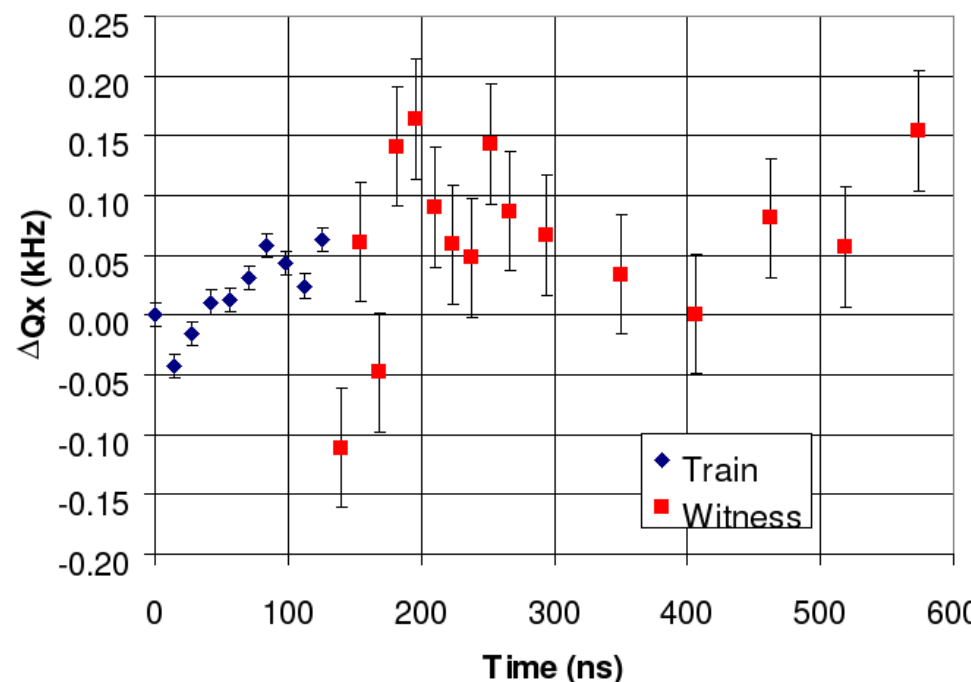
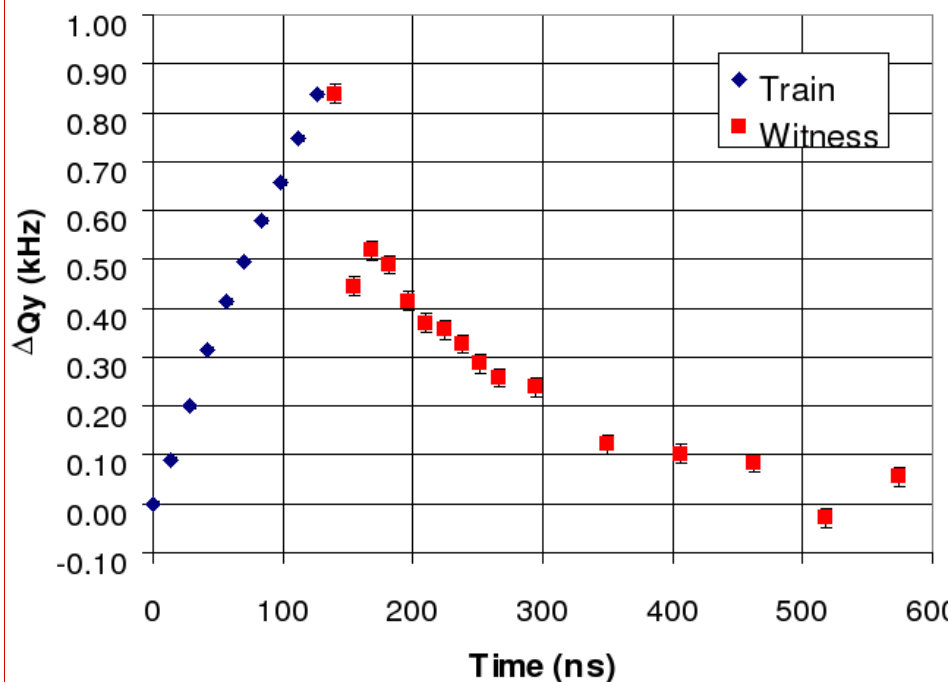




# $e^+$ Vertical Tune Shift

- Initial train of 10 bunches  $\Rightarrow$  generate EC
- Measure tune shift and beamsizes for witness bunches at various spacings
- Bunch-by-bunch, turn-by-turn beam position monitor

Positron Beam, 0.75 mA/bunch, 14 ns spacing, 1.9 GeV Operation



Error bars represent scatter observed during a sequence of measurements

$$1 \text{ kHz} \Rightarrow \Delta v = 0.0026$$

$$\rho_e \sim 1.5 \times 10^{11} \text{ m}^{-3}$$

Ohmi, et al, APAC01, p.445  
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*Preliminary*