



# E-lens related beam-beam experiment

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1. BTF: different beam size and different beam current
2. BTF: Octupole
3. BTF: Different e-beam energy
4. BTF: 1D separation
5. Three 111x111 ramps



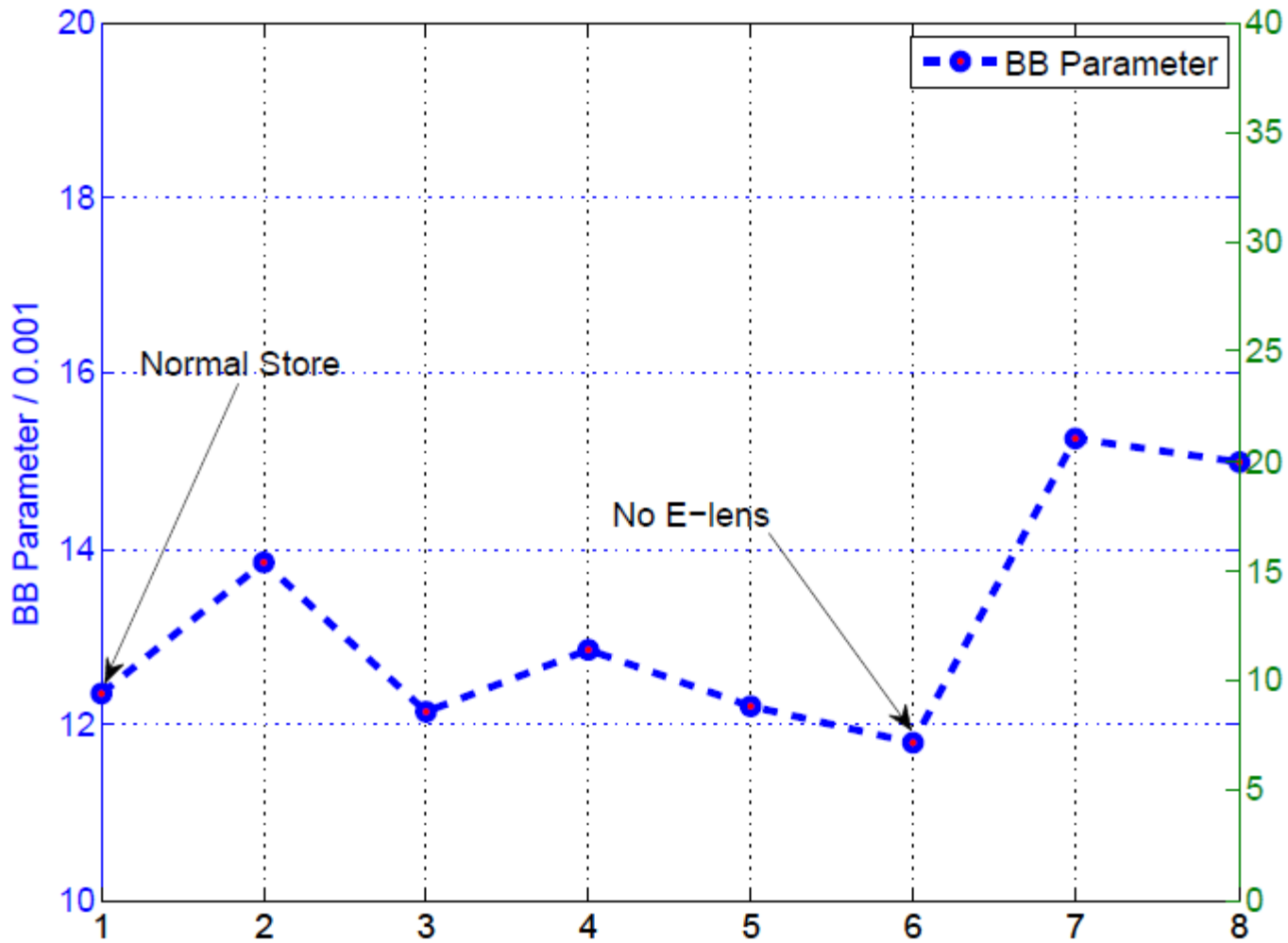
Fill number	Blue $\xi$ /IP [0.001]	Yellow $\xi$ /IP [0.001]	Intensity [E11] injection	Intensity [E11] collision	<u>Emittance</u> injection	<u>Emittance</u> collision
18930	11.5	13.2	2.55	2.35	2.21	2.27
18932	13.7	14.0	2.72	2.5	1.97	2.23
18933	11.8	12.5	2.94	2.5	2.36	2.52
18934	12.3	13.4	3.0	2.6	2.33	2.49
18935	12.2	12.2	3.04	2.65	2.44	2.53
18936*	11.1	12.5	2.89	2.6	2.33	2.72
18938	16.0	14.5	2.04	2.0	1.6	1.62
18939	13.5	16.5	2.40	2.3	1.75	1.86

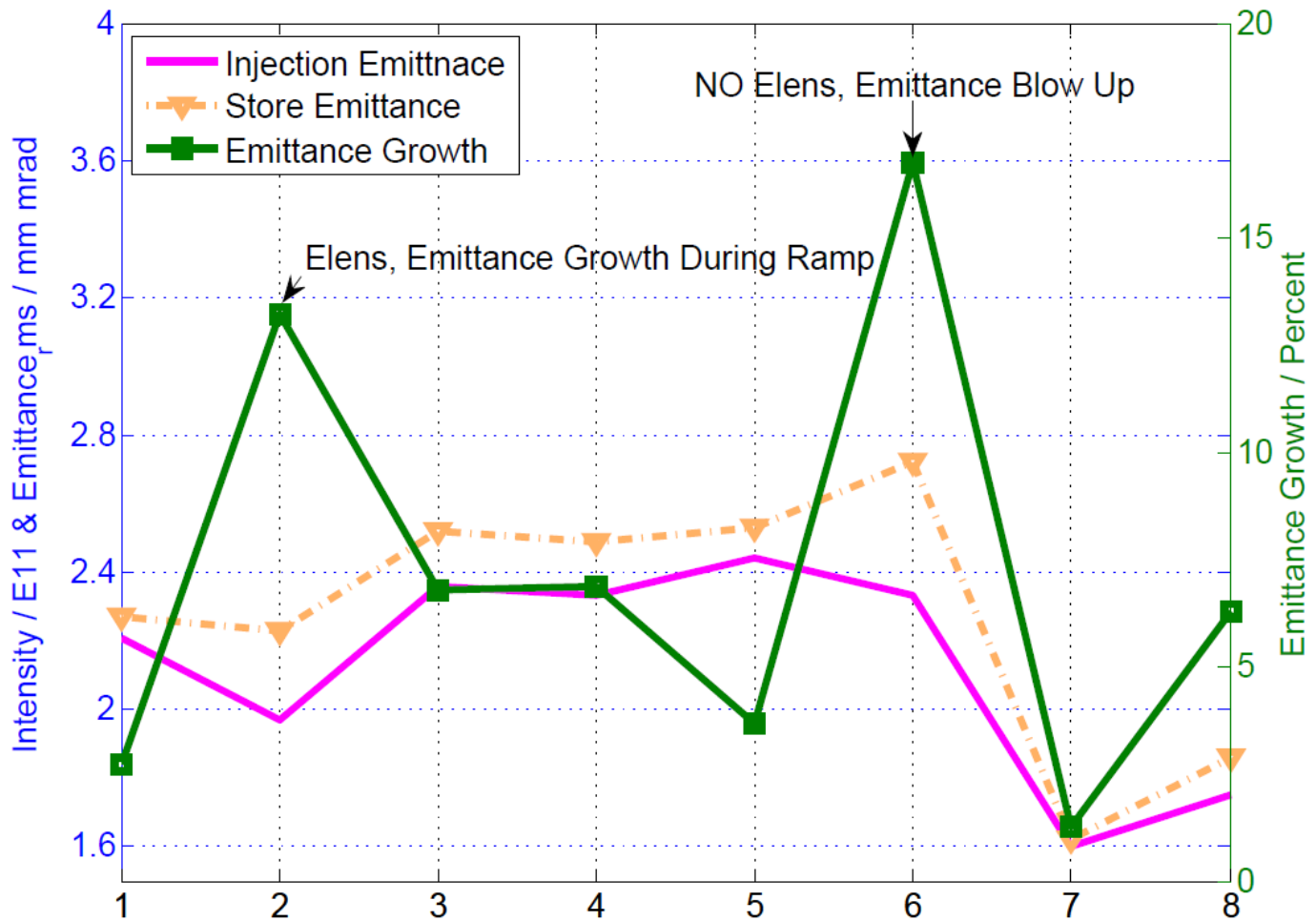
\*Mark: no e-lens, same injection intensity, y emittance blow up

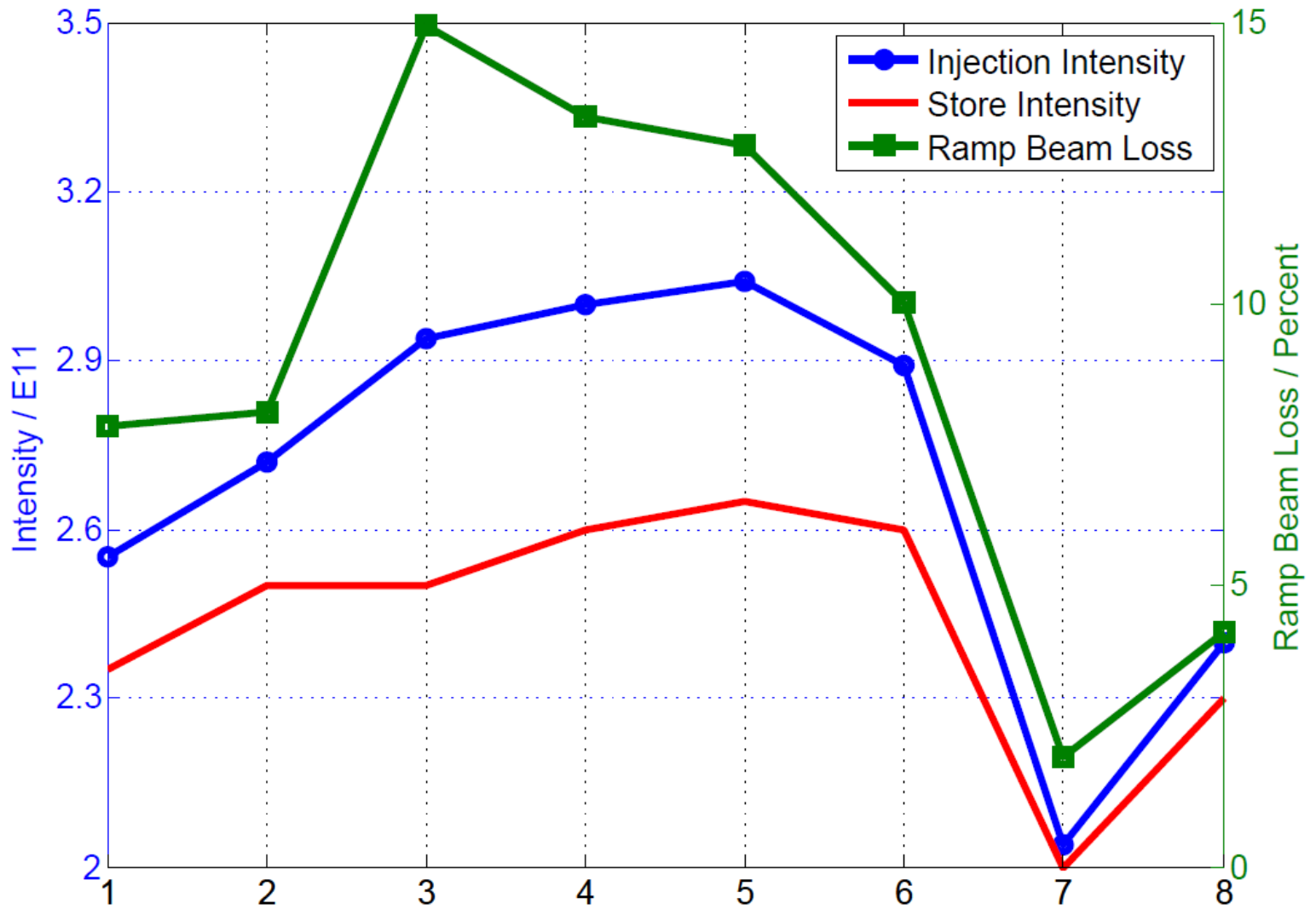
Calculated with average intensity per bunch and average IPM emittance

No emittance blow-up when going into for any of the stores with the e-lenses









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Tune scan with e-lens, with IP6 and IP8, blue  $\xi$ /IP = 14.8, yellow  $\xi$ /IP = 12.6:

Moving up tunes even 0.0005 will cause Blue beam decay increase. Moving tunes down 0.003, we observed emittance blow-up only in Blue ring. At that point,  $Q_y$  from schottky was 0.681, which is similar to that from without BB compensation.



