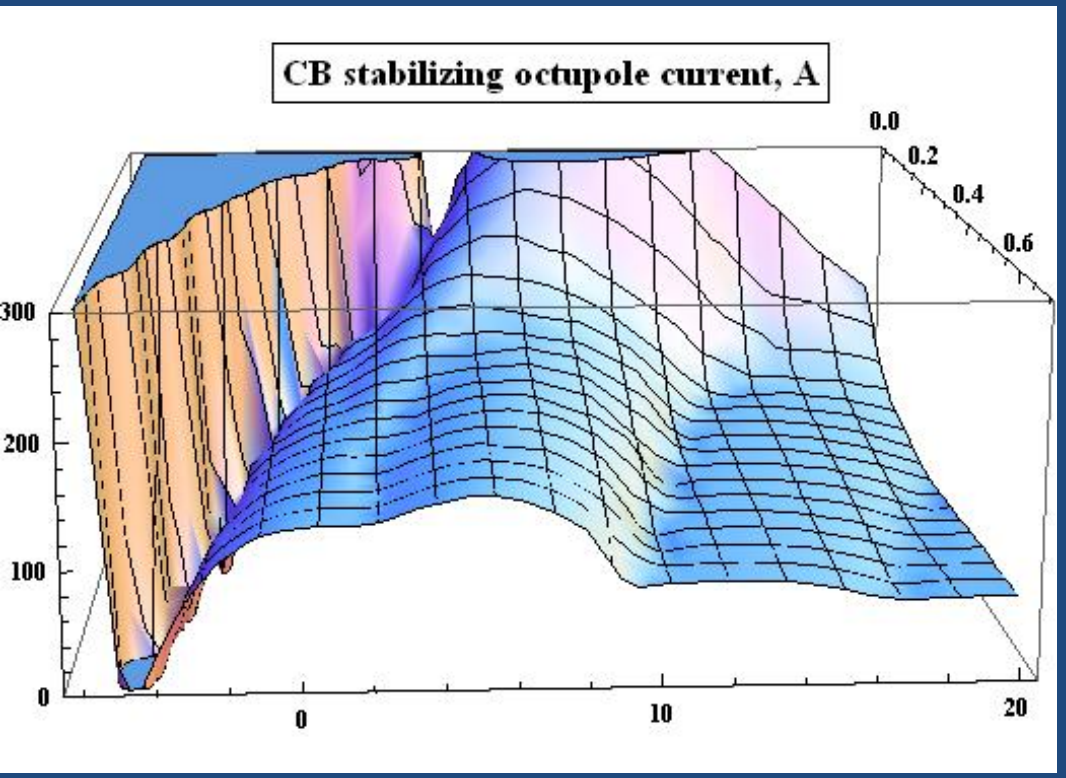
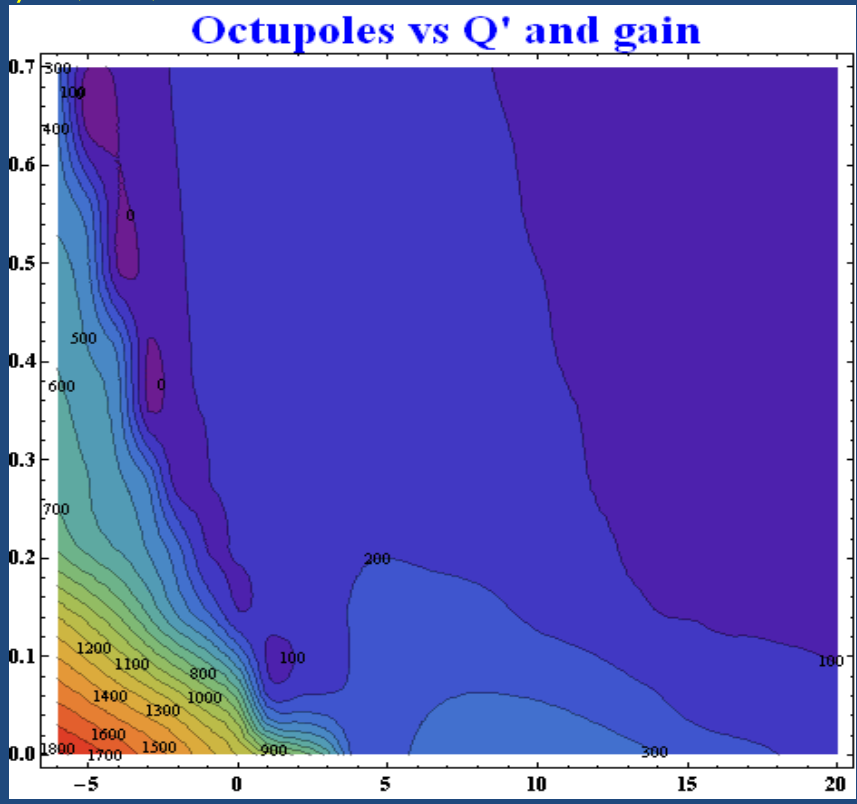
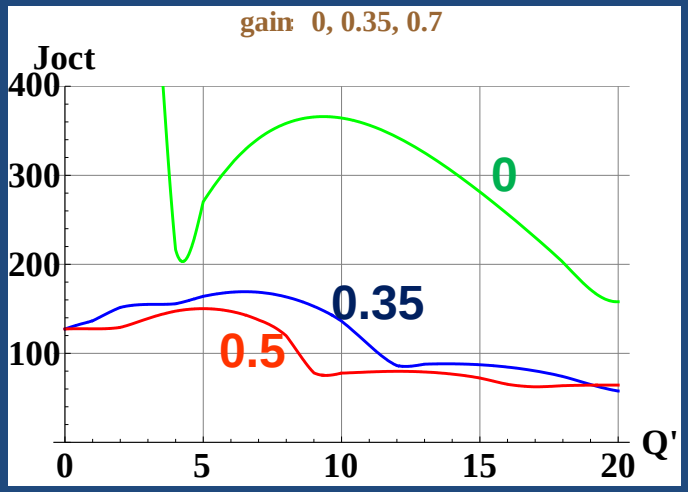
Summer MD Analysis

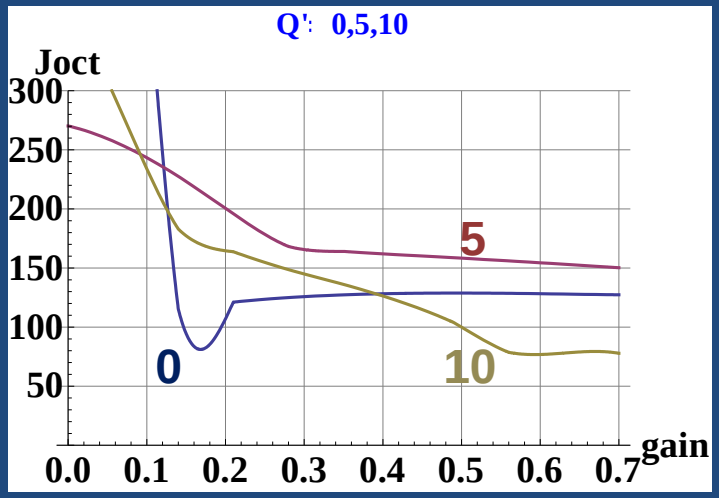
A. Burov, ICE, Nov 1 2012

NHT: 2⊗Imp, 1.4EIIp/b, V, MO<0









MD data analysis

Fill Number	stage	focusing octupole current [A]	Q'	ADT damping time [turns]	Assumed impedance factor, Z/Z_nom	NHT threshold octupole current, [A]
2744 (MD)	before squeeze	-100	4.1 +/- 0.3	200	2	-165
2771 (MD)	after squeeze	-20	4 +/- 0.5	100	2	-145
2771 (MD)	after squeeze	-240	-5 +/- 0.5	100	2	cliff
2771 (MD)	after squeeze	-60	1 +/- 0.5	100	2	-130
2771 (MD)	after squeeze	-400	2.4 +/- 0.6	inf	2	-600+-100

The data were taken for 1.4-1.5E11 p/b, 2pi mm*mrad, Beam 2 only with 1380 50ns bunches, the instability was vertical for all the cases.

All the cases show machine nonlinearity equivalent to ~ -60 - -200 A.

Volatility of tails or bigger errors in chroma?

Coherent Tunes for various Q', 2*Impedance, no beam-beam