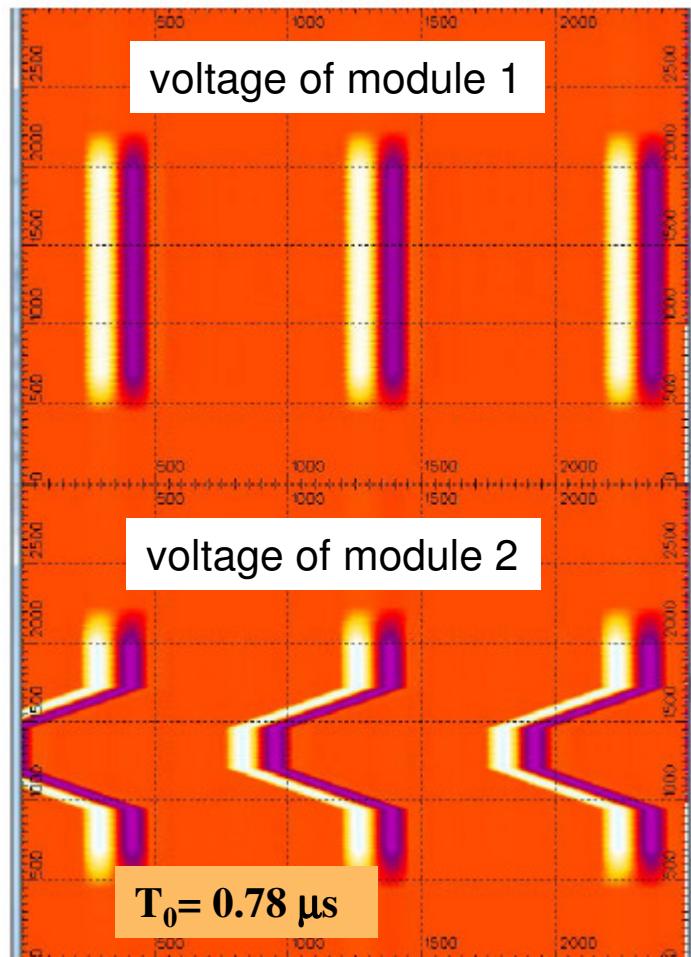


ESR Status May 7, 2019

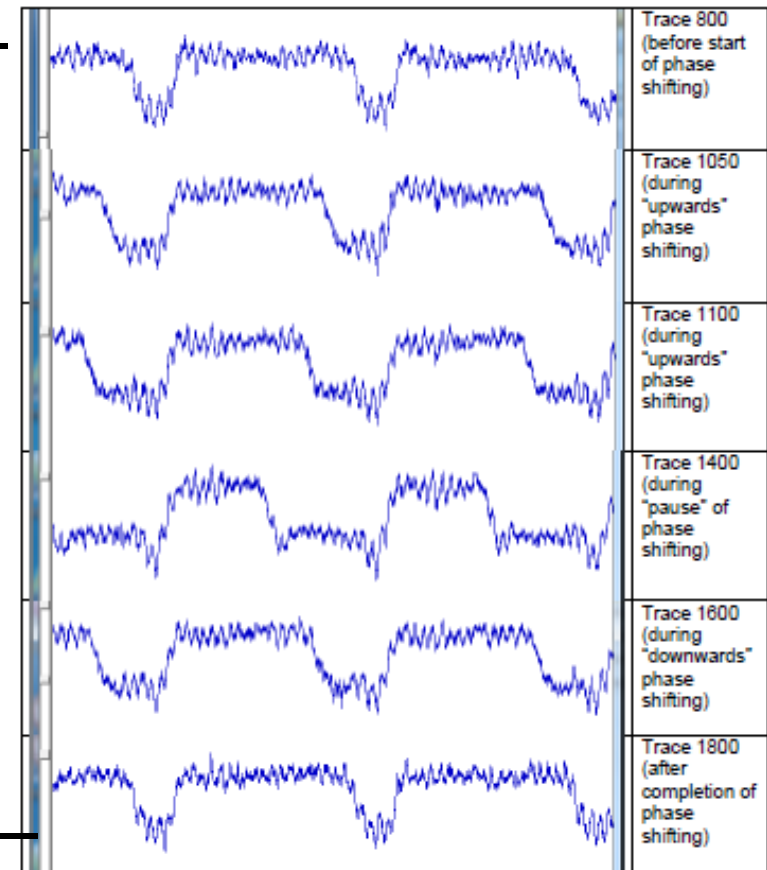


- **shutdown work on Northern arc expected to start this week**
- **report on barrier bucket experiment in discussion with RRF**
- **analysis of recommissioning measurements**

Commissioning of Barrier Bucket Cavity

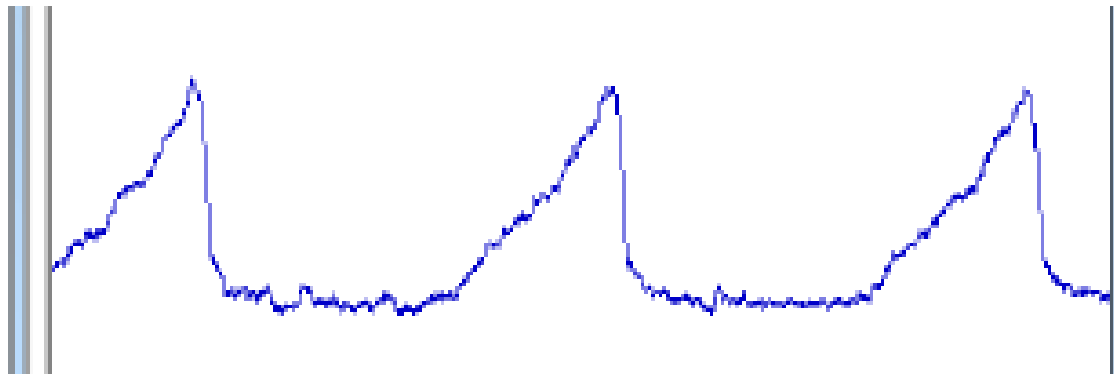


beam compression measured by FCT



uncooled Fe^{25+} 120 MeV/u

Commissioning of Barrier Bucket Cavity

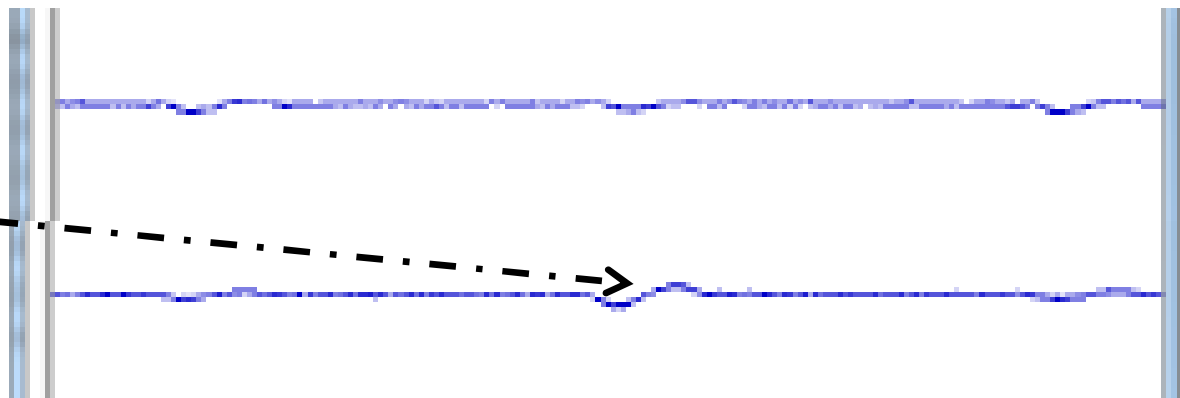


unintended bunching:

FCT signal of cooled
Fe²⁵⁺ beam with
rf voltage set to 0 V

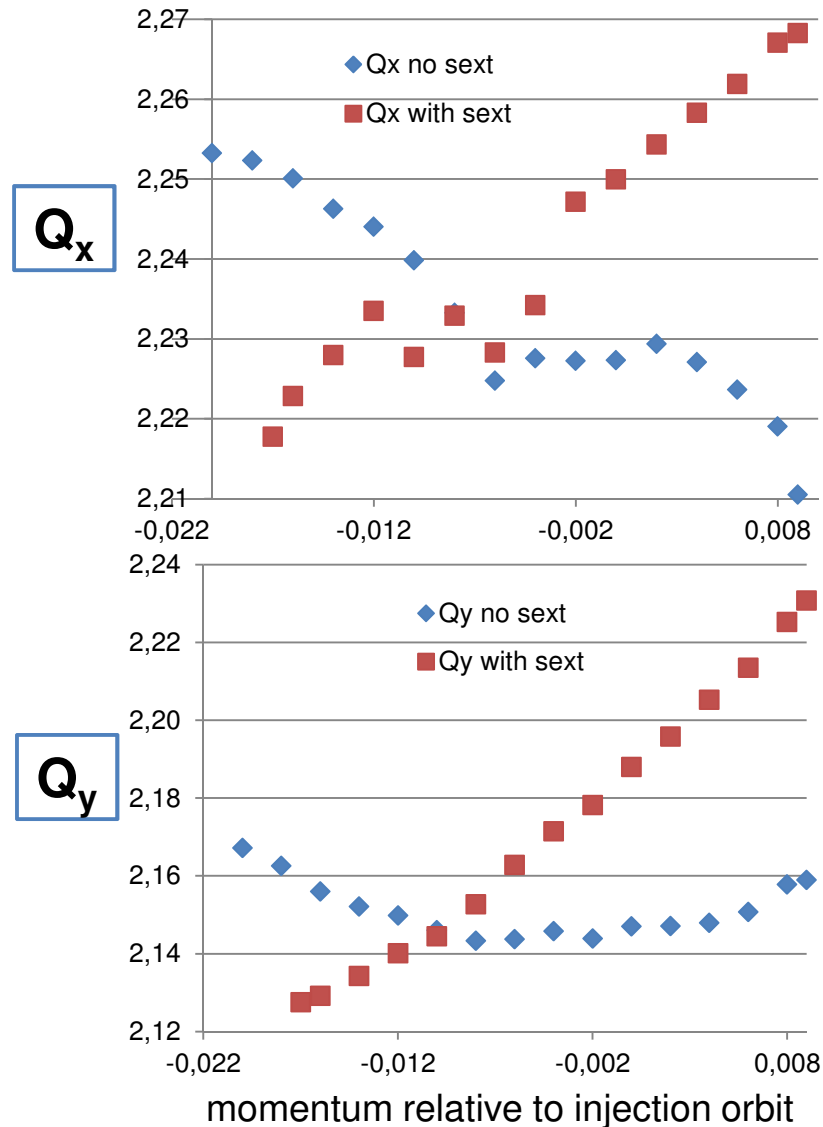
reason:

real rf voltage of 30 V at gap



plan: modify system to remove residual rf voltage

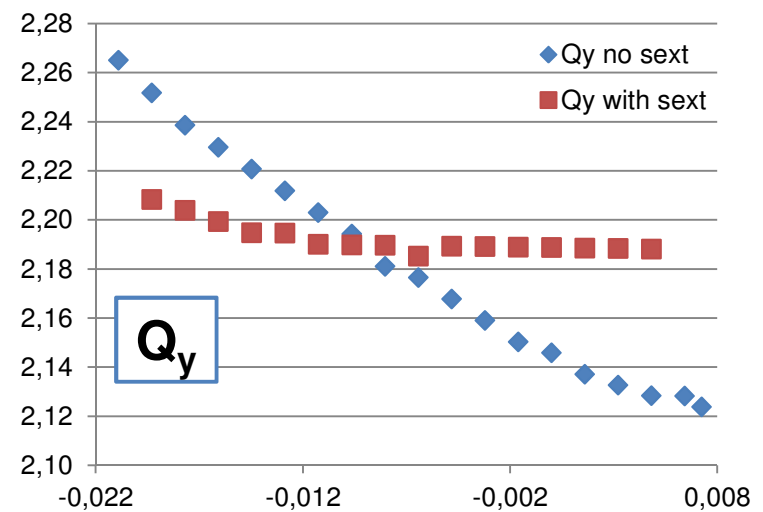
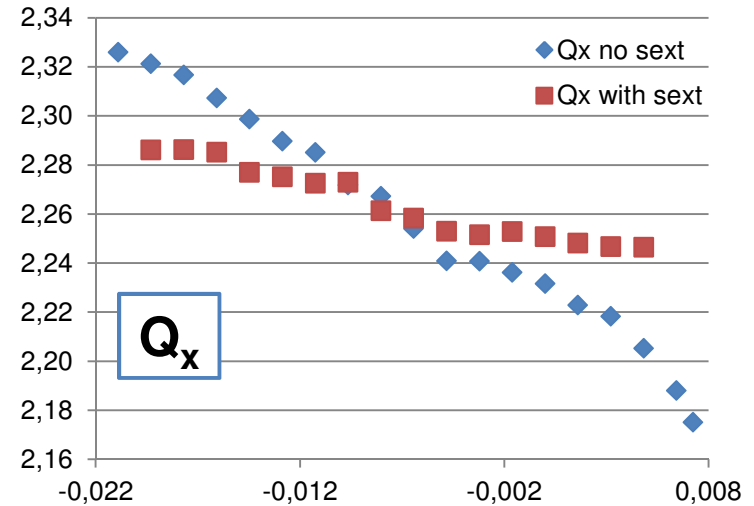
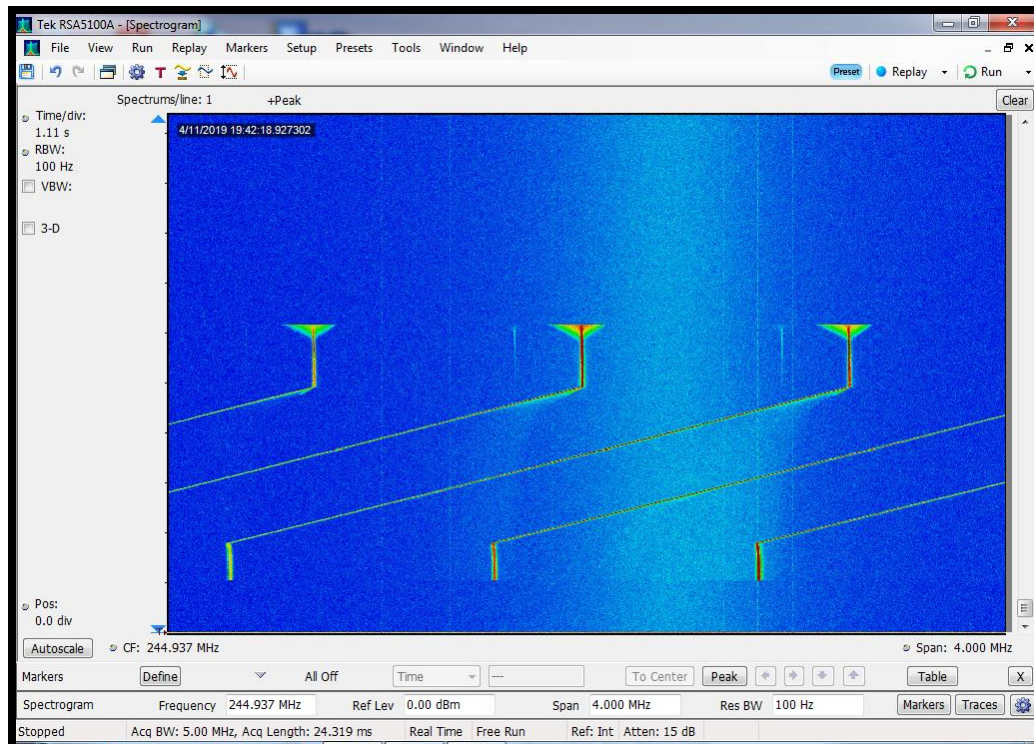
Tune /Chromaticity Measurement by variation of dipole field



sextupole strength set
according to empiric values
defined in old ESRMODI
(achieved after extensive studies)

Tune /Chromaticity Measurement by variation of beam energy

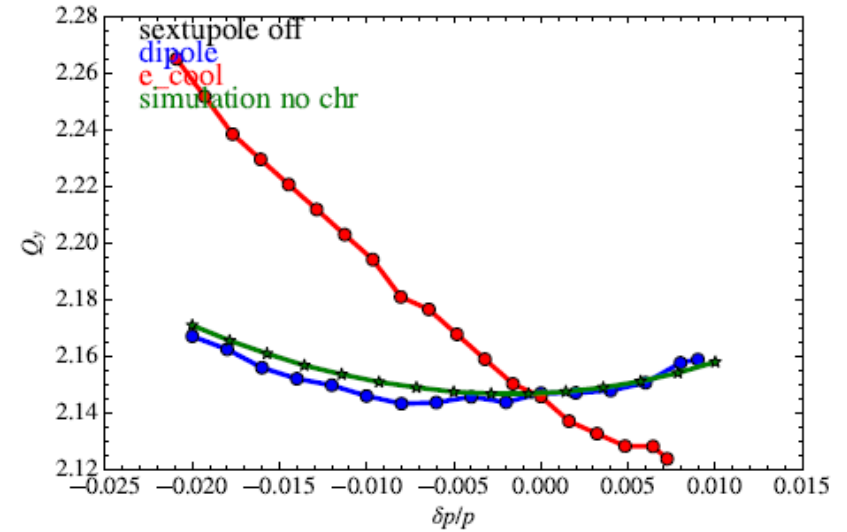
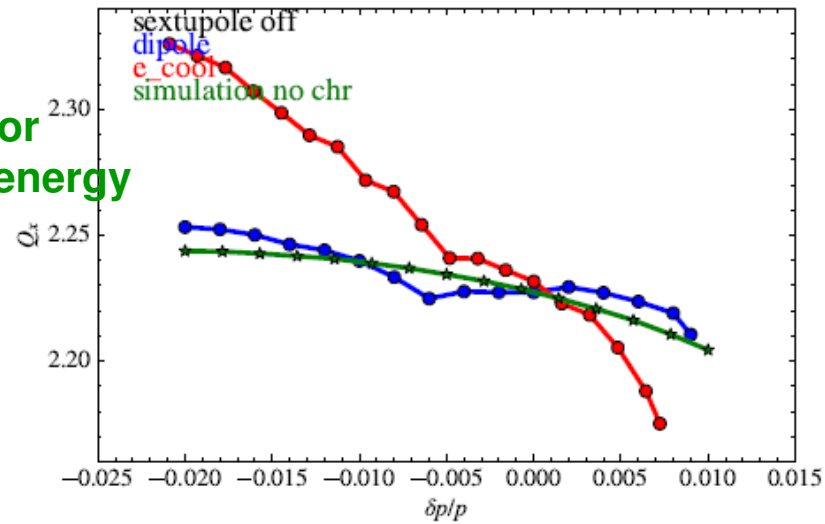
deceleration by $\Delta E = 3.6\%$ of cooled 120 MeV/u Fe²⁵⁺ beam by ramping the electron energy



relative beam momentum

Tune /Chromaticity Measurement comparison with simulation

simulation for
fixed beam energy



simulation for
variation of
beam energy

