

Circumference Lengthening

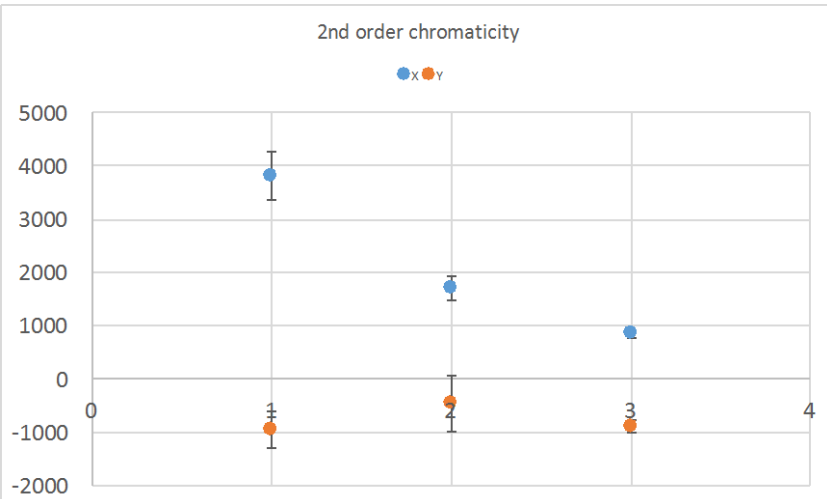
studies on March 9

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March 9 session

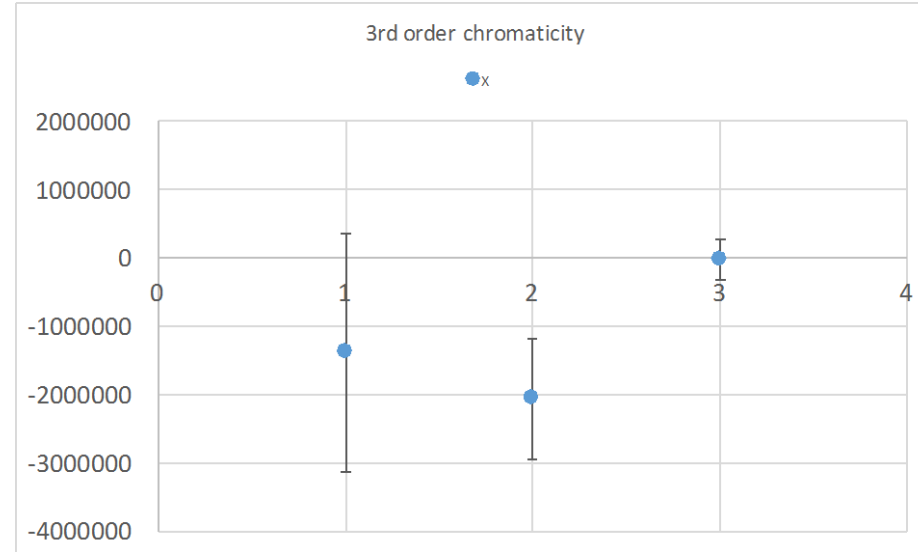
- Accelerated 12 bunch Blue beam to the store with the special ramp (no separation and protection orbit bumps at the store), commissioned at previous APEX session
- Nonlinear chromaticity correction at the store:
 - Verified sextupole settings found from previous study. Worked well.
 - Applied improved settings (as calculated by Guillaume).
2nd (and possibly 3rd order) chromaticities have been further improved.
But lifetime deteriorated?!
- Radial shift ramp (prepared and controlled by Guillaume and AI) was attempted. Beam survived up to -9mm radial orbit (as measured by the arc BPMs)

Nonlinear chromaticity correction

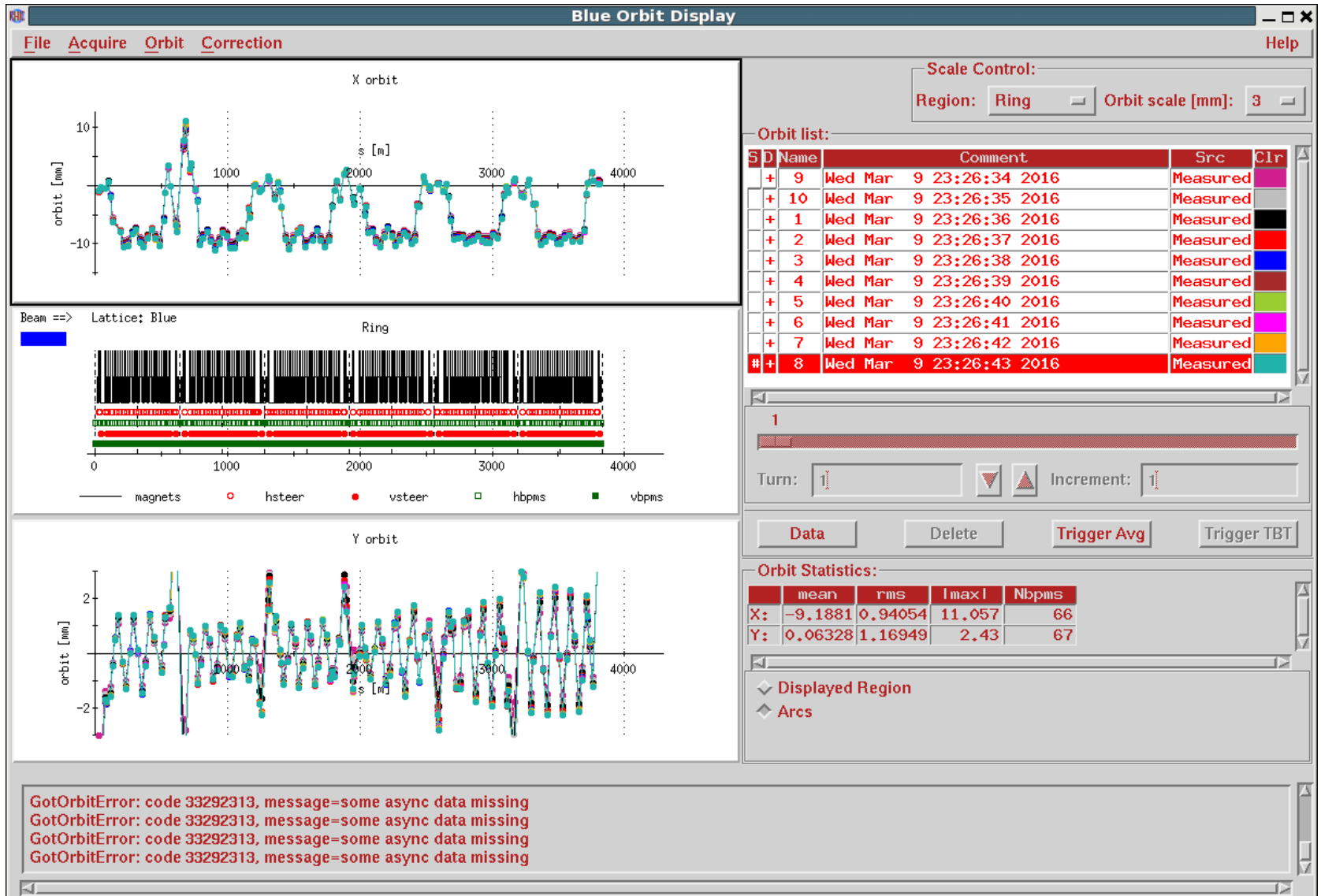


Case 1: initial machine

Cases 2 and 3: consecutive corrections



Last orbit before beam abort



Further actions

- Optimize DA during chromaticity correction.
(Driving resonance terms minimization, like done for eRHIC IR)
- Adjust condition of radially shifted beam (with radial shift 6-7mm).
Orbit correction; optics measurement; chromaticity correction.
- Then try achieve the goal: at least 12 mm radial shift with minimal beam loss