Low Emittance Optics at KEKB

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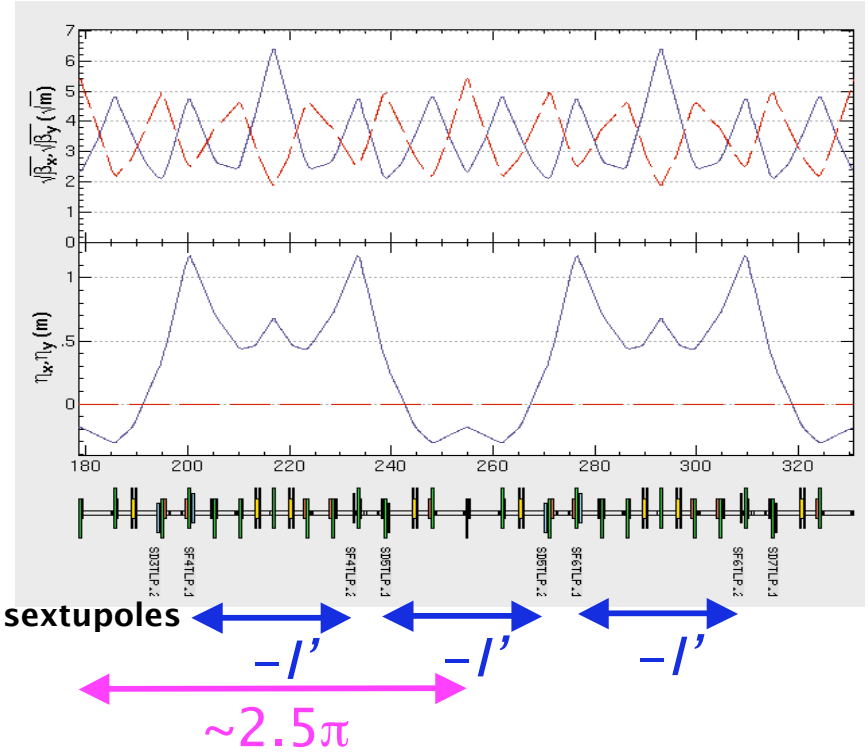
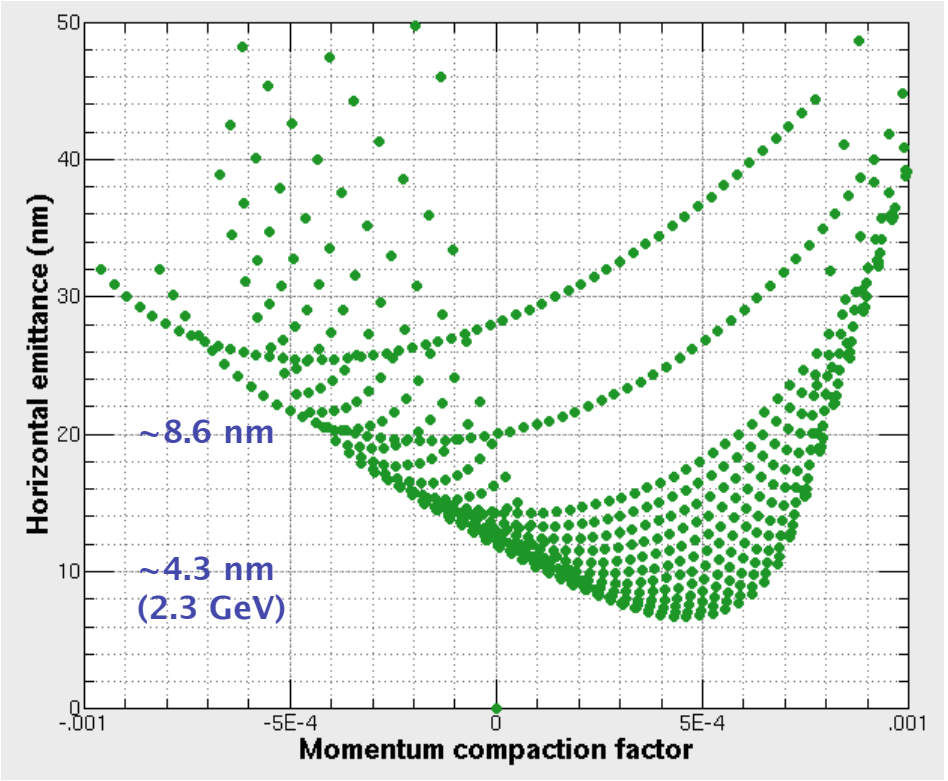
Flexibility of 2.5π cell





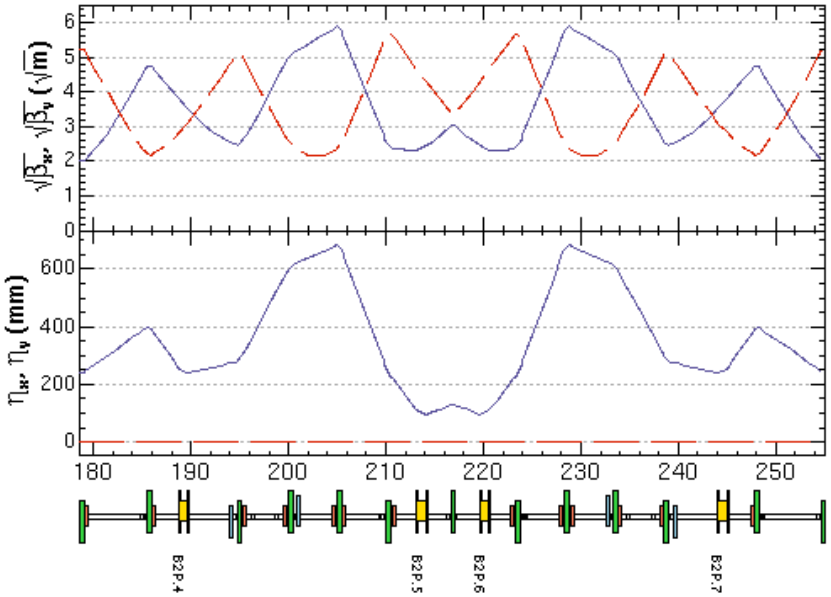
Beam Energy 3.5 GeV

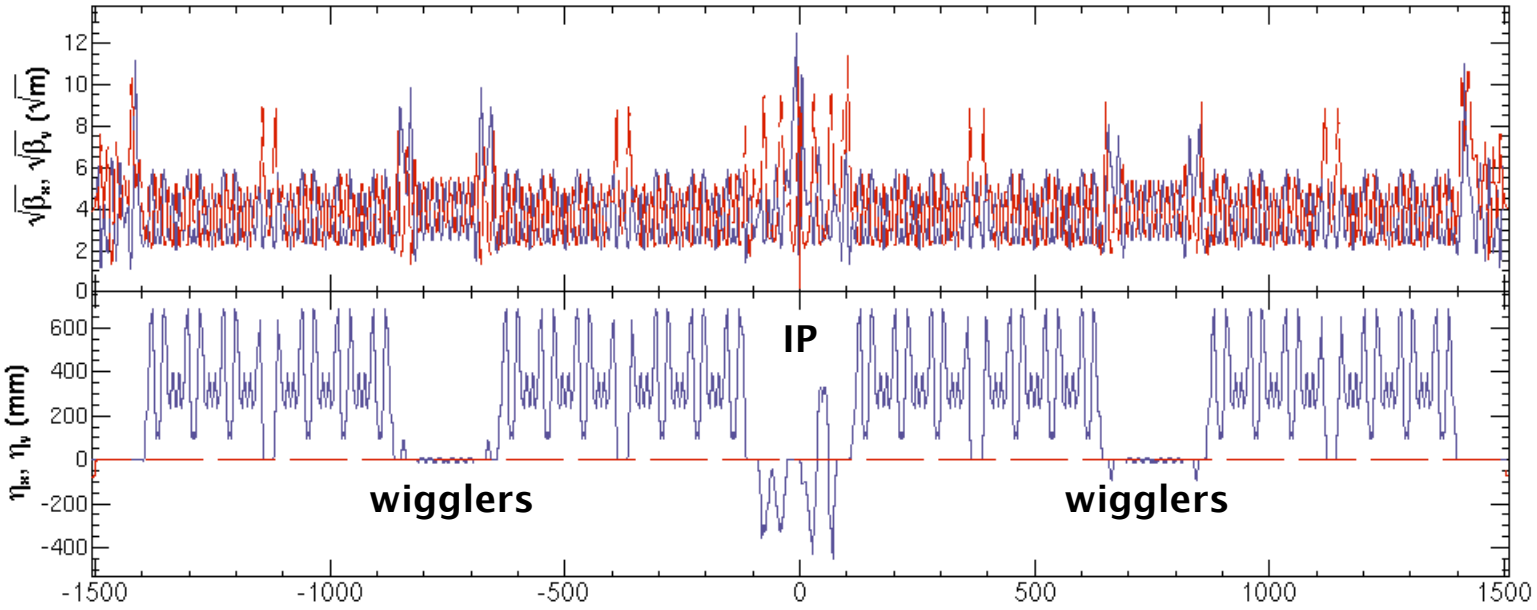
Parameters

	Physics run	Low emittance		
Energy	3.5	2.3		GeV
Horizontal emittance	18	1.5		nm
Momentum compaction	3.4	2.4		E-4
Bunch length		4.2	6.1	mm
Rf voltage	8.0	2.0	1.0	MV
Momentum spread	0.073	0.048		%
Longitudinal damping time	23	50		ms
Bucket height		1.86	1.13	%

Optics (ring & cell)

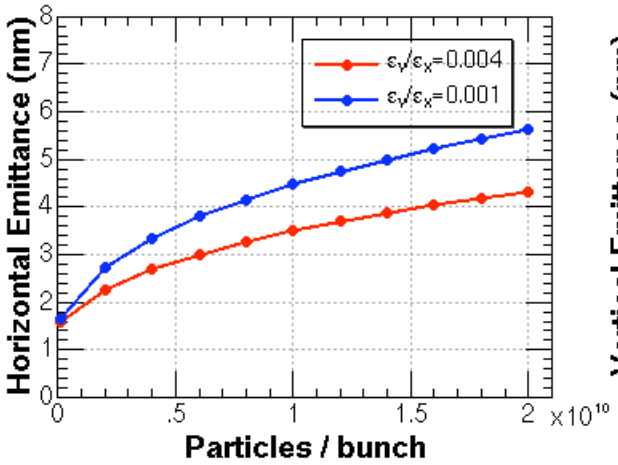
- ◆All magnetic fields are scaled from 3.5 to 2.3 GeV.
- ◆Wiggler field: 0.77 → 0.51 T
- ◆Detuned β*x/y: 90/3 cm

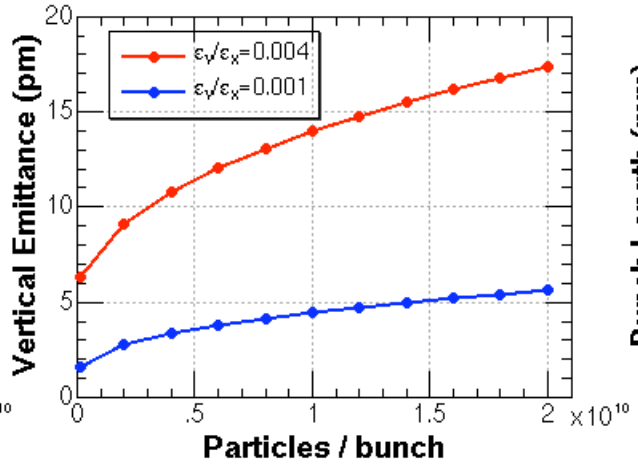


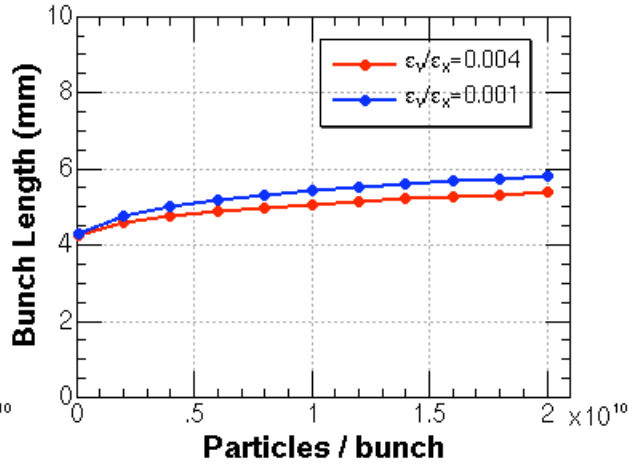


Emittance & Bunch Length

Vc = 2.0 MV







Vc = 1.0 MV