

e+ PMT/Interferometer Measurements

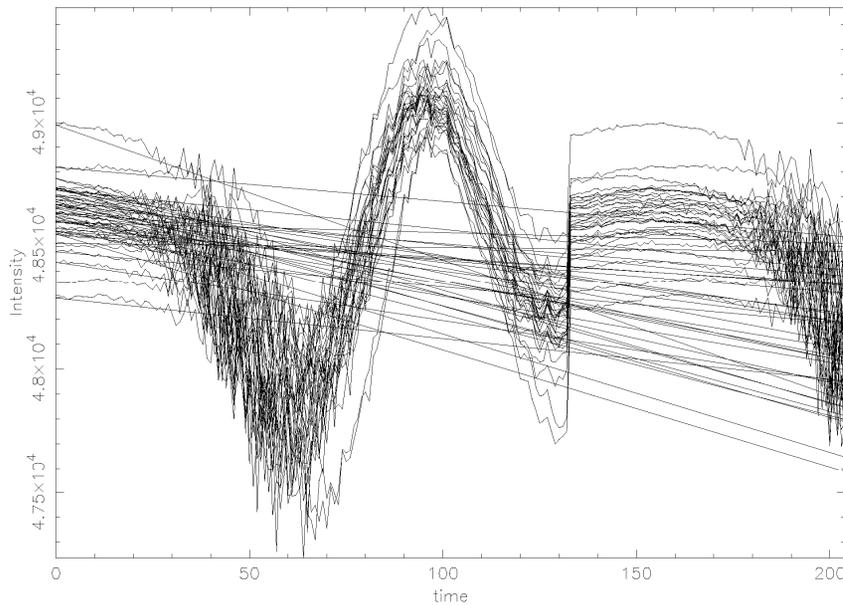
PMT voltage	Peak intensity time
600v	625
650v	600
700v	550
750v	525
800v	500

e+ interferometer signal timing scans were made at starting at 600 volts to 800 volts at 50 volt steps during CESR-c collisions.

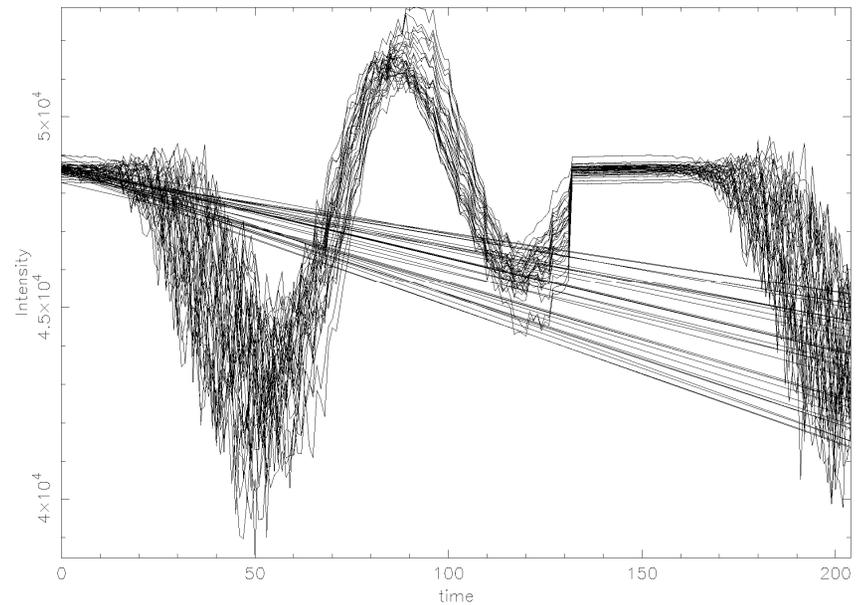
Plotted below is the intensity from the 32 PMT channels as a function of time.

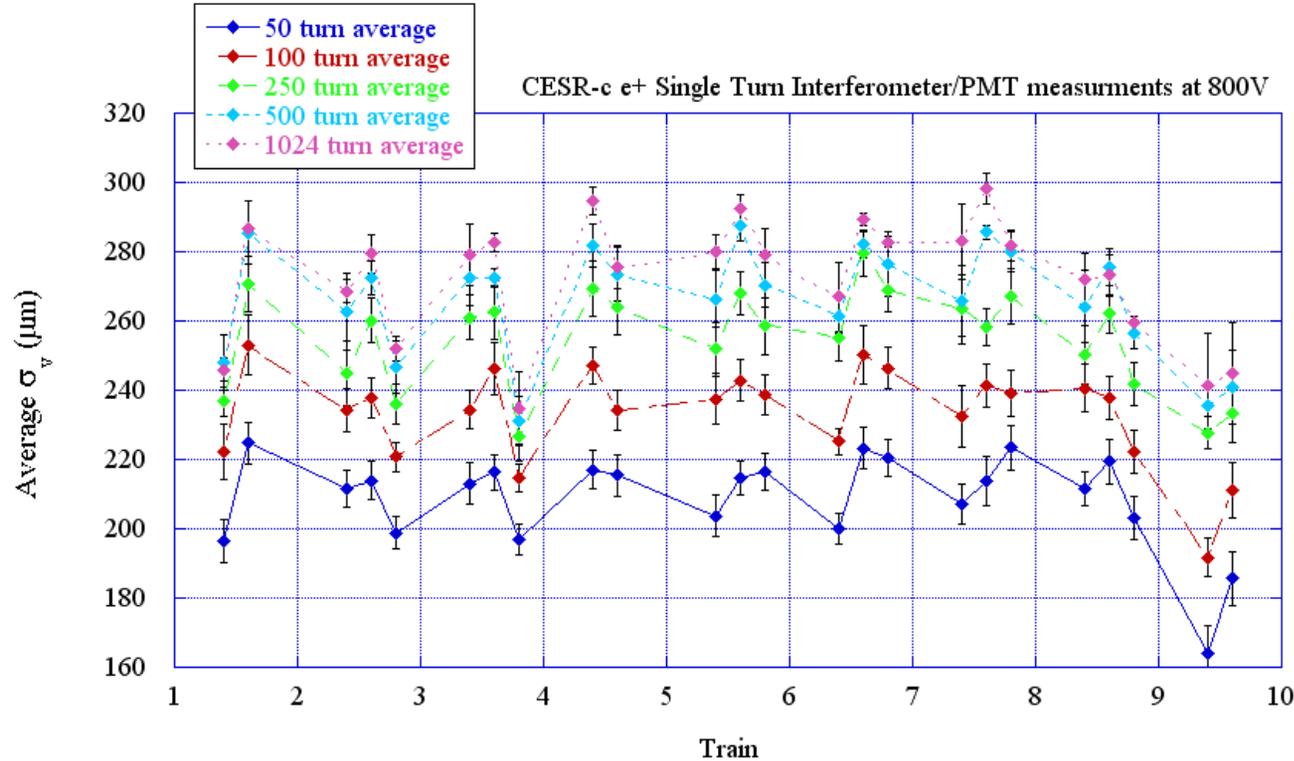
- A timing offset is present for several channels.
- At 800 volts, the peak intensity is ~8000.

e+ PMT 600volts file:02017



e+ PMT 800volts file:02021





e+ interferometer beam size during CESR-c operation

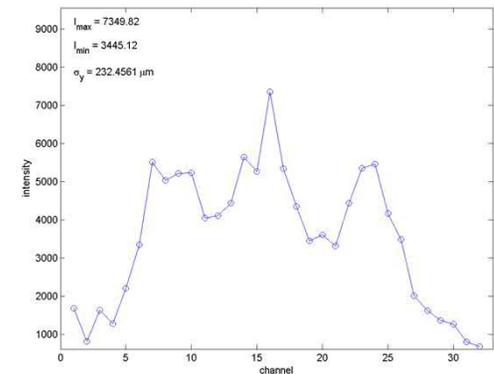
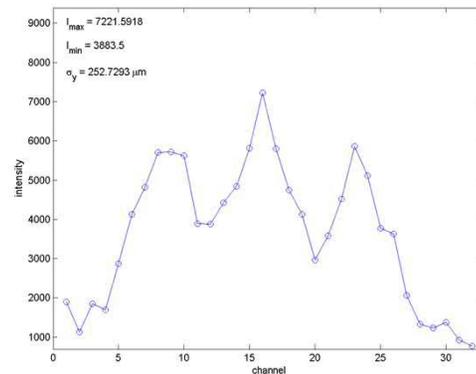
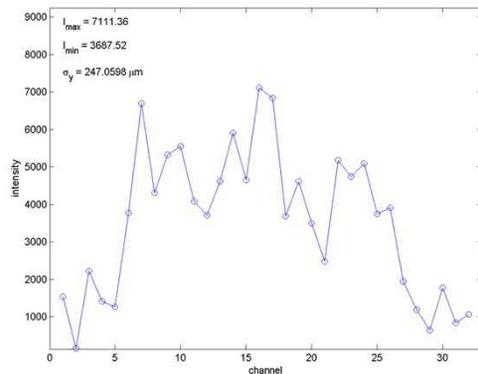
Single turn e+ interferometer measurements during CESR-c operation for all 24 bunches using the PMT. The 32-PMT channels were averaged over 50, 100, 250, 500, and 1024-turns with a 800 volt PMT setting.

- With a 50 and 100 turn average the interferometer signal has poor visibility which reduces the beam size.

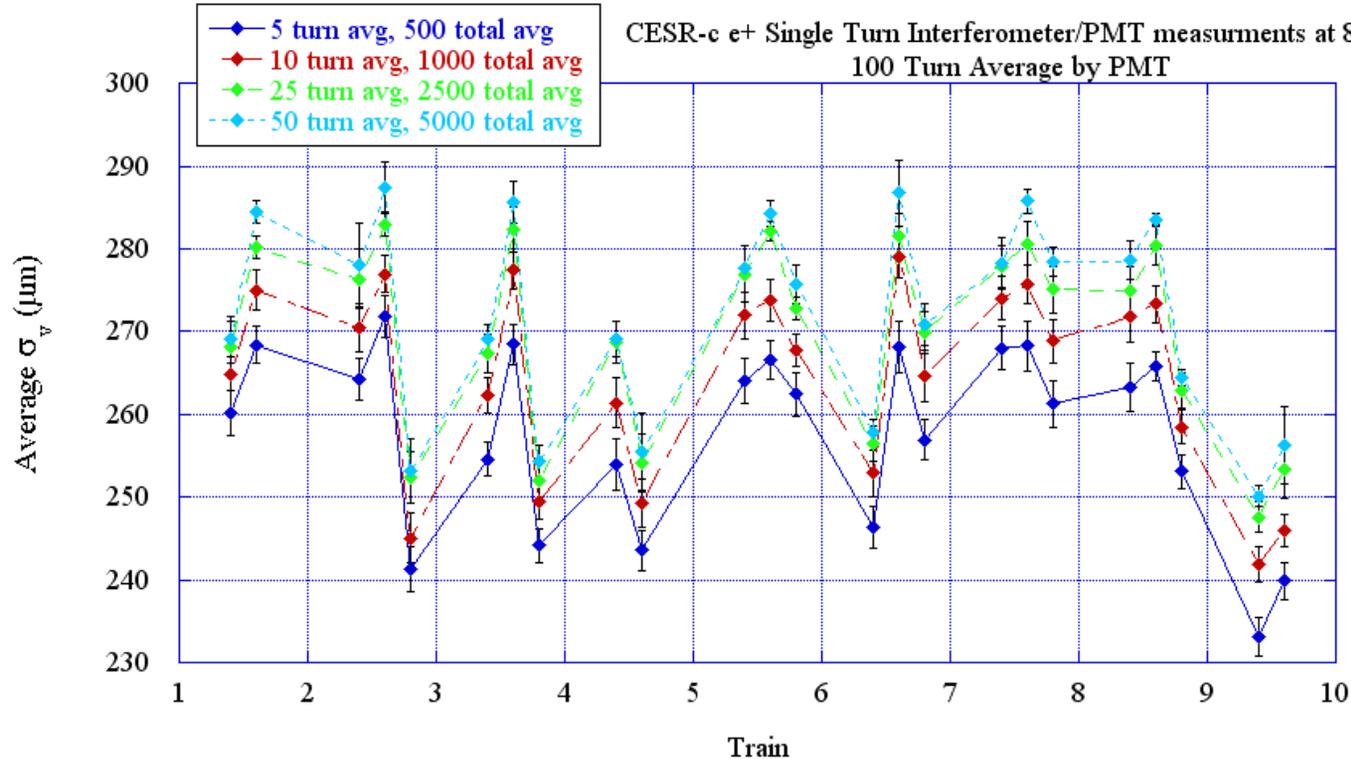
Movie file:2043 100 turn avg.

Movie file:2043 250 turn avg.

Movie file:2043 512 turn avg.



CESR-c e+ Single Turn Interferometer/PMT measurements at 800V
100 Turn Average by PMT



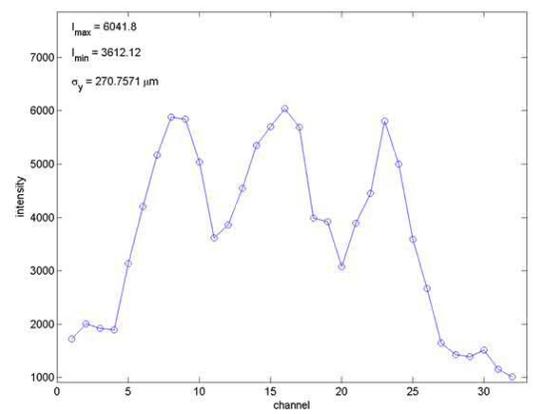
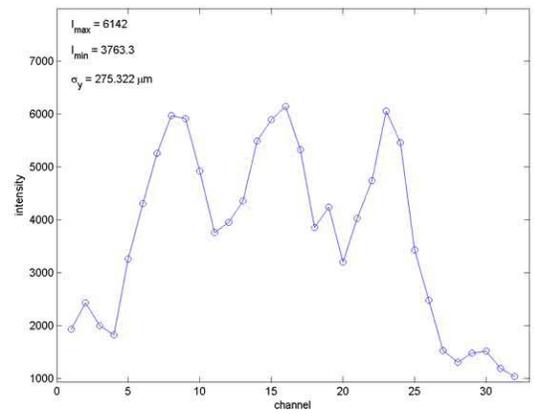
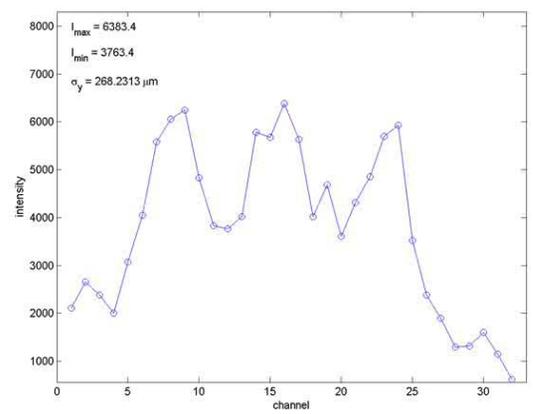
e+ interferometer beam size during CESR-c operation

100 turn averaged e+ interferometer measurements during CESR-c operation for all 24 bunches using the PMT. The 32-PMT channels were averaged over 5, 10, 25, 50-turns with a 800 volt PMT setting.

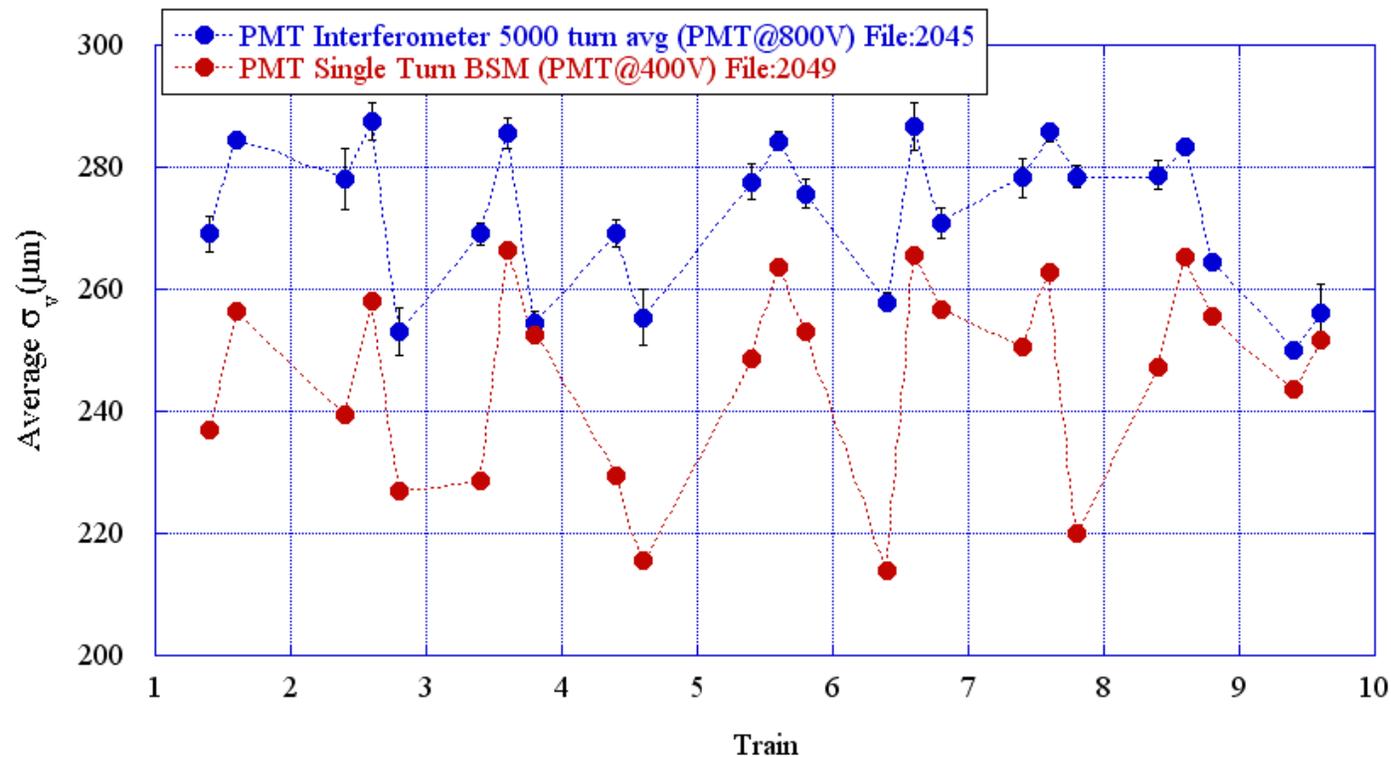
Movie file:2045 500 turn avg.

Movie file:2045 1000 turn avg.

Movie file:2045 2500 turn avg.



CESR-c e+ PMT Interferometer-PMT BSM Comparison



Comparison between PMT and interferometer beam size measurements during CESR-c operation for all 24 bunches. The interferometer measurements were averaged over 5000-turns with a 800 volt PMT setting.

- A $\sim 25\mu\text{m}$ offset between PMT and interferometer results is evident.
- Both devices give similar beam size changes within the trains.

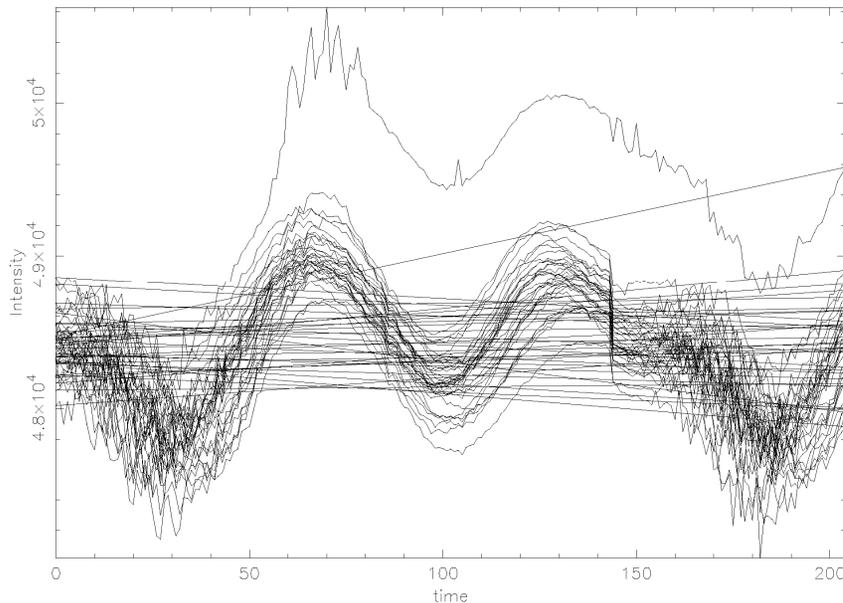
e- PMT/Interferometer

e- interferometer signal timing scans were made at starting at 600 volts to 800 volts at 50 volt steps during CESR-c collisions.

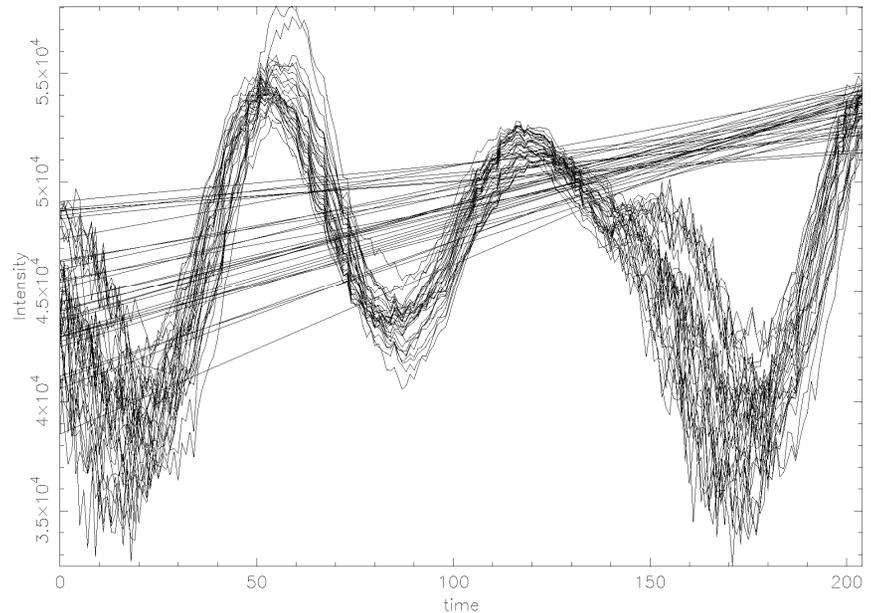
Plotted below is the intensity from the 32 PMT channels as a function of time.

- A large offset is detected for channel 26.
- A timing offset is present for several channels.
- At 800 volt the peak intensity is ~ 13000 .

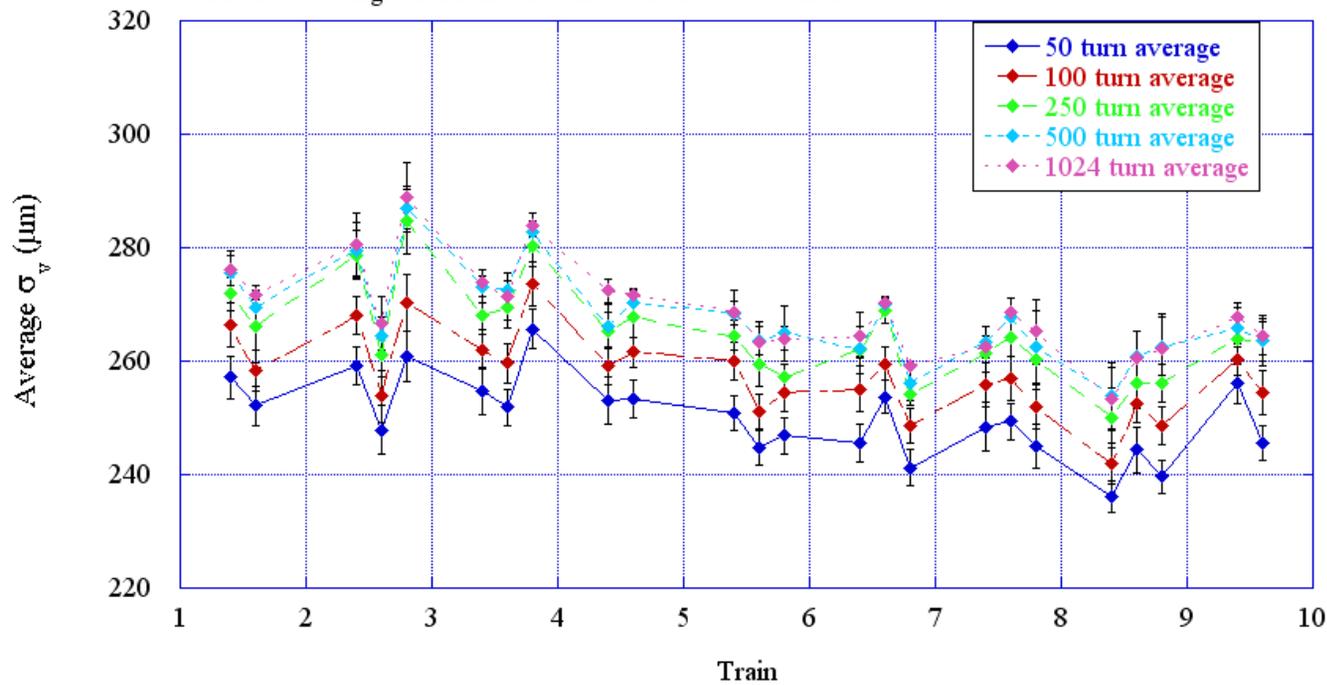
e- PMT 600volts file:02053



e- PMT 800volts file:02057



CESR-c e- Single Turn Interferometer/PMT measurements at 800V

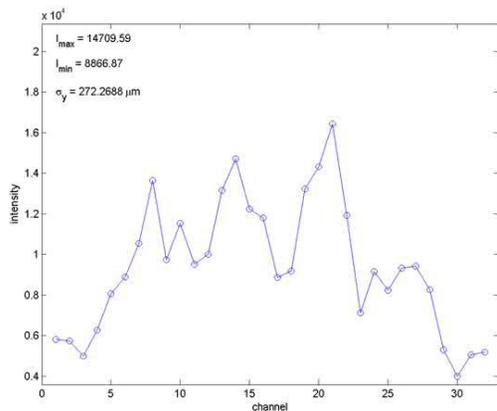


e- interferometer
beam size during
CESR-c operation

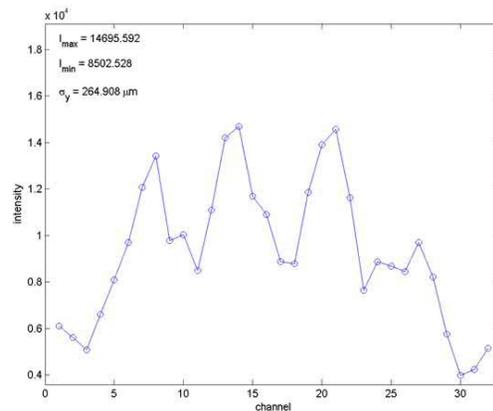
Single turn e- interferometer measurements during CESR-c operation for all 24 bunches using the PMT. The 32-PMT channels were averaged over 50, 100, 250, 500, and 1024-turns with a 800 volt PMT setting.

- Acceptable interferometer signal with 100 turn average.

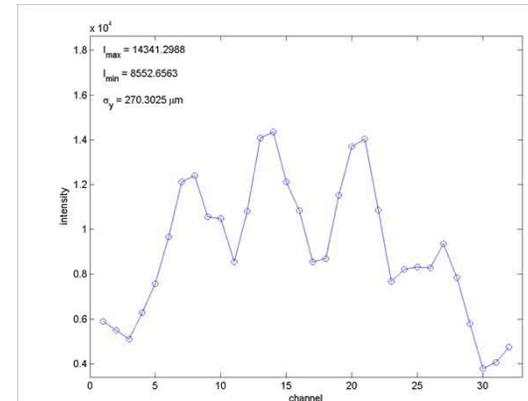
Movie file:2061 100 turn avg.



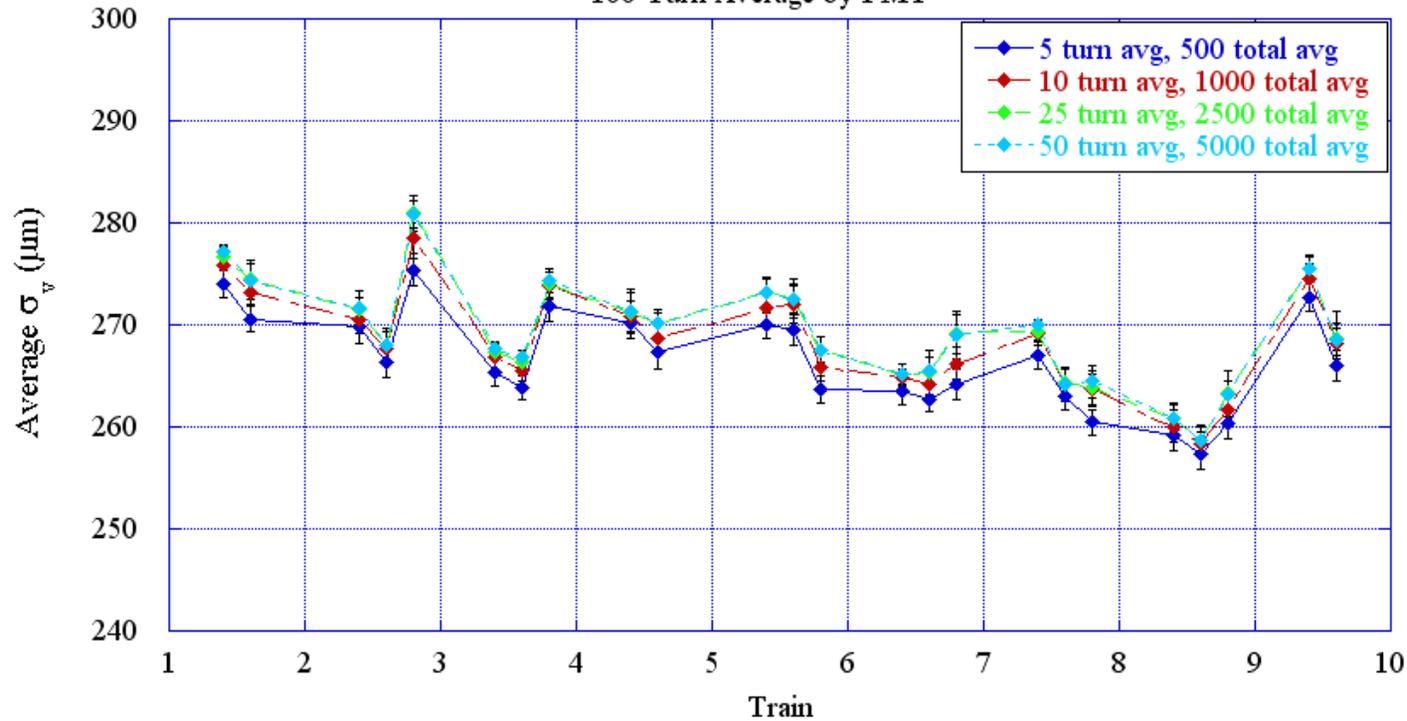
Movie file:2061 250 turn avg.



Movie file:2061 512 turn avg.



CESR-c e- Single Turn Interferometer/PMT measurements at 800V
100 Turn Average by PMT



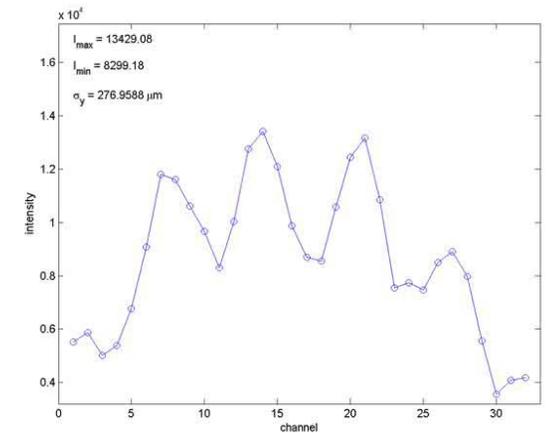
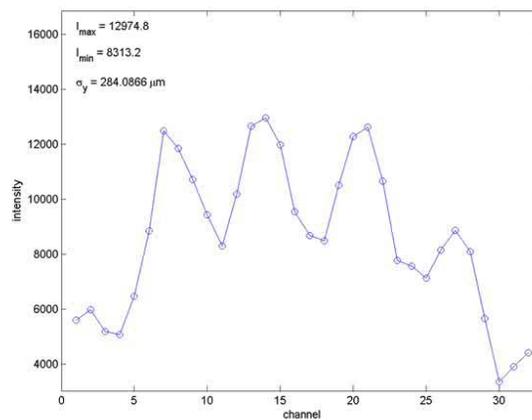
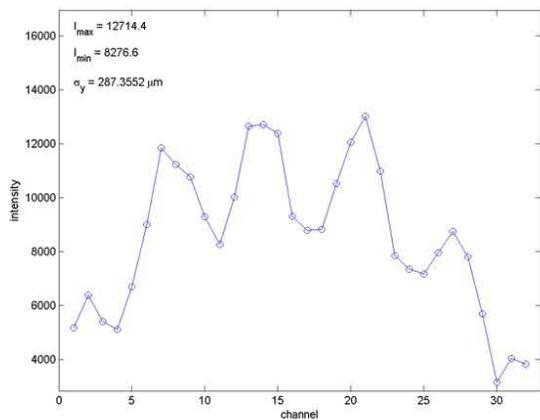
e- interferometer beam size during CESR-c operation

100 turn averaged e- interferometer measurements during CESR-c operation for all 24 bunches using the PMT. The 32-PMT channels were averaged over 5, 10, 25, 50-turns with a 800 volt PMT setting.

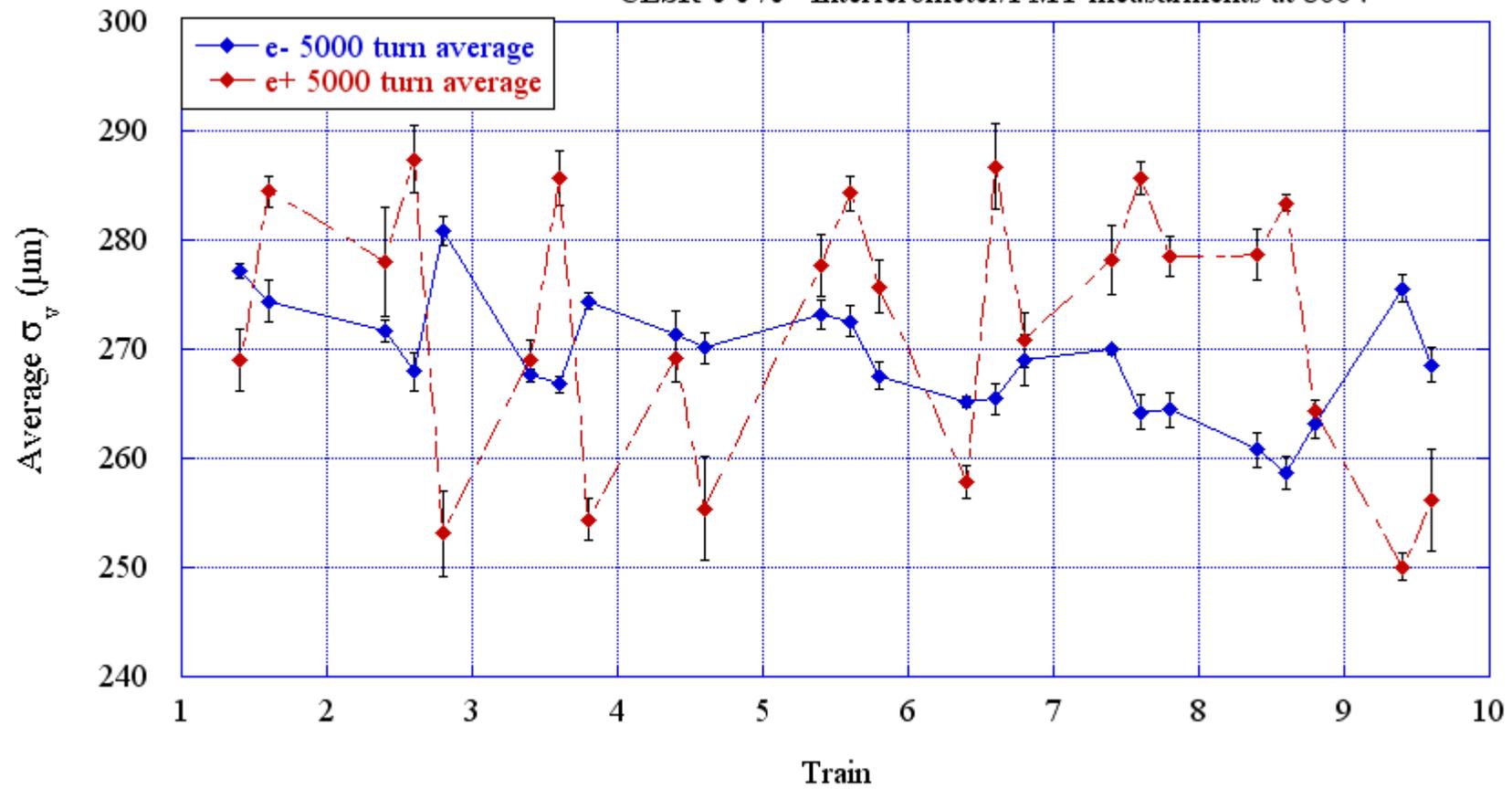
Movie file:2065 500 turn avg.

Movie file:2065 1000 turn avg.

Movie file:2064 5000 turn avg.



CESR-c e-/e+ Interferometer/PMT measurements at 800V



Comparison of CESR-c e-/e+ interferometer results at 800V.