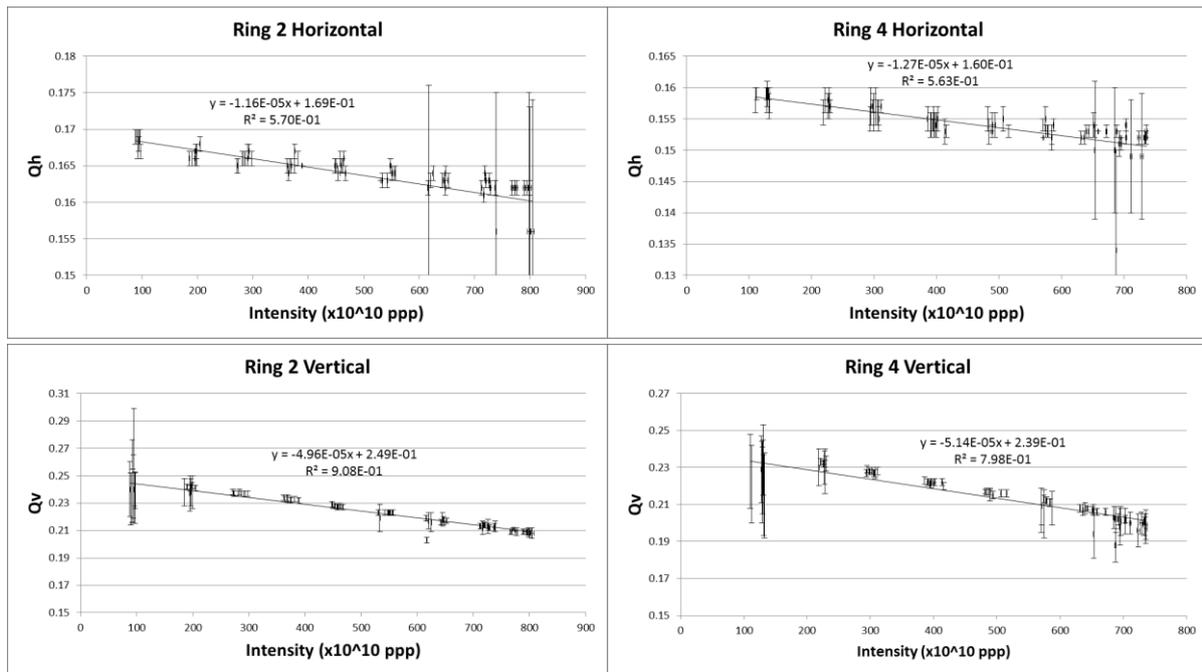


Tune Shift Measurements at 160 MeV

MD Report - Week 45
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Tune shift measurements were made in Rings 2 and 4 to attempt to measure the effect of the Finemet cavities in Ring 4. The impedance model predicts a very small contribution of the Finemet cavities to the coherent tune shift (hardly visible on measurements)

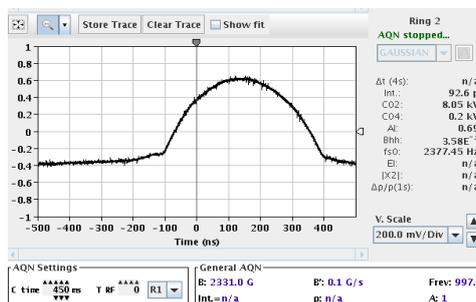
- Measurements were made over C465 to C555 of the 160MeV flat-top cycle.
- Intensity was varied from 2 to 10 injected turns in 1 turn steps.
- 10 measurements were made at each intensity.



In the plots above each data point represents the mean Intensity and tune taken over the time window from C465 to C555. The error bars are the corresponding standard deviation. Some significant variation in tune results in large error bars for a number of the measurements.

Compared with Ring 2, the measured tune shifts are larger for Ring 4 by 9% in the horizontal plane and by 4% in the vertical plane.

The Tomoscope was unavailable but the bunch length was monitored using the Bunch Shape Monitor. The bunch length of ~500ns was recorded in both rings consistently throughout the measurement.



Past measurements of the vertical tune shift by D. Quatraro showed a 15% larger vertical tune shift in ring 4 compared to ring 2.

We need more statistics and better quality measurements before making any conclusion.