



Cornell Laboratory for
Accelerator-Based Sciences
and Education (CLASSE)

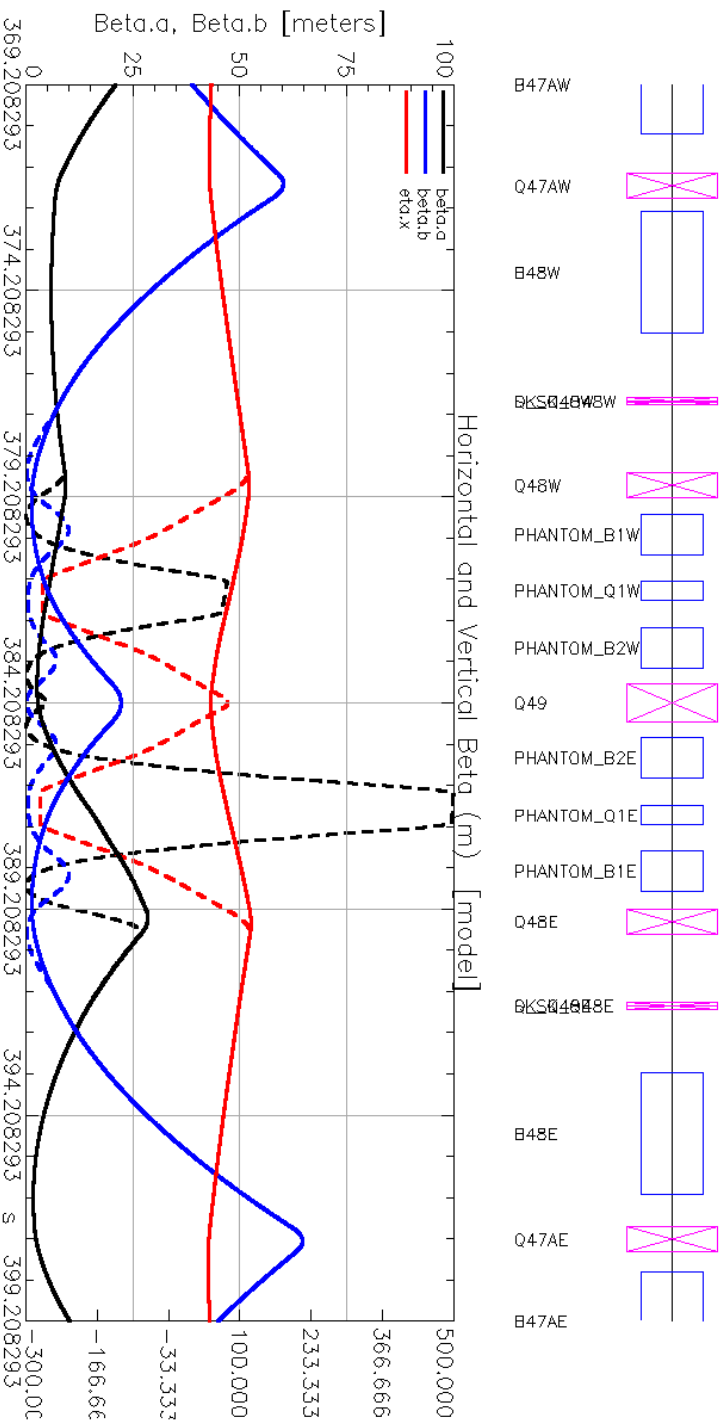
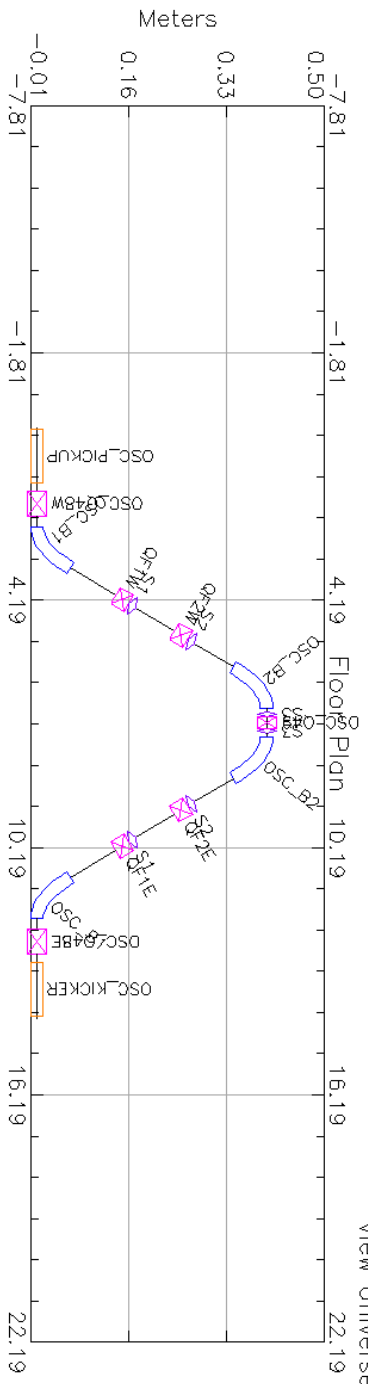
40 cm TT/EOC bypass in TT configuration matched into 500 MeV CHESS-U

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Layout & Optics

- Matched using quads North of Q30E and Q30W
- 58.4 pm rad. int. emittance
- $2.9 \cdot 10^{-4}$ energy spread
- $J = 2.6 \cdot 10^{-6}$
- $\tilde{M}_{56} = 9.0 \cdot 10^{-7}$
- $M_{56} = 5.0 \cdot 10^{-4}$
- Solid is CESR
- Dotted it Bypass





Comparison to Jan 12 2018 Matched Bypass

- 40 cm rather than 13 cm.
- Better TTOSC parameters

– Recall:

	Matched Bypass	Free-standing sym Bypass
\bar{J}	$9.8 \cdot 10^{-4}$	$2.1 \cdot 10^{-4}$
\tilde{M}_{56}	$7.2 \cdot 10^{-3}$	$5.5 \cdot 10^{-6}$

- Lower SR emittance

– Recall:

	without OSC	with OSC
ϵ_x (pm)	14.1	139.2
σ_p	$3.3 \cdot 10^{-4}$	$2.9 \cdot 10^{-4}$

- Matched with only North quads.