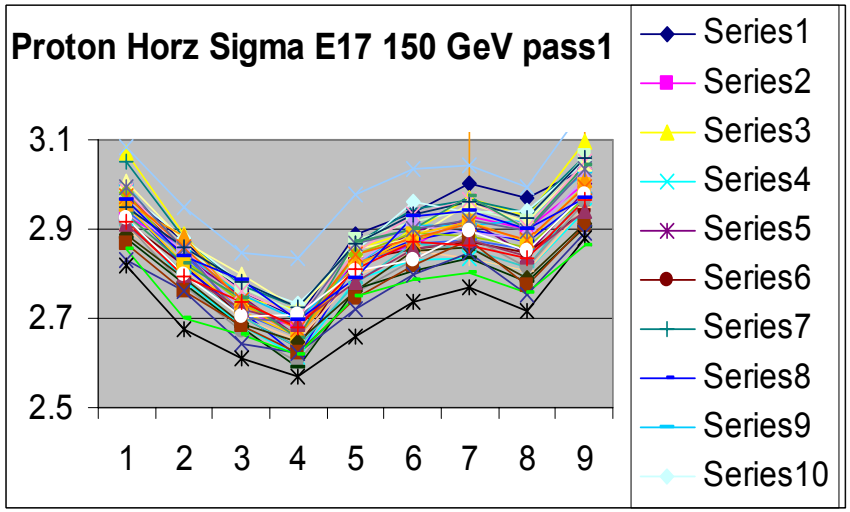
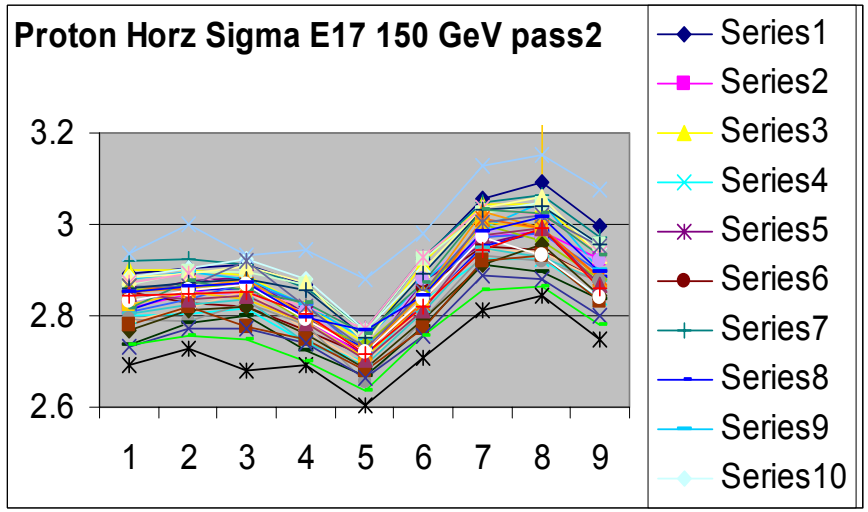
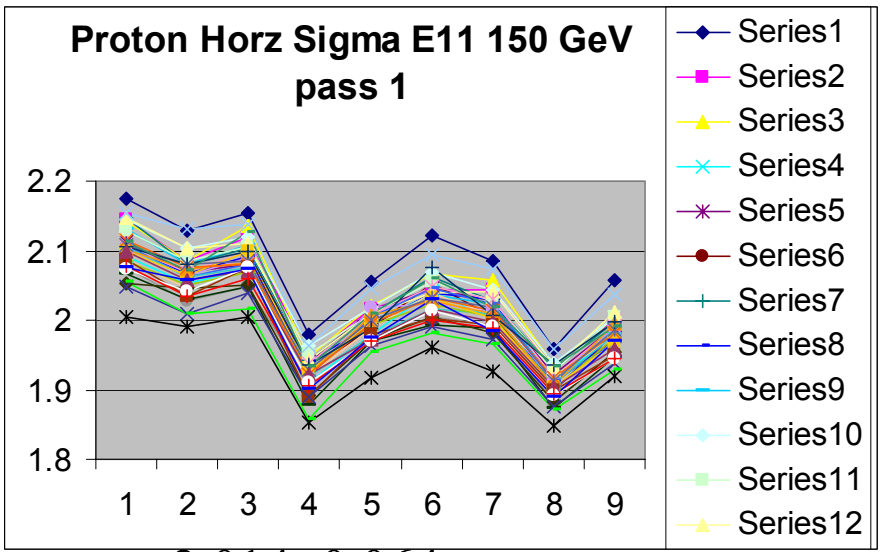
Store 1940



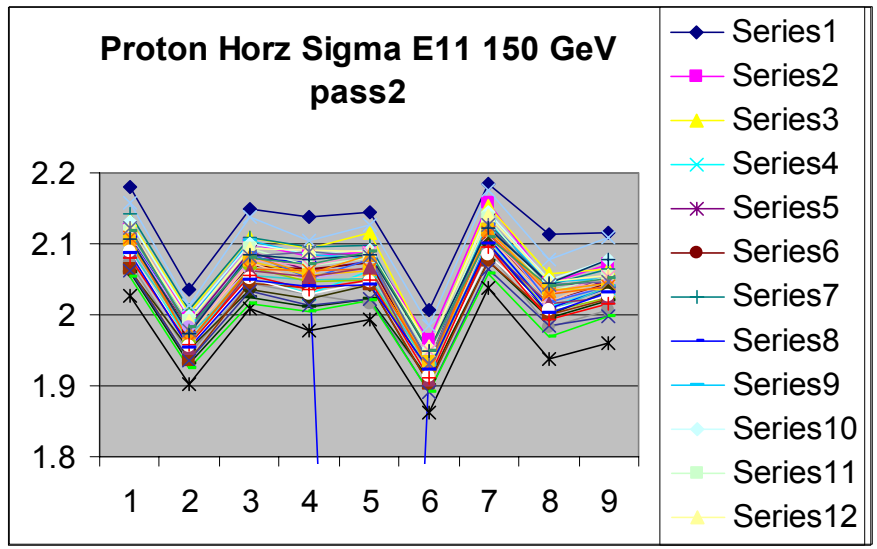
σ=2.846±0.097 mm



σ=2.863±0.079 mm

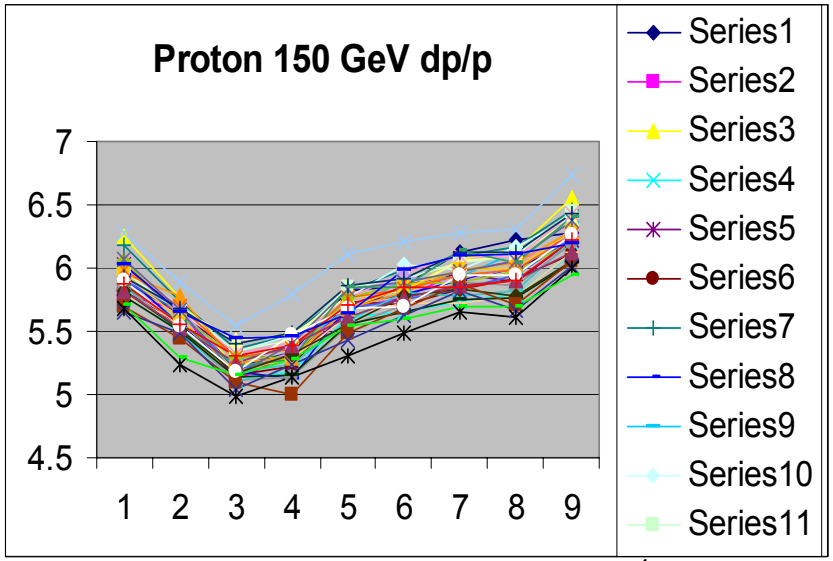


σ=2.014±0.064 mm

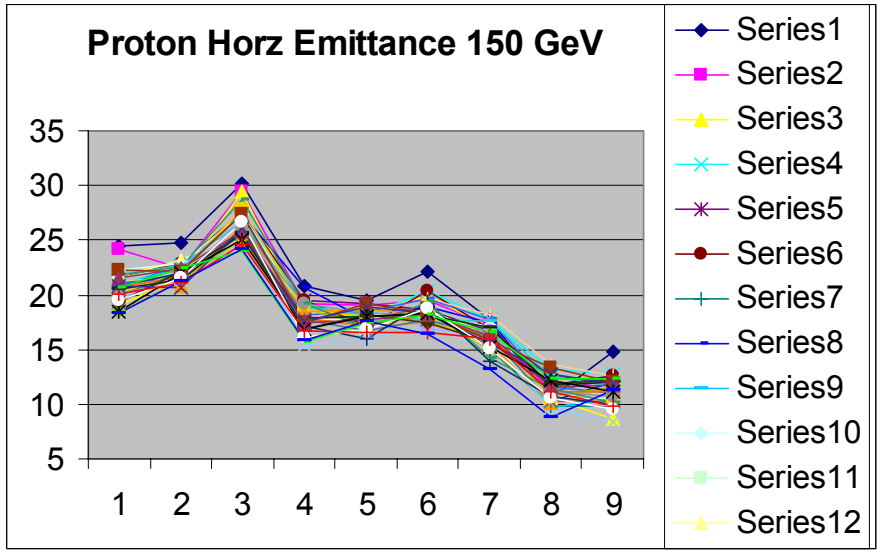


σ=2.042±0.057 mm

Store 1940



$\Delta p/p=(5.75\pm0.31)\times10^{-4}$



$\varepsilon=18.0\pm4.7\ \pi$ mm mrad

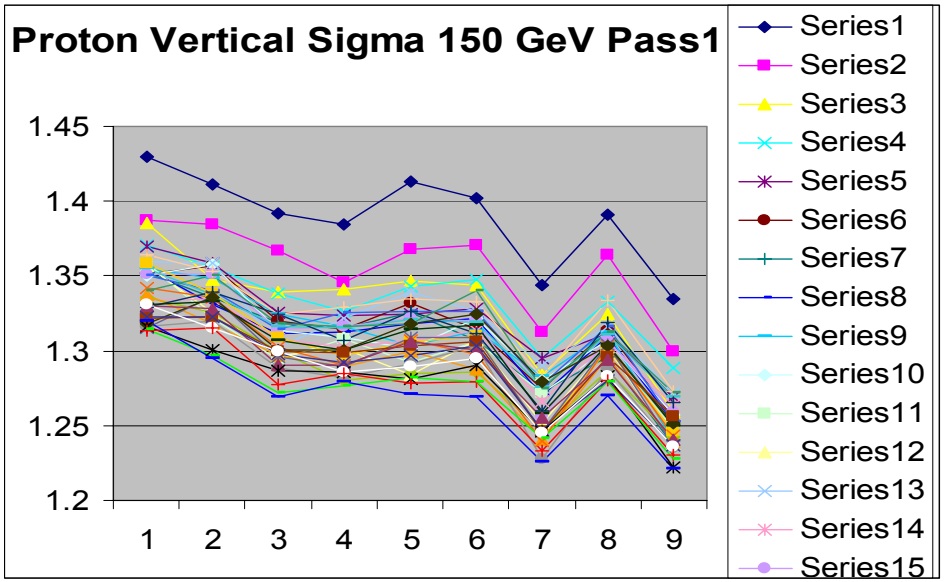
$$\sigma_{\varepsilon_{17}}/\sigma_{D_{17}}=0.40$$

$$\sigma_{\varepsilon_{11}}/\sigma_{D_{11}}=0.78$$

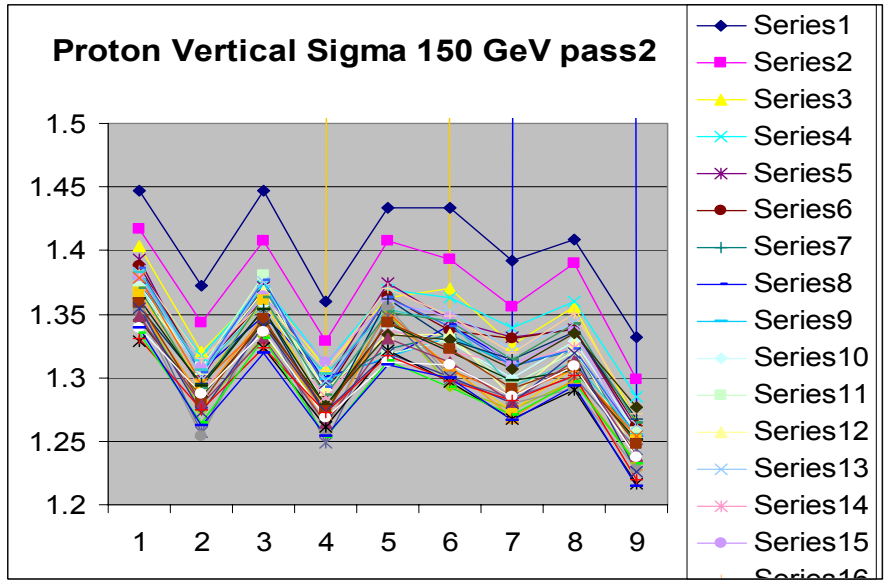
Predicted errors: $\delta_{\varepsilon_H}=7.2\ \pi$ mm mrad

$$\delta_{\Delta p/p}=0.41\times10^{-4}$$

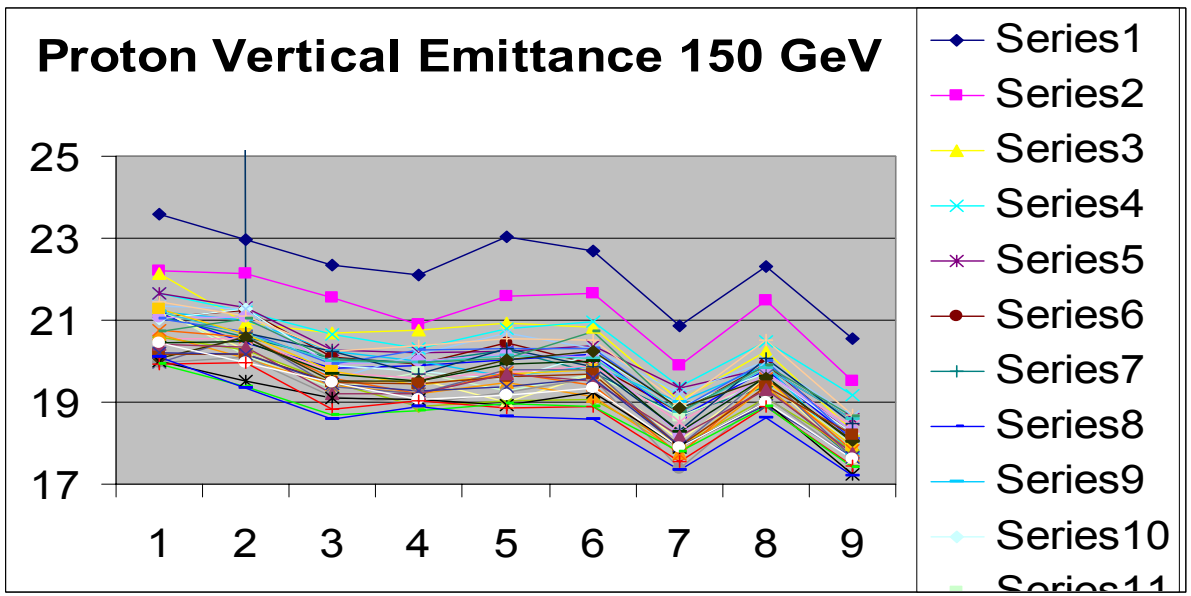
Store 1940



σ=1.306±0.029 mm

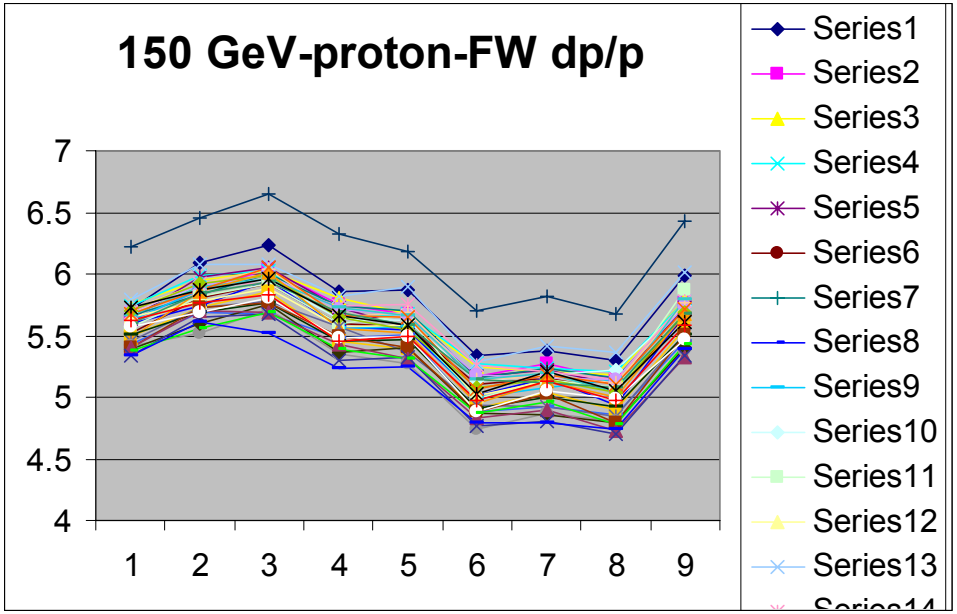


σ=1.319±0.036 mm

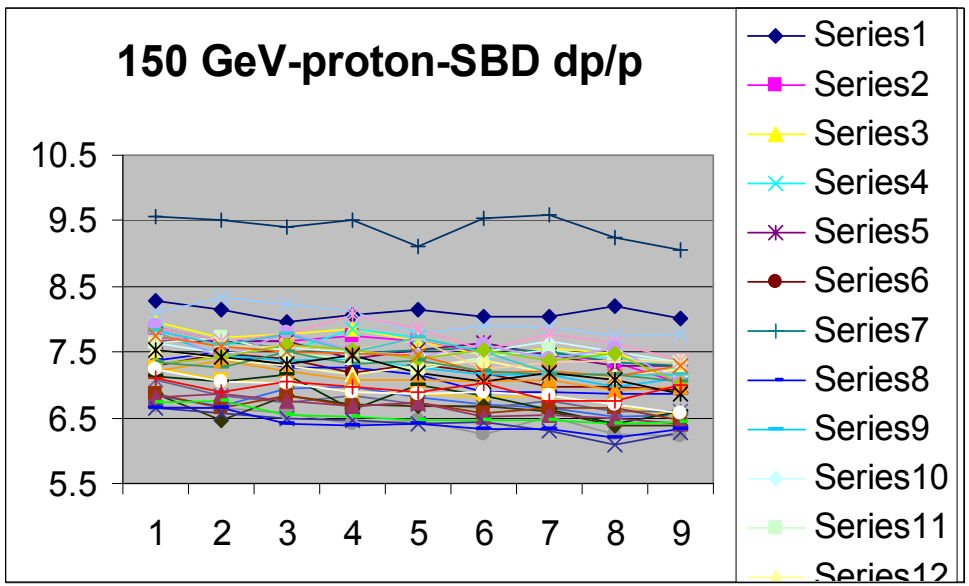


$\mathcal{E}$=19.69±0.87 π mm mrad

Store 1953

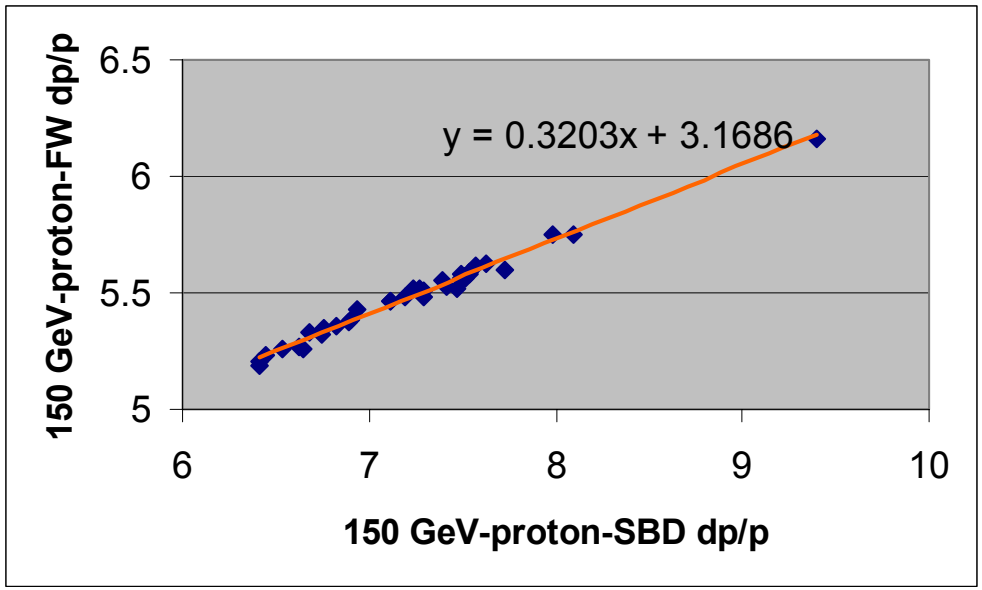


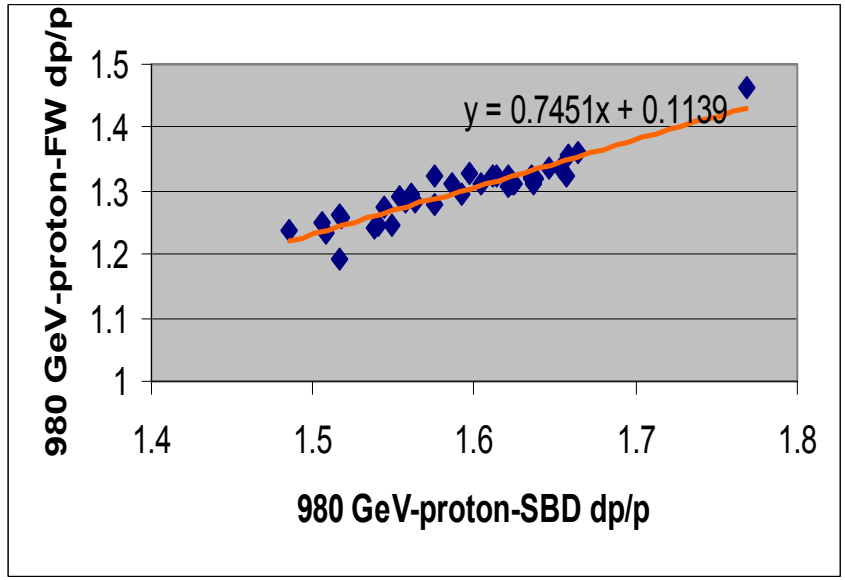
$\Delta p/p=(5.49\pm0.30)\times10^{-4}$

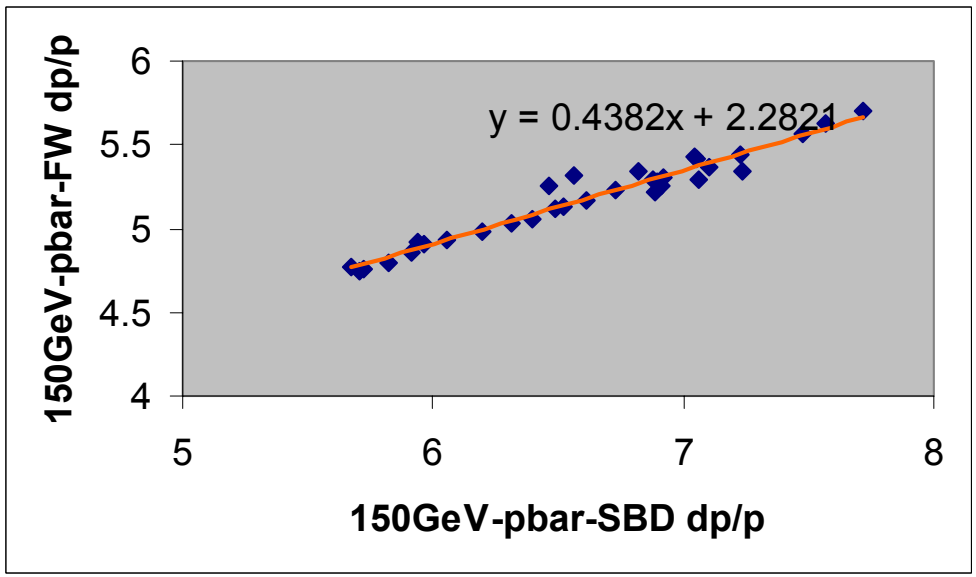


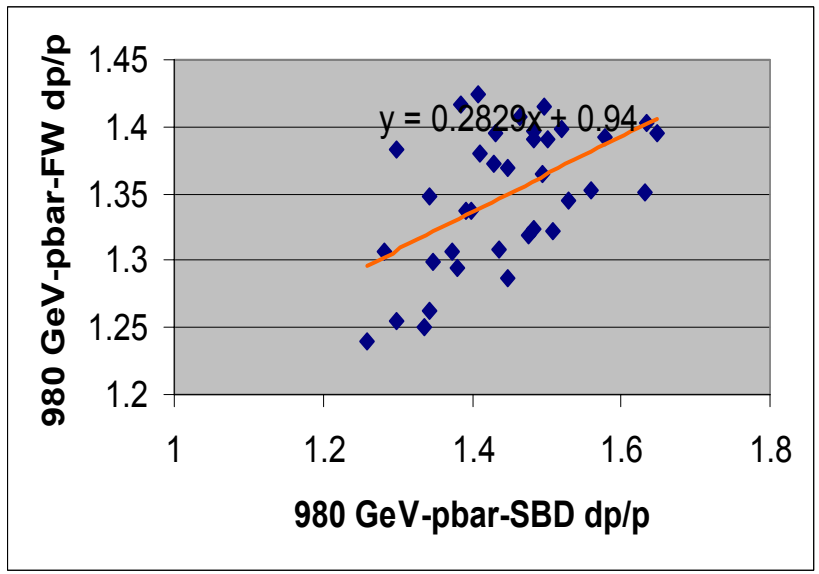
$\Delta p/p=(7.24\pm0.16)\times10^{-4}$

Store 1953


y = 0.3203x + 3.1686
150 GeV-proton-FW dp/p
150 GeV-proton-SBD dp/p
6.5
6
5.5
5
6
7
8
9
10


y = 0.7451x + 0.1139
980 GeV-proton-FW dp/p
980 GeV-proton-SBD dp/p
1.5
1.4
1.3
1.2
1.1
1
1.4
1.5
1.6
1.7
1.8


y = 0.4382x + 2.2821
150GeV-pbar-FW dp/p
150GeV-pbar-SBD dp/p
6
5.5
5
4.5
4
5
6
7
8


y = 0.2829x + 0.94
980 GeV-pbar-FW dp/p
980 GeV-pbar-SBD dp/p
1.45
1.4
1.35
1.3
1.25
1.2
1
1.2
1.4
1.6
1.8

Flying Wire and Sync Light Working Group

1. Why do the reported emittances at 150 Gev fluctuate so much?
2. Sync light questions such as pbar scale, optical resolution, etc.
3. Why sync light and FWs give different values at 980.
4. J. Annala, H. Cheung, K. Genser, A. Jansson, P. Lebrun, A. Marchionni, S. Pordes, J. Slaughter

Fluctuations at 150 Gev

1. Dispersion dominates the sigmas at 150 GEV at both E11 and E17 – see equations.
2. Resolution in sigma is ~30 microns in vertical (5%)
3. Resolution in sigma is 60-90 microns in horizontal (5%)..
4. Given these resolutions, the error in the horizontal emittance is large, up to 25%.
5. Improvements:
    1. Average 2 flys
    2. Use SBD for dp/p once SDB is understood.
    3. Understand why horizontal sigma error > vertical one.