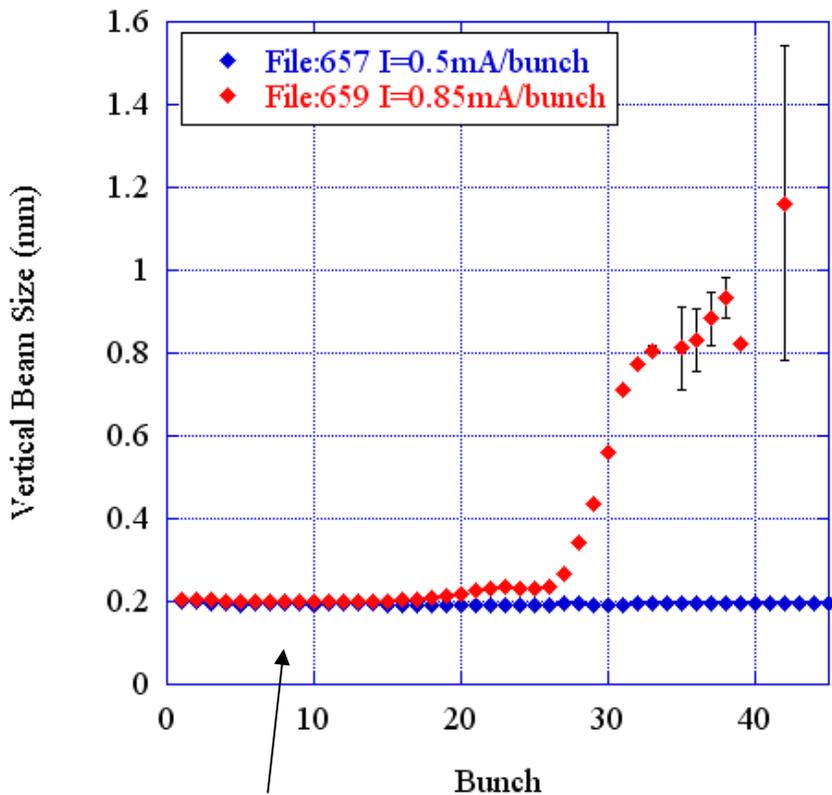


ECLLOUD Measurements at CHESSE Energy

R. Holtzapple, G.Codner, M.Palmer, M. Pivi, D. Rice,
L. Schachter, and E.Tanke

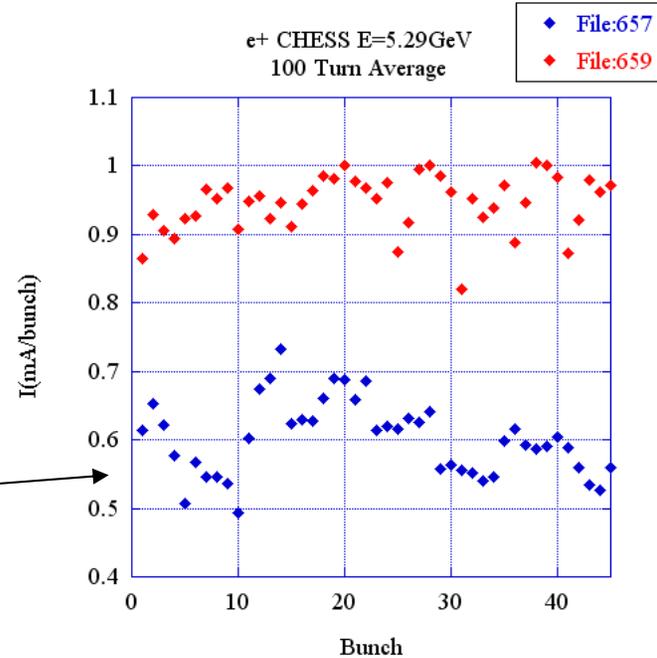
September 26,2006

e+ CHESS E=5.29GeV
Vertical Beam Size 100 Turn Average



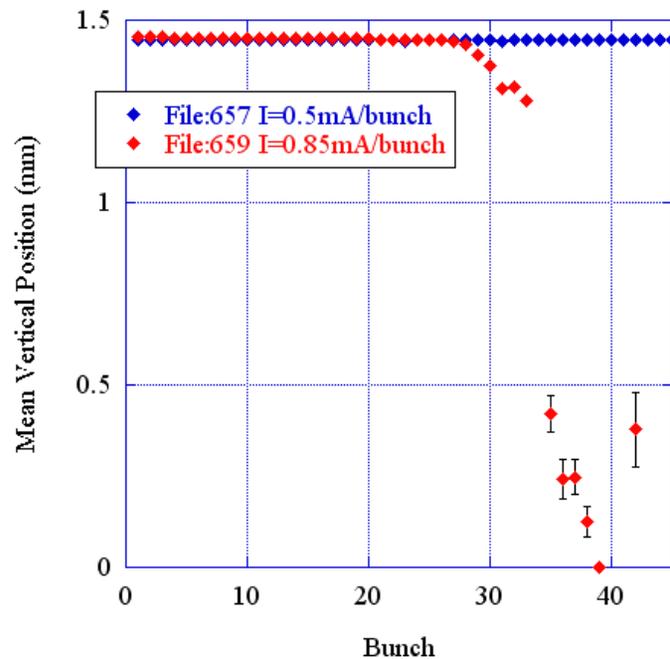
e+ σ_v 100 turn average

e+ single bunch
current



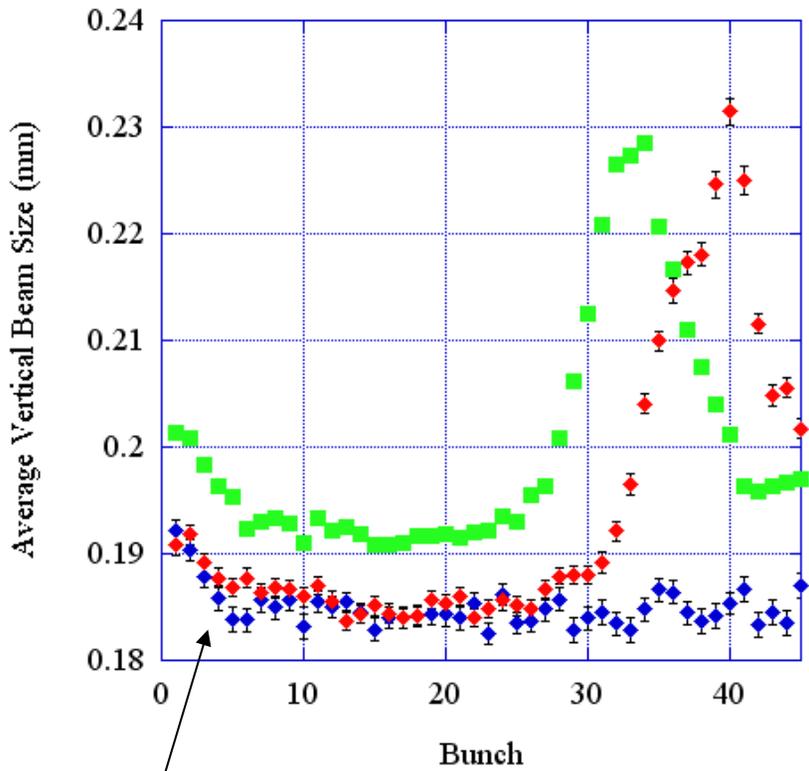
e+ CHESS E=5.29GeV
Mean Position 100 Turn Average

e+ mean vertical position
100 turn average



- ◆ File:658 I=0.5mA/bunch Dist. Pumps On
- ◆ File:660 I=0.85mA/bunch Dist. Pumps On
- File:662 I=0.85mA/bunch Dist. Pumps Off

e+ CHESS E=5.29GeV
Single Turn Vertical Beam Size

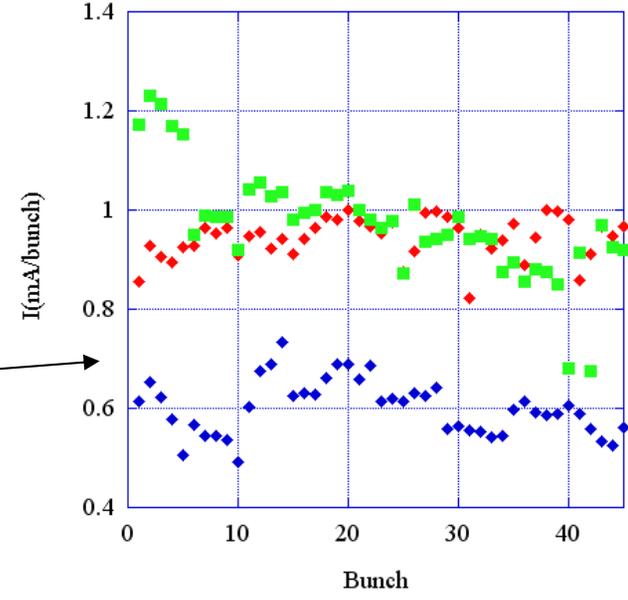


e+ single turn average σ_v

e+ single turn average mean vertical position

- ◆ File:658
- ◆ File:660
- File:662

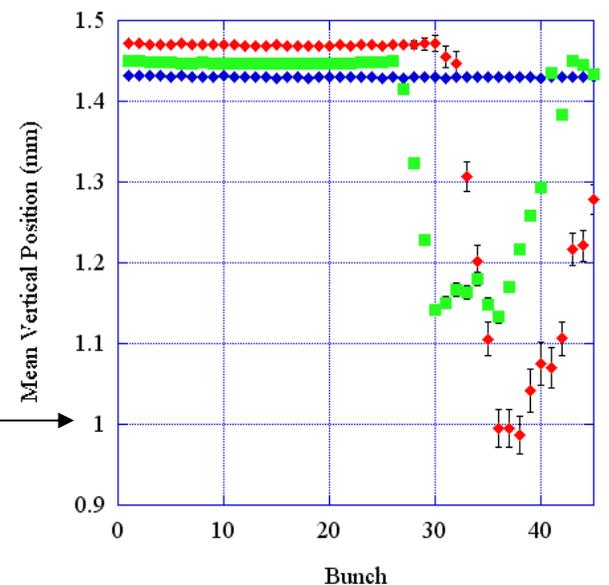
e+ CHESS E=5.29GeV
Single Turn



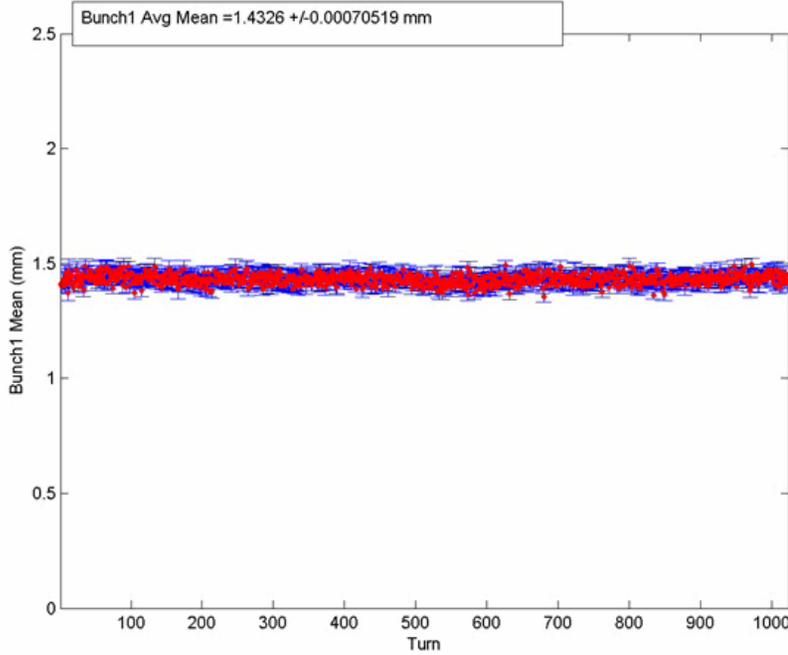
e+ single bunch current

- ◆ File:658 I=0.5mA/bunch Dist. Pumps On
- ◆ File:660 I=0.85mA/bunch Dist. Pumps On
- File:662 I=0.85mA/bunch Dist. Pumps Off

e+ CHESS E=5.29GeV
Single Turn Vertical Position

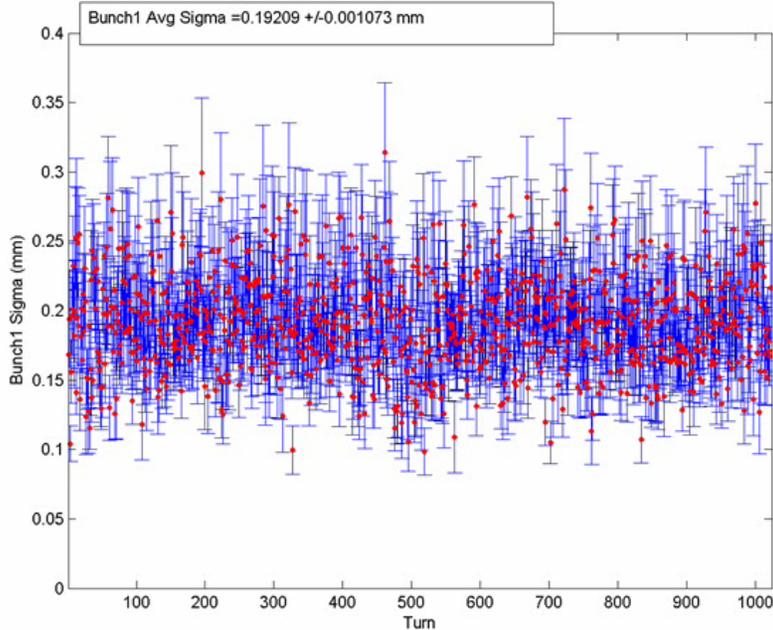
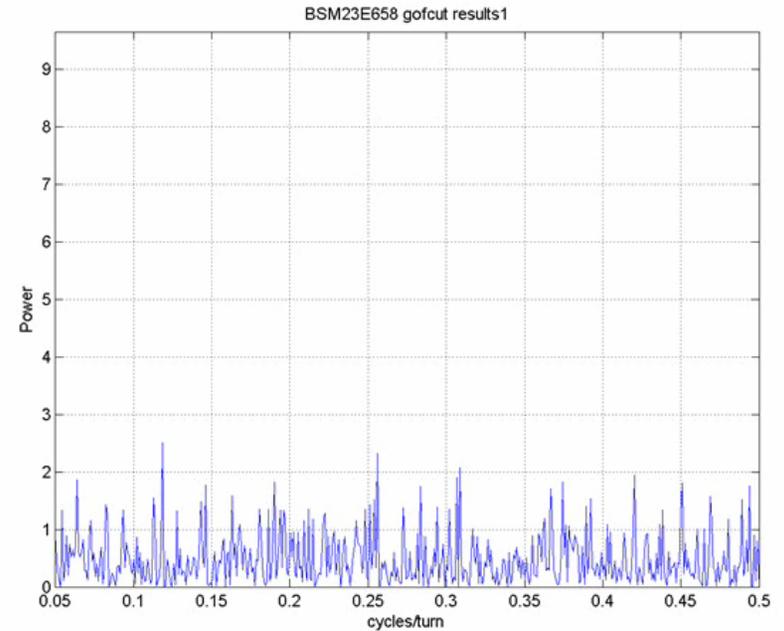


**e+ I~0.5mA/bunch
Single Turn Results
Dist. Pumps On
1000 turns**



Movie: Mean Position

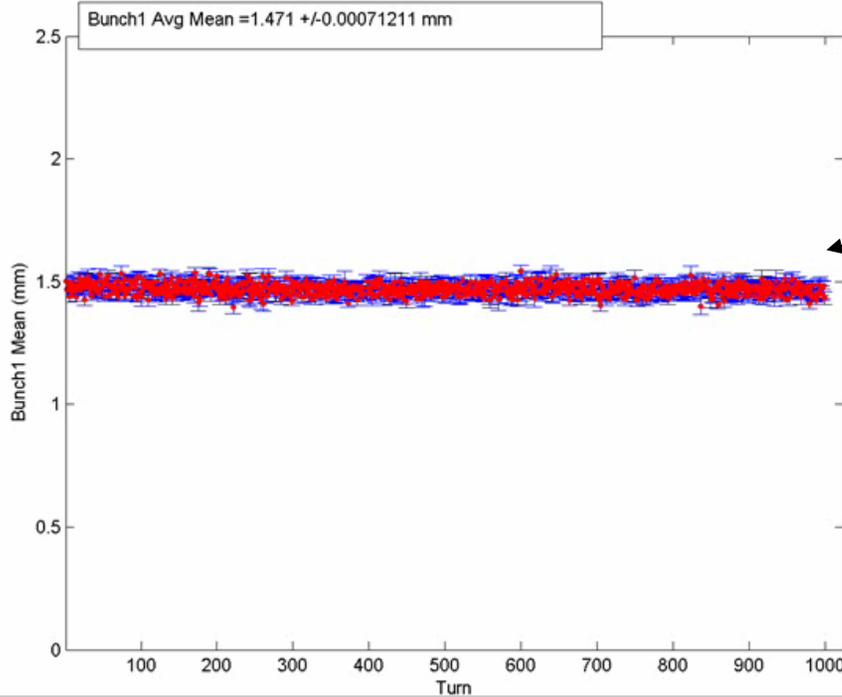
Movie: FFT Mean Position



Movie: σ_v

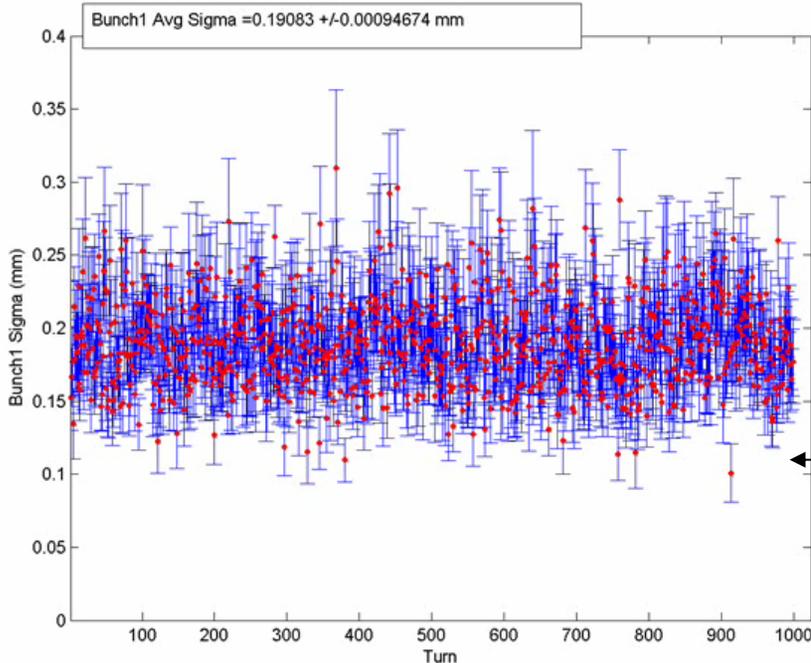
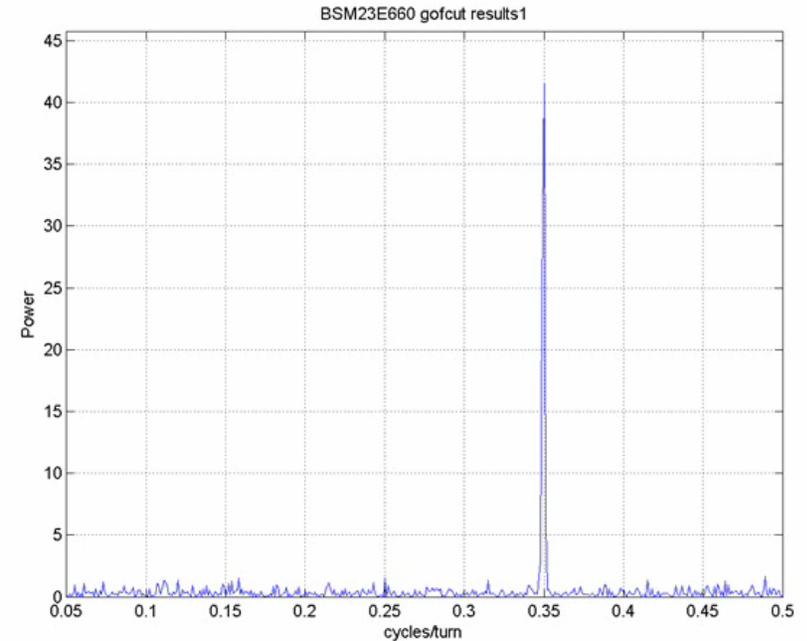
**Centroid motion is observed in the
mean position spectrum. Beam is
vertically stable in position and size.**

**e+ I~0.85mA/bunch
Single Turn Results
Dist. Pumps On
1000 turns**



Movie: Mean Position

Movie: FFT Mean Position

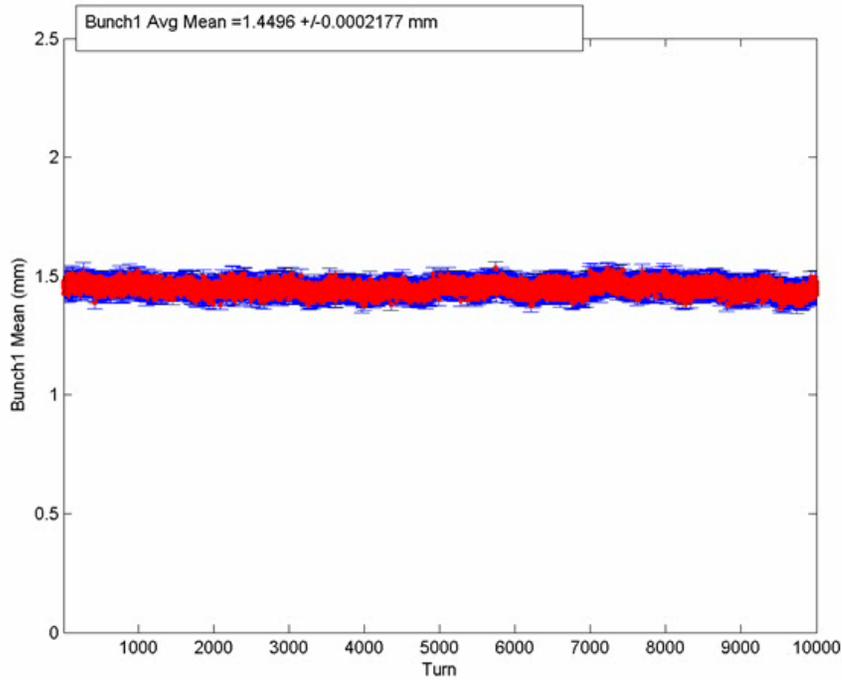


Movie: σ_v

**Centroid motion observed @ bunch 20.
Strong centroid motion @ bunch 30.
Slight σ_v growth @ bunch 35.**

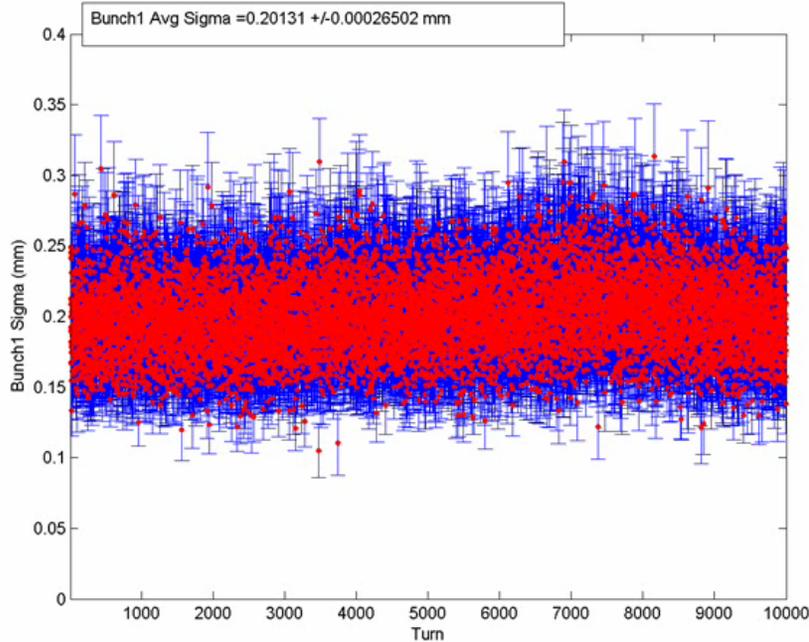
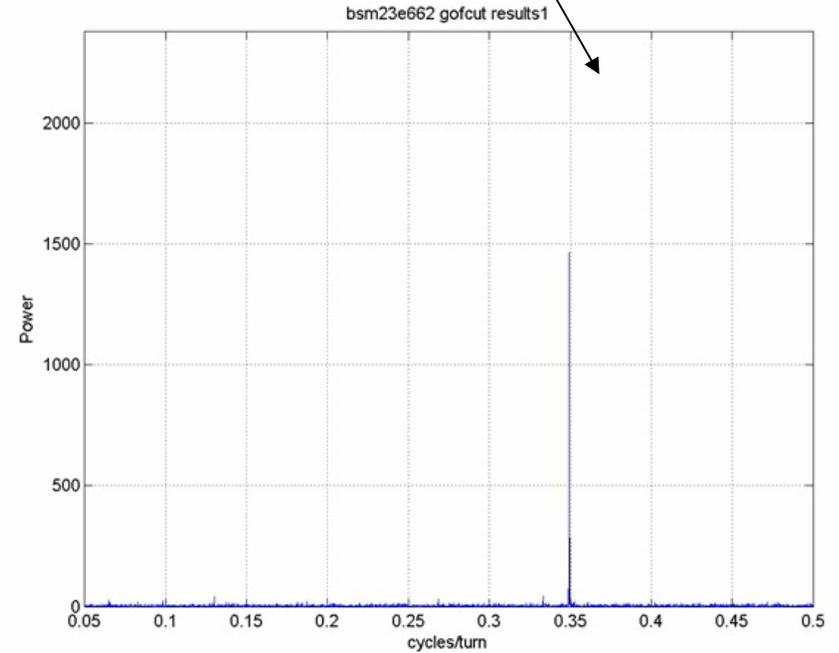
$Q_y = (1 - 0.35) * F_{rev} = 253.5 \text{ kHz}$

**e+ I~0.85mA/bunch
Single Turn Results
Dist. Pumps Off
10,000 turns**



Movie: Mean Position

Movie: FFT Mean Position

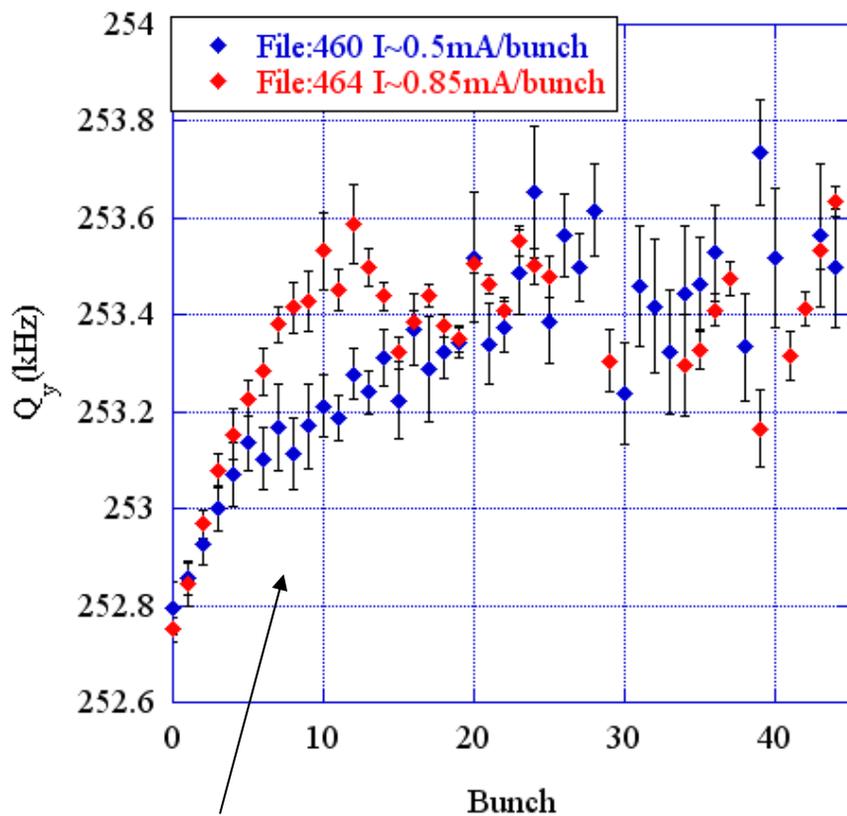


Movie: σ_v

**Centroid motion observed@bunch 8.
Strong centroid motion@bunch20.
Slight σ_v growth@bunch 30.**

e+ CHESSE E=5.29GeV

Vertical Tune



e+ vertical tune

e+ single bunch current during tune measurement. Beam lost during the measurement?

