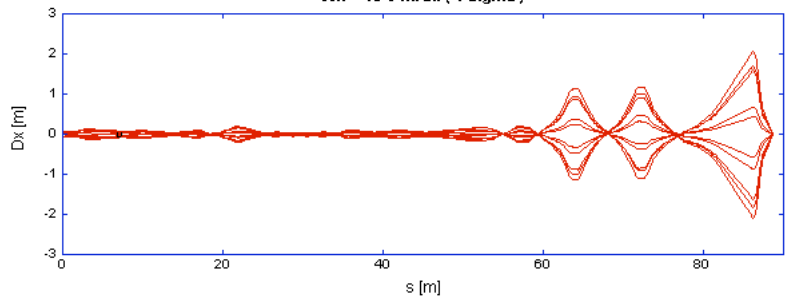
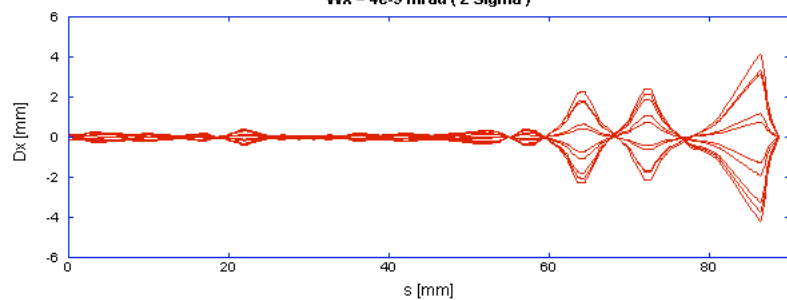


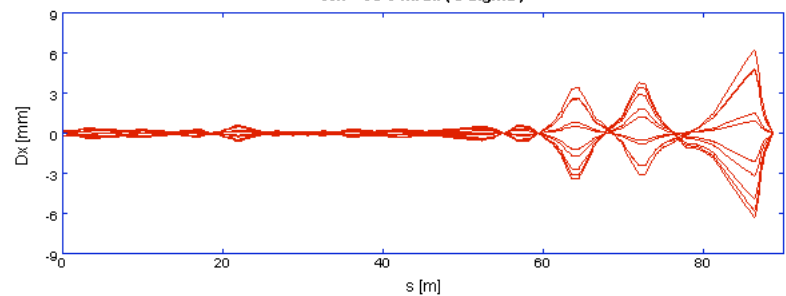
**$W_x = 1e-9$  mrad ( 1 Sigma )**



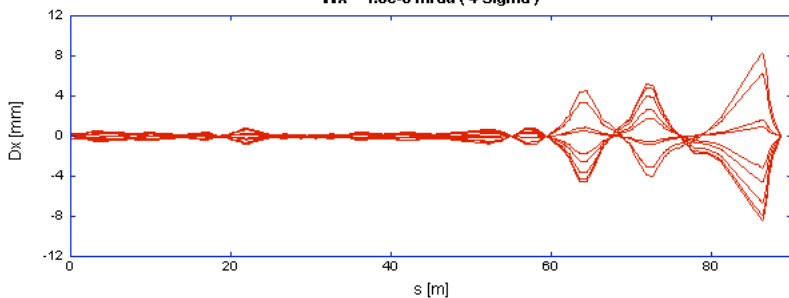
**$W_x = 4e-9$  mrad ( 2 Sigma )**



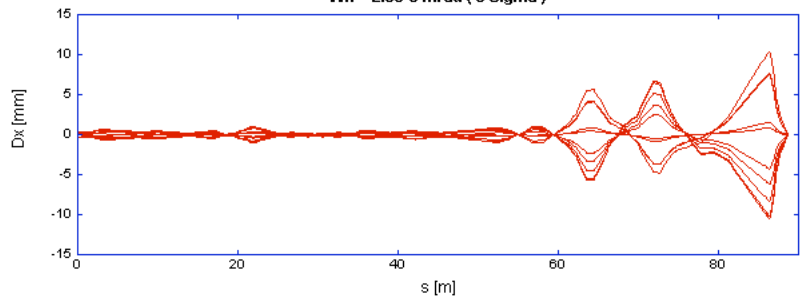
**$W_x = 9e-9$  mrad ( 3 Sigma )**



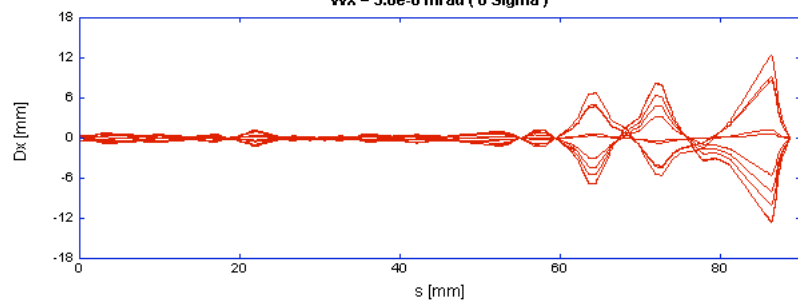
**$W_x = 1.6e-8$  mrad ( 4 Sigma )**

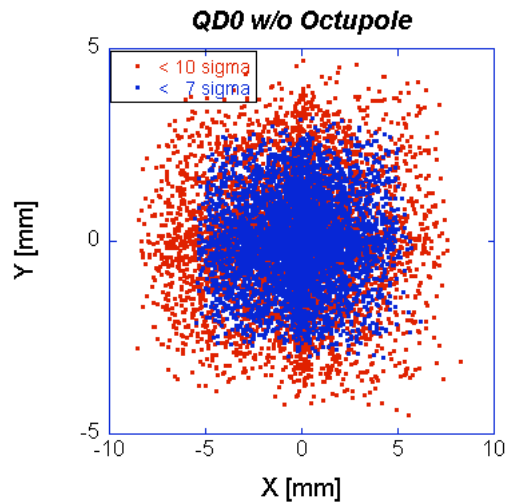
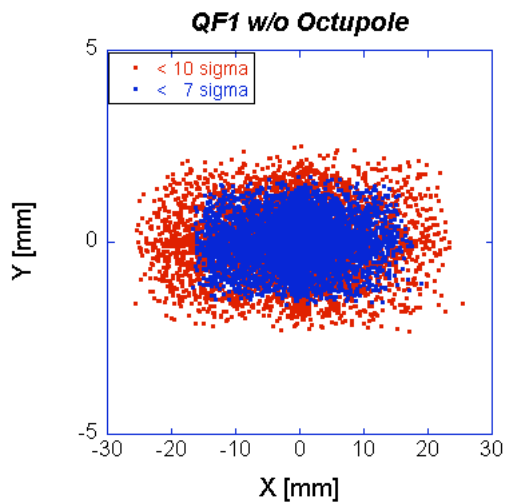
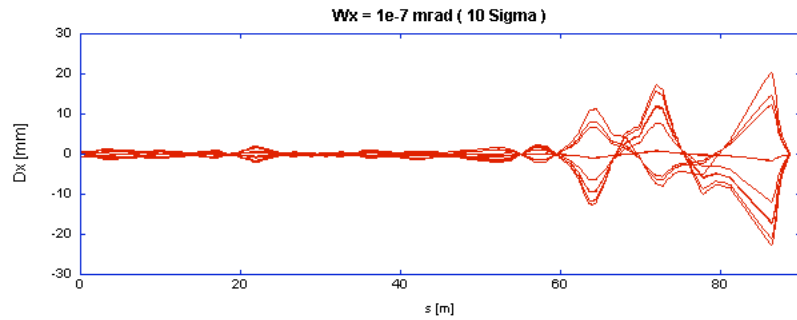
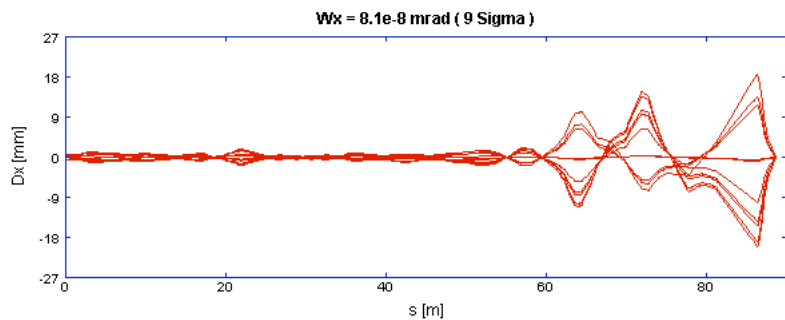
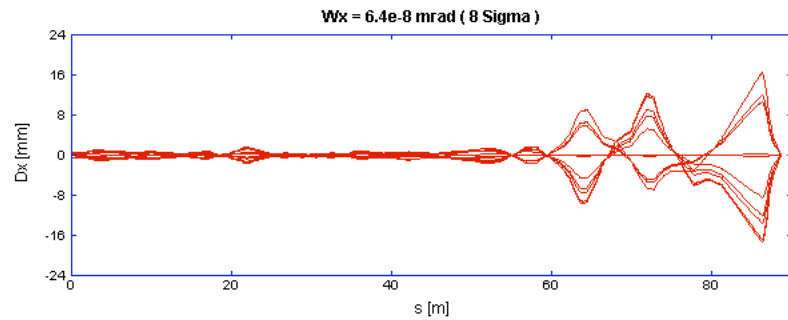
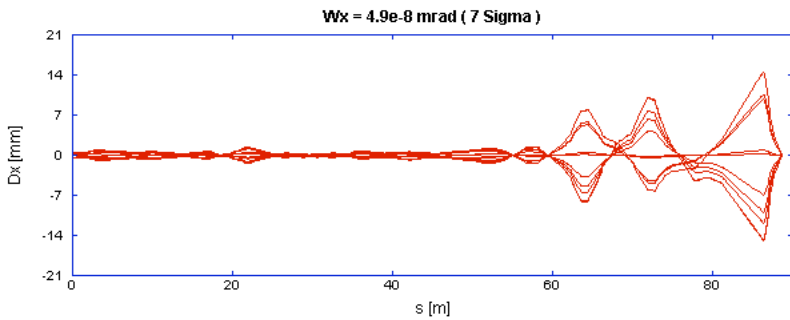


**$W_x = 2.5e-8$  mrad ( 5 Sigma )**



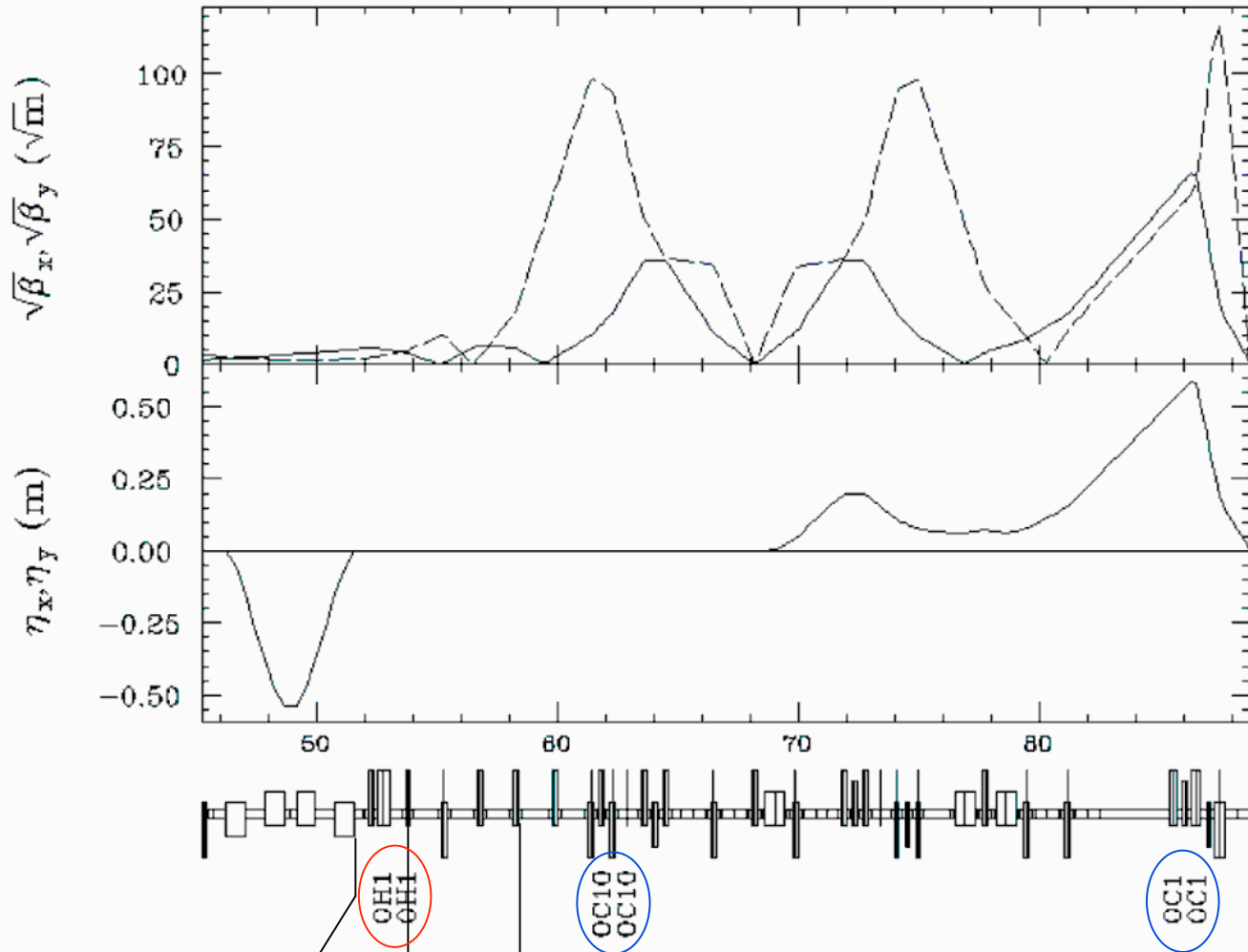
**$W_x = 3.6e-8$  mrad ( 6 Sigma )**





# Location to put Octupole

17:04:52 Tuesday 11/01/2005



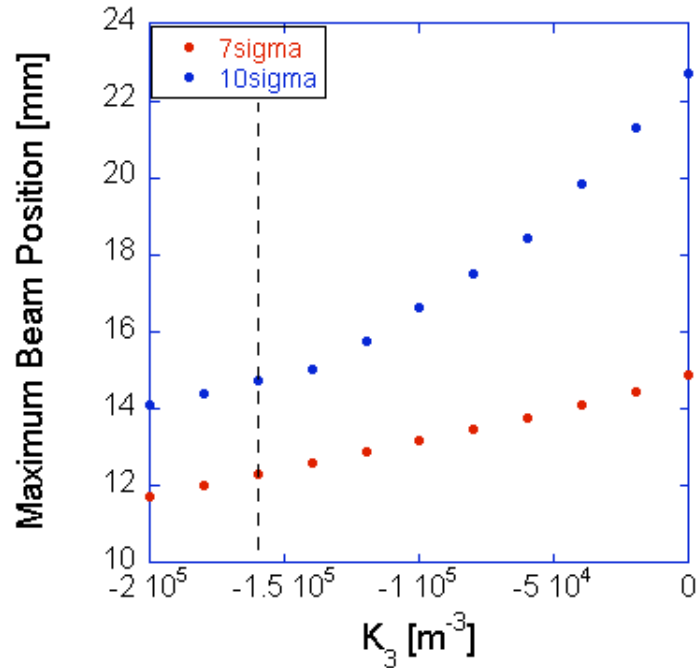
Best location  
to put Octupole

Sensitive to IP vertical beam size

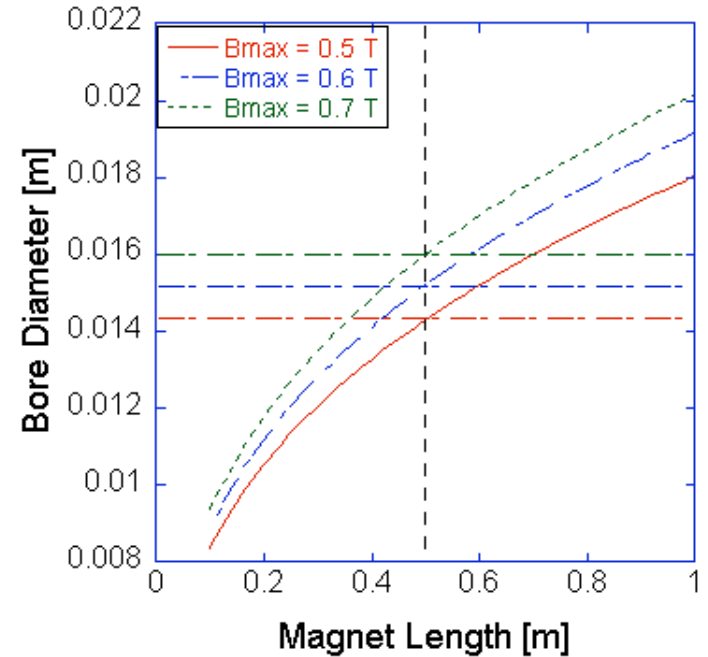
Insensitive to QF1 horizontal beam size

But, since beta function is too small,  
we must make Octupole field strong.

**Octupole Strength vs.  
Maximum Beam Position along the Beamline**



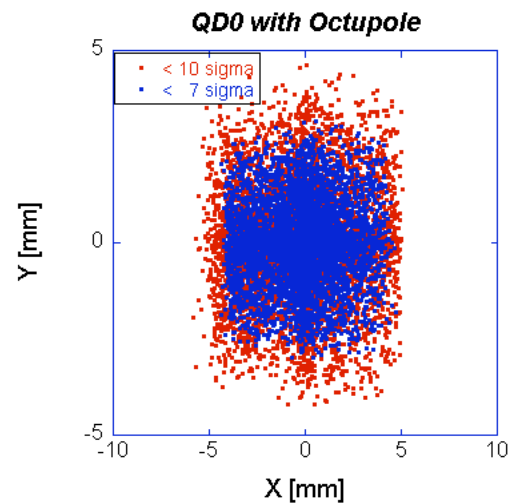
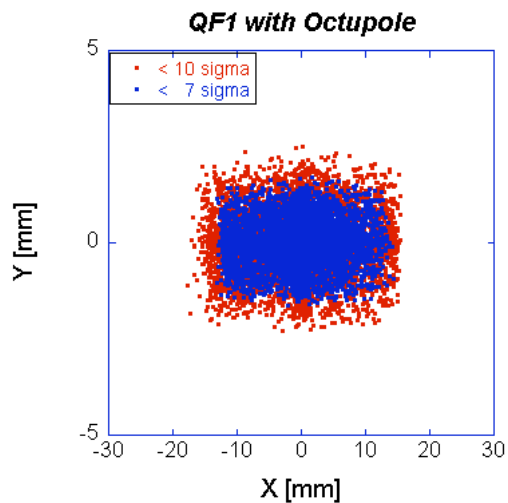
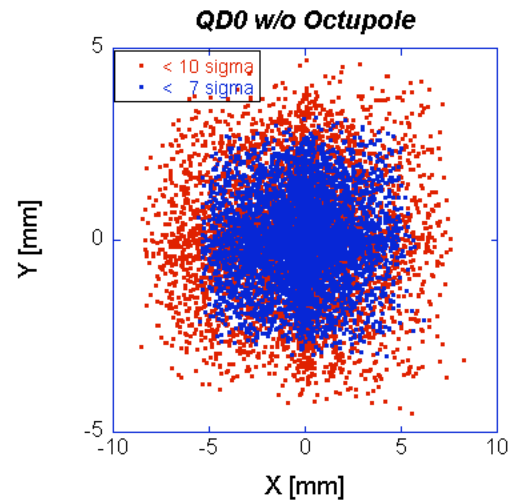
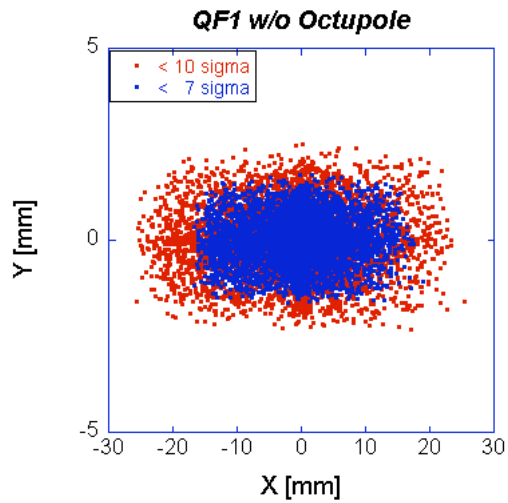
**Octupole Dimension with  $K_3 = 160000 m^{-3}$**



$$\sigma_x = 160 \mu m$$

$$\sigma_y = 10 \mu m \quad \text{at Octupole}$$

# Simulated Results for the effect of Octupole magnet with $K_3 = -160000\text{m}^{-3}$



# Simulated Result to the core for the magnet with $K_3 = -160000\text{m}^{-3}$

