

IBS study 12-14-04 4-8 am

AVT 3-25-2005

15 bunches injected in groups of 3 with 5 different intensities are shown below. The horizontal scale is nsec and the vertical is volts out of the SBD.

15 bunches just after scraping

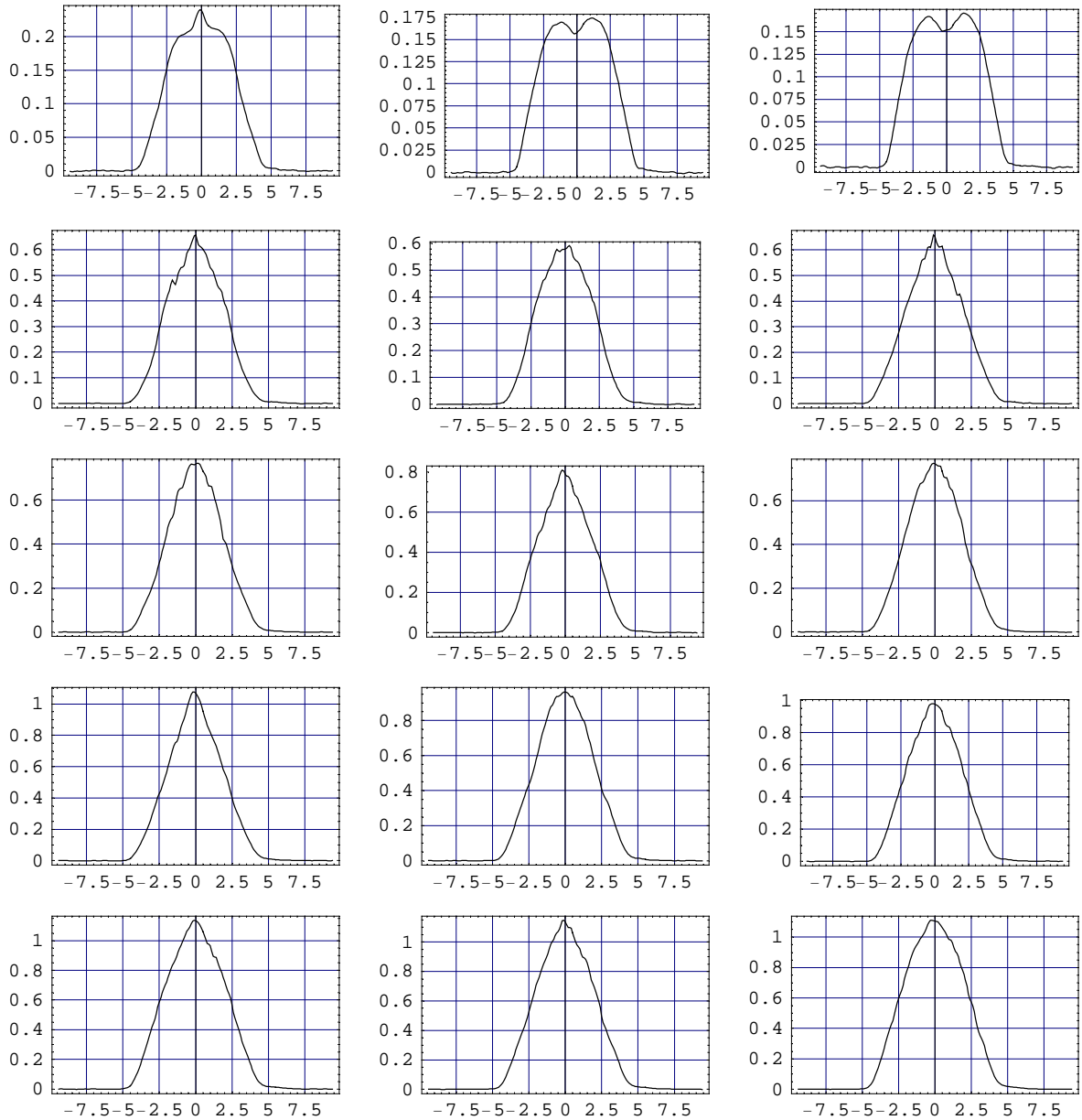


Figure 1

The following shows the phase space density vs action for the 15 bunches. The Black is at 150 GeV and the Red at 980 just after scraping. The distributions are well preserved during acceleration.

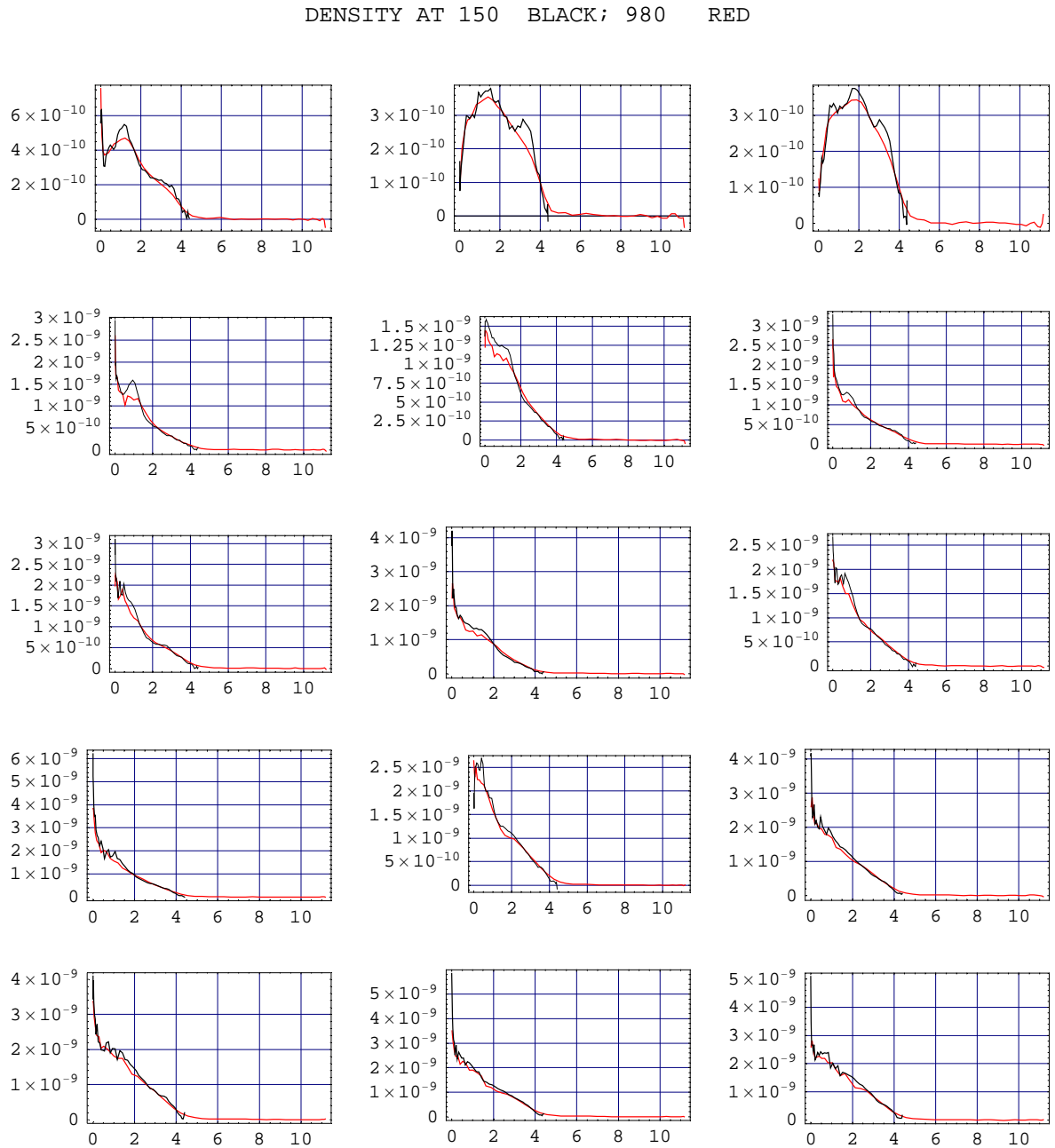


Figure 2

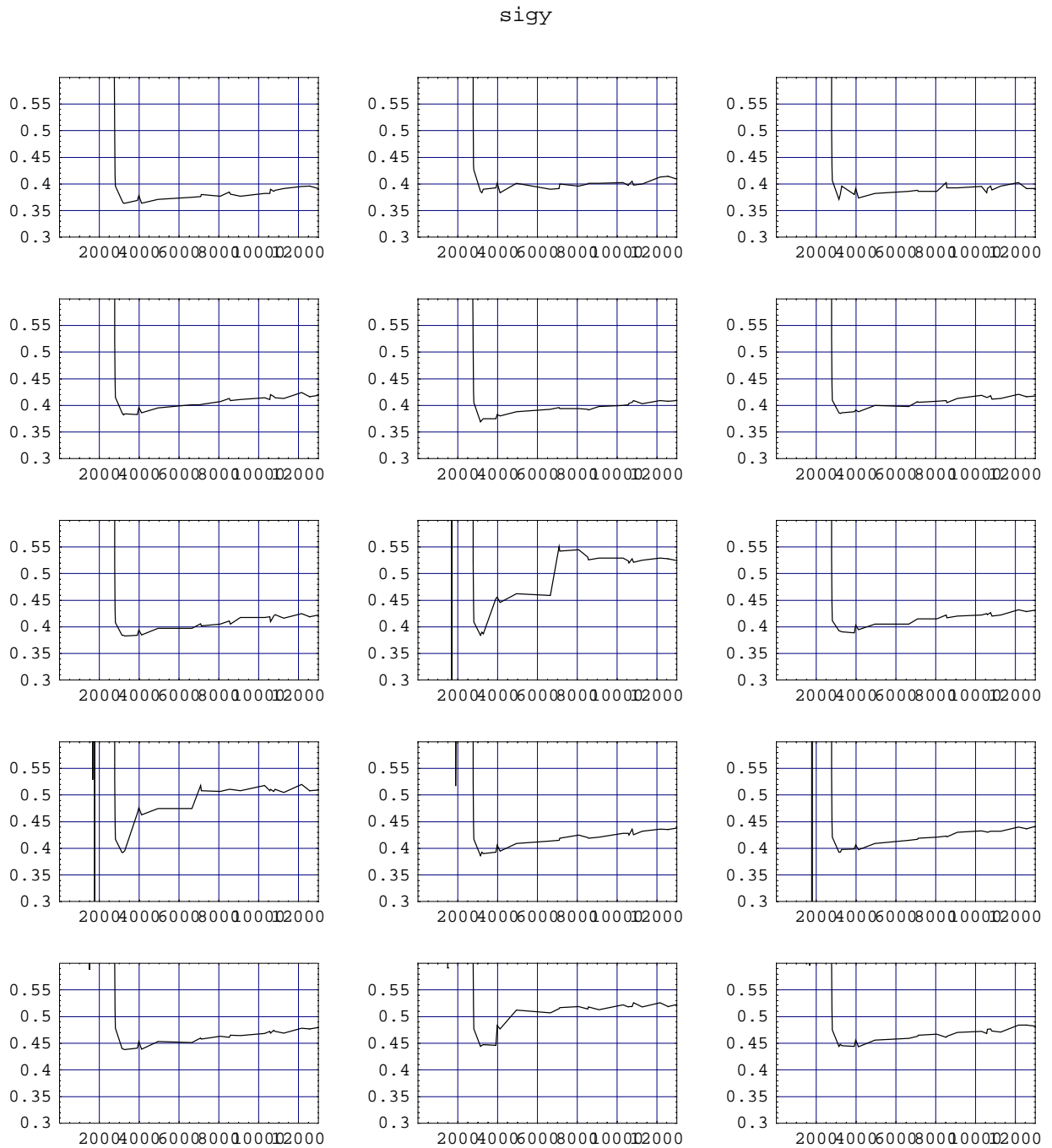


Figure 3

The 15 test bunches. 8, 10, and 14 blew up in the vertical direction. There is only a very small change in the corresponding x direction. See the following figure. A comparison with the lattice parameters given in note 1465 indicate that the blow up occurred in ϵ_2 which has a very small coupling to σ_x .

sigx

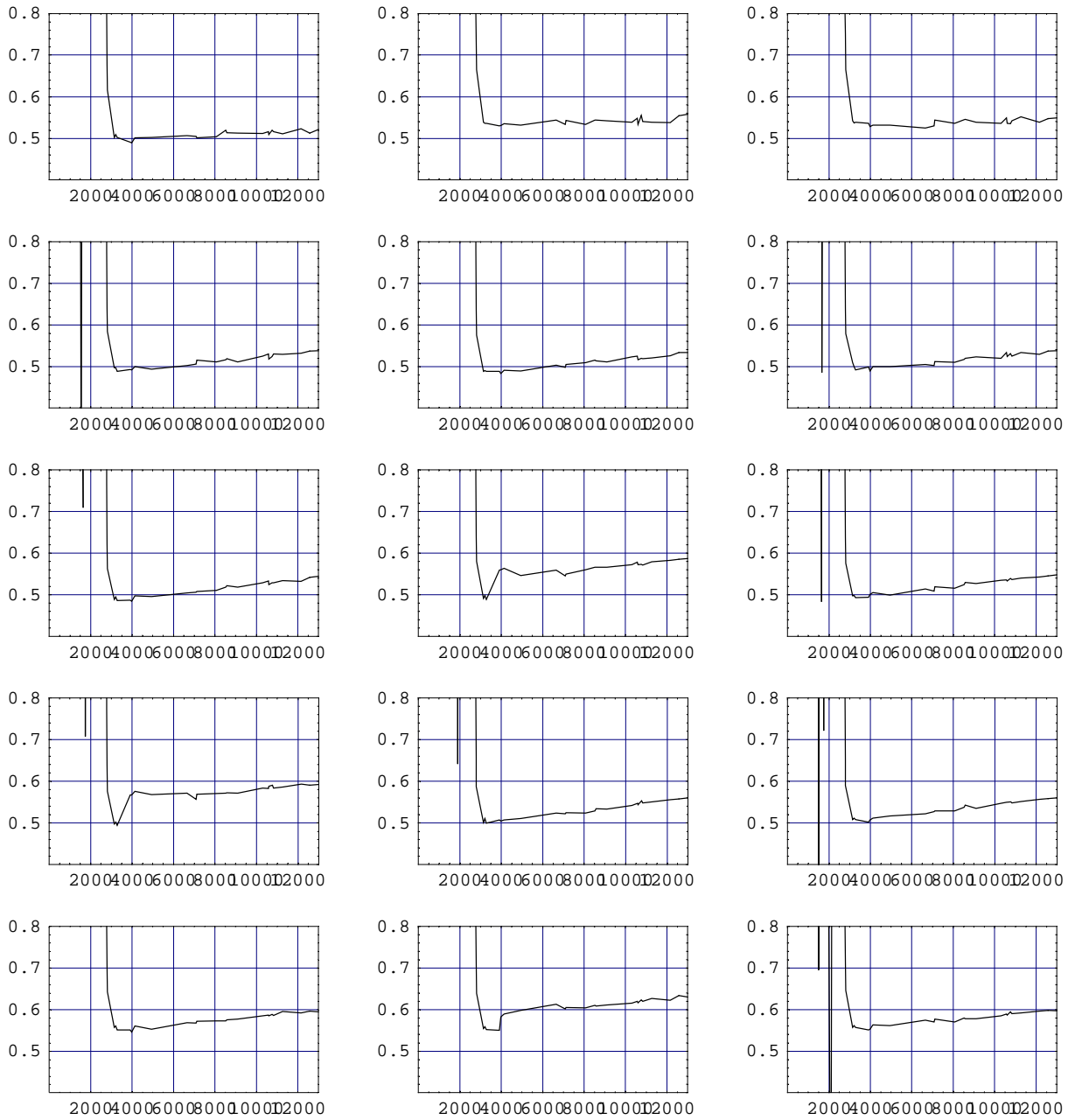
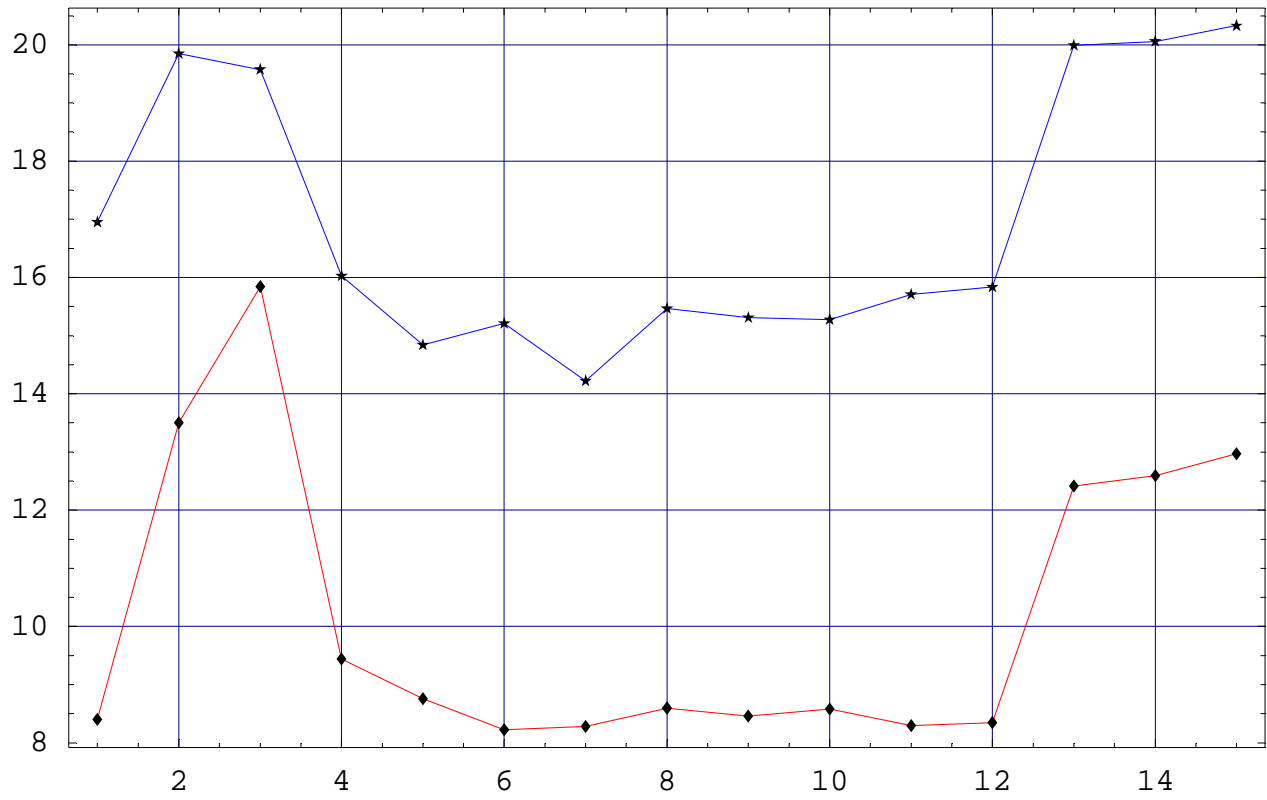


Figure 4

ϵ_x vs bunch number Lattice DOC1465

RED 150

BLUE 980



AT 150 BETAX = 86.9 $D_x = 2.877$ N. EDDY AT 980 BETAX = 86.2 $D_x = 2.71$

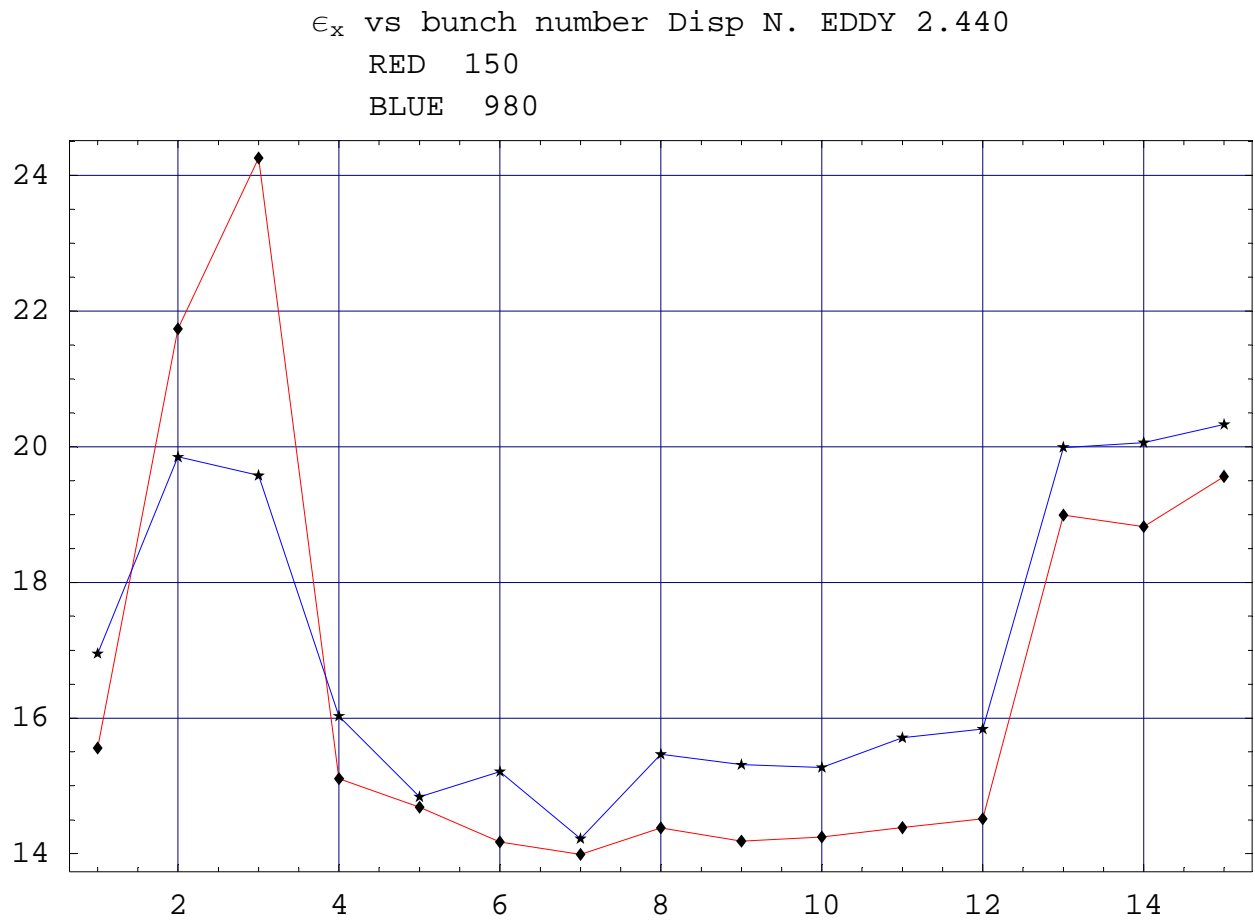


Figure 5

AT 150 BETAX = 86.9 $D_X = 2.440$ N. EDDY AT 980 BETAX = 86.2 $D_X = 2.71$

ϵ_y vs bunch number Lattice DOC1465

RED 150

BLUE 980

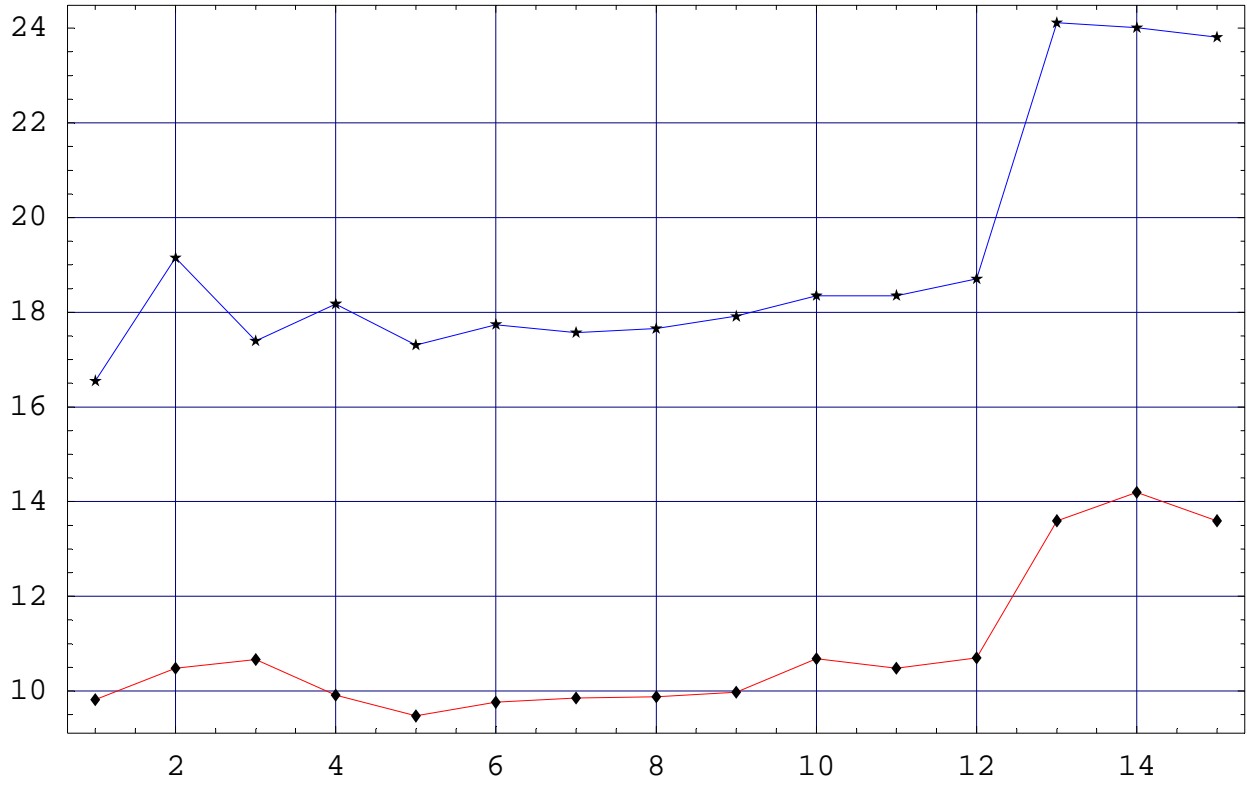


Figure 6

AT 150 BETAY= 101.28

AT 980 BETAY=59.4