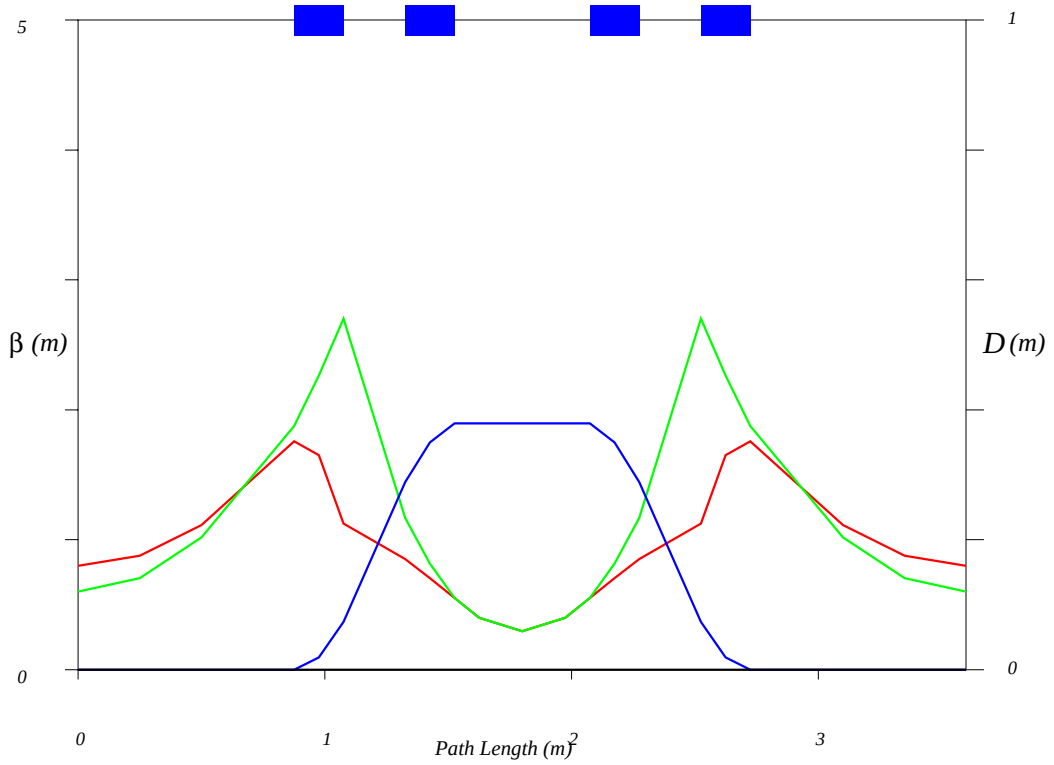
Reverse Dipole Bend Simulations

Harold G. Kirk
Brookhaven National Laboratory

Al Garren
UCLA

Ring Simulation Workshop
University of California, Los Angeles
March 20, 2003

July 23, 02 Double Dipole Lattice



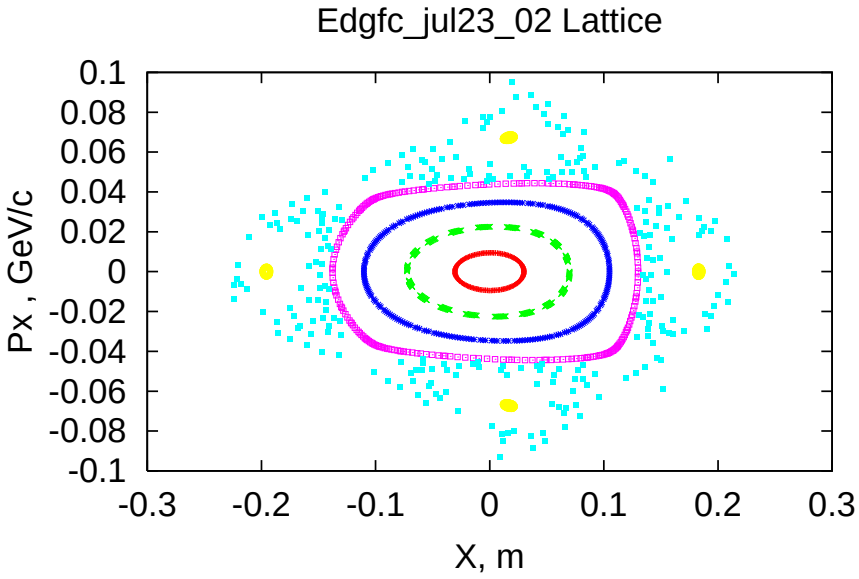
$p_0 = 250$ MeV/c

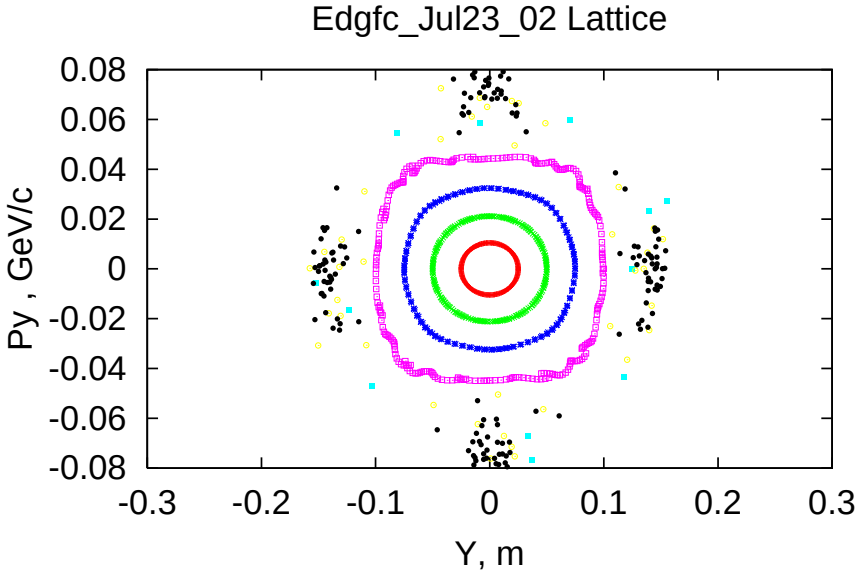
Dipole fields (250 MeV/c): -1.6 and 3.2 T

45° Bend per Cell

Circumference: 57.6 m

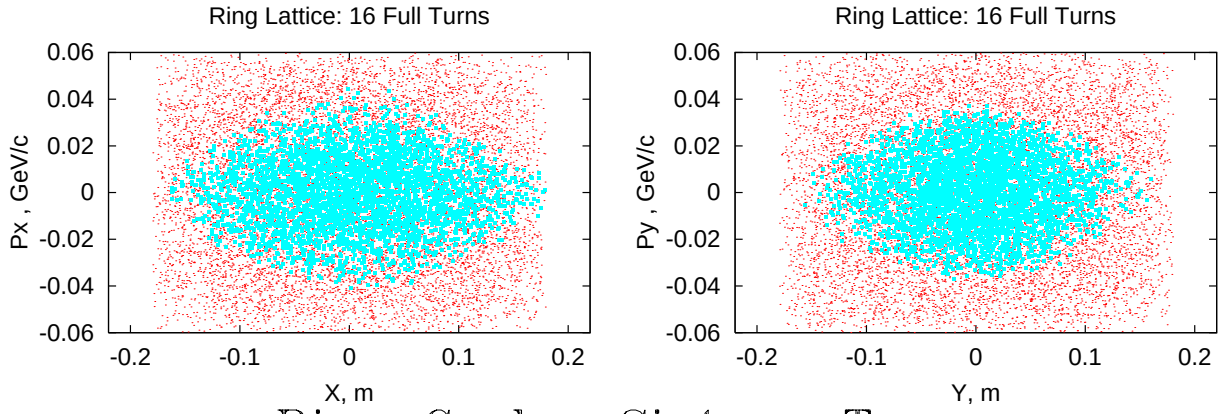
Double Bend-Dynamic Aperture

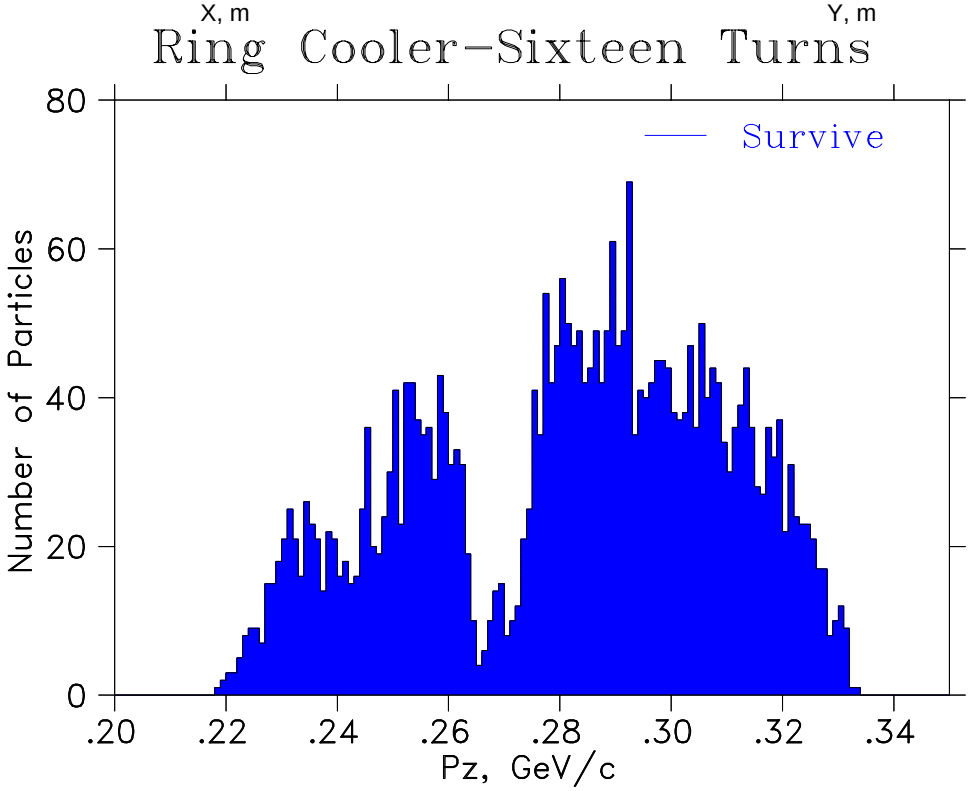




$\beta_x = 0.8\text{m}$; $\beta_y = 0.6\text{m}$

Double Bend-Dipole only lattice

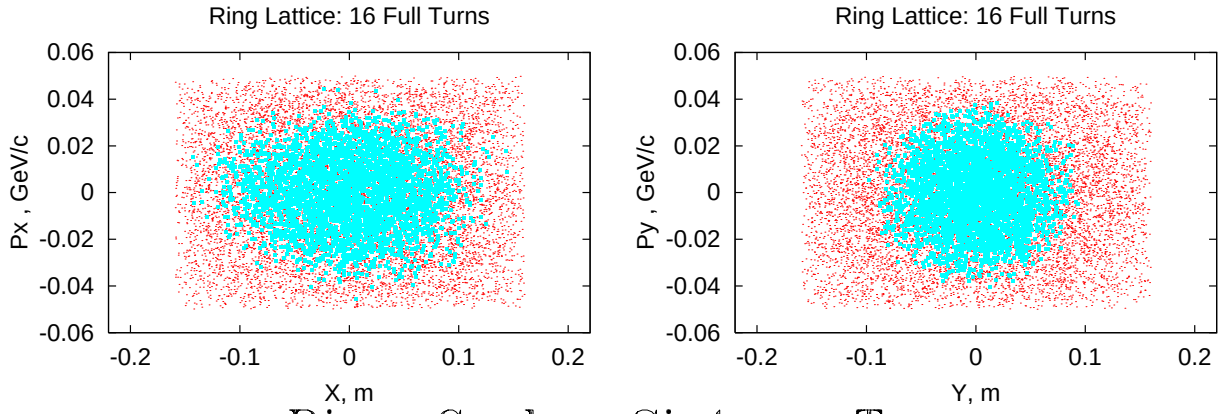


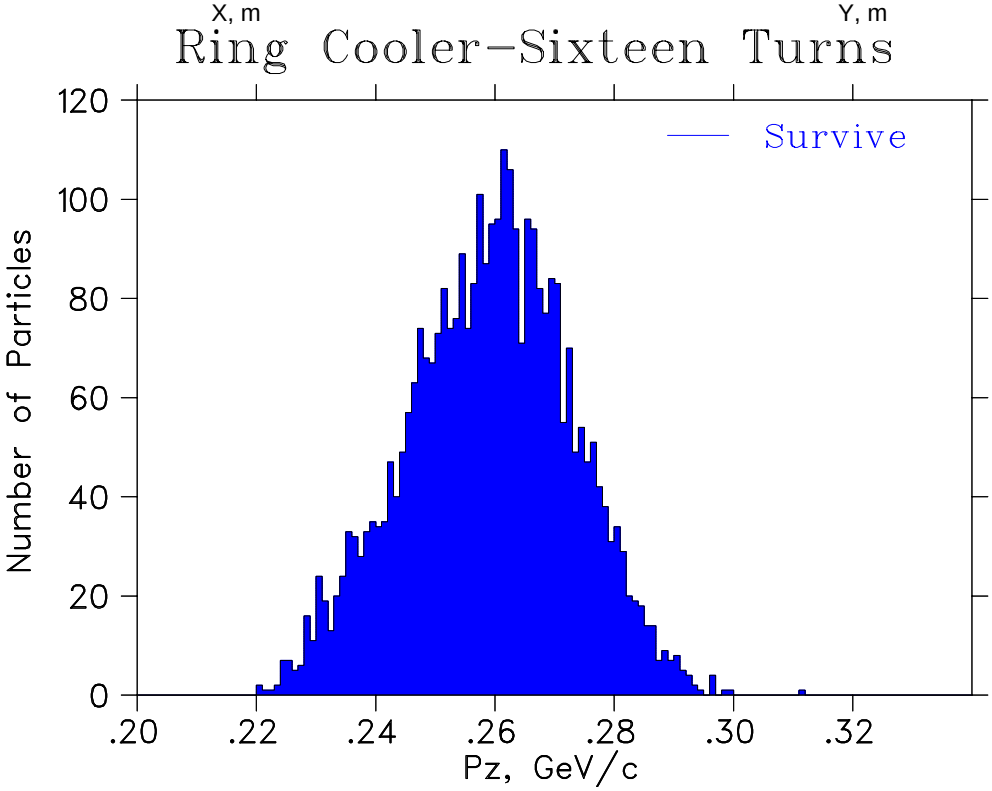


Ring Circumference – 57.6m

$\beta_x = 0.8\text{m}$; $\beta_y = 0.6\text{m}$

Double Bend-Dipole only lattice

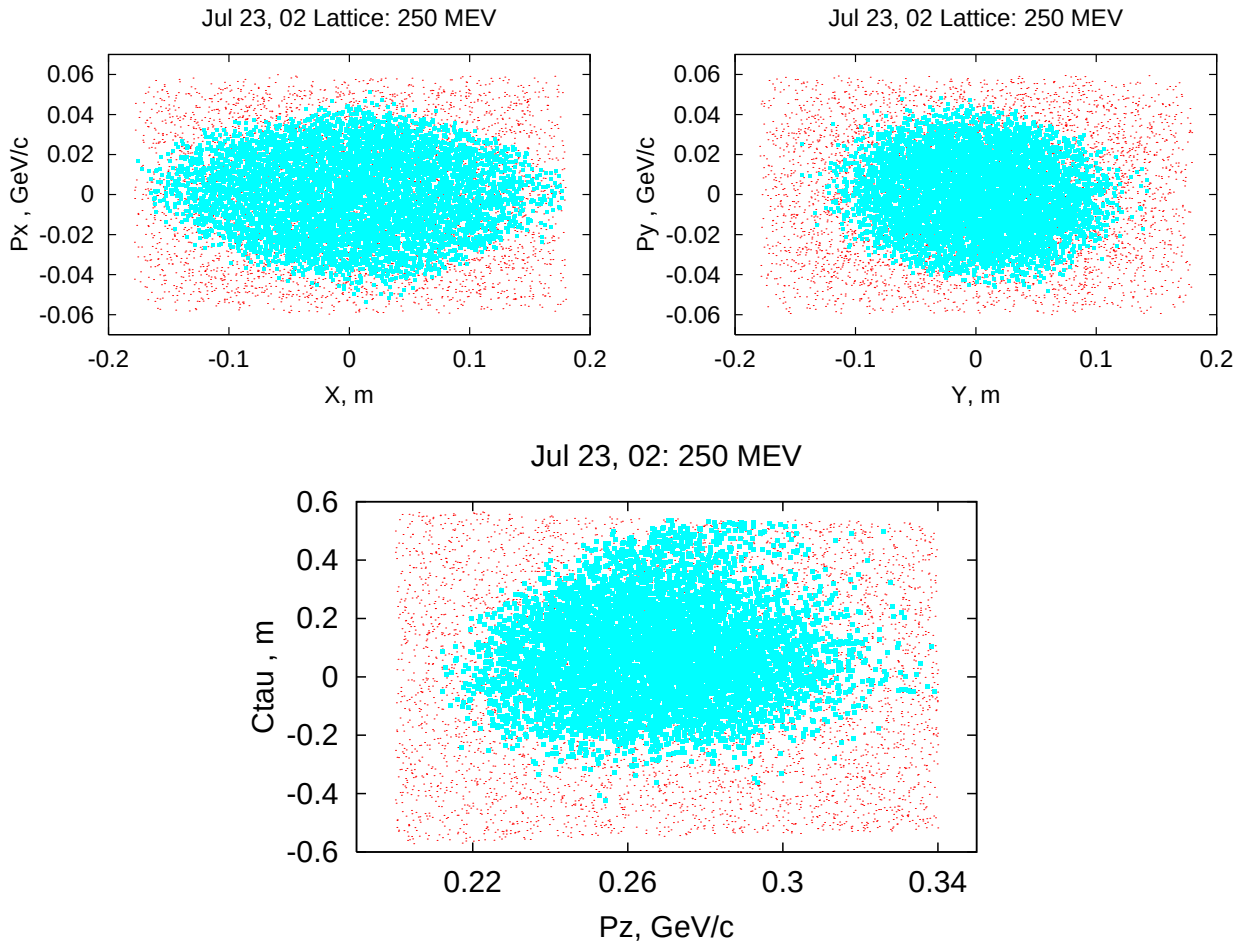




Accelerating Gradient – 16MV/m

$\beta_x = 0.8\text{m}$; $\beta_y = 0.6\text{m}$

Admittance-July 23, 02 lattice

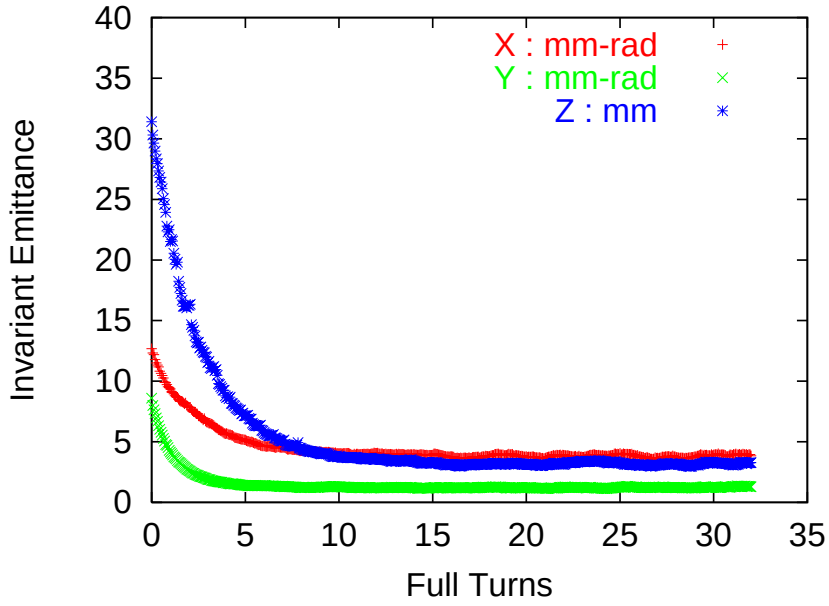


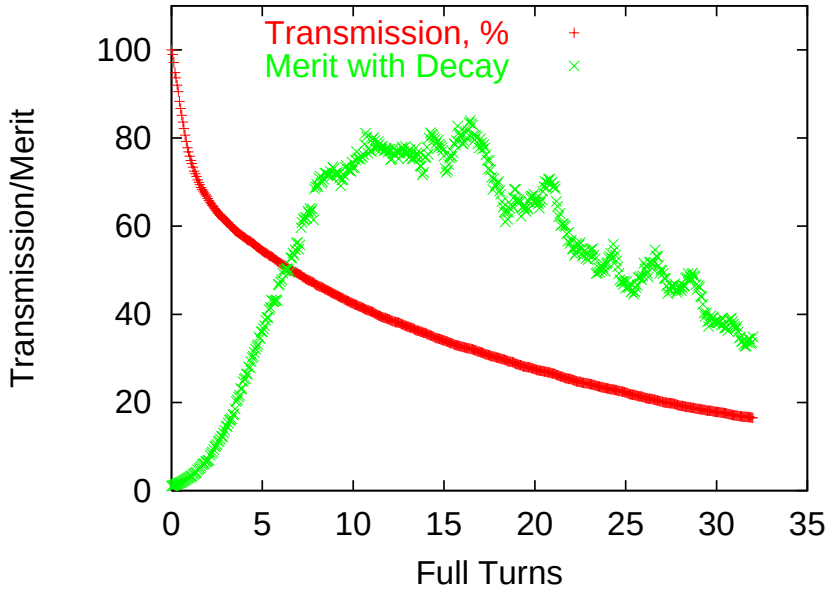
Ring Circumference – 57.6m

$\beta_x = 0.8\text{m}$; $\beta_y = 0.6\text{m}$

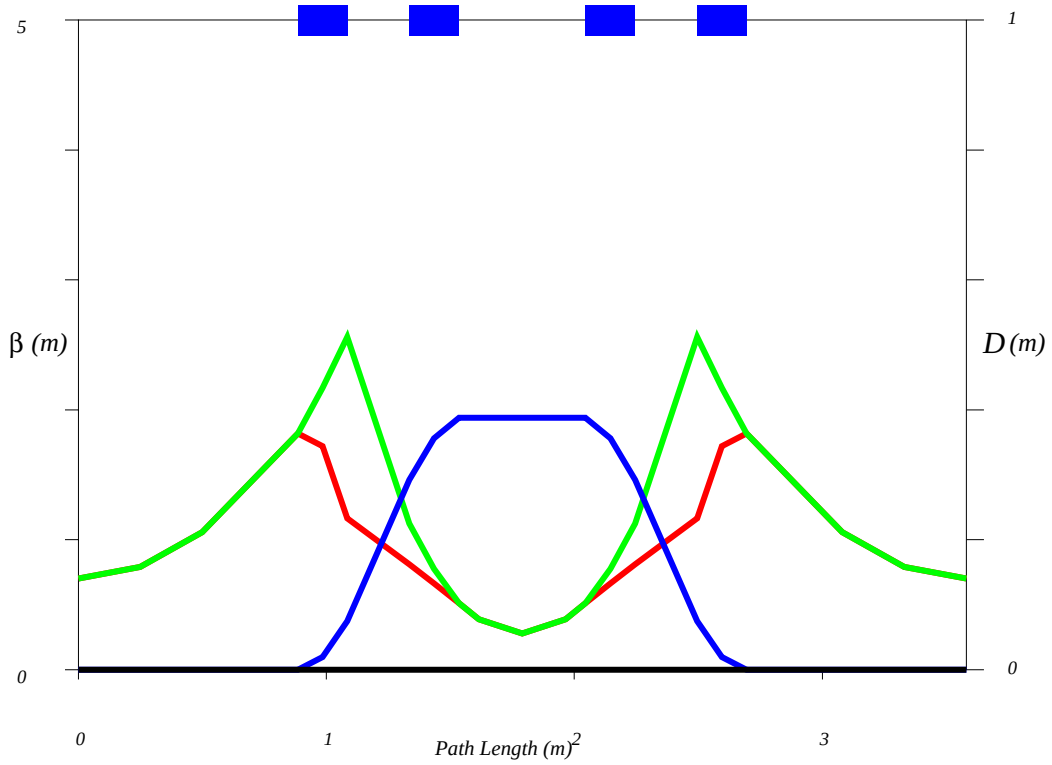
July 23, 02 Lattice: 18° Wedges

Performance at 250 MeV/c





Jan. 23, 03 Double Dipole Lattice



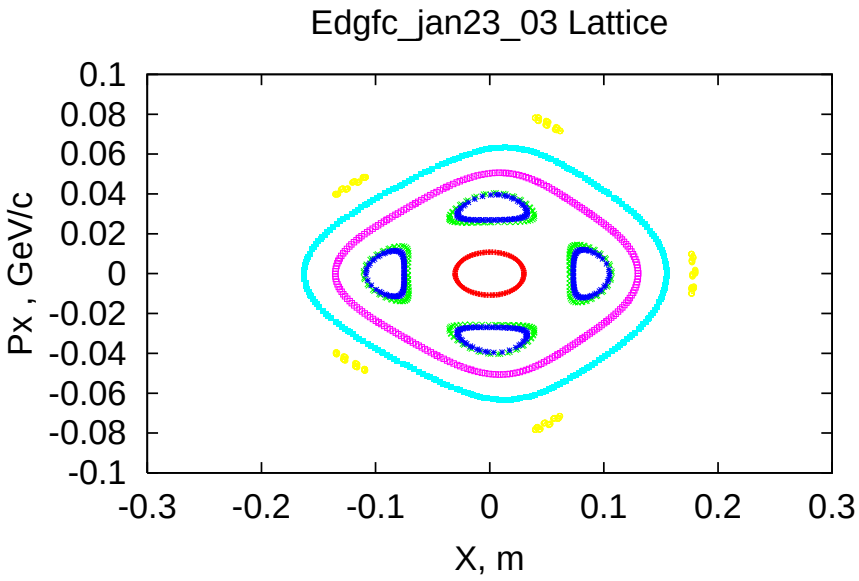
$p_0 = 250$ MeV/c

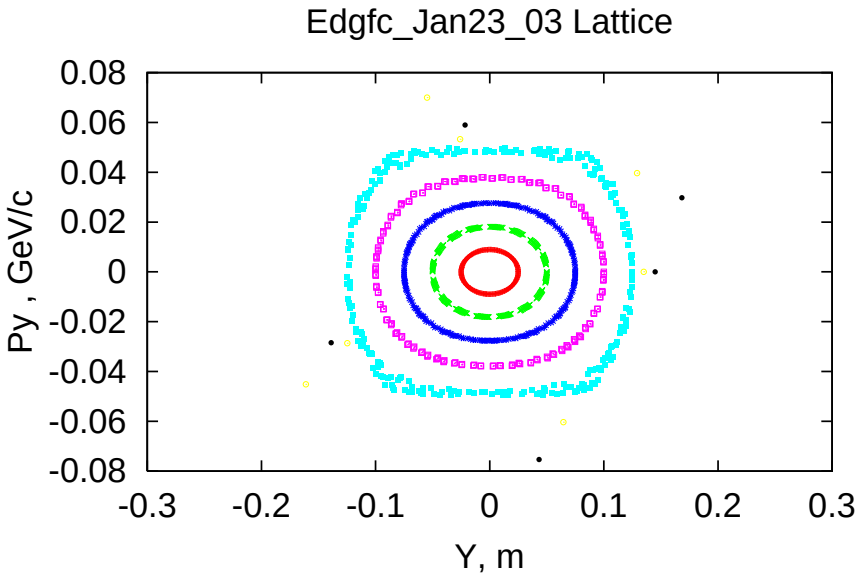
Dipole fields (250 MeV/c): -1.6 and 3.3 T

45° Bend per Cell

Circumference: 57.3 m

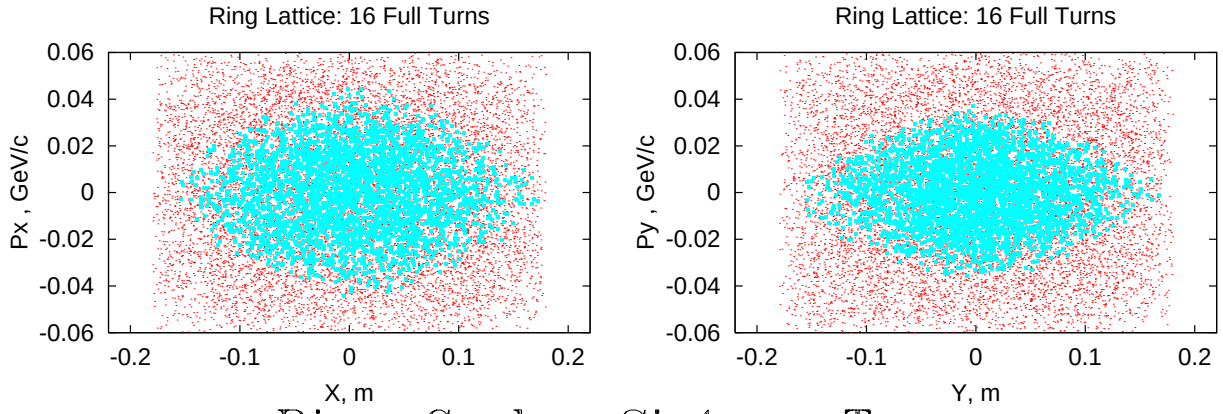
Double Bend-Dynamic Aperture

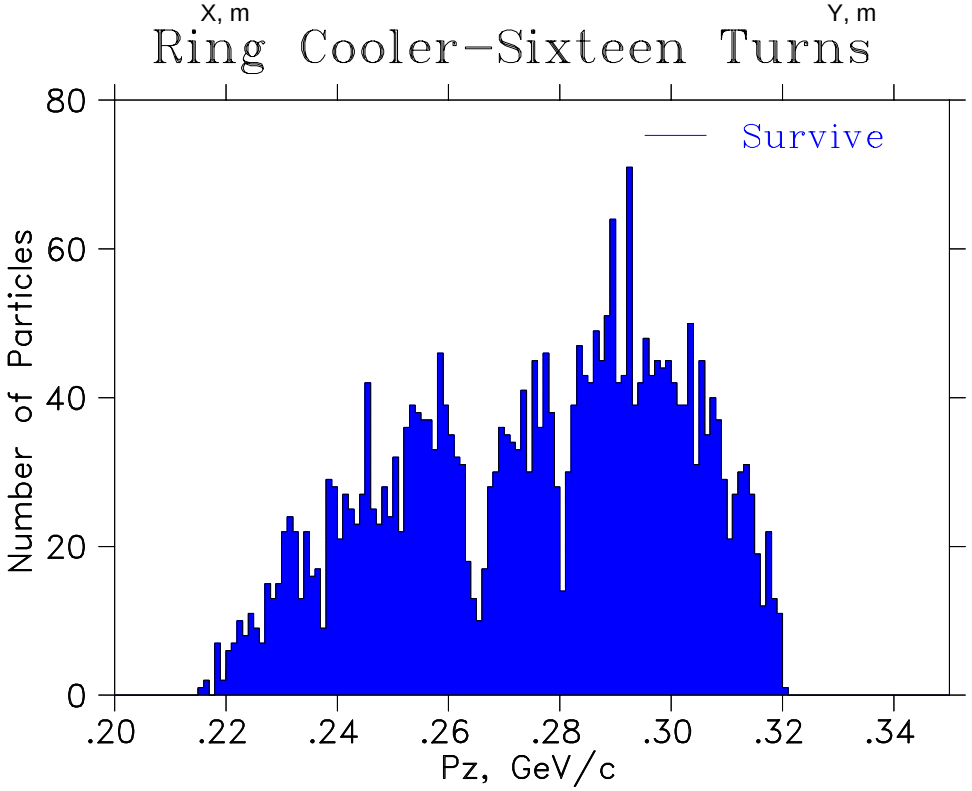




$\beta_x = 0.7\text{m}$; $\beta_y = 0.7\text{m}$

Double Bend-Dipole only lattice

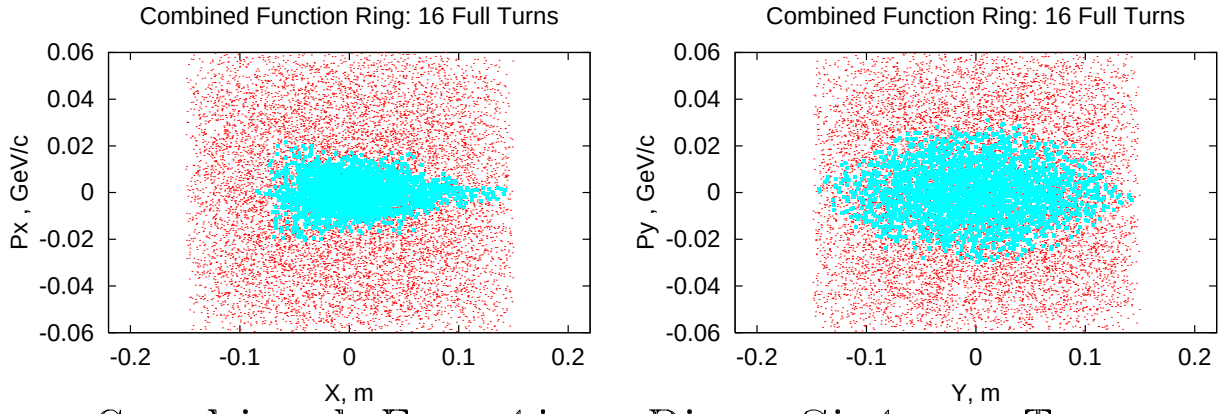


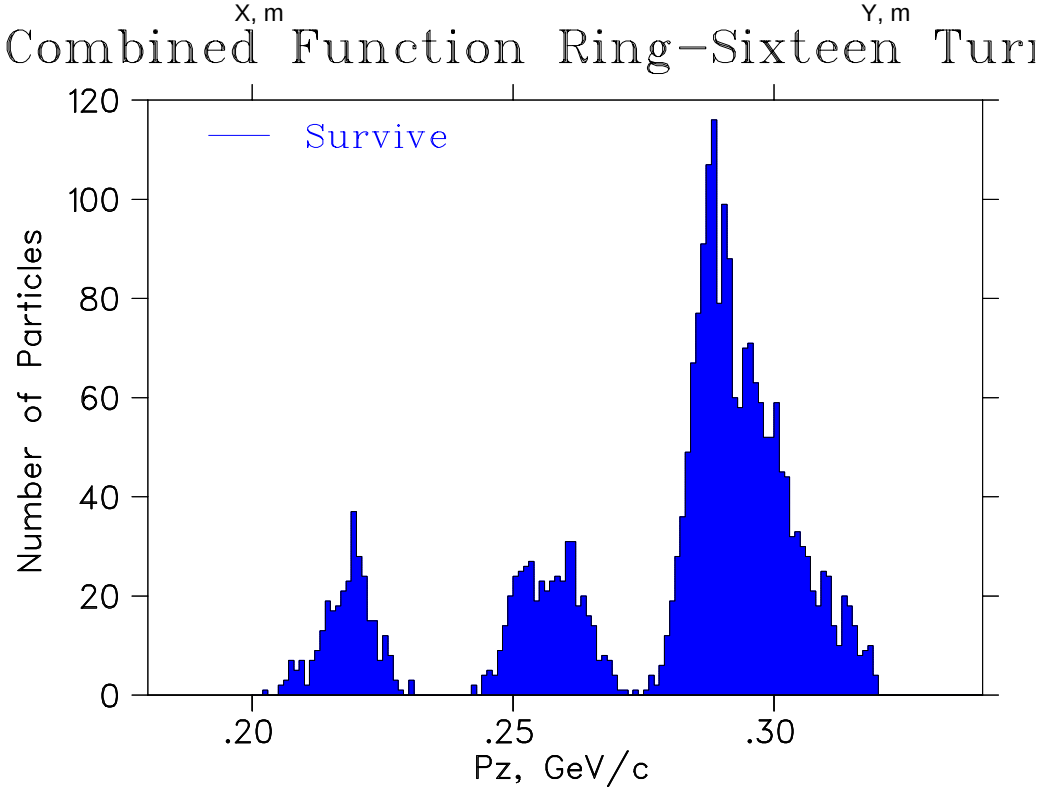


Ring Circumference – 57.3m

$\beta_x = 0.7\text{m}$; $\beta_y = 0.7\text{m}$

Combined Function Double Bend-Dipole Lattice

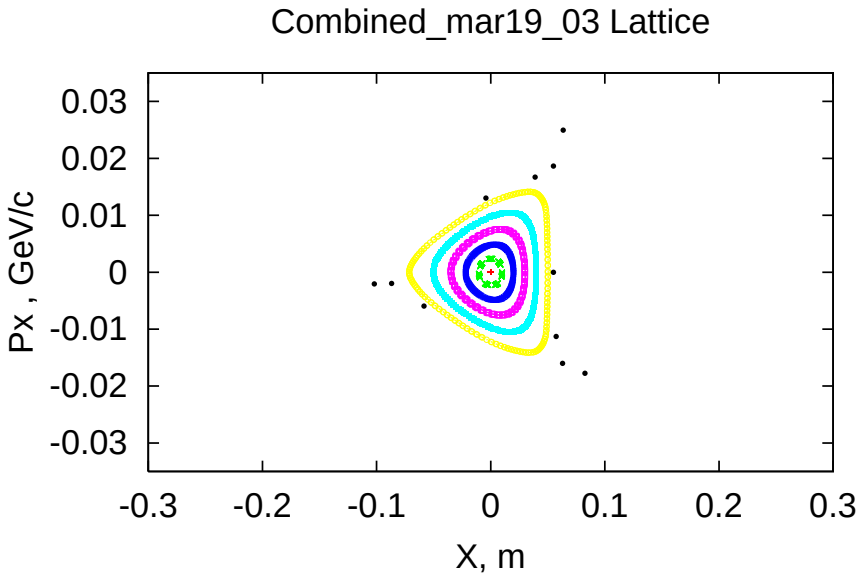


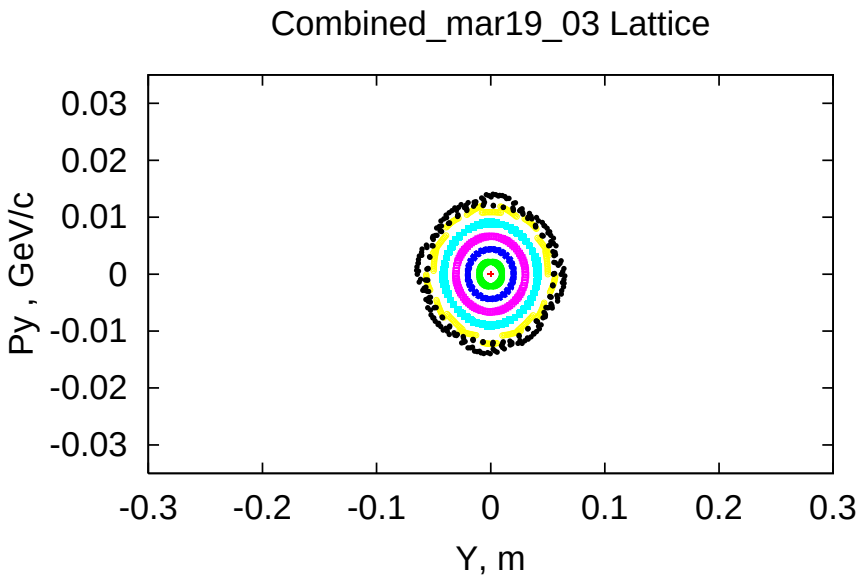


No Absorbers/Acceleration

Ring Circumference – 66.5m

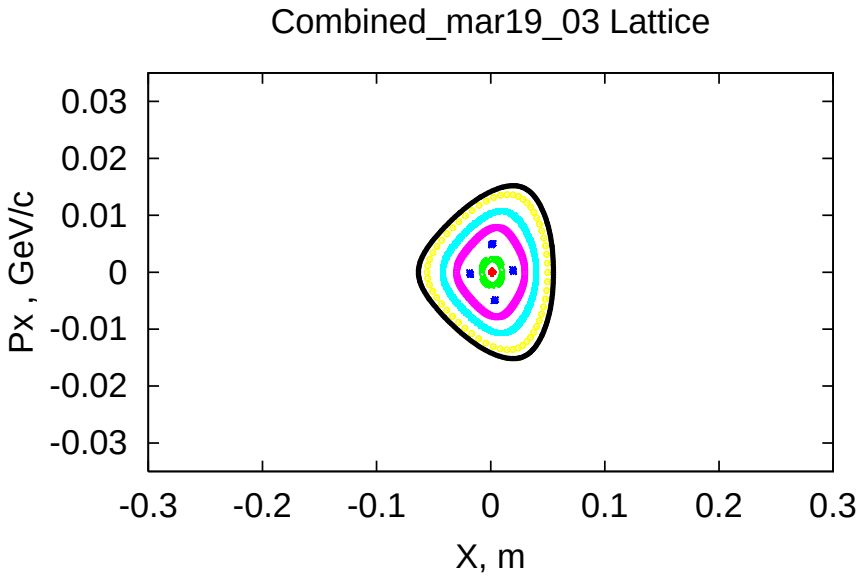
Dynamic Aperture
Combined Function Double Bend

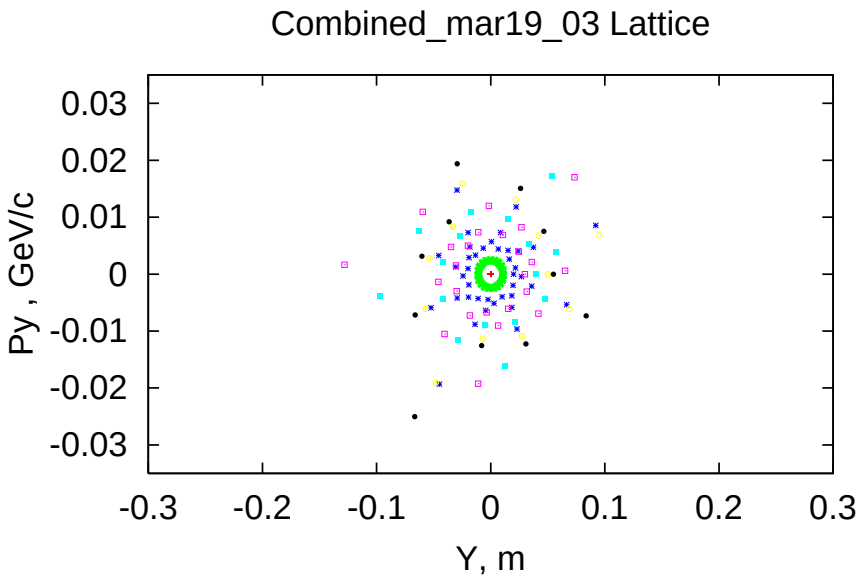




$p_0 = 250$ MeV/c

Dynamic Aperture
Combined Function Double Bend





$p_0 = 235$ MeV/c