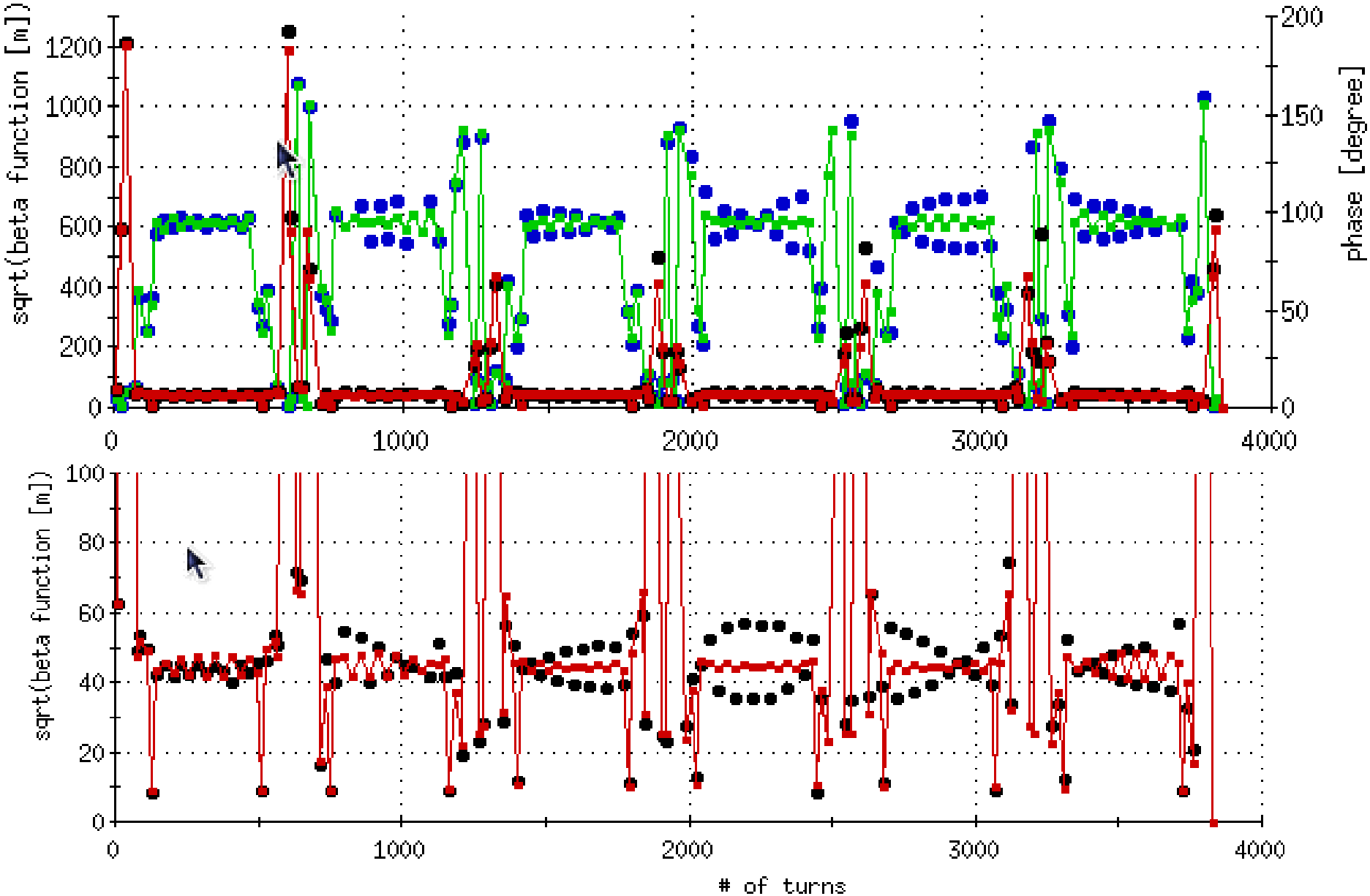
Status of optics measurements:

- Both H & V in Yellow were measured with y12-qf2 dI=18Amp
  - H beta*:
    - 2.50, 2.96, 1.02, 0.96, 3.31, 3.16
    - 2.37, 3.08, 1.02, 1.00, 3.17, 3.39
  - V beta*:
    - 3.48, 3.22, 1.07, 1.20, 2.72, 3.03
    - 3.42, 3.15, 1.07, 1.20, 2.73, 3.06

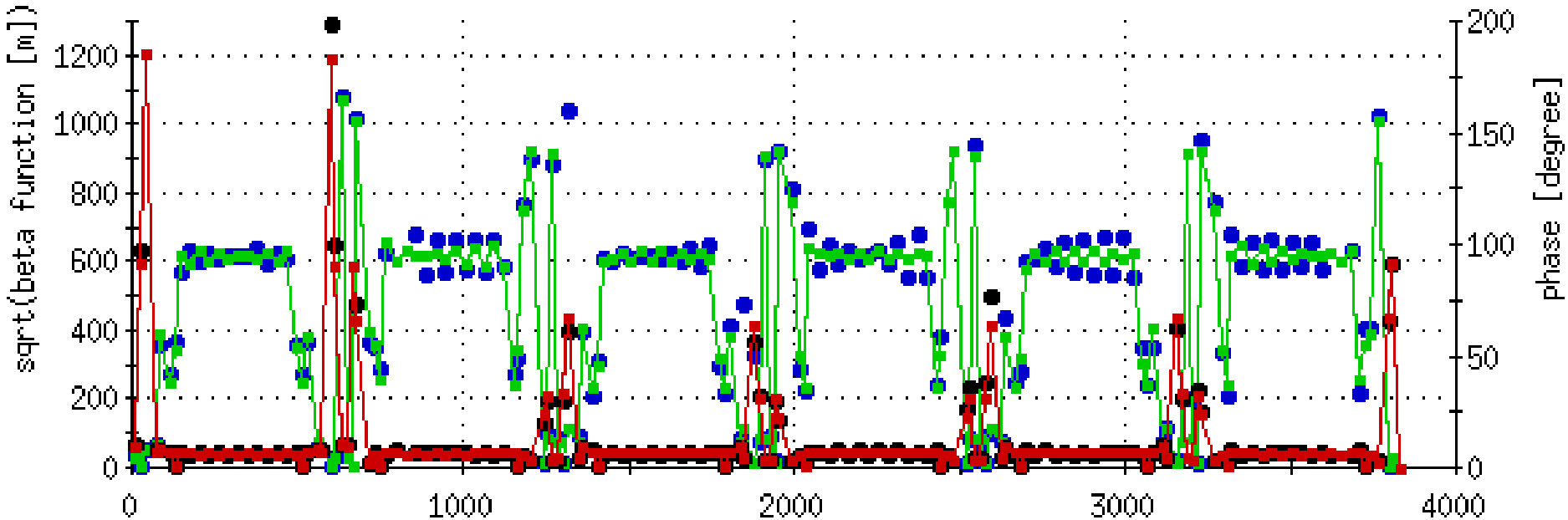
  - fluctuations between the two optics measurements with the same ac dipole setup and beam condition

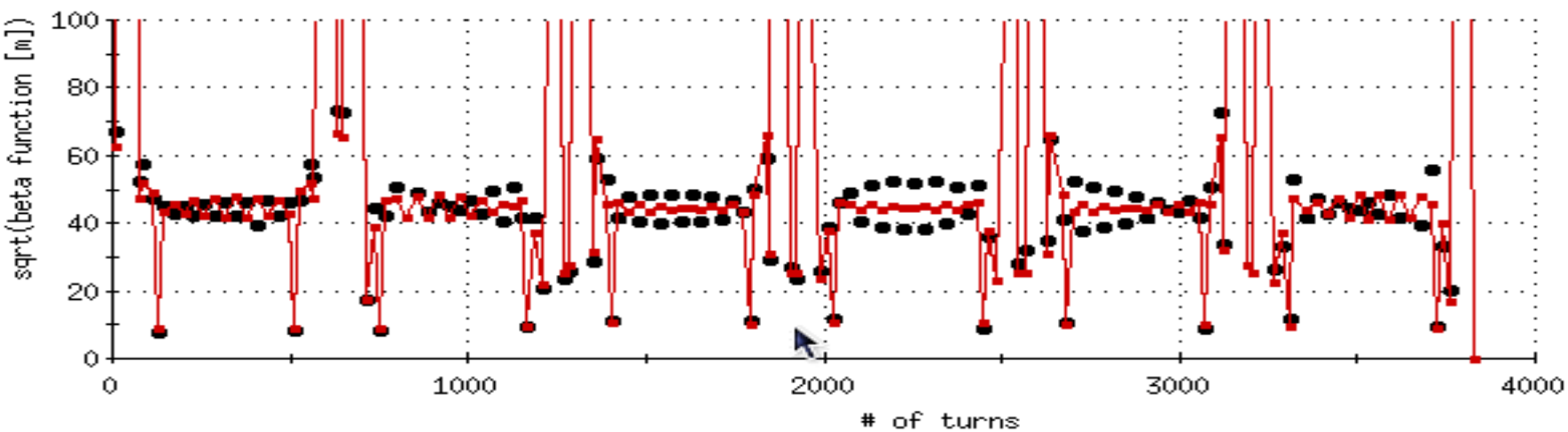
- For the regular lattice, since we didn't have time to optimize the machine for the ac dipole optics measurement, only two horizontal data sets with ac dipole driving at +0.02 away from betatron tune can be used. The other data sets with ac dipole drive tune -0.02 away show very strong coupling.

- From the two data sets, the H beta*:
  - --, --, --, 1.15, 2.77, 3.18
  - 3.02,3.37, --, 1.05, 3.07, 3.15
  - 10% fluctuation at IP8 with the same conditions

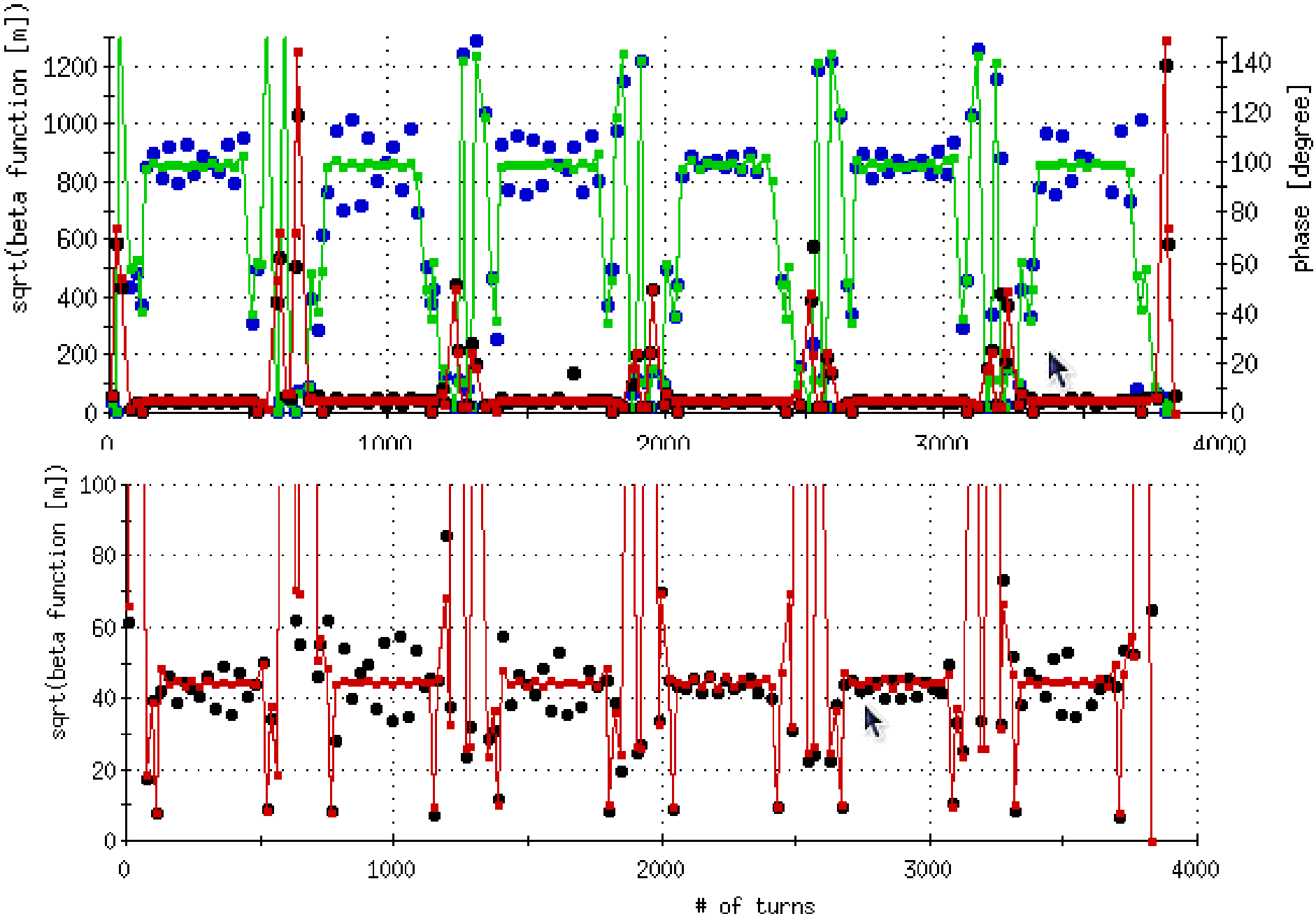


- hacd_store_09
- H IP8 Beta*: 2.36,3.08,1.02,0.997,3.17,3.39

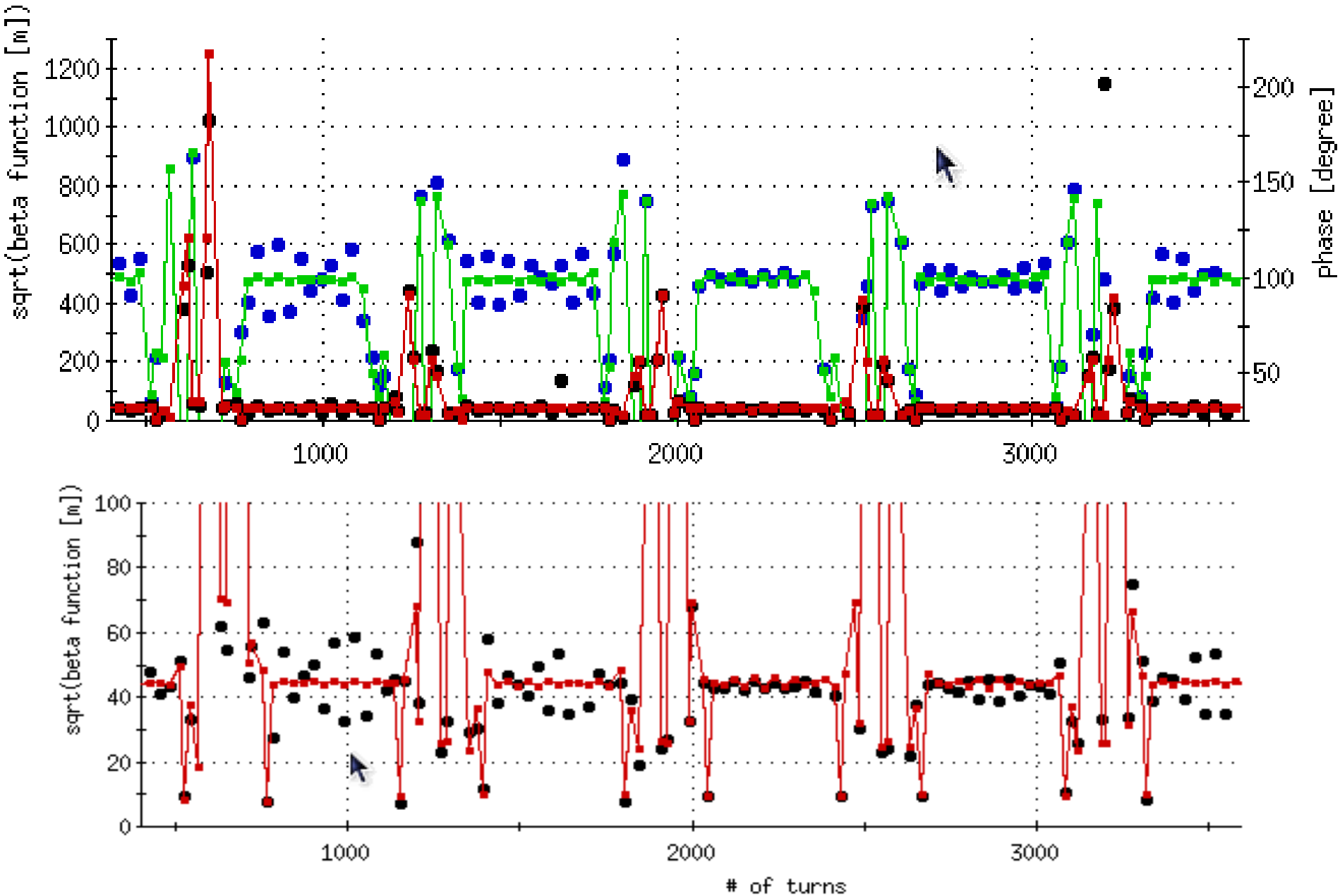




- hacd_store_08
- H IP8 Beta*: 2.50,2.96,1.02,0.962,3.31,3.16



- vacd_store_07
- H IP8 Beta*: 1.74,3.22,1.07,1.20,2.72,3.03



- vacd_store_08
- H IP8 Beta*: 1.74,3.22,1.07,1.20,2.72,3.03

Status of optics measurements:

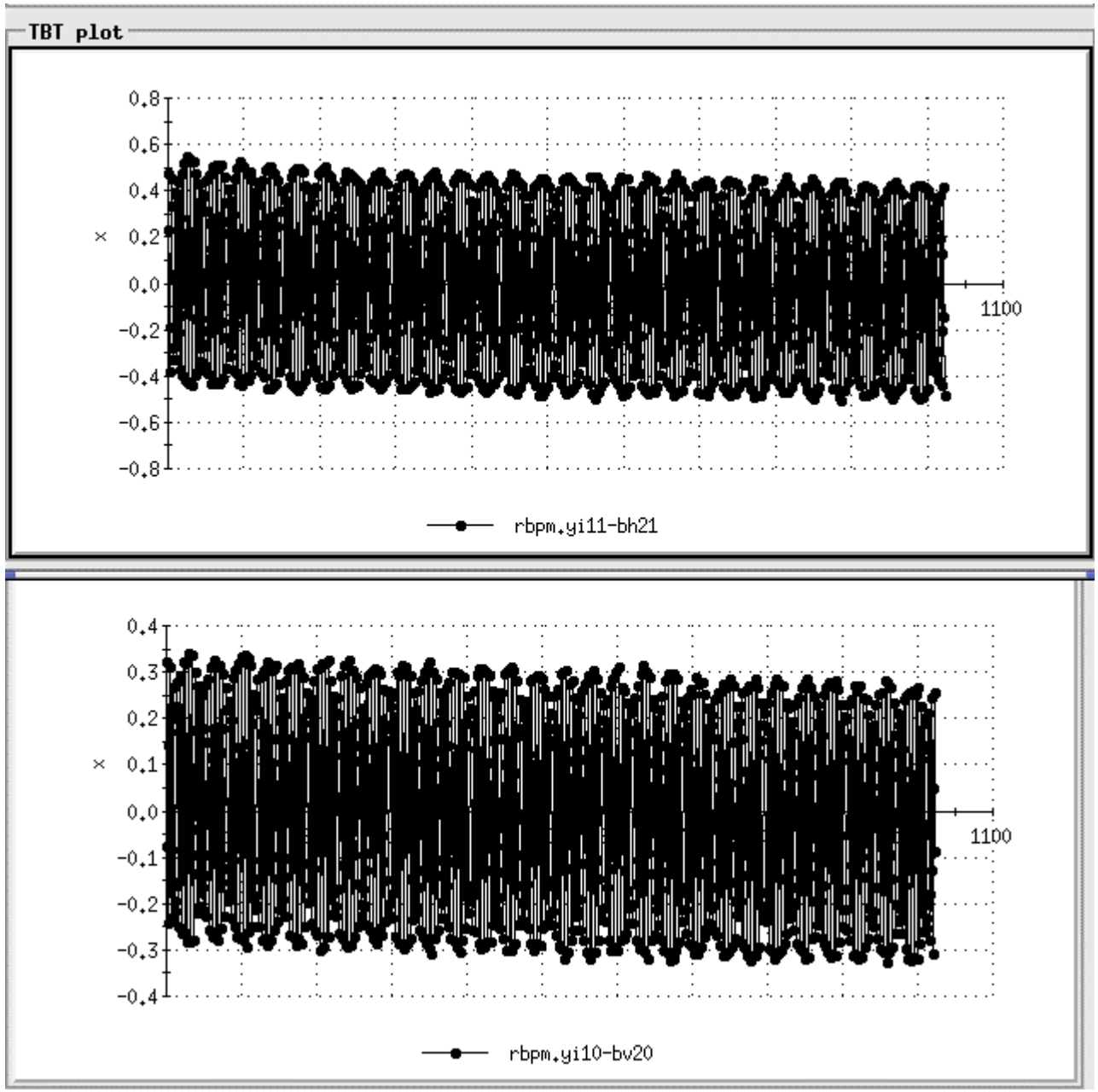
- Both H & V in Yellow were measured with y12-qf2 dI=18Amp
  - H beta*:
    - 2.50, 2.96, 1.02, 0.96, 3.31, 3.16
    - 2.37, 3.08, 1.02, 1.00, 3.17, 3.39
  - V beta*:
    - 3.48, 3.22, 1.07, 1.20, 2.72, 3.03
    - 3.42, 3.15, 1.07, 1.20, 2.73, 3.06

  - fluctuations between the two optics measurements with the same ac dipole setup and beam condition

- For the regular lattice, since we didn't have time to optimize the machine for the ac dipole optics measurement, only two horizontal data sets with ac dipole driving at +0.02 away from betatron tune can be used. The other data sets with ac dipole drive tune -0.02 away show very strong coupling.

- From the two data sets, the H beta*:
  - --, --, --, 1.15, 2.77, 3.18
  - 3.02,3.37, --, 1.05, 3.07, 3.15
  - 10% fluctuation at IP8 with the same conditions

Strong coupling!



Status of optics measurements:

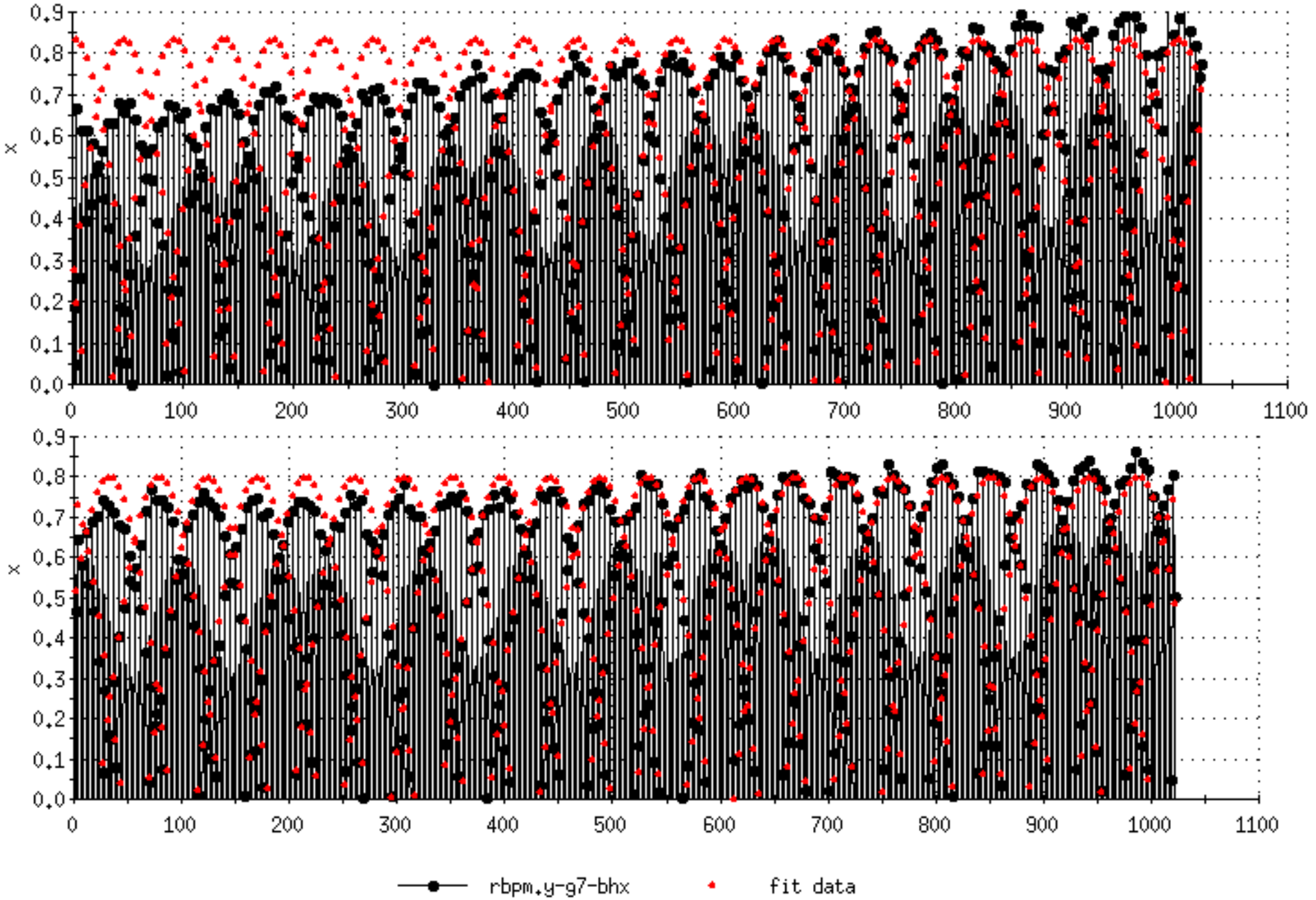
- Both H & V in Yellow were measured with y12-qf2 dI=18Amp
  - H beta*:
    - 2.50, 2.96, 1.02, 0.96, 3.31, 3.16
    - 2.37, 3.08, 1.02, 1.00, 3.17, 3.39
  - V beta*:
    - 3.48, 3.22, 1.07, 1.20, 2.72, 3.03
    - 3.42, 3.15, 1.07, 1.20, 2.73, 3.06

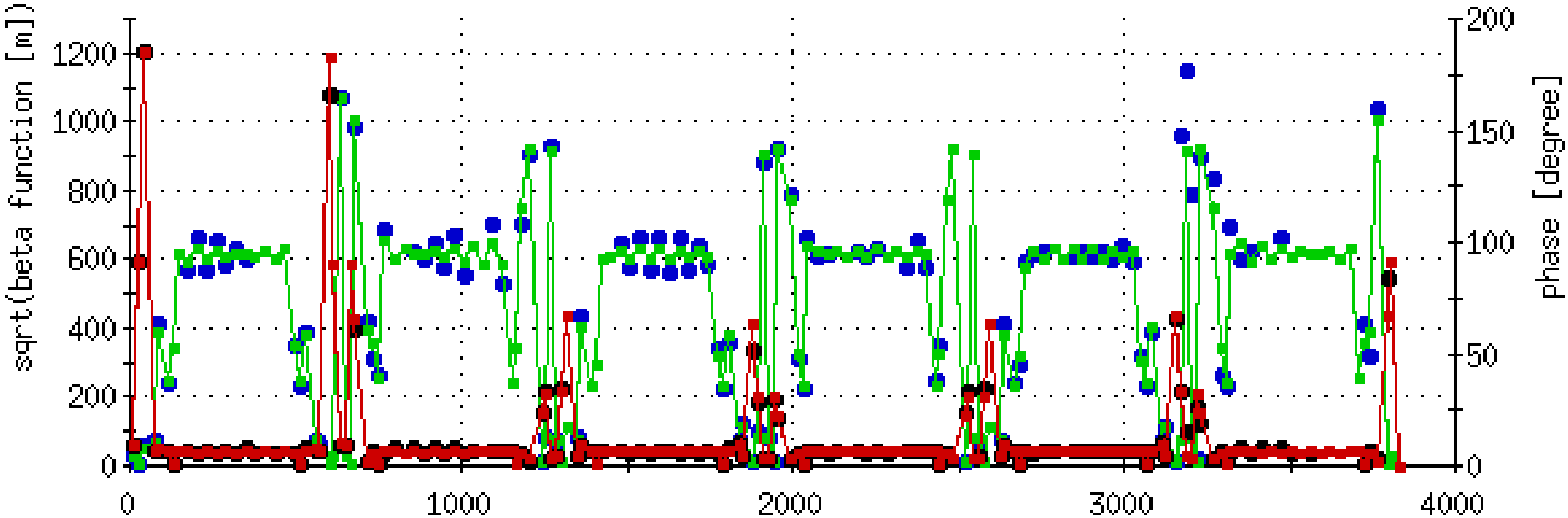
  - fluctuations between the two optics measurements with the same ac dipole setup and beam condition

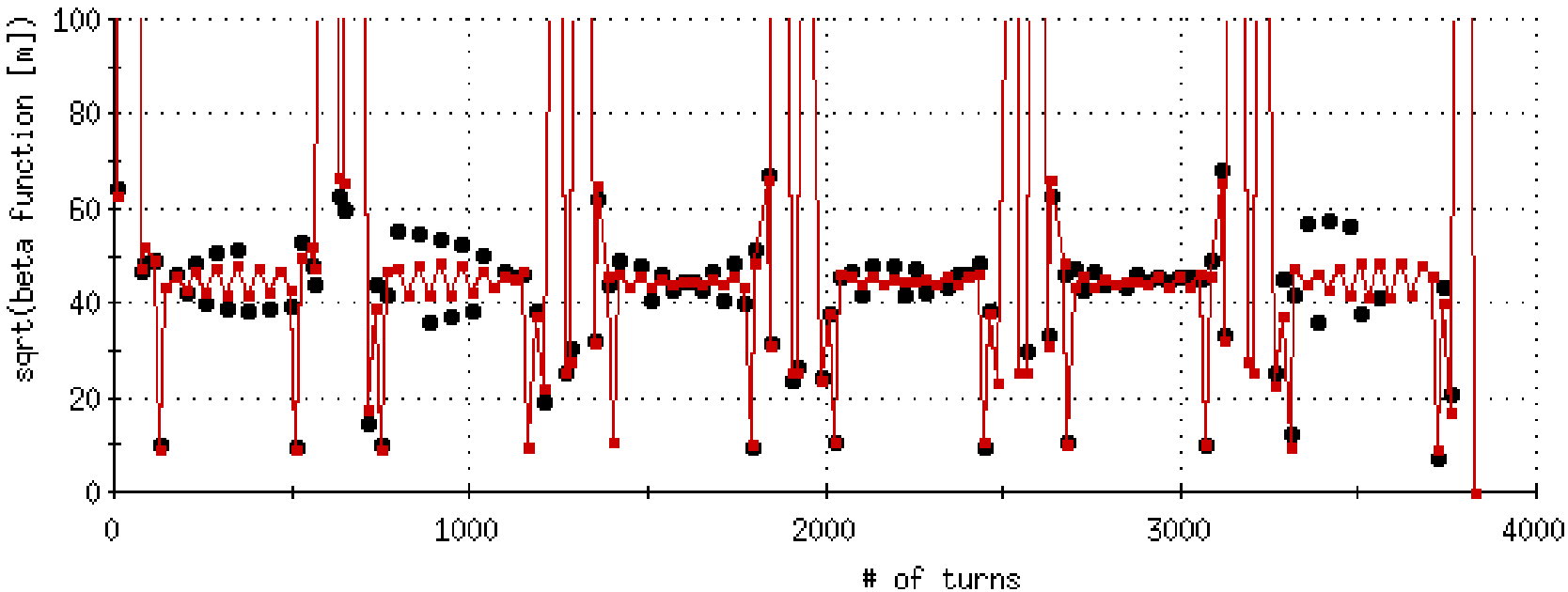
- For the regular lattice, since we didn't have time to optimize the machine for the ac dipole optics measurement, only two horizontal data sets with ac dipole driving at +0.02 away from betatron tune can be used. The other data sets with ac dipole drive tune -0.02 away show very strong coupling.

- From the two data sets, the H beta*:
  - --, --, --, 1.15, 2.77, 3.18
  - 3.02,3.37, --, 1.05, 3.07, 3.15
  - 10% fluctuation at IP8 with the same conditions

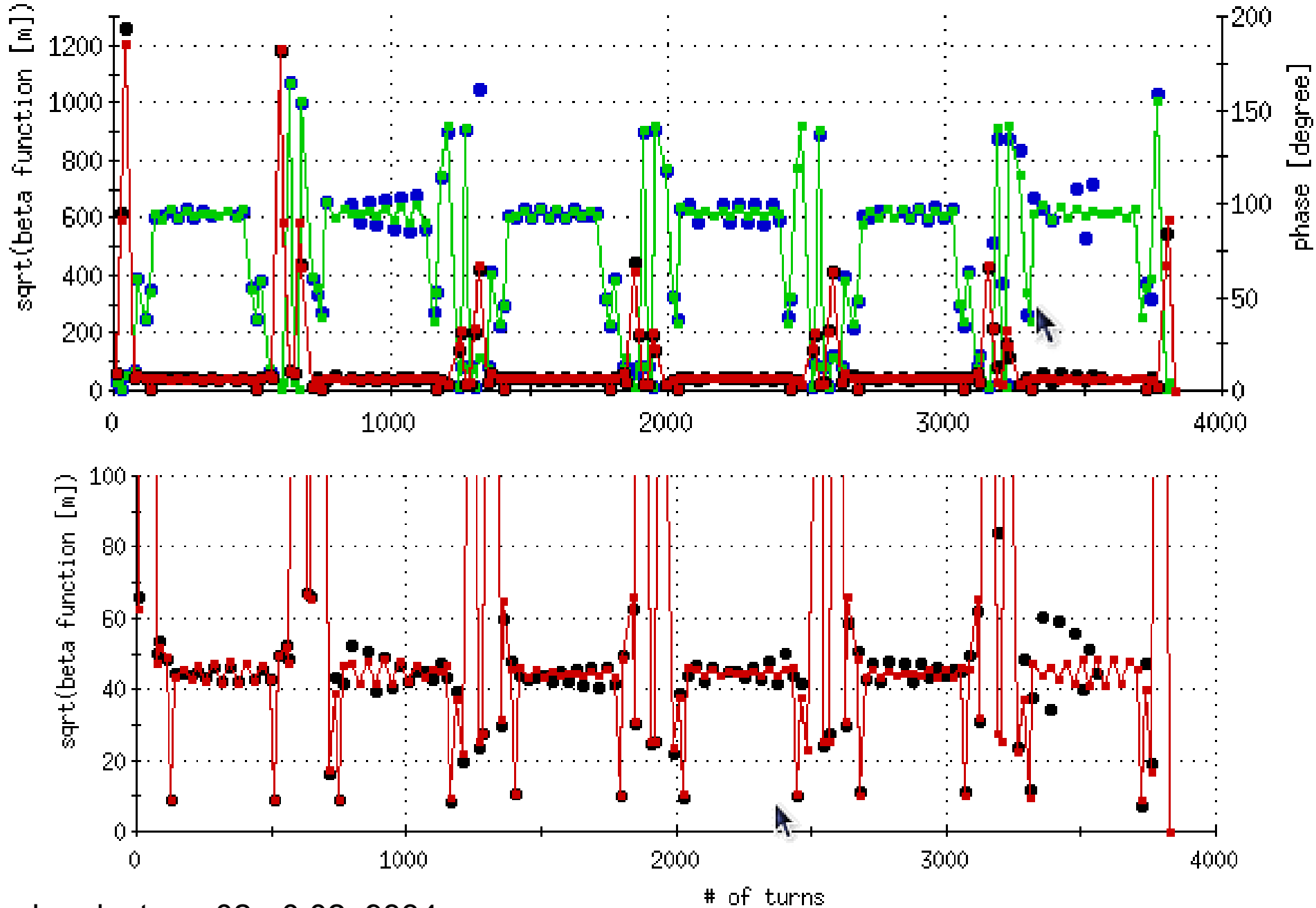
10 Hz?


0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
x
0
100
200
300
400
500
600
700
800
900
1000
1100
rbpm.y-g7-bhx
fit data





- hacd_store_01_-0.02: 9334
- H IP8 Beta*: -1,-1,-1,1.16,2.77,3.19



- hacd_store_02_-0.02: 9334
- H IP8 Beta*: -1,-1,-1,1.16,2.77,3.19

Plan:

- will repeat the Yellow measurement at store during the coming APEX with

  - decouple machine
  - minimize chromaticity
  - driving tune closer than 0.01 from betatron tune