

Follow-up of DA estimation

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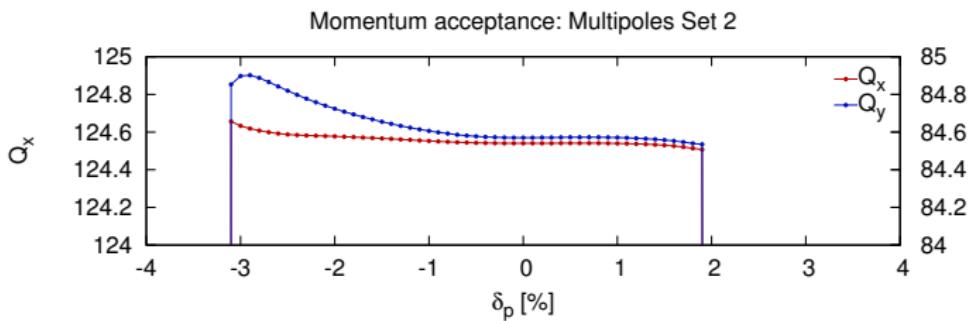
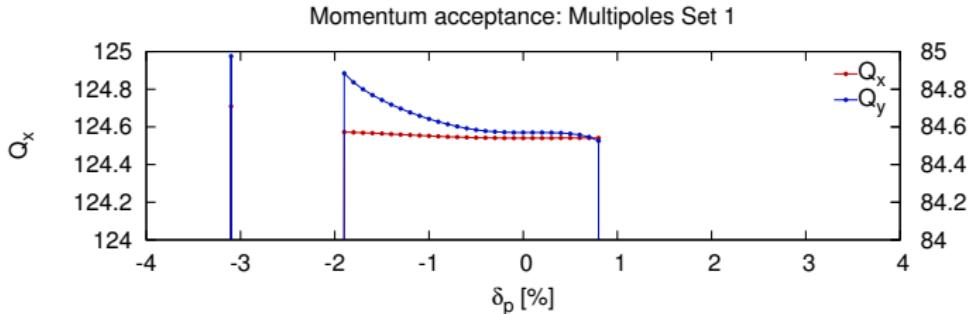
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Introduction

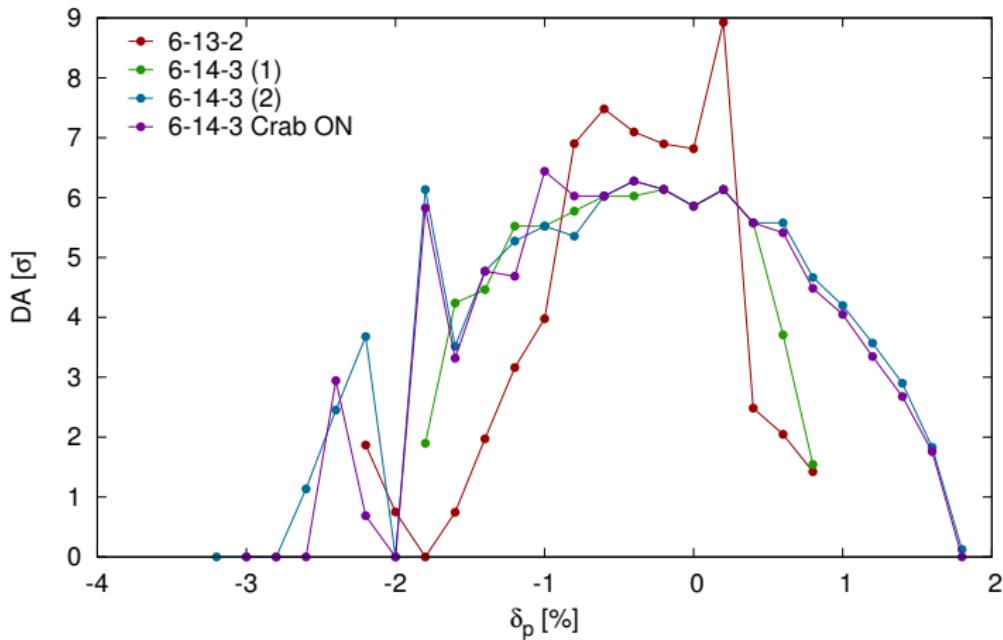
- Dynamic aperture studies as function of momentum deviation have been done for:
 - Ring V13, IR 6 (already presented).
 - Ring V14, IR 6 (two Anton's multipole sets).
- Ring V14, IR 6 with crab sextupoles **on** is also presented.

$$K_2 = \pm \frac{\theta_c}{I_s} \frac{1}{\beta_y^* \beta_y^s} \sqrt{\frac{\beta_x^*}{\beta_x^s}} \quad (1)$$

TLEP_V14_IR_6-13-2: Momentum acceptance



FCC-ee (V14-IR6): Dynamic Aperture as function of momentum acceptance



Conclusions

- DA is wider for the new lattice.
 - A minimum of 3σ is required
- Reduction of 1σ of DA for on-momentum particle. (?)
- DA is not symmetric.
- Crab waist sextupoles do not change significantly the results.

Conclusions

- What is next?
 - Work on the matching section for V16 (0.22 rad) to the current IR.
 - Verify DA limitation in the arcs by the sextupoles.
 - Design of a lattice without crab waist section.
 - Important for the layout and SR power estimation.