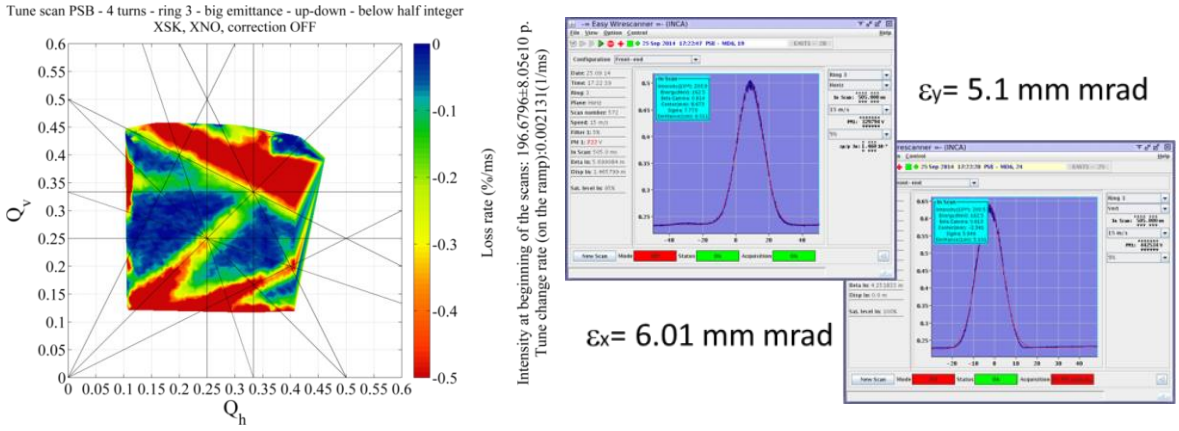
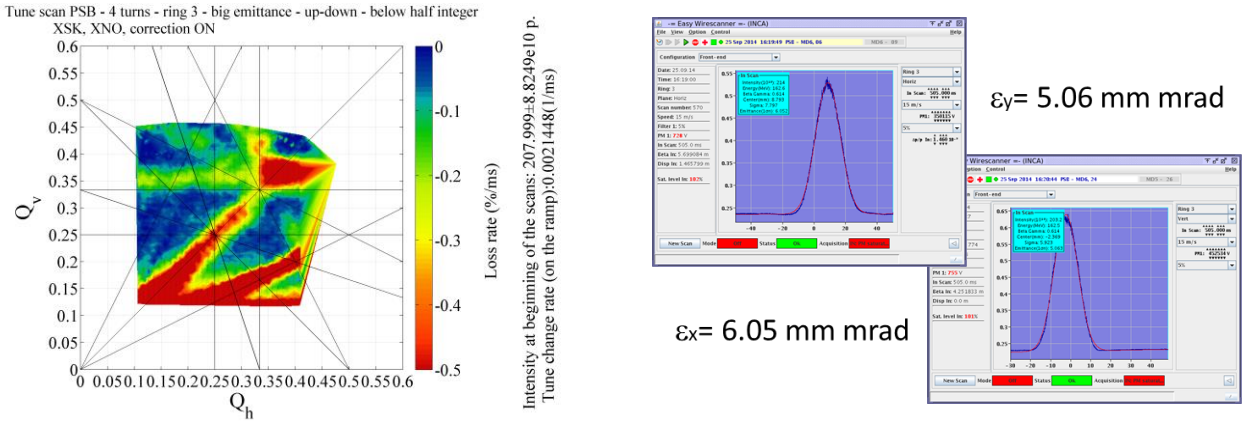
# PSB tune scans MDs report (from 29th Sept. to 03 Oct.) – Vincenzo Forte

Analysis in Ring 3:

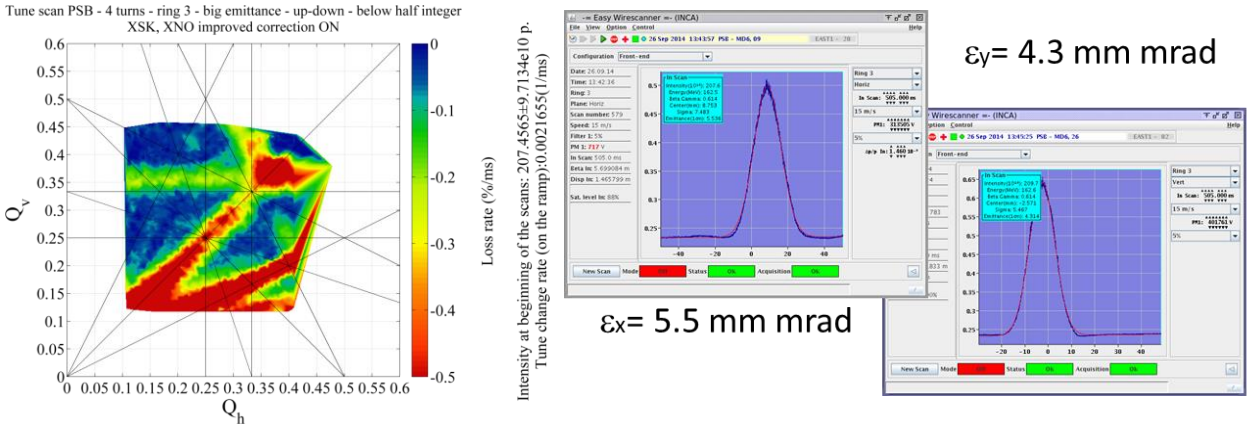
- initial situation without correction. Above the coupling, a strong normal sextupolar component (Qx+2Qy=13) is clearly visible, and skew sextupolar (3Qy=13). The initial transverse profiles are on the right.



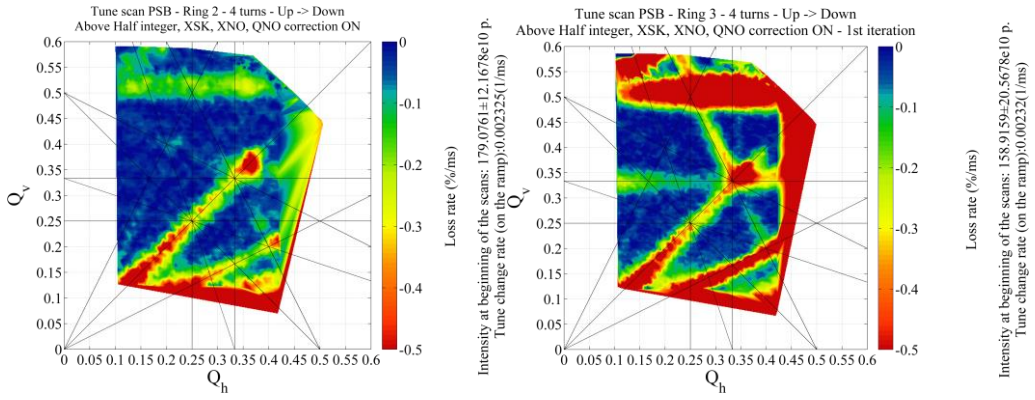

- A first correction approach has been performed with the following results. The sextupolar resonances have been sensibly, but not perfectly, reduced.



- Another iteration made possible a further improvement in the Qx+2Qy=13 correction, which now almost disappears. The skew sextupolars are tough and not easy to eliminate in this Ring.

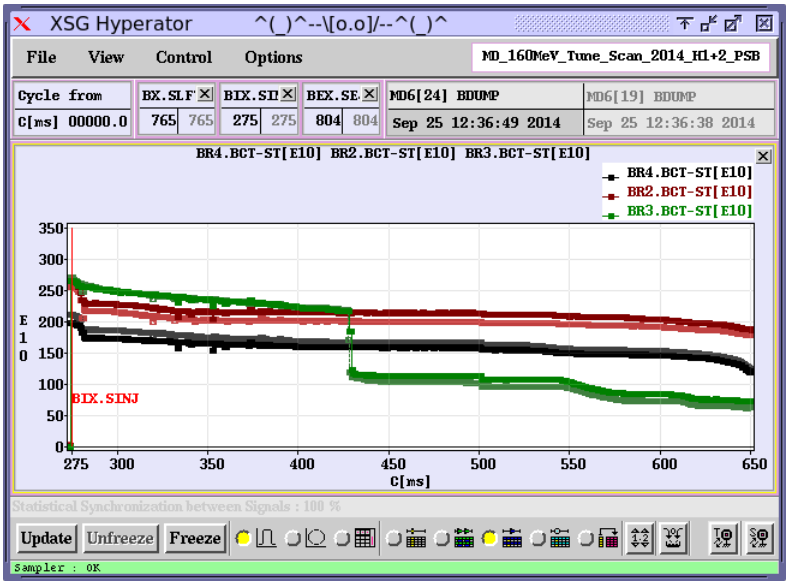



- On Tuesday 30th sept. it has been tried to perform the half integer 2Qy=9 resonance correction scanning from above this line (always up->down direction). On the left the Ring2 where I performed the correction in the past weeks and in which it has been easier to correct also the sextupolar lines. On the right a first iteration of half-integer correction (through QNOs) in the Ring 3. Here, the only line which is perfectly corrected is, again, the Qx+2Qy=13. Other iterations for the half integer correction must be performed

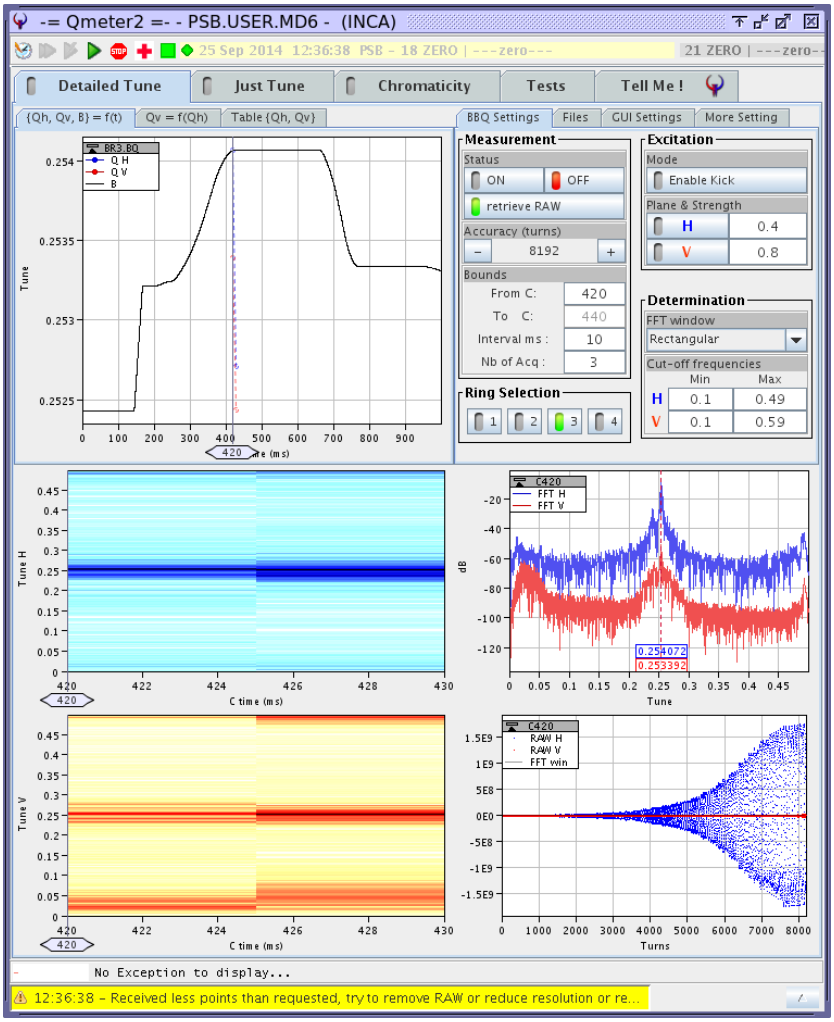



- An instability at C425 (beginning of the 160MeV flat plateau) has been observed in this Ring 3 (like in Ring 2).
  The programmed tunes are Qx=4.256 and Qy=4.46 . The instability has main frequency components Qx=Qy=4.25 . It disappears if one changes the longitudinal shape through the relative phase GFA between C02 and C04 and/or with the reduction of the tr. feedback attenuation to 0dB, instead of 15 (as in Ring 2).

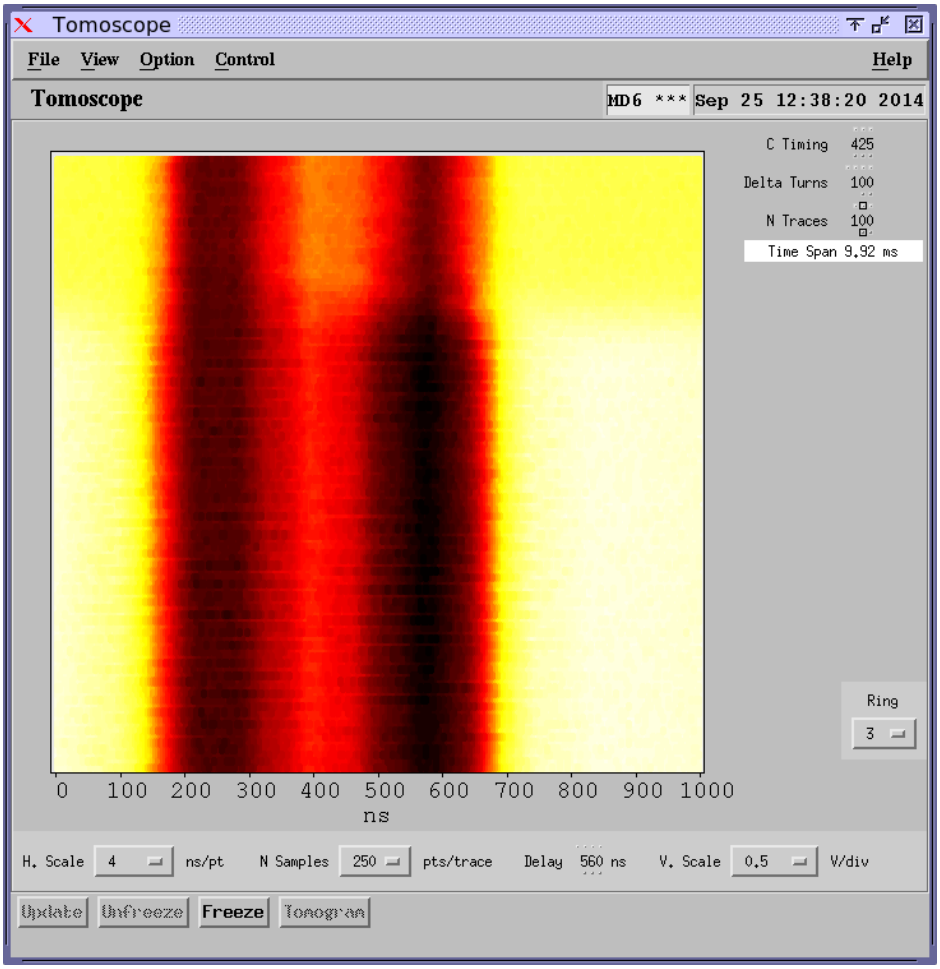
The intensity profiles (instability at C425 in Ring3)




The instability as seen by the Q-meter



The losses in the longitudinal plane




The relative phase GFA between C04 and C02