



The European Synchrotron

FCC tuning comparisons

S.Liuzzo, ESRF, 3 May 2024

Best result obtained for several error ramp / sextupole ramp combinations. Further, studies needed.

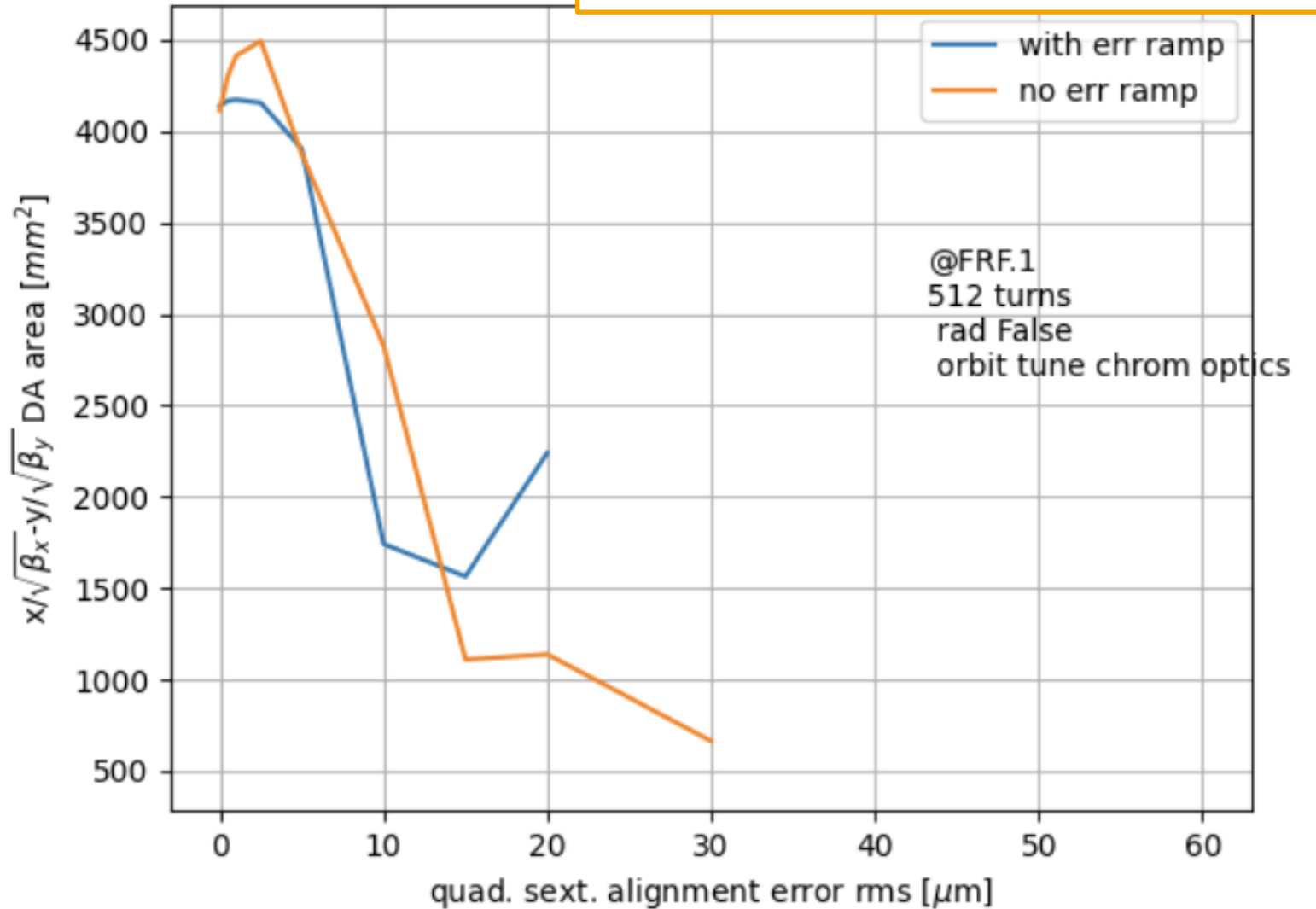
"Ramp of errors" included in the simulations

No improvement in the results (as from previous comparison without optics correction).

Some non zero point for DA at 80um, but with "negative beta". Not considered as a survived case.

No news.

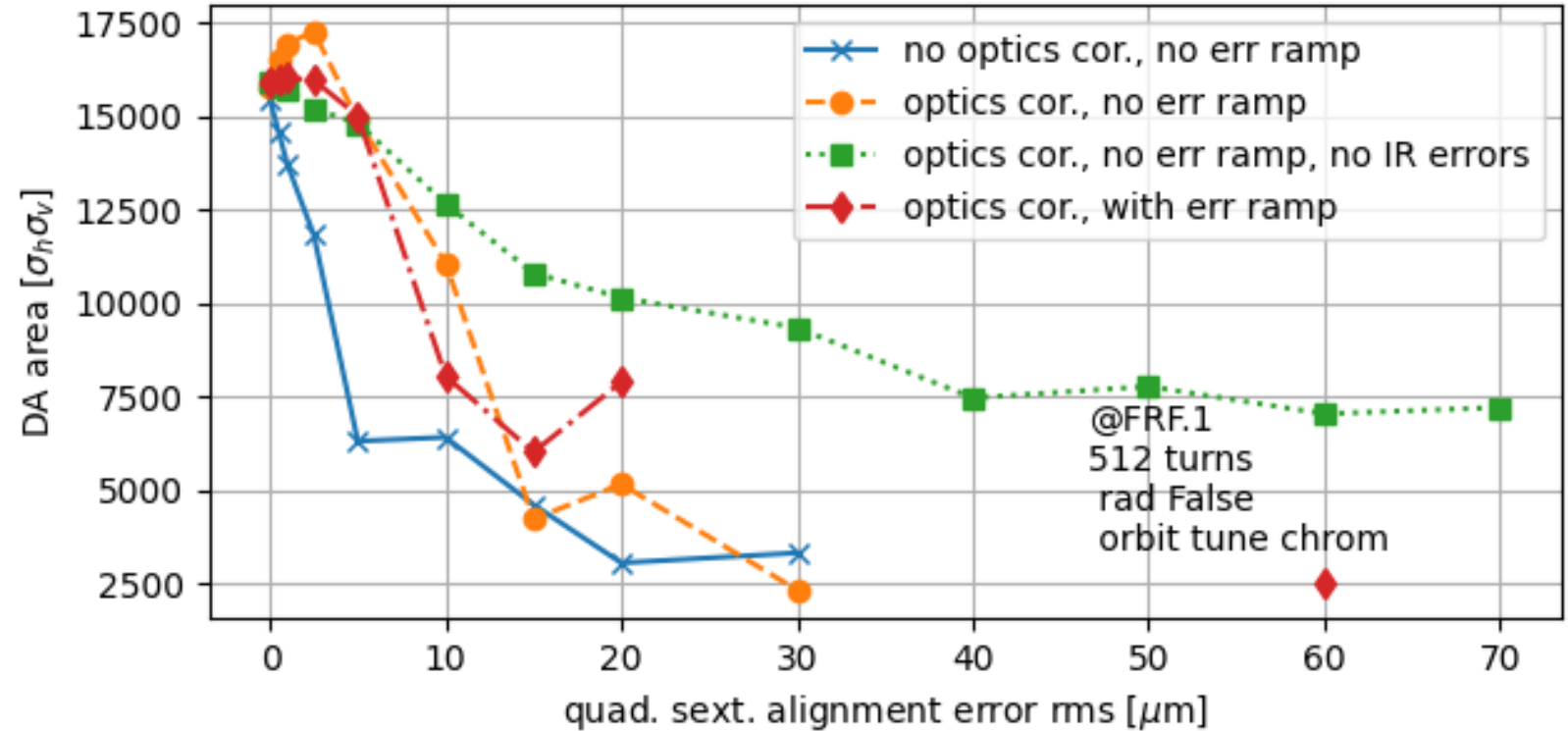
Already at 10 um the DA area is less than 50% of the initial value

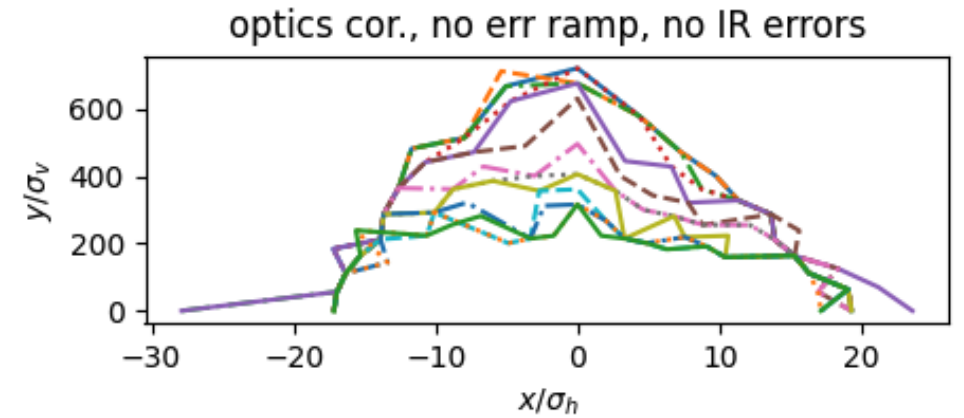
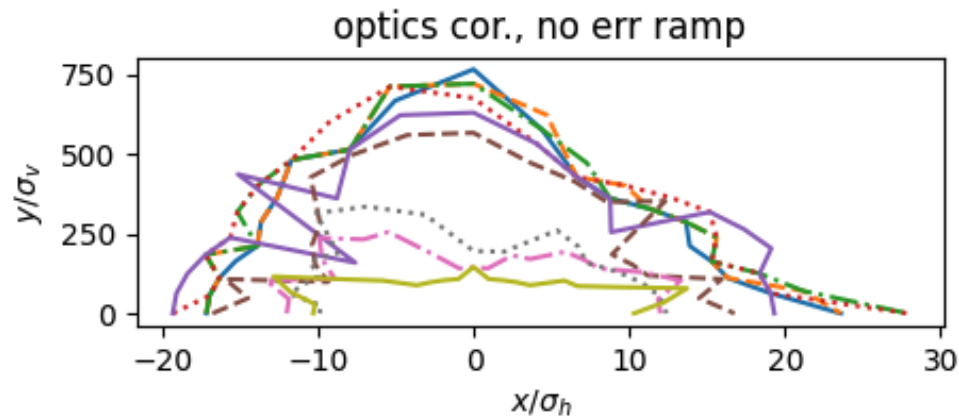
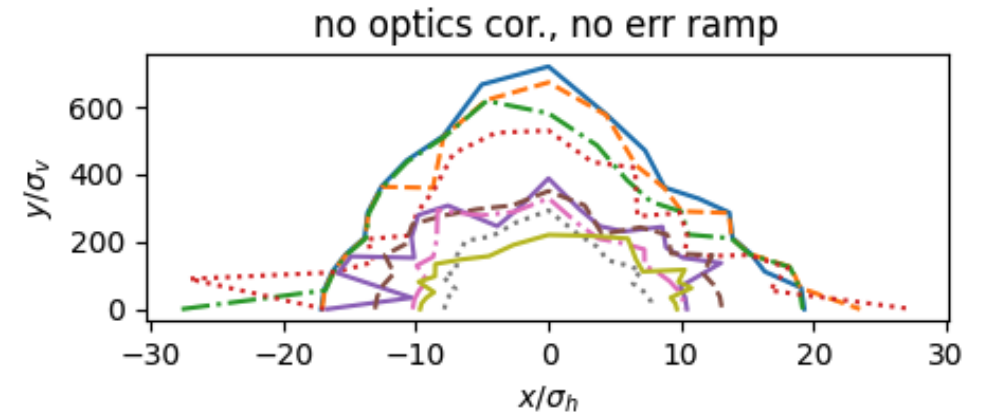
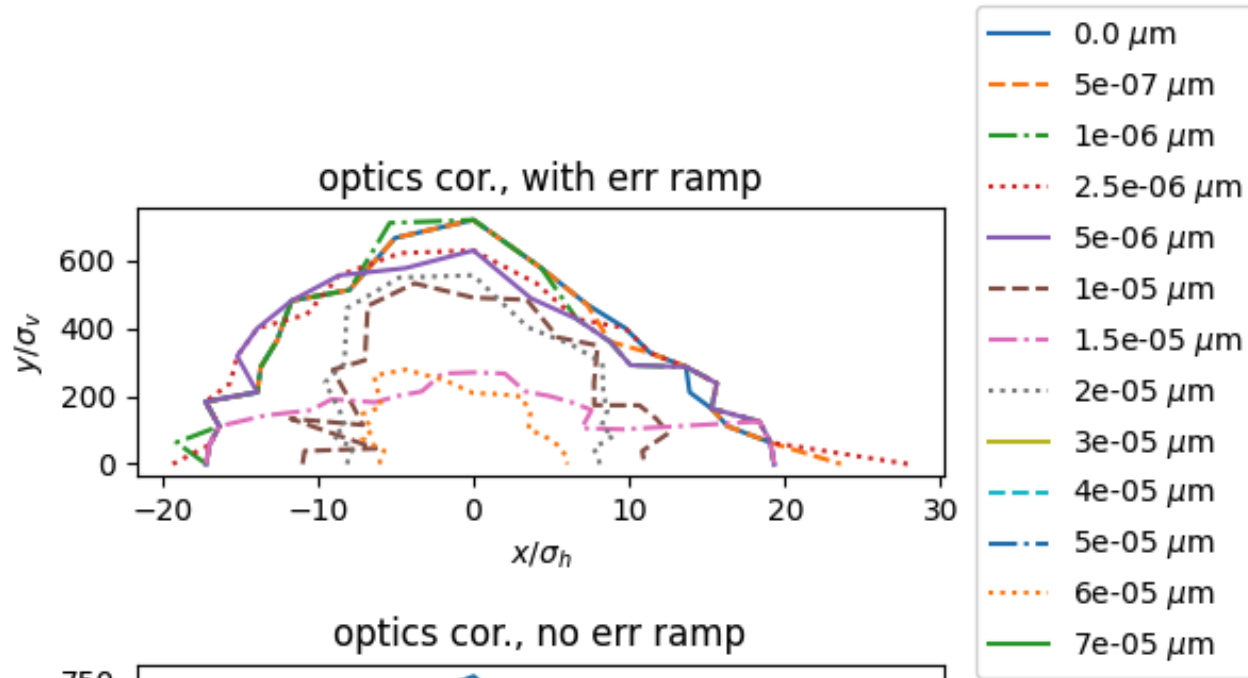


plot_DA_vs_errors_sqrtbeta_ErrRamp.py

SUMMARY OF DA VS TUNING STRATEGY

- Optics corrections help for $< 10\mu\text{m}$ errors.
- IP is the main offender
- Ramping errors, does not help





Priority to P.R. optics studies (LCCO 92**b2**)

Waiting for available time to run commissioning simulations with more seeds, some issue with cluster infrastructure “updates”

Waiting to conclude AT-MADX code comparison. Email exchange with T.Charles and B Holzer recently.

Available for support with python commissioning simulations code shared with CERN colleagues.