

# MI8 line

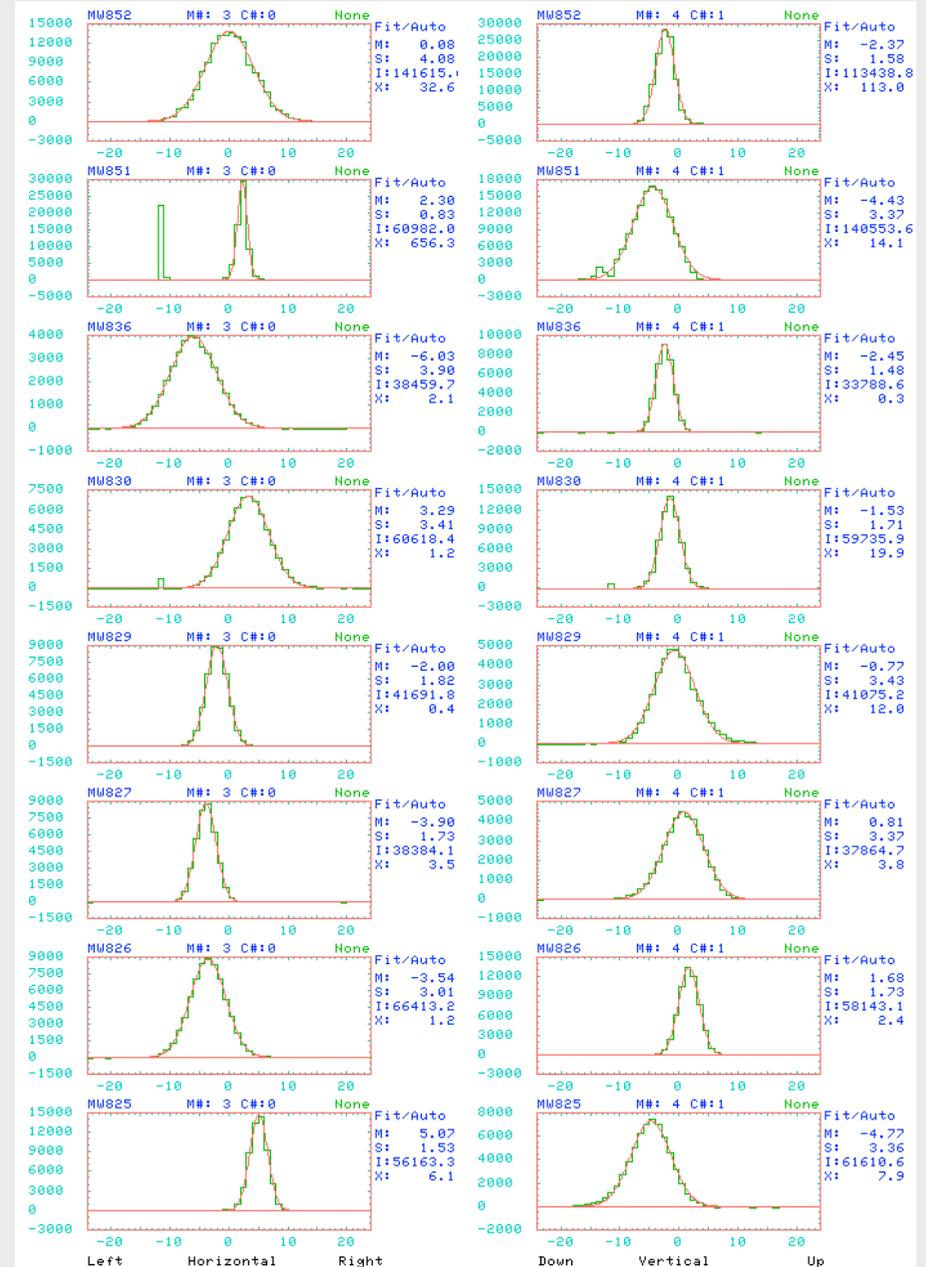
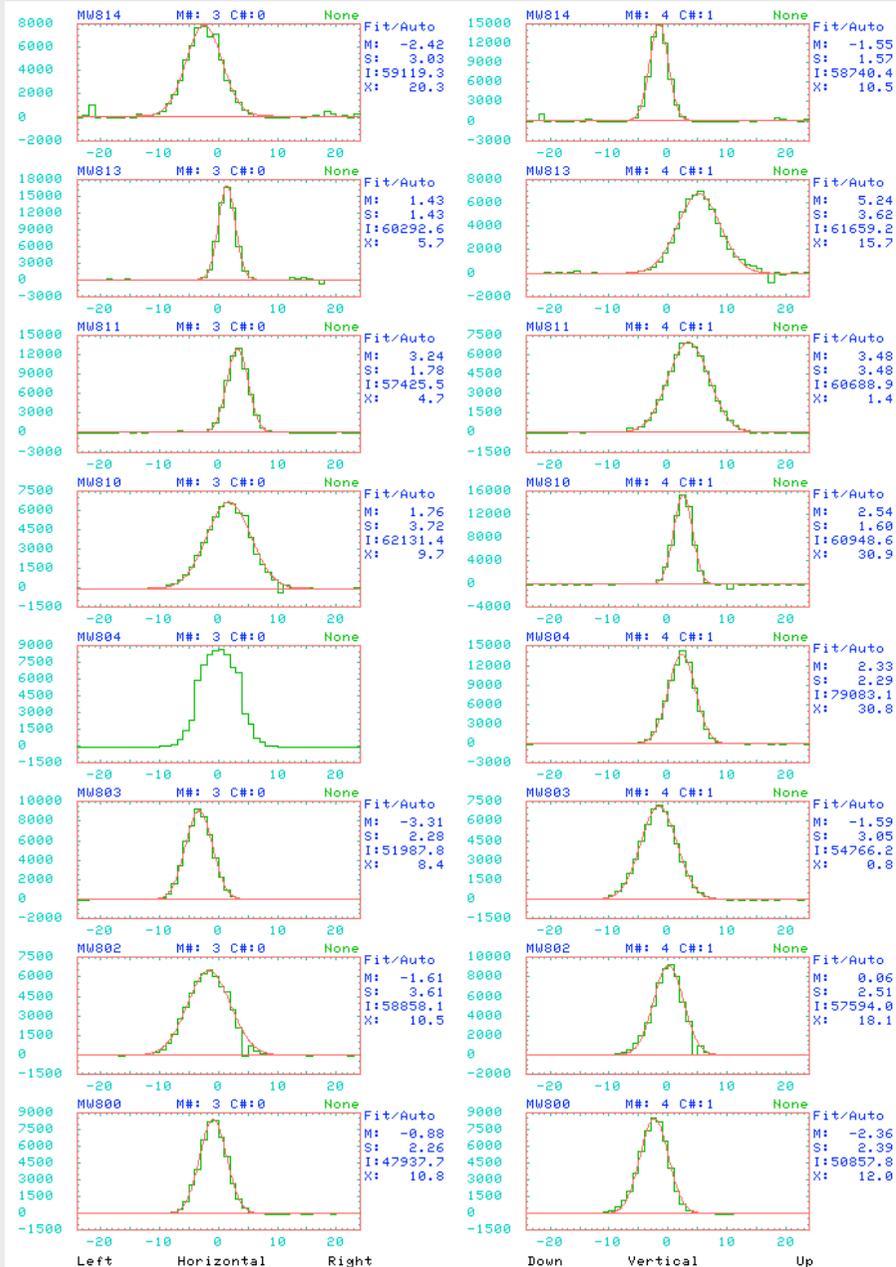
# Lattice function

Ming-Jen Yang  
Feb 3, 2009

# Profile data

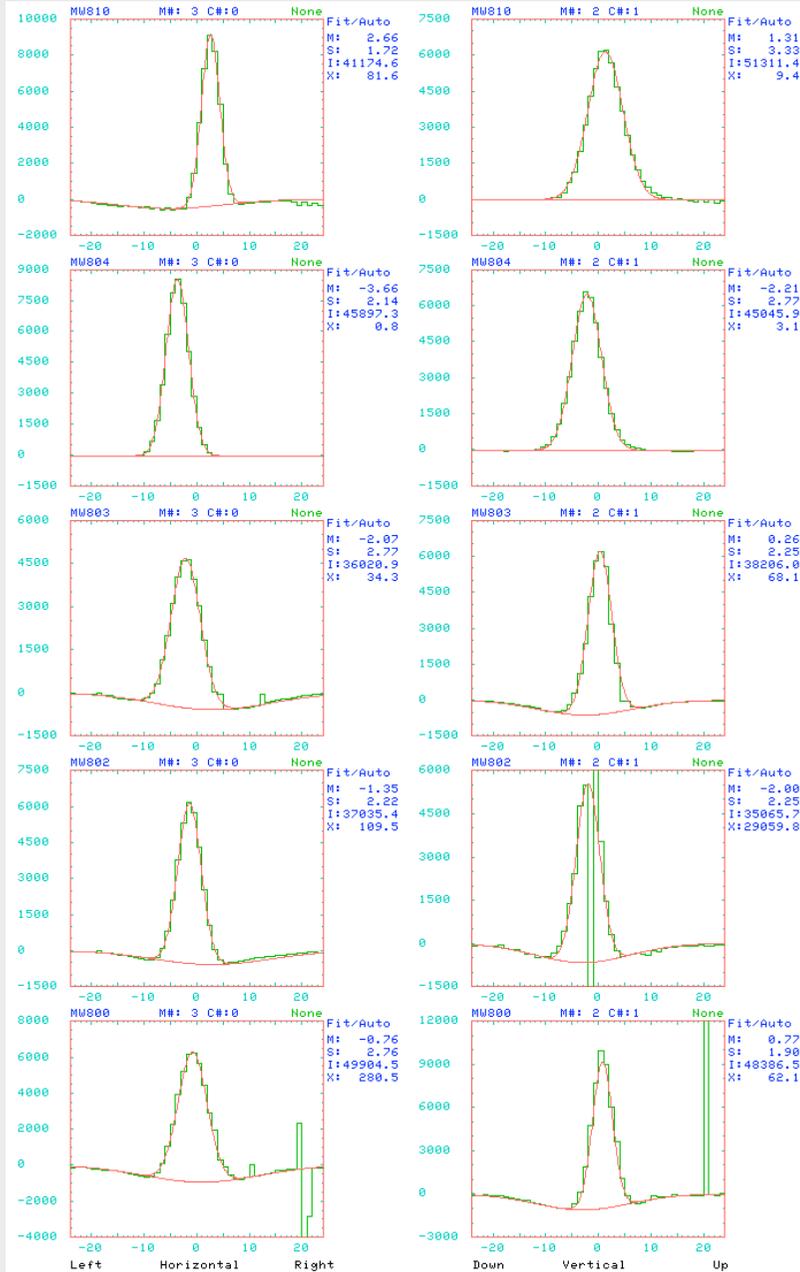
- ❖ Taken with \$19 cyclor for Numi.
- ❖ I90 has been up-dated
  - ▶ New release of multiwire software library.

# Profile data, mw800 to mw852

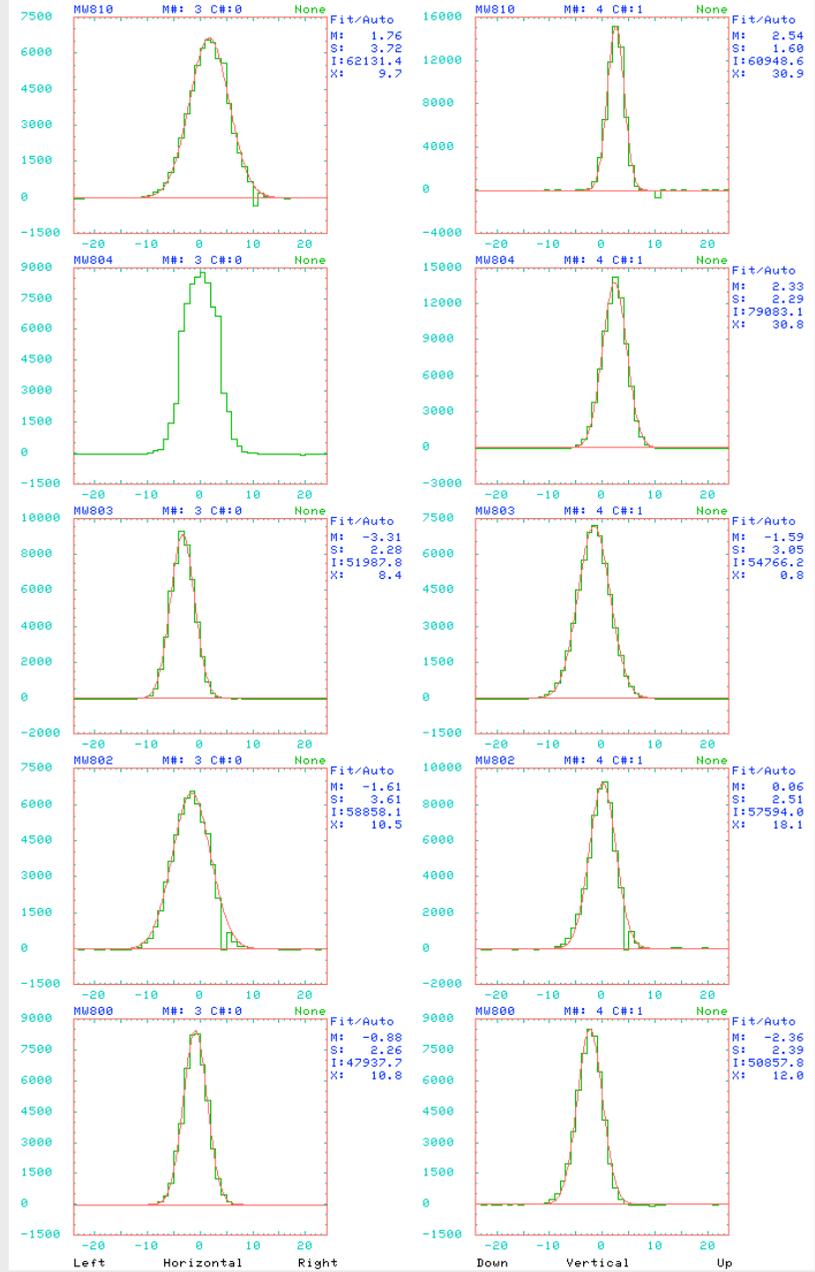


# Mysterious Baseline variation

Jan. 20, 2009, on Booster \$15



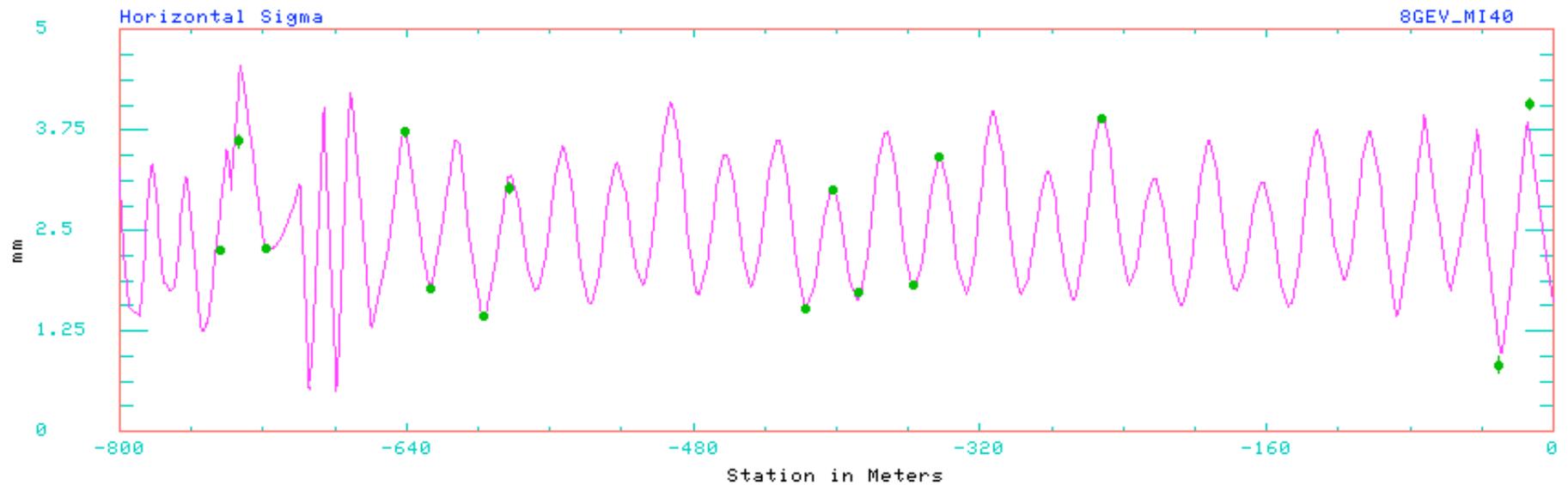
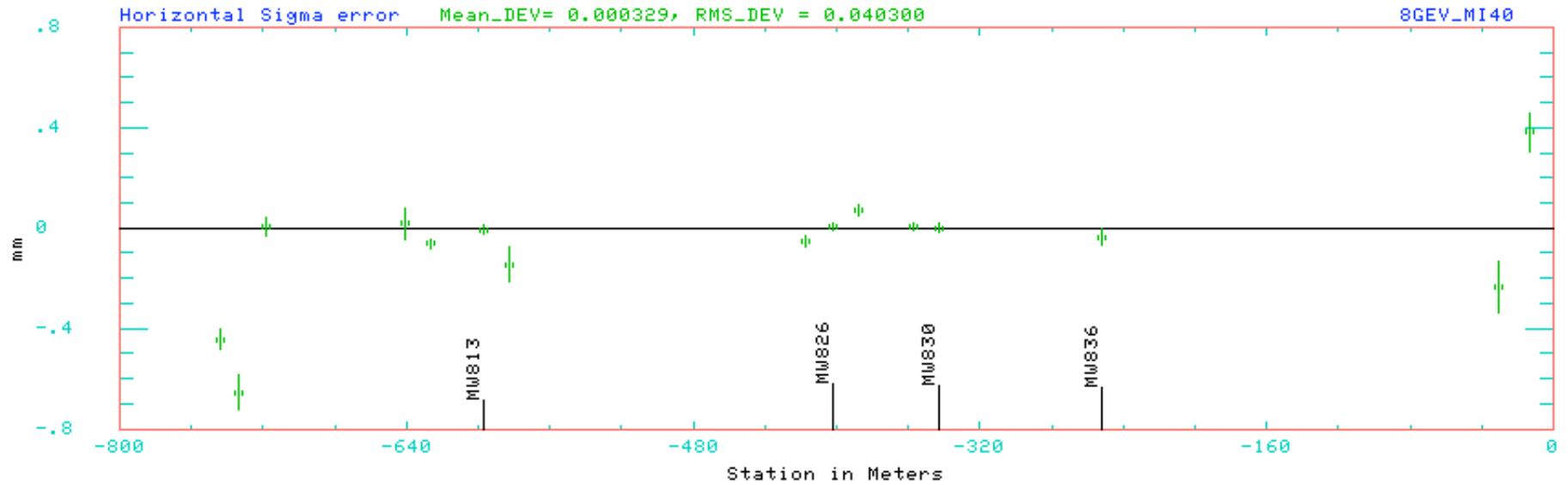
Feb. 05, 2009, on Booster \$19



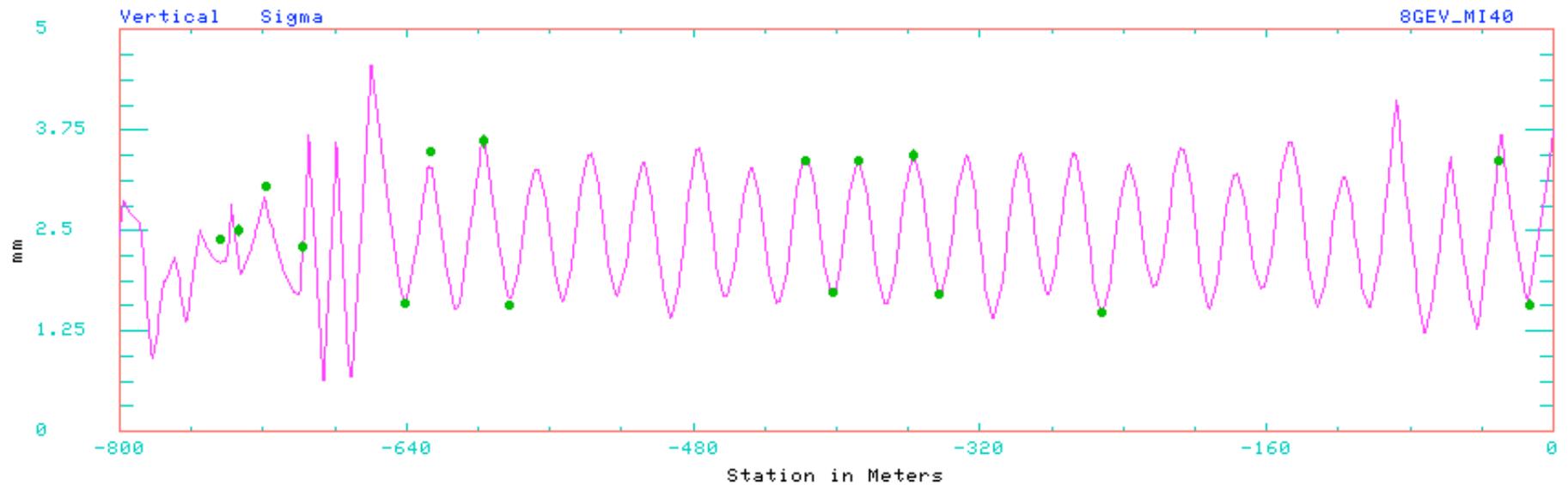
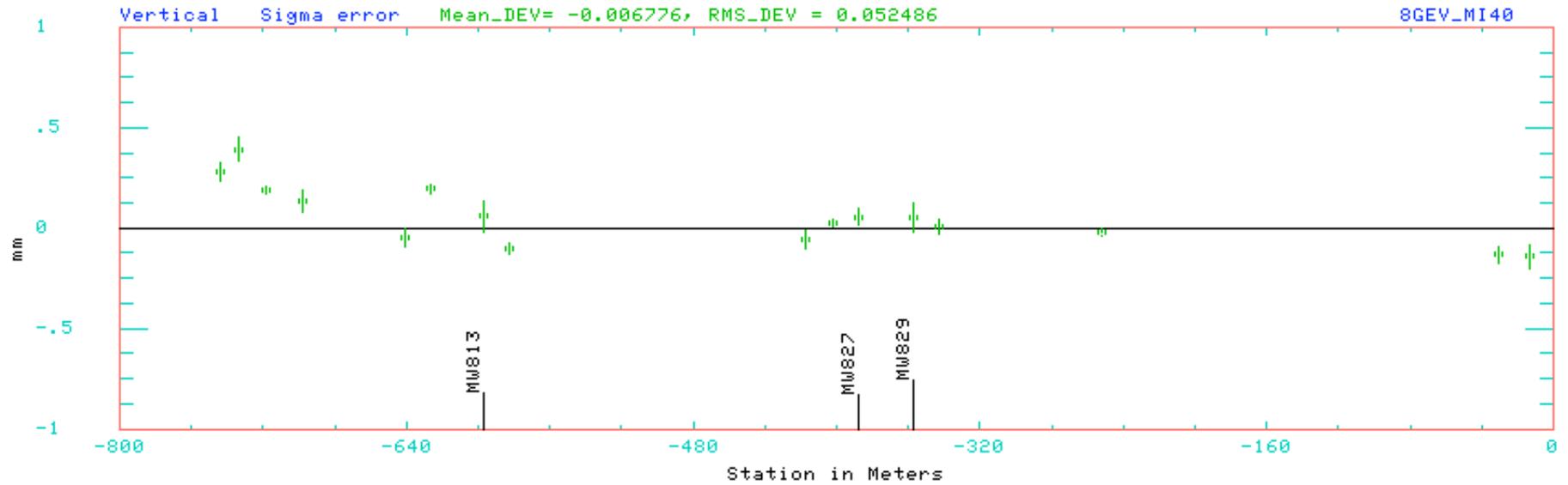
Fitting sigma for Lattice

Monitors upstream of mw810 were  
not used

# Horizontal sigma



# Vertical sigma



# Lattice fit results, Booster \$19

```
----- Lattice parameters -----
Select: [8GEV_MI40  ] as [Transfer line]
Start at element: [B00_CELL01] for [Proton  ]
*Track: [Lattice function] at ( 8      ) GeV

Lattice      Horz      Vert
Phase: ( 24.5399 ) ( 23.6125 ) 2 $\pi$ 
Beta: ( 86.4   ) ( 8.55   ) M
Alpha: ( -.02   ) ( -.65   )
eta: ( -3.7   ) ( -.08   ) M
etap: ( -.005  ) ( .006   )

Beam
Position: ( 0     ) ( 0     ) mm
Angle: ( 0     ) ( 0     ) mrad
Emittance: ( 2.28291 ) ( 2.17188 )  $\pi$ -mm-mrad
            $\pm$  .048859  $\pm$  .133311
Sigma P/P: ( .47176 )  $\pm$  .02971 E-3
Delta P/P: ( 0     )           E-3

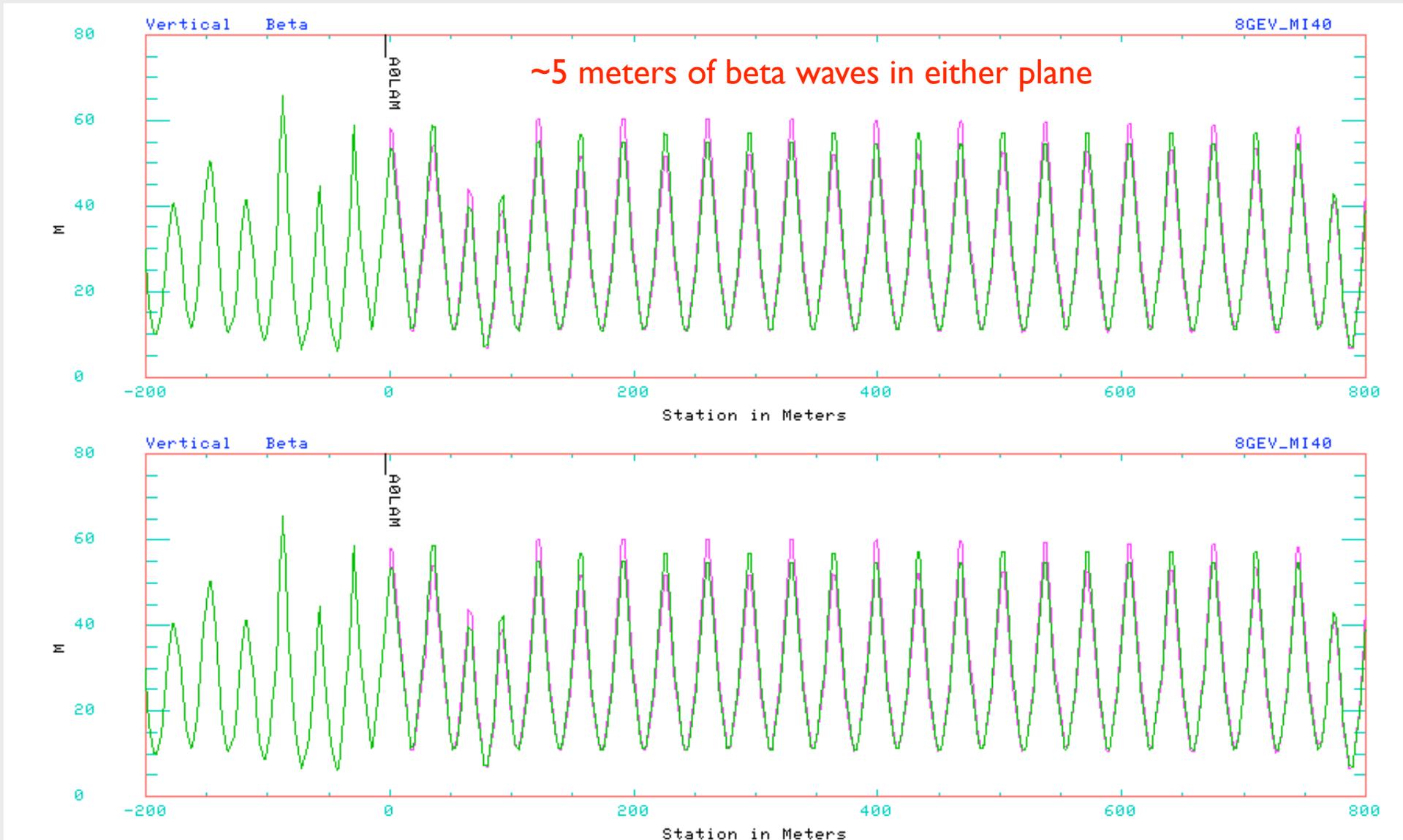
*Fit emittance: [Emitt & sig_p/p]
Momentum sigma from [Horizontal] plane

*Update [reference orbit]
Graphic window link: [GxPA 2]
*Set lattice to [Linear] order and with [Matrix]

<Exit>
```

# Projected MI injection beta mis-match

MI8 line ← → MI ring



# Conclusion

- ❖ Reading profile data
  - ▶ Error has been corrected.
- ❖ Lattice function
  - ▶ Beta error is projected to be about 5 meters.
  - ▶ Will not attempt to correct it for now.
- ❖ Profile baseline
  - ▶ Still in-consistent.
  - ▶ Same behavior seen with Booster style scanner.