OSC low energy test lattice

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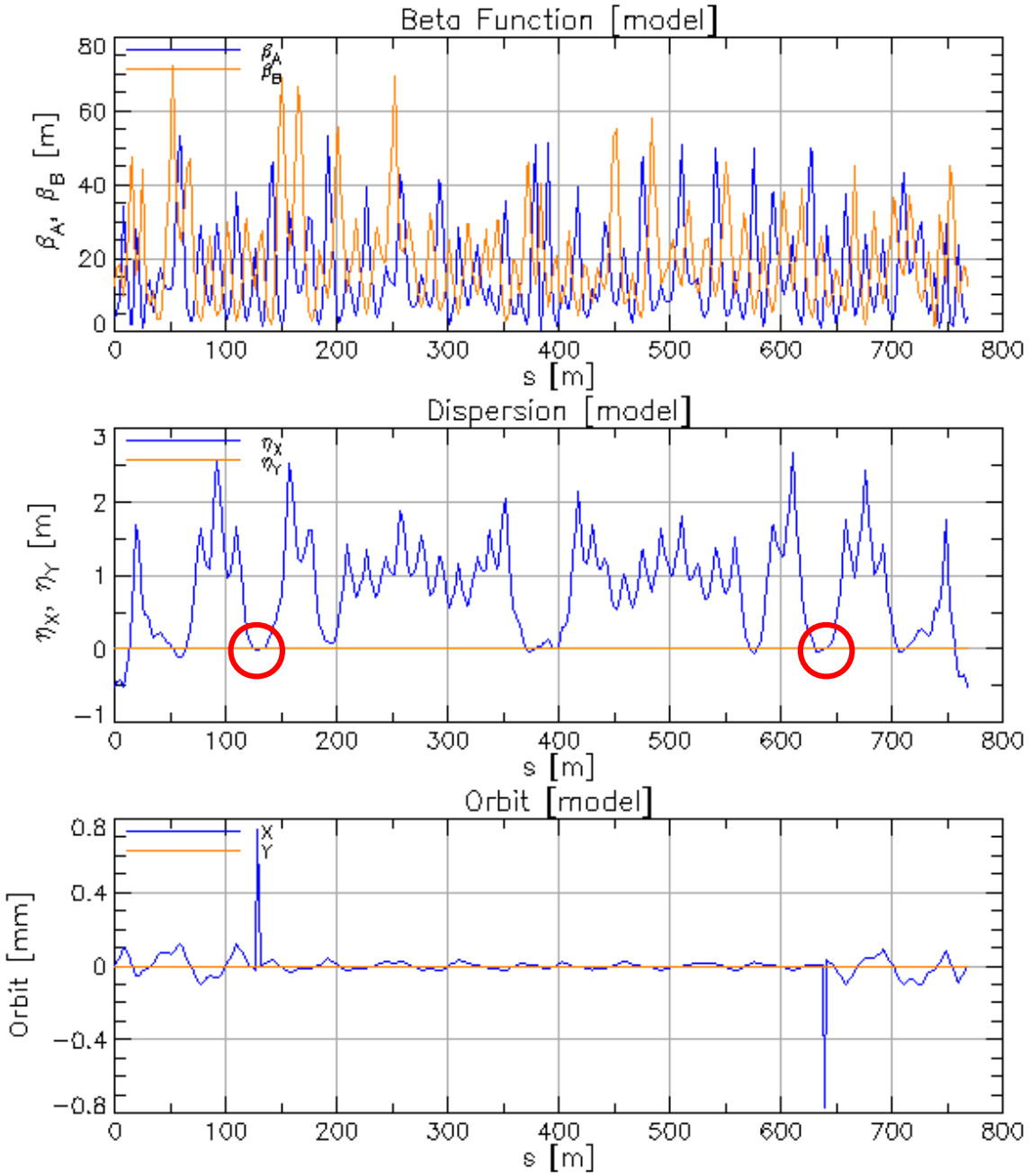
2.1 GeV with 6 wigglers



- Derived from CTA eta free lattice (2012.11.17)
  6 Wigglers at 18W/E are used
  6 Wigglers at L0 are off
  Minimize η_x at 6 wigglers
- Free constraints on η_x at RF
- ε_x=4.6 nm
- Minimize the vertical beta at CCUs
  β_{y_mid}=4.5 m
- Tunes set to CTA working point
  (Qx,Qy)=(0.573, 0.623),
  (223, 243)kHz
- No constraints on colimators
  β_{y_Q43w}=23 m, β_{y_Q43e}=14 m
- Constraints at injection points
  β_{x_Q34w}=44 m, β_{x_Q34e}=52 m
  Largest horizontal beta @ Q10W
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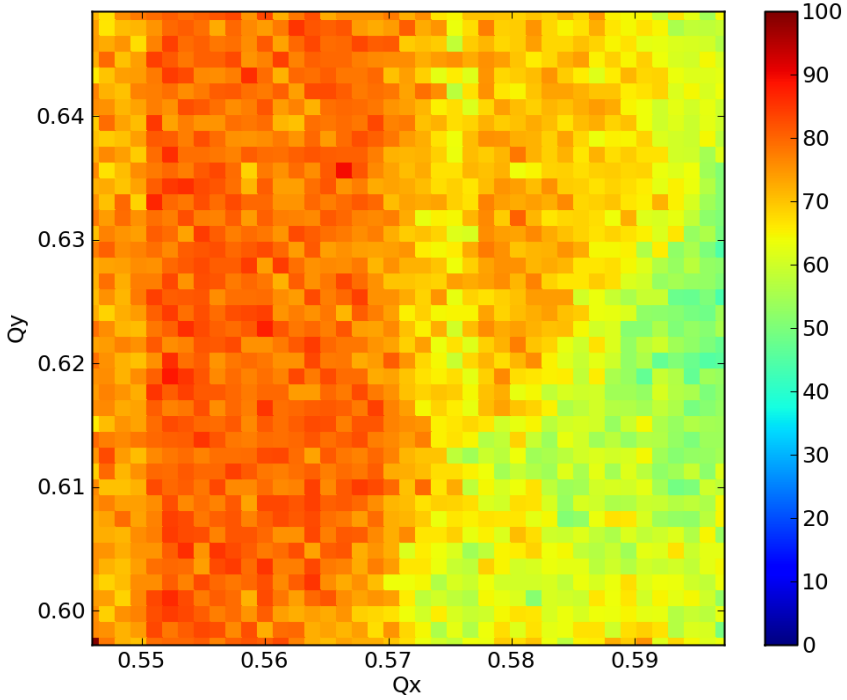
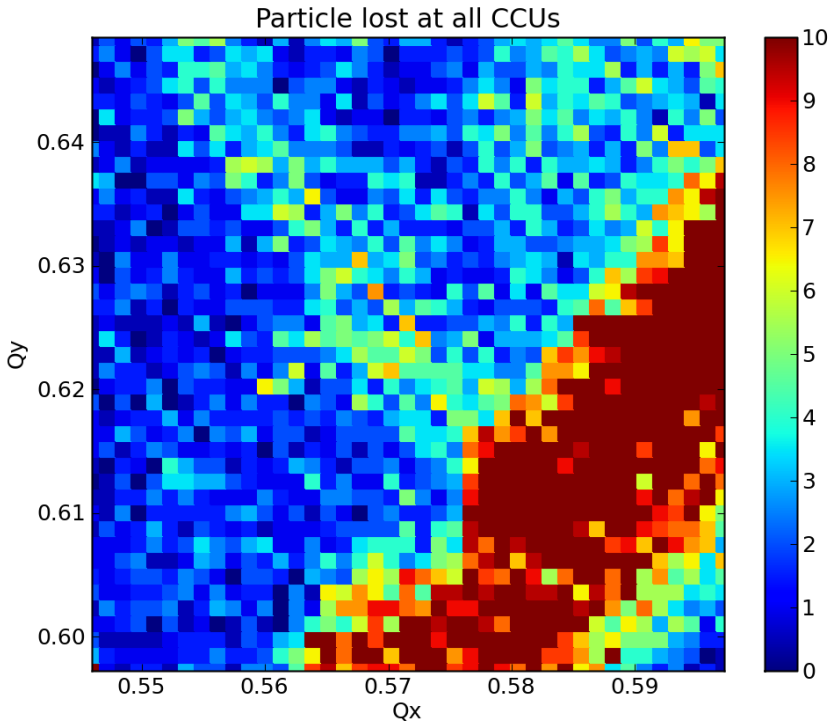
Injection simulation:

2.1 GeV with 6 wigglers

Injection efficiency



Radiation at undulators



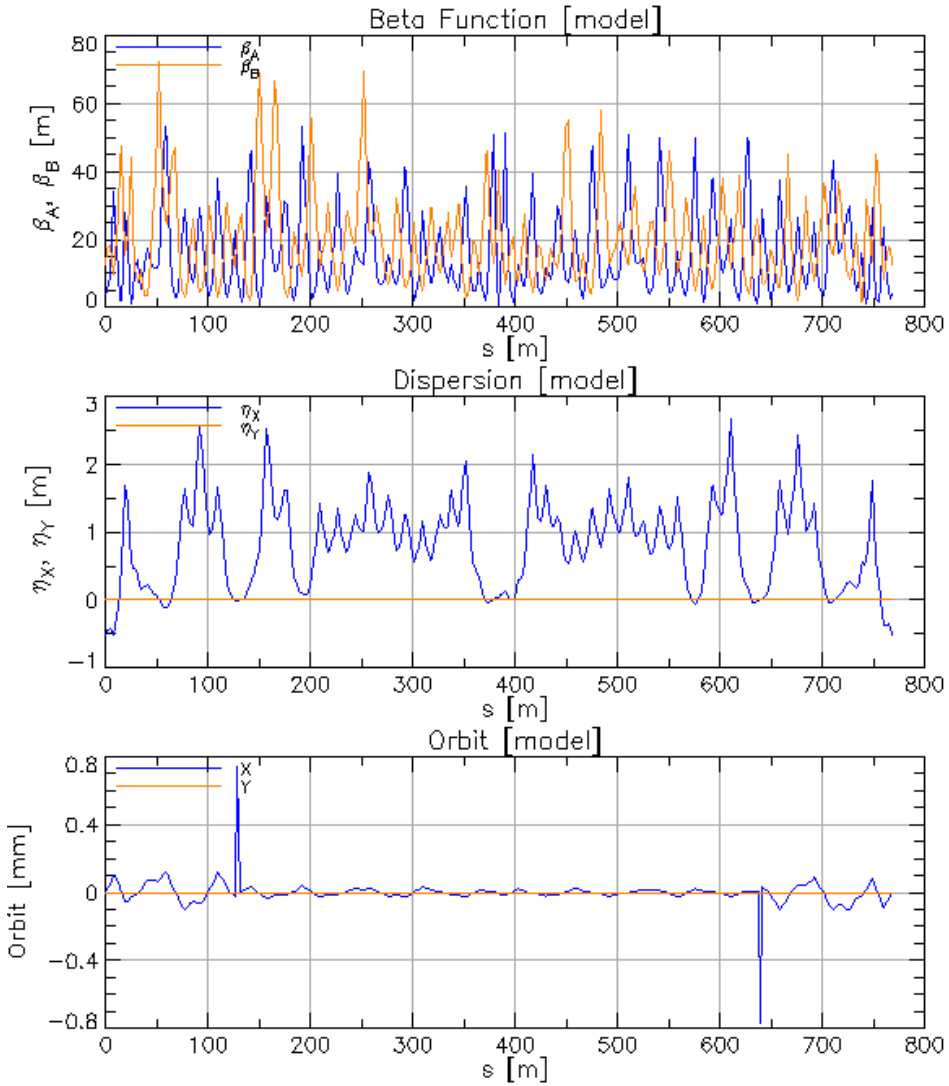
Magnet Multipoles are included. X_inj = 25 mm

Undulator vertical aperture: 4.5 mm
CESR Apertures are included in the simulation.

Many particles are lost at Q10W.
Undulator radiation is high compared to current CHESS run.
May try to included collimators for simulation again.
Simulation with CCUs included are undergoing.

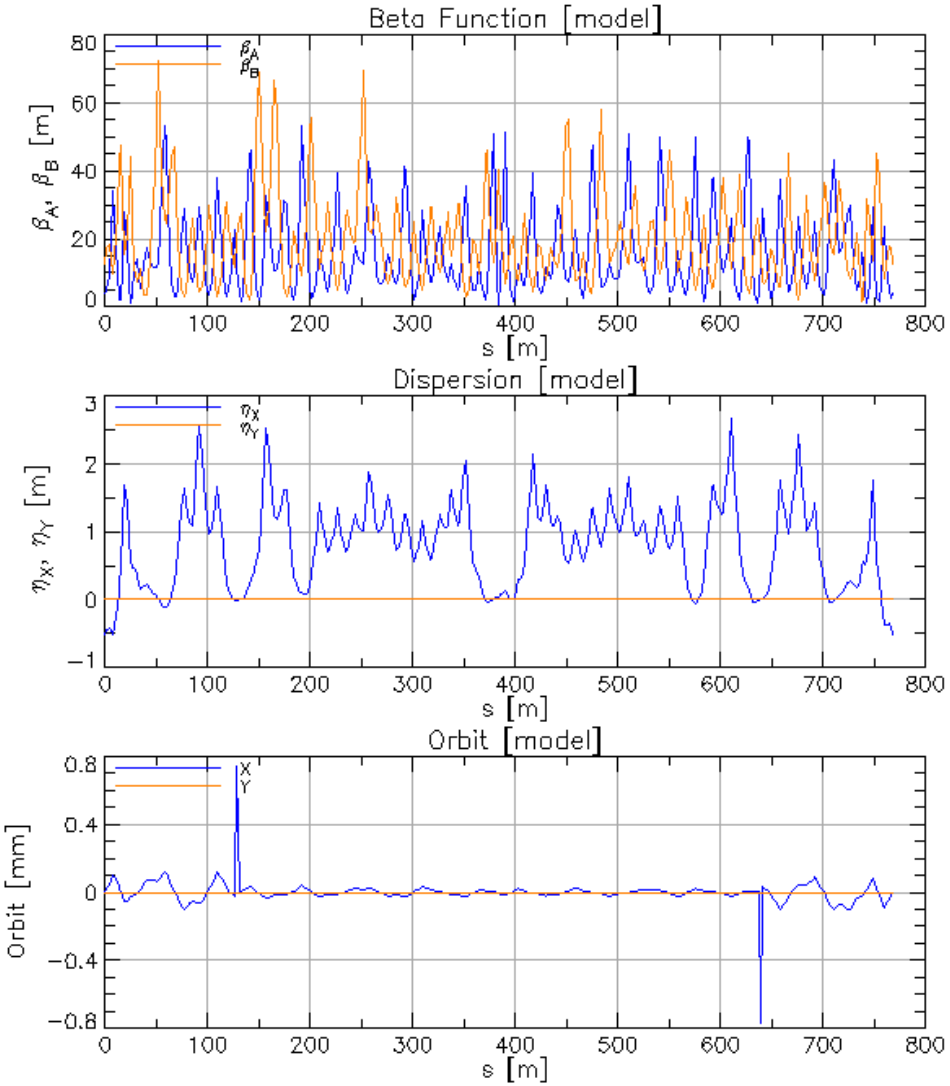
Scaled the 6 wigglers field with energy

1.5 GeV



ε_x=2.38 nm

1.0 GeV



ε_x=1.06 nm

Without undulators, beta functions, dispersion, tunes do not change much.
Will find out the impact of undulators to the lattices.