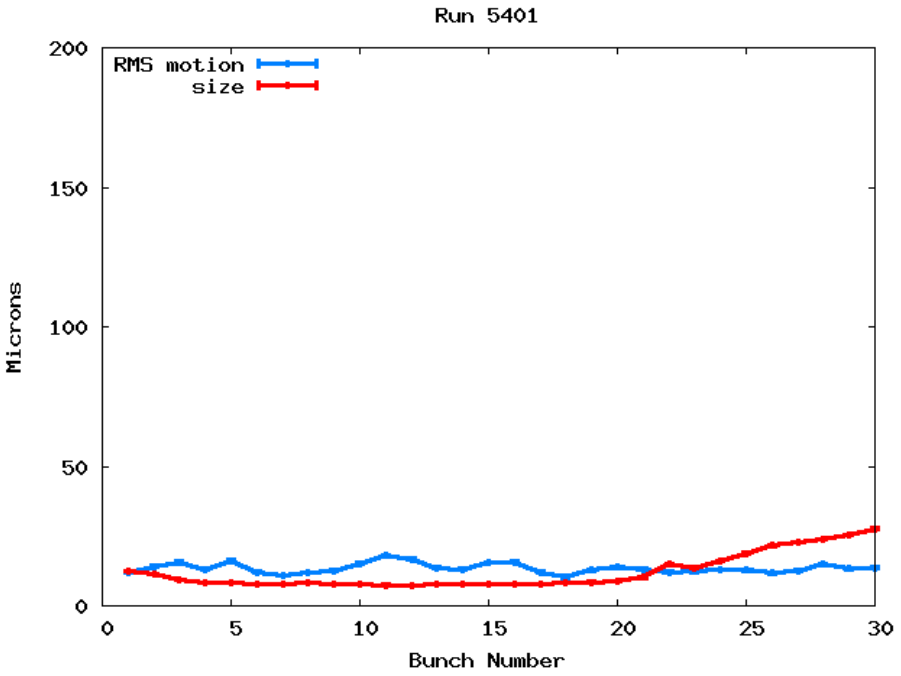
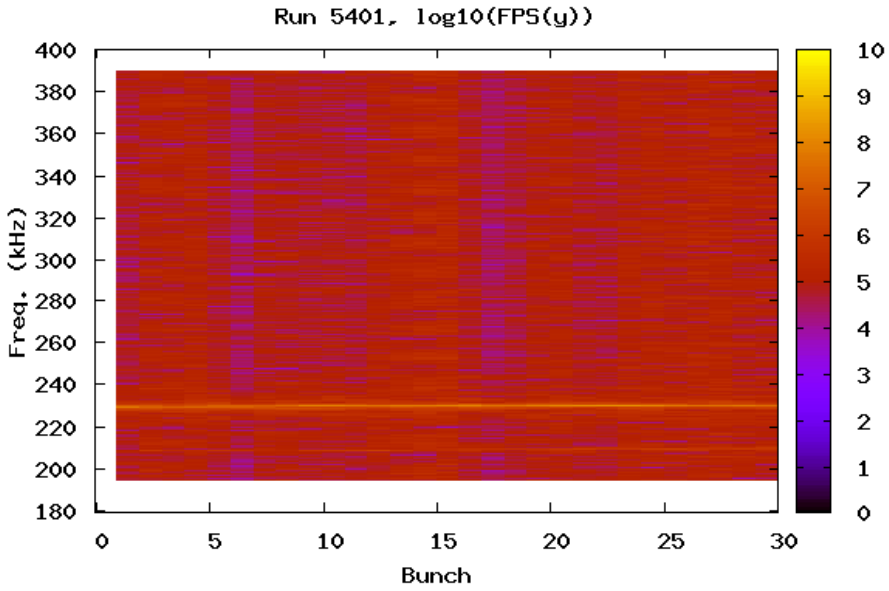
2010.12.21 e-cloud xbsm study data quicklook plots -- JWF

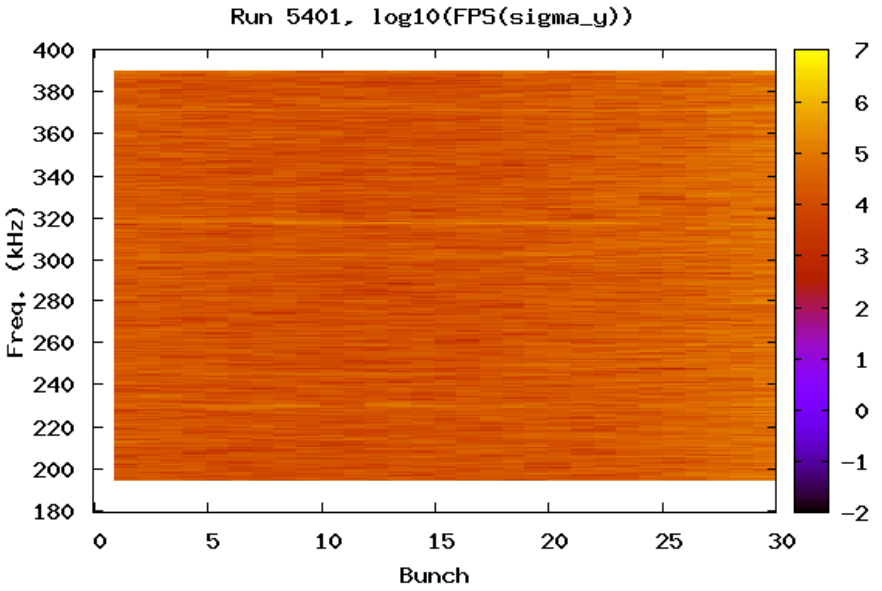
- On shift: MJF, MGB, KGS, JWF
- Notes:
  - 2.085 Gev, 30 bunches, 14 ns spacing, “Big D” optics (beta_y = ~20 m at xBSM source bend)
  - CA, FZP and GAP (Hevimet slit) data taken, 4096 turns each.
    - GAP analysis based on treating GAP as 16 um pinhole, fitting to templates (like CA or FZP).
  - Results are very preliminary
    - **No cuts applied yet – bad events (bad fits, off det. at large dipole amplitude, etc.) are included.**
  - Calibration file: 3C-5-dpp-ByHand-20101220.calib
  - Pedestal run: 5395
  - Data taken:
    - Low, Medium and High Emittance (0.5, 0.75, 1.0 mA/bunch)
      - “Low Emittance” = 20 pm-r (est.)
      - “Medium Emittance” = 52 pm-r (est.)
      - “High Emittance” = 308 pm-r (est.)
    - Low, Normal and High Chromaticity (0.75 mA/bunch)
      - “Normal Chromaticity” = 1.7 V, 1.2 H (nominal, uncalibrated units)
      - “Low V. Chromaticity” = 1.2 V, 1.2 H (nominal, uncalibrated units)
      - “High V. Chromaticity” = 2.2 V, 1.2 H (nominal, uncalibrated units)
      - “Low H. Chromaticity” = 1.7 V, 0.7 H (nominal, uncalibrated units)
    - Normal and High FB (0.75 mA/bunch)
      - “Normal FB” = HFB = VFB = 20%, except at 1.0 mA when VFB = 30-35%. LFB Off.
      - “High FB” = HFB = VFB = 40%. LFB Off.
    - Precursor Bunch inserted 182 ns in front of train (0.75 mA/bunch)
    - Plus a bonus “Super-High Chromaticity” run at 0.5 mA/bunch (by accident)
      - “Super-High Chromaticity” = 5.5 V, 2.9 H (nominal, uncalibrated units)

0.50 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

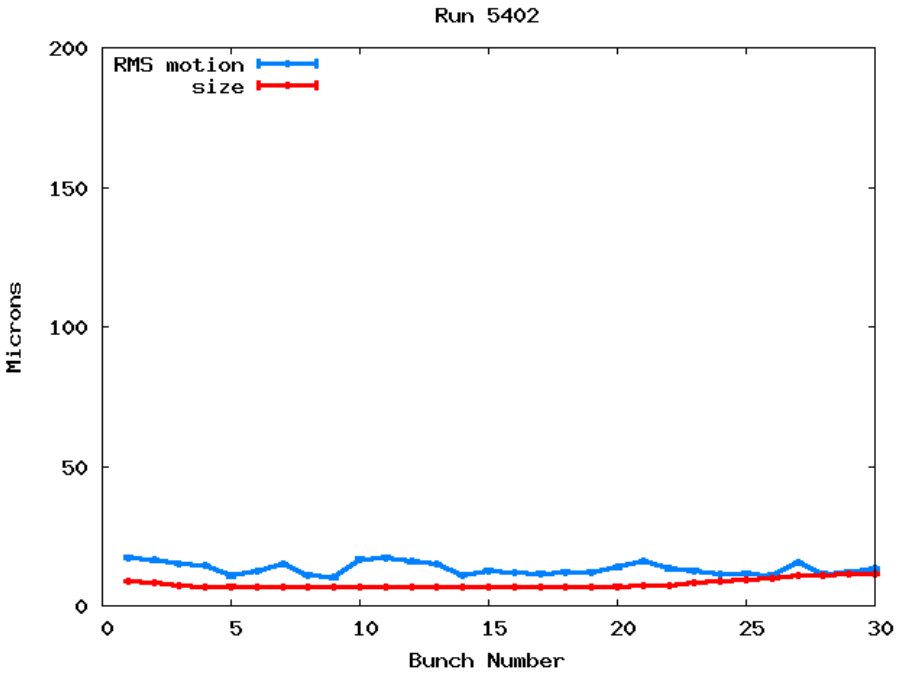


#Run 5401
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 12.3431 0.0406146 12.1038 0.189145
2 11.3928 0.0458374 14.0717 0.219897
3 9.14612 0.0427611 15.797 0.246858
4 8.25256 0.0409934 12.9877 0.202958
5 8.20557 0.0395307 16.1925 0.253038
6 7.65442 0.0382644 12.097 0.189039
7 7.9248 0.0384507 10.9038 0.170392
8 8.17688 0.0396389 11.8846 0.18572
9 7.67029 0.0391244 12.683 0.198196
10 7.6709 0.0381057 15.1891 0.237358
11 7.49695 0.0373758 17.9976 0.281246
12 7.41333 0.0366412 16.6831 0.260705
13 7.55249 0.0378966 13.5862 0.212311
14 7.77466 0.0394023 13.1923 0.206156
15 7.88513 0.0390567 15.5588 0.243137
16 7.677 0.0394444 15.639 0.244389
17 7.86194 0.0393483 12.1447 0.189784
18 8.27515 0.0409041 10.1526 0.158654
19 8.51135 0.0422945 12.8097 0.200176
20 8.96667 0.044537 13.755 0.214948
21 10.1166 0.0482665 13.1452 0.205418
22 15.0085 0.0481964 12.0435 0.188203
23 13.5181 0.0523856 12.3567 0.193097
24 16.2659 0.0530398 13.0087 0.203286
25 18.877 0.0560976 12.7395 0.199079
26 21.5155 0.0596902 11.7344 0.183373
27 22.7222 0.0651461 12.62 0.197212
28 23.8416 0.070489 14.953 0.233669
29 25.415 0.0747345 13.3635 0.20883
30 27.6471 0.0848313 13.7177 0.214365

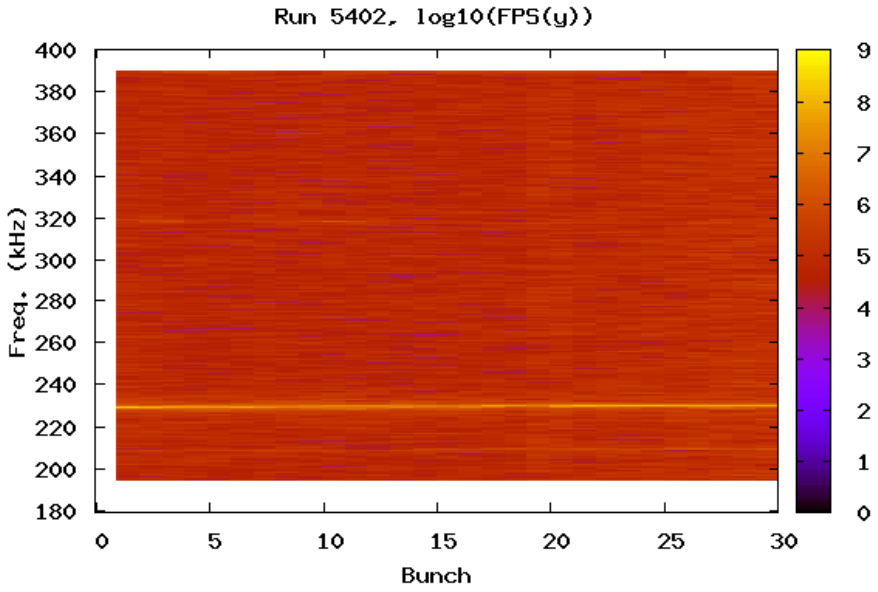


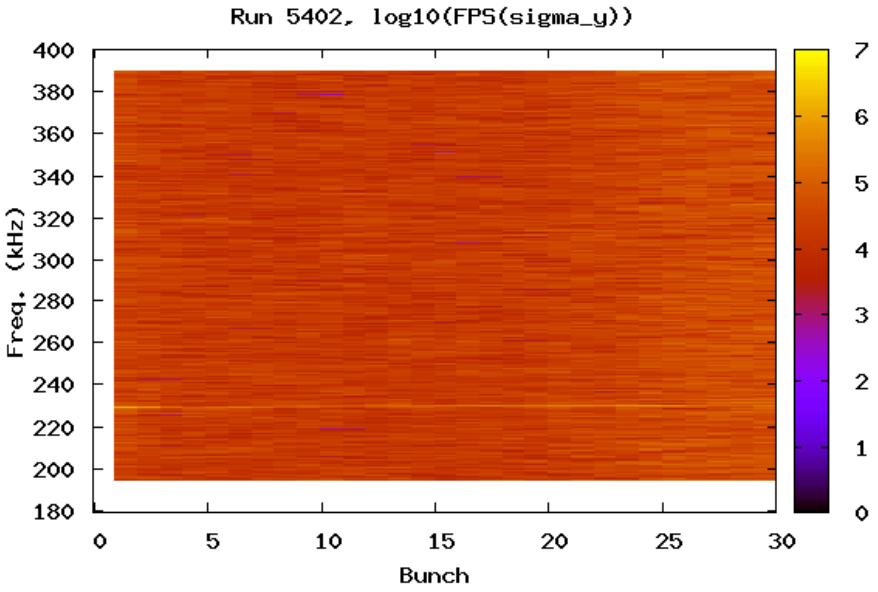


0.50 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns

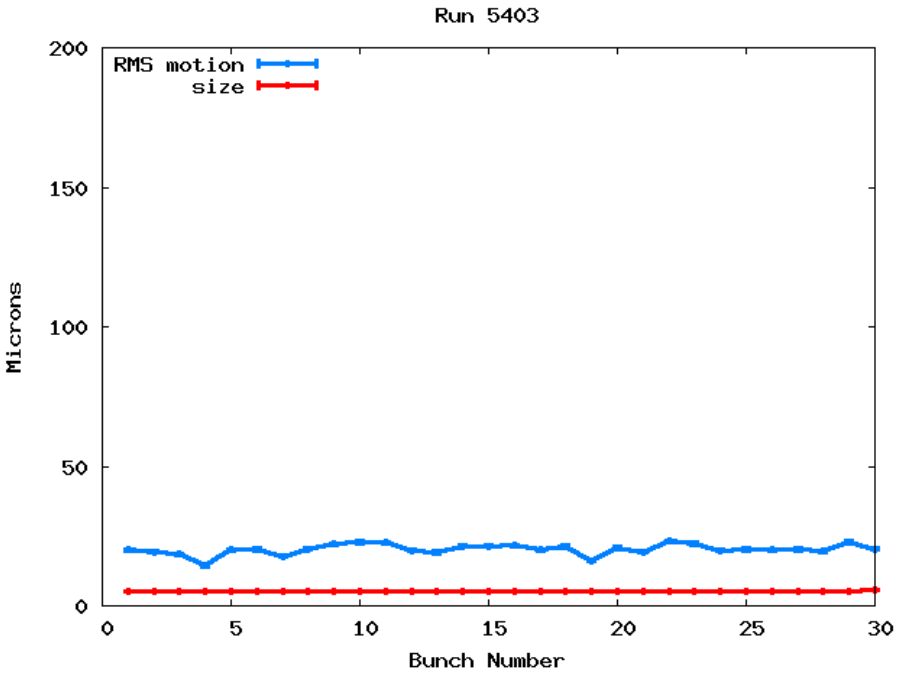


#Run 5402
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 8.93372 0.059784 17.1117 0.267403
2 8.22693 0.0540725 16.4672 0.257331
3 7.28638 0.0472286 15.0286 0.234851
4 6.86157 0.0428382 14.5012 0.226608
5 6.95862 0.0438697 10.6457 0.16636
6 6.81335 0.0424236 12.4979 0.195304
7 6.88049 0.0436422 14.8844 0.232597
8 6.69128 0.0412224 11.13 0.173928
9 6.71204 0.0414735 10.1317 0.158328
10 6.8866 0.0434494 16.6816 0.260682
11 6.80542 0.0429205 17.1224 0.267571
12 6.72607 0.0418285 15.9217 0.248807
13 6.70593 0.041337 15.0487 0.235165
14 6.78589 0.0416693 10.9854 0.171668
15 6.76514 0.0422038 12.5906 0.196753
16 6.8103 0.0430524 11.9347 0.186503
17 6.81519 0.0424791 11.6472 0.18201
18 6.76025 0.042368 12.0156 0.187767
19 6.85974 0.0430181 12.0621 0.188493
20 6.9635 0.0451565 13.8863 0.216999
21 7.229 0.04808 15.8182 0.24719
22 7.39746 0.0496104 13.2194 0.206578
23 8.15247 0.0550332 12.5514 0.19614
24 8.78052 0.0589919 11.3707 0.177688
25 9.23584 0.0624347 11.5793 0.180949
26 9.89685 0.0651414 10.9809 0.171598
27 10.6964 0.069581 15.3283 0.239534
28 10.7343 0.069684 11.6121 0.181461
29 11.3605 0.0697704 12.1569 0.189975
30 11.5833 0.0728666 13.3094 0.207984

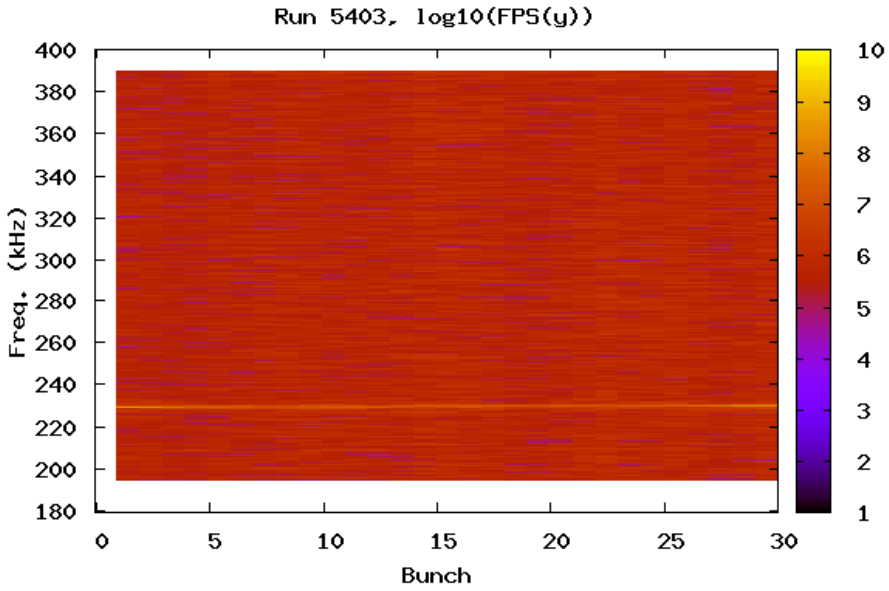


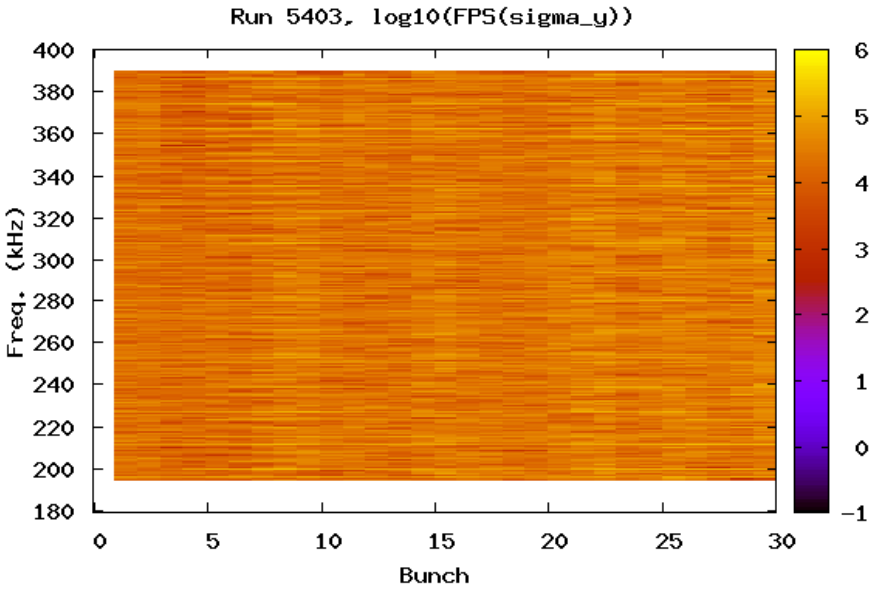


0.50 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

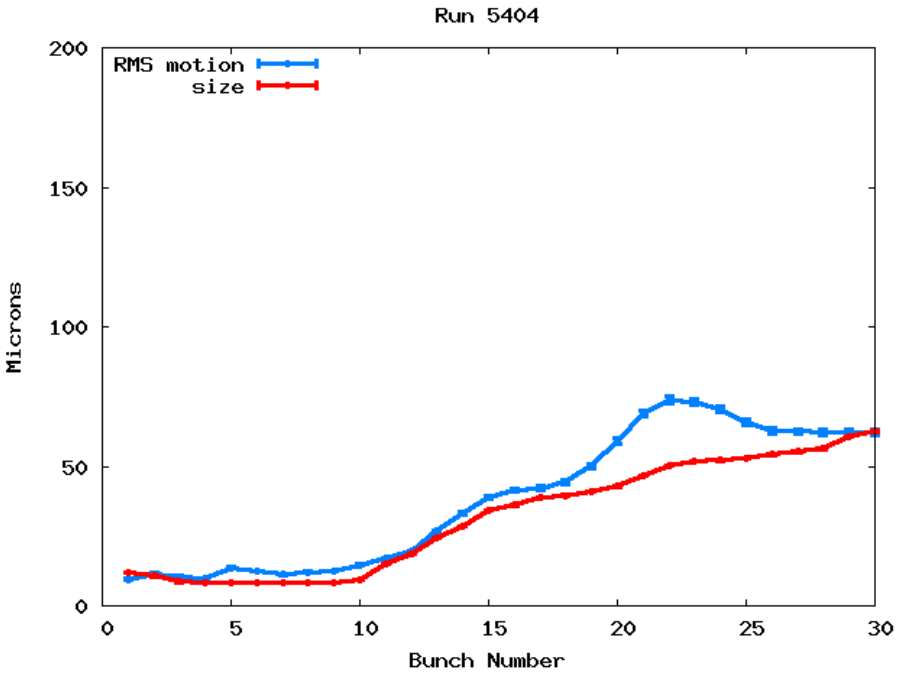


#Run 5403
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5.15625 0.0469671 20.1463 0.314824
2 5.13062 0.0451914 19.3829 0.302894
3 5.14771 0.0477137 18.535 0.289644
4 5.09399 0.0369507 14.3738 0.224618
5 5.16907 0.0492757 19.9499 0.311756
6 5.13245 0.0417127 20.2316 0.316157
7 5.14648 0.0472832 17.6366 0.275606
8 5.18616 0.054195 20.3919 0.318663
9 5.22705 0.0584297 22.1159 0.345604
10 5.20081 0.051784 22.7555 0.355598
11 5.11963 0.0431663 22.6476 0.353912
12 5.19348 0.0553723 19.8502 0.310198
13 5.12329 0.0440101 19.1827 0.299766
14 5.20569 0.0520449 21.4241 0.334793
15 5.18738 0.0521405 21.4498 0.335194
16 5.23193 0.0579318 21.6345 0.33808
17 5.14404 0.04391 20.0157 0.312784
18 5.18921 0.0531054 21.2022 0.331325
19 5.09094 0.0377063 16.2355 0.25371
20 5.23315 0.0578727 20.7041 0.323541
21 5.14587 0.0469872 19.3286 0.302047
22 5.3009 0.0690447 23.1378 0.361572
23 5.22095 0.0544273 22.2089 0.347056
24 5.16602 0.0480958 19.8898 0.310816
25 5.24048 0.0599776 20.2165 0.315921
26 5.25818 0.0590295 20.0344 0.313075
27 5.23621 0.0584814 20.2144 0.315889
28 5.22766 0.0489828 19.4994 0.304715
29 5.36865 0.0617314 22.7245 0.355114
30 5.79895 0.0618873 20.2817 0.316941

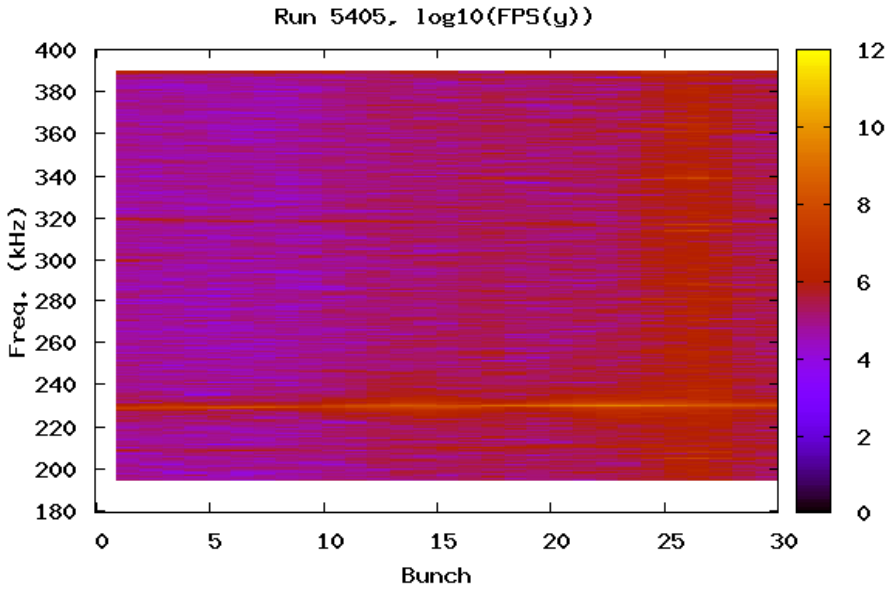


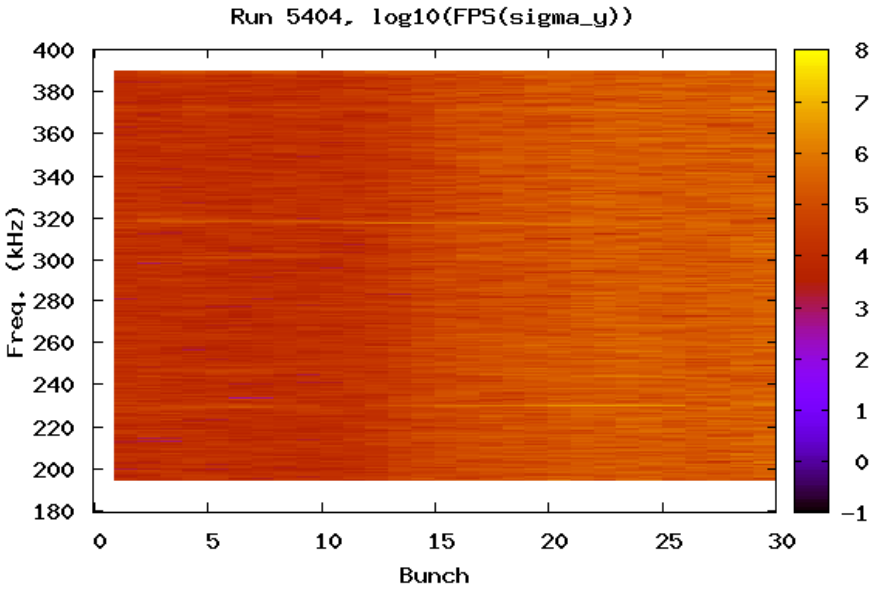


0.75 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

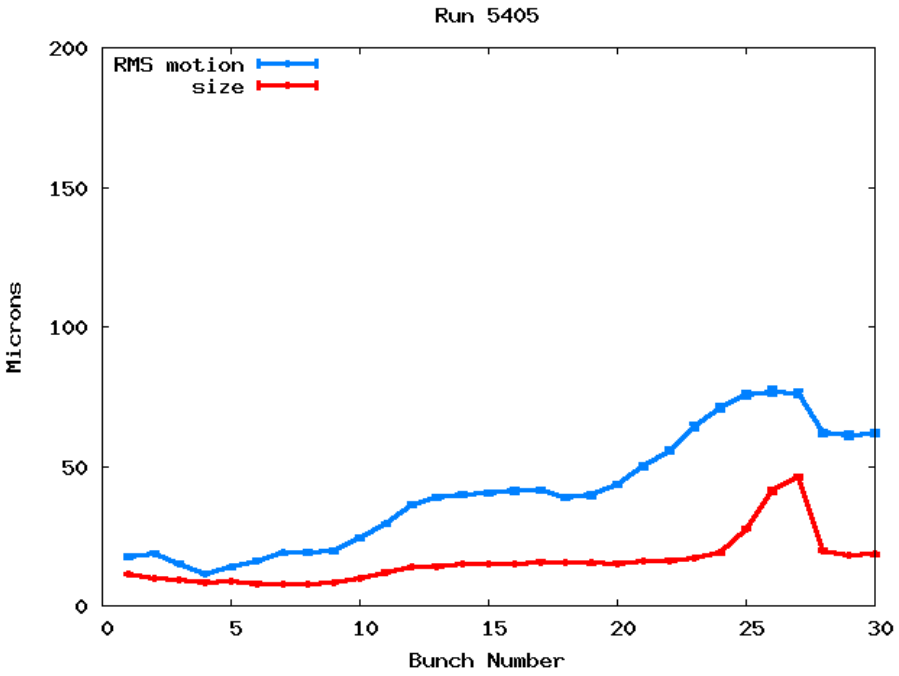


#Run 5404
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 11.7371 0.0349414 9.55012 0.149239
2 10.6415 0.0382739 11.582 0.180992
3 8.57727 0.0372932 10.5523 0.1649
4 8.24646 0.0372901 9.86172 0.154108
5 8.22815 0.0373086 13.6457 0.21324
6 8.20251 0.0364602 12.4456 0.194487
7 8.30261 0.0365381 11.1629 0.174441
8 8.18726 0.0373931 12.1088 0.189224
9 8.27454 0.0378161 12.4595 0.194704
10 9.37683 0.0387921 14.7155 0.229958
11 14.8492 0.0422215 16.9897 0.265496
12 18.7982 0.0454613 19.6118 0.306472
13 24.2499 0.0562462 26.6973 0.417196
14 28.3185 0.0674071 33.2361 0.519377
15 34.223 0.0818048 38.7919 0.606197
16 36.0535 0.0926374 41.4399 0.647578
17 38.8287 0.103794 42.1662 0.658928
18 39.6149 0.10991 44.4449 0.694537
19 41.0223 0.114301 50.1876 0.784277
20 42.832 0.122338 59.0907 0.923404
21 46.7493 0.140876 68.839 1.07574
22 50.2197 0.145934 73.7643 1.15271
23 51.709 0.154463 73.1712 1.14344
24 52.1924 0.160597 70.6452 1.10397
25 52.8656 0.149565 65.8138 1.02847
26 54.2377 0.149172 62.496 0.976619
27 55.2716 0.152627 62.4575 0.976017
28 56.2219 0.154843 62.2325 0.972502
29 60.5414 0.164728 62.2109 0.972165
30 62.5299 0.194626 62.1238 0.970802

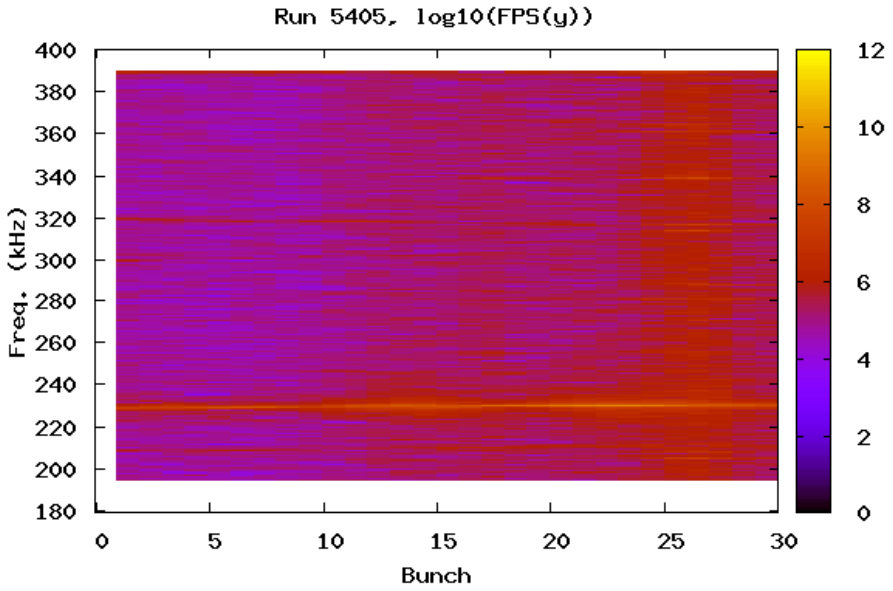


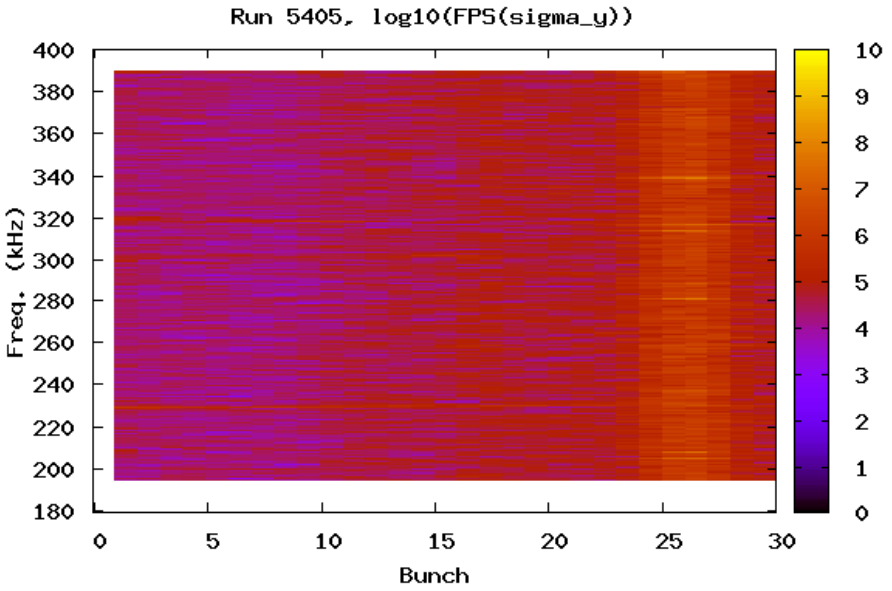


0.75 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns

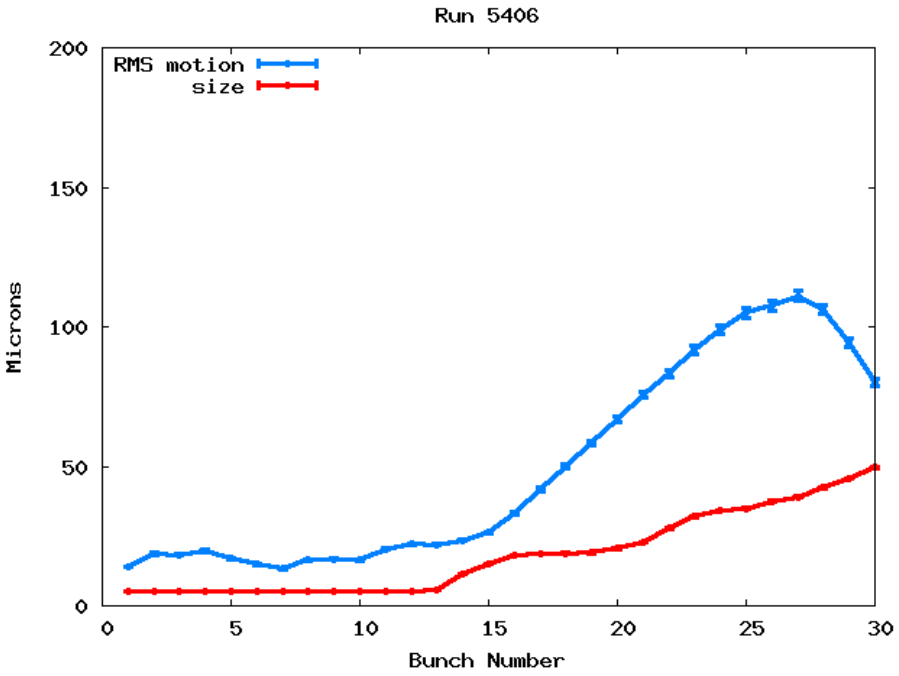


#Run 5405
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 11.3354 0.064553 17.6061 0.275129
2 9.76257 0.0542698 18.8937 0.295251
3 9.33167 0.0520199 15.1708 0.237072
4 8.52661 0.0480468 11.6511 0.18207
5 8.67615 0.04895 13.8198 0.215961
6 8.01147 0.0460722 16.2213 0.253488
7 7.85217 0.0461416 18.9999 0.29691
8 7.92419 0.0464288 19.137 0.299052
9 8.21838 0.0484079 19.7057 0.307939
10 9.72534 0.0574597 24.2585 0.379085
11 12.1405 0.0629133 29.3058 0.457958
12 14.115 0.0626949 36.1604 0.565076
13 14.231 0.066697 38.8402 0.606952
14 14.9384 0.064574 39.9762 0.624704
15 15.0293 0.0661839 40.4207 0.631651
16 15.191 0.0692479 41.3035 0.645446
17 15.7861 0.0858316 41.5642 0.64952
18 15.6128 0.0794912 38.9172 0.608155
19 15.2863 0.0727184 39.6476 0.61957
20 15.246 0.0729692 43.6005 0.681341
21 16.0077 0.080783 50.1344 0.783445
22 16.2469 0.0776993 55.6954 0.870348
23 16.925 0.0827242 64.2636 1.00424
24 18.9655 0.156078 71.0539 1.11035
25 27.7008 0.415821 75.5586 1.18075
26 41.264 0.618847 76.8869 1.2015
27 46.1426 0.684548 76.101 1.18922
28 19.8682 0.164605 61.9432 0.96798
29 18.0615 0.0906875 61.136 0.955366
30 18.4534 0.0970065 61.8819 0.967023

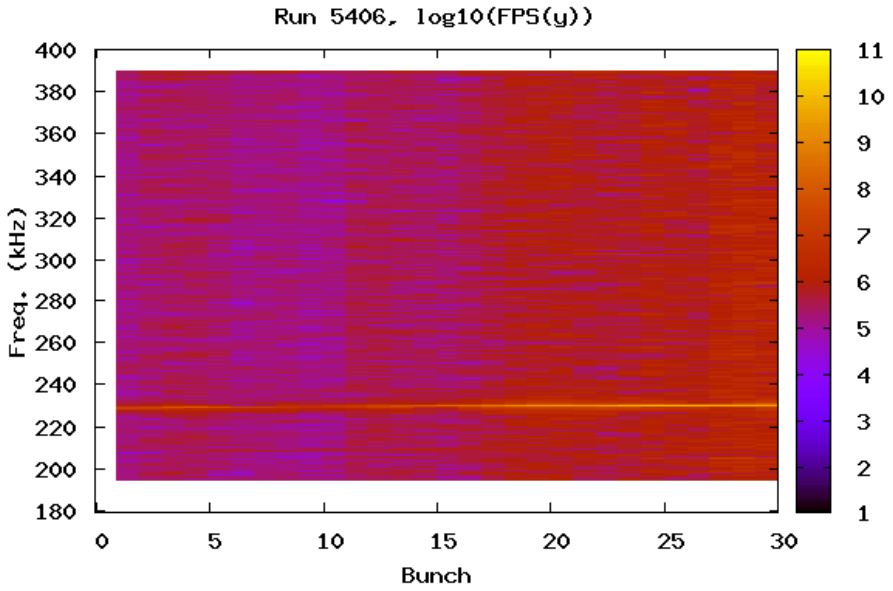


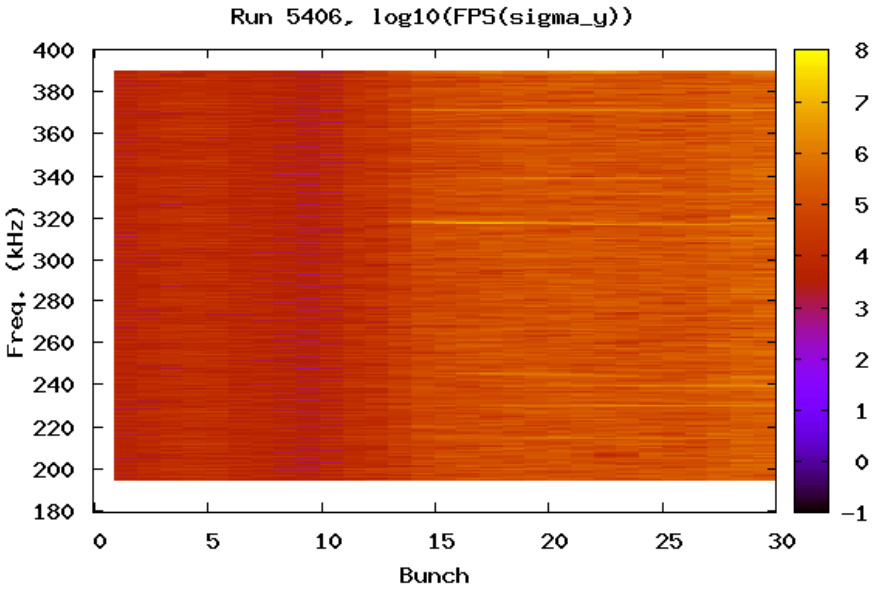


0.75 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

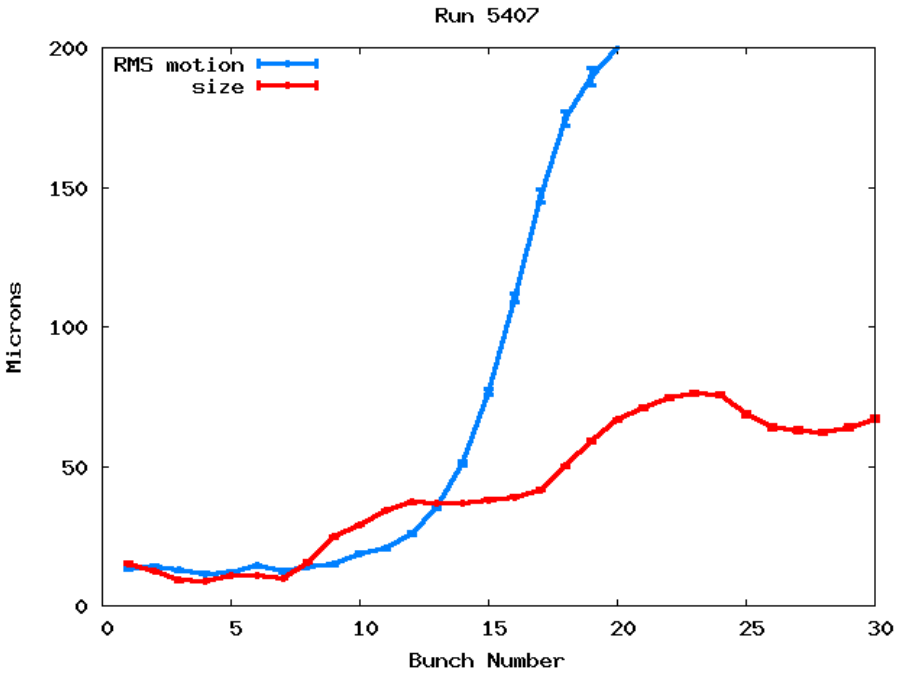


#Run 5406
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5.03967 0.0229862 13.9543 0.218063
2 5.03601 0.0220781 18.6465 0.291387
3 5.08484 0.0342616 18.2532 0.28524
4 5.06775 0.0303989 19.7375 0.308436
5 5.1062 0.0404018 16.8488 0.263295
6 5.04761 0.0274794 14.793 0.231168
7 5.04089 0.0240782 13.3043 0.207905
8 5.04395 0.0253803 16.3863 0.256067
9 5.0293 0.0181229 16.6693 0.260489
10 5.02747 0.0182976 16.4839 0.257592
11 5.07324 0.0316156 20.4477 0.319534
12 5.14038 0.0418179 22.1559 0.346229
13 5.69153 0.0438131 22.0113 0.343968
14 11.3263 0.0947876 23.4968 0.367182
15 15.0641 0.109323 26.167 0.408909
16 18.2318 0.11702 33.0889 0.517077
17 18.6139 0.126533 41.8025 0.653244
18 18.8501 0.135591 49.9218 0.780124
19 19.0021 0.138181 58.3779 0.912267
20 20.567 0.137005 66.8588 1.0448
21 22.8705 0.13805 75.567 1.18088
22 27.8381 0.135398 83.2469 1.30089
23 31.9812 0.135498 91.793 1.43444
24 34.1888 0.127875 98.7757 1.54356
25 34.859 0.140164 104.96 1.6402
26 37.5262 0.115847 107.613 1.68166
27 39.0369 0.144945 110.967 1.73408
28 42.3334 0.17255 106.135 1.65856
29 45.6116 0.191252 94.3824 1.4749
30 49.5367 0.18337 80.1649 1.25273

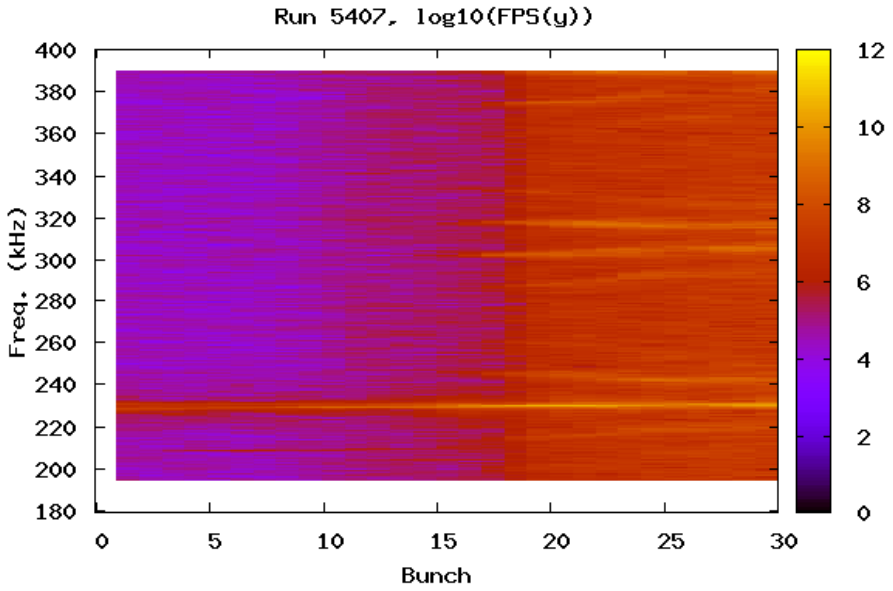


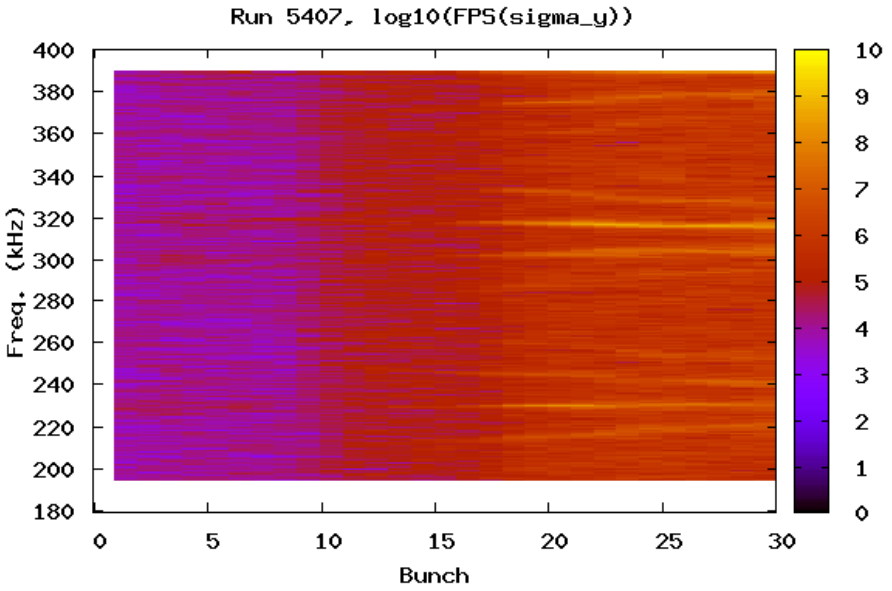


1.00 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

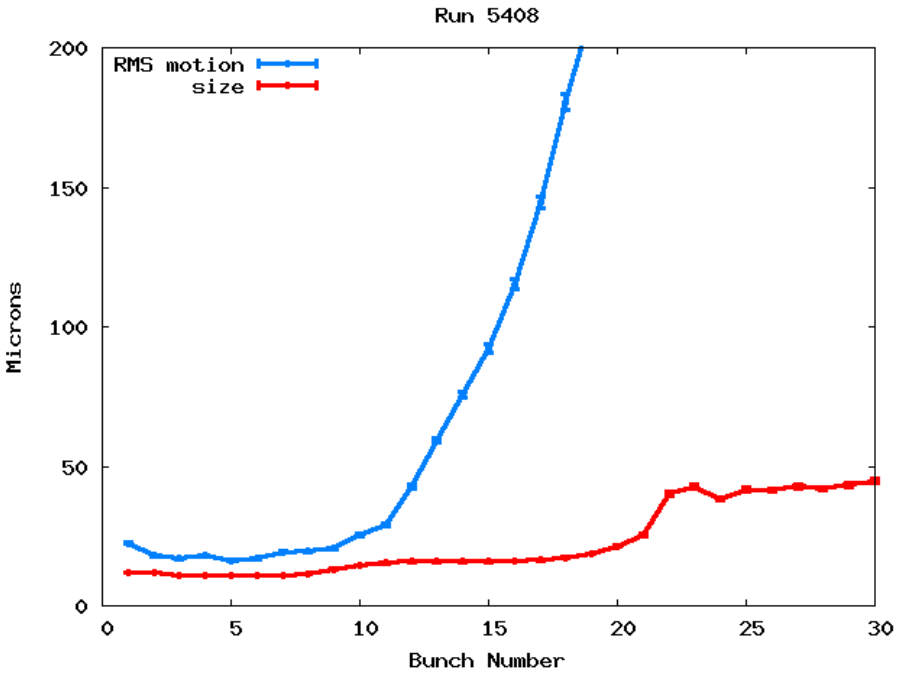


#Run 5407
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 15.2783 0.0290401 13.2877 0.207645
2 12.2601 0.0307239 14.0518 0.219586
3 9.08691 0.0357066 12.8502 0.200808
4 8.97278 0.0357893 11.5611 0.180664
5 10.8643 0.0360642 12.1661 0.190119
6 10.6763 0.0352268 14.3208 0.223789
7 10.061 0.0366945 12.3532 0.193043
8 15.7916 0.0352164 14.1854 0.221674
9 24.6191 0.0420128 14.9545 0.233692
10 28.9142 0.0532029 18.8017 0.293812
11 34.0442 0.0705439 20.612 0.322102
12 37.0746 0.0845664 25.8399 0.403797
13 36.7169 0.0894834 35.2322 0.55057
14 36.6986 0.0894896 51.2415 0.800747
15 38.0688 0.0971248 76.5905 1.19687
16 39.1113 0.101856 110.391 1.72507
17 41.637 0.126076 146.732 2.29297
18 50.1251 0.223826 174.699 2.73
19 59.0131 0.365149 189.541 2.96194
20 66.6431 0.444082 200.242 3.12917
21 71.1249 0.493971 202.967 3.17174
22 74.7357 0.541977 214.178 3.34694
23 76.2018 0.56972 226.516 3.53975
24 75.7404 0.622548 232.101 3.62702
25 68.7427 0.625856 237.72 3.71483
26 64.0869 0.631756 233.185 3.64396
27 62.9279 0.635039 236.019 3.68824
28 62.1204 0.636629 237.846 3.71681
29 63.9056 0.656031 236.213 3.69127
30 67.0508 0.674934 232.612 3.63501

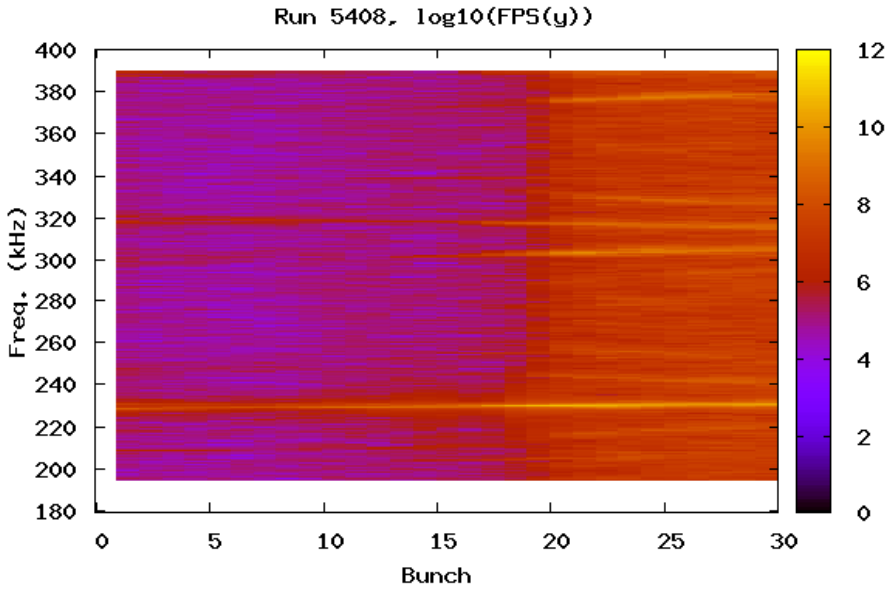


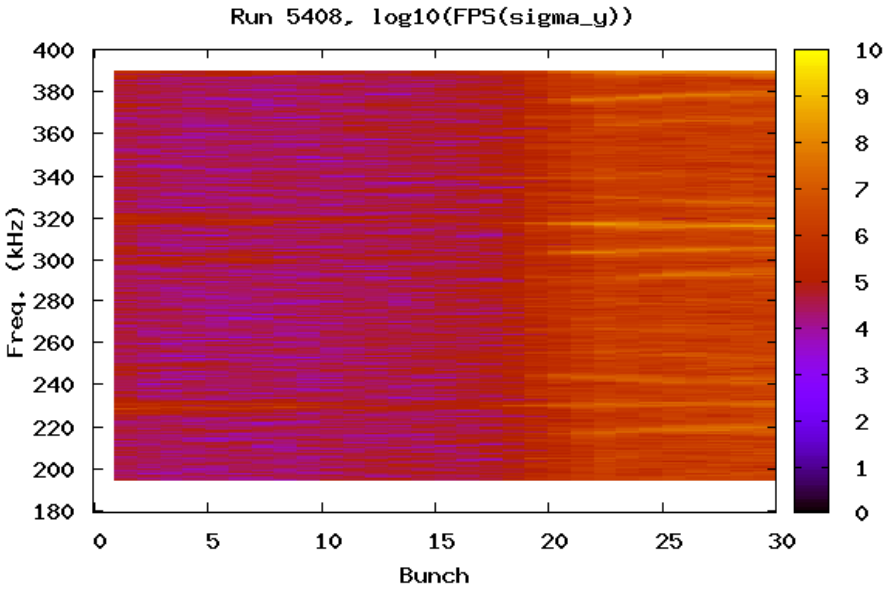


1.00 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns

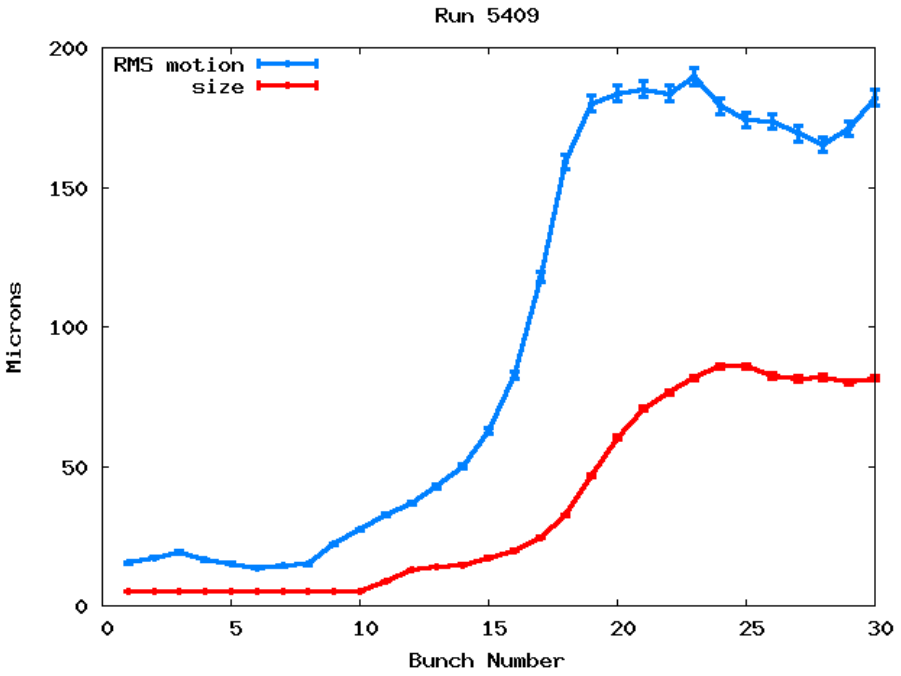


#Run 5408
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 11.9257 0.0816394 22.4138 0.350258
2 11.8164 0.0710504 17.8832 0.279459
3 10.871 0.0616072 16.9916 0.265526
4 10.8563 0.0624022 18.0693 0.282367
5 10.9558 0.0609732 16.2754 0.254334
6 10.8258 0.0601574 17.0739 0.266813
7 10.752 0.0591875 19.2776 0.301249
8 11.5057 0.0629217 19.5361 0.305289
9 13.194 0.0600995 20.6389 0.322523
10 14.6094 0.058013 25.4062 0.39702
11 15.3076 0.0588166 29.1713 0.455857
12 15.8234 0.0599484 42.8003 0.668837
13 15.816 0.0605418 59.2912 0.926537
14 15.8344 0.0639311 75.6861 1.18274
15 15.8649 0.0649144 92.3522 1.44318
16 15.9106 0.0686628 115.21 1.80038
17 16.366 0.0750878 144.531 2.25856
18 17.3175 0.0888776 180.545 2.82136
19 18.6517 0.149849 214.006 3.34425
20 21.2805 0.293225 239.77 3.74686
21 25.5194 0.449437 247.651 3.87003
22 40.2264 0.654272 242.597 3.79104
23 42.6086 0.687907 248.306 3.88026
24 38.3765 0.645573 253.034 3.95414
25 41.6919 0.693626 260.017 4.06327
26 41.4178 0.717809 262.233 4.0979
27 42.9333 0.760502 262.219 4.09767
28 41.969 0.753005 263.519 4.11799
29 43.3185 0.763425 260.828 4.07593
30 44.5703 0.771434 261.61 4.08815

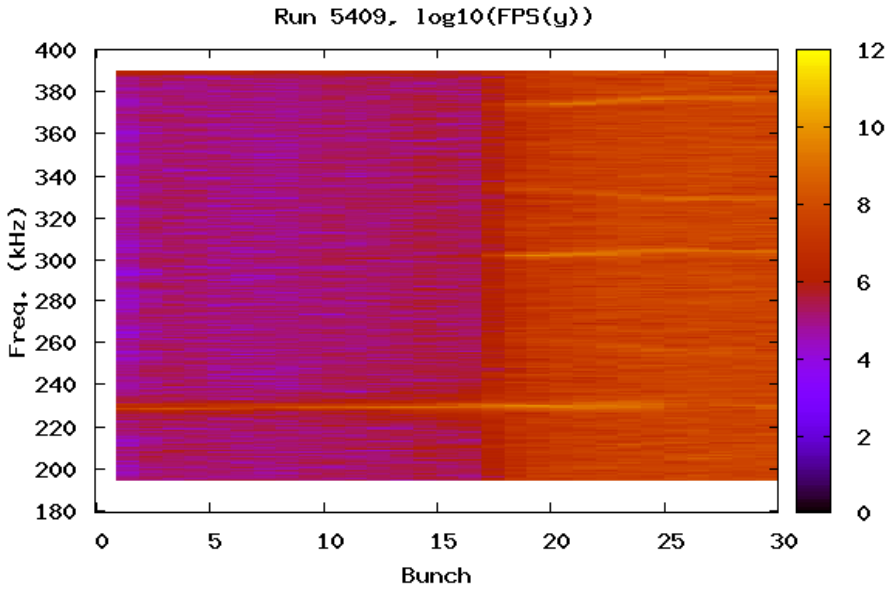


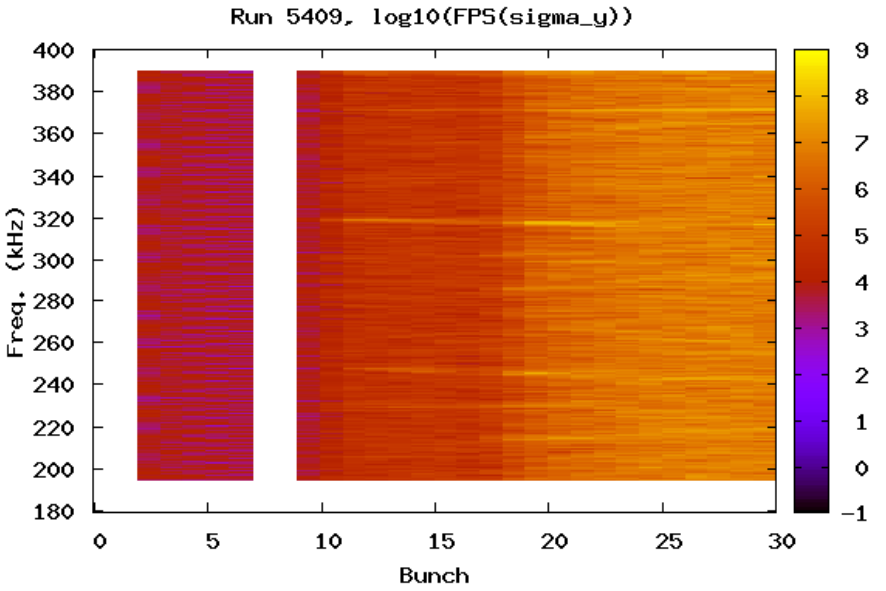


1.00 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

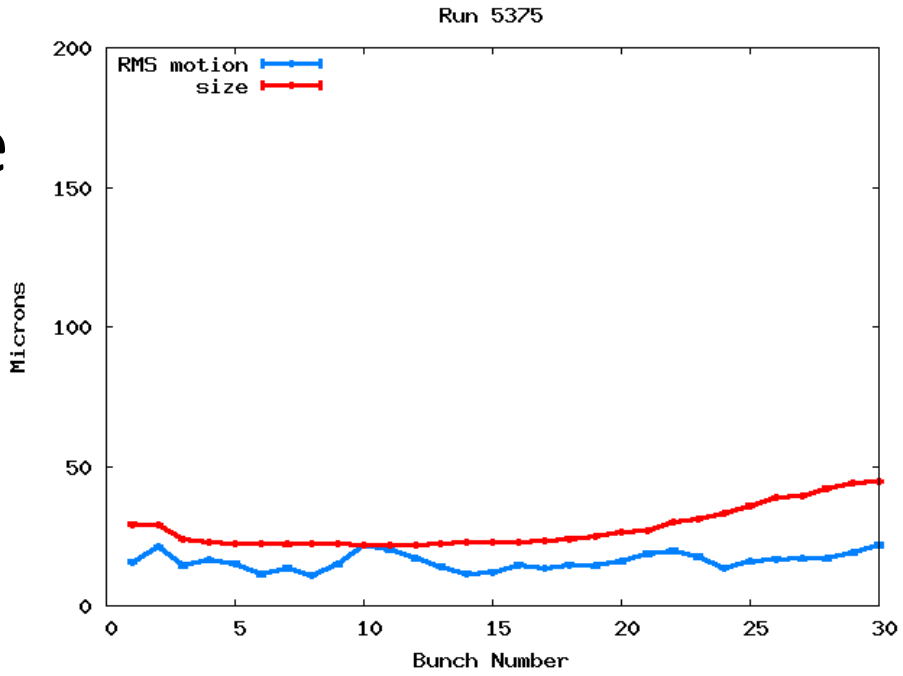


#Run 5409
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5 0 15.3568 0.239979
2 5.03113 0.0221136 17.3316 0.270839
3 5.0415 0.0240237 19.1759 0.29966
4 5.03479 0.0220448 16.5753 0.259021
5 5.02991 0.0212549 15.2162 0.237782
6 5.03052 0.0215938 13.6931 0.213981
7 5.02808 0.0199254 14.2861 0.223247
8 5 0 14.9474 0.233581
9 5.02136 0.0174874 22.1602 0.346295
10 5.23926 0.0290096 27.2834 0.426355
11 8.9624 0.0825418 32.5861 0.50922
12 13.0798 0.107104 36.7819 0.574787
13 13.8623 0.108312 42.7538 0.668109
14 14.6625 0.113769 49.8446 0.778917
15 17.2845 0.109596 62.7996 0.981364
16 19.8608 0.102452 82.7581 1.29325
17 24.5831 0.105703 117.858 1.84176
18 32.4695 0.169836 159.048 2.48543
19 46.6455 0.477681 179.894 2.81118
20 60.3265 0.597949 183.615 2.86933
21 70.6989 0.634715 185.18 2.89379
22 76.4825 0.655915 183.539 2.86815
23 81.6852 0.716665 189.697 2.96438
24 85.9064 0.776809 179.035 2.79776
25 85.8826 0.849539 174.098 2.72061
26 82.2882 0.896022 173.591 2.71269
27 81.2238 0.913807 169.207 2.64418
28 81.991 0.921116 165.396 2.58463
29 80.0659 0.926371 171.021 2.67253
30 81.5875 0.907267 181.894 2.84245

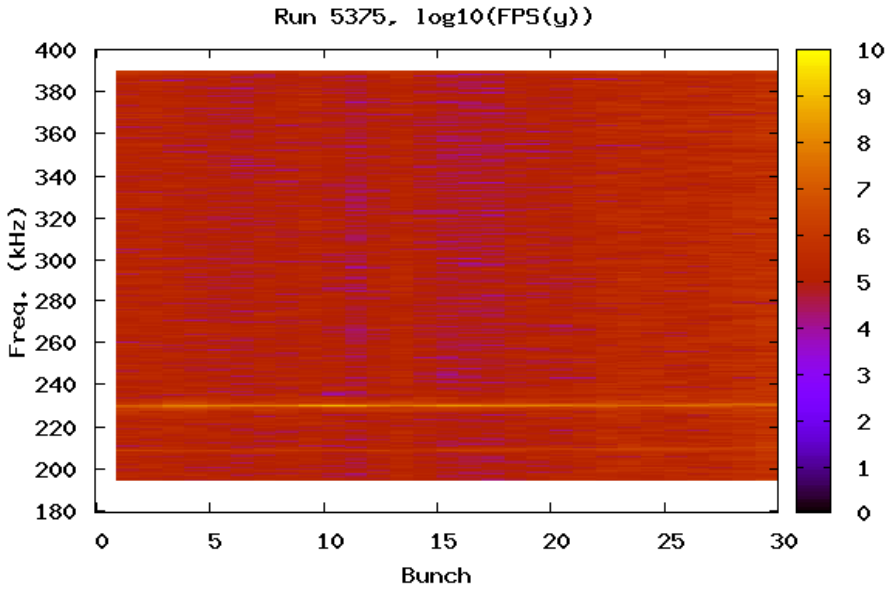


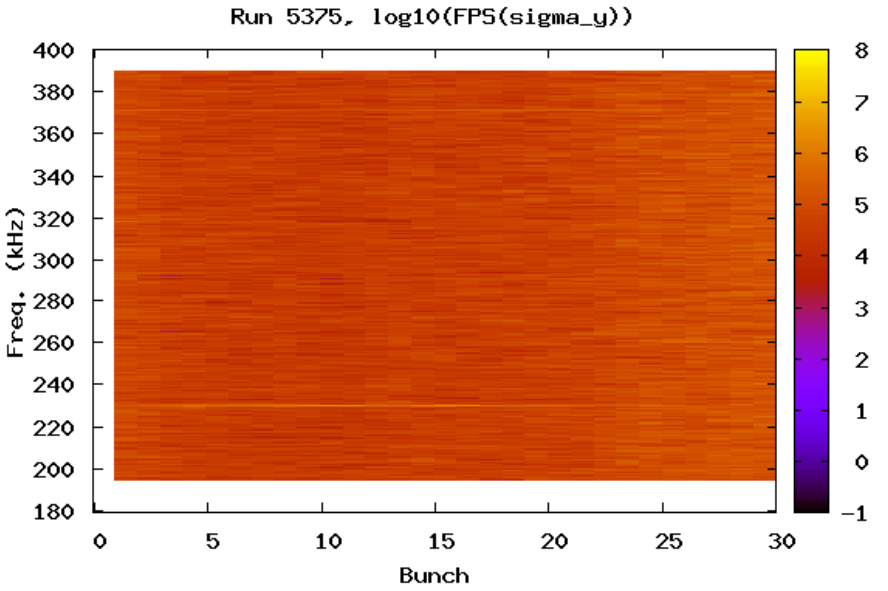


0.50 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

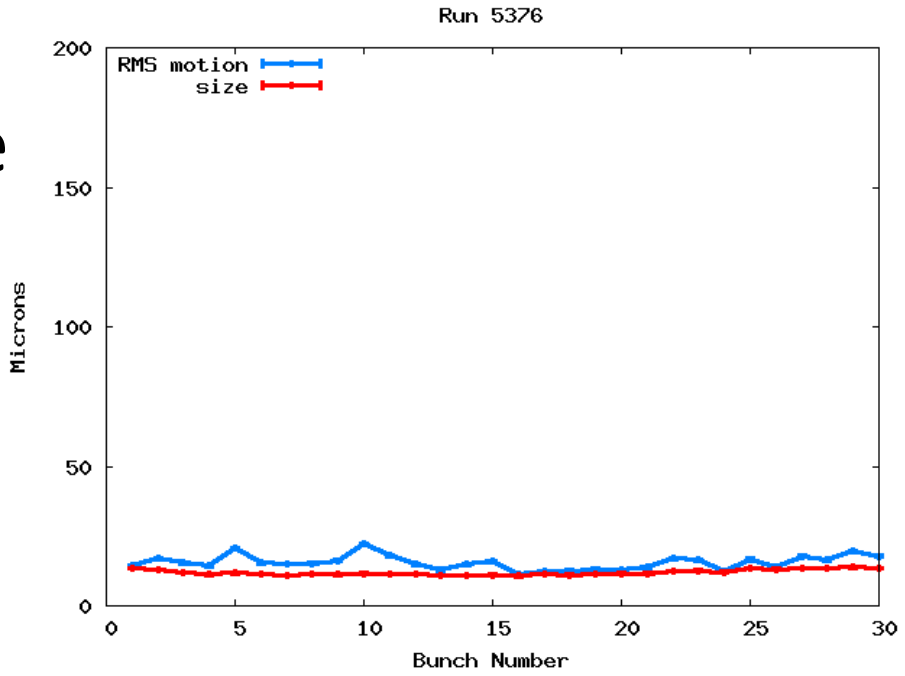


#Run 5375
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 29.234 0.0772146 15.7396 0.245962
2 29.1058 0.0986608 21.1533 0.330561
3 23.8434 0.0667413 14.3533 0.224297
4 22.8815 0.0633304 16.5145 0.25807
5 22.359 0.0621376 15.084 0.235717
6 22.1246 0.0577253 11.2016 0.175047
7 22.0758 0.057442 13.6384 0.213126
8 22.3029 0.0580949 10.9687 0.171406
9 22.1692 0.0588809 14.9279 0.233276
10 21.579 0.0593436 21.6077 0.337661
11 21.5857 0.0585059 20.0881 0.313915
12 21.5796 0.0605179 17.0742 0.266817
13 22.2876 0.0617902 14.2251 0.222294
14 22.9321 0.0686549 11.6014 0.181293
15 22.9767 0.061408 12.1262 0.189496
16 22.8448 0.0633582 14.6293 0.228611
17 23.2281 0.0623577 13.4831 0.210699
18 24.0845 0.0641984 14.5869 0.227949
19 24.9701 0.0671924 14.402 0.225059
20 26.3983 0.0716402 15.8903 0.248317
21 26.778 0.0754743 18.6777 0.291874
22 29.9481 0.081054 19.6703 0.307387
23 30.9576 0.0892433 17.6237 0.275404
24 33.2843 0.102424 13.6207 0.212849
25 35.9631 0.106046 16.0051 0.25011
26 38.7347 0.102242 16.6414 0.260054
27 39.5209 0.112256 16.9174 0.264367
28 42.1649 0.113925 16.951 0.264892
29 44.0527 0.122171 18.9656 0.296373
30 44.5544 0.120803 21.7861 0.340449

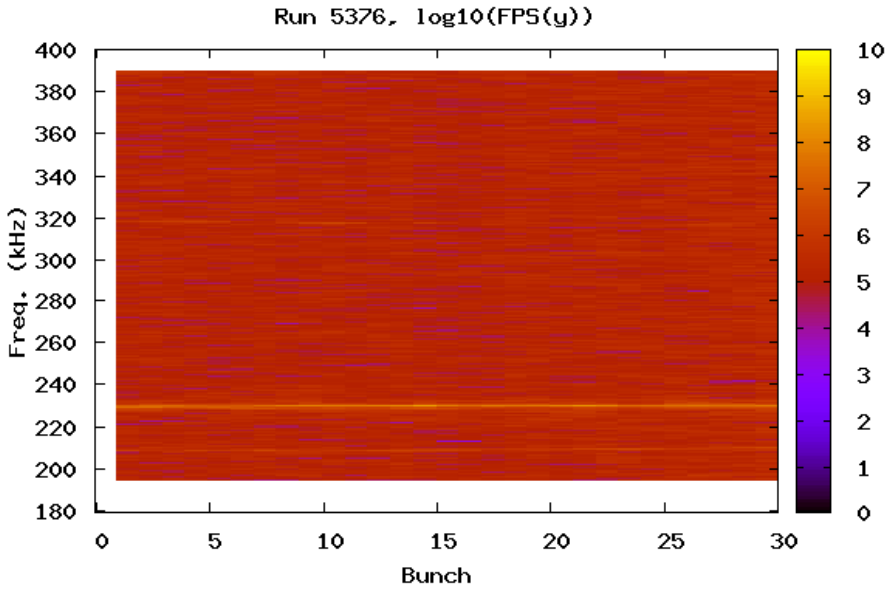


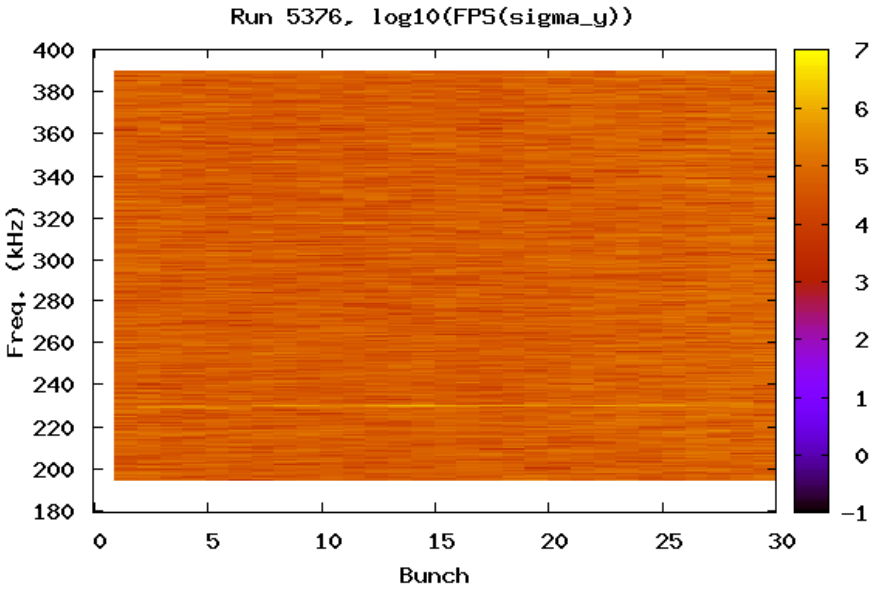


0.50 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns

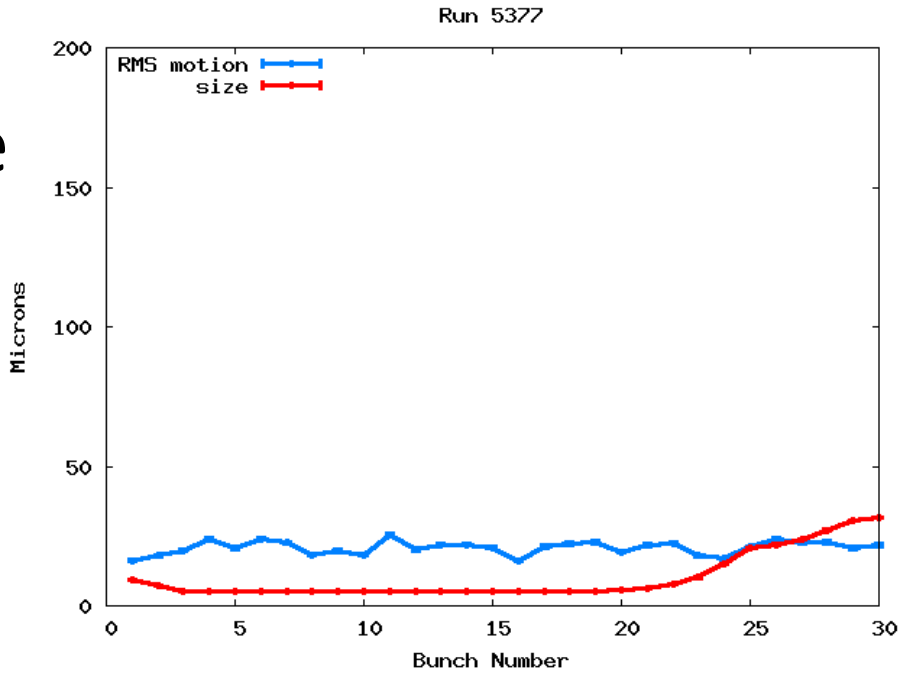


#Run 5376
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 13.3105 0.0741647 14.4092 0.225172
2 12.9987 0.07944 16.8511 0.26333
3 12.0795 0.074849 15.4125 0.24085
4 11.1823 0.0709119 14.4706 0.22613
5 11.6803 0.0739212 20.5923 0.321794
6 11.5369 0.0702602 15.5058 0.242308
7 11.0663 0.0685633 15.0438 0.235088
8 11.2177 0.0704859 15.0814 0.235675
9 11.1694 0.0709612 16.2225 0.253507
10 11.604 0.0732101 22.177 0.346557
11 11.4539 0.0710426 18.0304 0.281759
12 11.3739 0.0663933 14.8281 0.231717
13 10.8386 0.0706754 12.8013 0.200045
14 11.0663 0.0691586 14.965 0.233857
15 11.12 0.0711059 15.981 0.249733
16 10.6824 0.0695105 11.1625 0.174435
17 11.2689 0.069045 12.4165 0.194032
18 11.0803 0.0707176 12.6388 0.197506
19 11.2256 0.0715465 13.2032 0.206325
20 11.6455 0.0723284 12.76 0.199399
21 11.6119 0.0743271 13.8321 0.216153
22 12.3834 0.0771558 17.0872 0.267021
23 12.677 0.0772122 16.5459 0.258561
24 12.0996 0.0780938 12.6046 0.196971
25 13.6127 0.0775257 16.7731 0.262111
26 13.2104 0.0812468 14.1495 0.221113
27 13.3429 0.0837628 17.7994 0.278149
28 13.4344 0.0835788 16.4784 0.257506
29 13.7823 0.0860881 19.4794 0.304403
30 13.5602 0.0860861 17.7666 0.277637

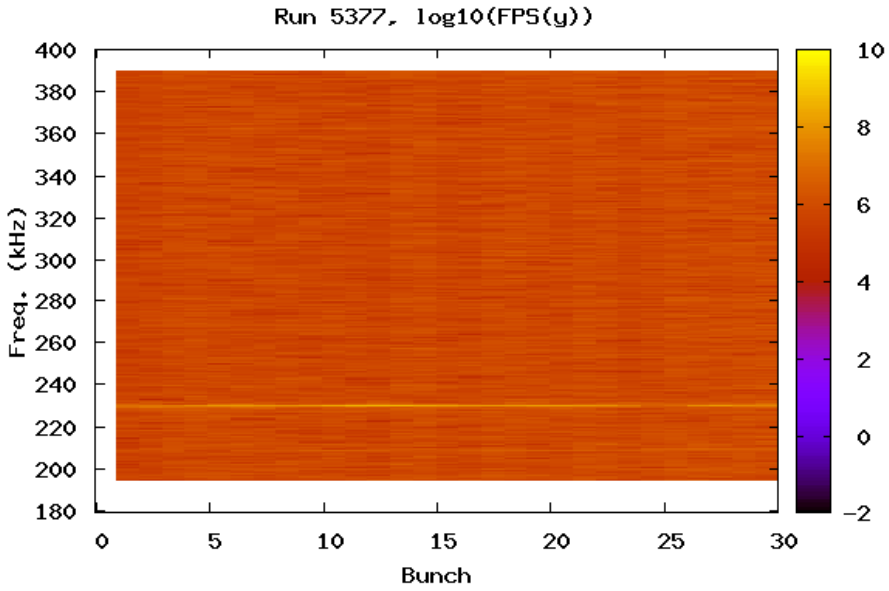


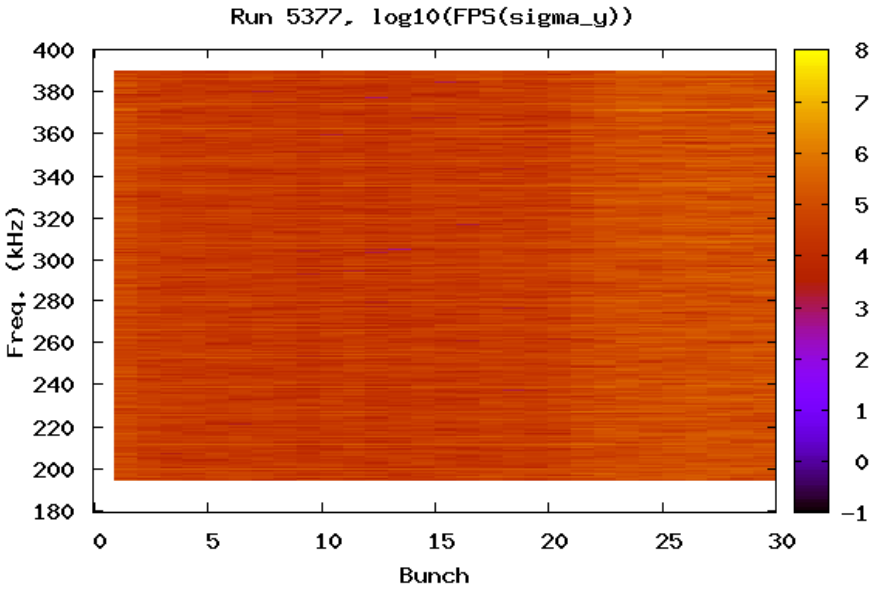


0.50 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

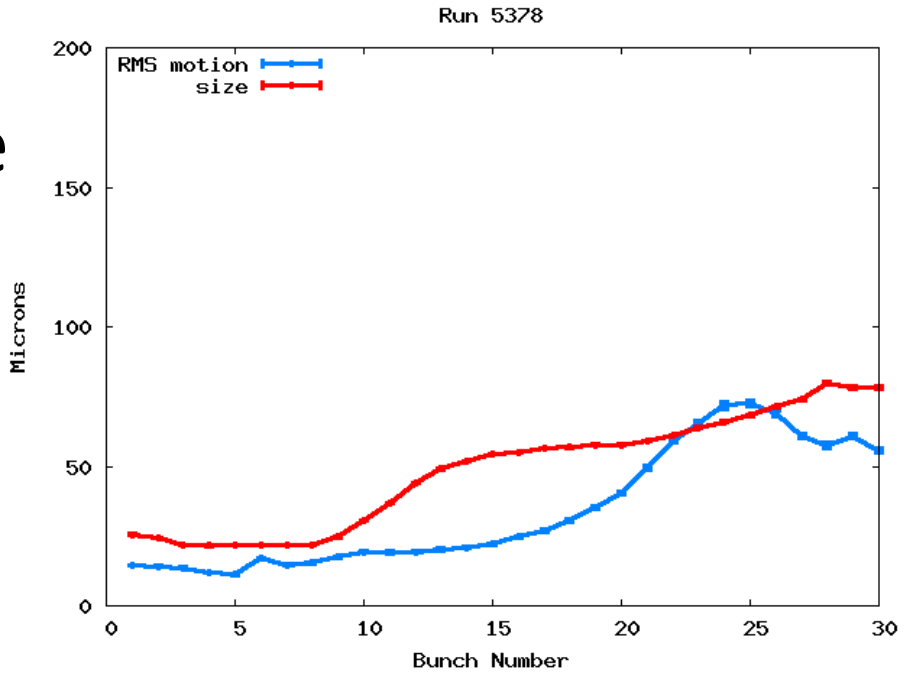


#Run 5377
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 9.36401 0.0929712 16.3052 0.2548
2 7.09839 0.0739354 18.0199 0.281595
3 5.33813 0.0530722 19.7685 0.30892
4 5.27832 0.0601362 23.9997 0.375041
5 5.24109 0.0547172 20.7262 0.323886
6 5.24658 0.0584932 24.0519 0.375857
7 5.2063 0.05064 22.5684 0.352674
8 5.19714 0.0523884 18.383 0.28727
9 5.21667 0.0530412 19.6616 0.307251
10 5.16724 0.0455562 18.3205 0.286293
11 5.3656 0.0704544 25.3877 0.396731
12 5.18921 0.0489352 19.9562 0.311854
13 5.19409 0.0515053 21.8496 0.341442
14 5.21118 0.0455035 21.9718 0.343352
15 5.24597 0.0590107 20.9709 0.32771
16 5.19104 0.0477659 16.2767 0.254355
17 5.30029 0.0574544 21.2964 0.332797
18 5.32104 0.0608238 22.2214 0.347252
19 5.37231 0.0588584 22.8062 0.356391
20 5.625 0.0584098 19.3779 0.302817
21 6.08582 0.0728899 21.6945 0.339018
22 7.84668 0.0927431 22.5046 0.351677
23 10.1349 0.101799 18.0876 0.282653
24 14.9042 0.108507 16.9918 0.265529
25 20.8063 0.105734 21.0072 0.328278
26 21.9397 0.11393 23.9229 0.37384
27 23.7958 0.116242 22.7449 0.355432
28 27.1332 0.118345 22.76 0.355669
29 30.5743 0.113064 20.7637 0.324472
30 31.6016 0.117648 21.6838 0.338851

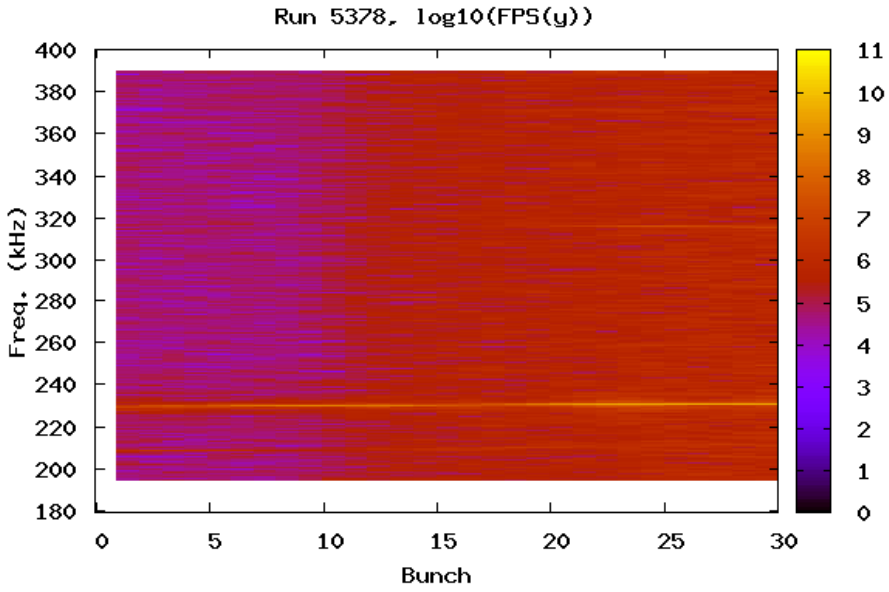


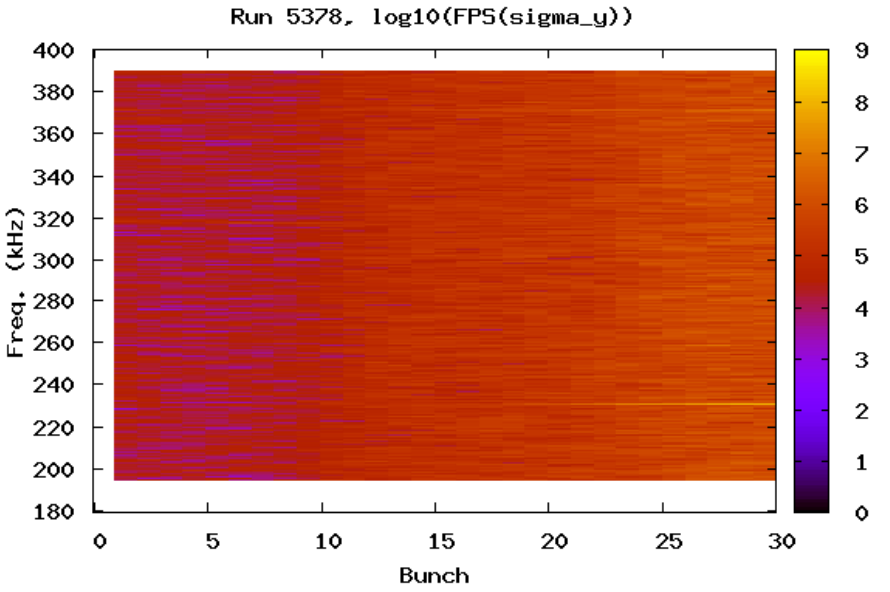


0.75 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

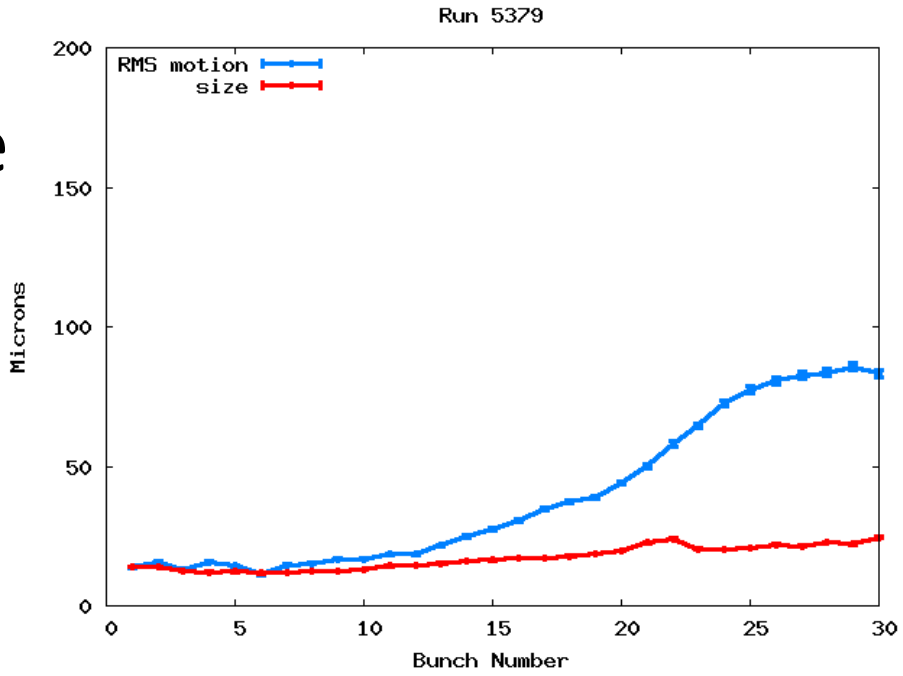


#Run 5378
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 25.6384 0.0468594 14.4765 0.226224
2 24.5477 0.047781 14.0442 0.219467
3 21.6376 0.0435485 13.5937 0.212428
4 21.5442 0.0426481 11.9081 0.186087
5 21.8347 0.0441619 11.1803 0.174713
6 21.6559 0.0438999 16.9381 0.264691
7 21.712 0.0453119 14.633 0.228668
8 21.9739 0.0454372 15.3059 0.239184
9 24.6118 0.0495207 17.5071 0.273581
10 30.6793 0.0605171 19.3221 0.301944
11 36.7944 0.0770486 19.2069 0.300145
12 43.9001 0.0894461 19.2632 0.301025
13 48.9966 0.0984853 20.2231 0.316024
14 51.6766 0.107848 20.9075 0.32672
15 54.3707 0.111124 22.1709 0.346463
16 54.8889 0.115424 24.6514 0.385225
17 56.452 0.122696 27.0434 0.422605
18 56.8176 0.131318 30.6954 0.479674
19 57.7203 0.139929 35.1006 0.548513
20 57.6904 0.141966 40.335 0.630311
21 59.1083 0.149116 49.7076 0.776776
22 61.1694 0.174359 59.2608 0.926063
23 63.8049 0.192955 65.4532 1.02283
24 65.8936 0.227064 71.8247 1.1224
25 68.2147 0.248714 72.4578 1.13229
26 71.3983 0.287634 68.732 1.07407
27 73.877 0.30463 60.8117 0.950298
28 80.0299 0.331678 57.5368 0.899123
29 78.2367 0.333519 60.8245 0.950499
30 78.2239 0.326963 55.6118 0.869041

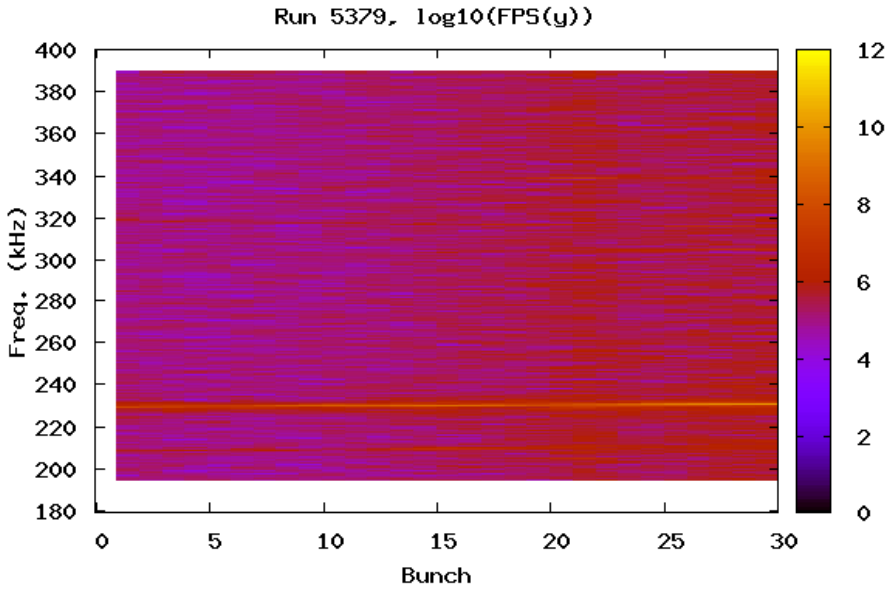


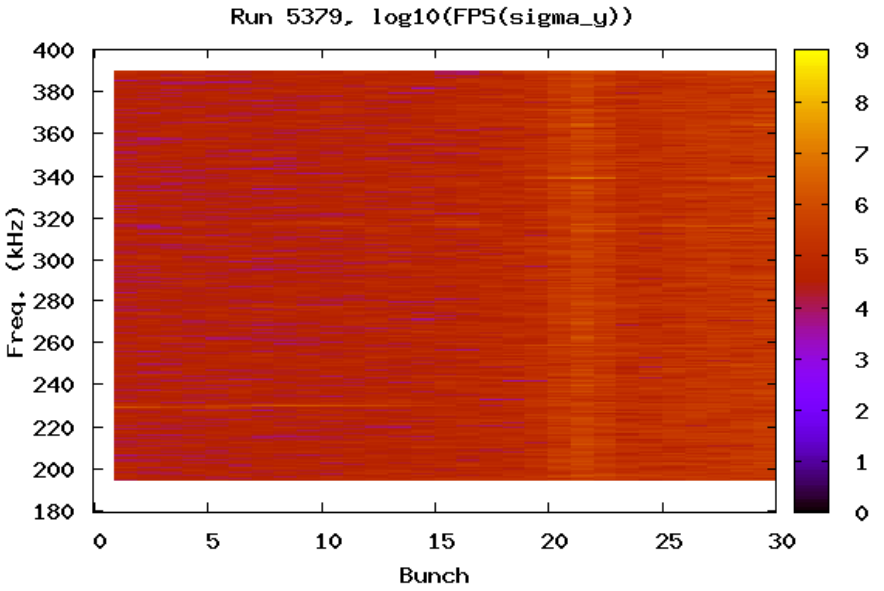


0.75 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns



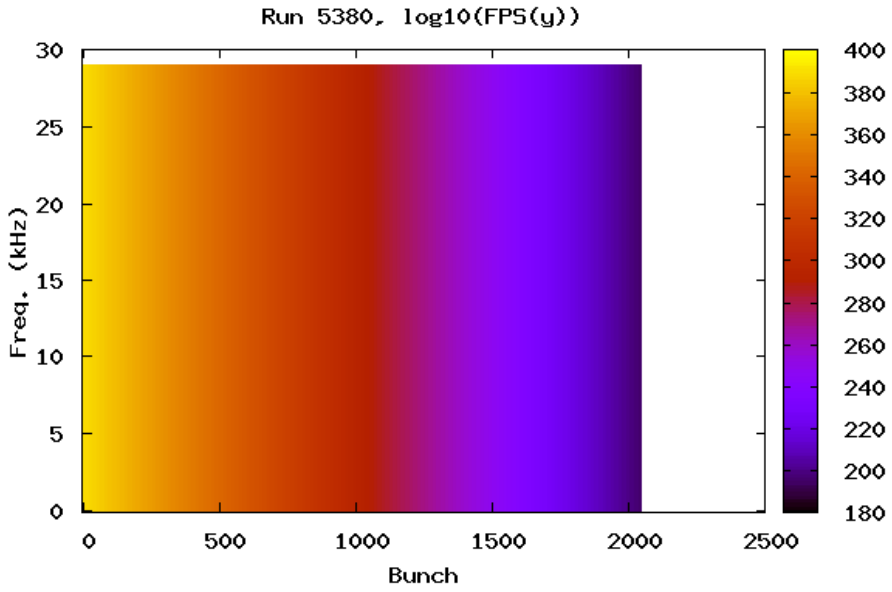
#Run 5379
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 14.0613 0.0615305 13.8065 0.215753
2 13.8873 0.0654314 15.7888 0.24673
3 12.3181 0.0622644 13.0035 0.203204
4 12.1124 0.0640295 15.7507 0.246135
5 12.2363 0.0628959 14.314 0.223683
6 11.6766 0.0633571 11.1899 0.174864
7 11.955 0.0621506 14.6992 0.229704
8 12.2791 0.0631666 15.0754 0.235582
9 12.2778 0.0640501 16.7088 0.261108
10 13.1445 0.0656194 16.6297 0.25987
11 14.2969 0.0667405 18.5617 0.290062
12 14.5276 0.0697857 18.5781 0.290319
13 15.2637 0.0727264 21.5911 0.337403
14 15.943 0.0728539 24.7973 0.387506
15 16.3953 0.0745824 27.4027 0.428219
16 17.0575 0.0768814 30.5586 0.477537
17 17.2736 0.0822138 34.5151 0.539364
18 17.8247 0.0876741 37.3638 0.583881
19 18.6414 0.0968411 38.9133 0.608095
20 19.6216 0.123303 44.0678 0.688644
21 22.6501 0.221144 50.1863 0.784257
22 23.8721 0.27322 58.0238 0.906732
23 20.3644 0.1188 64.5135 1.00815
24 20.0677 0.102399 72.6249 1.1349
25 20.8398 0.120314 77.4504 1.21031
26 21.9427 0.139292 80.5919 1.2594
27 21.3782 0.139441 82.576 1.29041
28 22.8888 0.161159 83.5256 1.30525
29 22.1228 0.155037 85.6604 1.33861
30 24.5258 0.208081 83.3775 1.30293

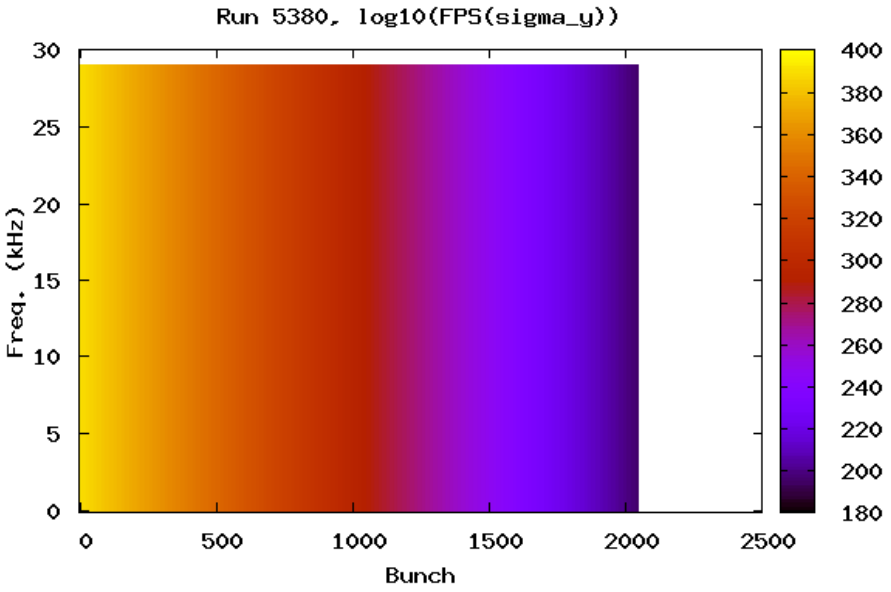




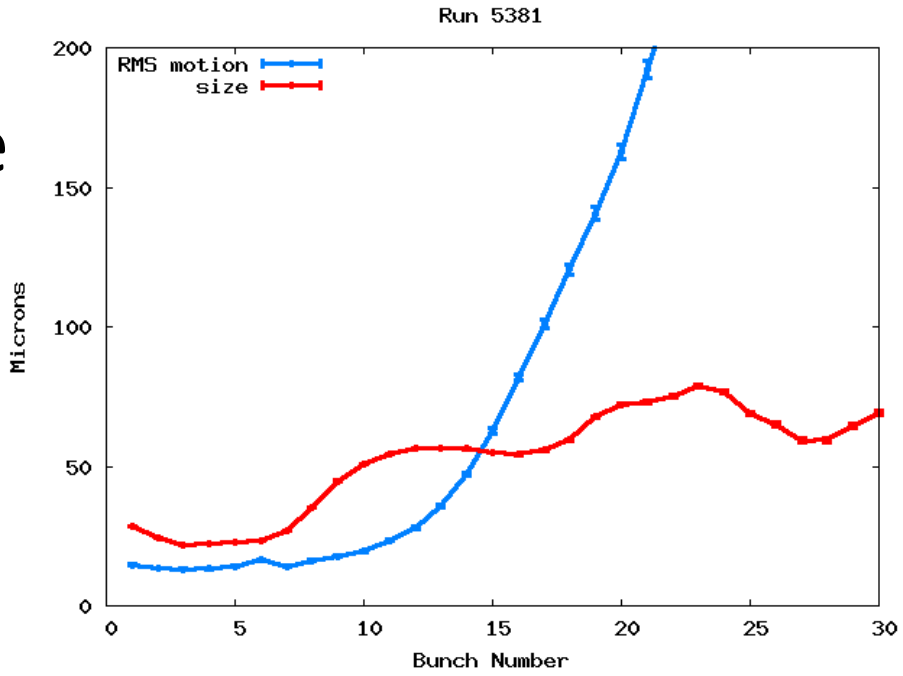
0.75 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

#Run 5406
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5.03967 0.0229862 13.9543 0.218063
2 5.03601 0.0220781 18.6465 0.291387
3 5.08484 0.0342616 18.2532 0.28524
4 5.06775 0.0303989 19.7375 0.308436
5 5.1062 0.0404018 16.8488 0.263295
6 5.04761 0.0274794 14.793 0.231168
7 5.04089 0.0240782 13.3043 0.207905
8 5.04395 0.0253803 16.3863 0.256067
9 5.0293 0.0181229 16.6693 0.260489
10 5.02747 0.0182976 16.4839 0.257592
11 5.07324 0.0316156 20.4477 0.319534
12 5.14038 0.0418179 22.1559 0.346229
13 5.69153 0.0438131 22.0113 0.343968
14 11.3263 0.0947876 23.4968 0.367182
15 15.0641 0.109323 26.167 0.408909
16 18.2318 0.11702 33.0889 0.517077
17 18.6139 0.126533 41.8025 0.653244
18 18.8501 0.135591 49.9218 0.780124
19 19.0021 0.138181 58.3779 0.912267
20 20.567 0.137005 66.8588 1.0448
21 22.8705 0.13805 75.567 1.18088
22 27.8381 0.135398 83.2469 1.30089
23 31.9812 0.135498 91.793 1.43444
24 34.1888 0.127875 98.7757 1.54356
25 34.859 0.140164 104.96 1.6402
26 37.5262 0.115847 107.613 1.68166
27 39.0369 0.144945 110.967 1.73408
28 42.3334 0.17255 106.135 1.65856
29 45.6116 0.191252 94.3824 1.4749
30 49.5367 0.18337 80.1649 1.25273

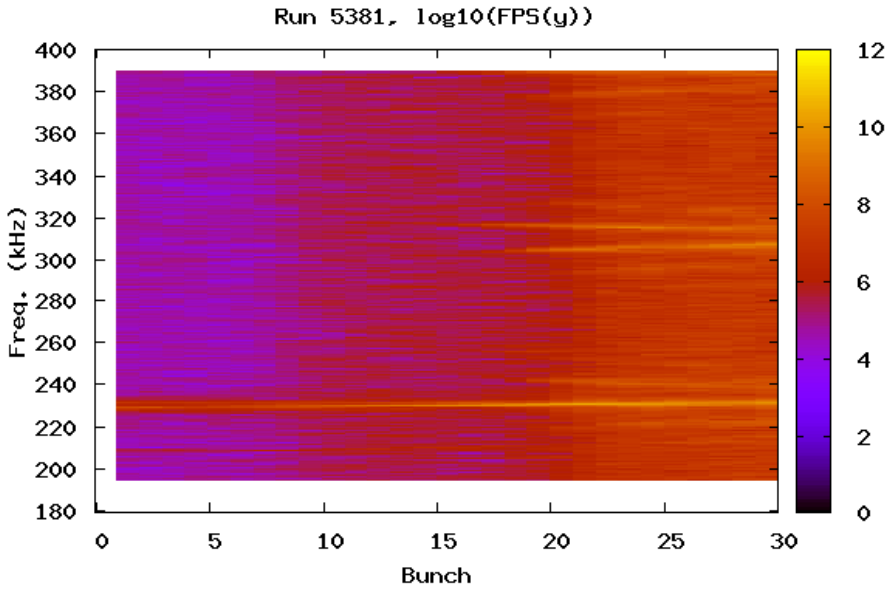


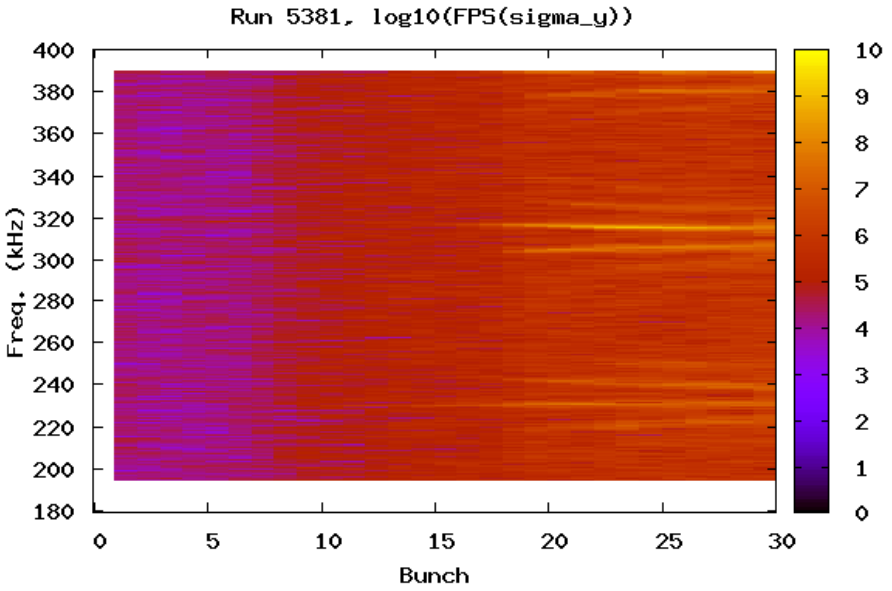


1.00 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

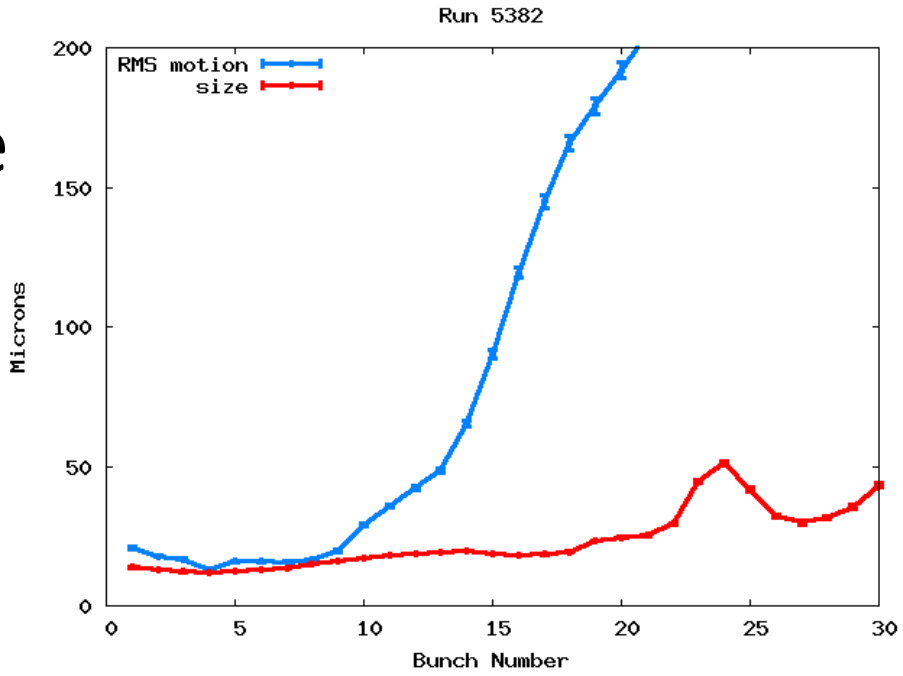


#Run 5381
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 28.6523 0.0438563 14.6006 0.228162
2 24.2981 0.0399963 13.488 0.210775
3 21.6864 0.0366011 13.2083 0.206405
4 22.3468 0.0385566 13.2963 0.20778
5 22.9218 0.0406492 14.1209 0.220666
6 23.3618 0.0415146 16.3228 0.255075
7 27.1283 0.0459584 14.1557 0.221209
8 35.3027 0.0589873 16.2165 0.253414
9 44.8132 0.0743246 17.7614 0.277556
10 50.7434 0.0837815 19.6046 0.306359
11 54.4159 0.0933002 23.4915 0.3671
12 56.6248 0.103099 28.0949 0.439036
13 56.4435 0.108922 35.7982 0.559415
14 56.3391 0.123669 47.1872 0.737389
15 54.8712 0.126156 62.7335 0.980331
16 54.2755 0.135563 81.8588 1.2792
17 55.8215 0.146609 100.82 1.5755
18 59.4659 0.194474 120.606 1.88471
19 67.7563 0.305182 140.658 2.19806
20 72.2589 0.368102 162.617 2.5412
21 73.0133 0.438989 192.096 3.00186
22 74.9896 0.510703 219.61 3.43183
23 78.7634 0.603991 231.803 3.62237
24 76.7786 0.632581 232.542 3.63392
25 68.9484 0.630425 234.896 3.67071
26 64.9292 0.654643 229.828 3.59151
27 59.2719 0.647526 231.047 3.61056
28 59.3481 0.638184 234.636 3.66663
29 64.3774 0.659436 235.06 3.67326
30 69.0552 0.697501 231.772 3.62188

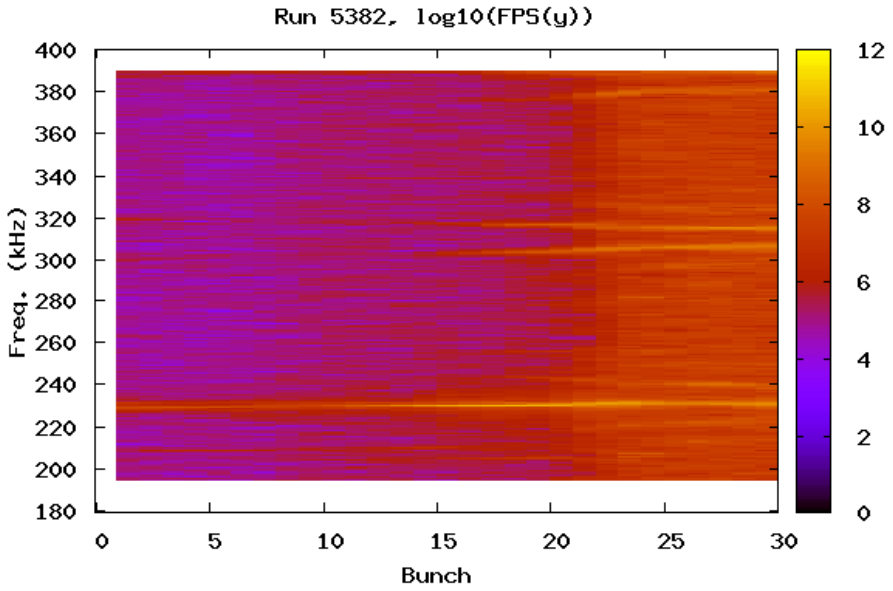


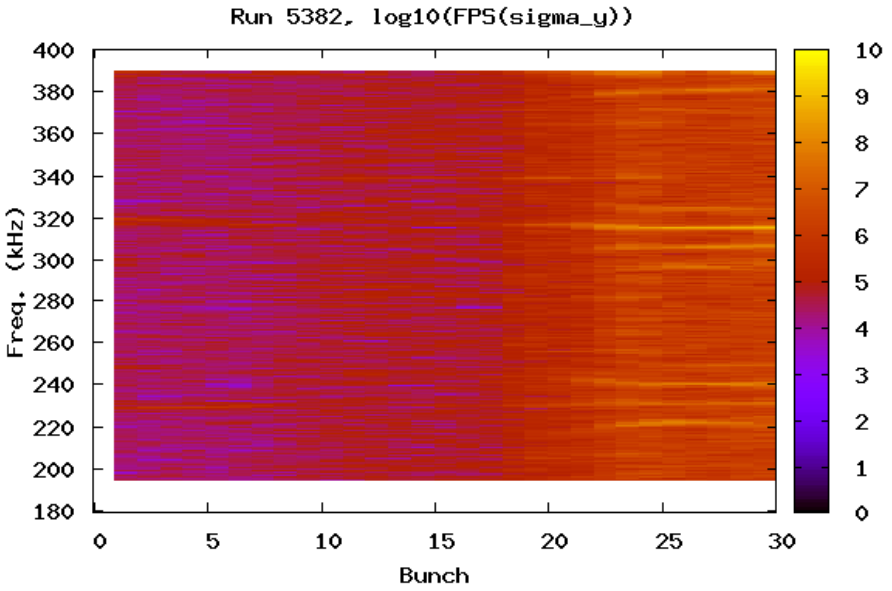


1.00 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns

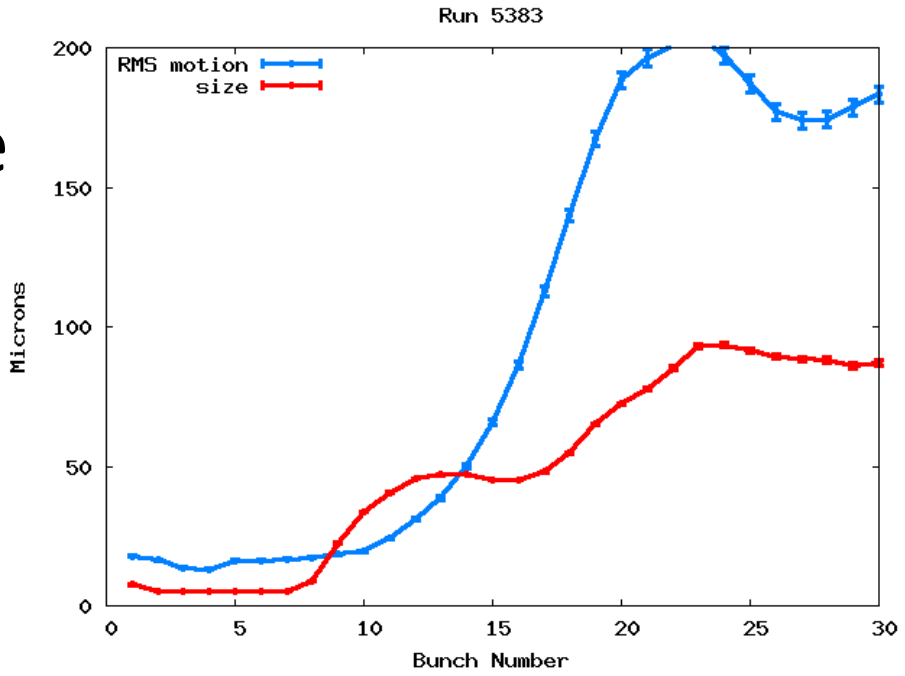


#Run 5382
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 13.7671 0.0643582 20.7089 0.323615
2 12.7972 0.0585726 17.7955 0.278088
3 12.2028 0.05601 16.6978 0.260935
4 12.0978 0.0559897 12.8272 0.20045
5 12.5995 0.0565049 16.0492 0.250799
6 12.7771 0.0576317 15.8498 0.247683
7 13.3643 0.0568925 15.656 0.244655
8 14.8529 0.0602031 16.4045 0.256352
9 16.0669 0.0641907 19.7061 0.307945
10 17.2778 0.0672513 29.0538 0.454021
11 18.2758 0.0737596 35.6602 0.557259
12 18.8306 0.0794721 42.251 0.660253
13 19.2023 0.0793177 48.4753 0.757519
14 19.5874 0.0750165 65.4492 1.02277
15 18.6932 0.079538 90.1698 1.40908
16 18.0951 0.079592 119.233 1.86325
17 18.3942 0.0818404 144.885 2.26411
18 19.4073 0.0944659 165.978 2.59372
19 23.2794 0.1878 179.019 2.79751
20 24.563 0.209396 191.882 2.99853
21 25.2344 0.224638 205.519 3.21163
22 29.2957 0.369679 225.526 3.52428
23 44.4342 0.650097 247.953 3.87474
24 51.0883 0.795378 264.784 4.13776
25 41.6809 0.744443 269.541 4.21209
26 32.0789 0.649141 271.058 4.2358
27 29.8364 0.64529 268.406 4.19435
28 31.5063 0.664792 267.998 4.18798
29 35.4602 0.709546 269.741 4.21523
30 43.0597 0.795922 269.531 4.21193

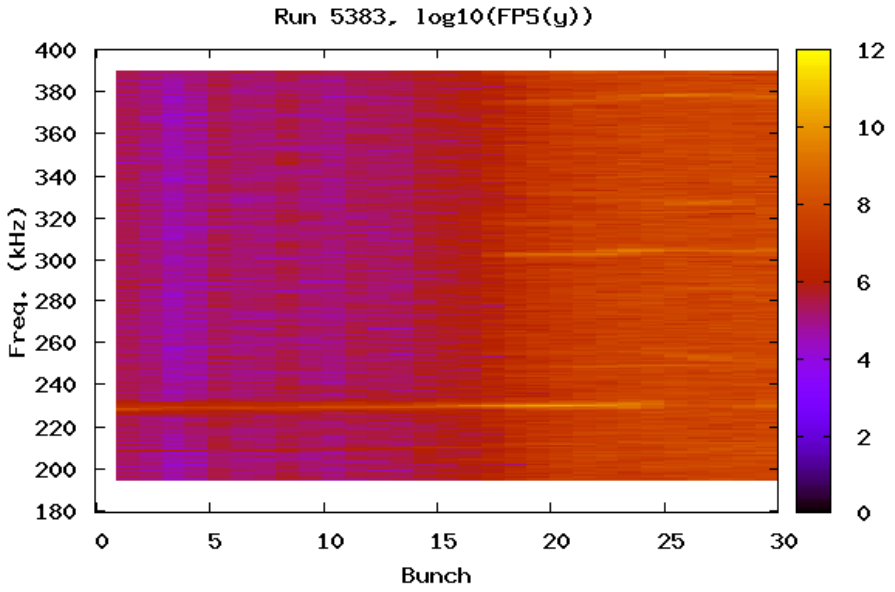


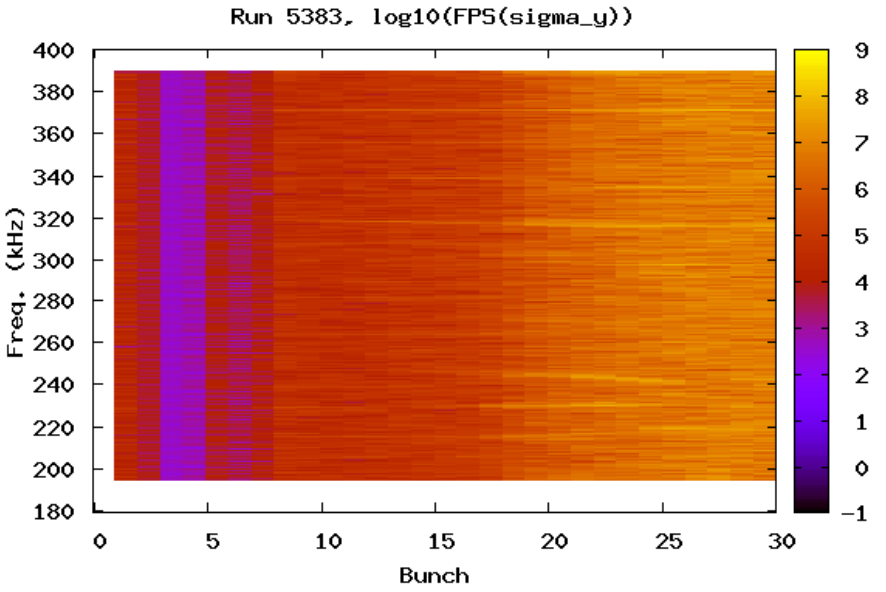


1.00 mA/bunch
Med. Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

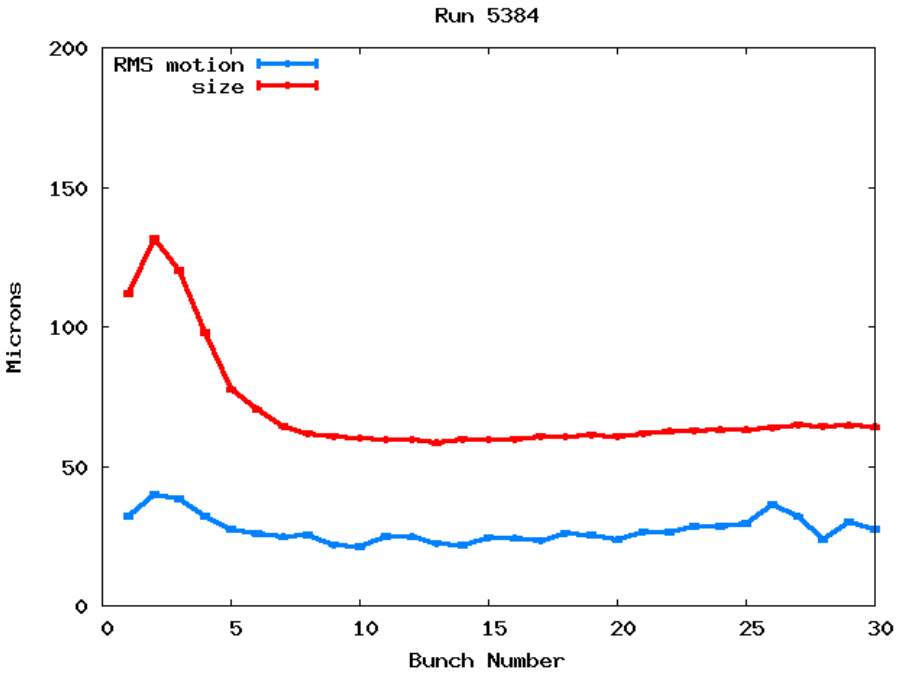


#Run 5383
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 7.53235 0.0622045 17.8744 0.279322
2 5.07629 0.031948 16.3659 0.255749
3 5.01282 0.0128174 13.5296 0.211425
4 5.00305 0.00202399 13.1568 0.205599
5 5.05737 0.027407 16.1068 0.251699
6 5.04578 0.0230966 16.195 0.253077
7 5.03235 0.012838 16.5976 0.259368
8 8.63708 0.0721999 17.1083 0.26735
9 22.478 0.0699136 18.4014 0.287557
10 33.67 0.0647392 19.6232 0.30665
11 40.6171 0.070808 24.203 0.378218
12 45.4187 0.0797935 30.8976 0.482833
13 46.9098 0.0904846 38.6216 0.603537
14 47.2009 0.0972234 50.2357 0.785029
15 44.9493 0.103246 65.6948 1.02661
16 45.0079 0.116971 86.3537 1.34944
17 47.9584 0.128769 112.816 1.76297
18 54.7302 0.190914 140.033 2.18828
19 65.2258 0.294761 167.447 2.61668
20 72.3547 0.375209 188.441 2.94476
21 77.8143 0.483442 196.241 3.06664
22 85.1886 0.566874 200.791 3.13774
23 93.0493 0.64635 204.374 3.19373
24 93.363 0.723775 197.322 3.08353
25 91.6052 0.826339 187.018 2.92251
26 89.2523 0.887076 177.023 2.76633
27 88.4192 0.912824 173.857 2.71685
28 88.1152 0.936087 174.248 2.72295
29 85.899 0.934285 178.66 2.7919
30 86.9086 0.925115 183.208 2.86297

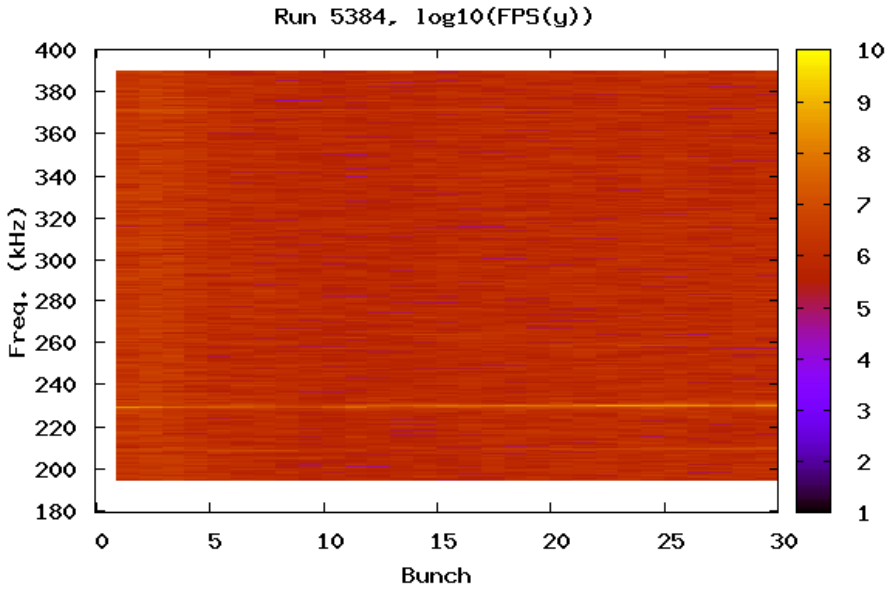


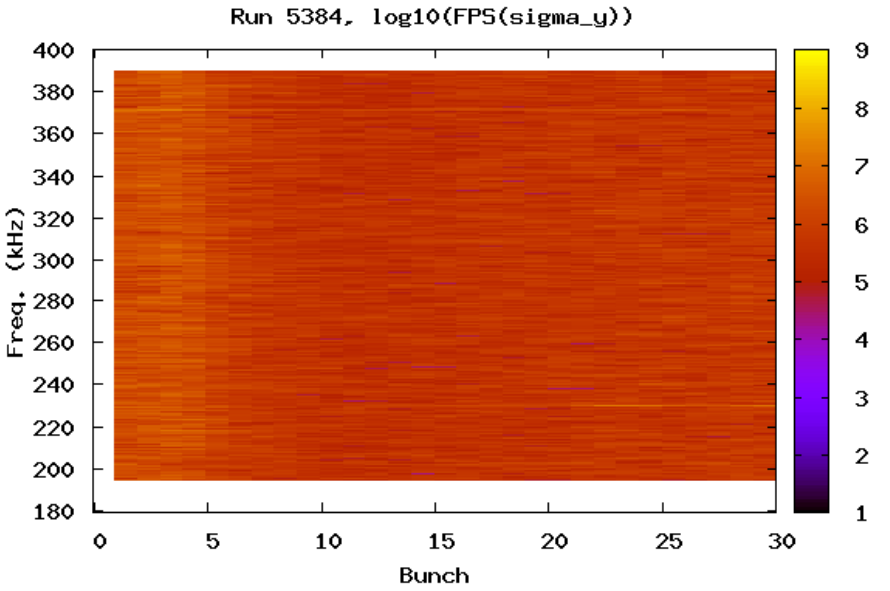


0.50 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

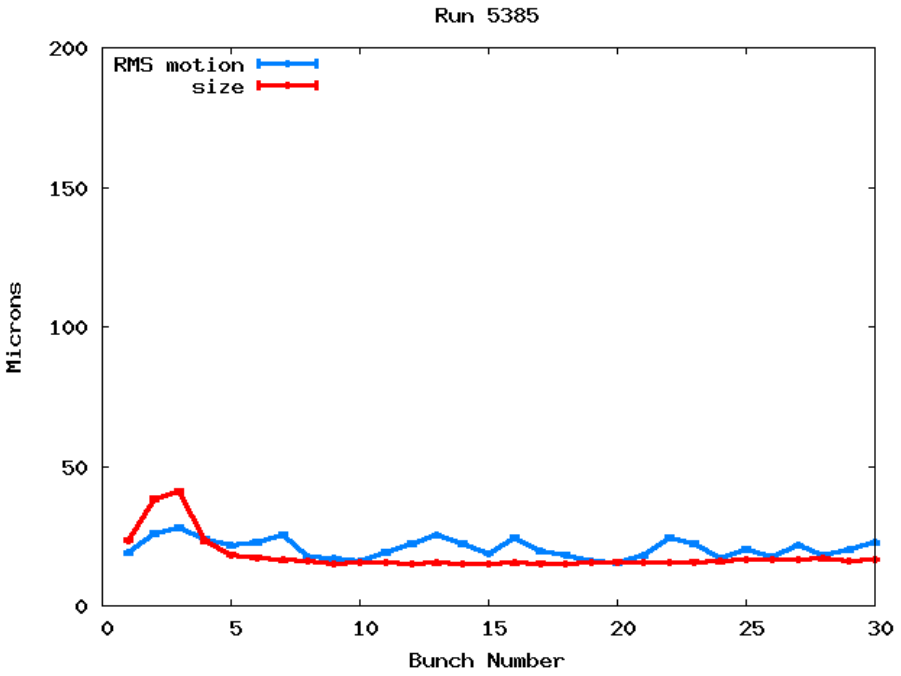


#Run 5384
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 111.854 0.463057 32.3278 0.505184
2 131.745 0.453616 39.7514 0.621192
3 120.429 0.528016 38.4372 0.600655
4 97.9364 0.543263 32.0821 0.501344
5 77.4786 0.397495 27.36 0.427553
6 70.3296 0.322952 25.8544 0.404025
7 64.317 0.267774 24.6223 0.38477
8 61.9055 0.233885 25.3469 0.396093
9 60.733 0.215998 21.9434 0.342908
10 60.1129 0.199424 21.3033 0.332905
11 59.6045 0.184469 24.7785 0.387211
12 59.588 0.199718 24.6672 0.385472
13 58.4656 0.190509 22.4351 0.350591
14 59.6643 0.194616 21.6983 0.339077
15 59.621 0.206924 24.505 0.382938
16 59.7174 0.196317 24.1961 0.37811
17 60.799 0.227831 23.4837 0.366978
18 60.6311 0.207051 26.1039 0.407923
19 61.2115 0.22331 25.2699 0.39489
20 60.7367 0.213995 23.6757 0.369979
21 61.778 0.234277 26.6692 0.416757
22 62.6685 0.24464 26.5577 0.415014
23 62.8082 0.234131 28.6783 0.448152
24 63.1207 0.250711 28.6505 0.447719
25 63.1586 0.247326 29.6805 0.463814
26 63.916 0.256852 36.3714 0.568373
27 64.8975 0.234112 31.877 0.498139
28 64.2706 0.251119 23.8984 0.373458
29 64.6906 0.263286 29.8995 0.467237
30 64.2365 0.25098 27.6279 0.431739

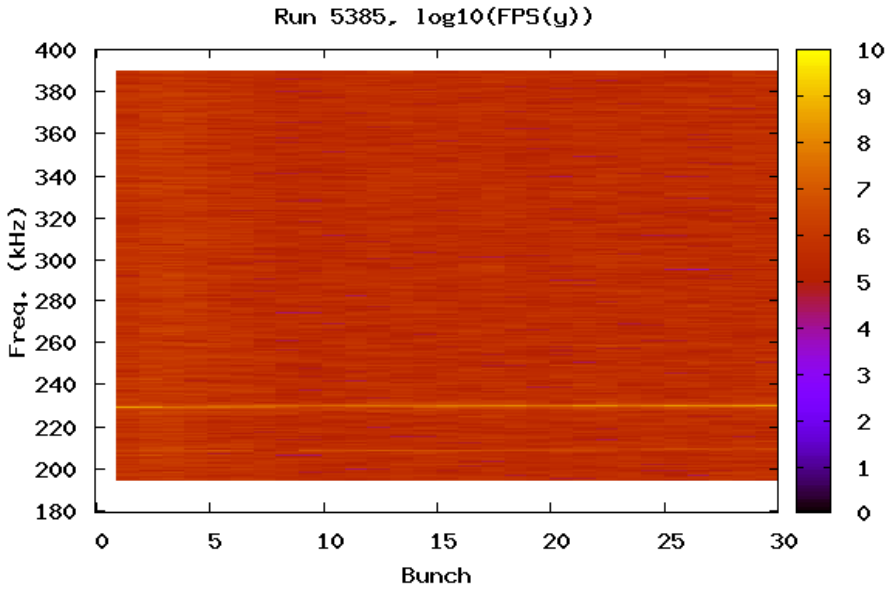


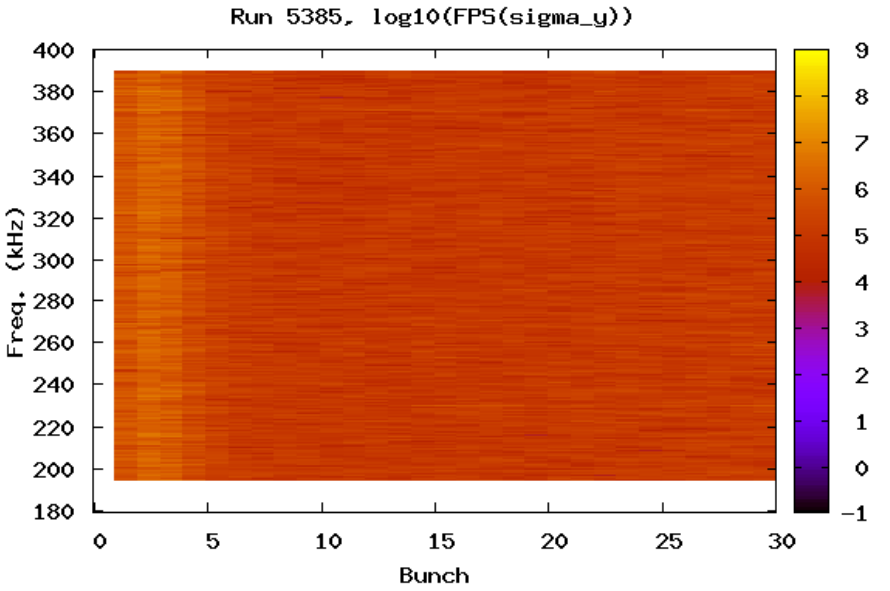


0.50 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns

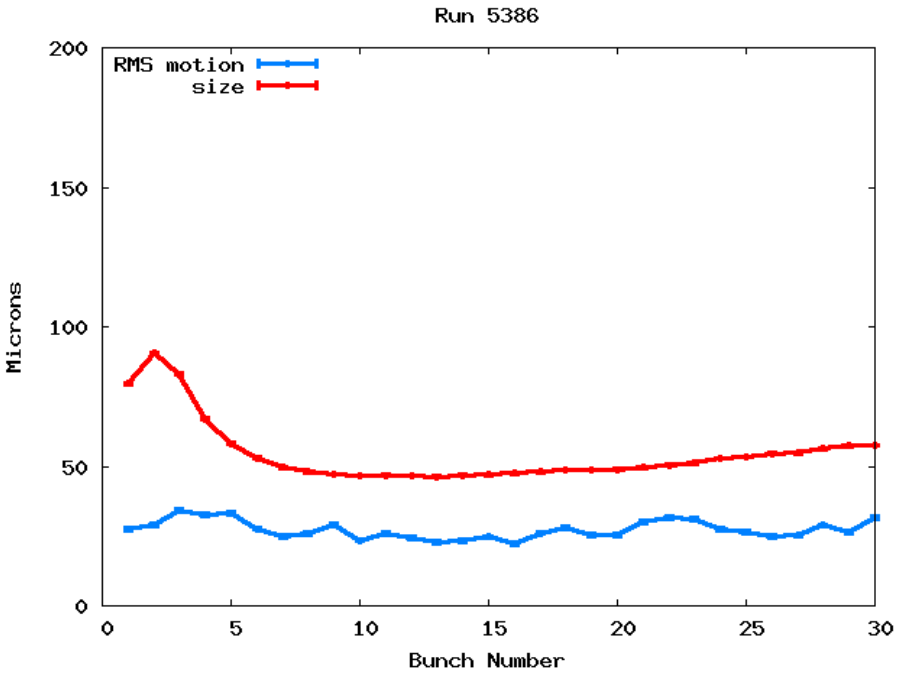


#Run 5385
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 23.4393 0.200031 19.0474 0.297652
2 38.3075 0.394028 25.9938 0.406203
3 40.9851 0.472671 28.113 0.439319
4 23.2544 0.266454 23.9807 0.374744
5 18.2501 0.167293 21.6186 0.337832
6 17.3315 0.127223 22.7812 0.356
7 16.358 0.115869 25.2794 0.395039
8 16.0168 0.102217 17.5859 0.274813
9 14.9561 0.105271 16.9833 0.265397
10 15.5377 0.0969166 15.8098 0.247059
11 15.6812 0.10047 19.2101 0.300194
12 14.9457 0.104004 22.3438 0.349165
13 15.329 0.102027 25.2248 0.394185
14 15.1416 0.102484 22.3427 0.349147
15 15.1758 0.101271 18.8414 0.294432
16 15.2887 0.103952 24.5739 0.384015
17 15.2362 0.104132 19.561 0.305678
18 14.9933 0.10496 18.3493 0.286743
19 15.6506 0.0977913 15.9385 0.249069
20 15.7294 0.103251 15.4887 0.242041
21 15.4333 0.107044 17.9547 0.280577
22 15.6262 0.108784 24.398 0.381265
23 15.7336 0.111775 22.306 0.348573
24 15.8087 0.110358 16.9121 0.264284
25 16.5155 0.106151 20.4583 0.3197
26 16.6412 0.111 17.5505 0.27426
27 16.5521 0.1127 21.6193 0.337842
28 16.8671 0.113809 18.2116 0.284591
29 16.0492 0.117927 20.009 0.312679
30 16.6937 0.117784 22.5418 0.352258

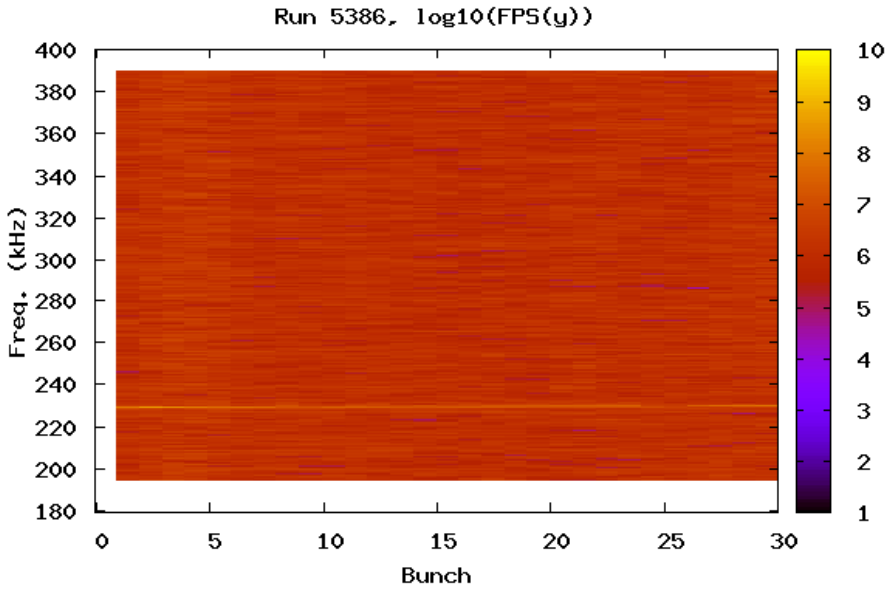


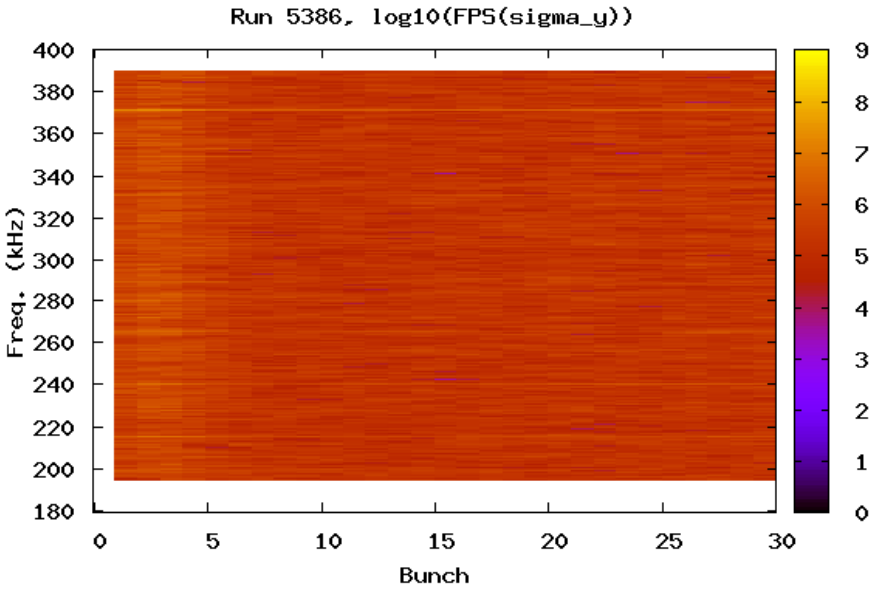


0.50 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

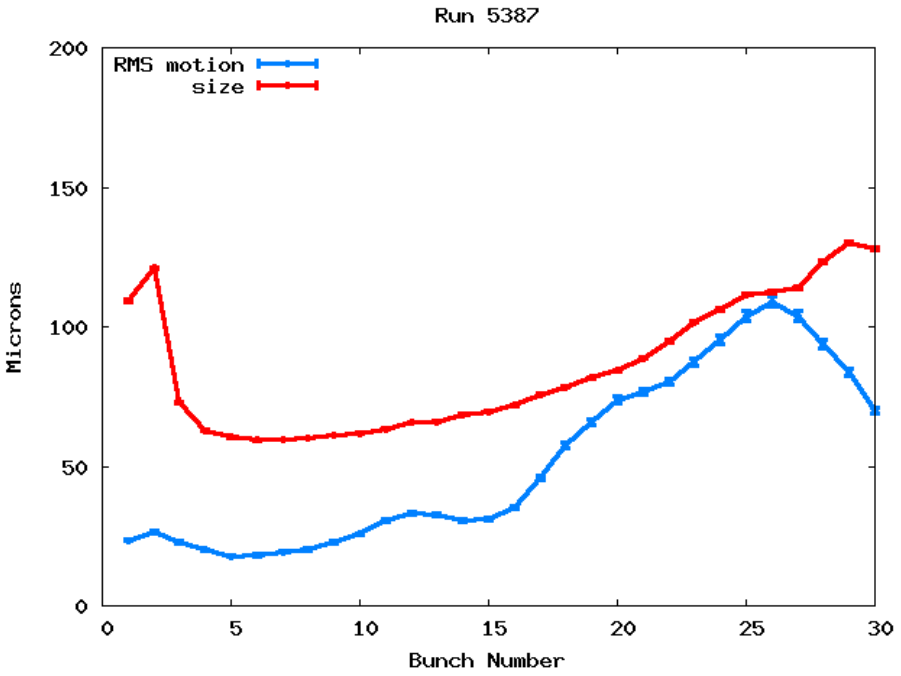


#Run 5386
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 79.6021 0.203945 27.4732 0.429321
2 90.5841 0.285525 28.9594 0.452547
3 82.9877 0.340333 34.0977 0.532842
4 66.8518 0.262548 32.5521 0.508688
5 58.244 0.196665 33.3303 0.520849
6 53.0579 0.164555 27.7117 0.433048
7 49.538 0.145877 24.823 0.387907
8 48.0334 0.13861 25.9999 0.406299
9 47.1759 0.136706 28.8383 0.450653
10 46.6742 0.132759 23.4895 0.367068
11 46.8823 0.139693 26.1409 0.408501
12 46.5948 0.136951 24.3781 0.380954
13 46.3019 0.127151 22.7908 0.356149
14 46.8488 0.13125 23.2558 0.363417
15 46.944 0.138595 24.6734 0.385568
16 47.5366 0.132926 22.3206 0.348802
17 48.064 0.140257 26.084 0.407612
18 48.6066 0.141438 28.221 0.441007
19 48.8092 0.129832 25.2696 0.394886
20 48.9081 0.145545 25.3416 0.396011
21 49.4867 0.148119 30.0869 0.470165
22 50.4846 0.153755 31.3926 0.490569
23 51.0834 0.148608 30.9391 0.483482
24 52.8247 0.137479 27.4833 0.42948
25 53.3386 0.139686 26.4339 0.41308
26 54.6149 0.152359 24.7974 0.387507
27 54.7571 0.15466 25.1997 0.393793
28 56.3525 0.144121 28.7999 0.450053
29 57.3151 0.158309 26.2649 0.410439
30 57.5861 0.158547 31.654 0.494655

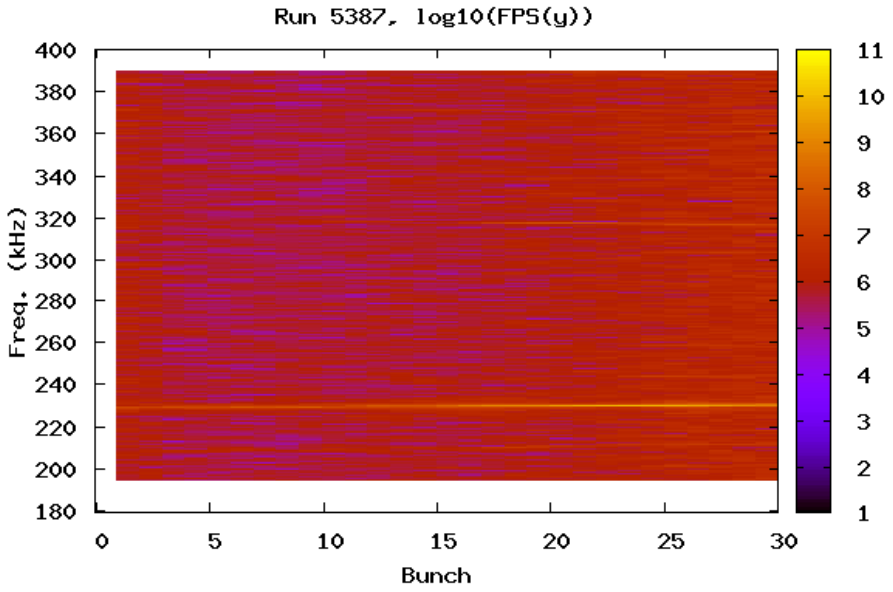


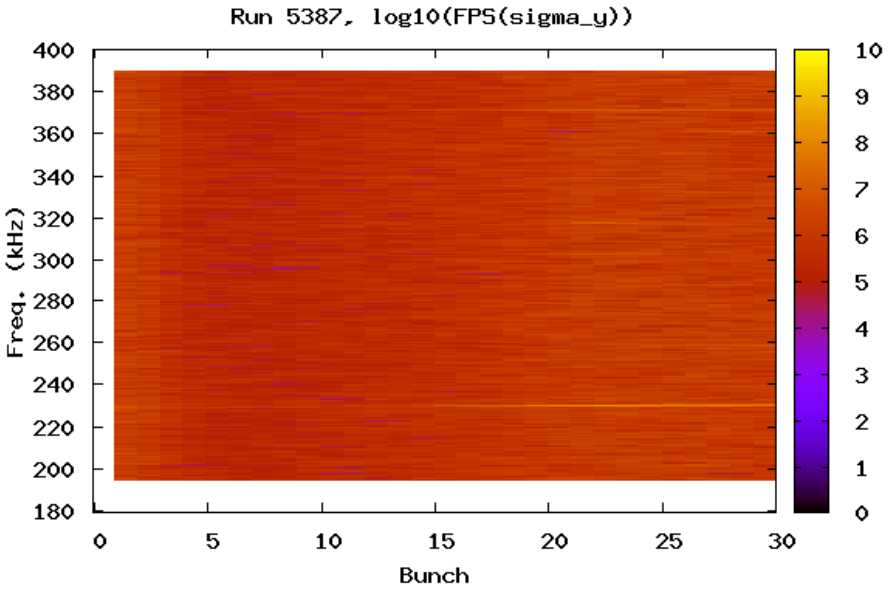


0.75 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

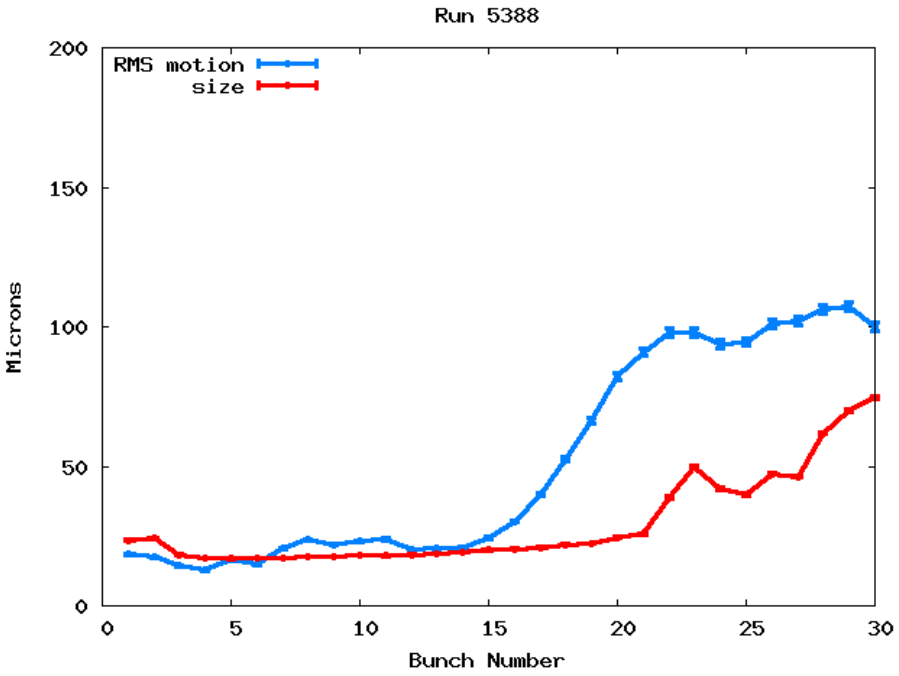


#Run 5387
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 109.445 0.390472 23.532 0.367732
2 121.058 0.410695 26.4559 0.413424
3 72.9578 0.271335 22.8675 0.357348
4 62.7942 0.171093 20.1401 0.314728
5 60.4303 0.15062 17.7174 0.276869
6 59.4727 0.147723 18.1545 0.283698
7 59.5343 0.146488 19.4206 0.303483
8 60.1697 0.148627 20.2472 0.3164
9 61.1841 0.164298 22.7472 0.355469
10 61.8762 0.166039 25.7209 0.401938
11 63.3838 0.179162 30.519 0.476917
12 65.8008 0.194439 33.2077 0.518933
13 65.993 0.200917 32.7693 0.512083
14 68.4924 0.210411 30.6142 0.478406
15 69.5209 0.225247 31.2008 0.487571
16 71.8823 0.24279 35.0849 0.548269
17 75.672 0.258712 46.0501 0.71962
18 78.399 0.301013 57.3933 0.89688
19 81.7407 0.342395 66.0295 1.03184
20 84.2316 0.361866 73.7533 1.15254
21 88.7872 0.394831 76.7369 1.19916
22 94.7302 0.422913 80.2894 1.25468
23 101.813 0.451513 87.4186 1.36608
24 106.014 0.47284 95.4326 1.49132
25 111.63 0.487071 103.851 1.62287
26 112.227 0.500525 108.987 1.70313
27 113.89 0.495073 103.839 1.62269
28 123.22 0.466258 93.659 1.4636
29 130.169 0.436291 83.7945 1.30945
30 128.082 0.436728 70.0461 1.0946

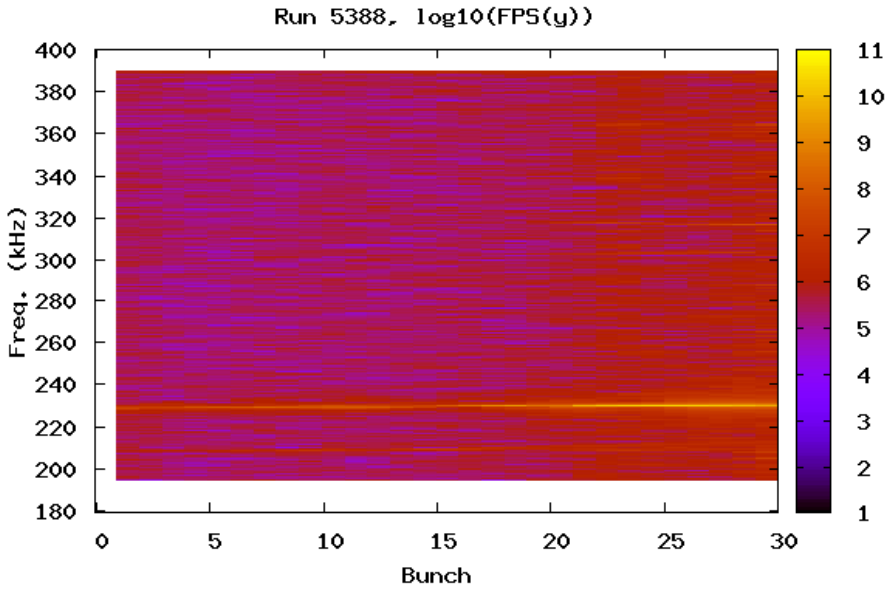


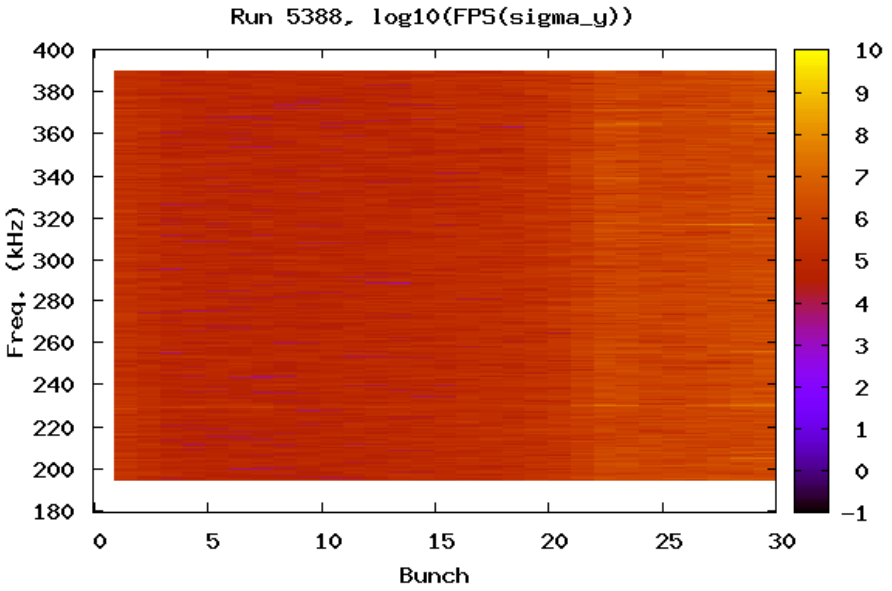


0.75 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns

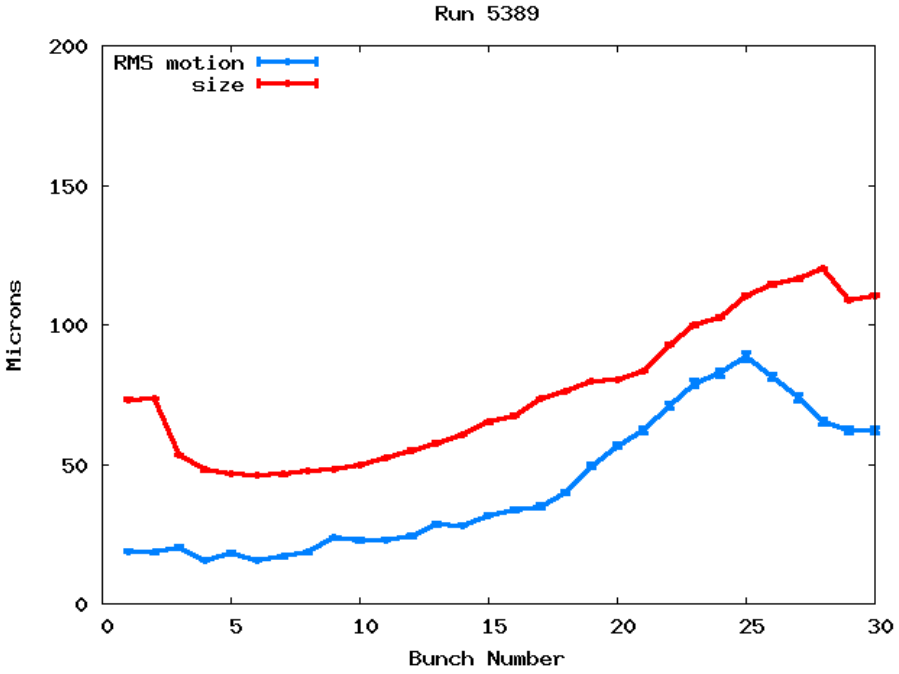


#Run 5388
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 23.4802 0.138477 18.4665 0.288575
2 24.1296 0.156533 17.3956 0.271839
3 18.3856 0.0912153 14.3036 0.223522
4 17.1716 0.0842904 12.8519 0.200836
5 16.8591 0.0818081 16.4724 0.257413
6 16.9525 0.0818621 14.8753 0.232455
7 17.2461 0.081974 20.485 0.320117
8 17.6306 0.0802259 23.6754 0.369973
9 17.7179 0.0838839 22.0172 0.344061
10 18.0237 0.0842261 23.1731 0.362124
11 17.9572 0.0890595 23.772 0.371483
12 18.3575 0.0920774 20.1193 0.314403
13 18.598 0.0931192 20.6146 0.322143
14 19.2572 0.0977738 20.8578 0.325942
15 19.9701 0.102581 24.2561 0.379048
16 20.3943 0.108196 30.2792 0.47317
17 20.8905 0.113935 39.8906 0.623367
18 21.9843 0.114946 52.3959 0.818786
19 22.2162 0.129333 66.0797 1.03262
20 24.5758 0.163969 82.2872 1.2859
21 25.7373 0.183595 90.9212 1.42082
22 38.8287 0.387547 97.7901 1.52816
23 49.873 0.519183 98.1208 1.53333
24 42.0142 0.388751 93.7417 1.46489
25 39.9329 0.317812 94.5132 1.47695
26 47.2894 0.389796 100.947 1.5775
27 46.228 0.358306 102.18 1.59675
28 61.9055 0.491188 106.228 1.66002
29 69.9652 0.567254 107.131 1.67412
30 74.4861 0.633035 99.834 1.5601

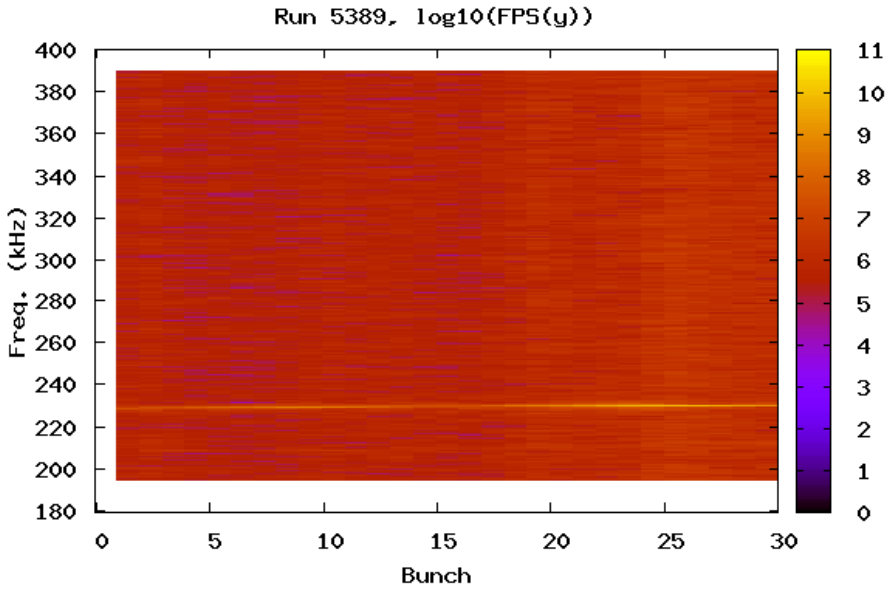


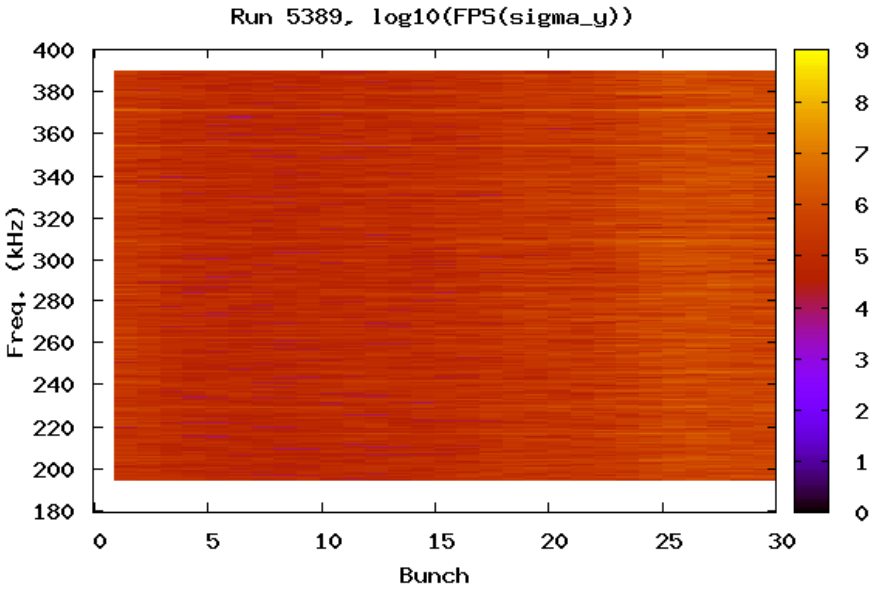


0.75 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

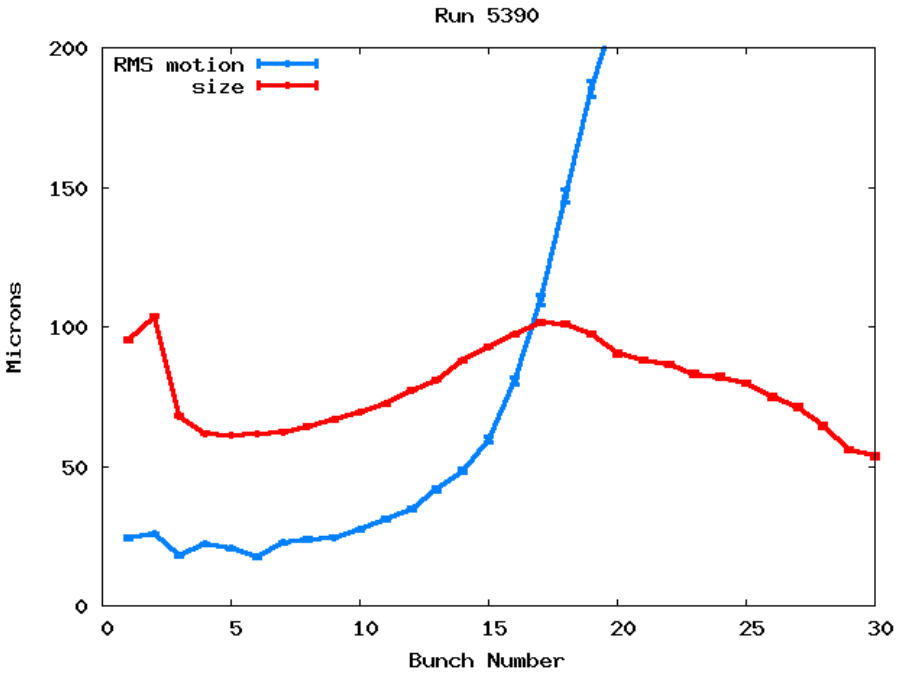


#Run 5389
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 73.2355 0.144387 18.8944 0.295262
2 73.5492 0.16238 18.4197 0.287844
3 53.4503 0.110197 20.3235 0.317594
4 47.9663 0.0964038 15.6733 0.244925
5 46.554 0.0915953 18.1817 0.284124
6 46.1475 0.0871929 15.6528 0.244605
7 46.427 0.0874497 16.8822 0.263817
8 47.8265 0.0838422 18.4483 0.288289
9 48.291 0.0872203 23.6198 0.369105
10 49.5892 0.0971641 22.8776 0.357506
11 52.171 0.0946575 22.9683 0.358924
12 55.1141 0.100878 24.3467 0.380463
13 57.7301 0.0947996 28.3262 0.442651
14 60.7635 0.100676 28.1938 0.440582
15 65.0671 0.10404 31.8621 0.497906
16 67.5165 0.117847 33.585 0.52483
17 73.5516 0.122895 34.9681 0.546443
18 76.1444 0.13789 39.9121 0.623703
19 79.7064 0.15926 49.3167 0.770668
20 80.2374 0.155435 56.7137 0.886259
21 83.4723 0.159282 61.9849 0.968633
22 92.8912 0.168122 70.8438 1.10707
23 99.7894 0.198248 79.0017 1.23455
24 102.801 0.22873 82.7569 1.29323
25 110.428 0.30922 88.6896 1.38594
26 114.557 0.310455 81.3565 1.27135
27 116.447 0.307921 73.9117 1.15501
28 120.144 0.292239 65.3841 1.02175
29 108.835 0.270266 62.1755 0.971611
30 110.554 0.244834 62.16 0.971369

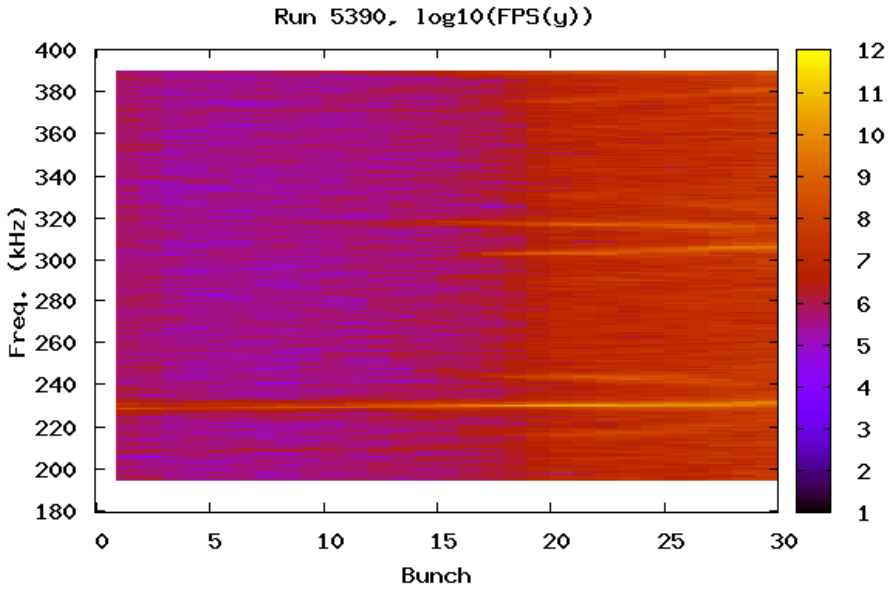


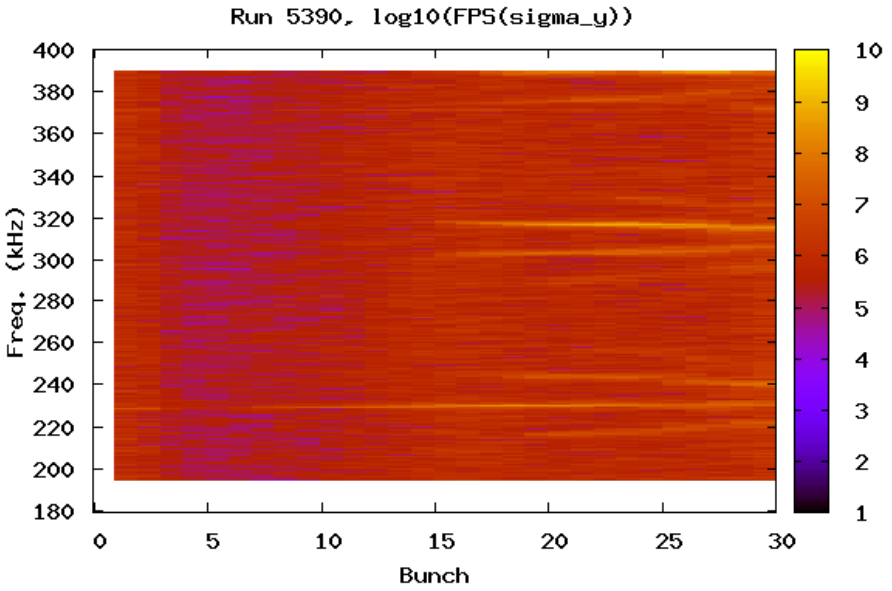


1.00 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
CA
4096 Turns

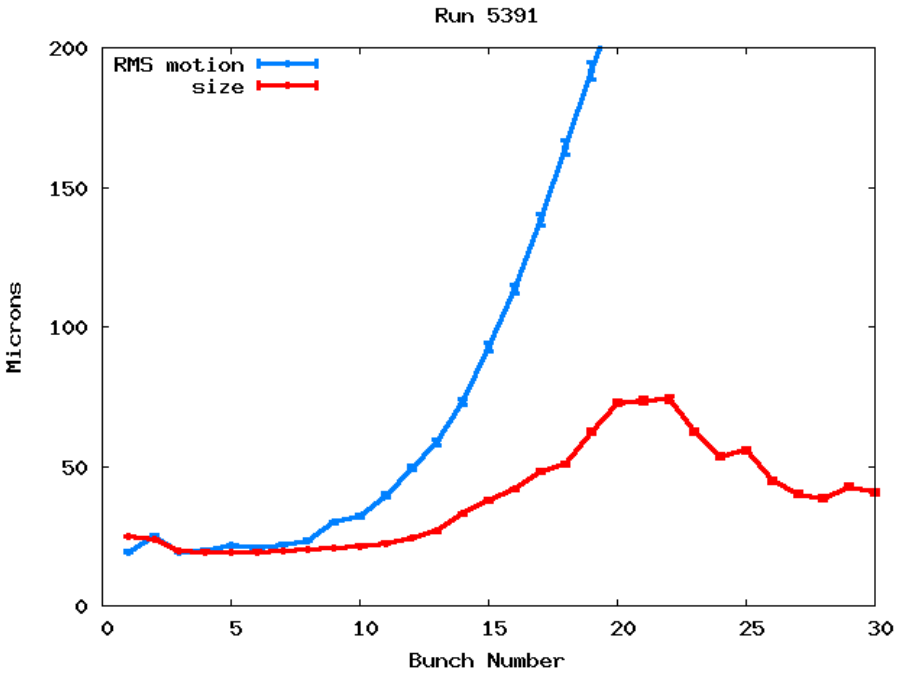


#Run 5390
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 95.368 0.291082 24.3732 0.380878
2 103.859 0.354987 25.713 0.401815
3 68.0457 0.177789 17.9322 0.280225
4 61.8182 0.13497 22.0692 0.344873
5 61.0852 0.127107 20.5639 0.32135
6 61.7639 0.129843 17.5386 0.274074
7 62.3779 0.139901 22.6655 0.354192
8 64.3799 0.151127 23.8897 0.373322
9 66.7188 0.161328 24.6062 0.384518
10 69.4409 0.178678 27.2642 0.426056
11 72.2815 0.207854 30.9022 0.482906
12 77.2614 0.236837 34.6189 0.540987
13 81.0138 0.270256 41.8336 0.65373
14 87.9553 0.306057 48.3792 0.756017
15 92.9297 0.3525 59.7264 0.933339
16 97.262 0.398558 80.6923 1.26097
17 101.691 0.460297 109.594 1.71262
18 100.937 0.539682 146.781 2.29373
19 97.3938 0.594116 185.242 2.89476
20 90.4169 0.62159 214.504 3.35203
21 88.1421 0.644091 221.877 3.46725
22 86.6132 0.660599 224.326 3.50552
23 83.0371 0.666822 229.566 3.5874
24 82.0563 0.685598 229.721 3.58982
25 79.8419 0.701508 228.099 3.56448
26 74.9841 0.680338 233.992 3.65657
27 71.1481 0.701607 229.311 3.58342
28 64.5862 0.715158 226.577 3.54069
29 55.9351 0.670069 226.045 3.53239
30 53.7817 0.699245 226.971 3.54685

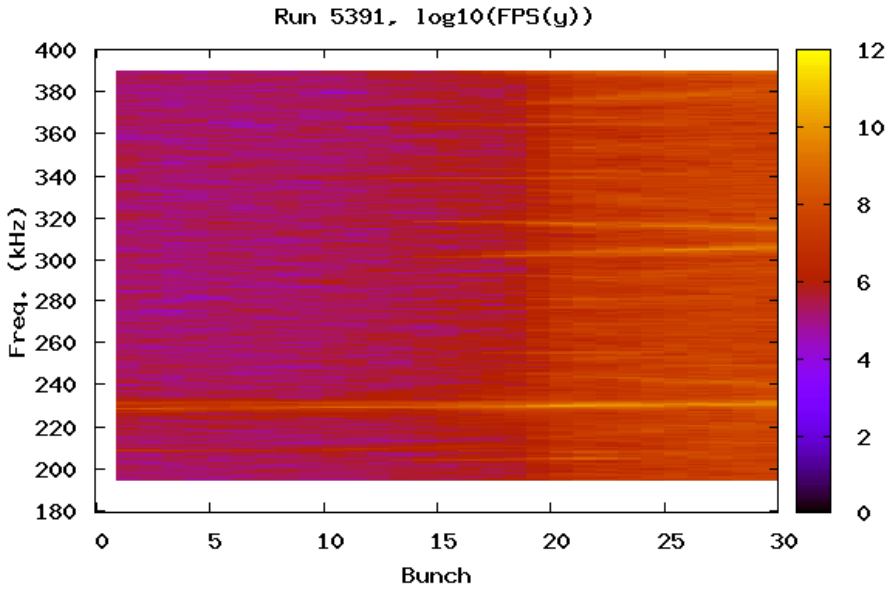


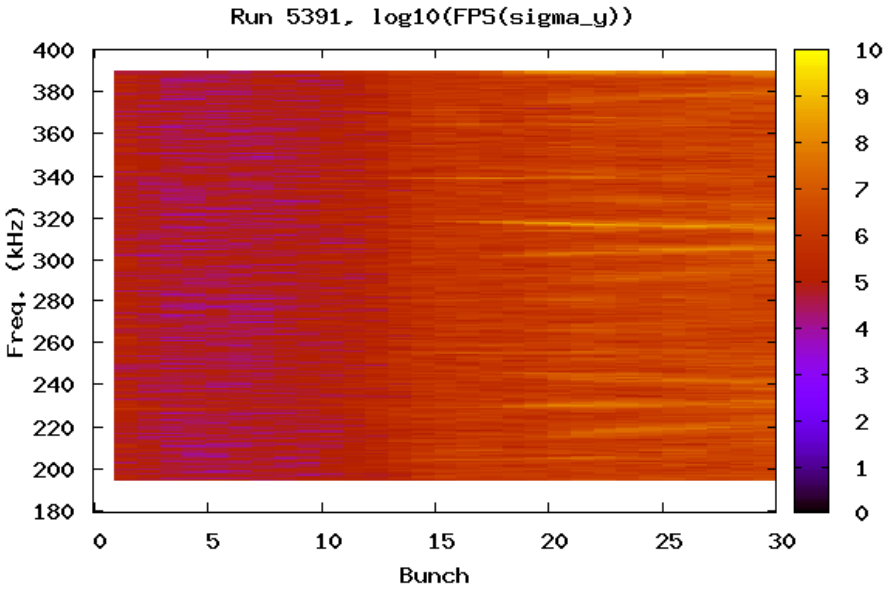


1.00 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
FZP
4096 Turns

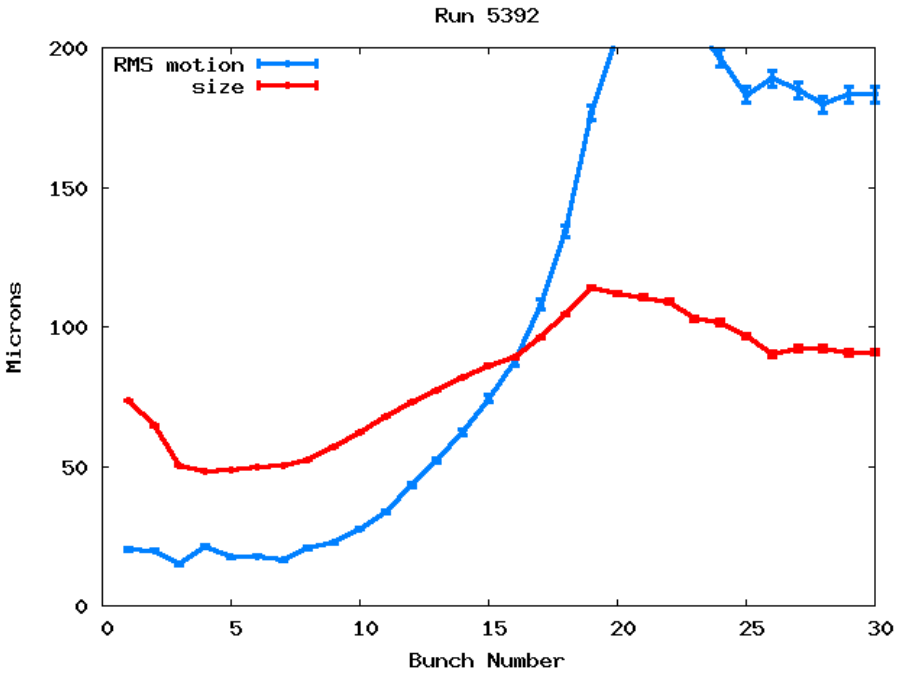


#Run 5391
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 24.7467 0.109987 19.262 0.301006
2 23.7097 0.0997537 24.9352 0.38966
3 19.6039 0.0707151 19.4151 0.303397
4 19.3988 0.0660732 19.6933 0.307745
5 19.1498 0.0700881 21.6723 0.338671
6 19.4031 0.0725213 20.7103 0.323637
7 19.6869 0.072804 21.9915 0.34366
8 20.2521 0.0773228 23.5368 0.367807
9 20.7935 0.0810314 29.8347 0.466224
10 21.4954 0.0883802 32.2314 0.503677
11 22.4536 0.0999322 39.6169 0.61909
12 24.3109 0.121841 49.3763 0.771599
13 26.8152 0.160611 58.5979 0.915703
14 33.0084 0.254645 73.1848 1.14365
15 37.8729 0.32854 92.8911 1.4516
16 41.7462 0.374686 113.487 1.77345
17 48.2367 0.42073 138.29 2.16105
18 50.8582 0.435532 164.229 2.5664
19 62.4139 0.605866 191.696 2.99561
20 72.6251 0.772763 219.16 3.42479
21 73.5852 0.849277 241.53 3.77436
22 74.1046 0.882125 246.213 3.84755
23 62.5415 0.851447 255.572 3.99379
24 53.454 0.828211 258.327 4.03685
25 55.8081 0.876762 257.751 4.02785
26 44.8444 0.815965 265.921 4.15553
27 40.0714 0.782793 263.133 4.11196
28 38.5785 0.781944 259.38 4.05331
29 42.7069 0.836128 254.291 3.97378
30 40.835 0.822002 256.026 4.00089

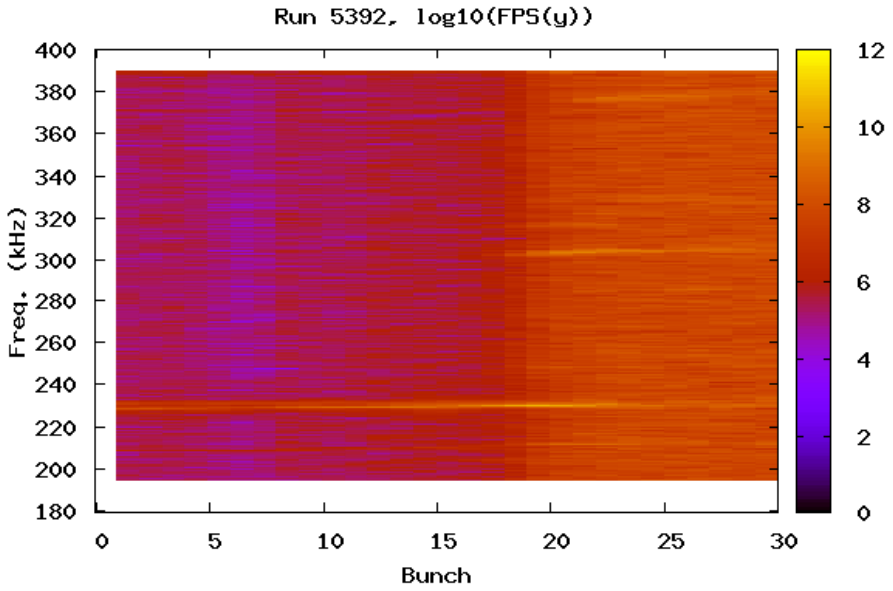


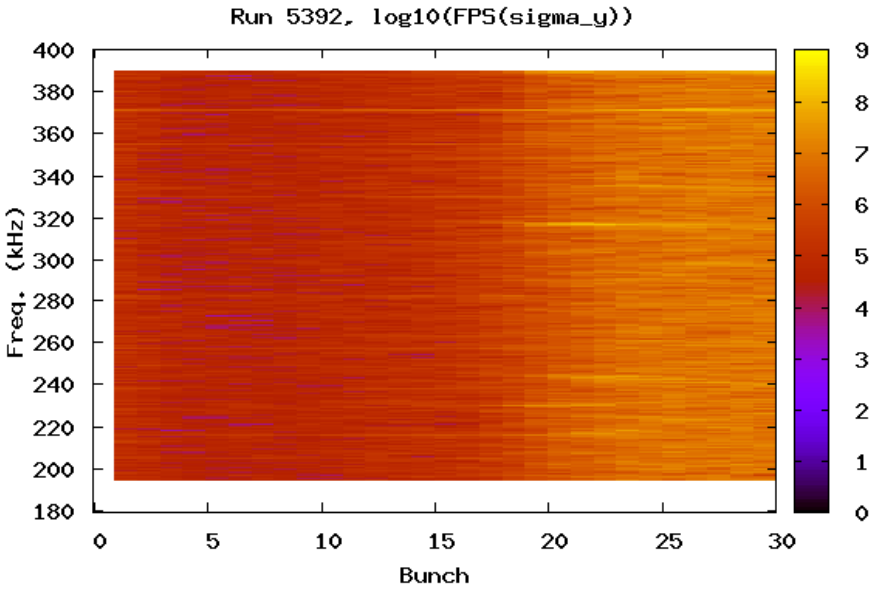


1.00 mA/bunch
High Emittance
Norm. Chrom.
Norm. FB
GAP
4096 Turns

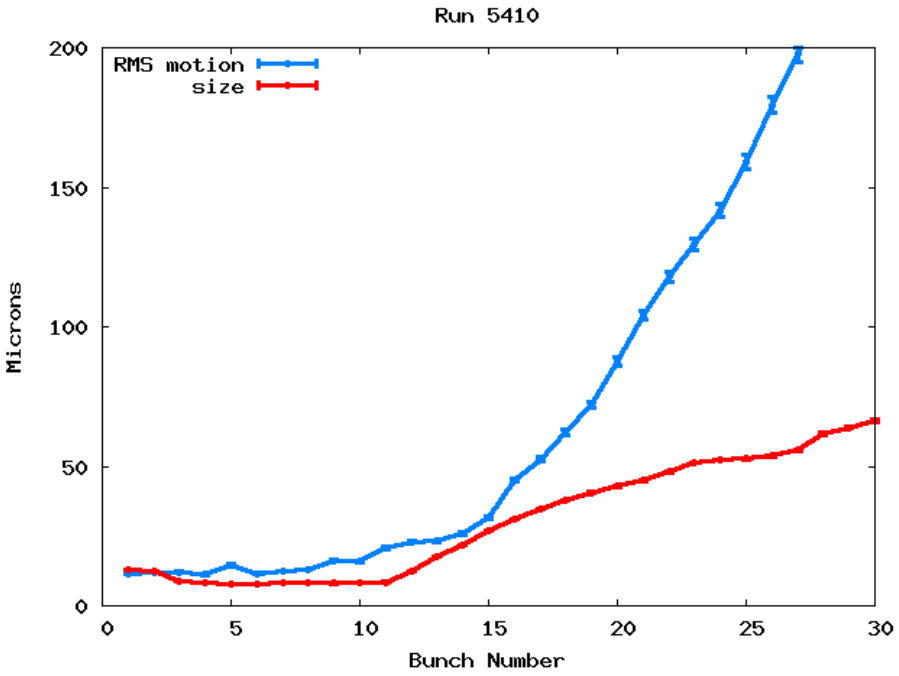


#Run 5392
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 73.5211 0.109492 20.2293 0.316121
2 64.5312 0.108745 19.8444 0.310106
3 50.1056 0.0782244 14.895 0.232763
4 48.2367 0.0694903 21.4208 0.33474
5 48.797 0.0691658 17.4962 0.273411
6 49.5734 0.0732453 17.7153 0.276835
7 50.3528 0.0781117 16.3739 0.255873
8 52.4835 0.0737096 20.6639 0.322913
9 57.0459 0.0783224 22.6375 0.353754
10 62.049 0.0868258 27.6856 0.43264
11 67.8064 0.0947685 33.58 0.524752
12 72.9858 0.100168 43.3583 0.677556
13 77.121 0.107807 52.2364 0.816293
14 81.8298 0.11868 62.3429 0.974226
15 86.1615 0.13178 74.245 1.16022
16 88.9899 0.142634 87.4255 1.36619
17 96.2659 0.172501 107.979 1.68738
18 104.541 0.228498 134.259 2.09805
19 114.167 0.352225 176.631 2.76019
20 111.765 0.529591 204.518 3.19598
21 110.589 0.611324 208.619 3.26007
22 108.893 0.726307 209.946 3.28081
23 103.023 0.812591 206.75 3.23086
24 101.608 0.861637 196.373 3.0687
25 96.7181 0.919523 183.062 2.86069
26 90.3204 0.945671 188.967 2.95298
27 92.1613 0.948349 184.928 2.88986
28 92.3999 0.960853 179.681 2.80787
29 90.6891 0.960248 183.339 2.86502
30 90.9241 0.960278 183.2 2.86285

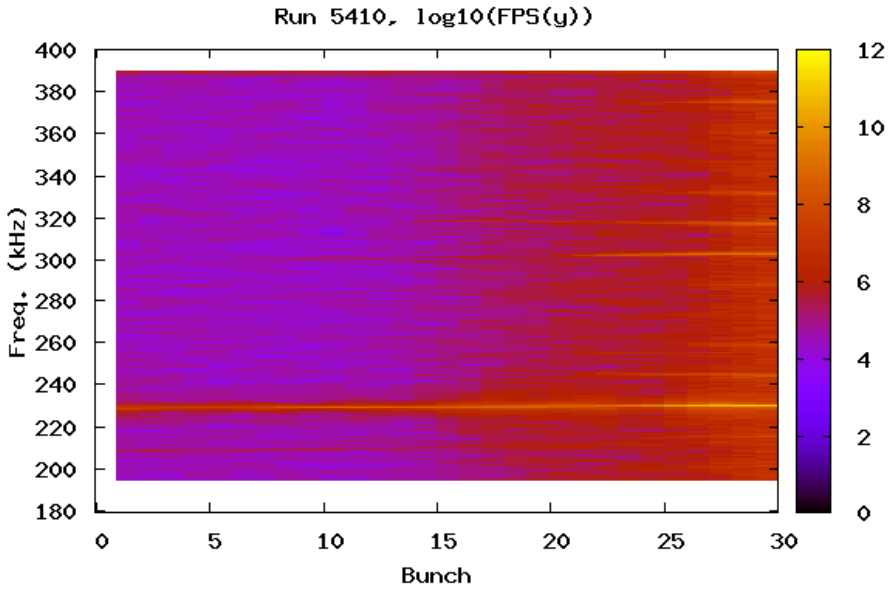


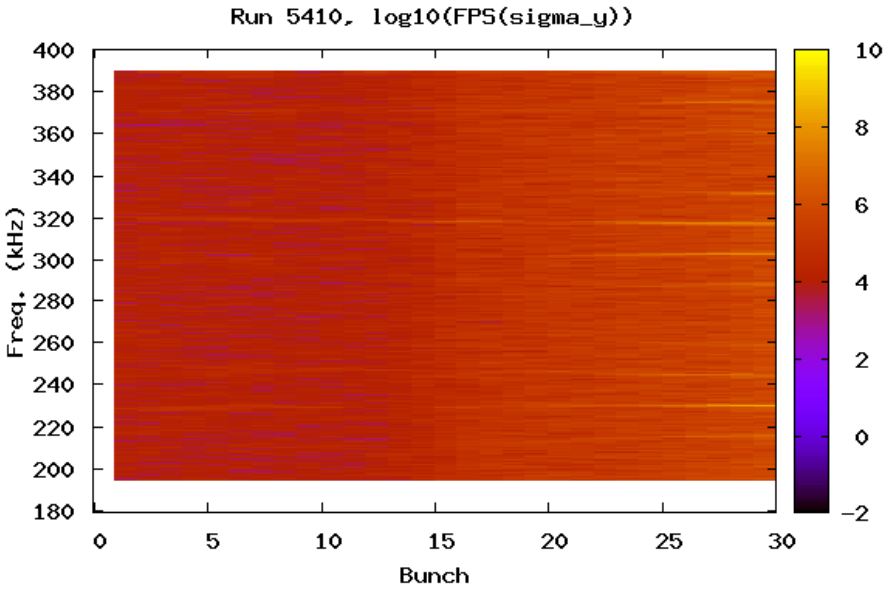


0.75 mA/bunch
Low Emittance
Low V. Chrom.
Norm. FB
CA
4096 Turns

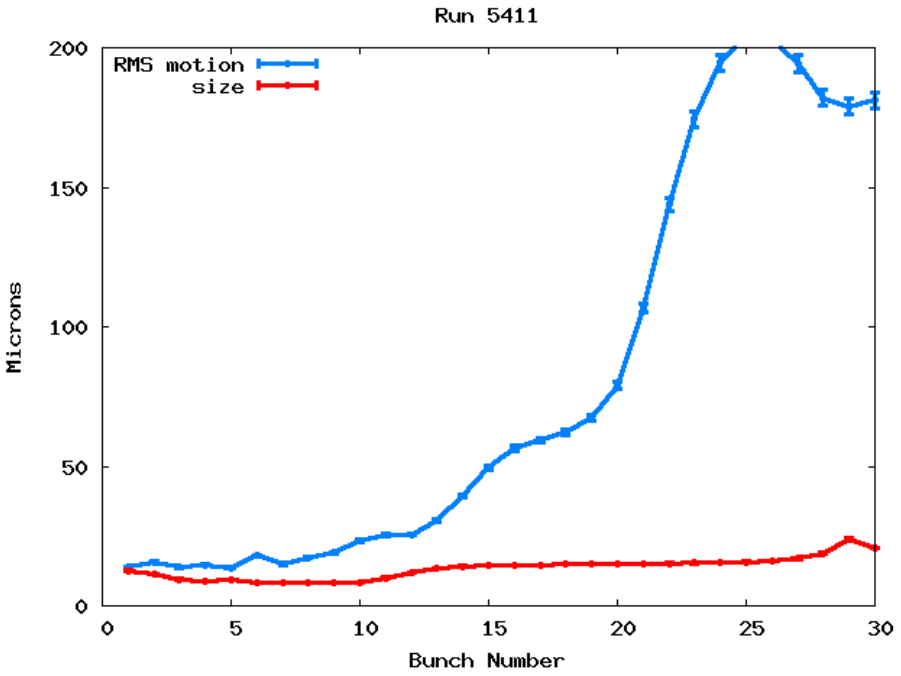


#Run 5410
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 12.8882 0.0328568 11.4119 0.178332
2 12.3389 0.0367119 11.8766 0.185595
3 8.89221 0.0371646 12.0035 0.187577
4 8.50586 0.0367927 11.1988 0.175003
5 7.97852 0.03637 14.5972 0.228109
6 7.96143 0.0373033 11.5638 0.180706
7 8.14453 0.0365632 12.3907 0.193629
8 8.2373 0.0364304 12.982 0.202869
9 8.05786 0.0357297 16.0924 0.251475
10 8.07373 0.0362692 15.8622 0.247878
11 8.52295 0.03687 20.7655 0.3245
12 12.5092 0.0402462 22.9364 0.358425
13 17.7936 0.044046 23.0718 0.360541
14 21.8683 0.0506303 25.9741 0.405895
15 26.8958 0.0631038 31.4759 0.491871
16 30.9534 0.0767593 45.0571 0.704104
17 34.6545 0.0949243 52.4876 0.820219
18 37.9297 0.102912 62.0264 0.969281
19 40.603 0.107414 72.0339 1.12567
20 42.8345 0.117761 87.5476 1.3681
21 44.8511 0.130208 104.037 1.62577
22 47.9919 0.139903 117.905 1.84249
23 51.2085 0.167898 129.588 2.02506
24 52.2882 0.1819 141.675 2.21394
25 52.6221 0.211886 159.206 2.4879
26 53.7305 0.239003 179.518 2.80531
27 55.7349 0.276708 197.899 3.09255
28 61.7432 0.365147 216.8 3.38792
29 63.9752 0.449135 230.097 3.5957
30 66.4954 0.486626 230.349 3.59964

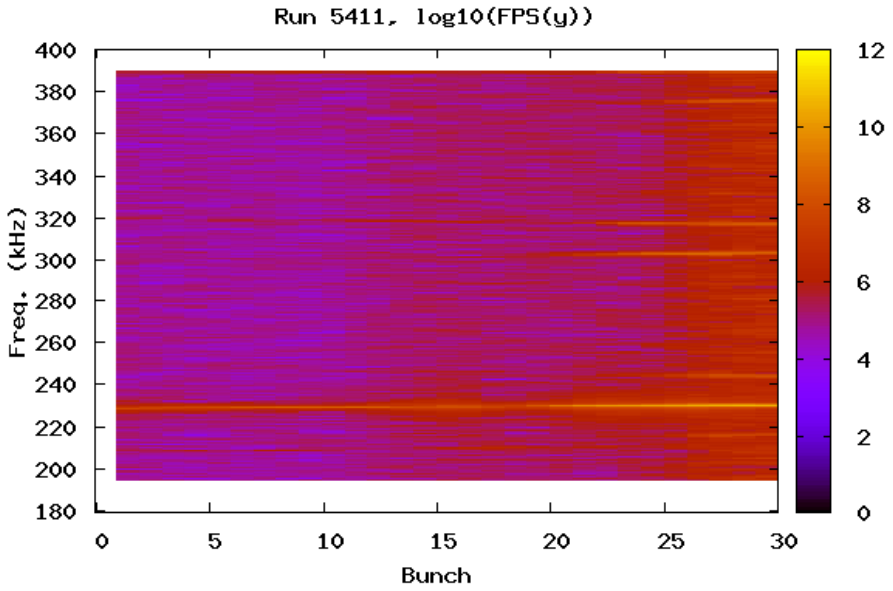


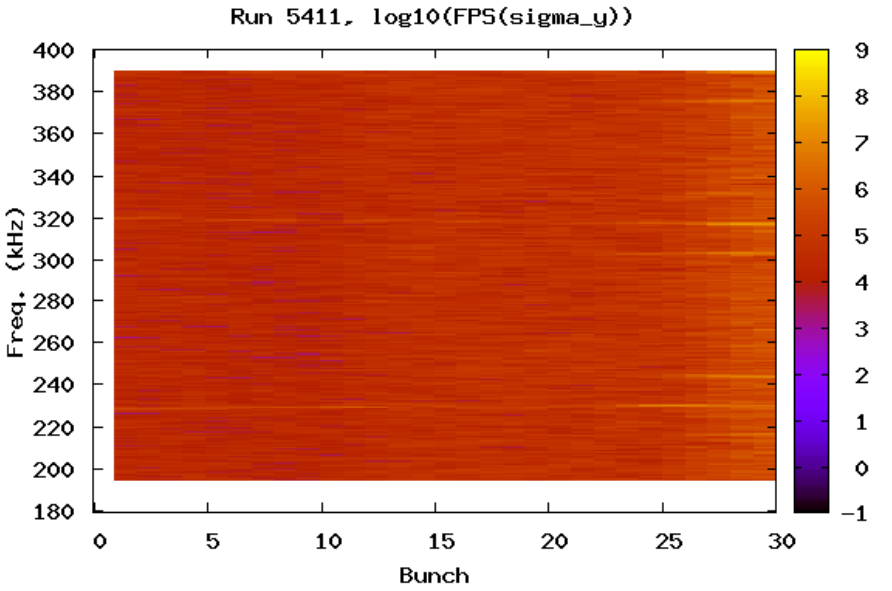


0.75 mA/bunch
Low Emittance
Low V. Chrom.
Norm. FB
FZP
4096 Turns

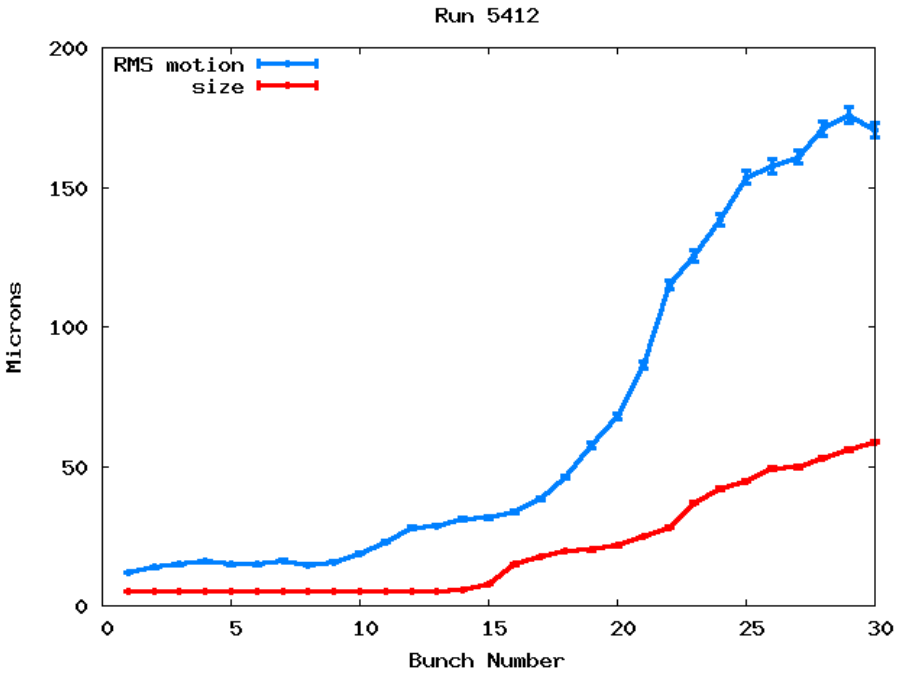


#Run 5411
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 12.6569 0.0532538 14.0063 0.218875
2 11.4697 0.053545 15.7482 0.246096
3 9.55566 0.0510011 13.8931 0.217106
4 8.91479 0.0508167 14.5497 0.227366
5 9.31702 0.0496487 13.6376 0.213114
6 8.34106 0.0484142 18.09 0.28269
7 8.47534 0.0494127 14.9683 0.233908
8 8.44421 0.0491562 17.1135 0.267431
9 8.18115 0.0479328 19.0275 0.297341
10 8.18237 0.0493911 23.3007 0.364118
11 10.047 0.0589355 25.3949 0.396844
12 12.0563 0.0643528 25.6039 0.400109
13 13.5455 0.0664513 30.4475 0.4758
14 14.2041 0.06843 39.2264 0.612988
15 14.6179 0.0689655 49.6004 0.7751
16 14.5868 0.070194 56.5285 0.883366
17 14.6832 0.0723689 59.3684 0.927745
18 14.9341 0.0718364 62.2866 0.973346
19 15.1819 0.0709049 67.3359 1.05225
20 15.0647 0.0725079 78.9299 1.23343
21 14.8816 0.074554 106.823 1.66931
22 15.257 0.0752032 143.861 2.24811
23 15.3357 0.0807936 174.438 2.72593
24 15.3827 0.0871201 194.57 3.04053
25 15.7208 0.0923227 204.523 3.19606
26 15.9906 0.112461 203.446 3.17923
27 16.8805 0.159041 194.184 3.03449
28 18.8263 0.210658 182.006 2.8442
29 23.7823 0.323016 179.013 2.79742
30 20.7251 0.240783 181.214 2.83182

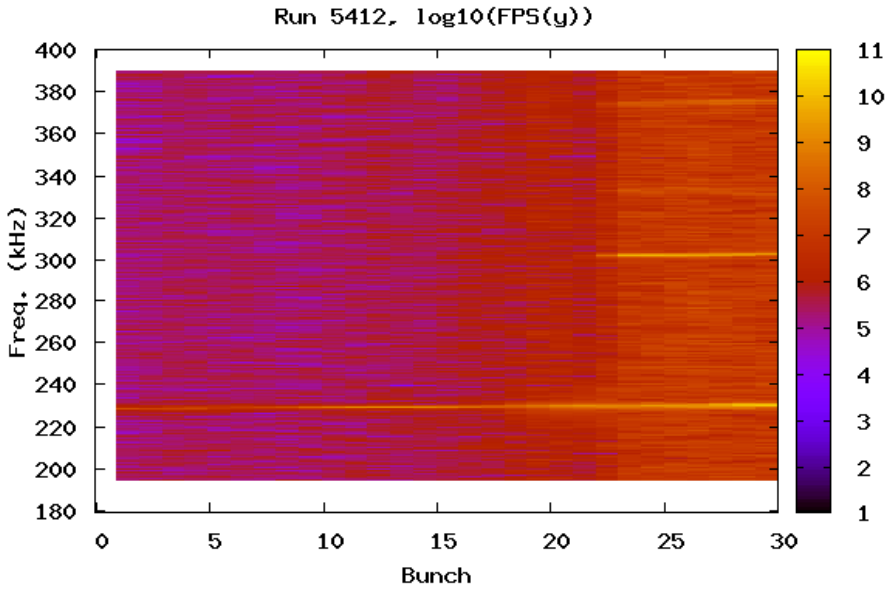


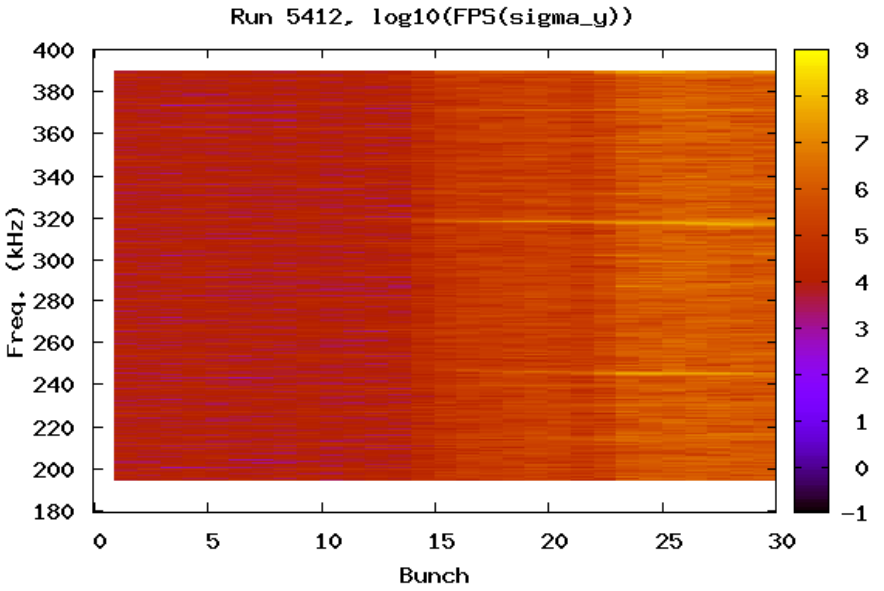


0.75 mA/bunch
Low Emittance
Low V. Chrom.
Norm. FB
GAP
4096 Turns

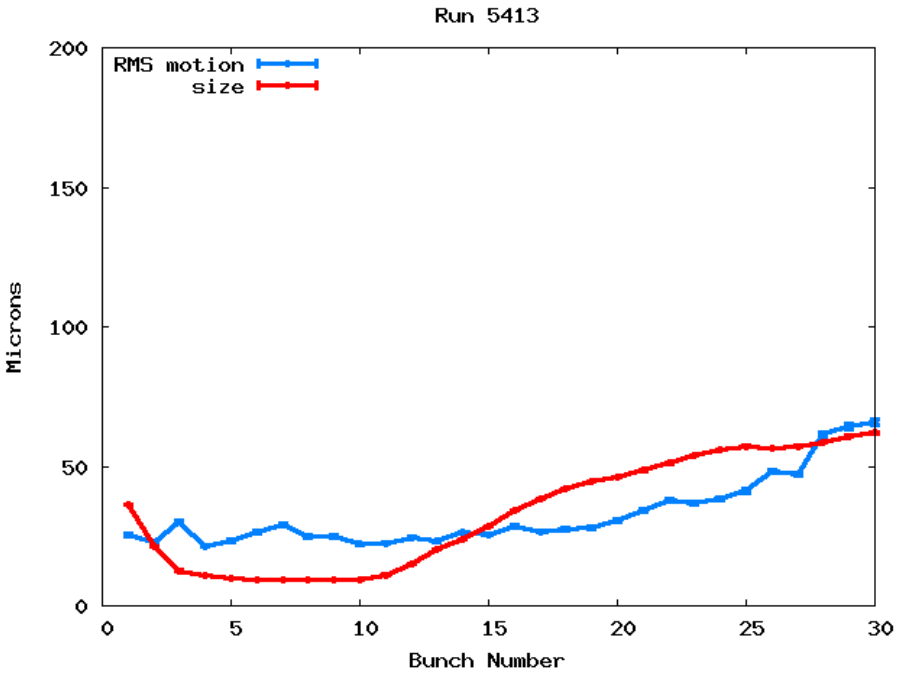


#Run 5412
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5.0592 0.0296211 11.8611 0.185353
2 5.07263 0.0327563 13.9095 0.217363
3 5.05737 0.029401 14.928 0.233279
4 5.07324 0.0320255 16.0512 0.250831
5 5.07568 0.0342179 14.9636 0.233835
6 5.08972 0.0343129 14.7766 0.230912
7 5.06653 0.0301781 16.2245 0.253539
8 5.05859 0.0294384 14.5891 0.227982
9 5.07202 0.0322926 15.5686 0.243289
10 5.08484 0.0347261 18.7146 0.292451
11 5.04333 0.0254466 22.9324 0.358363
12 5.11902 0.0432142 28.074 0.438709
13 5.09338 0.0330267 28.6889 0.448318
14 5.66711 0.047446 31.2248 0.487948
15 7.67273 0.0826839 31.81 0.497093
16 14.8291 0.121087 33.5671 0.524549
17 17.655 0.13859 38.4891 0.601465
18 19.729 0.133999 46.1138 0.720616
19 20.0586 0.150516 57.4767 0.898183
20 21.5332 0.165045 68.06 1.06357
21 24.9908 0.130413 86.207 1.34715
22 28.2379 0.127648 115.033 1.79761
23 37.0319 0.322852 125.255 1.95735
24 42.0264 0.423635 138.39 2.16261
25 44.8102 0.451746 153.452 2.39798
26 49.0881 0.45745 157.574 2.46239
27 49.7156 0.475204 160.824 2.51318
28 53.092 0.436356 170.897 2.67058
29 55.8582 0.377302 175.882 2.7485
30 58.7158 0.348541 170.439 2.66343

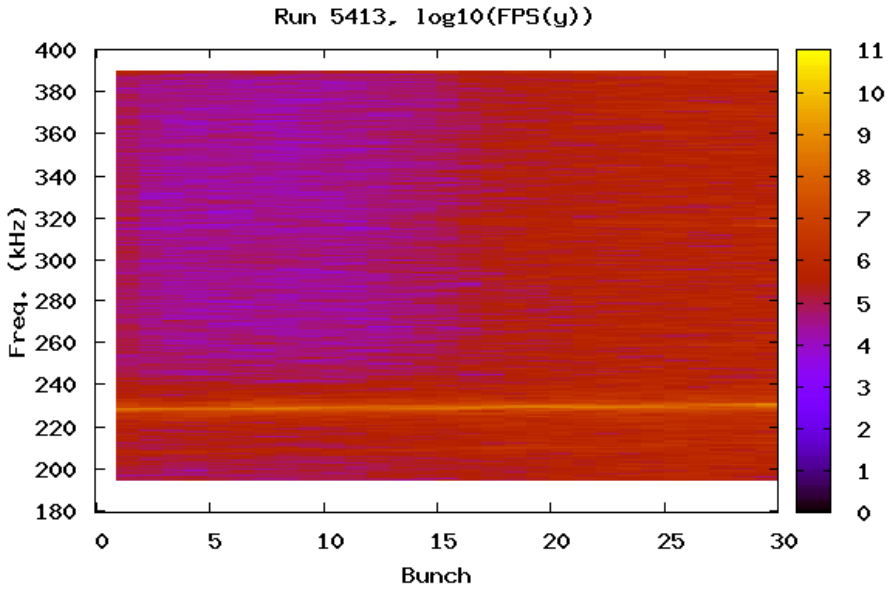


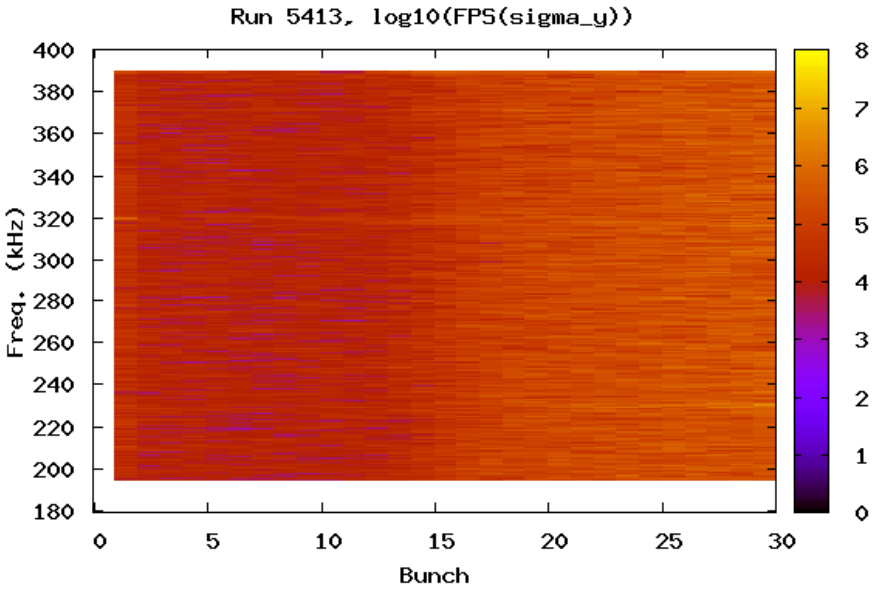


0.75 mA/bunch
Low Emittance
High V. Chrom.
Norm. FB
CA
4096 Turns

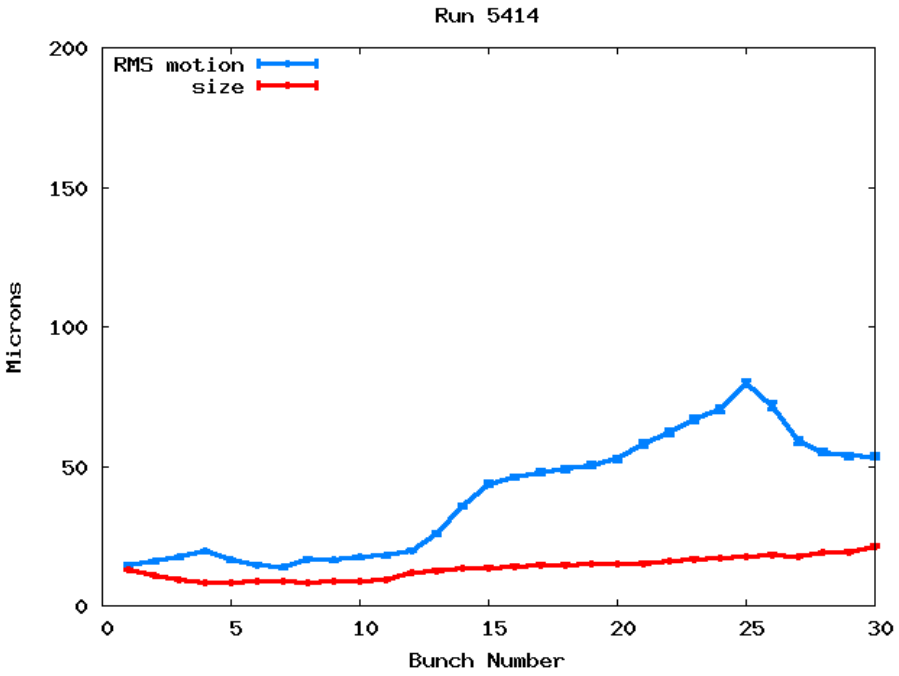


#Run 5413
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 36.3831 0.0895069 25.2548 0.394654
2 21.0443 0.044197 22.7244 0.355112
3 12.6935 0.035836 30.06 0.469744
4 10.8484 0.0384631 21.446 0.335135
5 10.0604 0.0382899 23.2638 0.363541
6 9.44458 0.03717 26.4931 0.414005
7 9.27979 0.0368591 29.2432 0.456981
8 9.1748 0.0375287 24.7981 0.387517
9 9.27734 0.0364305 24.9817 0.390387
10 9.41956 0.038482 22.0729 0.344932
11 11.1328 0.0383112 22.4158 0.350289
12 15.1306 0.0402179 24.5223 0.383208
13 20.0098 0.0455082 23.1767 0.36218
14 23.8501 0.0558779 26.228 0.409863
15 28.6041 0.0668801 25.6105 0.400212
16 34.3176 0.084192 28.5454 0.446076
17 38.501 0.0979222 26.662 0.416645
18 42.0715 0.108394 27.4544 0.429028
19 44.6021 0.117097 28.0521 0.438367
20 46.2238 0.119512 30.6012 0.478202
21 48.5107 0.129664 34.0729 0.532454
22 51.1224 0.133859 37.6601 0.58851
23 53.9124 0.145615 36.6443 0.572636
24 55.8685 0.150745 38.351 0.599307
25 57.2223 0.159522 41.2985 0.645368
26 56.546 0.170249 48.2074 0.753333
27 57.1661 0.170454 47.136 0.736591
28 58.501 0.187135 61.4212 0.959823
29 60.7349 0.195641 64.1468 1.00242
30 61.944 0.202408 65.7397 1.02731

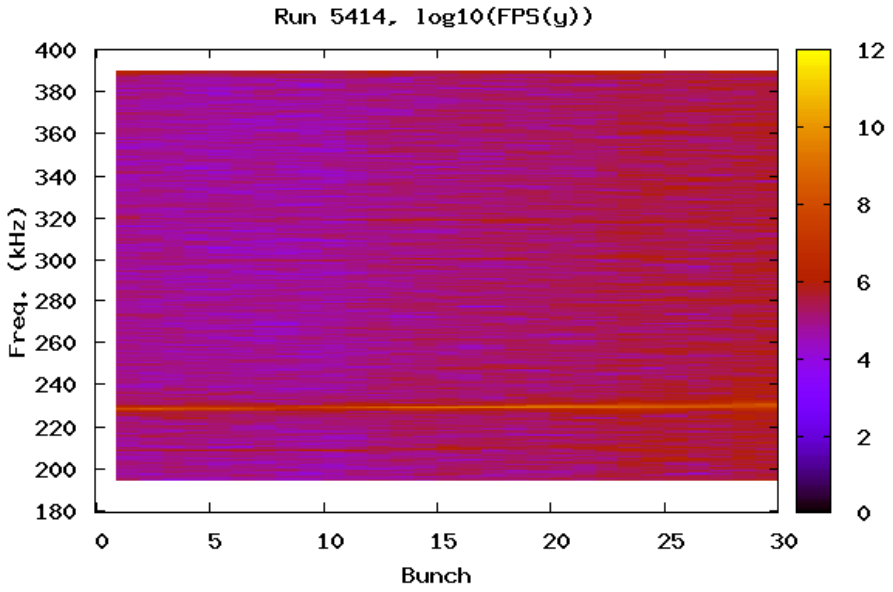


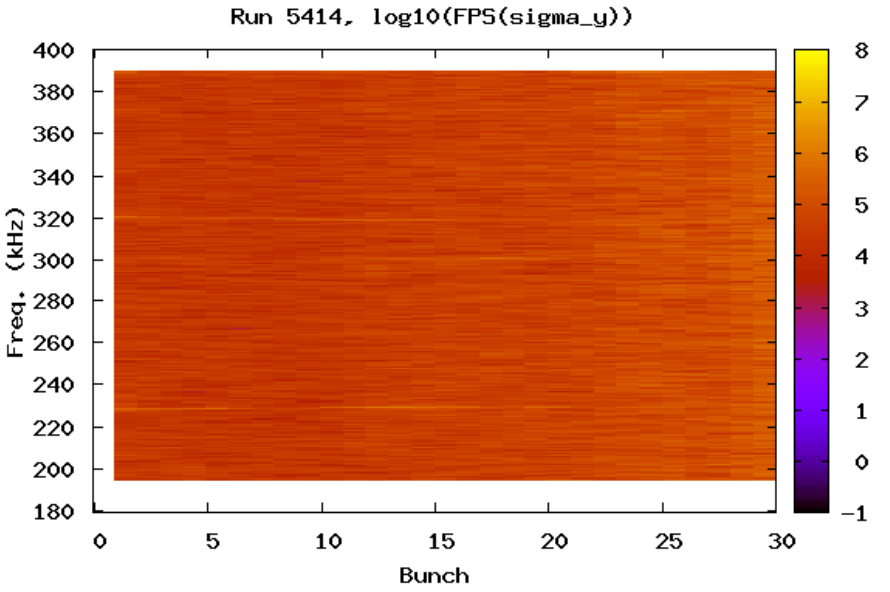


0.75 mA/bunch
Low Emittance
High V. Chrom.
Norm. FB
FZP
4096 Turns

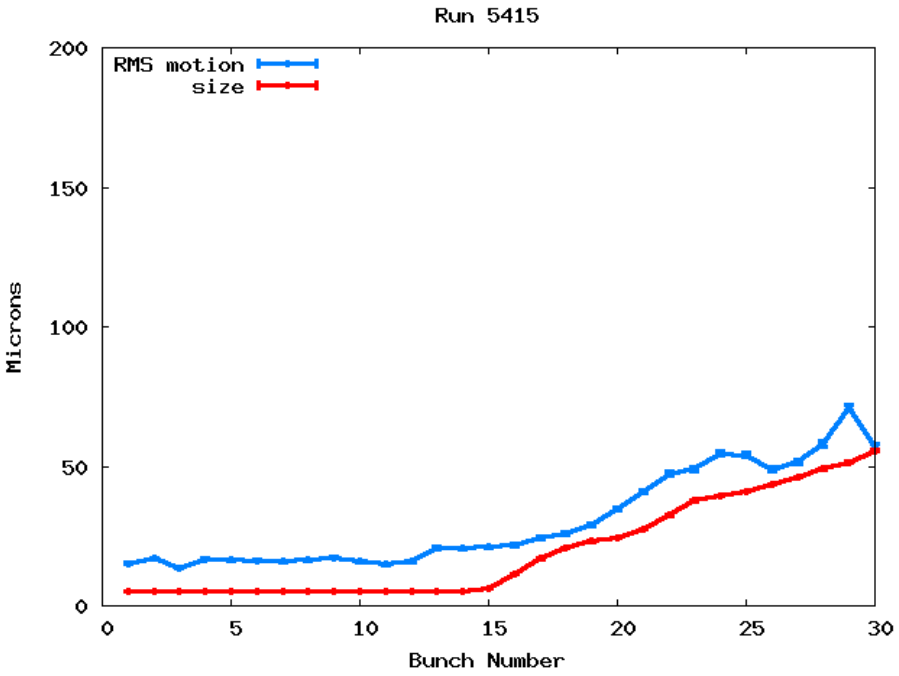


#Run 5414
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 13.0414 0.0535748 14.7401 0.230342
2 10.9229 0.0547612 15.8611 0.24786
3 9.27795 0.0533462 17.5342 0.274005
4 8.43445 0.0500875 19.5787 0.305955
5 8.32153 0.0482726 16.3941 0.256189
6 8.97949 0.0502165 14.7358 0.230274
7 8.63586 0.0488549 13.7464 0.214814
8 8.34473 0.0494647 16.6741 0.260565
9 8.84888 0.0502466 16.535 0.25839
10 8.68958 0.050165 17.4647 0.272919
11 9.23767 0.0526177 18.0164 0.281541
12 11.8713 0.0606721 19.8634 0.310403
13 12.6825 0.0638564 25.7856 0.402949
14 13.5901 0.0649731 35.7564 0.558762
15 13.7256 0.0661055 43.7311 0.683381
16 14.1949 0.0668249 46.1264 0.720814
17 14.7614 0.0680007 47.8515 0.747771
18 14.762 0.069778 49.101 0.767297
19 14.9628 0.0715478 50.4481 0.788348
20 15.2045 0.0709188 52.7359 0.824099
21 15.246 0.0747052 57.9167 0.905059
22 15.9076 0.0733456 62.3363 0.974124
23 16.7712 0.0939659 66.6304 1.04123
24 17.0898 0.0991557 70.3382 1.09917
25 17.7106 0.104588 79.7437 1.24615
26 18.3063 0.102575 71.75 1.12123
27 17.6184 0.0893285 59.1389 0.924158
28 19.14 0.123089 55.1042 0.861109
29 19.3512 0.122963 53.6437 0.838284
30 21.4673 0.179157 53.6208 0.837928

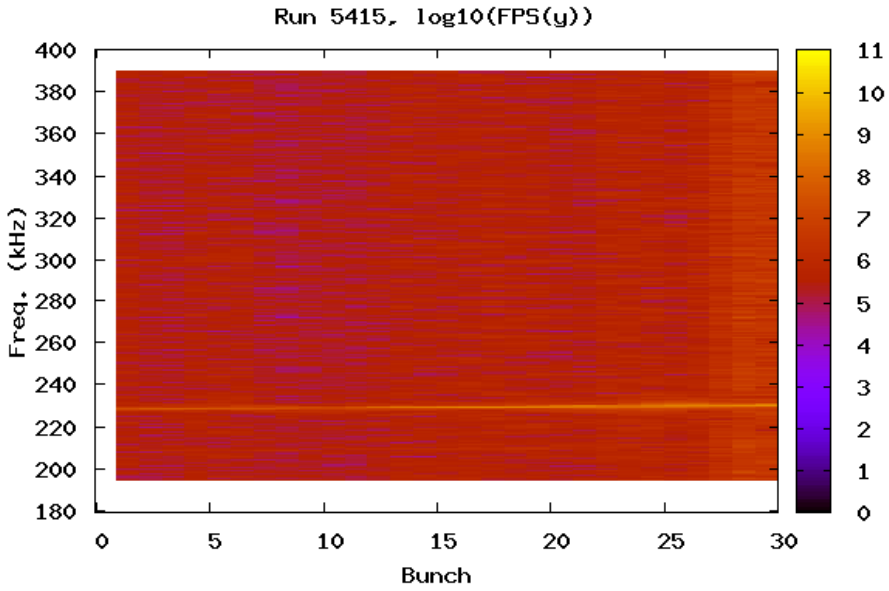


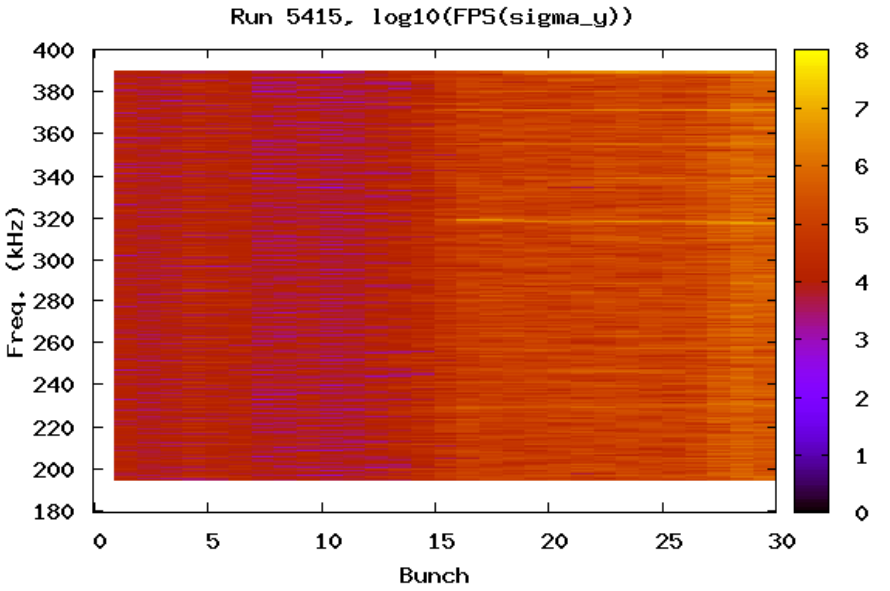


0.75 mA/bunch
Low Emittance
High V. Chrom.
Norm. FB
GAP
4096 Turns

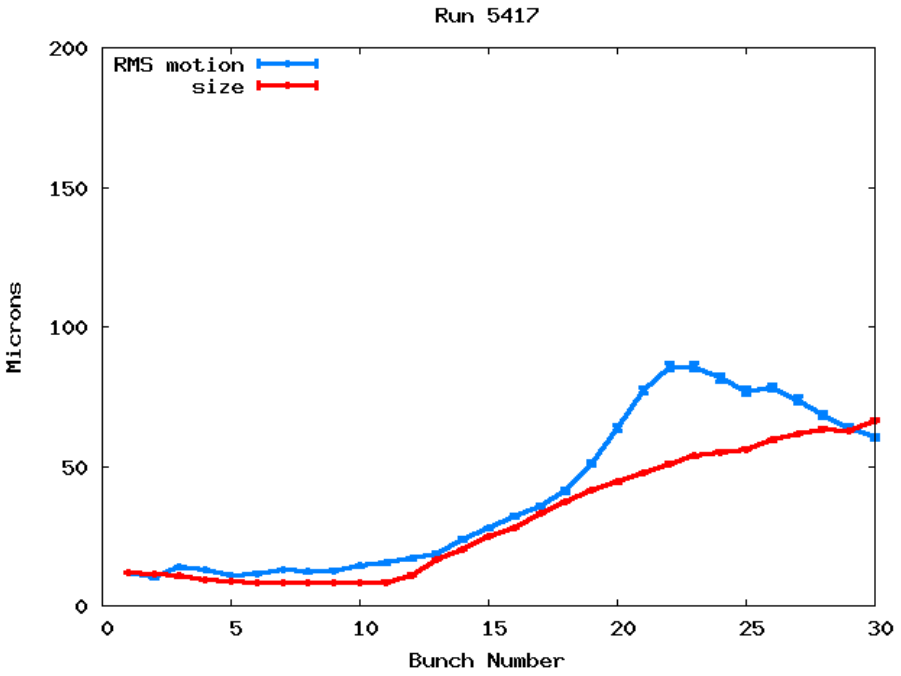


#Run 5415
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5.06653 0.0304241 15.2416 0.238179
2 5.07324 0.0319323 17.043 0.26633
3 5.03052 0.0216455 13.6203 0.212843
4 5.13916 0.0470357 16.7849 0.262297
5 5.08667 0.0355783 16.3286 0.255166
6 5.09827 0.0368723 16.2657 0.254183
7 5.07812 0.0324274 15.8096 0.247055
8 5.02991 0.0207402 16.4018 0.256309
9 5.0531 0.0307351 17.3217 0.270685
10 5.04089 0.0248699 15.9367 0.249042
11 5.02258 0.0175721 14.9873 0.234205
12 5.05859 0.0294004 15.8382 0.247503
13 5.0769 0.0331441 20.6994 0.323468
14 5.16602 0.0408299 20.6424 0.322577
15 6.26099 0.0571586 21.123 0.330087
16 11.5594 0.0978916 21.721 0.339433
17 16.861 0.111998 24.3024 0.379771
18 20.8588 0.113496 25.7791 0.402847
19 23.0621 0.115343 29.1058 0.454833
20 24.4659 0.123918 34.5134 0.539337
21 27.5696 0.120272 40.8549 0.638435
22 32.4945 0.123498 47.2473 0.738329
23 37.6031 0.133093 49.1689 0.768358
24 39.5026 0.127409 54.4992 0.851654
25 41.0614 0.125844 54.1319 0.845914
26 43.4949 0.128453 48.7269 0.761451
27 46.1481 0.157342 51.5738 0.805939
28 49.0338 0.232581 57.9072 0.904911
29 51.3635 0.292661 71.0541 1.11036
30 55.6104 0.194545 56.9405 0.889803

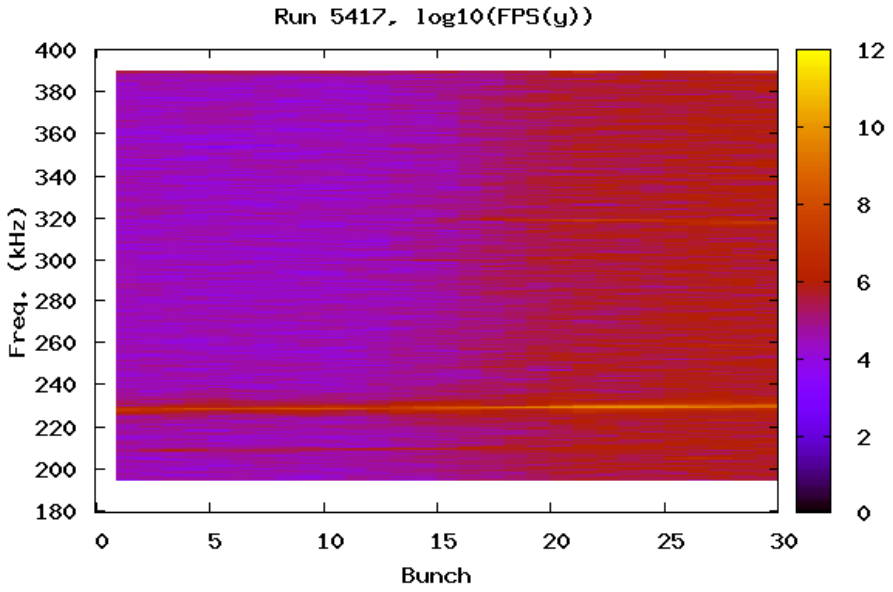


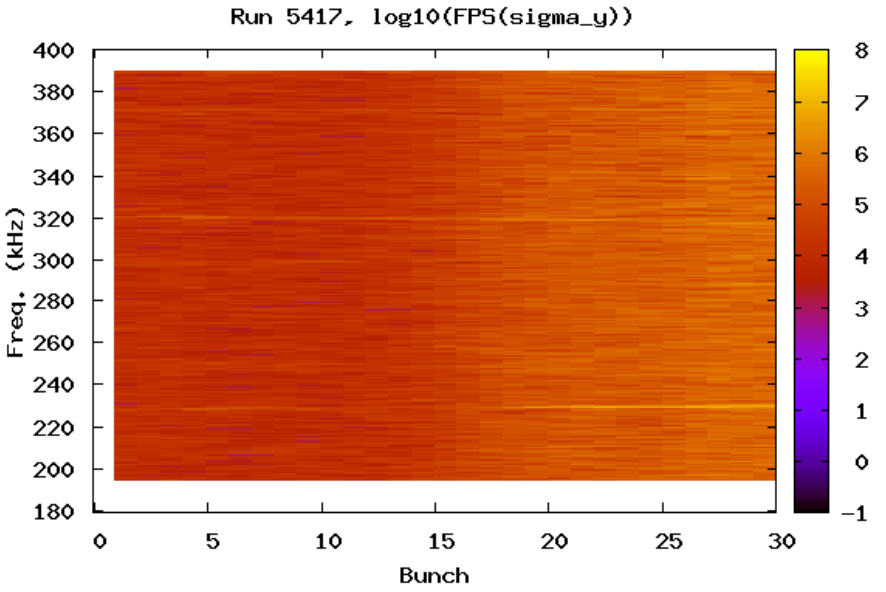


0.75 mA/bunch
Low Emittance
Low H. Chrom.
Norm. FB
CA
4096 Turns

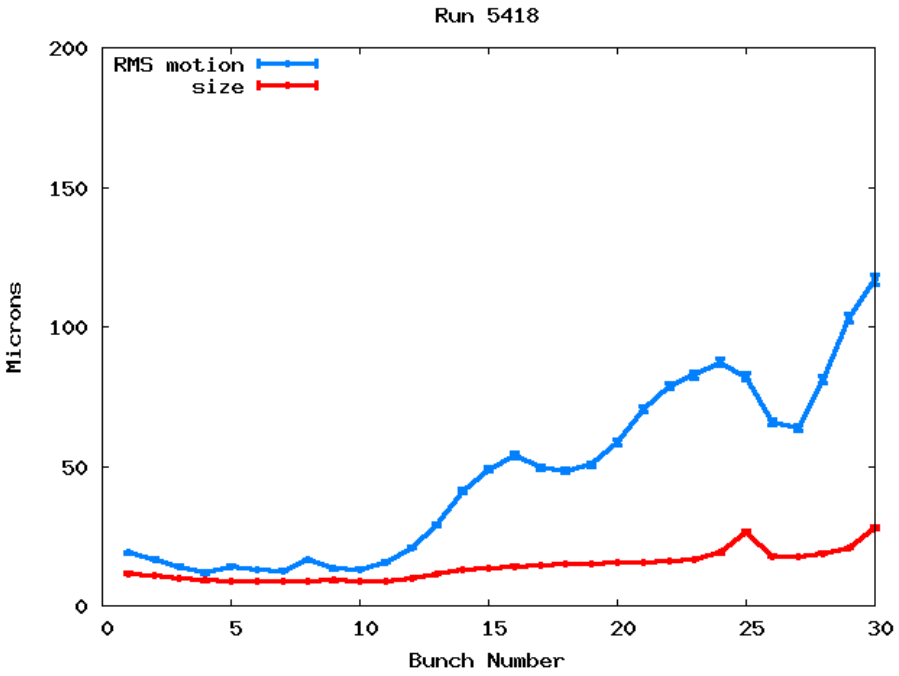


#Run 5417
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 12.0367 0.0329537 11.8775 0.185608
2 11.3556 0.0368623 10.2575 0.160293
3 10.658 0.0372924 13.8497 0.216428
4 9.41528 0.0371104 13.0003 0.203155
5 8.67065 0.0349805 10.9522 0.171148
6 8.38745 0.0346916 11.552 0.180521
7 8.48572 0.036166 12.9508 0.202382
8 8.14941 0.0363581 12.2714 0.191764
9 8.2605 0.036406 12.5744 0.196499
10 8.18787 0.0359733 14.4553 0.225892
11 8.5144 0.0362144 15.4551 0.241516
12 11.1298 0.0398067 16.8424 0.263195
13 16.5112 0.0428921 18.8166 0.294045
14 20.0677 0.0489179 23.8563 0.372801
15 24.8969 0.0590255 27.7856 0.434204
16 27.9456 0.0700047 32.2202 0.503503
17 33.1549 0.0855423 35.9415 0.561655
18 37.1655 0.103475 41.2824 0.645116
19 41.5686 0.114665 51.0301 0.797443
20 44.3457 0.126577 63.875 0.998169
21 47.7429 0.138871 77.1243 1.20521
22 50.965 0.145654 85.6891 1.33906
23 53.7097 0.146422 85.5705 1.3372
24 55.0458 0.14796 81.662 1.27612
25 56.1609 0.153282 76.8953 1.20164
26 59.35 0.191 78.2783 1.22325
27 61.684 0.214023 73.8173 1.15354
28 63.3563 0.215495 68.3726 1.06845
29 62.7057 0.206341 63.6184 0.994158
30 66.4954 0.235207 60.4471 0.944602

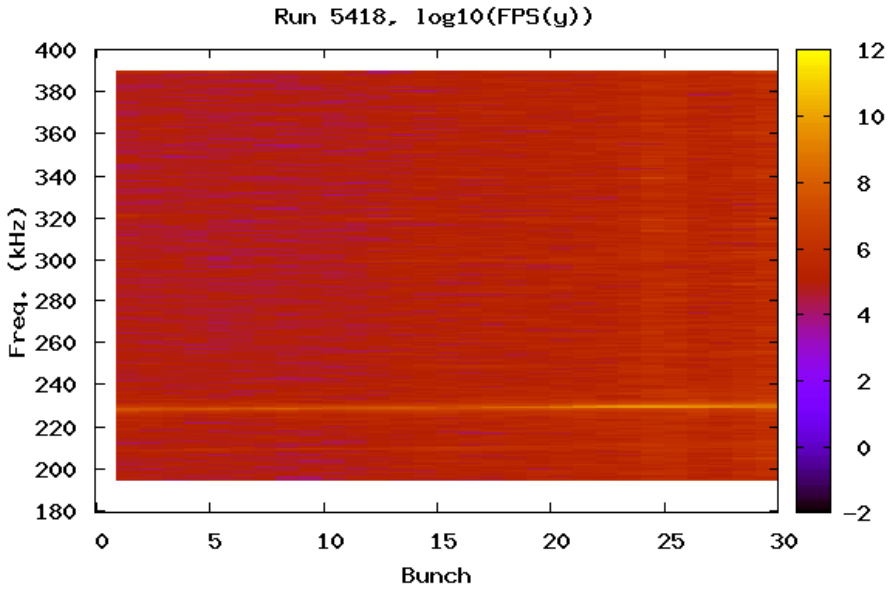


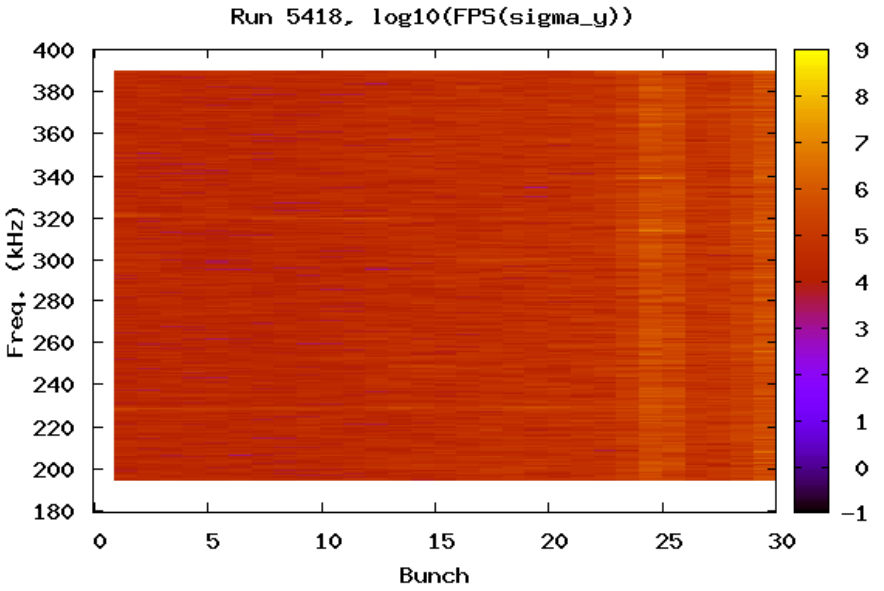


0.75 mA/bunch
Low Emittance
Low H. Chrom.
Norm. FB
FZP
4096 Turns

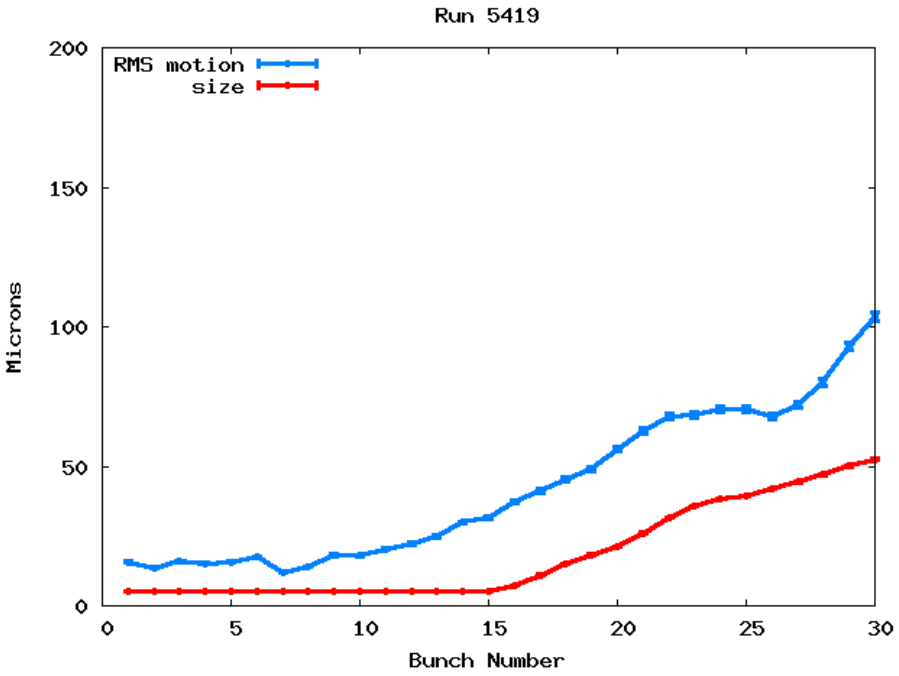


#Run 5418
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 11.6315 0.0576413 19.0095 0.29706
2 10.9607 0.0538116 16.7633 0.261958
3 9.82971 0.0533416 14.0297 0.219242
4 9.09546 0.0515649 11.6591 0.182196
5 8.81348 0.0501641 14.0442 0.219467
6 8.61572 0.0490556 12.9154 0.201828
7 8.74451 0.0502925 12.5596 0.196268
8 8.84216 0.050516 16.3414 0.255365
9 9.08875 0.0496918 13.2938 0.20774
10 8.79089 0.0509364 13.0968 0.204663
11 8.89893 0.0522029 15.7518 0.246152
12 9.98474 0.0578871 20.8704 0.326141
13 11.3818 0.0625161 28.9021 0.451651
14 12.7954 0.0642799 41.1261 0.642673
15 13.4607 0.0670223 48.7916 0.762462
16 14.2072 0.0657535 53.9461 0.843011
17 14.3573 0.0688573 49.7133 0.776865
18 14.9823 0.068772 48.2554 0.754083
19 14.9054 0.0719504 50.6934 0.792182
20 15.3711 0.0713957 58.5916 0.915605
21 15.5573 0.0756374 70.487 1.10149
22 16.1688 0.0775594 78.6995 1.22983
23 16.5674 0.0834879 82.7689 1.29342
24 19.0808 0.16931 87.1618 1.36207
25 26.5155 0.384777 81.9101 1.28
26 17.8235 0.100451 65.9699 1.03091
27 17.5714 0.0804598 63.5918 0.993743
28 18.8971 0.110124 80.8678 1.26371
29 20.7739 0.177225 103.296 1.61419
30 27.9651 0.381161 116.932 1.82729

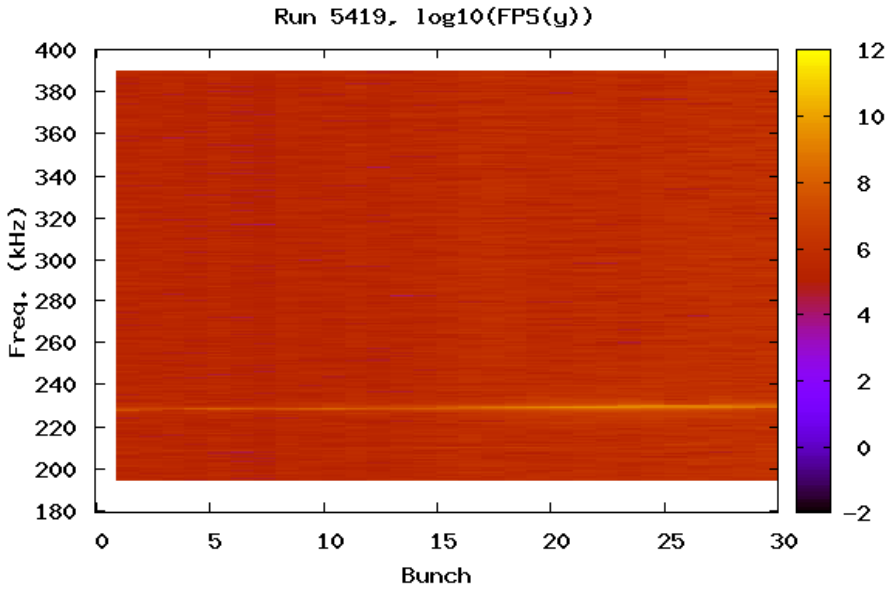


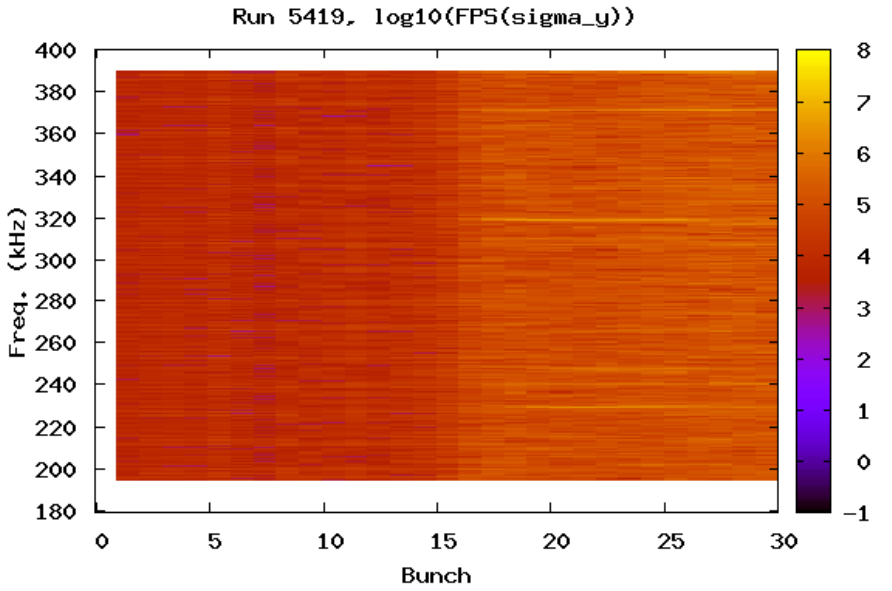


0.75 mA/bunch
Low Emittance
Low H. Chrom.
Norm. FB
GAP
4096 Turns

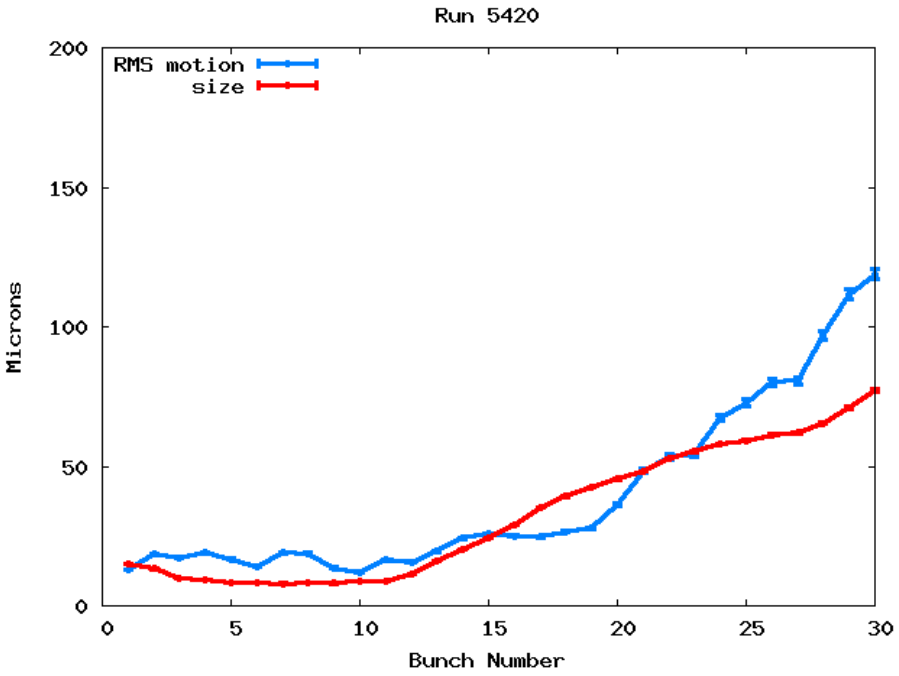


#Run 5419
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5.06531 0.028892 15.6593 0.244707
2 5.02808 0.0200187 13.5036 0.21102
3 5.10559 0.0392371 15.9418 0.249121
4 5.03723 0.0221787 15.0924 0.235848
5 5.07751 0.0323184 15.6482 0.244533
6 5.10254 0.0404502 17.4937 0.273372
7 5.03052 0.0215938 11.9 0.185961
8 5.06714 0.0302949 13.9988 0.218757
9 5.10864 0.0398897 18.1135 0.283059
10 5.03906 0.0236653 17.9026 0.279762
11 5.12756 0.0428097 20.3459 0.317944
12 5.06836 0.0319582 22.2484 0.347673
13 5.06348 0.0290409 24.8516 0.388353
14 5.12878 0.0413657 29.8033 0.465733
15 5.2533 0.0399489 31.518 0.492529
16 7.27173 0.0824592 37.3966 0.584393
17 11.0455 0.114894 41.2192 0.644129
18 14.9677 0.133696 45.2394 0.706953
19 18.2751 0.12211 48.9775 0.765367
20 21.3177 0.119598 56.1618 0.877636
21 26.1487 0.113915 62.4974 0.976641
22 31.4661 0.110751 67.7641 1.05894
23 35.6567 0.117933 68.337 1.0679
24 38.2281 0.121871 70.4869 1.10149
25 39.4702 0.130177 70.3591 1.0995
26 41.8732 0.130016 67.7595 1.05887
27 44.4128 0.139461 71.895 1.1235
28 46.9171 0.141924 80.1002 1.25172
29 50.0354 0.131531 92.9919 1.45318
30 52.5342 0.135277 103.487 1.61718

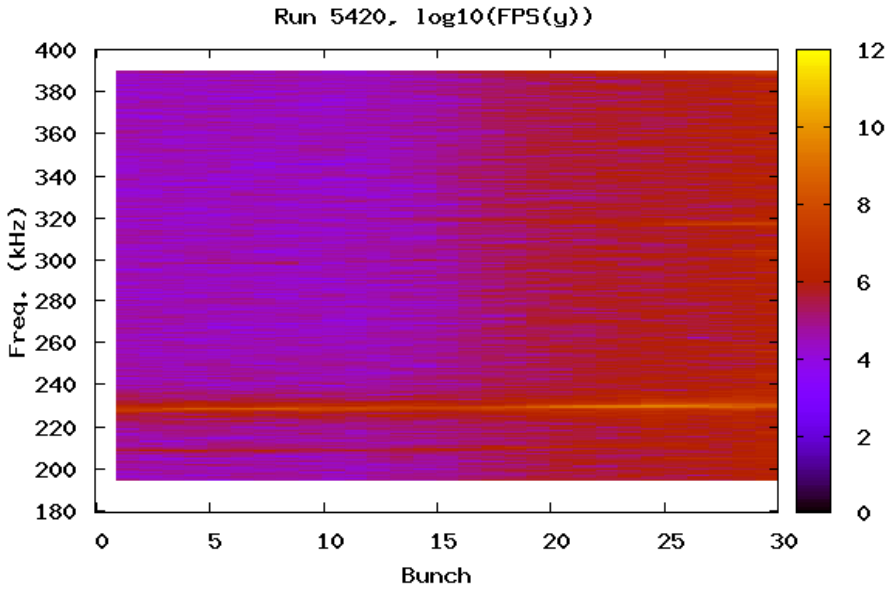


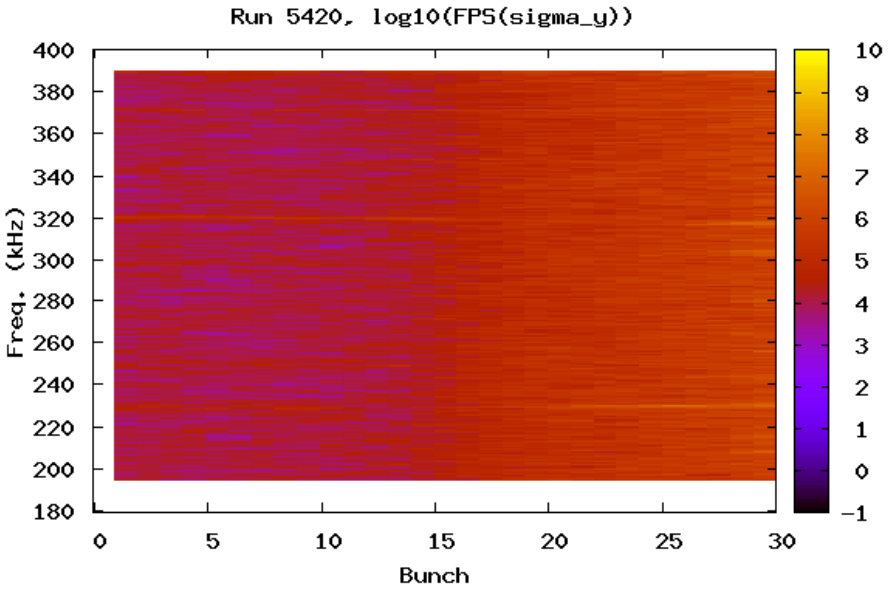


0.75 mA/bunch
Low Emittance
Norm. Chrom.
High FB
CA
4096 Turns

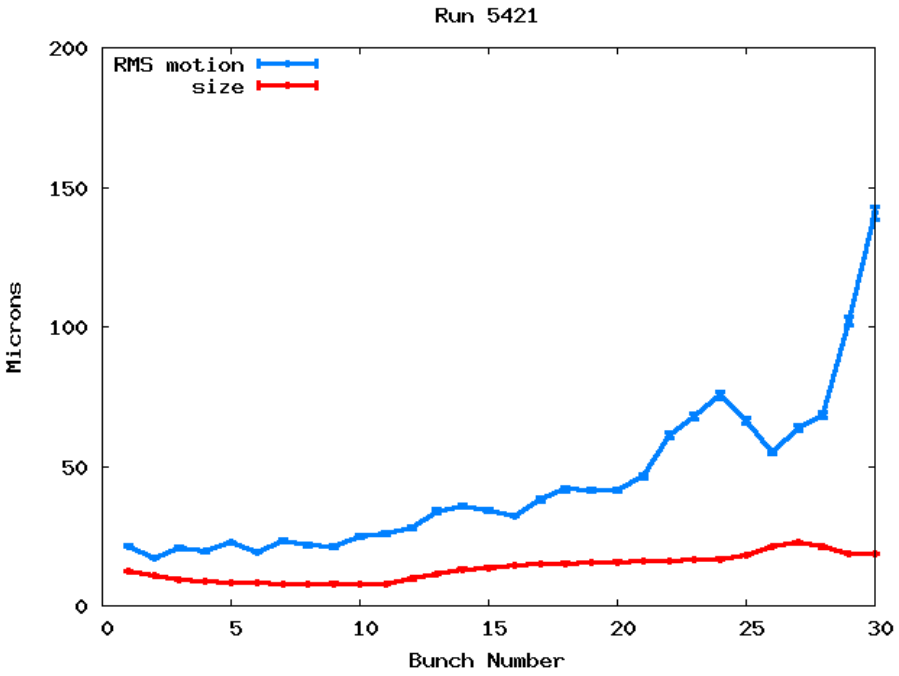


#Run 5420
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 15.2295 0.0335095 12.99 0.202994
2 13.23 0.0366193 18.4722 0.288664
3 9.97498 0.0376915 17.235 0.26933
4 9.10828 0.037836 19.1267 0.298891
5 8.37708 0.0356504 16.6586 0.260322
6 8.25012 0.0356054 14.149 0.221105
7 8.02673 0.0363456 18.9714 0.296464
8 8.08289 0.0357312 18.8423 0.294447
9 8.05542 0.0368681 13.6625 0.213502
10 8.59009 0.0374766 12.1422 0.189746
11 8.69873 0.0376008 16.4925 0.257726
12 11.5558 0.0402544 15.7785 0.246569
13 16.0834 0.0422907 19.5924 0.306169
14 20.3162 0.0485528 24.1472 0.377346
15 24.5312 0.0578844 25.7229 0.401969
16 29.0857 0.072397 25.0977 0.3922
17 35.1019 0.0886363 24.6368 0.384997
18 39.1364 0.102704 26.6507 0.416468
19 42.4371 0.118508 27.77 0.433959
20 45.354 0.124185 36.2605 0.56664
21 48.2861 0.130903 48.4235 0.75671
22 52.8357 0.144742 53.4175 0.83475
23 55.2338 0.156751 54.3418 0.849194
24 57.981 0.183037 67.1501 1.04935
25 59.2096 0.198051 72.7969 1.13759
26 61.2494 0.221294 80.1635 1.25271
27 61.9879 0.227871 80.6307 1.26001
28 65.4382 0.281391 96.7139 1.51134
29 71.0864 0.379074 111.581 1.74366
30 77.0673 0.452777 118.829 1.85694

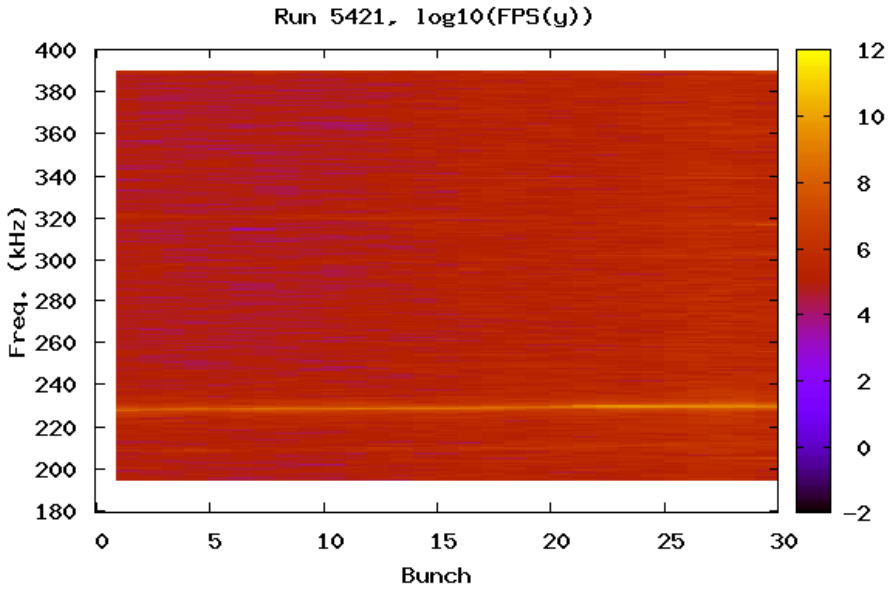


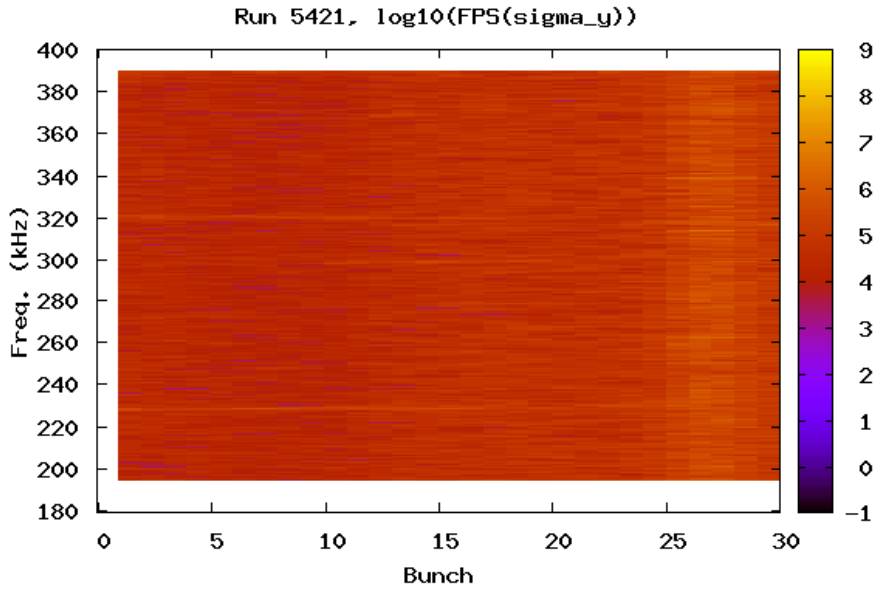


0.75 mA/bunch
Low Emittance
Norm. Chrom.
High FB
FZP
4096 Turns

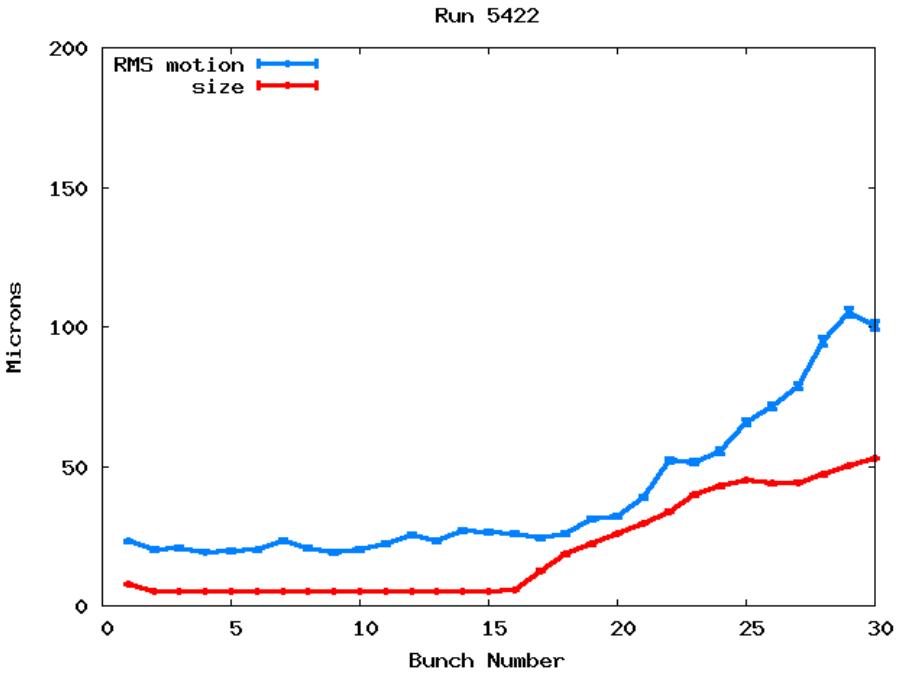


#Run 5421
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 12.3706 0.0583557 21.344 0.333541
2 10.697 0.0551874 17.1401 0.267846
3 9.47937 0.0538262 20.7825 0.324767
4 8.68286 0.0512069 19.557 0.305616
5 8.21899 0.0497533 22.5984 0.353143
6 8.32031 0.0480146 19.2886 0.301421
7 7.95166 0.0472925 23.2608 0.363495
8 7.70874 0.0459381 21.8378 0.341257
9 7.99438 0.0471722 21.2985 0.33283
10 7.69165 0.0466724 24.9569 0.39
11 7.76611 0.0487867 25.7895 0.40301
12 9.59595 0.0591421 27.9753 0.437167
13 11.4038 0.0650111 33.9336 0.530277
14 13.1787 0.0671694 35.7078 0.558003
15 13.6664 0.0682843 34.1106 0.533043
16 14.3542 0.0706427 32.3779 0.505967
17 14.8828 0.0748438 38.0981 0.595355
18 15.2094 0.077815 41.7599 0.652579
19 15.639 0.0755681 41.5261 0.648925
20 15.7294 0.0751453 41.5476 0.649261
21 16.0028 0.0740152 46.5211 0.726981
22 16.1292 0.0767013 61.1163 0.955059
23 16.5051 0.0781282 67.7678 1.059
24 16.7719 0.0839142 75.4327 1.17878
25 18.1128 0.110509 66.4288 1.03808
26 21.2177 0.199133 55.0927 0.860928
27 22.7698 0.241414 63.9467 0.999289
28 21.026 0.19097 68.201 1.06577
29 18.7555 0.112722 101.958 1.59328
30 18.5168 0.10406 140.725 2.1991

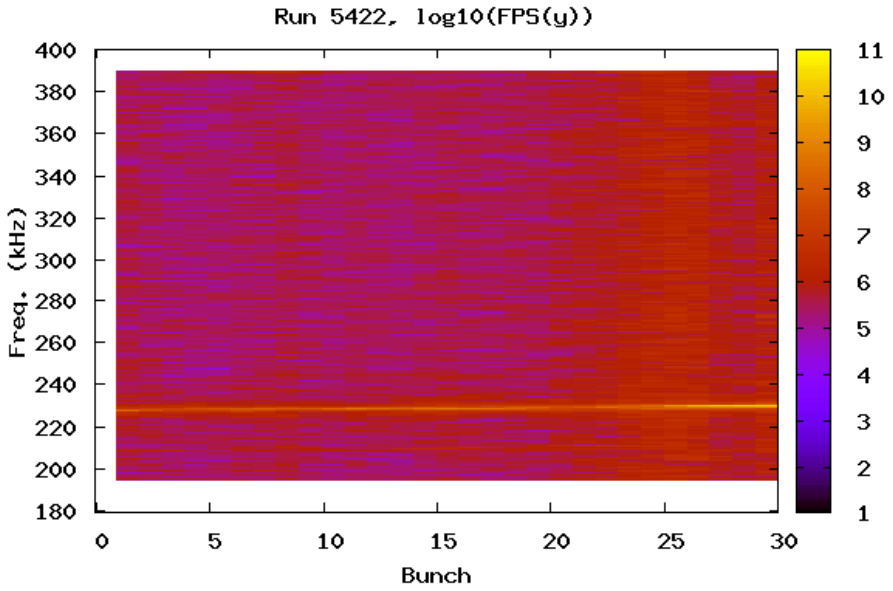


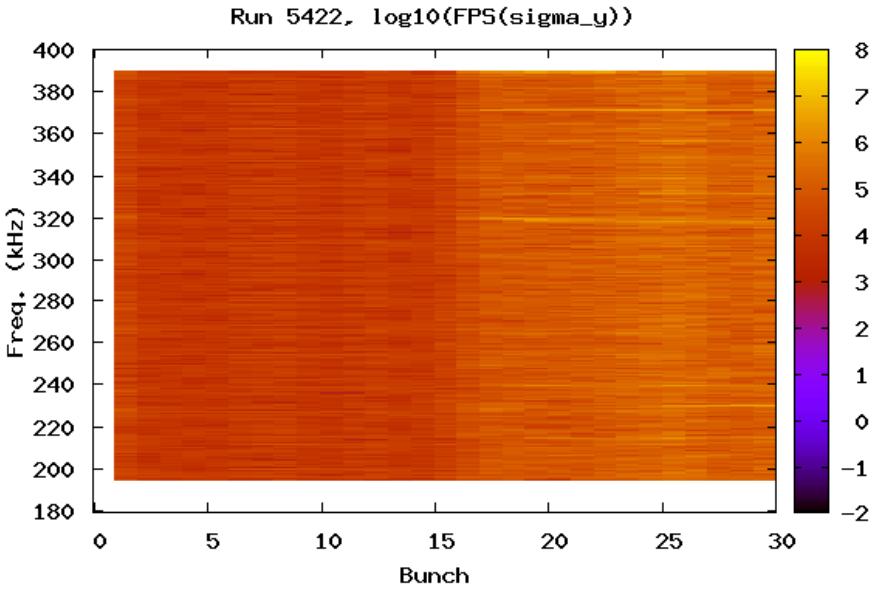


0.75 mA/bunch
Low Emittance
Norm. Chrom.
High FB
GAP
4096 Turns

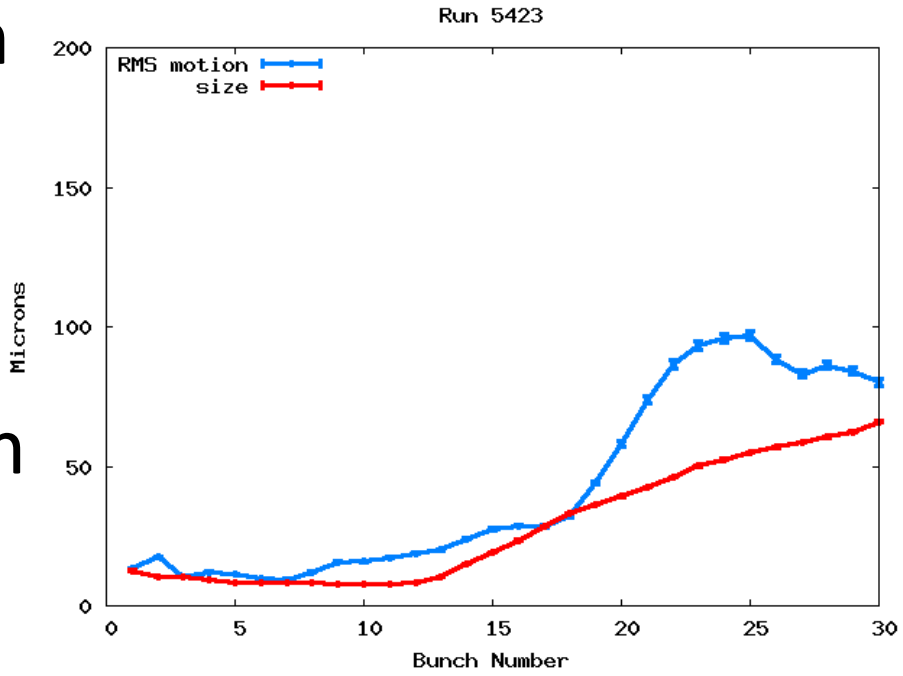


#Run 5422
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 7.79968 0.0771993 23.0774 0.360629
2 5.09094 0.0362347 20.2083 0.315793
3 5.04395 0.0235528 20.7251 0.323869
4 5.06958 0.0331368 19.418 0.303444
5 5.03662 0.0218829 19.7054 0.307934
6 5.0824 0.0370129 20.1101 0.314259
7 5.09094 0.0376172 23.2124 0.362738
8 5.10986 0.0421684 20.6718 0.323036
9 5.08667 0.0362424 19.1336 0.298999
10 5.05798 0.0260331 20.2067 0.315768
11 5.05676 0.0284807 22.2372 0.347498
12 5.08789 0.0383401 25.6238 0.400421
13 5.07141 0.0335104 23.1582 0.361891
14 5.05493 0.0280133 26.8044 0.418869
15 5.15747 0.0406827 26.5501 0.414896
16 5.73975 0.0510769 25.8764 0.404367
17 12.6758 0.102946 24.4403 0.381927
18 18.4912 0.106386 25.8699 0.404267
19 22.0862 0.110441 31.0142 0.484657
20 25.9723 0.108029 32.1436 0.502305
21 29.6332 0.113455 38.7359 0.605322
22 33.8892 0.121463 52.1597 0.815095
23 39.7388 0.138128 51.4116 0.803404
24 42.8809 0.156998 55.4654 0.866752
25 45.1575 0.169749 66.0318 1.03187
26 43.8446 0.197482 71.6066 1.11899
27 44.2157 0.130508 78.7417 1.23049
28 46.9183 0.121638 94.8627 1.48241
29 50.2527 0.124751 105.276 1.64514
30 52.9181 0.180241 100.449 1.5697

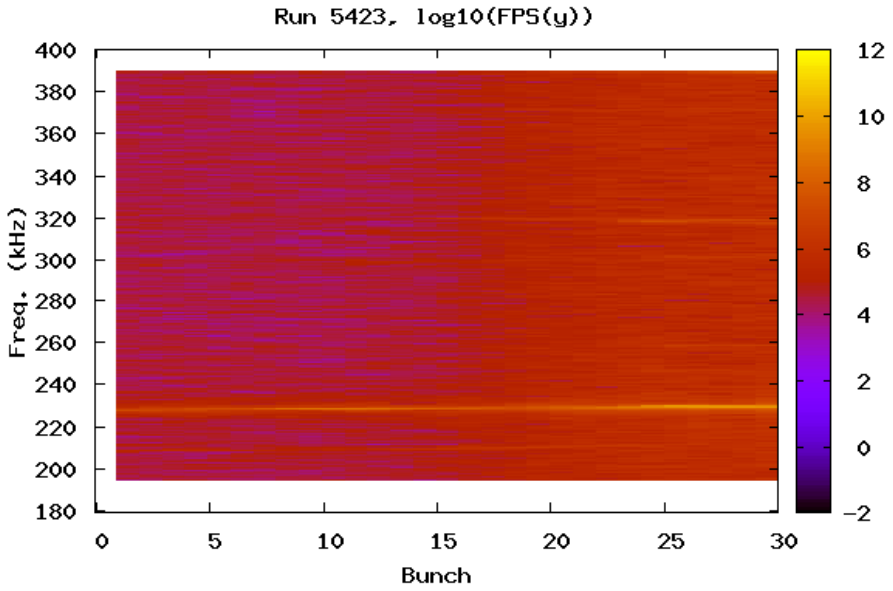


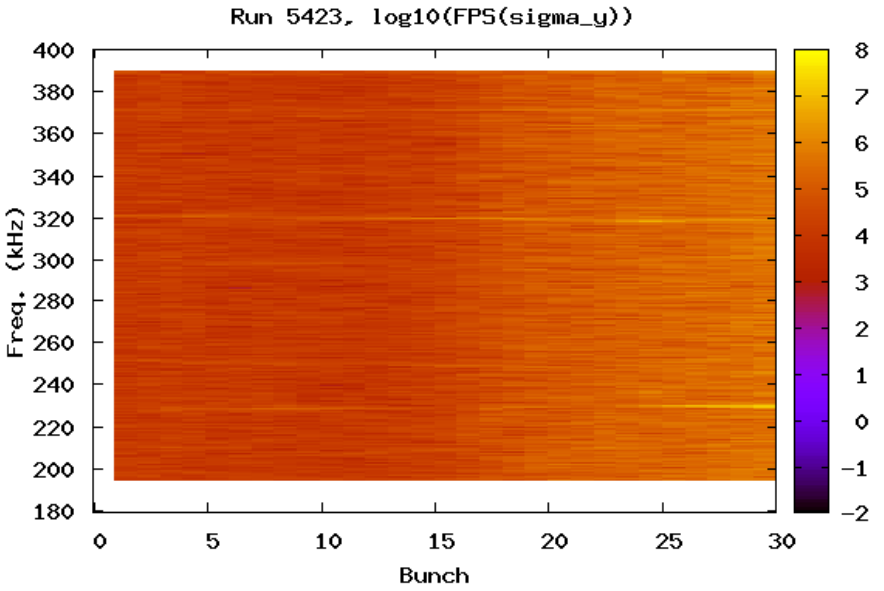


0.75 mA/bunch Low Emittance Norm. Chrom. Norm. FB Precursor Bunch CA 4096 Turns

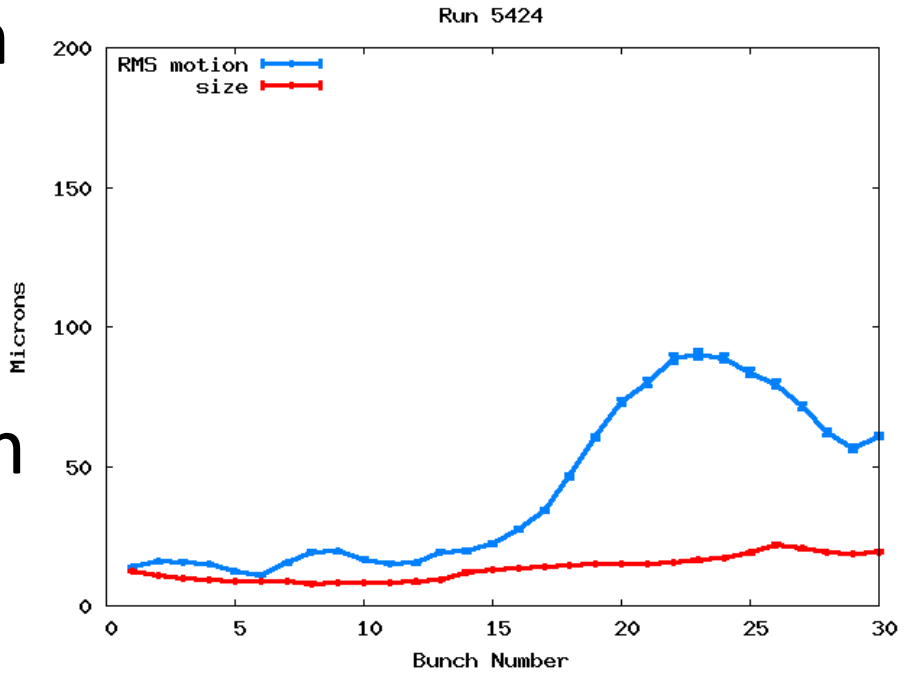


#Run 5423
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 12.6697 0.0338505 13.3622 0.20881
2 10.5627 0.0362084 17.5733 0.274616
3 10.52 0.0395732 10.5148 0.164314
4 9.22302 0.0389209 12.0645 0.188531
5 8.48572 0.0376303 11.378 0.177803
6 8.14758 0.0372818 9.93783 0.155298
7 8.20129 0.0375334 9.46037 0.147836
8 8.11218 0.0365716 12.0646 0.188533
9 7.97363 0.0352834 15.7759 0.246528
10 7.8479 0.0354714 15.884 0.248217
11 7.88147 0.0354449 17.3393 0.27096
12 8.32947 0.0359276 18.7276 0.292655
13 10.2734 0.0401816 20.0315 0.31303
14 15.0494 0.0421654 24.0388 0.375652
15 19.292 0.0467583 27.6289 0.431754
16 23.5748 0.0555182 28.7403 0.449122
17 28.4015 0.0710574 28.5256 0.445767
18 33.0219 0.0848262 32.0163 0.500316
19 36.1664 0.0957988 43.9918 0.687455
20 39.1443 0.103272 57.9302 0.90527
21 42.4451 0.112491 73.7729 1.15284
22 46.1938 0.122192 86.5513 1.35253
23 50.105 0.133769 93.184 1.45618
24 52.572 0.140539 95.7366 1.49607
25 54.8468 0.162081 96.7037 1.51118
26 56.8451 0.154796 88.212 1.37848
27 58.6017 0.172766 82.9556 1.29634
28 60.5371 0.196736 86.124 1.34585
29 62.2925 0.209603 84.1301 1.31469
30 65.9277 0.247202 80.1872 1.25308

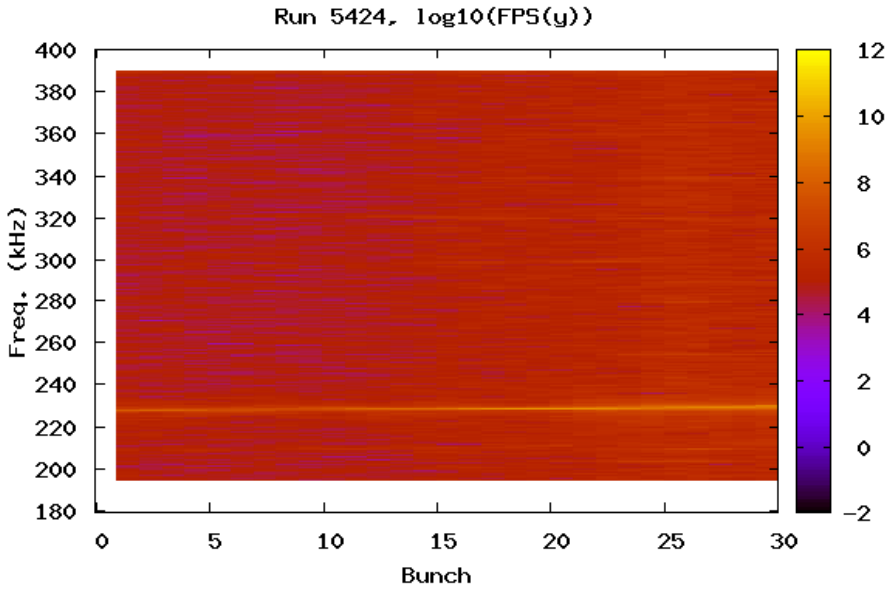


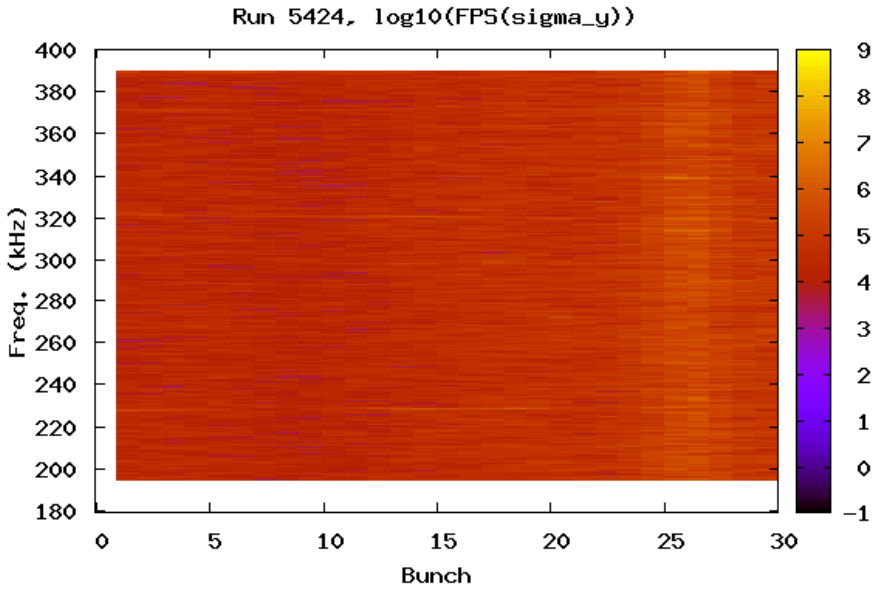


0.75 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
Precursor Bunch
FZP
4096 Turns

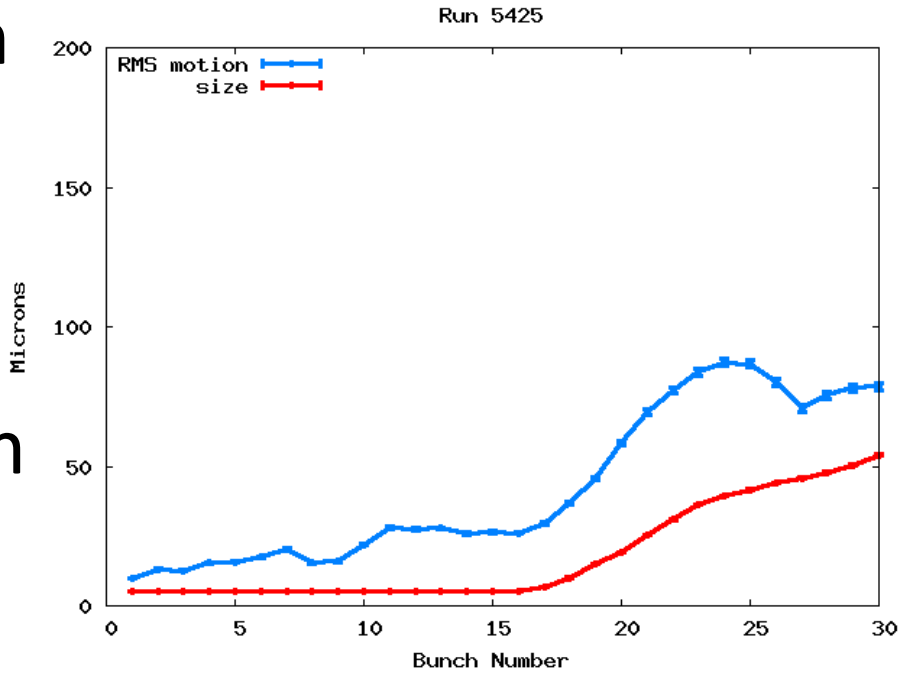


#Run 5424
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 12.5134 0.0538141 14.0119 0.218963
2 10.7916 0.0542912 15.8138 0.24712
3 9.90417 0.0540183 15.6408 0.244418
4 9.13879 0.0520938 15.0136 0.234616
5 8.85864 0.0509048 12.2038 0.190708
6 8.77319 0.0512018 11.0192 0.172196
7 8.64624 0.0481925 15.4561 0.241531
8 8.01086 0.0468876 19.3189 0.301894
9 8.08594 0.0469711 19.5921 0.306164
10 8.39417 0.0479681 16.6968 0.26092
11 8.46069 0.0484862 15.1038 0.236026
12 8.58459 0.0507575 15.3701 0.240187
13 9.51233 0.0571234 19.3796 0.302844
14 12.1295 0.0626246 19.6893 0.307683
15 12.9858 0.0665597 22.1996 0.346911
16 13.4827 0.0687242 27.6243 0.431683
17 14.1394 0.0704418 34.296 0.535941
18 14.5074 0.0733122 46.4418 0.725742
19 14.859 0.075065 60.4499 0.944644
20 14.8627 0.0743935 73.0372 1.14135
21 15.0153 0.0750622 79.8796 1.24827
22 15.7147 0.0744976 88.5705 1.38408
23 16.3348 0.0828411 90.0503 1.40721
24 17.0343 0.102247 88.7375 1.38669
25 18.9642 0.164113 83.6173 1.30668
26 21.8091 0.238995 79.4535 1.24161
27 20.5511 0.190861 71.5425 1.11799
28 19.2578 0.111918 62.3529 0.974382
29 18.5992 0.0952169 56.5535 0.883757
30 19.3481 0.105063 60.8167 0.950377

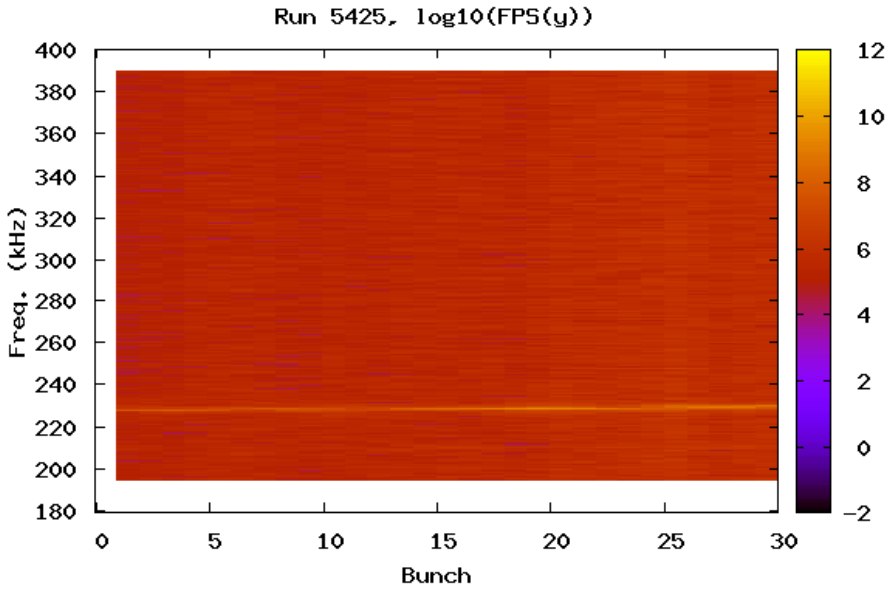


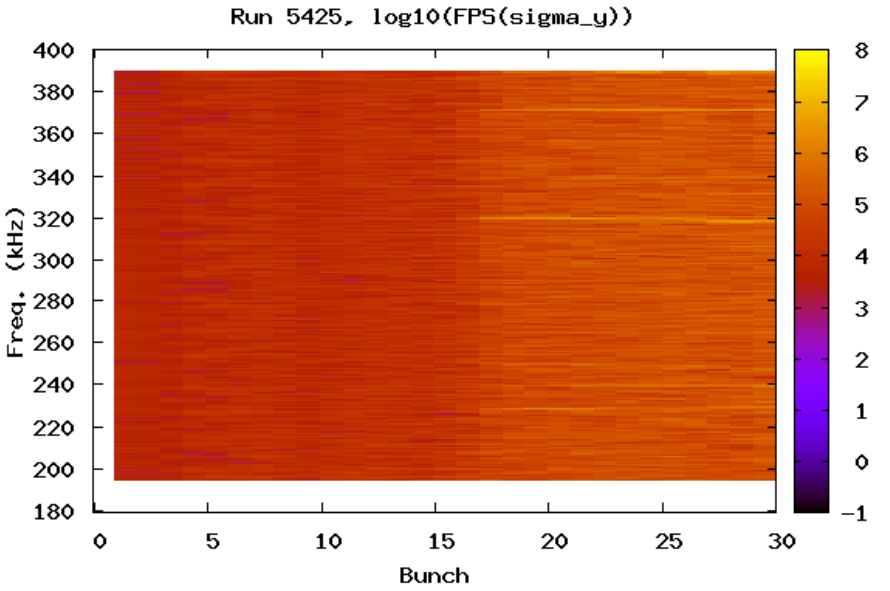


0.75 mA/bunch
Low Emittance
Norm. Chrom.
Norm. FB
Precursor Bunch
GAP
4096 Turns

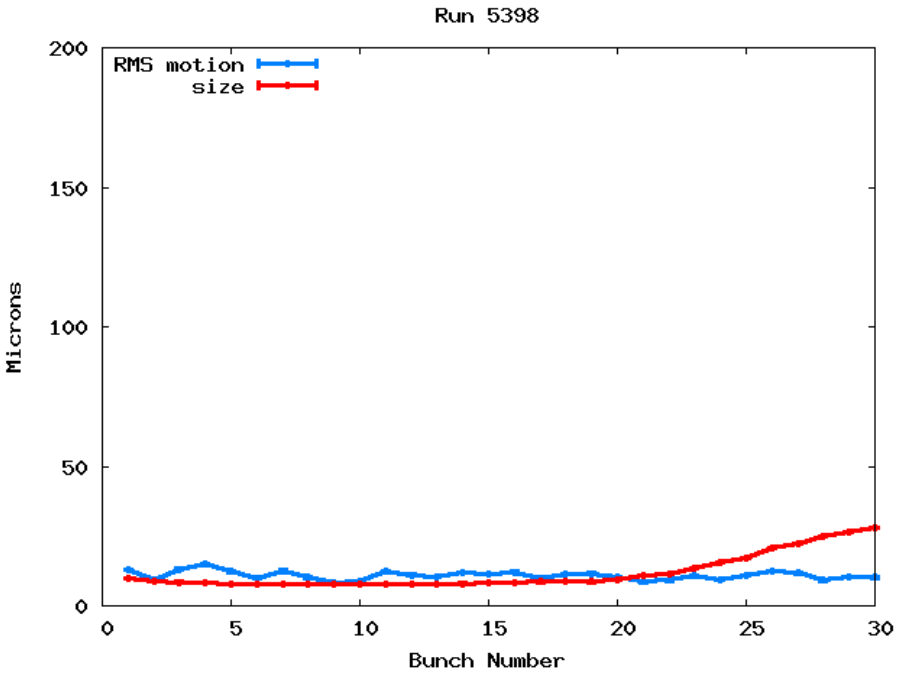


#Run 5425
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5.01465 0.0146484 9.88776 0.154515
2 5.05798 0.0281511 13.091 0.204572
3 5.01343 0.0134277 12.6937 0.198363
4 5.04944 0.0270344 15.3948 0.240573
5 5.04333 0.0256362 15.6182 0.244065
6 5.08118 0.0336714 17.5511 0.27427
7 5.08057 0.0334107 20.4 0.31879
8 5.07446 0.0336807 15.383 0.240388
9 5.06165 0.0281492 16.0196 0.250337
10 5.05554 0.0252791 21.9695 0.343316
11 5.09888 0.0380016 27.9402 0.436619
12 5.05371 0.0312697 27.3718 0.427736
13 5.12817 0.0428919 27.7523 0.433683
14 5.06592 0.0321571 25.7956 0.403105
15 5.14771 0.045129 26.5514 0.414916
16 5.26123 0.0413168 26.0638 0.407296
17 6.7749 0.0706657 29.5579 0.461898
18 10.0897 0.0995719 36.643 0.572618
19 15.1221 0.115718 45.5723 0.712154
20 19.0594 0.117325 58.3759 0.912234
21 25.3027 0.114864 69.5009 1.08608
22 30.9125 0.117245 77.2747 1.20756
23 36.3977 0.119406 83.8895 1.31093
24 39.4397 0.120392 87.1689 1.36218
25 41.6815 0.133252 86.6312 1.35378
26 44.0887 0.136185 80.092 1.25159
27 45.8478 0.13293 70.7354 1.10537
28 47.8137 0.125916 75.5305 1.18031
29 50.437 0.135895 78.0862 1.22025
30 54.0063 0.161329 78.5581 1.22762

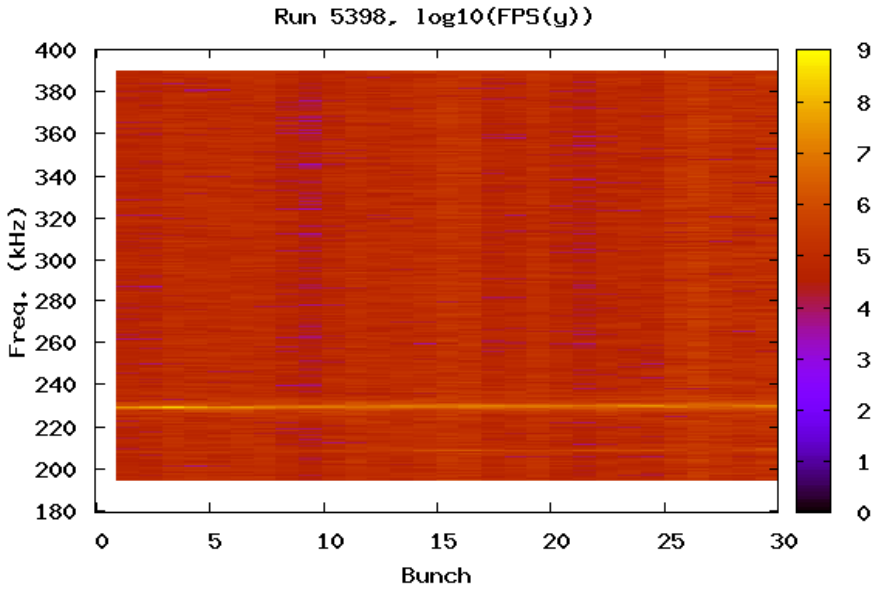


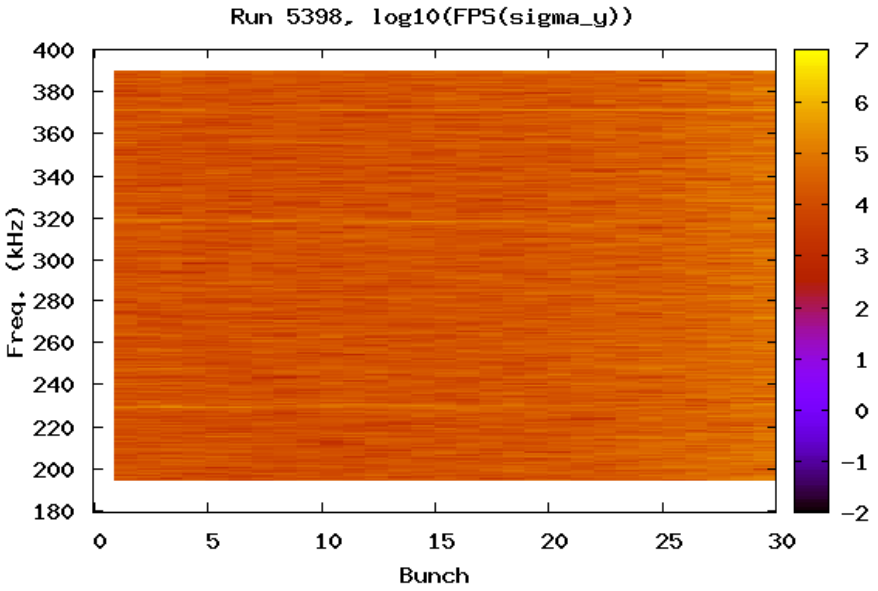


0.50 mA/bunch Low Emittance Super-high Chrom. Norm. FB CA 4096 Turns

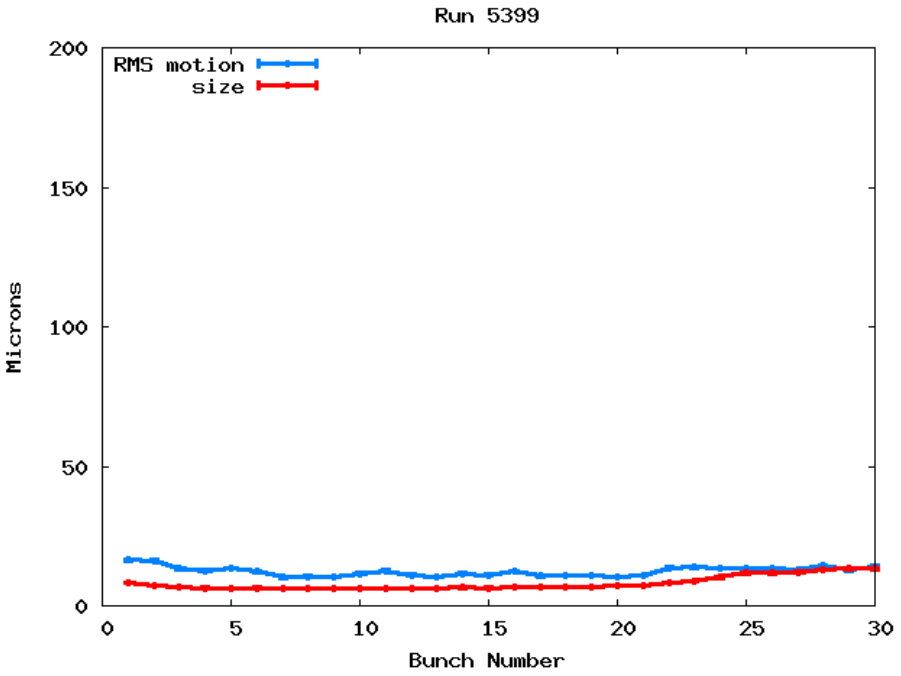


#Run 5398
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 10.0116 0.03889 12.9196 0.201894
2 8.66211 0.0383109 9.2096 0.143917
3 8.52478 0.0395731 13.0919 0.204586
4 8.16406 0.0394328 14.7744 0.230879
5 7.82959 0.037195 12.1874 0.190451
6 7.96265 0.0381979 9.92435 0.155087
7 7.7063 0.0364732 12.6242 0.197277
8 7.77466 0.0368617 10.1913 0.159258
9 7.89062 0.0367373 8.18653 0.12793
10 7.94861 0.0377039 8.71465 0.136183
11 7.82349 0.0379517 12.2026 0.190689
12 7.71057 0.0374403 11.1248 0.173847
13 7.85461 0.0376816 10.4114 0.162698
14 8.03101 0.0388723 11.8728 0.185536
15 8.10852 0.0388104 11.3577 0.177486
16 8.32092 0.0398947 12.0078 0.187645
17 8.56201 0.0409706 9.95913 0.15563
18 8.76709 0.0411022 11.3486 0.177344
19 8.58582 0.0419747 11.6271 0.181695
20 9.36462 0.0428449 10.3414 0.161605
21 10.7776 0.0444051 8.65144 0.135195
22 11.5253 0.0472296 9.11516 0.142442
23 13.6078 0.0488751 10.9071 0.170445
24 15.4205 0.0514684 9.33618 0.145896
25 17.2198 0.0541512 10.8134 0.16898
26 20.899 0.0586113 12.4804 0.195029
27 22.1234 0.0642488 11.8309 0.18488
28 24.7638 0.0687981 9.19246 0.14365
29 26.5161 0.0753069 10.4435 0.1632
30 27.8613 0.0865438 10.1071 0.157942

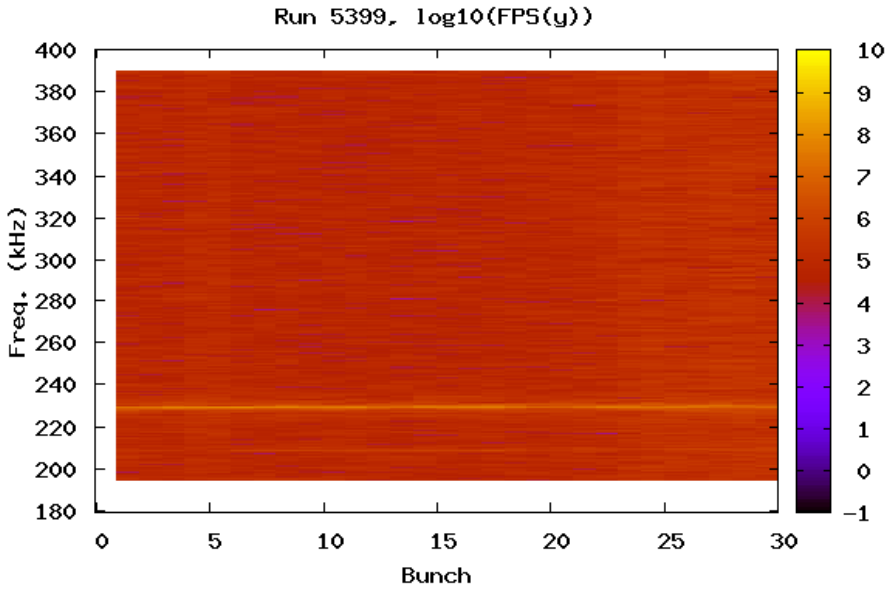


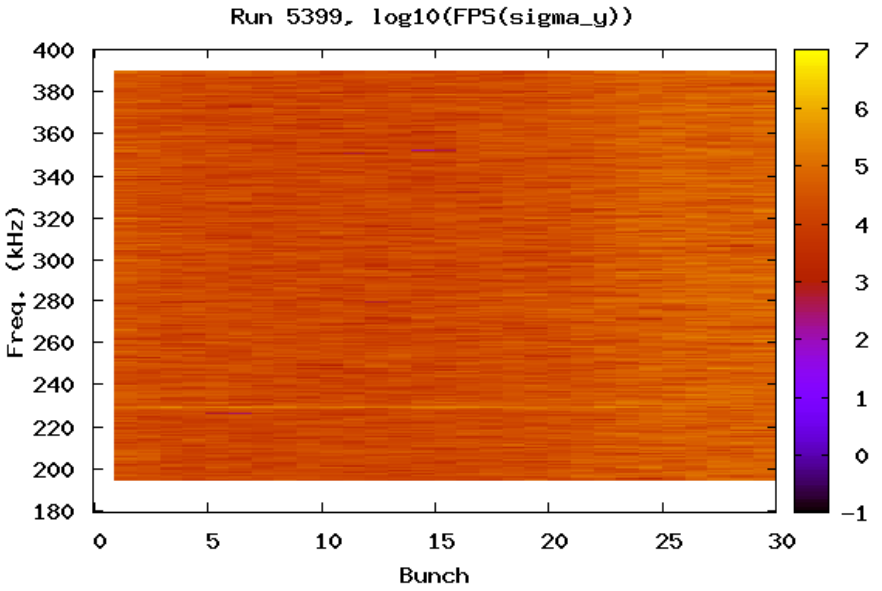


0.50 mA/bunch
Low Emittance
Super-high Chrom.
Norm. FB
FZP
4096 Turns

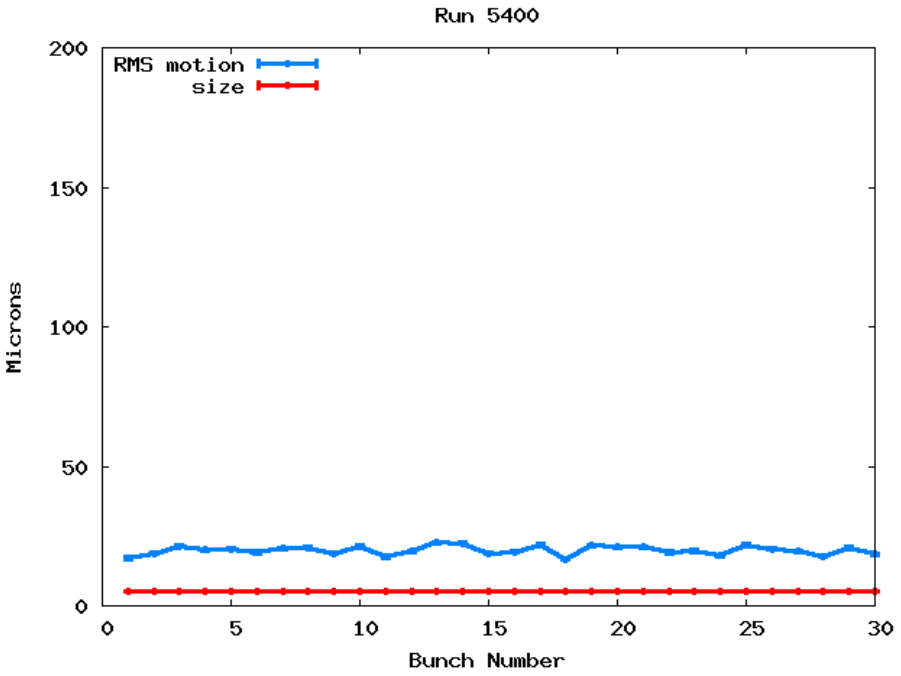


#Run 5399
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 8.09753 0.0573053 16.4393 0.256896
2 7.41333 0.0533733 16.3042 0.254784
3 6.67297 0.0460973 13.4157 0.209646
4 6.45386 0.0418076 12.5395 0.195954
5 6.41357 0.0417884 13.4707 0.210505
6 6.4447 0.0419605 12.1918 0.190519
7 6.27197 0.0381782 10.2537 0.160233
8 6.35986 0.0396922 10.5531 0.164912
9 6.28357 0.0393015 10.4216 0.162857
10 6.28296 0.0395756 11.6497 0.182049
11 6.43188 0.0409592 12.6135 0.19711
12 6.3269 0.0397486 11.108 0.173583
13 6.34399 0.0390683 10.4203 0.162838
14 6.48804 0.0414769 11.6116 0.181454
15 6.46301 0.0411314 11.0485 0.172655
16 6.56982 0.0436314 12.4865 0.195126
17 6.73828 0.0444135 10.6659 0.166676
18 6.71448 0.0460077 10.9133 0.170541
19 6.92017 0.0476901 10.817 0.169036
20 7.04407 0.0488141 10.3056 0.161045
21 7.34192 0.0520927 10.8398 0.169392
22 8.15735 0.0584411 13.6851 0.213856
23 8.95569 0.0647462 13.7481 0.21484
24 10.1184 0.070156 13.4892 0.210795
25 11.6986 0.0731598 13.3977 0.209365
26 11.6821 0.0751137 13.3907 0.209255
27 12.1045 0.0761235 12.999 0.203135
28 12.8461 0.0756301 14.5298 0.227056
29 13.2556 0.0752134 12.8698 0.201115
30 13.2355 0.0780689 14.0784 0.220001





0.50 mA/bunch Low Emittance Super-high Chrom. Norm. FB GAP 4096 Turns



#Run 5400
#bunch ave(size) sig(size)/sqrt(n-1) sig(pos) sig(pos)/sqrt(n-1)
1 5.12085 0.0448504 17.0987 0.2672
2 5.12451 0.0453027 18.8977 0.295312
3 5.22339 0.0588525 21.3691 0.333933
4 5.22522 0.0600572 20.1198 0.314411
5 5.18005 0.0582173 20.4561 0.319665
6 5.19226 0.0537132 19.1596 0.299405
7 5.24536 0.0619351 20.5143 0.320575
8 5.22888 0.0614341 20.8883 0.326419
9 5.17639 0.054086 18.8952 0.295274
10 5.25879 0.0638066 21.1745 0.330893
11 5.14282 0.0485917 17.6181 0.275316
12 5.1886 0.0541035 19.4935 0.304624
13 5.3064 0.0727163 22.5932 0.353063
14 5.30273 0.0712917 22.414 0.350262
15 5.15808 0.0507228 18.7171 0.29249
16 5.23132 0.0632135 19.4225 0.303513
17 5.27283 0.0652277 21.936 0.342792
18 5.13611 0.0492855 16.712 0.261157
19 5.24963 0.0651647 21.5633 0.336968
20 5.25757 0.0660968 21.0164 0.328422
21 5.23193 0.0601533 21.0165 0.328423
22 5.20325 0.058032 19.1765 0.29967
23 5.19836 0.0561632 19.6945 0.307765
24 5.21667 0.0605407 17.9694 0.280806
25 5.29846 0.0706847 21.8771 0.341872
26 5.26184 0.0682697 20.3525 0.318047
27 5.24292 0.0636406 19.4641 0.304164
28 5.19897 0.0561925 17.6885 0.276416
29 5.28198 0.0649405 20.7547 0.324331
30 5.27832 0.0593817 18.5132 0.289304