

GENERAL INFORMATION

Frank Zimmermann

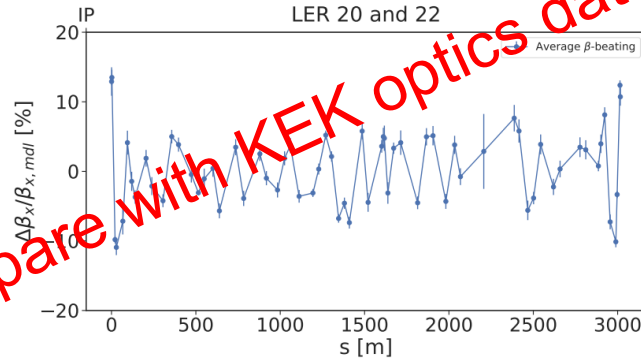
FCC-ee Optics Design Meeting #191 & 62st FCCIS WP2.2 meeting, 21 August 2024

Important outstanding issues

- ✓ Xsuite beam-beam PIC module close to deployment
- ✓ collaboration on implementing spin in xsuite with EIC team
- looking for 1-2 year postdoc at LNF, DR design, DA optimization
 - possible candidates from ILSF for DR design and also for booster design
- baseline optics for FSR
- IR solenoid compensation scheme, and effect of polarisation
- LCC dynamic aperture discrepancy between codes
- ✓ beam lifetime in xsuite & SAD
- work on/with relaxed optics
- documentation of arc alignment tolerances (100 or 150 μm ?) & DA
- follow up SKEKB measurements
- EPOL requirements (10^{-5} longitudinal polarisation)

SKEKB follow up – various files received from H. Sugimoto

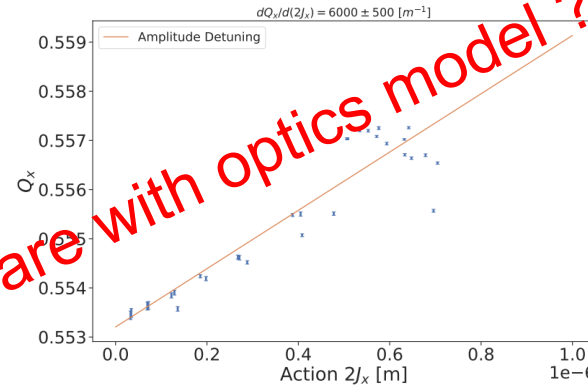
LER Squeezed 8mm



RMS β -beating $\approx 6\%$

- Beating near IP? Analysis artefact or real?

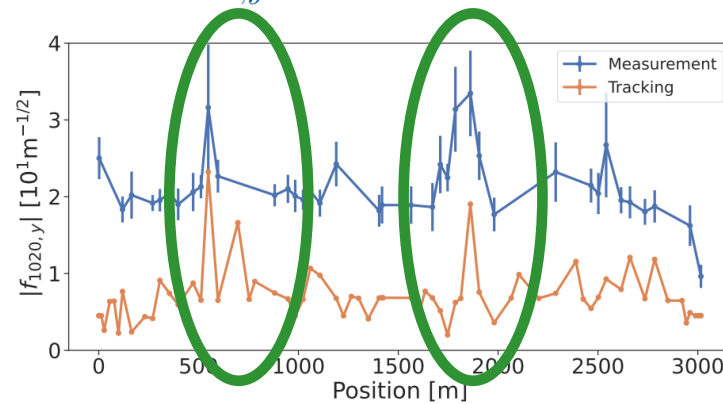
Amplitude Detuning



- Tune taken from the first 200 turns
- Amplitude detuning term $\frac{\partial Q_x}{\partial 2J_x}$ can be measured

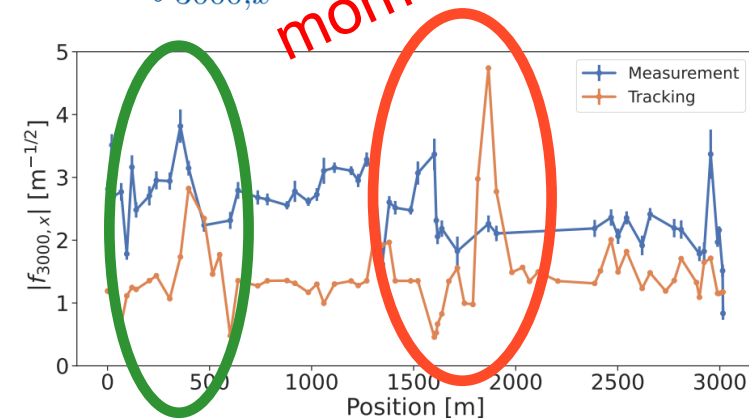
results from M. Le Garrec

HER 06 - $f_{1020,y}$



- Measured RDT about 3 times larger than expected from the model
- Decoherence factor not yet taken into account in analysis

LER 06 - $f_{3000,x}$



- Measured RDT *also* about 3 times larger than expected
- Decoherence smaller than for HER

check LER model for that moment of time ?!

possible optics developments

- same optics for Z, WW, and ZH
- LCC arcs combined with GHC final focus
- alternative IR optics (→ next MDI mtg)

Today's agenda

14:30 → 14:40 **General Information**

Speaker: Frank Zimmermann (CERN)

🕒 10m



14:45 → 15:05 **Plan for the Feasibility Study Report**

Speaker: Frank Zimmermann (CERN)

🕒 20m



15:10 → 15:30 **Optimizing the RF Insertion for seamless Z, W and H operations**

Speaker: Ghislain Roy (CERN)

🕒 20m

