Max the B-field at an increased gap.

Increased Gap:

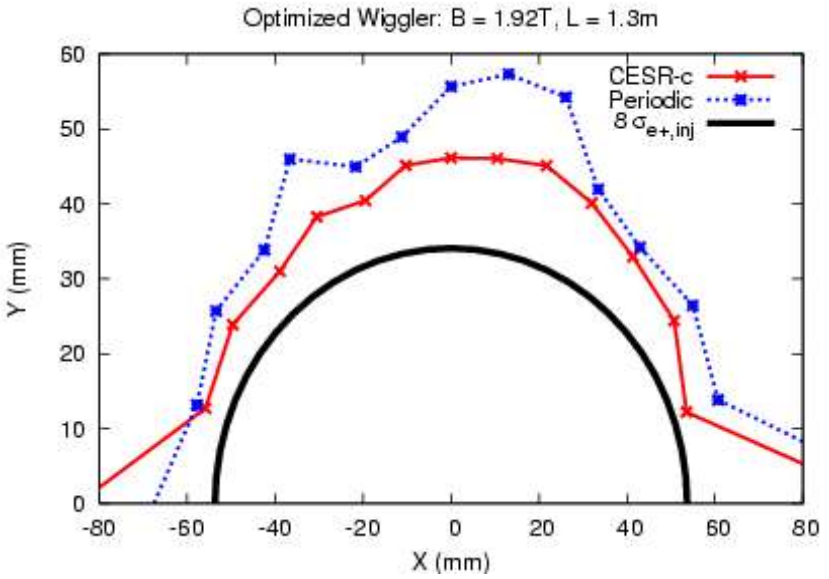
- Easier engineering

Increased B:

- Reduce length & $
- More room for rad masks

Optimized Design

- B = 1.92 T
- L = 1.3 m, 8 poles (CESR-c)
- Gap = 86.4 mm (> CESR-c)
- I = 130 A



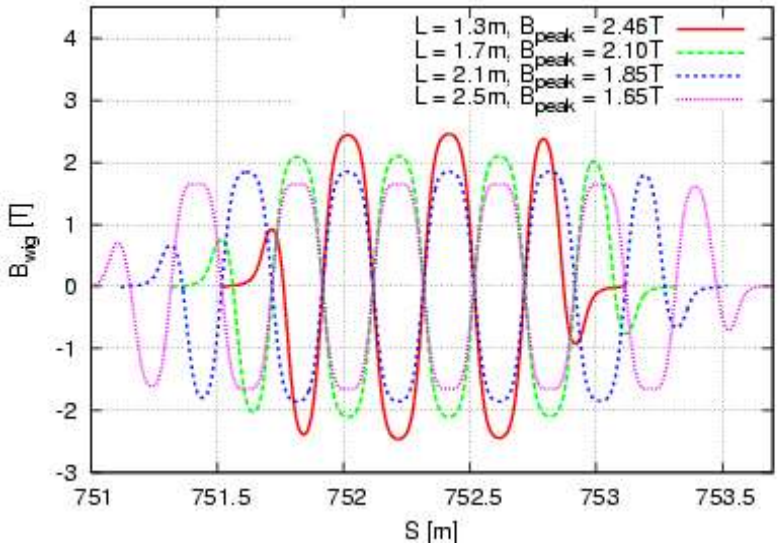
DA good but τ_{damp} too short!

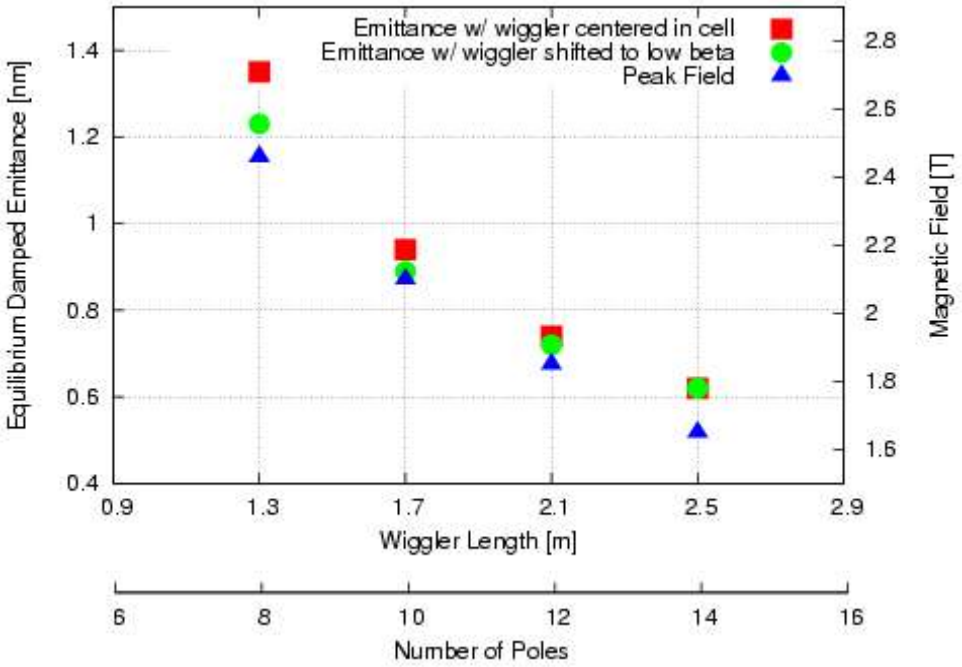
$$\tau_{damp} \sim 1 / LB^2$$

This scaling holds for a constant, peak magnetic field—but the end poles in CESR-c wigglers are considerably weaker and the beam sees a higher fraction of end poles with a shorter length wiggler.

Redo the optimization over a range of lengths.

τ_{damp} = 20 ms





τ_{damp} = 25 ms