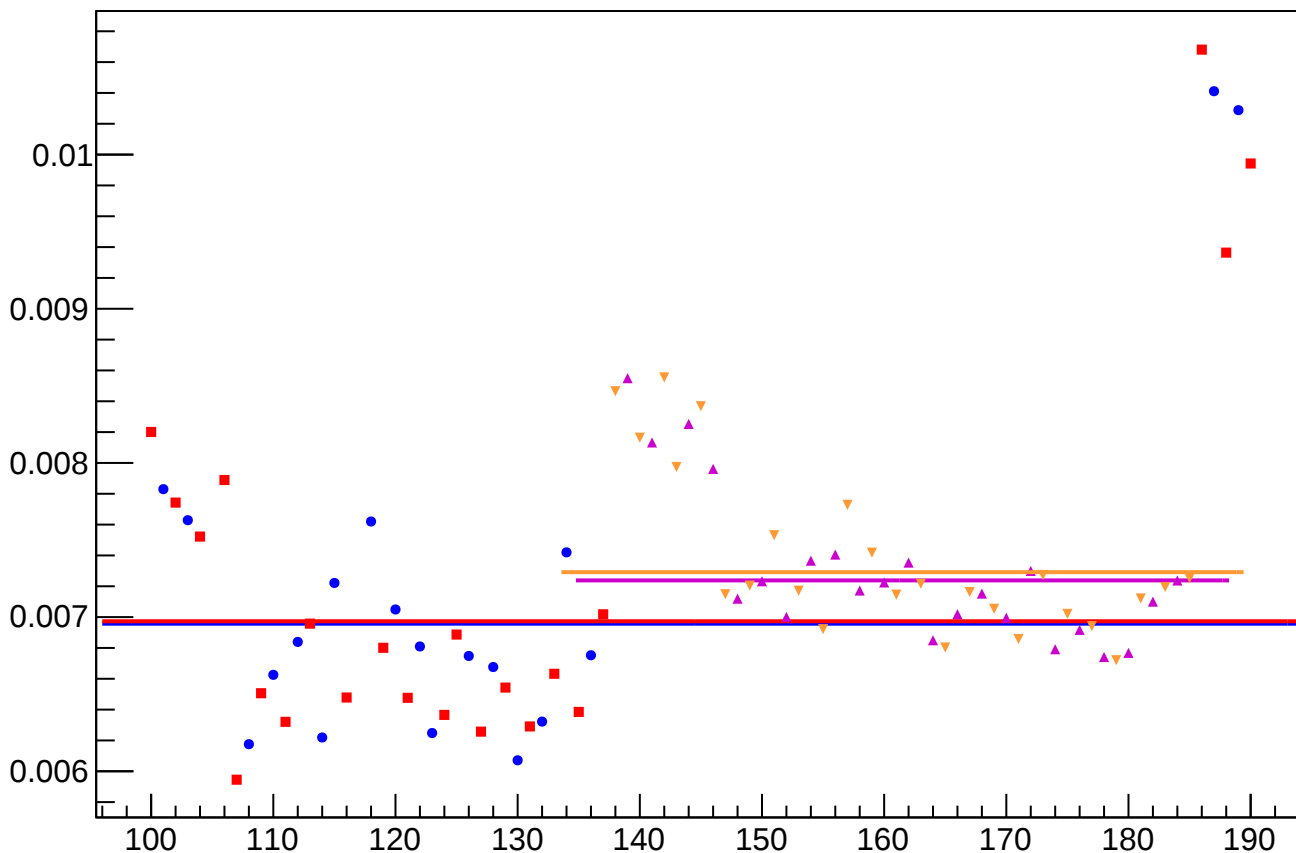
Right: 1.921 $\pm$ 0.000  $\chi^2$ /NDF: 47176684788.2/40

In: 2.374 $\pm$ 0.000  $\chi^2$ /NDF: 91233169103.0/41

Out: 2.290 $\pm$ 0.000  $\chi^2$ /NDF: 129192958861.1/46

All: 2.331 $\pm$ 0.000  $\chi^2$ /NDF: 222120949052.9

# yield\_bpm0l06X\_rms vs Slug, Sign Corrected



Right In: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 209369.3/18

Left Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ :140788.4/24

Right Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 362570.4/21

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

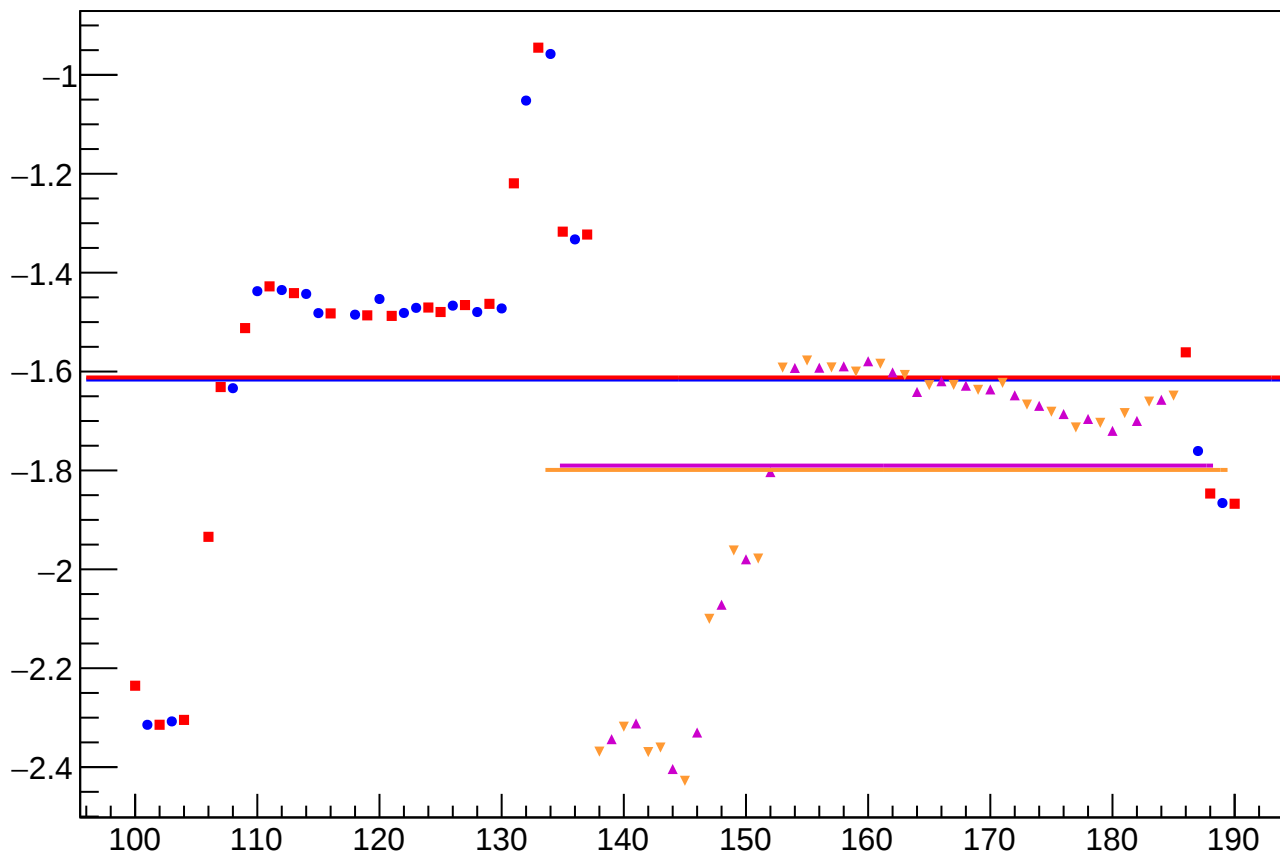
Right: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 571977.7/40

In: 0.007+/-0.000  $\chi^2/\text{NDF}$ :350052.7/41

Out: 0.007+/-0.000  $\chi^2/\text{NDF}$ :525935.0/46

All: 0.007+/-0.000  $\chi^2/\text{NDF}$ : 876491.1/88

# yield\_bpm0l06Y\_mean vs Slug, Sign Corrected



Right In: -1.616+/-0.000  $\chi^2/\text{NDF}$ : 143269321137.5/18

Left Out: -1.799+/-0.000  $\chi^2/\text{NDF}$ : 185362087438.8/24

Right Out: -1.612+/-0.000  $\chi^2/\text{NDF}$ : 151724684066.3/21

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

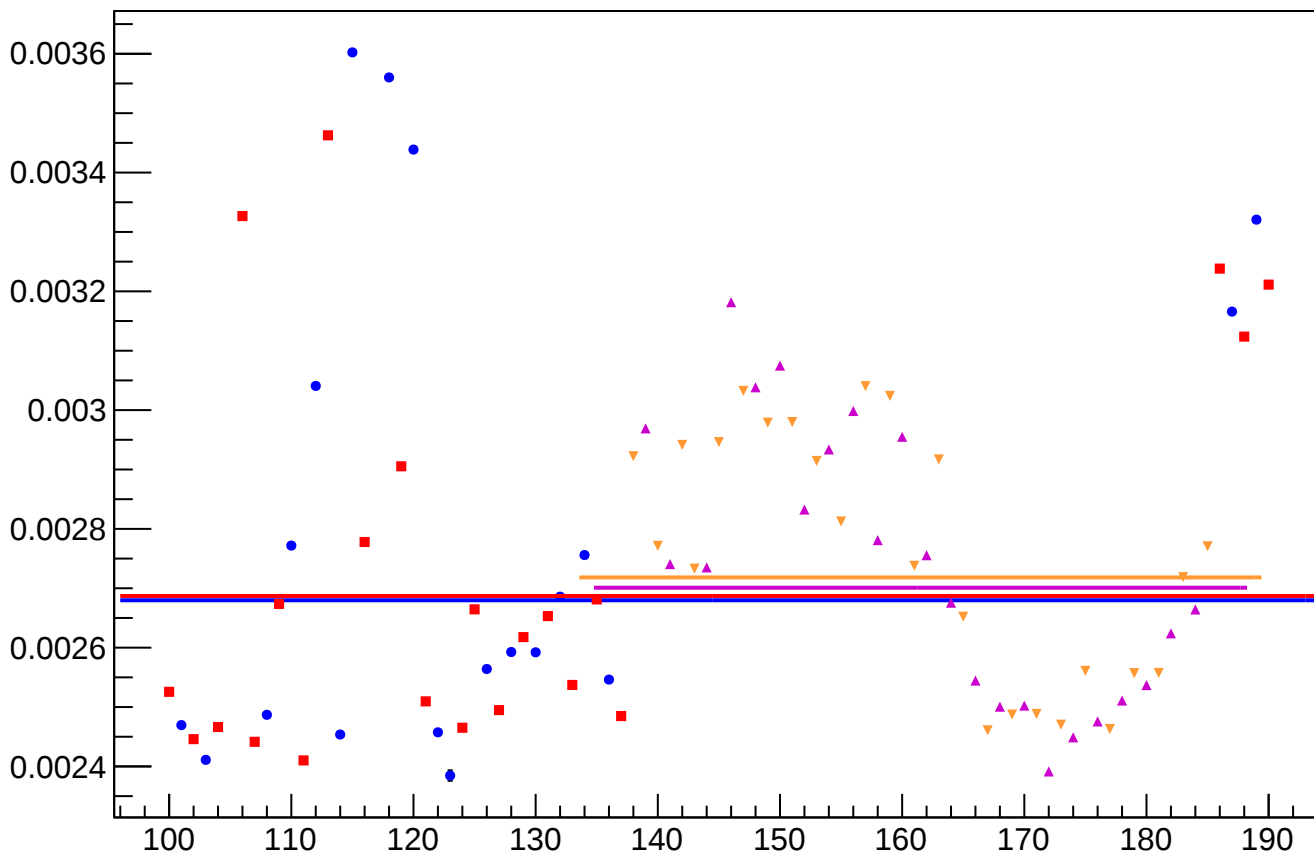
Right: -1.614+/-0.000  $\chi^2/\text{NDF}$ : 295003006658.5/40

In: -1.739+/-0.000  $\chi^2/\text{NDF}$ : 323246105789.8/41

Out: -1.738+/-0.000  $\chi^2/\text{NDF}$ : 363884484284.3/46

All: -1.739+/-0.000  $\chi^2/\text{NDF}$ : 687130900378.3

# yield\_bpm0l06Y\_rms vs Slug, Sign Corrected



Right In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 195667.8/18

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :199695.2/24

Right Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 189709.4/21

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

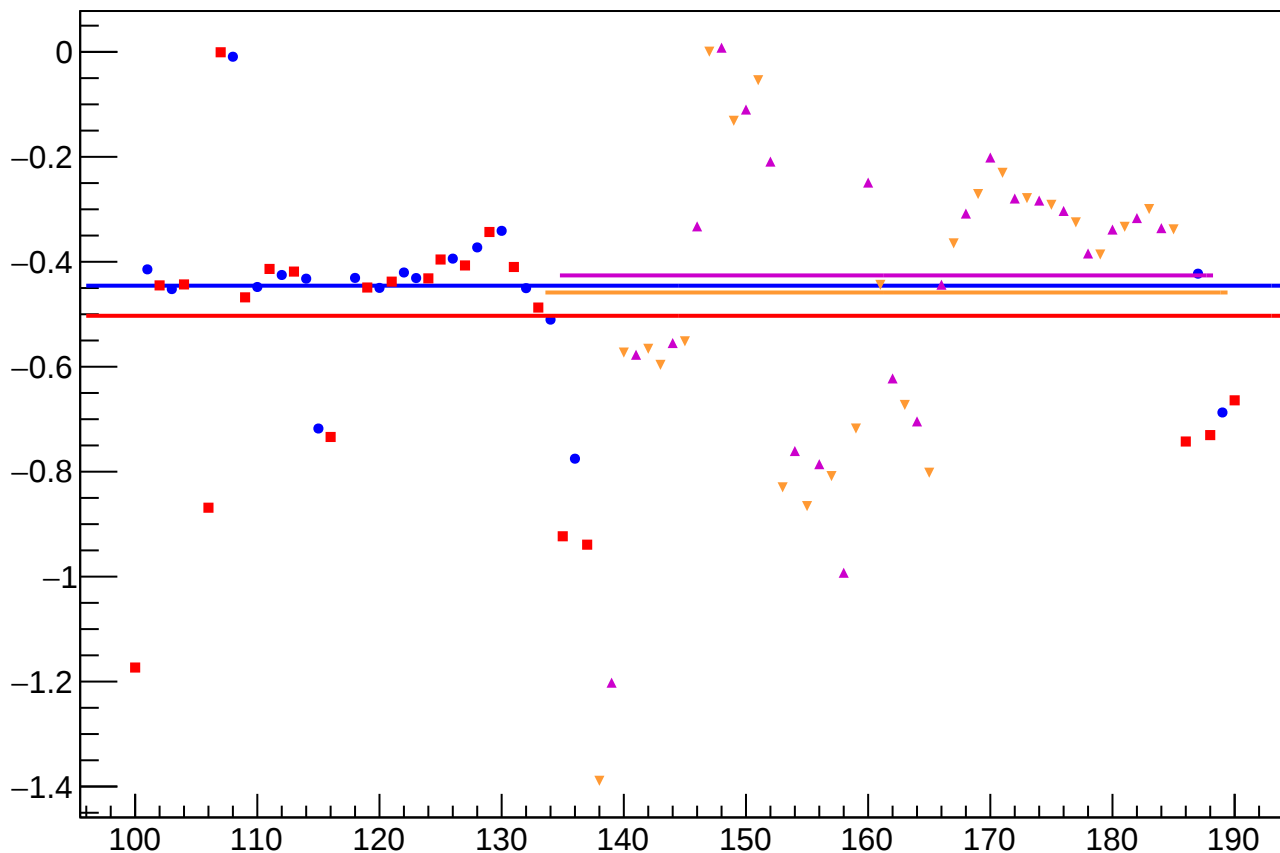
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 385431.0/40

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :416595.5/41

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :390901.2/46

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 808101.6/88

# yield\_bpm0l07X\_mean vs Slug, Sign Corrected



Right In: -0.446+/-0.000  $\chi^2/\text{NDF}$ : 1554717475.4/18

Left Out: -0.459+/-0.000  $\chi^2/\text{NDF}$ : 9916462814.9/24

Right Out: -0.503+/-0.000  $\chi^2/\text{NDF}$ : 2973005777.2/21

Left In: -0.426+/-0.000  $\chi^2/\text{NDF}$ : 8424222576.0/22

Left: -0.443+/-0.000  $\chi^2/\text{NDF}$ : 18401926676.9/47

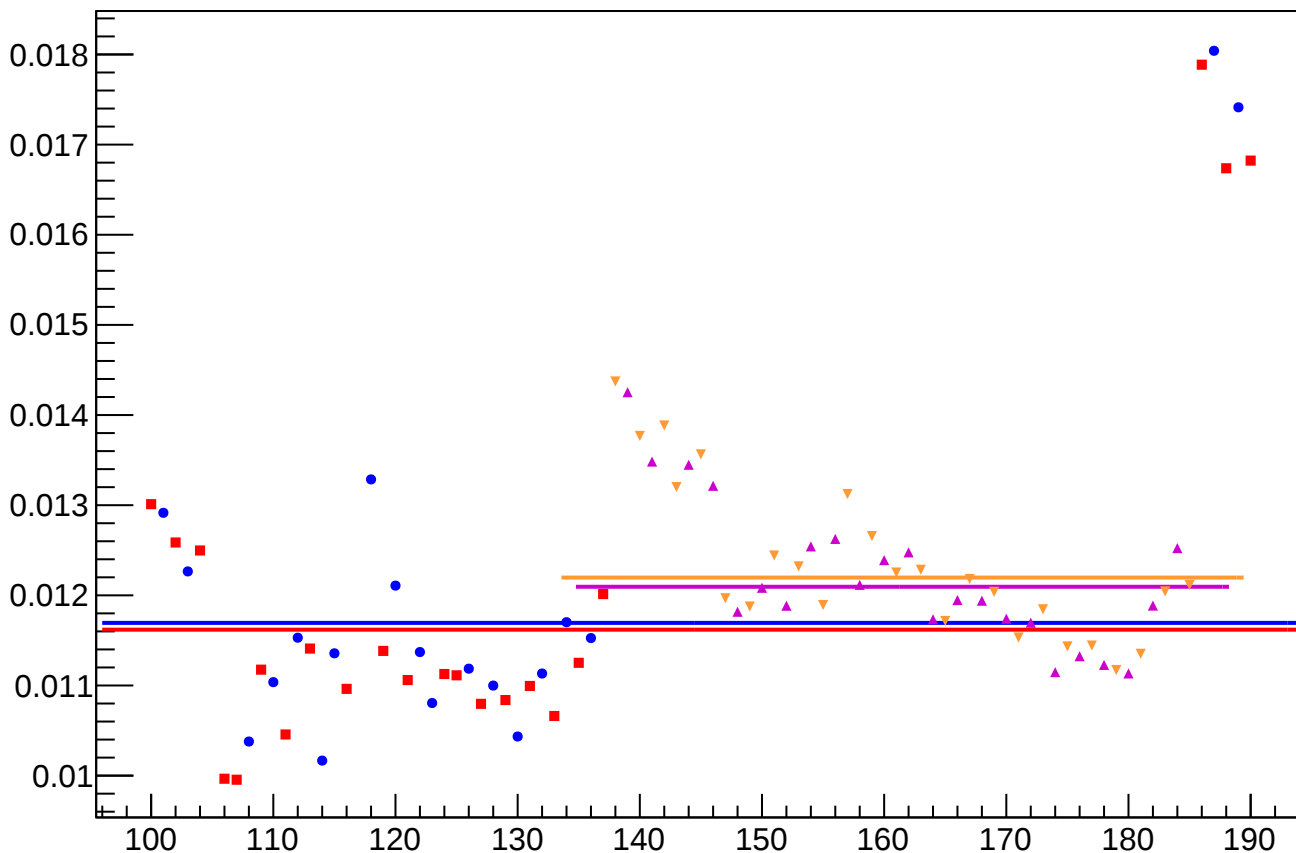
Right: -0.477+/-0.000  $\chi^2/\text{NDF}$ : 4619596300.6/40

In: -0.432+/-0.000  $\chi^2/\text{NDF}$ : 9992422752.1/41

Out: -0.474+/-0.000  $\chi^2/\text{NDF}$ : 12969232156.7/46

All: -0.454+/-0.000  $\chi^2/\text{NDF}$ : 23110762594.5/95

# yield\_bpm0l07X\_rms vs Slug, Sign Corrected



Right In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 205301.3/18

Left Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ :141850.9/24

Right Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 401516.0/21

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

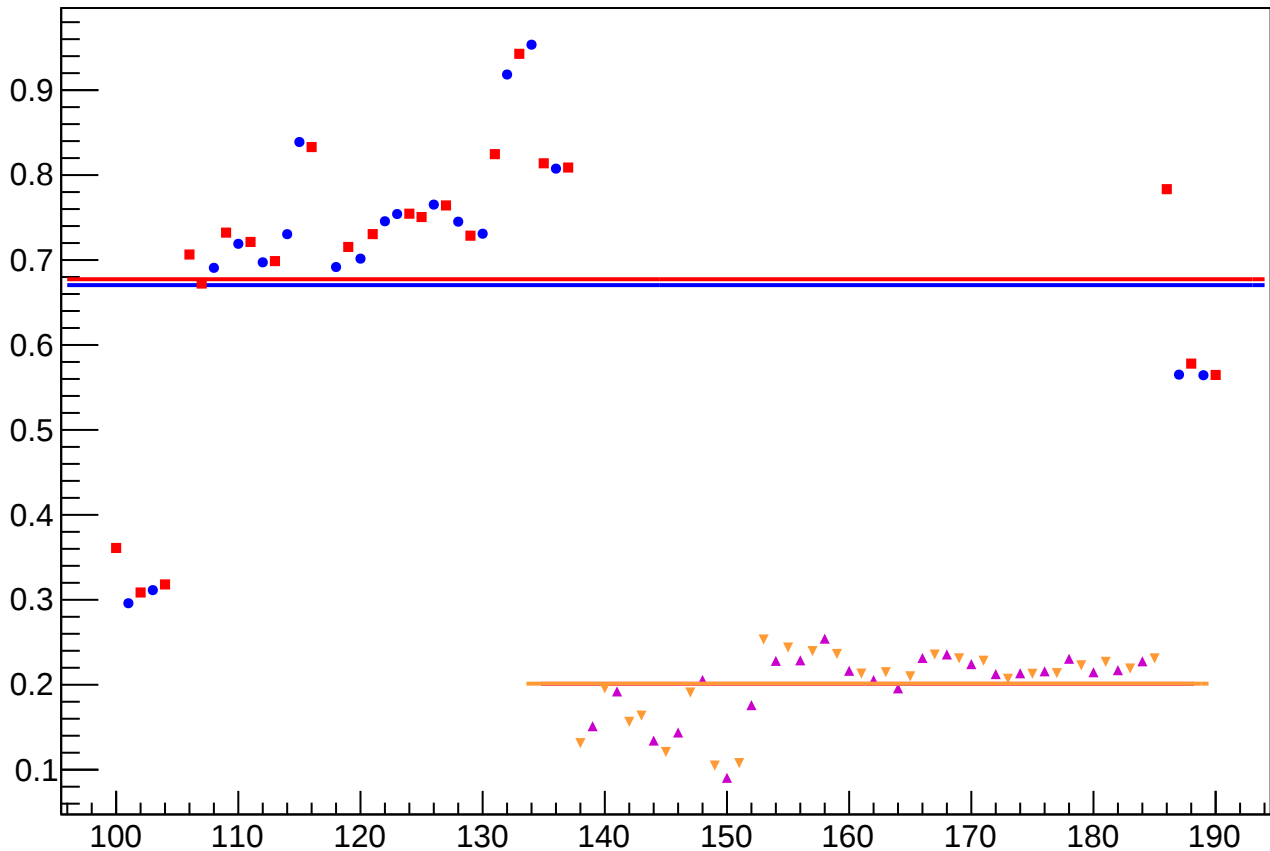
Right: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 607134.1/40

In: 0.012+/-0.000  $\chi^2/\text{NDF}$ :343915.3/41

Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ :570411.4/46

All: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 914466.4/88

# yield\_bpm0l07Y\_mean vs Slug, Sign Corrected



Right In: 0.670+/-0.000  $\chi^2/\text{NDF}$ : 39368829214.4/18

Left Out: 0.201+/-0.000  $\chi^2/\text{NDF}$ : 7090760823.7/24

Right Out: 0.677+/-0.000  $\chi^2/\text{NDF}$ : 37646791833.9/21

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

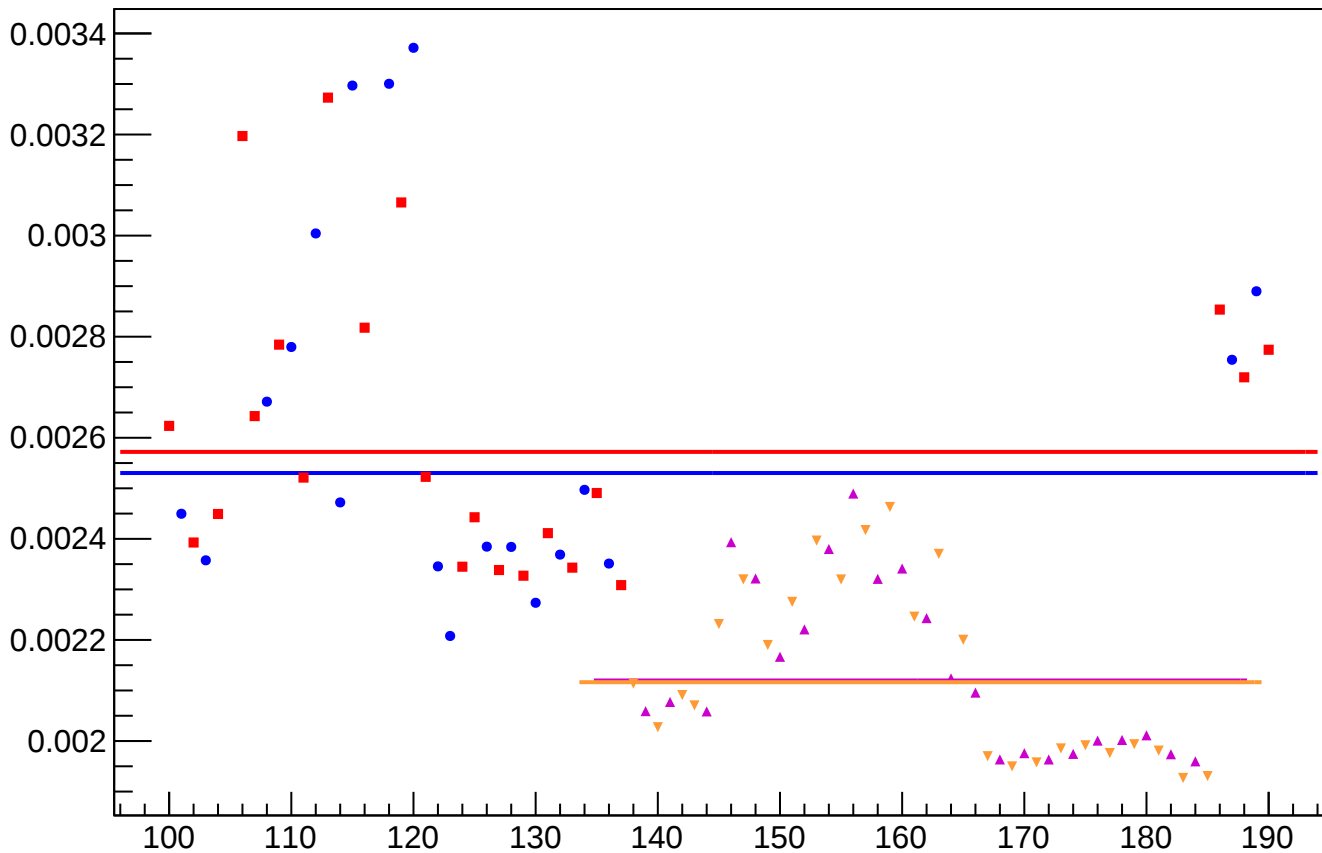
Right: 0.674+/-0.000  $\chi^2/\text{NDF}$ : 77043311440.2/40

In: 0.305+/-0.000  $\chi^2/\text{NDF}$ : 230944490550.3/41

Out: 0.313+/-0.000  $\chi^2/\text{NDF}$ : 260585228704.0/46

All: 0.309+/-0.000  $\chi^2/\text{NDF}$ : 491706464308.0

# yield\_bpm0l07Y\_rms vs Slug, Sign Corrected



Right In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 191715.7/18

Left Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :224498.3/24

Right Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 150423.8/21

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

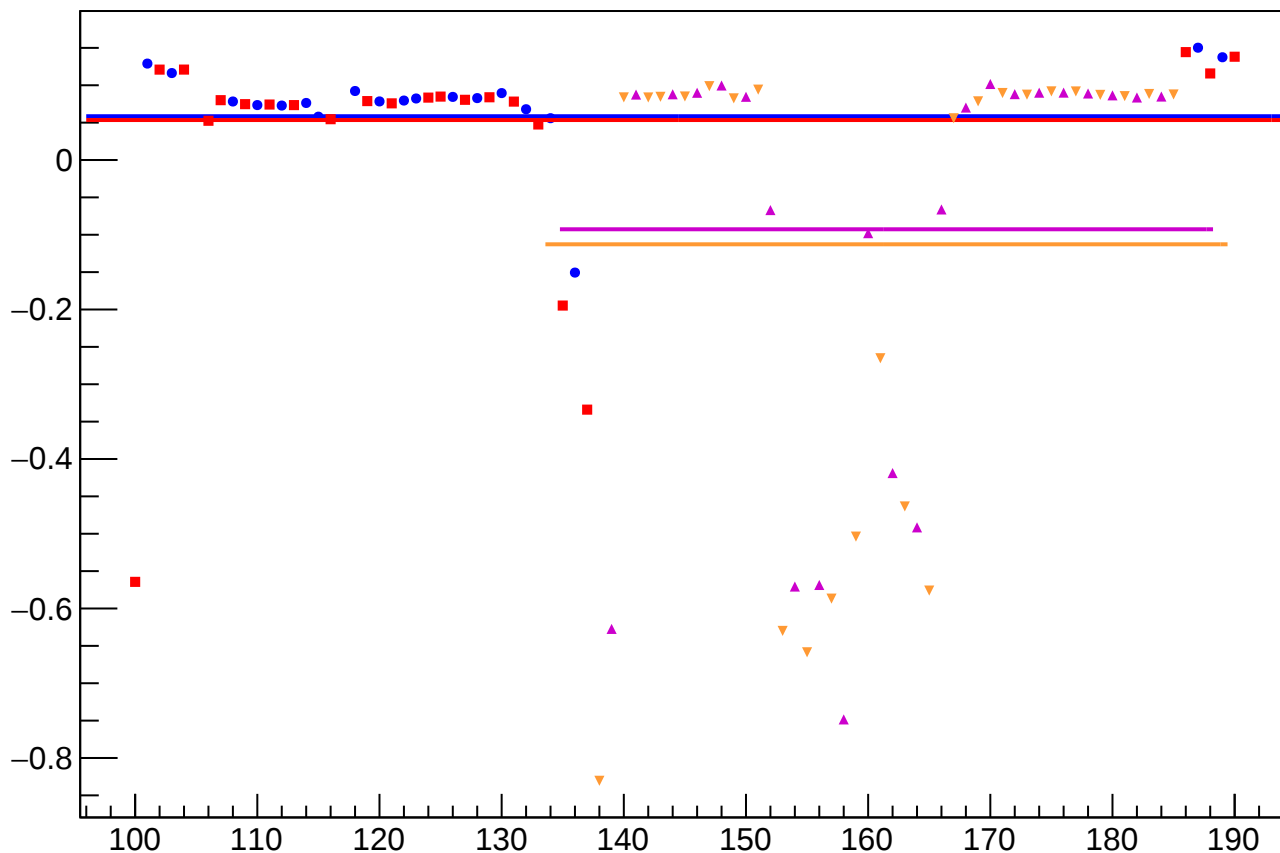
Right: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 344164.8/40

In: 0.002+/-0.000  $\chi^2/\text{NDF}$ :665253.7/41

Out: 0.002+/-0.000  $\chi^2/\text{NDF}$ :770459.5/46

All: 0.002+/-0.000  $\chi^2/\text{NDF}$ : 1436562.7/88

# yield\_bpm0l08X\_mean vs Slug, Sign Corrected



Right In: 0.059+/-0.000

$\chi^2/\text{NDF}$ : 439433407.2/18

Left: -0.103+/-0.000

$\chi^2/\text{NDF}$ : 24747894543.0/47

Left Out: -0.113+/-0.000

$\chi^2/\text{NDF}$ : 13667354077.1/24

Right: 0.056+/-0.000

$\chi^2/\text{NDF}$ : 1299544919.1/40

Right Out: 0.053+/-0.000

$\chi^2/\text{NDF}$ : 859129602.5/21

In: -0.042+/-0.000

$\chi^2/\text{NDF}$ : 12551265767.4/41

Left In: -0.093+/-0.000

$\chi^2/\text{NDF}$ : 11051944893.7/22

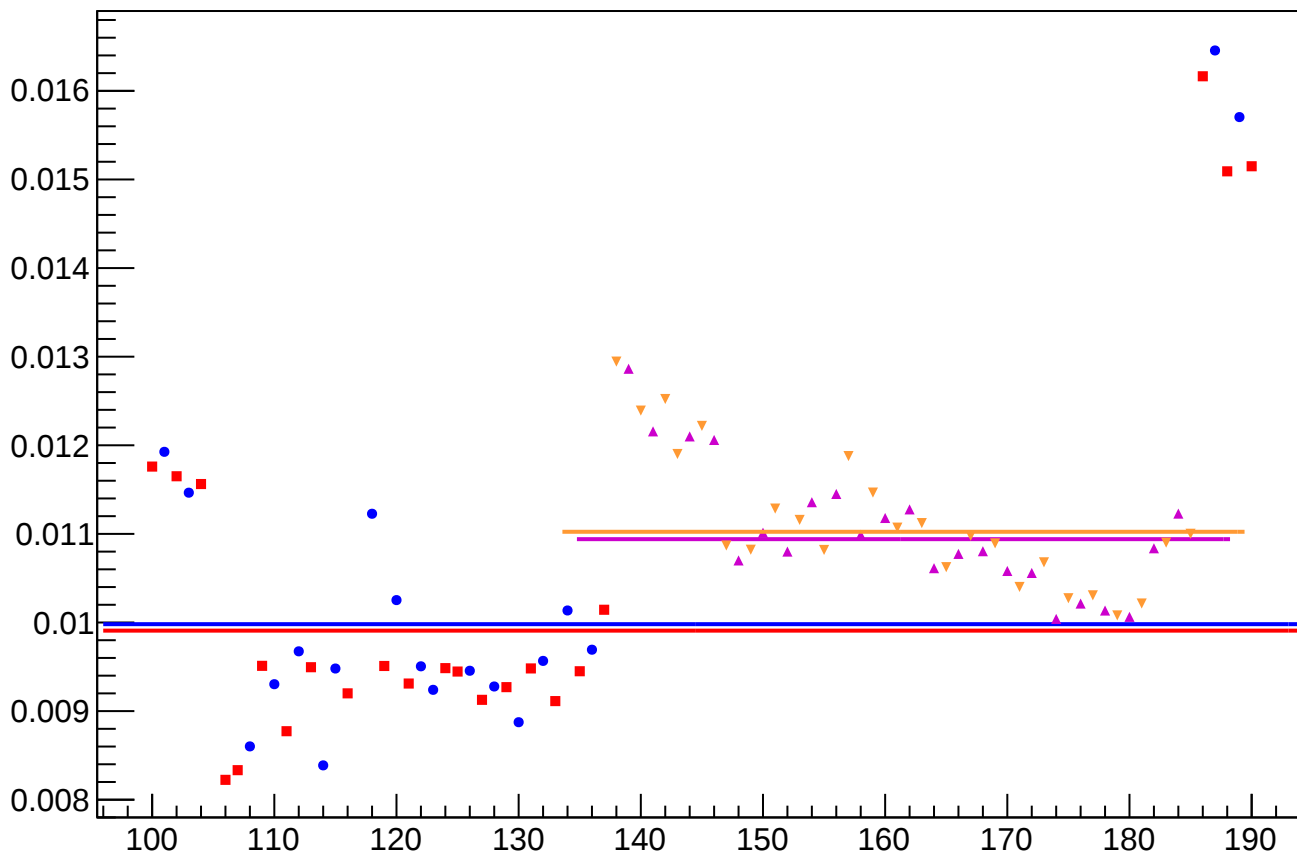
Out: -0.052+/-0.000

$\chi^2/\text{NDF}$ : 15993906024.5/46

All: -0.047+/-0.000

$\chi^2/\text{NDF}$ : 28555350870.5/100

# yield\_bpm0l08X\_rms vs Slug, Sign Corrected



Right In: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 289090.6/18

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :141501.7/24

Right Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 537497.1/21

Left In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :128914.2/22

Left: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 271400.1/47

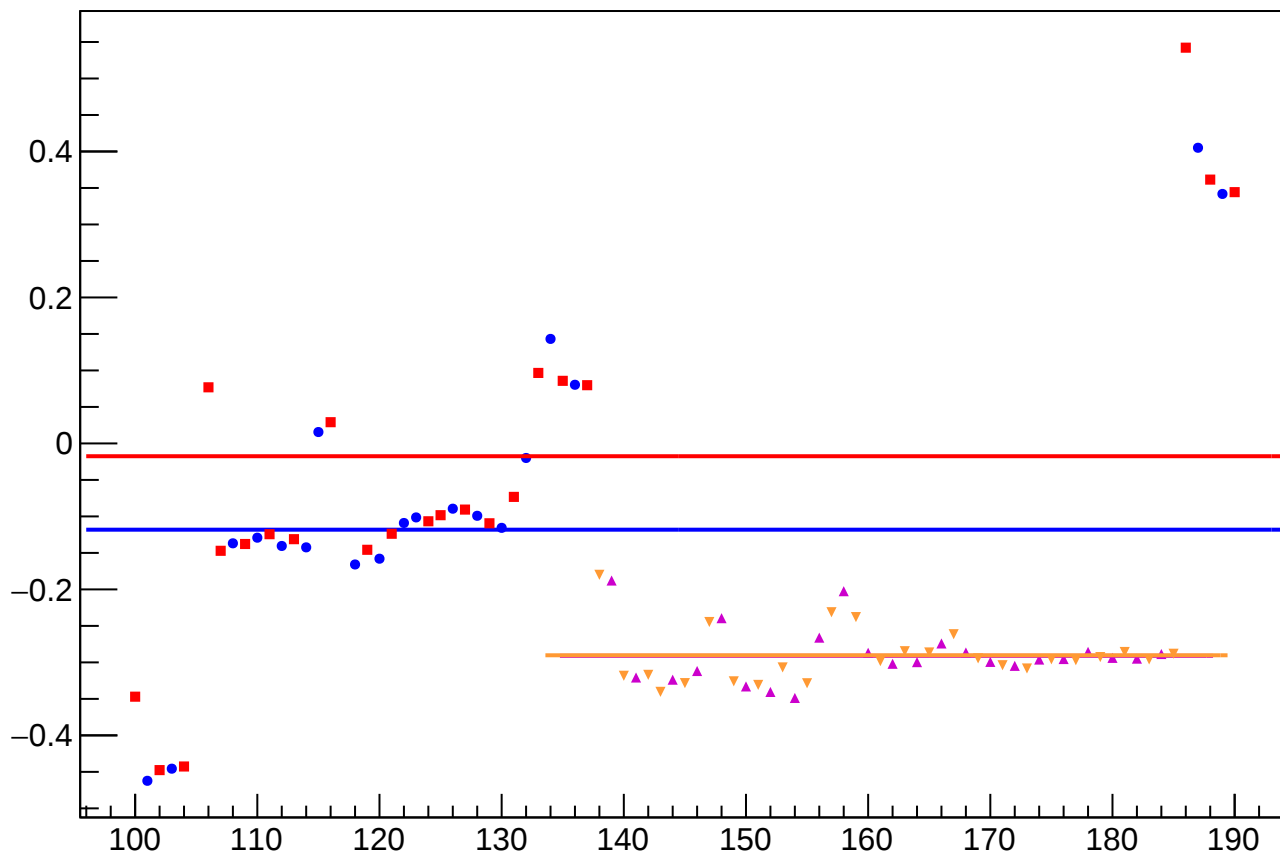
Right: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 826991.8/40

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :503308.7/41

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :811166.2/46

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 1314480.7/88

# yield\_bpm0l08Y\_mean vs Slug, Sign Corrected



Right In:  $-0.118 \pm 0.000$   $\chi^2/\text{NDF}: 20559613442.8/18$

Left Out:  $-0.290 \pm 0.000$   $\chi^2/\text{NDF}: 2877519093.0/24$

Right Out:  $-0.018 \pm 0.000$   $\chi^2/\text{NDF}: 35294968878.4/21$

Left In:  $-0.291 \pm 0.000$   $\chi^2/\text{NDF}: 3125402243.3/22$

Left:  $-0.291 \pm 0.000$   $\chi^2/\text{NDF}: 6003615293.4/47$

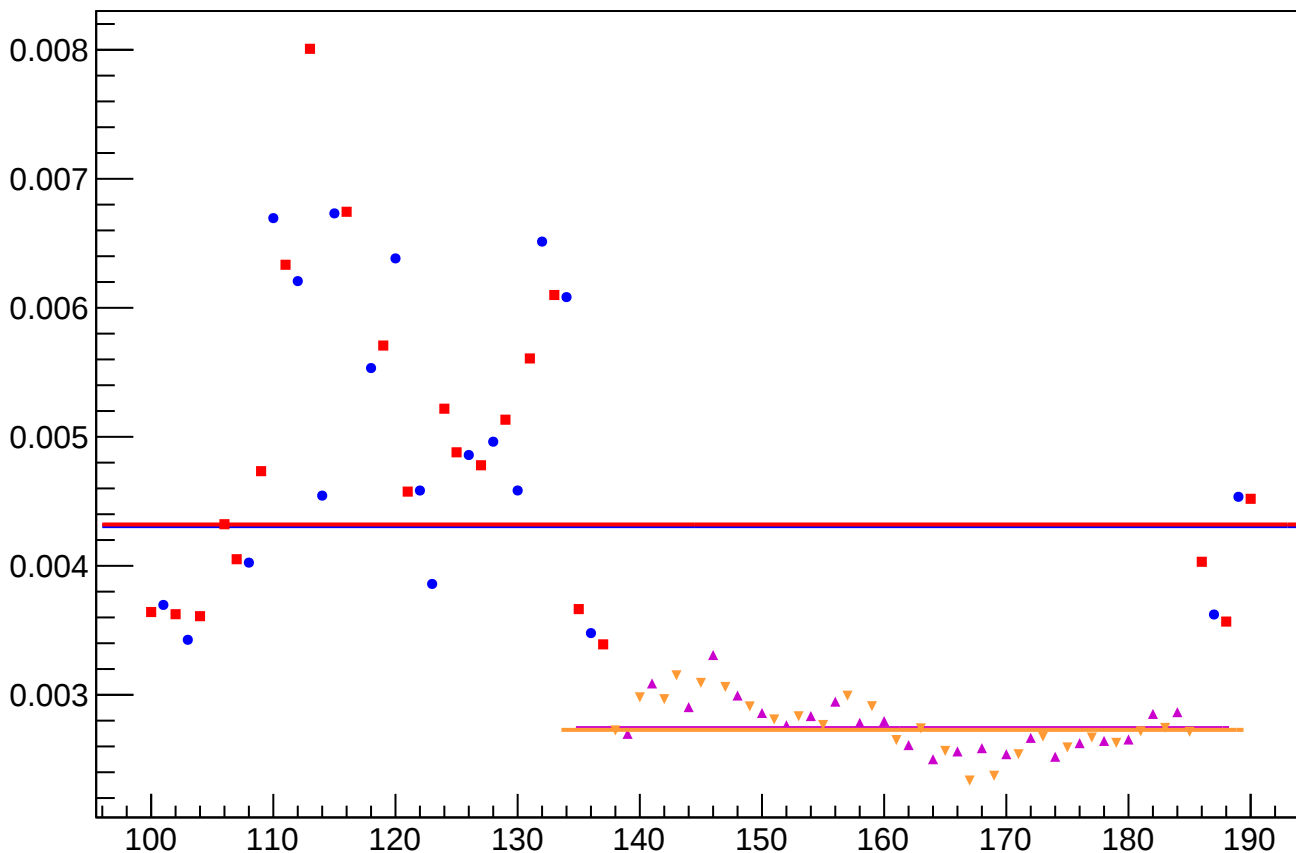
Right:  $-0.063 \pm 0.000$   $\chi^2/\text{NDF}: 57750548521.6/40$

In:  $-0.268 \pm 0.000$   $\chi^2/\text{NDF}: 32560029550.2/41$

Out:  $-0.250 \pm 0.000$   $\chi^2/\text{NDF}: 64222531003.8/46$

All:  $-0.258 \pm 0.000$   $\chi^2/\text{NDF}: 97207427509.4/94$

# yield\_bpm0l08Y\_rms vs Slug, Sign Corrected



Right In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 629846.4/18

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :206527.1/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 736307.6/21

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

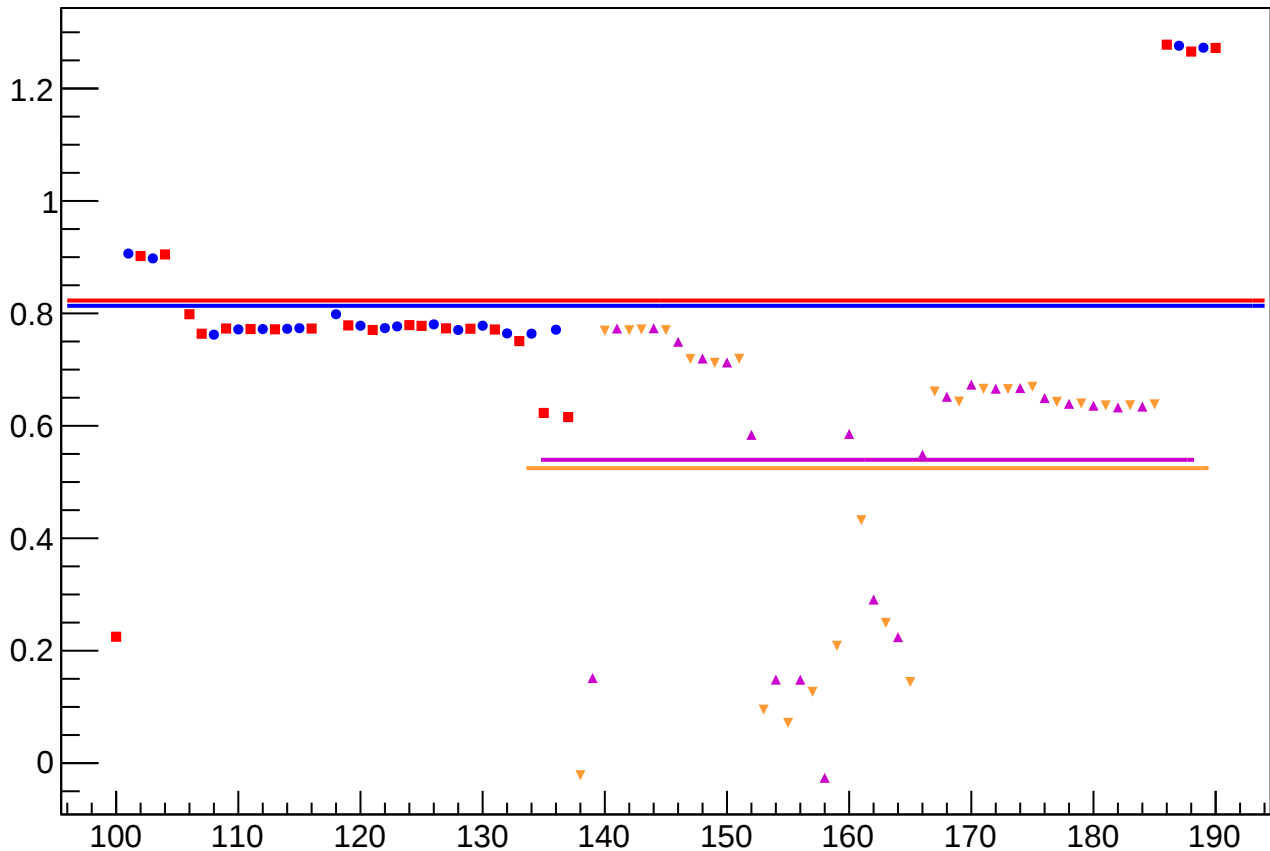
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 1366215.6/40

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ :2233305.8/41

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ :2717823.2/46

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 4951454.8/88

# yield\_bpm0l09X\_mean vs Slug, Sign Corrected



Right In: 0.813 $\pm$ 0.000  $\chi^2$ /NDF: 694213424.3/18

Left Out: 0.525 $\pm$ 0.000  $\chi^2$ /NDF:9623503169.9/24

Right Out: 0.823 $\pm$ 0.000  $\chi^2$ /NDF: 2020324315.9/21

Left In: 0.540 $\pm$ 0.000  $\chi^2$ /NDF:7860539135.5/22

Left: 0.532 $\pm$ 0.000  $\chi^2$ /NDF: 17500739852.2/47

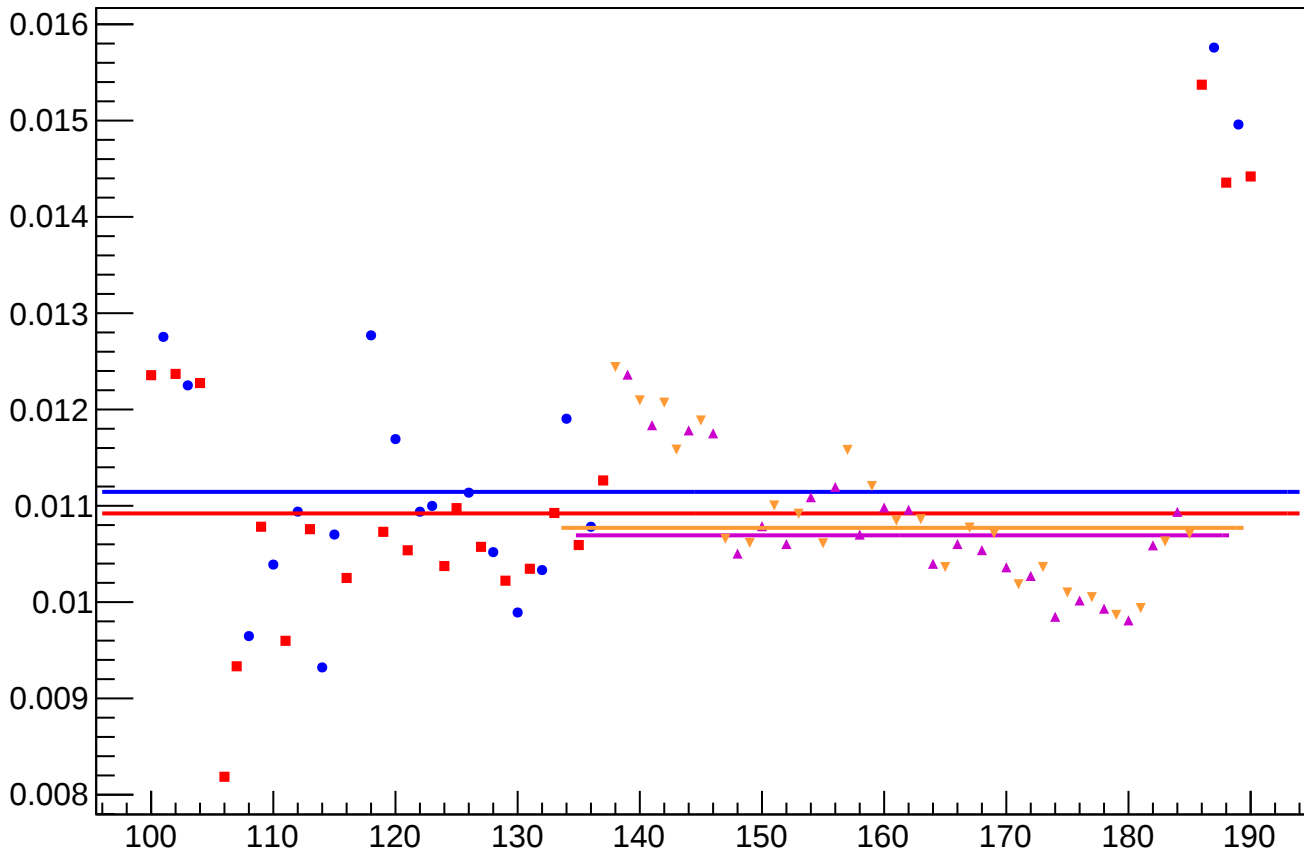
Right: 0.819 $\pm$ 0.000  $\chi^2$ /NDF: 2717291468.2/40

In: 0.616 $\pm$ 0.000  $\chi^2$ /NDF:11599012968.0/41

Out: 0.618 $\pm$ 0.000  $\chi^2$ /NDF:15905446145.5/46

All: 0.617 $\pm$ 0.000  $\chi^2$ /NDF: 27505161113.8/86

# yield\_bpm0l09X\_rms vs Slug, Sign Corrected



Right In: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 186669.6/18

Left Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :131630.9/24

Right Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 342221.6/21

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

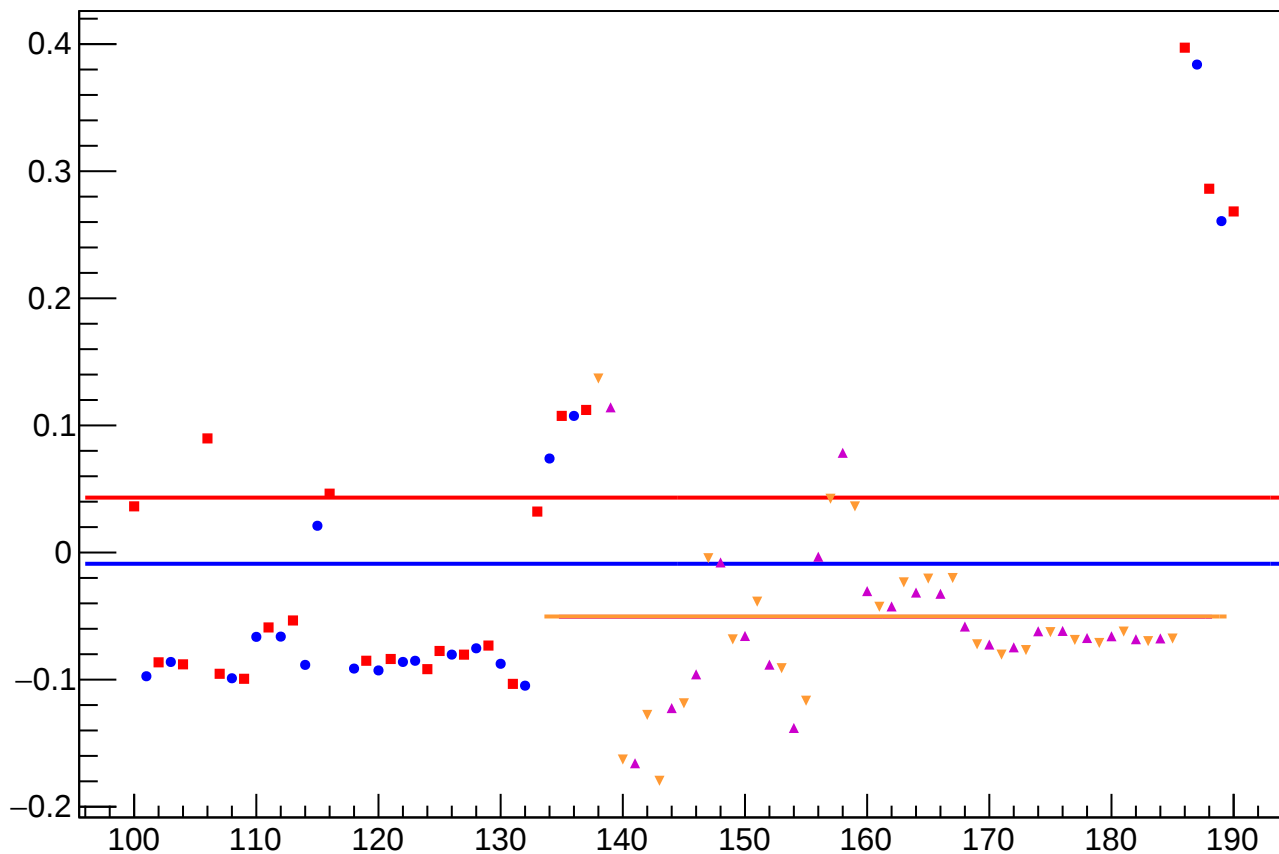
Right: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 532006.5/40

In: 0.011+/-0.000  $\chi^2/\text{NDF}$ :322465.5/41

Out: 0.011+/-0.000  $\chi^2/\text{NDF}$ :476006.8/46

All: 0.011+/-0.000  $\chi^2/\text{NDF}$ : 798472.4/88

# yield\_bpm0l09Y\_mean vs Slug, Sign Corrected



Right In: -0.009+/-0.000  $\chi^2/\text{NDF}$ : 4578254303.3/18

Left Out: -0.050+/-0.000  $\chi^2/\text{NDF}$ : 7271496478.6/24

Right Out: 0.043+/-0.000  $\chi^2/\text{NDF}$ : 9374888784.5/21

Left In: -0.051+/-0.000  $\chi^2/\text{NDF}$ : 6128769990.8/22

Left: -0.050+/-0.000  $\chi^2/\text{NDF}$ : 13400329490.2/47

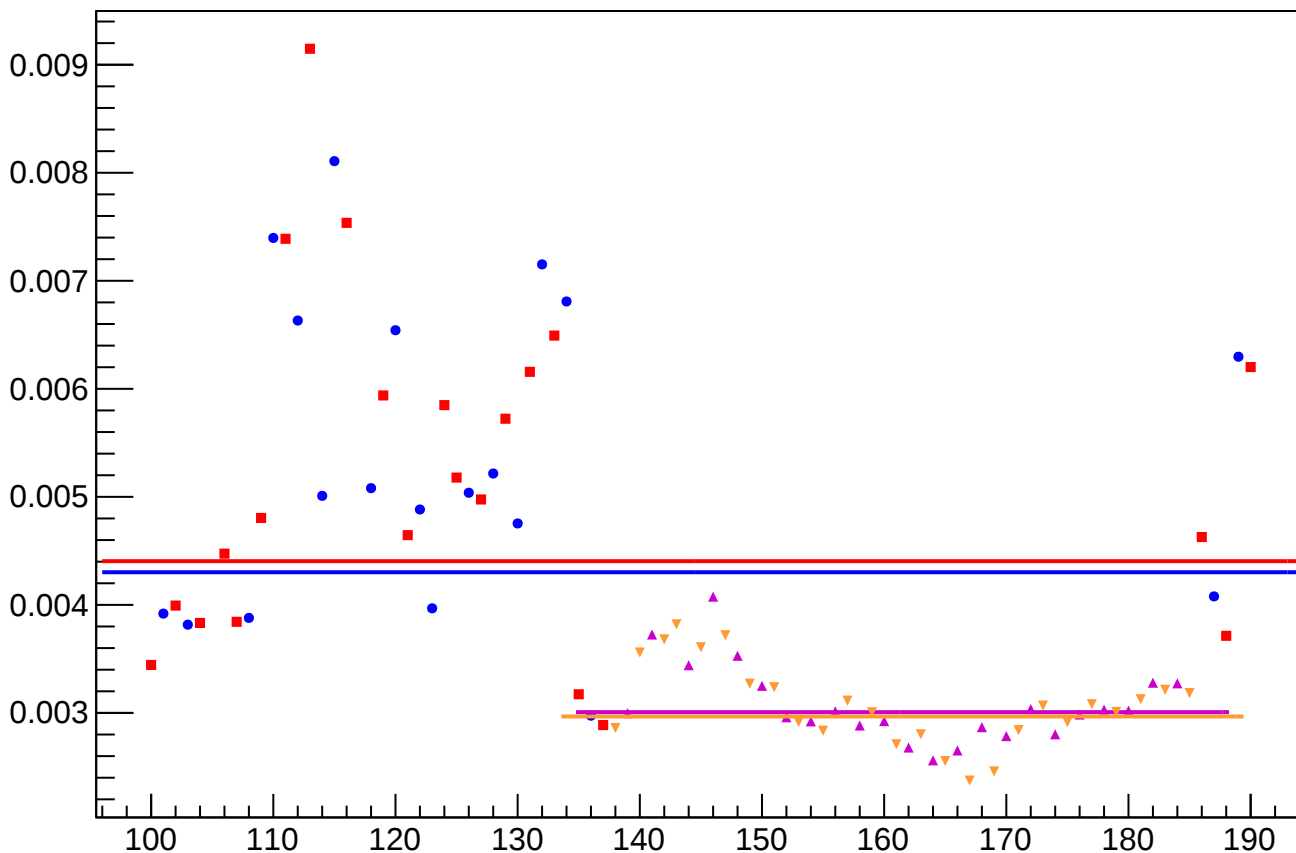
Right: 0.019+/-0.000  $\chi^2/\text{NDF}$ : 14421643226.7/40

In: -0.044+/-0.000  $\chi^2/\text{NDF}$ : 11183462090.5/41

Out: -0.035+/-0.000  $\chi^2/\text{NDF}$ : 19375544028.6/46

All: -0.040+/-0.000  $\chi^2/\text{NDF}$ : 30645946204.0/95

# yield\_bpm0l09Y\_rms vs Slug, Sign Corrected



Right In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 972009.1/18

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 499039.1/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 1080748.6/21

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

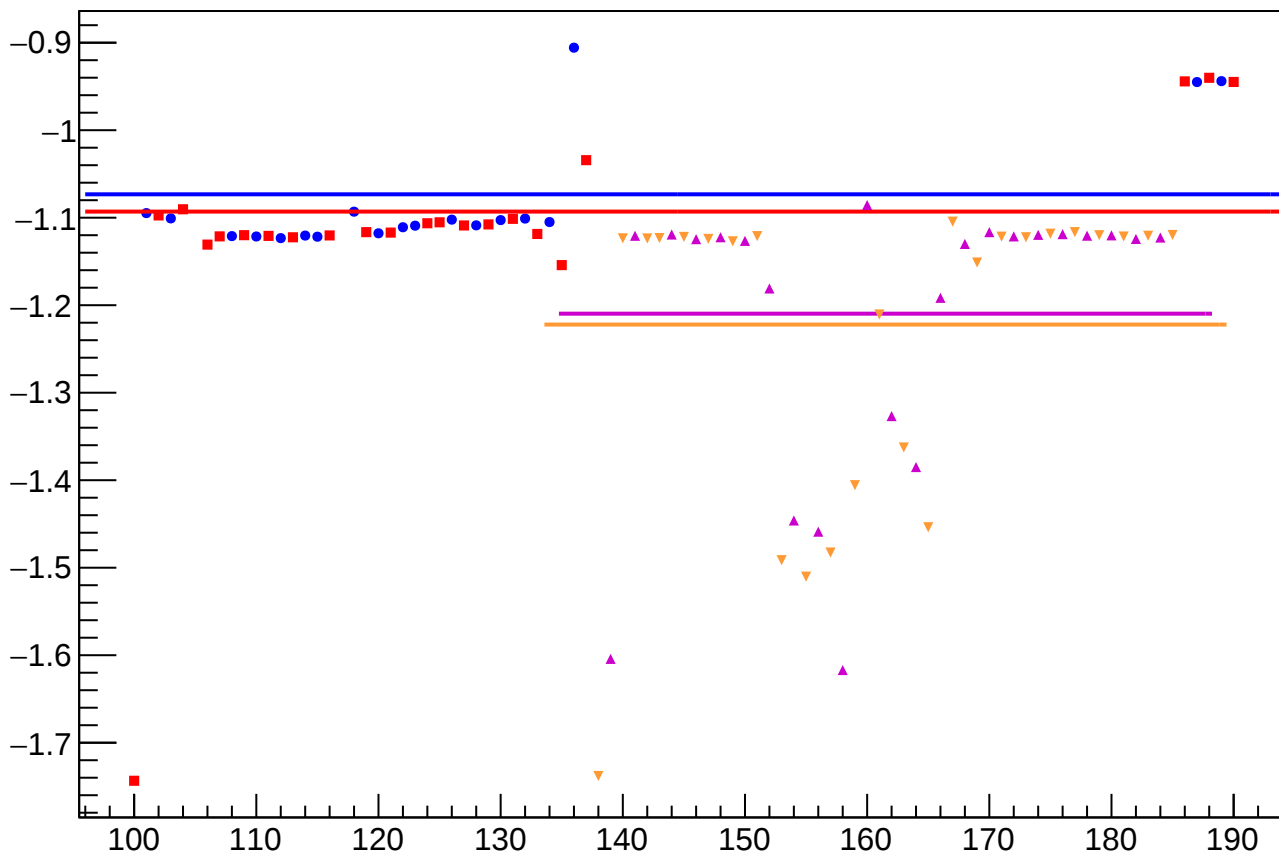
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 2056384.0/40

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 2218744.6/41

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 2869199.8/46

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 5088081.3/88

# yield\_bpm0l10X\_mean vs Slug, Sign Corrected



Right In: -1.073+/-0.000  $\chi^2/\text{NDF}$ : 263774295.7/18

Left Out: -1.222+/-0.000  $\chi^2/\text{NDF}$ : 5279548861.3/24

Right Out: -1.093+/-0.000  $\chi^2/\text{NDF}$ : 477068677.8/21

Left In: -1.210+/-0.000  $\chi^2/\text{NDF}$ : 4502367902.8/22

Left: -1.216+/-0.000  $\chi^2/\text{NDF}$ : 9796254294.5/47

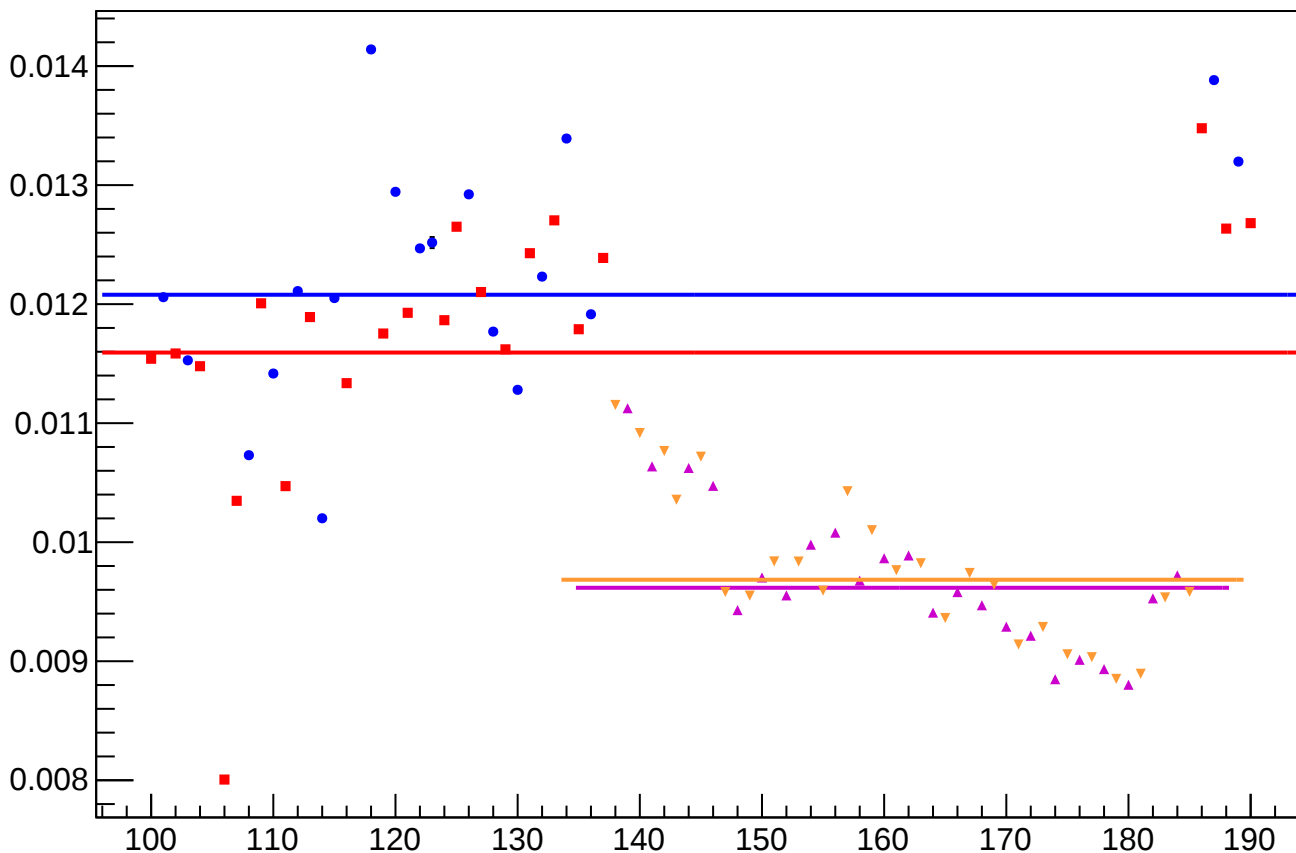
Right: -1.084+/-0.000  $\chi^2/\text{NDF}$ : 751424489.4/40

In: -1.181+/-0.000  $\chi^2/\text{NDF}$ : 5473181072.2/41

Out: -1.190+/-0.000  $\chi^2/\text{NDF}$ : 6538025410.5/46

All: -1.186+/-0.000  $\chi^2/\text{NDF}$ : 12021108632.6/94

# yield\_bpm0l10X\_rms vs Slug, Sign Corrected



Right In: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 71014.4/18

Left Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ :134863.6/24

Right Out: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 188768.3/21

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

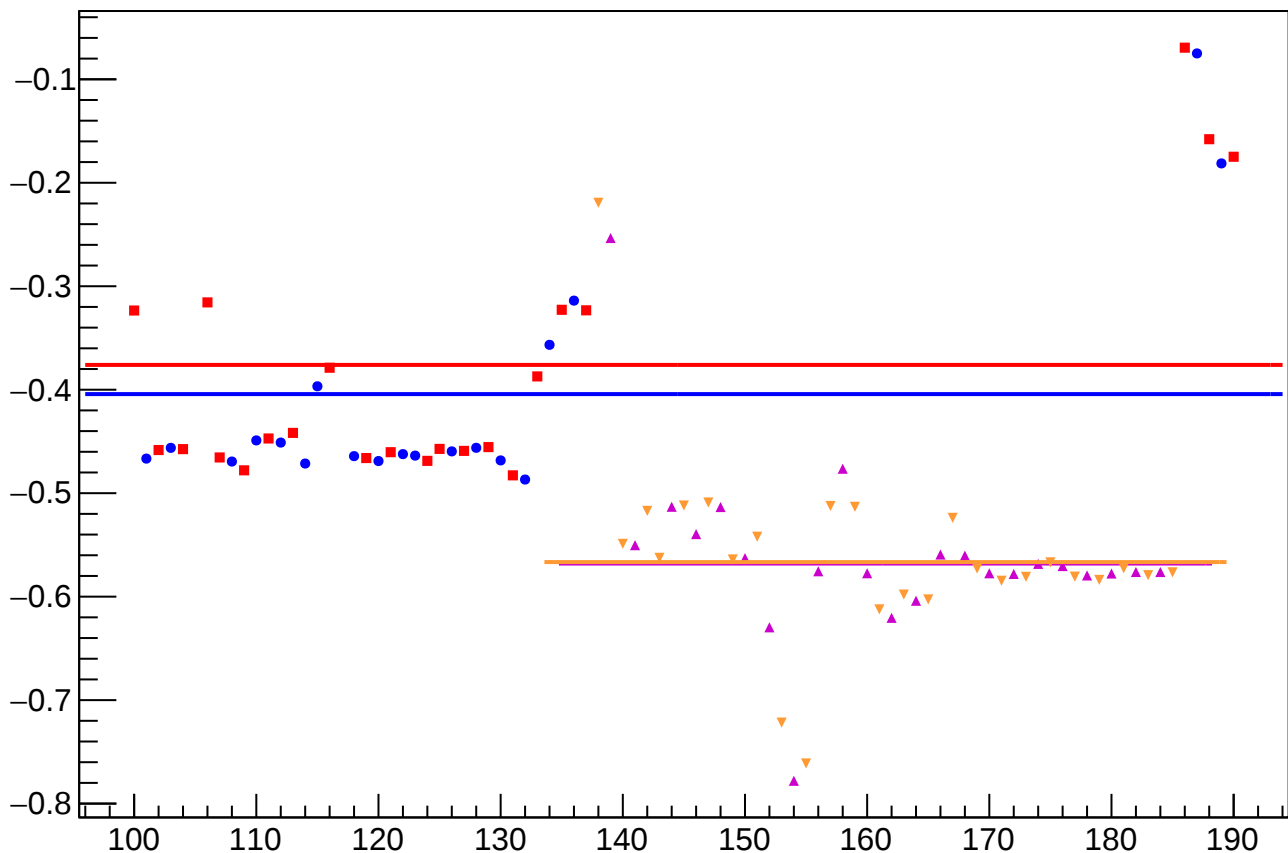
Right: 0.012+/-0.000  $\chi^2/\text{NDF}$ : 272580.8/40

In: 0.010+/-0.000  $\chi^2/\text{NDF}$ :651398.7/41

Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ :665196.8/46

All: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 1316732.7/88

# yield\_bpm0l10Y\_mean vs Slug, Sign Corrected



Right In: -0.404 $\pm$ 0.000  $\chi^2$ /NDF: 3641344613.3/18

Left Out: -0.567 $\pm$ 0.000  $\chi^2$ /NDF:13368458519.3/24

Right Out: -0.376 $\pm$ 0.000  $\chi^2$ /NDF: 7068751715.0/21

Left In: -0.568 $\pm$ 0.000  $\chi^2$ /NDF:10458990019.9/22

Left: -0.567 $\pm$ 0.000  $\chi^2$ /NDF: 23829000396.4/47

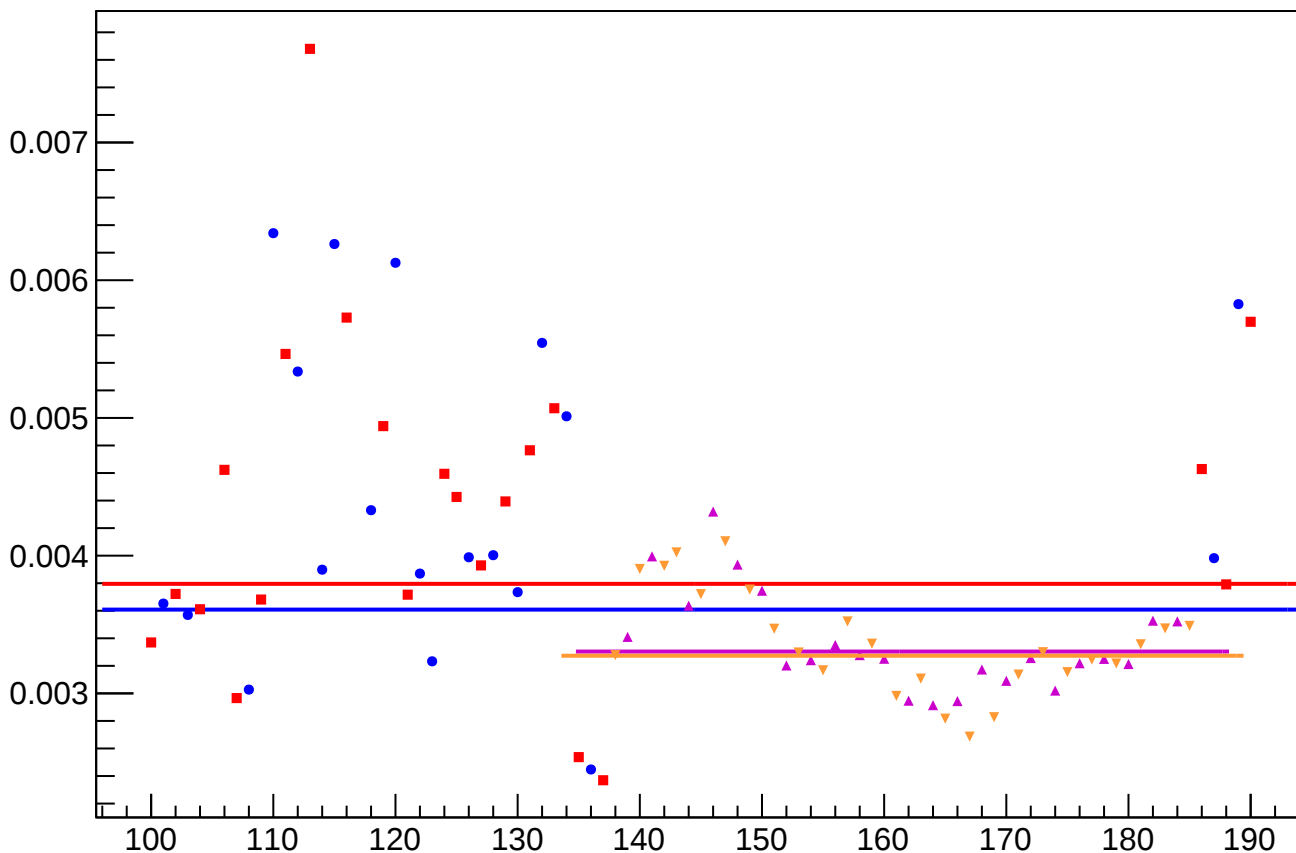
Right: -0.389 $\pm$ 0.000  $\chi^2$ /NDF: 10900426413.9/40

In: -0.529 $\pm$ 0.000  $\chi^2$ /NDF:23438730405.4/41

Out: -0.521 $\pm$ 0.000  $\chi^2$ /NDF:34360366348.3/46

All: -0.525 $\pm$ 0.000  $\chi^2$ /NDF: 57871503552.3/95

# yield\_bpm0l10Y\_rms vs Slug, Sign Corrected



Right In: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 970225.2/18

Left Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 394865.4/24

Right Out: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 984184.0/21

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

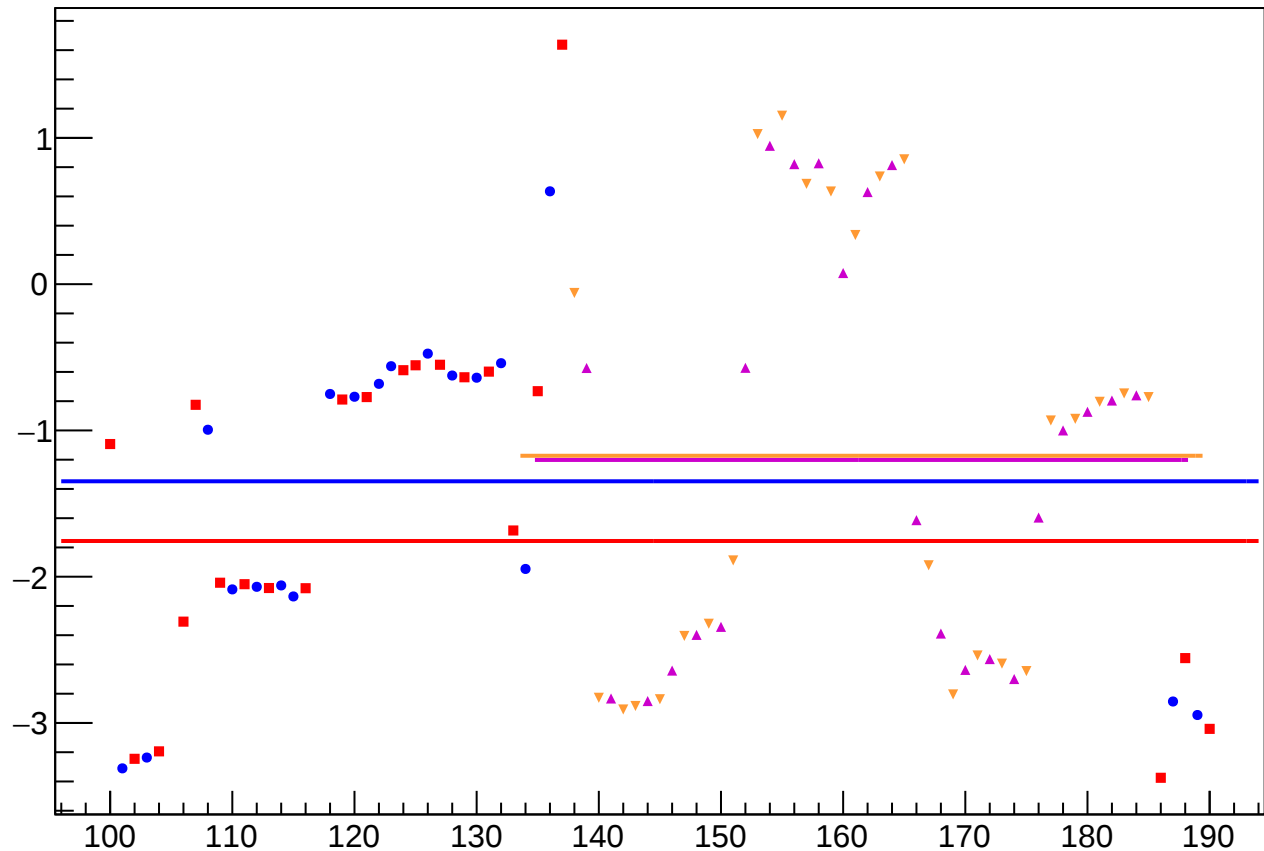
Right: 0.004+/-0.000  $\chi^2/\text{NDF}$ : 1971147.1/40

In: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 1320912.1/41

Out: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 1587970.3/46

All: 0.003+/-0.000  $\chi^2/\text{NDF}$ : 2909942.8/88

# yield\_bpm0r03X\_mean vs Slug, Sign Corrected



Right In:  $-1.348 \pm 0.000$   $\chi^2/\text{NDF}: 2289584044.9/18$

Left Out:  $-1.173 \pm 0.000$   $\chi^2/\text{NDF}: 6882684653.2/24$

Right Out:  $-1.756 \pm 0.000$   $\chi^2/\text{NDF}: 2159466176.5/21$

Left In:  $-1.202 \pm 0.000$   $\chi^2/\text{NDF}: 5606782515.9/22$

Left:  $-1.187 \pm 0.000$   $\chi^2/\text{NDF}: 12490828303.3/47$

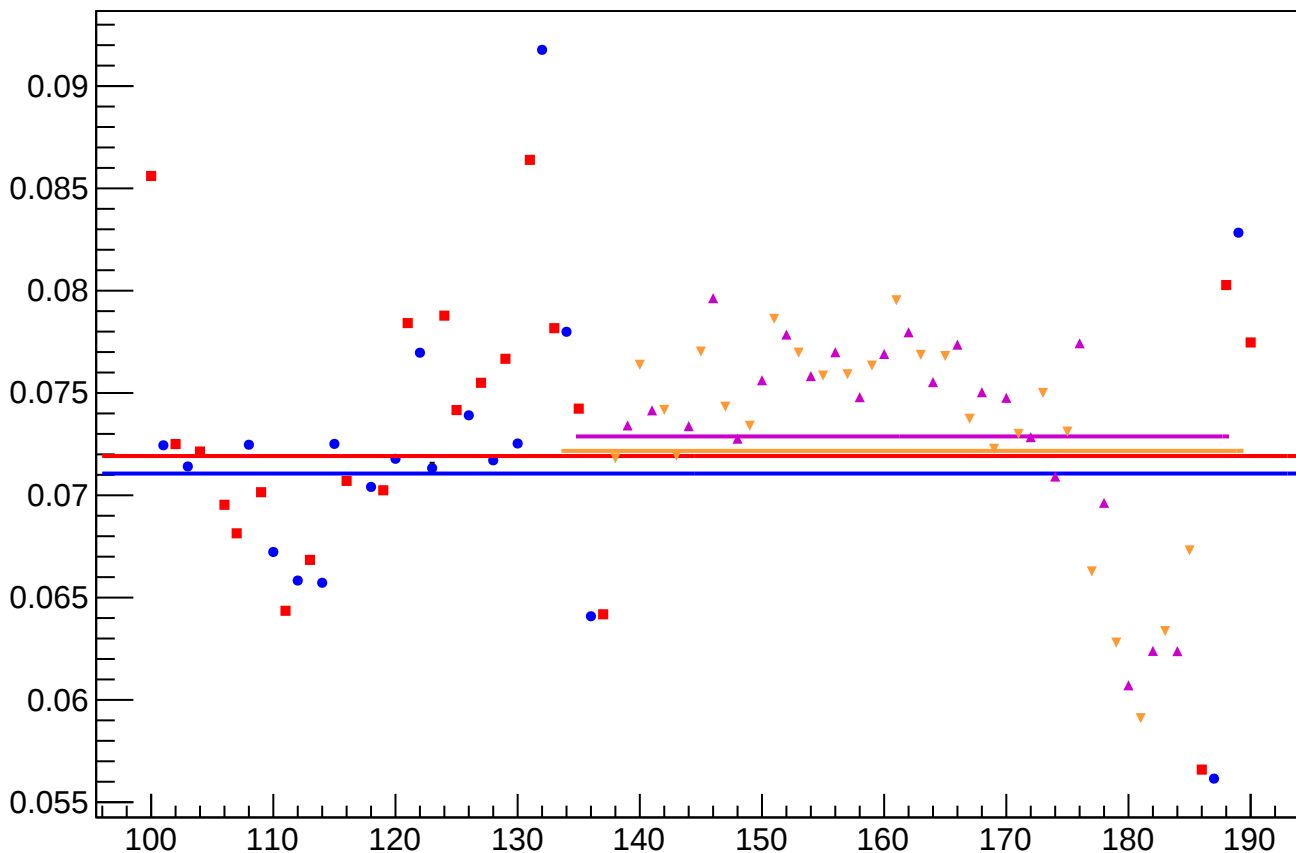
Right:  $-1.567 \pm 0.000$   $\chi^2/\text{NDF}: 4575577638.6/40$

In:  $-1.247 \pm 0.000$   $\chi^2/\text{NDF}: 7917223364.2/41$

Out:  $-1.361 \pm 0.000$   $\chi^2/\text{NDF}: 9420078152.1/46$

All:  $-1.306 \pm 0.000$   $\chi^2/\text{NDF}: 17368754641.2/106$

# yield\_bpm0r03X\_rms vs Slug, Sign Corrected



Right In: 0.071+/-0.000  $\chi^2/\text{NDF}$ : 115776.6/18

Left Out: 0.072+/-0.000  $\chi^2/\text{NDF}$ :222263.8/24

Right Out: 0.072+/-0.000  $\chi^2/\text{NDF}$ : 145440.3/21

Left In: 0.073+/-0.000  $\chi^2/\text{NDF}$ :183503.0/22

Left: 0.073+/-0.000  $\chi^2/\text{NDF}$ : 407423.5/47

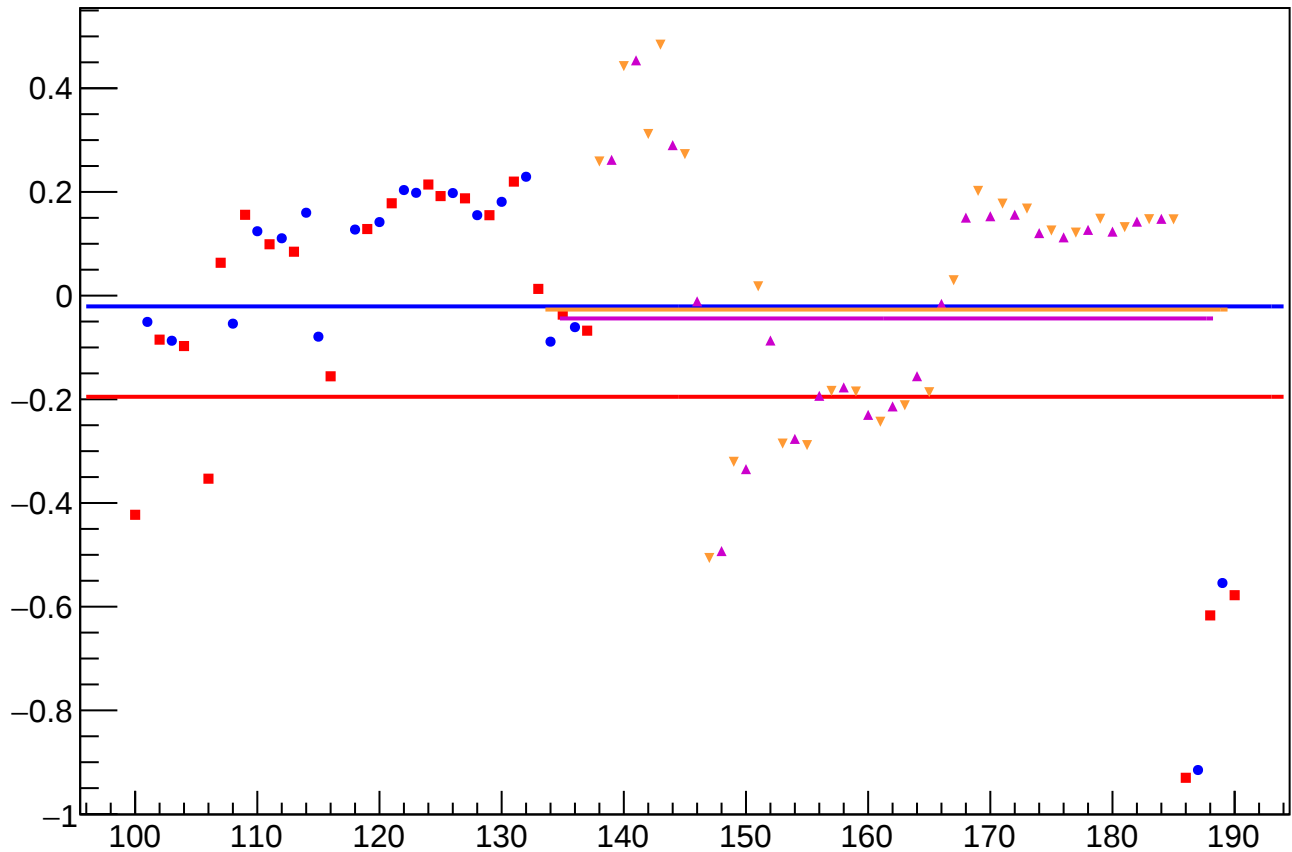
Right: 0.072+/-0.000  $\chi^2/\text{NDF}$ : 262329.3/40

In: 0.072+/-0.000  $\chi^2/\text{NDF}$ :305726.0/41

Out: 0.072+/-0.000  $\chi^2/\text{NDF}$ :367844.9/46

All: 0.072+/-0.000  $\chi^2/\text{NDF}$ : 673828.2/88

# yield\_bpm0r03Y\_mean vs Slug, Sign Corrected



Right In: -0.021+/-0.000  $\chi^2/\text{NDF}$ : 2225906586.6/18

Left Out: -0.027+/-0.000  $\chi^2/\text{NDF}$ : 20376761328.6/24

Right Out: -0.195+/-0.000  $\chi^2/\text{NDF}$ : 6942603357.3/21

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

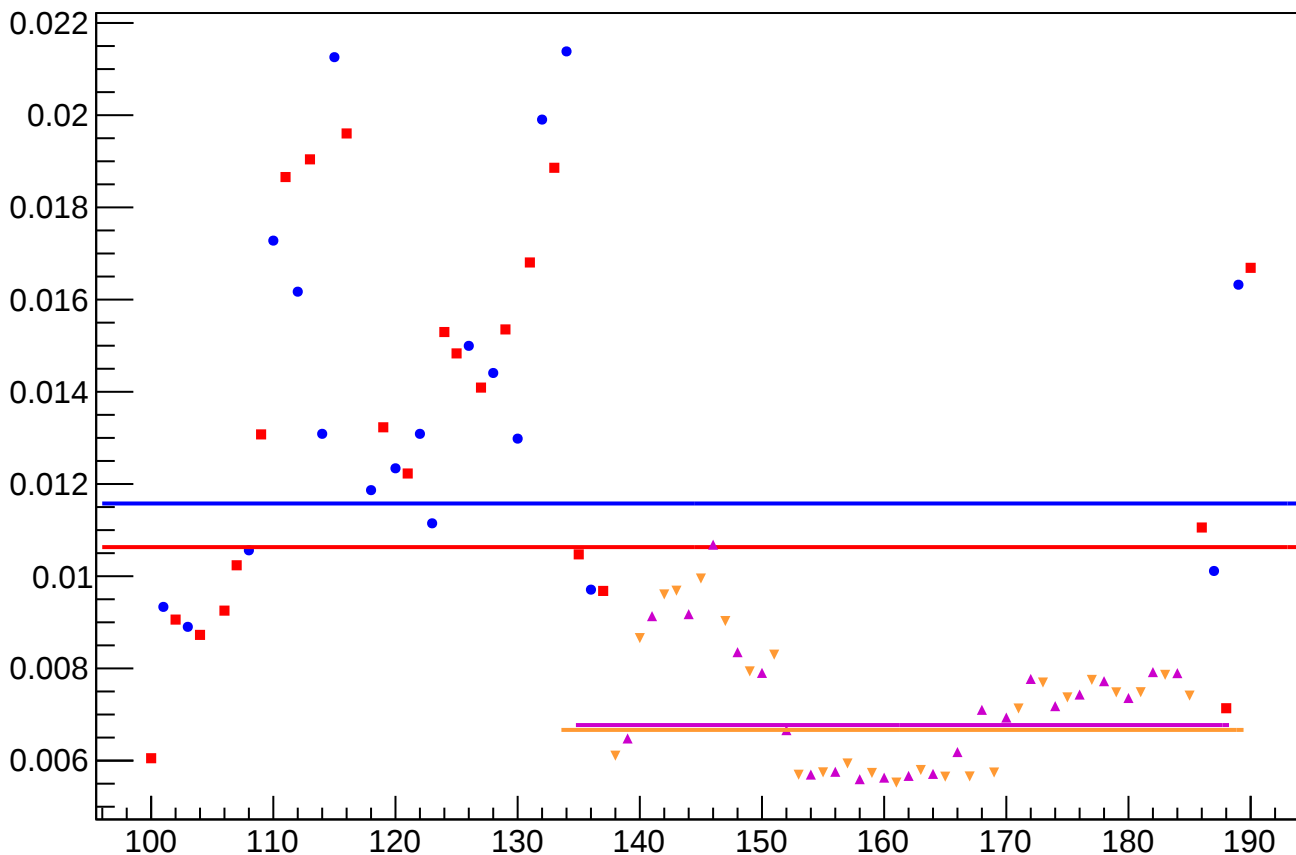
Right: -0.120+/-0.000  $\chi^2/\text{NDF}$ : 9980660024.6/40

In: -0.041+/-0.000  $\chi^2/\text{NDF}$ : 17966765276.1/41

Out: -0.051+/-0.000  $\chi^2/\text{NDF}$ : 28832461040.9/46

All: -0.046+/-0.000  $\chi^2/\text{NDF}$ : 46817640777.1/47

# yield\_bpm0r03Y\_rms vs Slug, Sign Corrected



Right In: 0.012 $\pm$ 0.000  $\chi^2$ /NDF: 756290.5/18

Left Out: 0.007 $\pm$ 0.000  $\chi^2$ /NDF:1143768.6/24

Right Out: 0.011 $\pm$ 0.000  $\chi^2$ /NDF: 1482407.4/21

Left In: 0.007 $\pm$ 0.000  $\chi^2$ /NDF:934050.3/22

Left: 0.007 $\pm$ 0.000  $\chi^2$ /NDF: 2081836.1/47

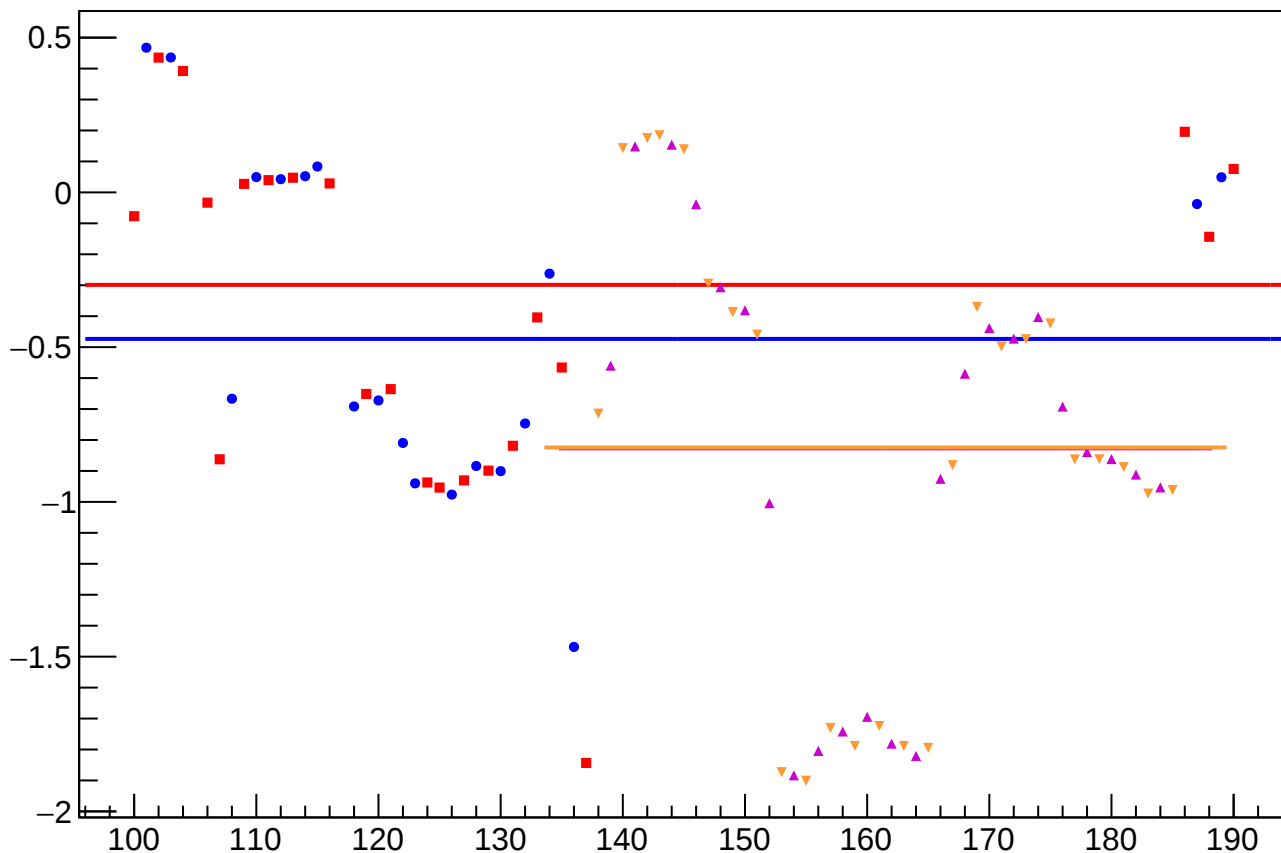
Right: 0.011 $\pm$ 0.000  $\chi^2$ /NDF: 2286534.4/40

In: 0.007 $\pm$ 0.000  $\chi^2$ /NDF:3593825.7/41

Out: 0.007 $\pm$ 0.000  $\chi^2$ /NDF:4307206.2/46

All: 0.007 $\pm$ 0.000  $\chi^2$ /NDF: 7906860.2/88

# yield\_bpm0r05X\_mean vs Slug, Sign Corrected



Right In: -0.473+/-0.000  $\chi^2/\text{NDF}$ : 359575656.5/18

Left Out: -0.824+/-0.000  $\chi^2/\text{NDF}$ : 1103610806.5/24

Right Out: -0.299+/-0.000  $\chi^2/\text{NDF}$ : 302507318.8/21

Left In: -0.827+/-0.000  $\chi^2/\text{NDF}$ : 921651117.3/22

Left: -0.826+/-0.000  $\chi^2/\text{NDF}$ : 2025270716.0/47

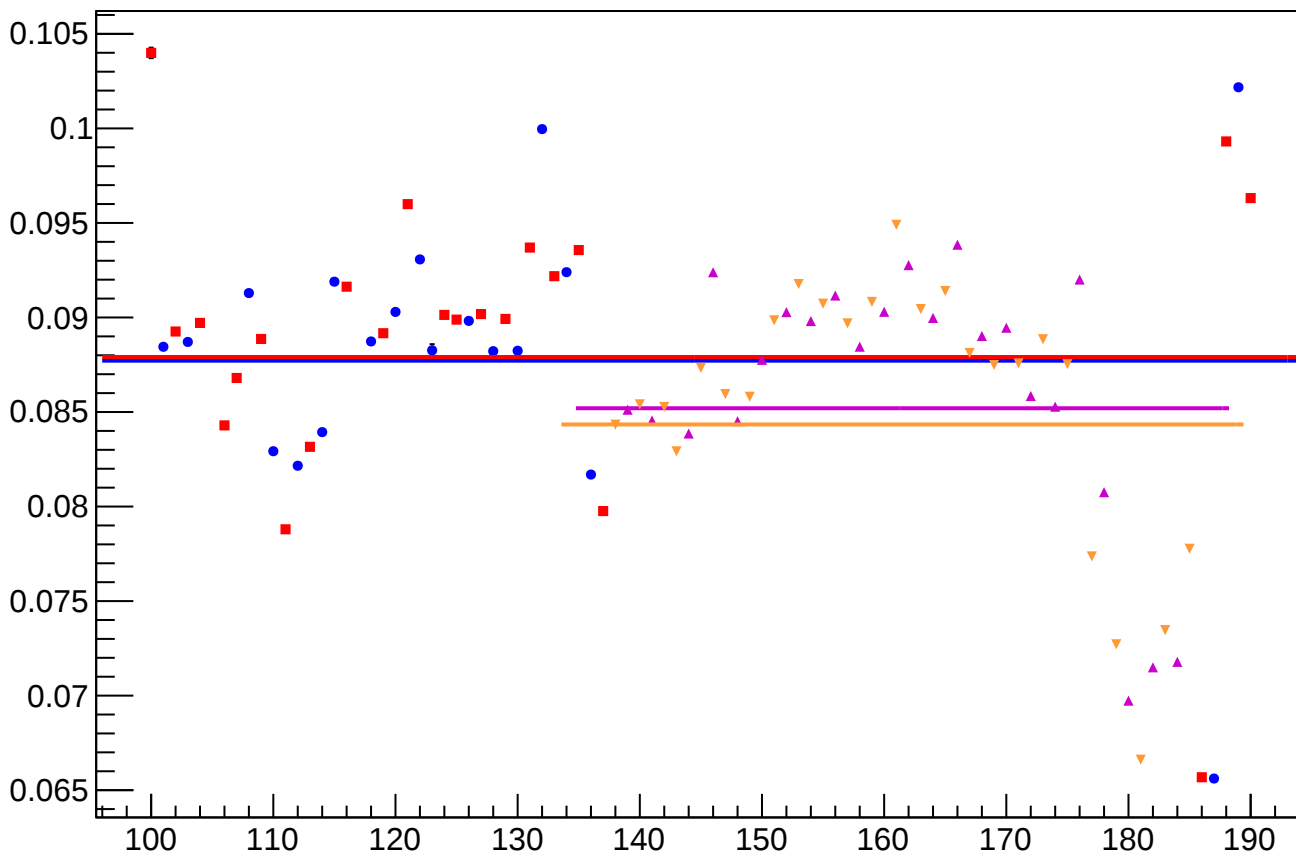
Right: -0.379+/-0.000  $\chi^2/\text{NDF}$ : 677675057.5/40

In: -0.726+/-0.000  $\chi^2/\text{NDF}$ : 1365467648.5/41

Out: -0.665+/-0.000  $\chi^2/\text{NDF}$ : 1620488803.6/46

All: -0.694+/-0.000  $\chi^2/\text{NDF}$ : 2992496781.0/8

# yield\_bpm0r05X\_rms vs Slug, Sign Corrected



Right In: 0.088 $\pm$ 0.000  $\chi^2$ /NDF: 87975.0/18

Left Out: 0.084 $\pm$ 0.000  $\chi^2$ /NDF:288312.6/24

Right Out: 0.088 $\pm$ 0.000  $\chi^2$ /NDF: 155405.6/21

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

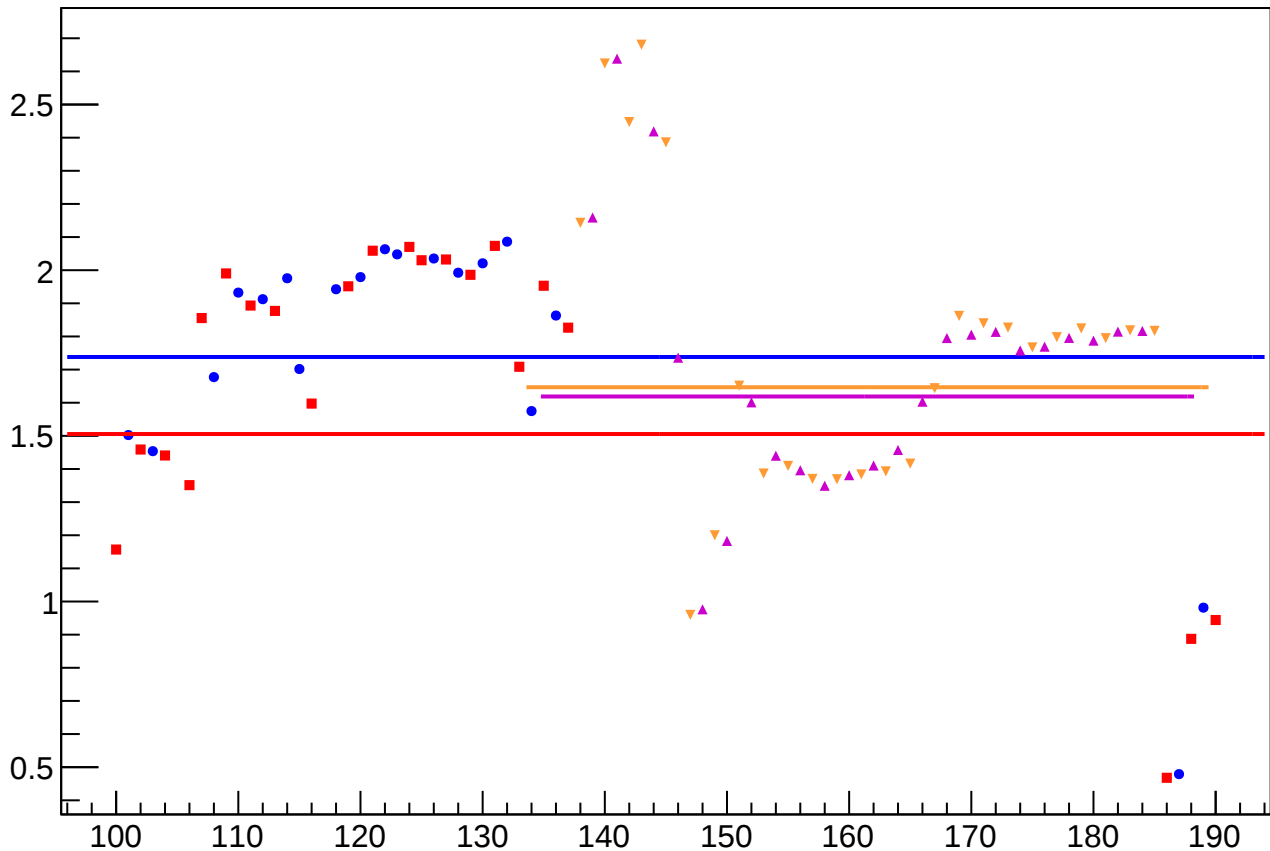
Right: 0.088 $\pm$ 0.000  $\chi^2$ /NDF: 243418.2/40

In: 0.086 $\pm$ 0.000  $\chi^2$ /NDF:334831.3/41

Out: 0.085 $\pm$ 0.000  $\chi^2$ /NDF:463464.4/46

All: 0.086 $\pm$ 0.000  $\chi^2$ /NDF: 799139.0/88

# yield\_bpm0r05Y\_mean vs Slug, Sign Corrected



Right In: 1.738 $\pm$ 0.000  $\chi^2$ /NDF: 3065736895.3/18

Left Out: 1.647 $\pm$ 0.000  $\chi^2$ /NDF: 26535241545.7/24

Right Out: 1.506 $\pm$ 0.000  $\chi^2$ /NDF: 8030647752.0/21

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

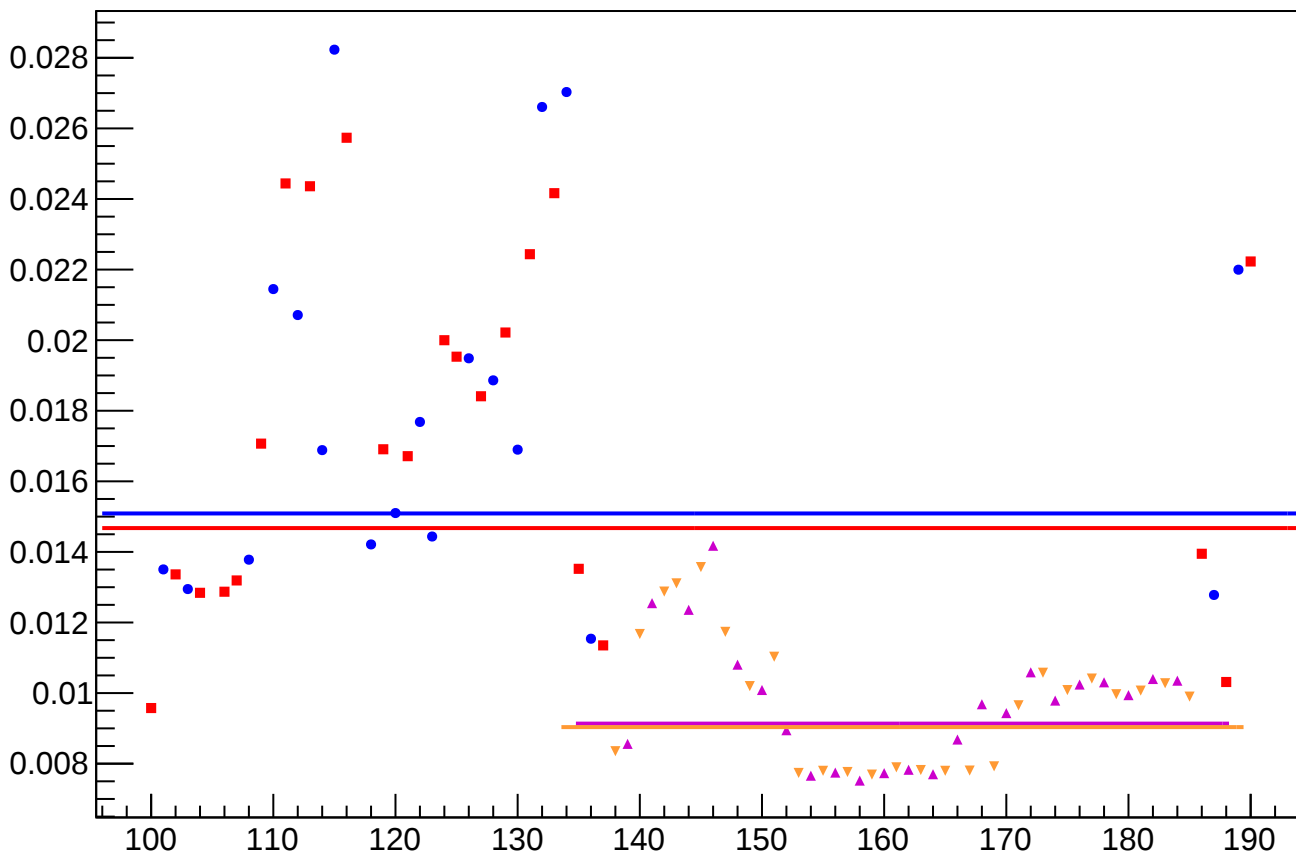
Right: 1.610 $\pm$ 0.000  $\chi^2$ /NDF: 11912143056.6/40

In: 1.634 $\pm$ 0.000  $\chi^2$ /NDF: 24025729727.9/41

Out: 1.627 $\pm$ 0.000  $\chi^2$ /NDF: 35140713913.2/46

All: 1.630 $\pm$ 0.000  $\chi^2$ /NDF: 59171376813.7/8

# yield\_bpm0r05Y\_rms vs Slug, Sign Corrected



Right In: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 736373.0/18

Left Out: 0.009+/-0.000  $\chi^2/\text{NDF}$ :1042871.8/24

Right Out: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 1161134.2/21

Left In: 0.009+/-0.000  $\chi^2/\text{NDF}$ :878356.2/22

Left: 0.009+/-0.000  $\chi^2/\text{NDF}$ : 1923188.0/47

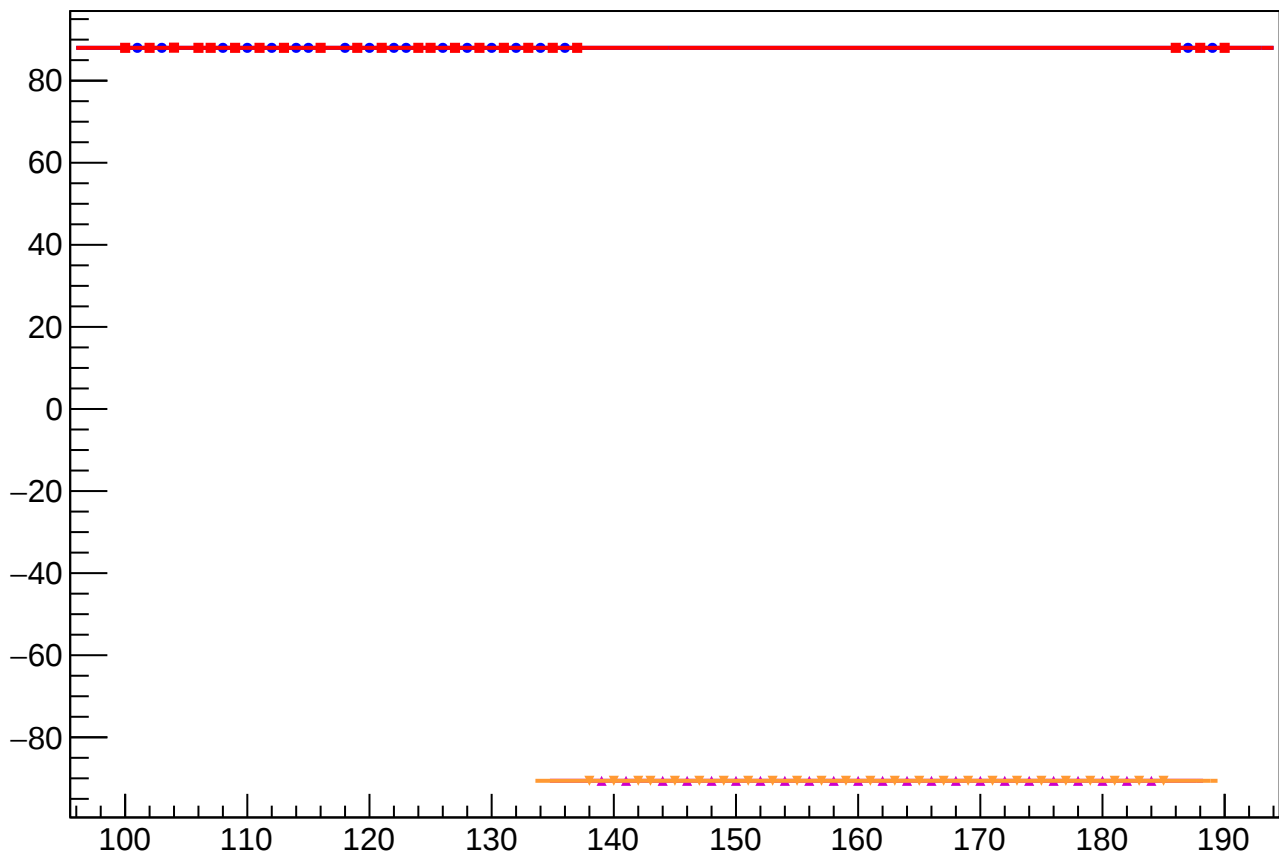
Right: 0.015+/-0.000  $\chi^2/\text{NDF}$ : 1902691.7/40

In: 0.010+/-0.000  $\chi^2/\text{NDF}$ :3320435.9/41

Out: 0.010+/-0.000  $\chi^2/\text{NDF}$ :4036463.0/46

All: 0.010+/-0.000  $\chi^2/\text{NDF}$ : 7357916.9/88

# epics\_VWienAngles\_mean vs Slug, Sign Corrected



Right In: 88.001 $\pm$ 0.000  $\chi^2$ /NDF: 1908412.3/18

Left Out: -90.599 $\pm$ 0.000  $\chi^2$ /NDF: 5785821.4/24

Right Out: 88.003 $\pm$ 0.000  $\chi^2$ /NDF: 78653080339295924283519270912.0/21

Left In: -90.599 $\pm$ 0.000  $\chi^2$ /NDF: 7134230.8/22

Left: -90.599 $\pm$ 0.000  $\chi^2$ /NDF: 11903242.1/47

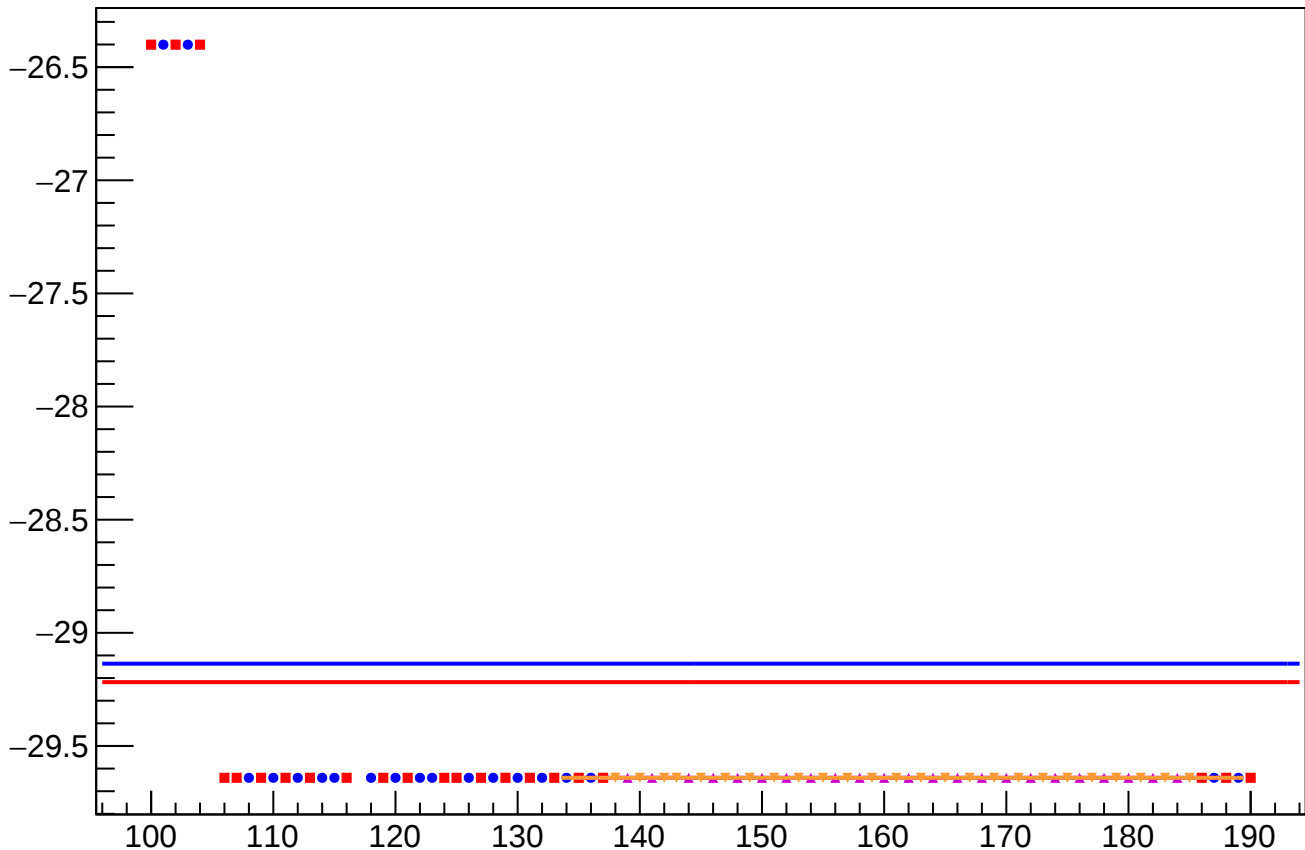
Right: 88.002 $\pm$ 0.000  $\chi^2$ /NDF: 8085609557043265

In: -37.593 $\pm$ 0.000  $\chi^2$ /NDF: 17002686769490966

Out: -33.771 $\pm$ 0.000  $\chi^2$ /NDF: 1933501596630870

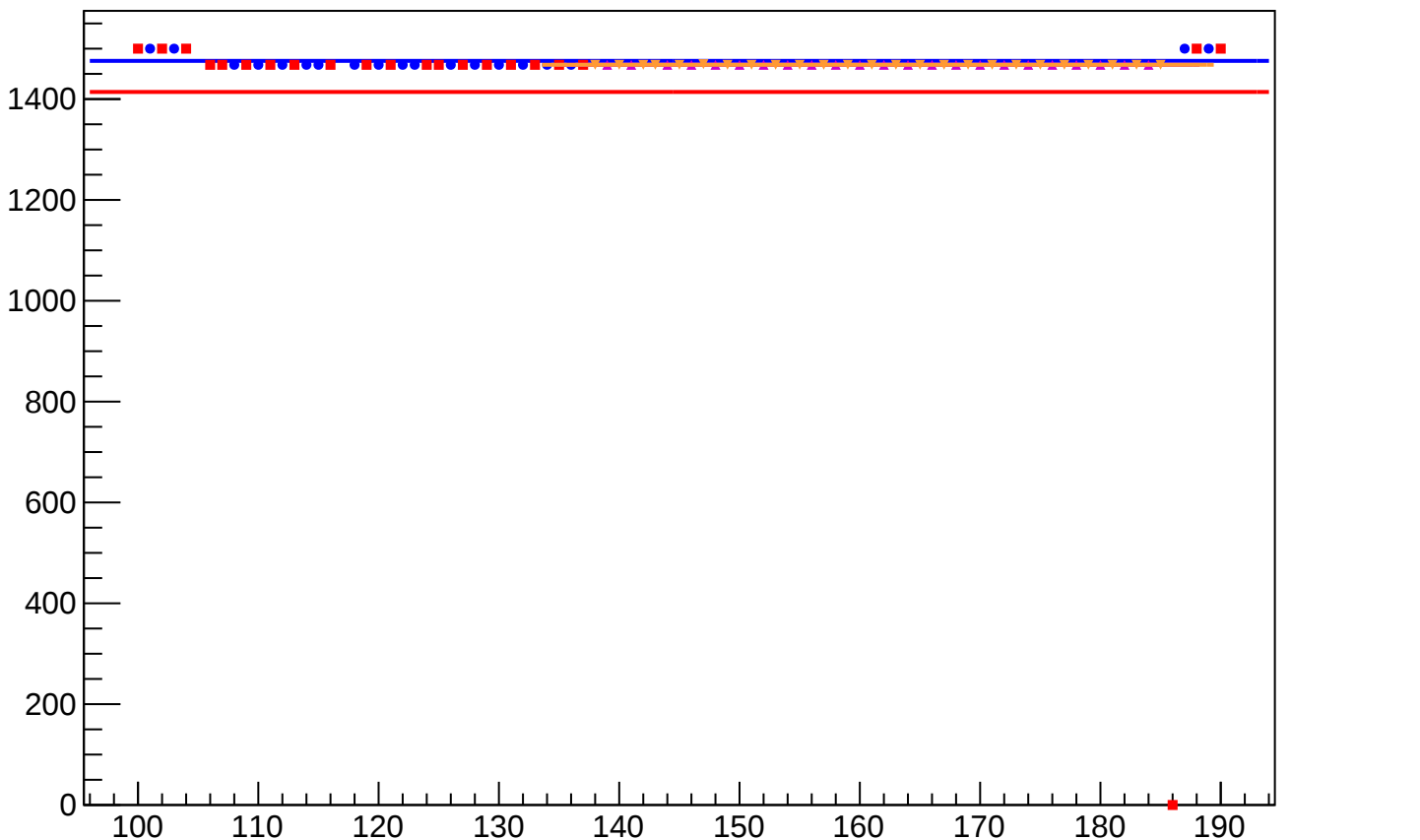
All: -35.596 $\pm$ 0.000  $\chi^2$ /NDF: 363571880954

# epics\_HWienAngles\_mean vs Slug, Sign Corrected



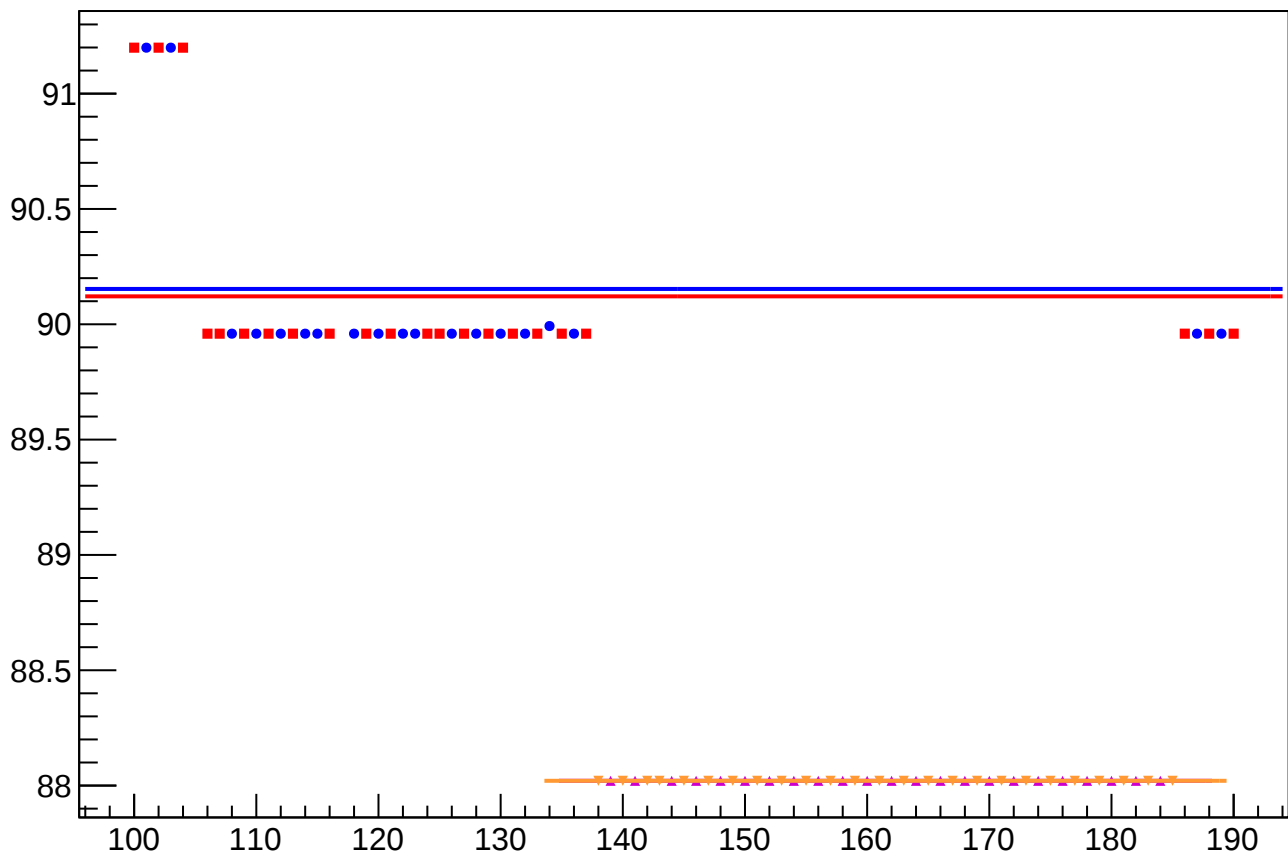
Right In: -29.136+/-0.000  $\chi^2/\text{NDF}$ : 1045882258575210691666098169839616.0/18  
 Left Out: -29.641+/-0.000  $\chi^2/\text{NDF}$ : 530354.3/24  
 Right Out: -29.218+/-0.000  $\chi^2/\text{NDF}$ : 1058828792800904059607807684509696.0/21  
 Left In: -29.641+/-0.000  $\chi^2/\text{NDF}$ : 382603.8/22  
 In: -29.491+/-0.000  $\chi^2/\text{NDF}$ : 11814855617854214  
 Out: -29.506+/-0.000  $\chi^2/\text{NDF}$ : 1167164797709352  
 All: -29.499+/-0.000  $\chi^2/\text{NDF}$ : 234895773702

epics\_psub\_pl\_poss\_mean vs Slug, Sign Corrected



Right In: 1475.795+/-0.000  $\chi^2/\text{NDF}$ : 143396300032192981544873035586076672.0/18  
 Left Out: 1468.048+/-0.000  $\chi^2/\text{NDF}$ : 127949199501977668488138456039424.0/24  
 Right Out: 1414.128+/-0.000  $\chi^2/\text{NDF}$ : 79562781527515318339009059258835664896.0/21  
 Left In: 1467.994+/-0.000  $\chi^2/\text{NDF}$ : 144497772795444989723550941184.0/22  
 All: 1460.165+/-0.000  $\chi^2/\text{NDF}$ : 8200405385

# epics\_Phi\_FGs\_mean vs Slug, Sign Corrected



Right In: 90.153+/-0.000

$\chi^2/\text{NDF}$ : 152946379362838606207114186588160.0/18

Left Out: 88.021+/-0.000

$\chi^2/\text{NDF}$ : 5679798.5/24

Right Out: 90.121+/-0.000

$\chi^2/\text{NDF}$ : 155088320359987348076865708359680.0/21

Left In: 88.021+/-0.000

$\chi^2/\text{NDF}$ : 6257169.0/22

Left: 88.021+/-0.000  $\chi^2/\text{NDF}$ : 13134723.4/47

Right: 90.136+/-0.000

$\chi^2/\text{NDF}$ : 3084576048193203

In: 88.654+/-0.000

$\chi^2/\text{NDF}$ : 257704624197123203

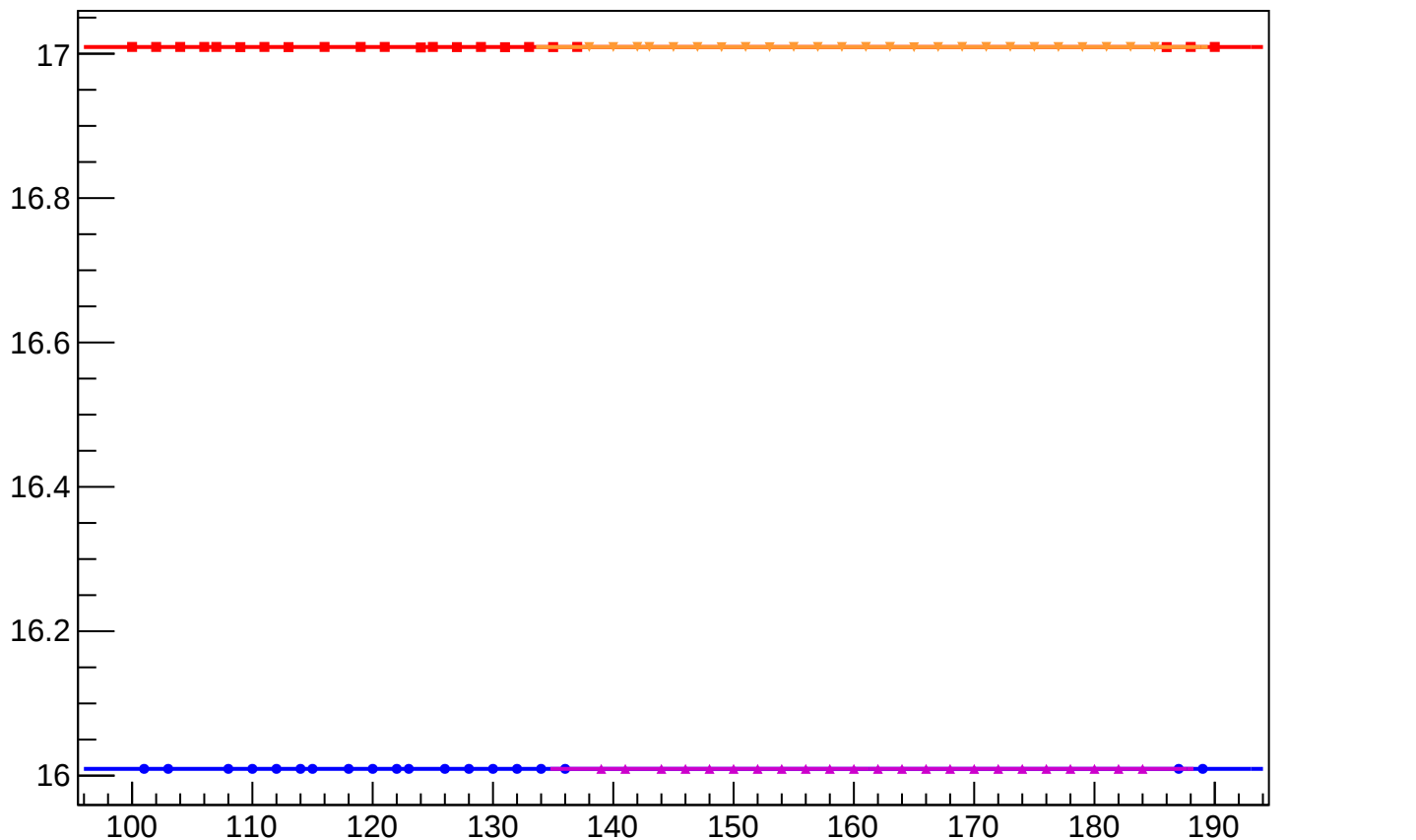
Out: 88.689+/-0.000

$\chi^2/\text{NDF}$ : 28291516031481078

All: 88.672+/-0.000

$\chi^2/\text{NDF}$ : 5407869075316

epics\_IGL1I00DI24\_24Ms\_mean vs Slug, Sign Corrected



Right In: 16.009 $\pm$ 0.000  $\chi^2$ /NDF: 57164.0/18

Left: 16.524 $\pm$ 0.000  $\chi^2$ /NDF: 85855870772921272

Left Out: 17.009 $\pm$ 0.000  $\chi^2$ /NDF: 26194929080144976634970112.0/24

Right: 16.540 $\pm$ 0.000  $\chi^2$ /NDF: 3854486236702143

Right Out: 17.009 $\pm$ 0.000  $\chi^2$ /NDF: 14021029178453595363737600.0/21

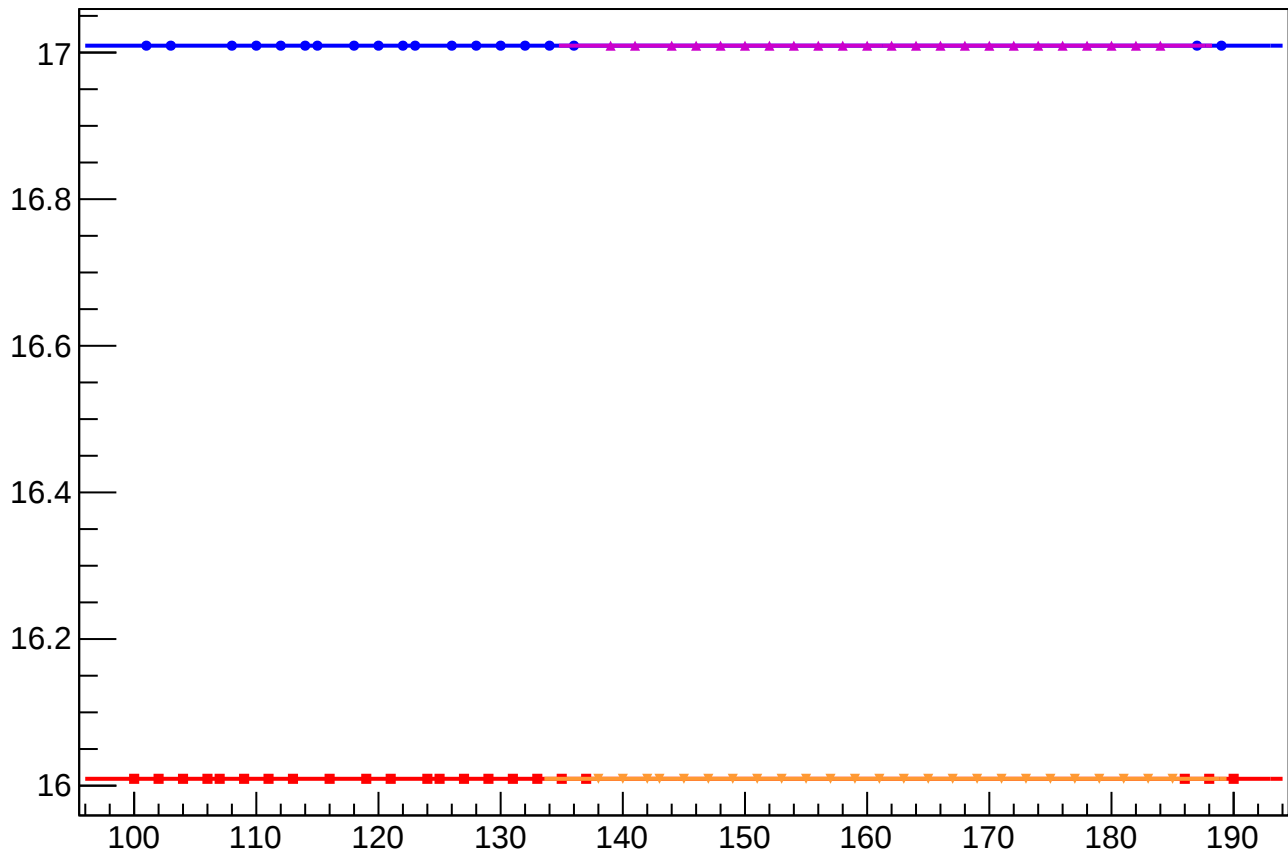
In: 16.009 $\pm$ 0.000  $\chi^2$ /NDF: 129696476503141735

Left In: 16.009 $\pm$ 0.000  $\chi^2$ /NDF: 127920993667935400624128.0/22

Out: 17.009 $\pm$ 0.000  $\chi^2$ /NDF: 40647482466992739

All: 16.529 $\pm$ 0.000  $\chi^2$ /NDF: 1244287022830

epics\_IGL1I00OD16\_16s\_mean vs Slug, Sign Corrected



Right In: 17.009+/-0.000  $\chi^2/\text{NDF}$ : 120007.8/18

Left Out: 16.009+/-0.000  $\chi^2/\text{NDF}$ : 61253.5/24

Right Out: 16.009+/-0.000  $\chi^2/\text{NDF}$ : 210872.0/21

Left In: 17.009+/-0.000  $\chi^2/\text{NDF}$ : 114986101427233622065152.0/22

Left: 16.491+/-0.000  $\chi^2/\text{NDF}$ : 90683349233974458

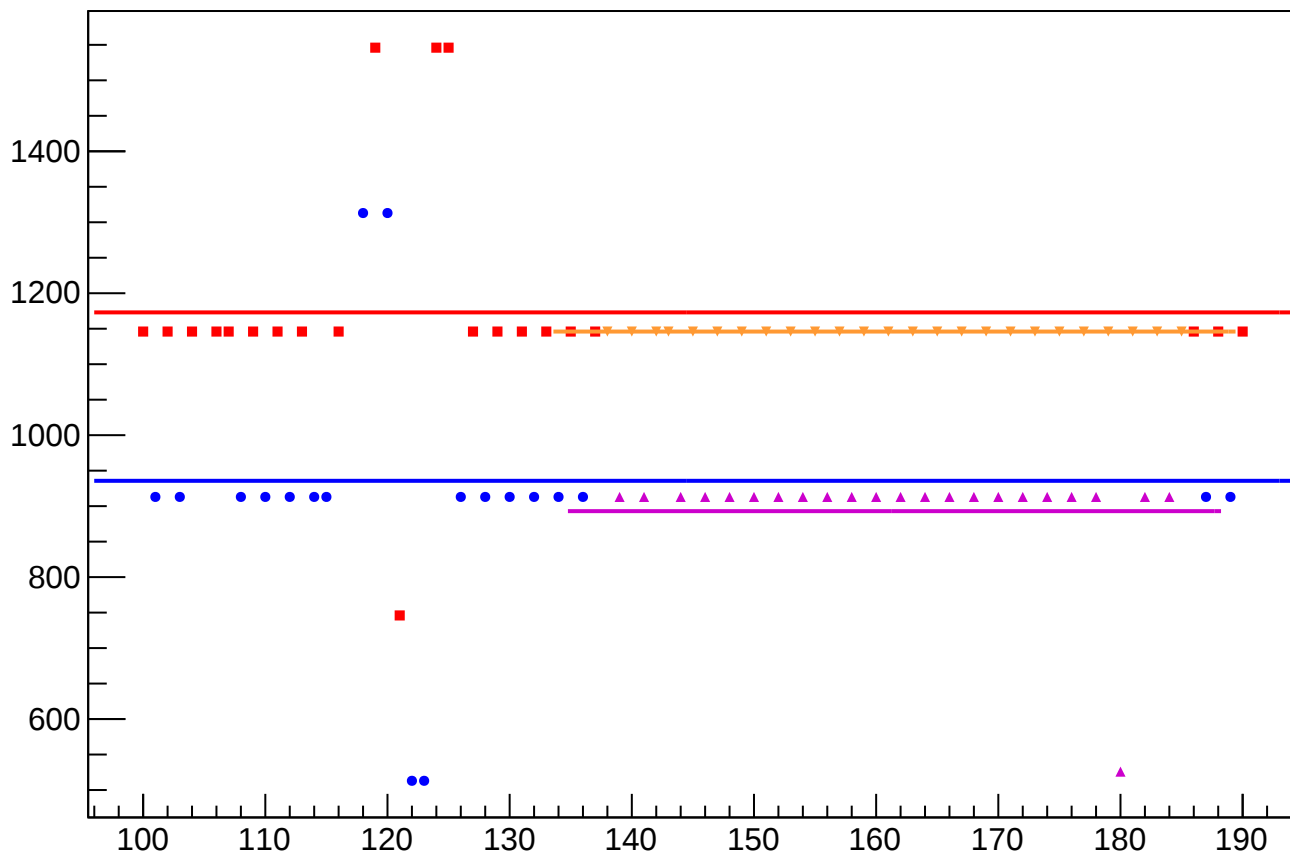
Right: 16.461+/-0.000  $\chi^2/\text{NDF}$ : 3982164179104332

In: 17.009+/-0.000  $\chi^2/\text{NDF}$ : 116620750457595861

Out: 16.009+/-0.000  $\chi^2/\text{NDF}$ : 493044.4/46

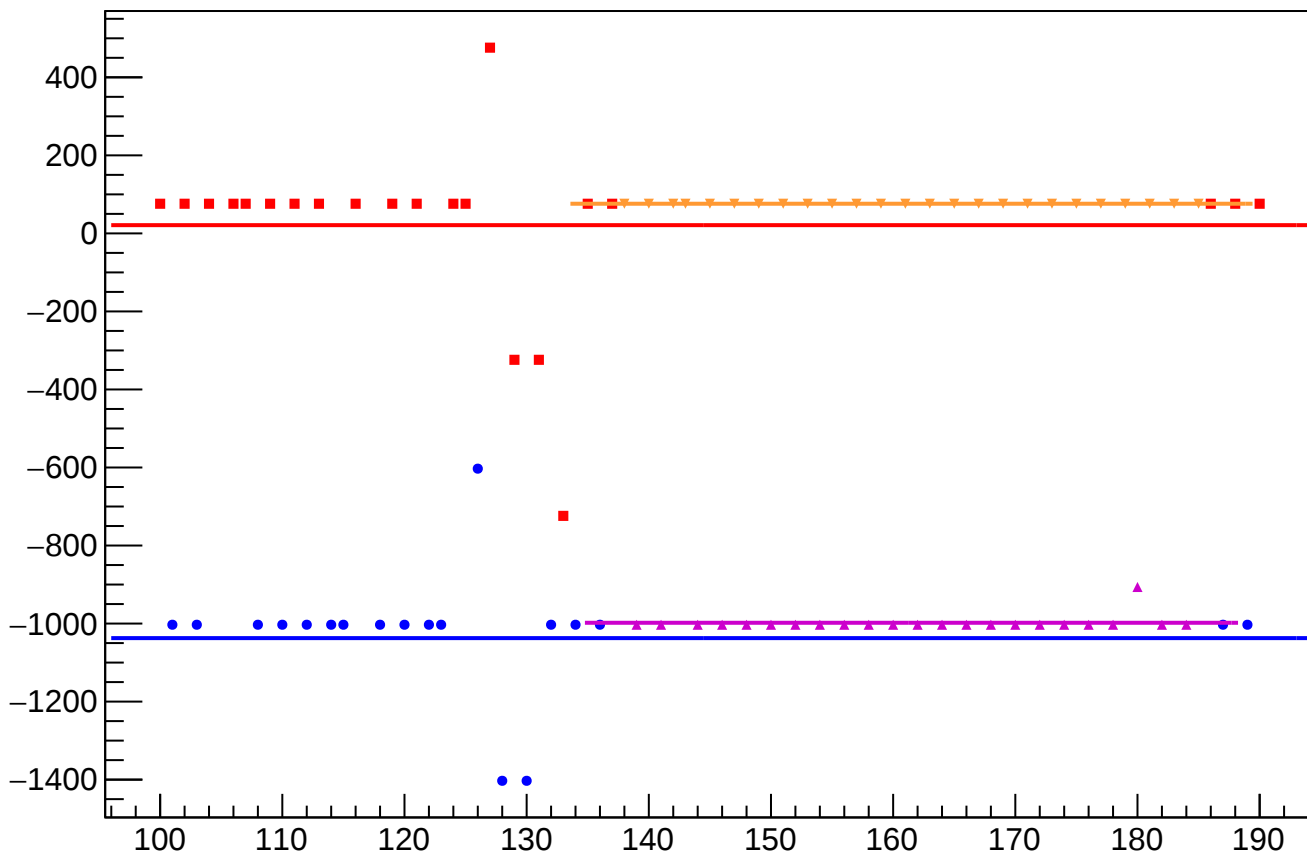
All: 16.482+/-0.000  $\chi^2/\text{NDF}$ : 1306094223639

epics\_RTPAPOSUCNTs\_mean vs Slug, Sign Corrected



Right In: 935.687+/-0.000  $\chi^2/\text{NDF}$ : 20891032979868353609310040081374904320.0/18  
 Left Out: 1146.011+/-0.000  $\chi^2/\text{NDF}$ : 8056834670270133849999540224.0/24  
 Right Out: 1173.007+/-0.000  $\chi^2/\text{NDF}$ : 21432798233129687388809655233177190400.0/21  
 Left In: 892.950+/-0.000  $\chi^2/\text{NDF}$ : 13213852485930520518972295012897783808.0/22  
 All: 1035.704+/-0.000  $\chi^2/\text{NDF}$ : 13965904420

epics\_RTPAPOSVCNTs\_mean vs Slug, Sign Corrected



Right In: -1037.290+/-0.000  $\chi^2/\text{NDF}$ : 22307839929443685195943868479205015552.0/18  
 Left Out: 76.011+/-0.000  $\chi^2/\text{NDF}$ : 11479003589933272170007363584.0/24  
 Right Out: 21.117+/-0.000  $\chi^2/\text{NDF}$ : 44360919158986758063482061458178572288.0/21  
 Left In: -997.979+/-0.000  $\chi^2/\text{NDF}$ : 825858066518991041870194619245920256.0/22  
 All: -451.582+/-0.000  $\chi^2/\text{NDF}$ : 15926311163