

# Beam size at the spoiler:

$$\sigma_x \approx \left[ D_{x,sp}^2 \frac{\delta_{flat}^2}{12} + R_{12}^2 K_s^2 D_{x,sext}^2 \left( \frac{\delta_{flat}^2}{12} + \delta_0^2 \right) \beta_{y,sext} \epsilon_y \right]^{1/2}$$

$$\sigma_y \approx \left[ \frac{1}{4} R_{34}^2 D_{x,sext}^4 K_s^2 \left( \frac{\delta_{flat}^4}{180} + \frac{1}{3} \delta_{flat}^2 \delta_0^2 \right) \right]^{1/2}$$

# Collimation half gap:

$$R_{12}=763.171\,m$$

$$R_{34}=131.4917\,m$$

Momentum collimation depth:  $\Delta = 0.013$

Skew sextupole strength:  $K_s = 104\,m^{-2}$

$$a_x = \Delta D_{x,sp} = 2.21\,mm$$

$$a_y = 0.5 |R_{34} K_s| D_x^2 \Delta^2 = 8.349\,mm$$