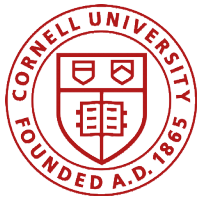


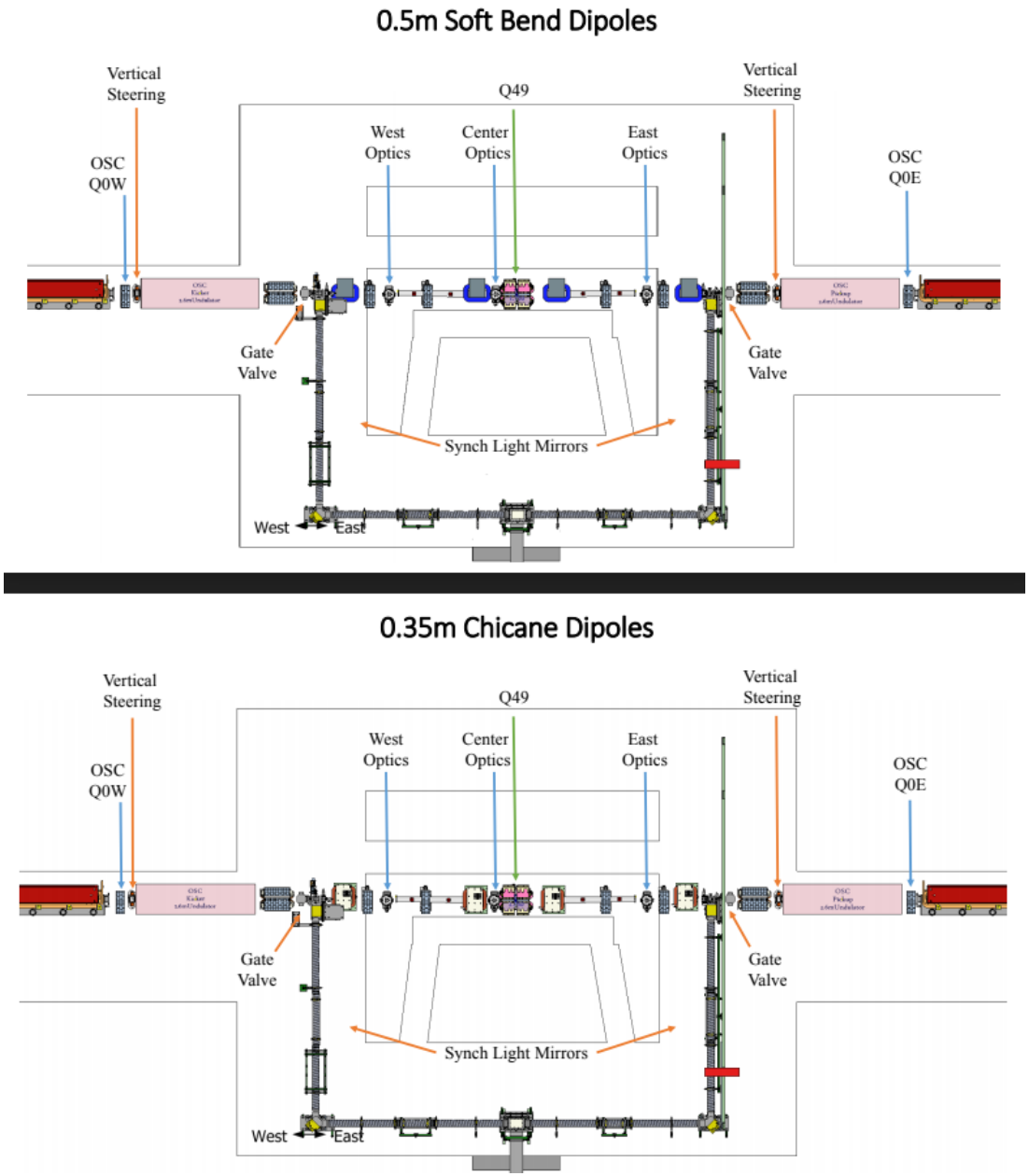
Cornell Laboratory for
Accelerator-Based Sciences
and Education (CLASSE)

Chicane Dipoles for OSC

Michael Ehrlichman

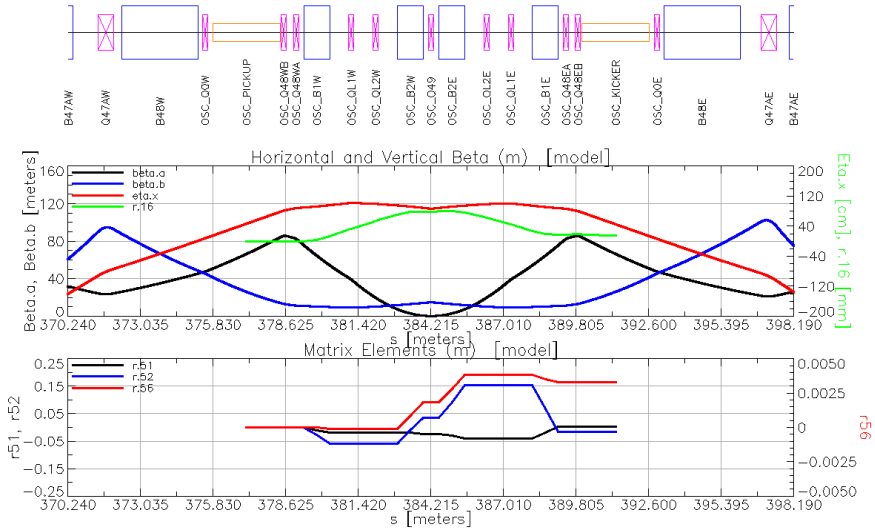
CAD Layouts

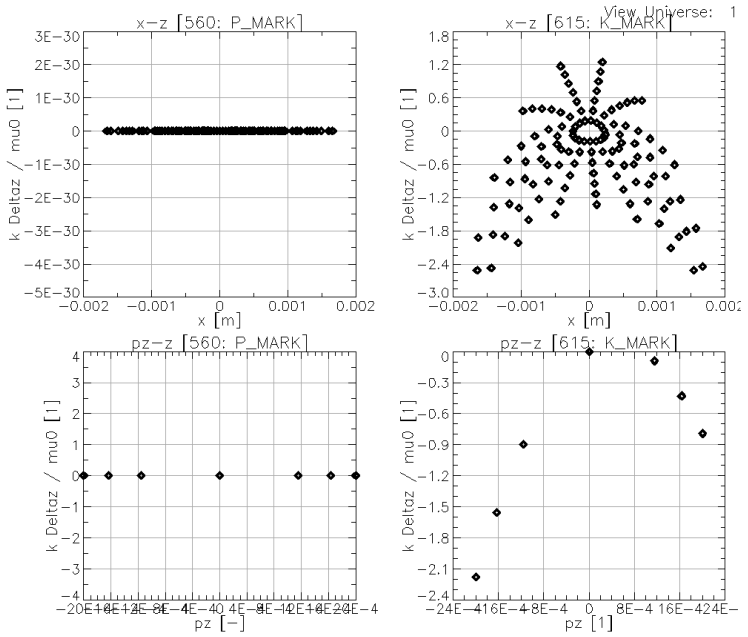
- Repurpose 4 chicane dipoles for OSC dipoles
  - Saves on cost & space
  - 0.35 m (rather than 1.0 m)
- 0.35 m → 0.230 T
- 1.00 m → 0.083 T



Optics

1 m dipole optics



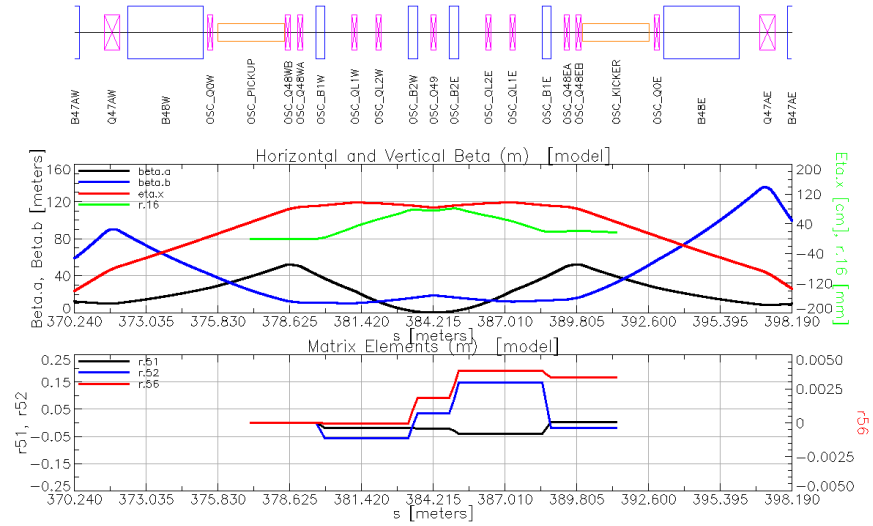


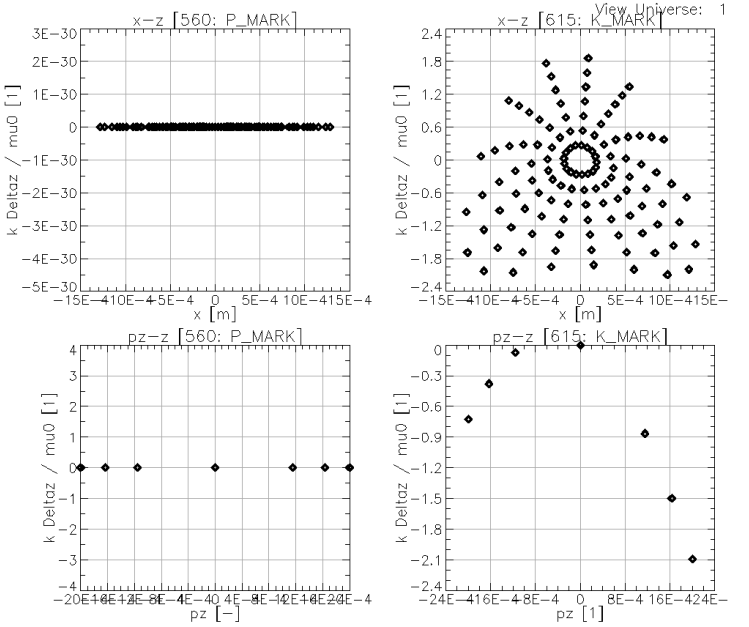
emit: 2.2 nm

osc emit acc: 24.0 nm

osc sigma_p acc: 2.9e-3

Initial 0.35 m dipole optics



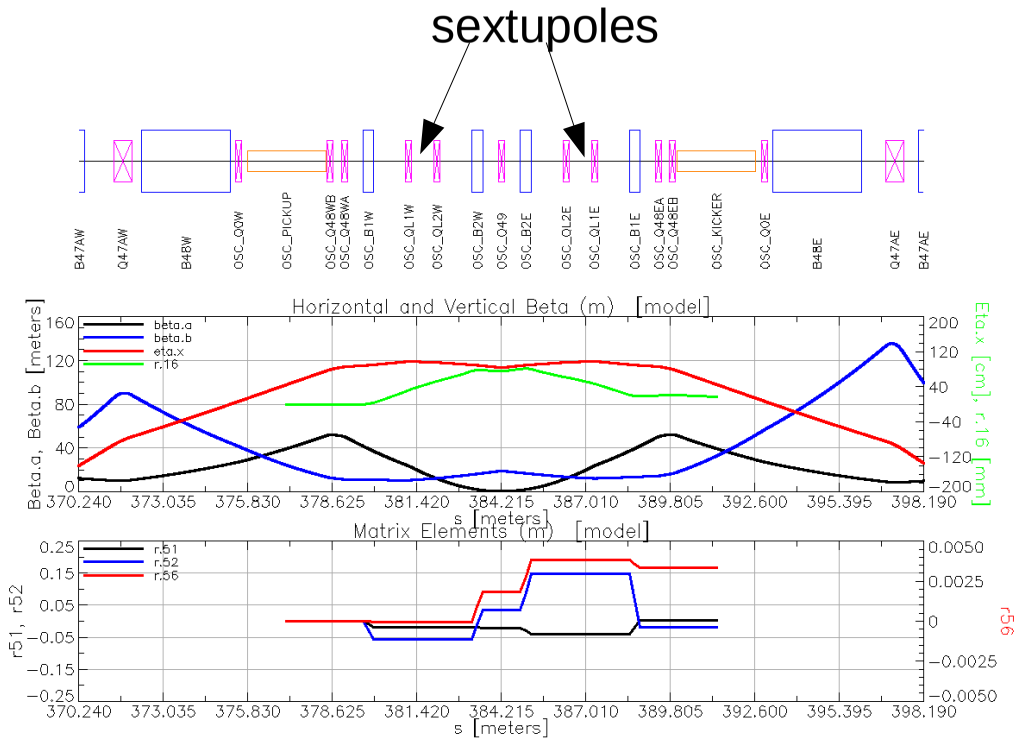


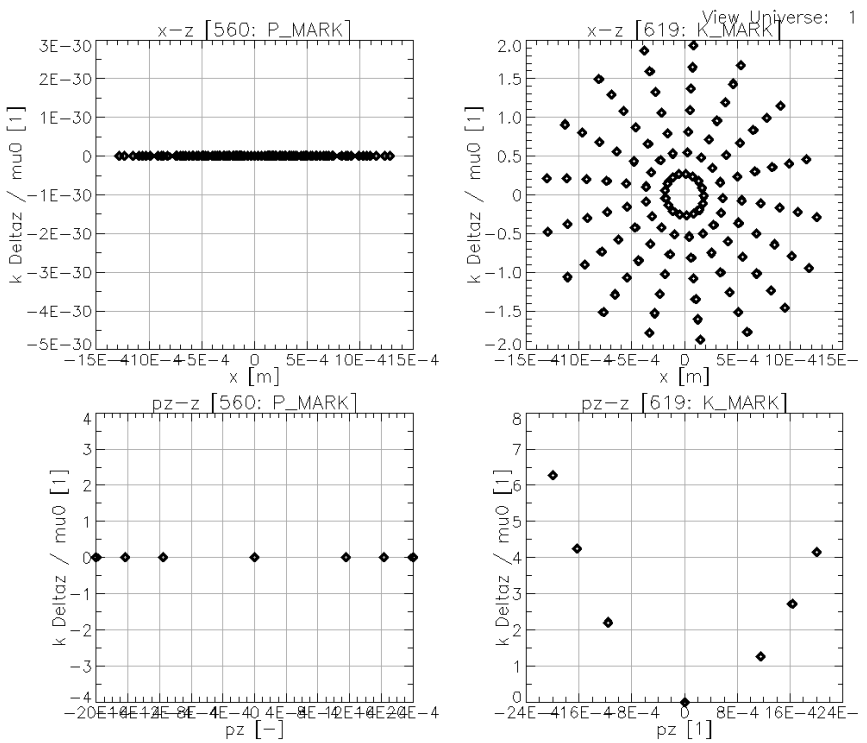
emit: 2.8 nm

osc emit acc: 11.6 nm

osc sigma_p acc: 2.9e-3

Sextupoles





- Two sextupoles added between OSC_QL quadrupoles.
- K2L adjusted to linearify x-z at end of bypass
- Also impacts pz-z at end of bypass
- K2L = 11.21 1/m2