

# CeC Physics

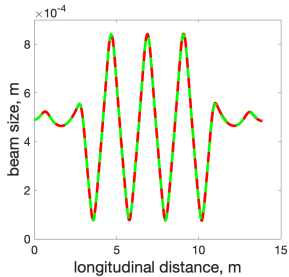
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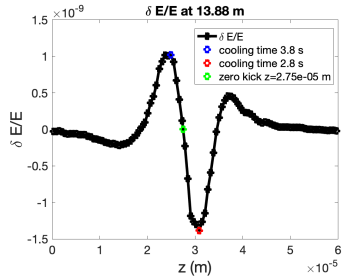
2/4/2022

- Peak current 50 A, KV emittance  $6 \mu\text{m}$ 
  - No orbit shift
  - 2 mm orbit shift in PCA
  - 2 mm orbit shift in PCA 1st cell
  - Transverse Gaussian distribution

# No orbit shift

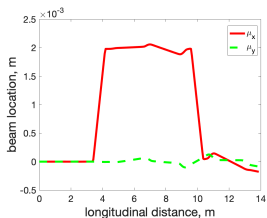


(a) Beam size

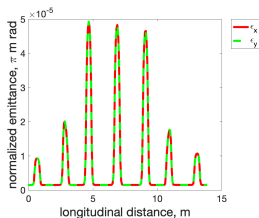


(b) Cooling

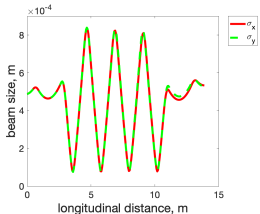
# 2 mm orbit shift in PCA, on axis of all solenoids



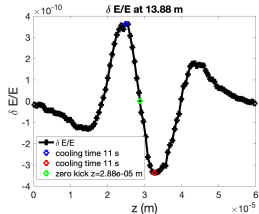
(a) Position



(b) Emittance

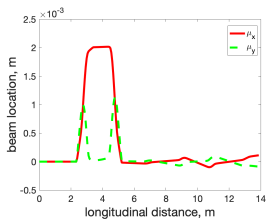


(c) Beam size

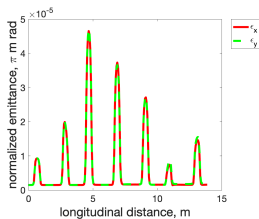


(d) Cooling

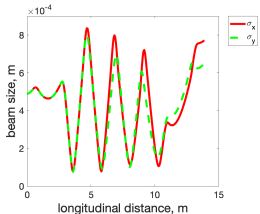
# 2 mm orbit shift in PCA 1st cell, off axis of solenoid 2, 3



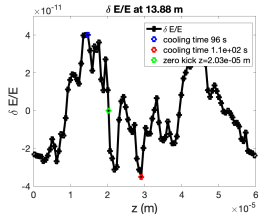
(a) Position



(b) Emittance

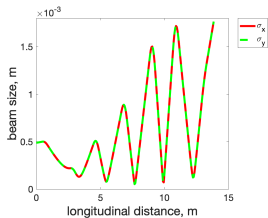


(c) Beam size

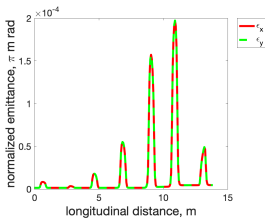


(d) Cooling

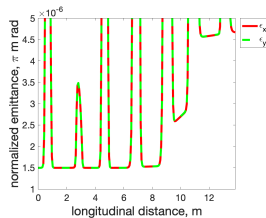
# Transverse Gaussian distribution, no space charge



(a) Beam size

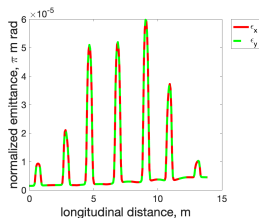


(b) Emittance

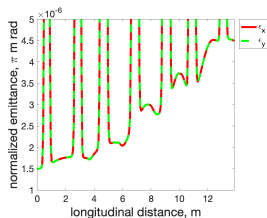


(c) Emittance

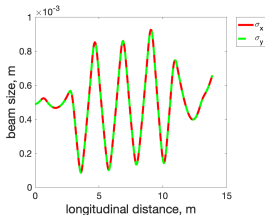
# Transverse Gaussian distribution, with space charge



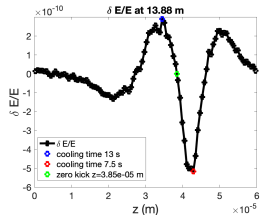
(a) Emittance



(b) Emittance



(c) Beam size



(d) Cooling