

PSB MD Tune shift measurements at 160 MeV: week 41

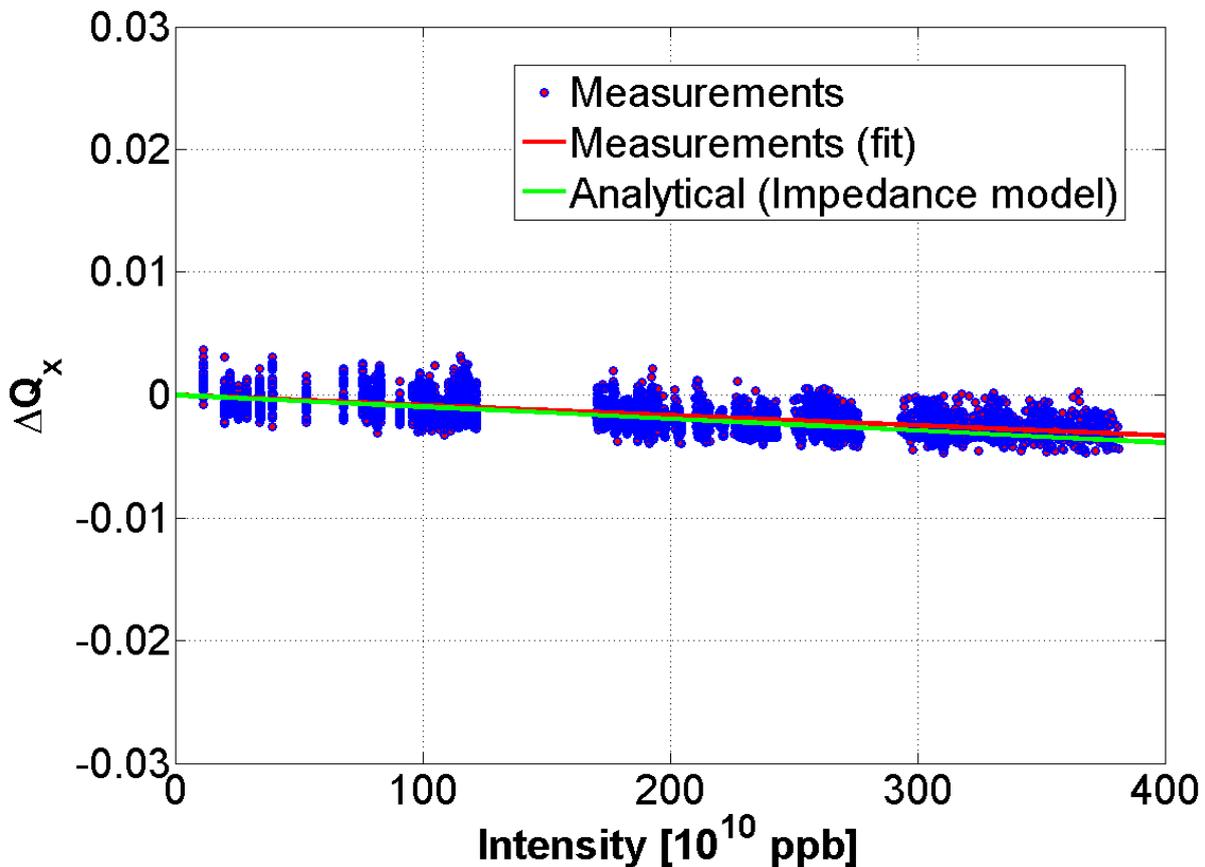
B. Jones, K. Li, C. Zannini

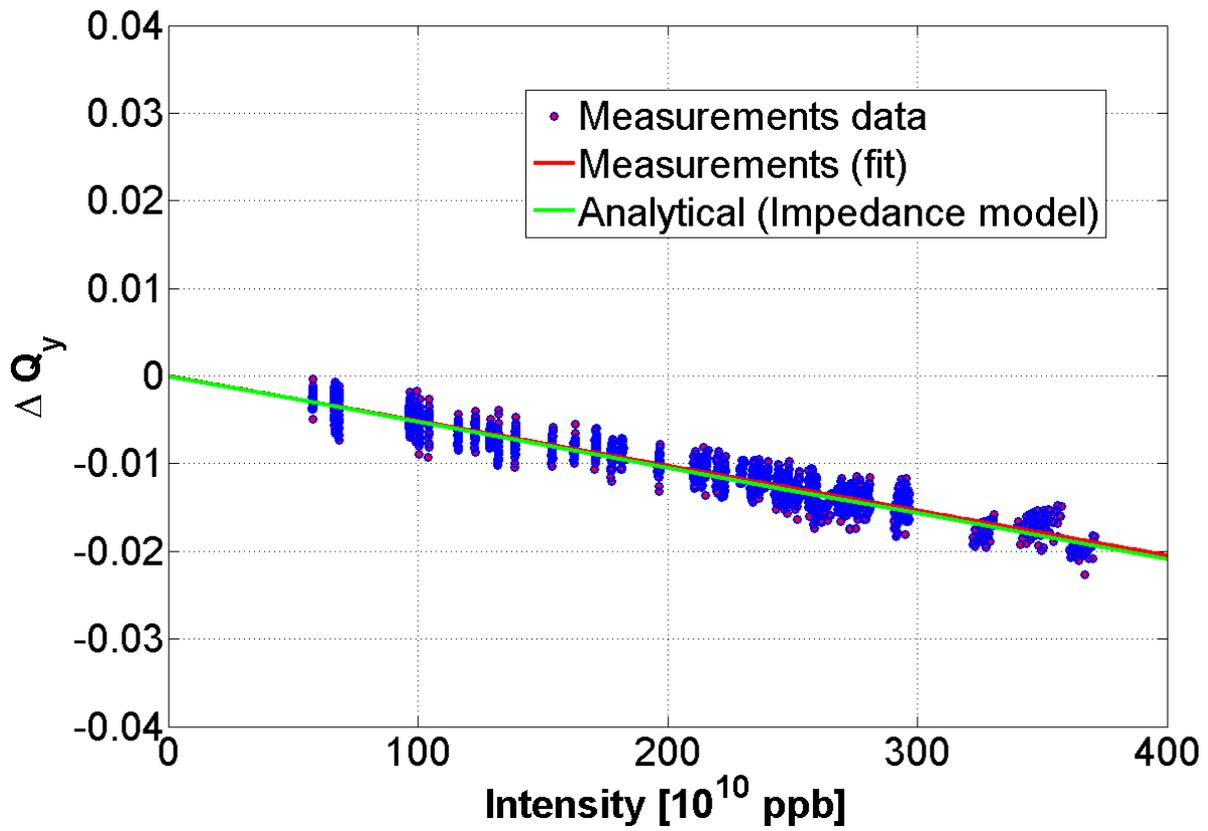
The horizontal and vertical coherent tunes have been measured using the 160 MeV flat top cycle as function of the bunch intensity (up to 4×10^{12}). During the MD the following data were acquired:

- Bunch lengths from the tomoscope
- Bunch Intensity
- Horizontal and vertical tune from the Q meter

The tune was measured from 475-645 ms of the cycle – i.e. over the flat top – at 5ms intervals. The injected intensity was varied by adjusting the number of injected turns and the surviving beam intensity was measured over the same period at 1ms intervals. Each measurement point between 0.2 and 10 injected turns was repeated 5 or 10 times. The Q-strip settings (trim windings on PSB quads) were varied to maximize injection and trapping efficiency for the different intensities but their functions were reduced to zero before the flat-top.

Data analysis and comparison with the impedance model





Future steps:

Optimization of the injection to double the intensity scan (up to 8×10^{12}).