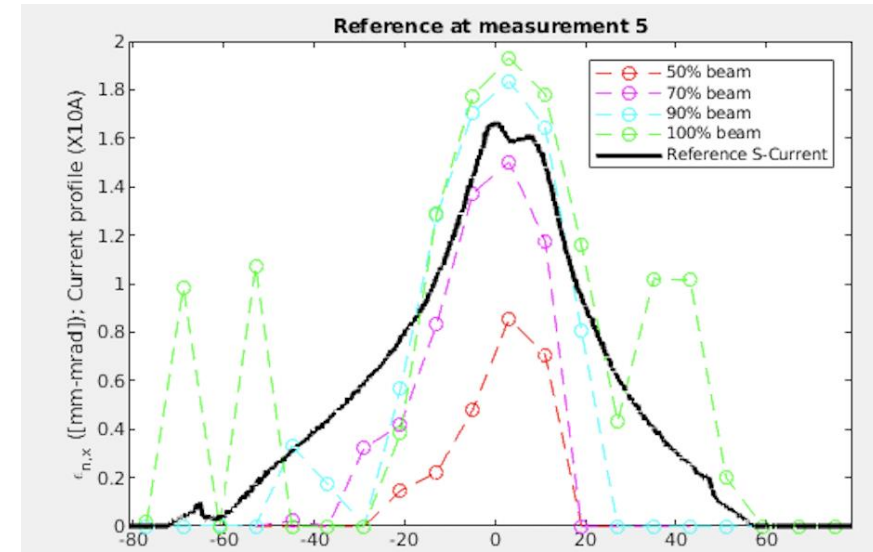


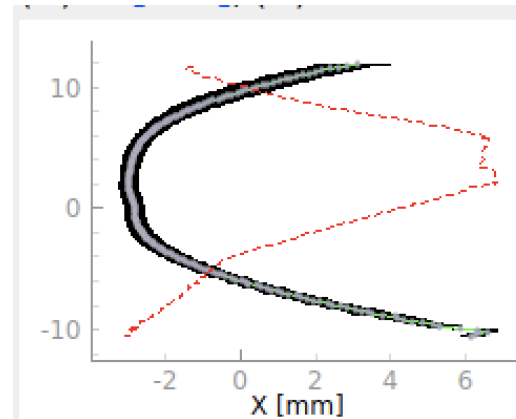
CeC status – 7/22/25

Continue to improve beam parameters towards KPPs needed for cooling

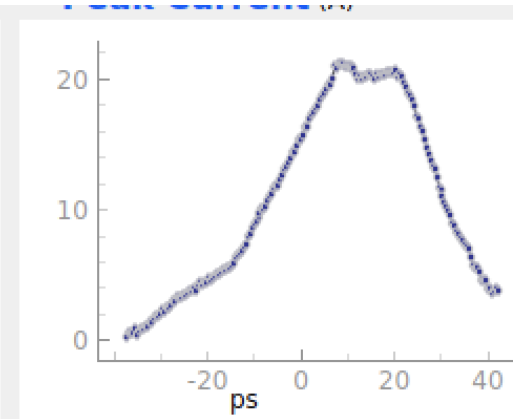
- Slice emittance for core ~ 2 μm normalized.
Requirement $< 1.25 \mu\text{m}$
- Peak current for core ~ 20 A
- RMS slice energy spread $\sim 2\text{-}3\text{e-}4$. **Requirement $< 2\text{e-}4$**
- **Energy flatness across core, $p2p < 2\text{e-}4$ needed.**



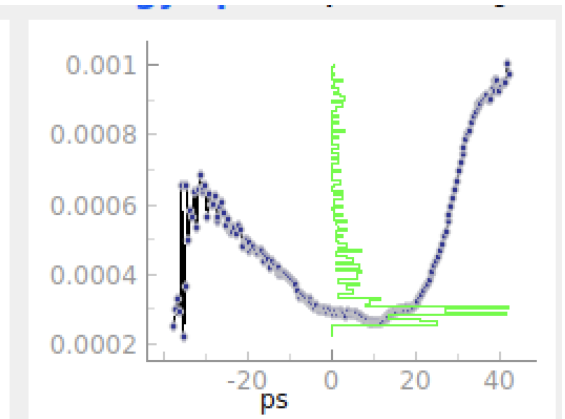
Slice emittance along beam



Long. phase space



Current profile

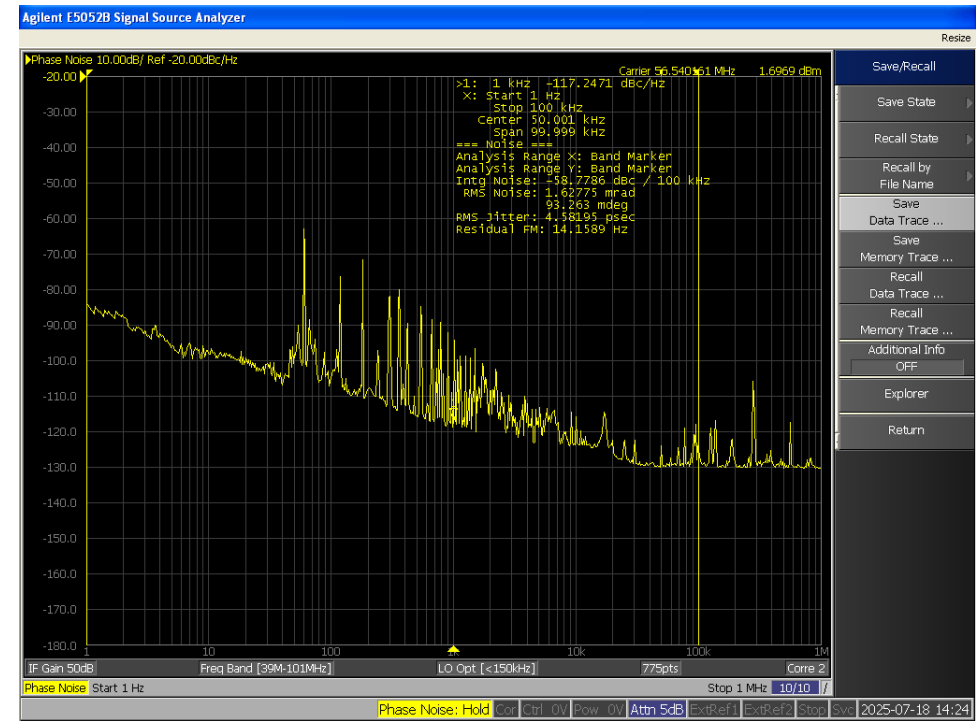


Slice energy spread

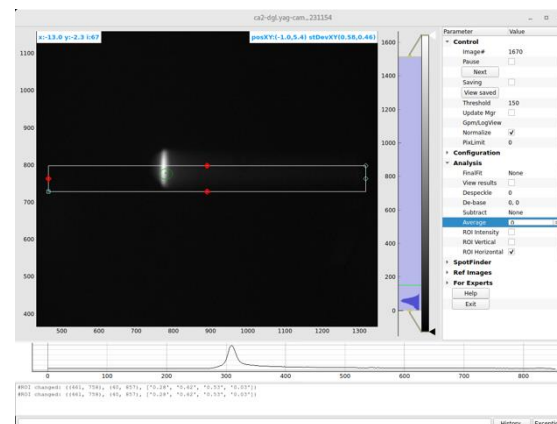
Stability and jitter

Preliminary study on the jitter was performed

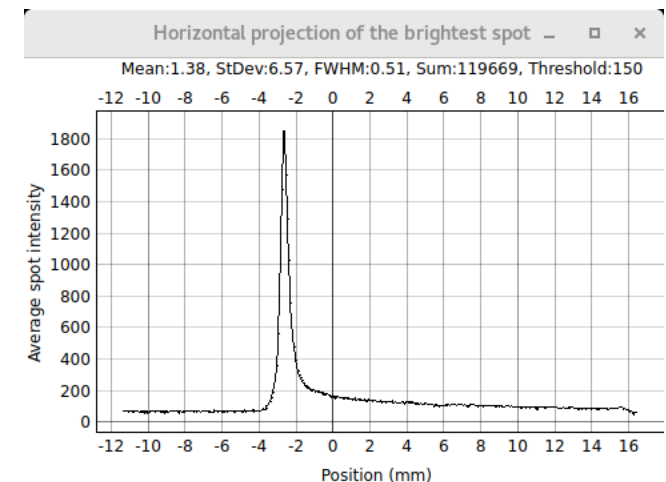
- Measured beam position vibration in dispersive region to identify the energy variation.
- Larger energy variation was found $\sim 6\text{e-}4$ RMS, $1.3\text{e-}3$ FWHM after linac.
- The sources of this jitter are being identified.



RMS laser jitter ~ 4.6 ps $\sim 1.1\text{e-}4$ energy jitter



Beam on dogleg yag



Horizontal projection