

Status:
Q' variations due to beam-beam
(adjust, squeeze, stable beams)

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Acknowledgement to R. Tomas

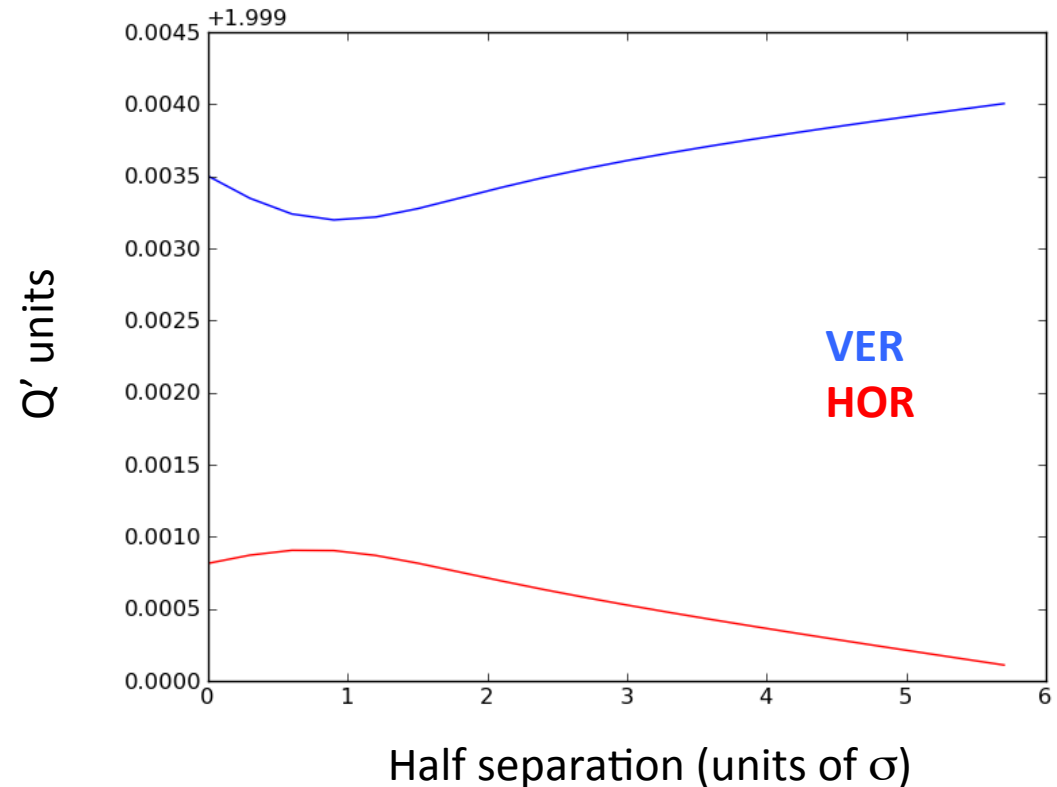
BB meeting 22 August 2013

Adjust beam process

- Collapse separation bumps
- Reduce octupole currents
- Reduce Chromaticity (second half year)

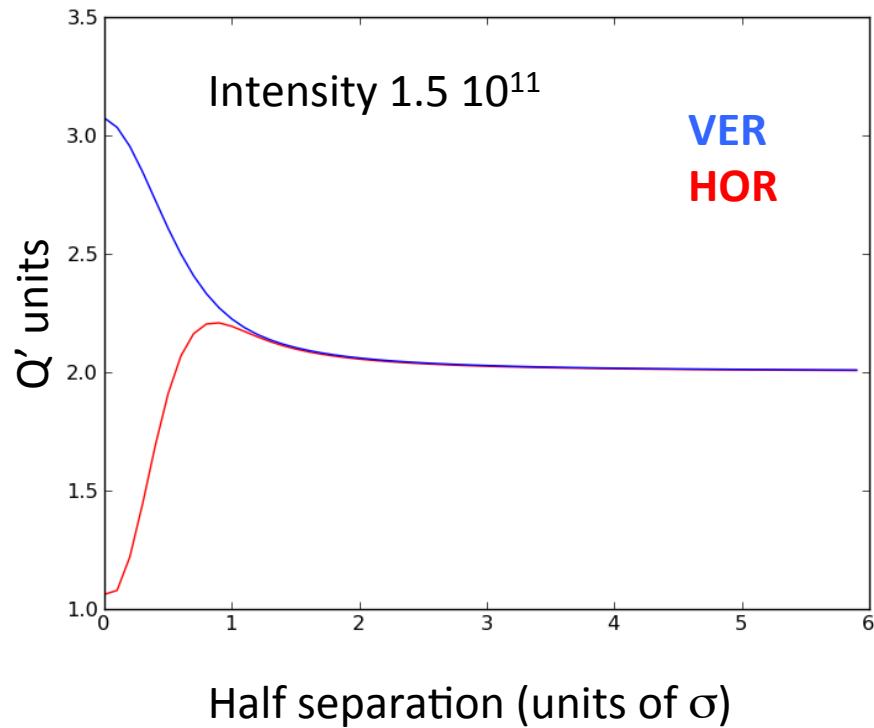
Collapsing IP1 separation bump without beam-beam

Chromaticity without beam-beam
 $Q' = 2$ units horizontal and vertical

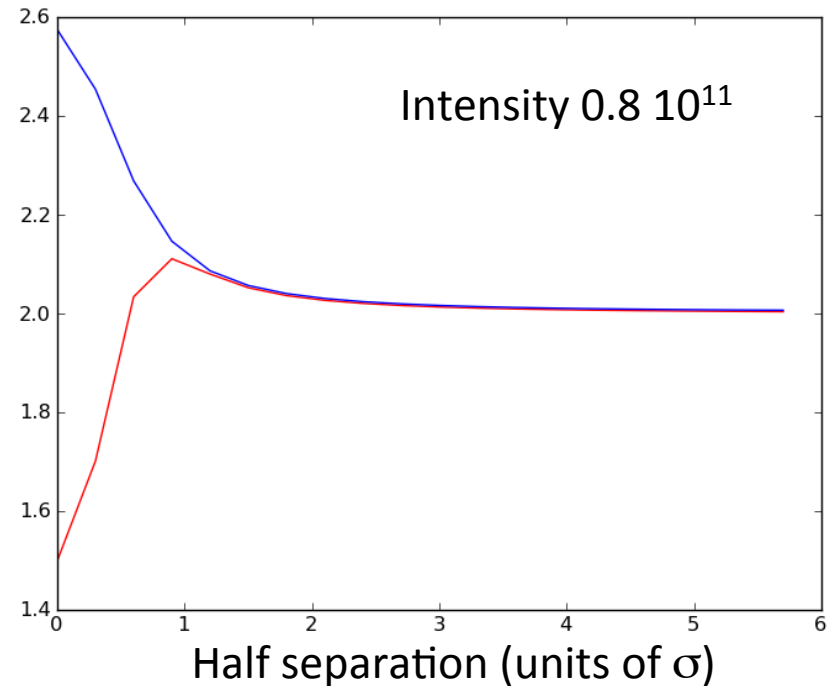
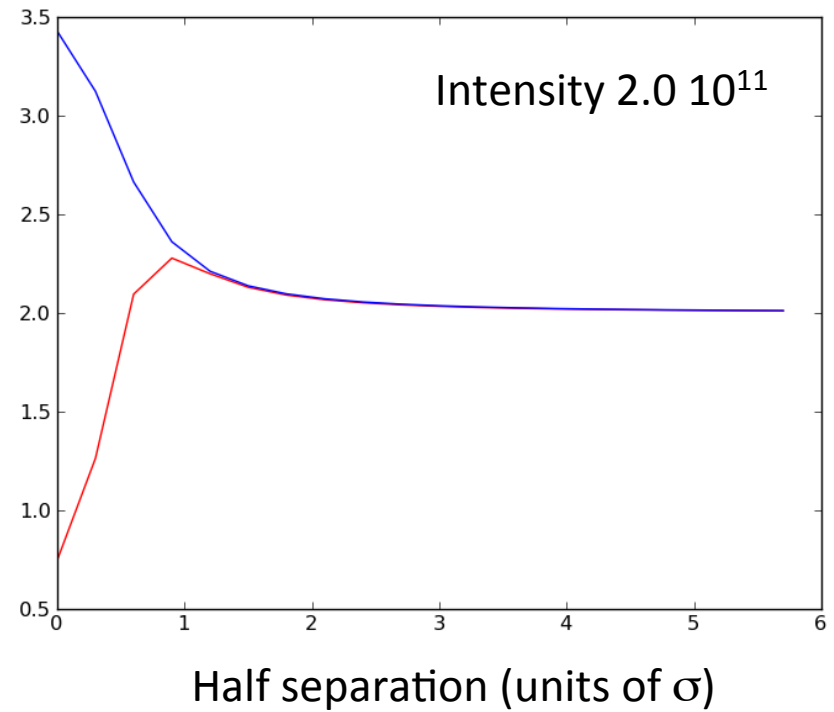


IP1 only collapse

H separation collapsed in steps and Chroma recomputed with Head-on BB only in IP1

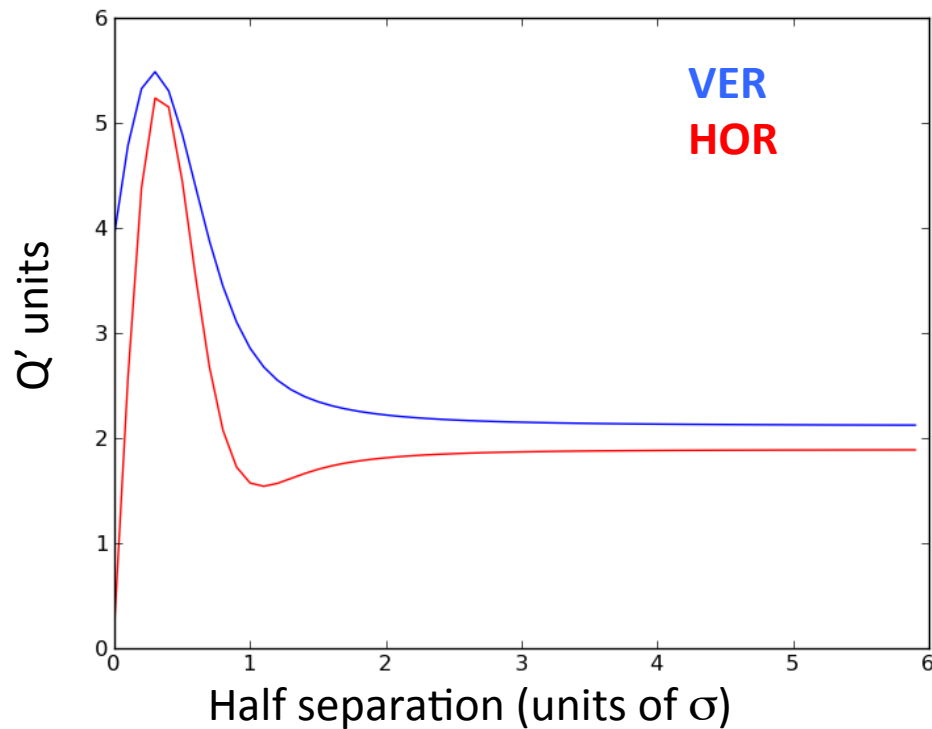


Other IPs crossing angle off, all separated!

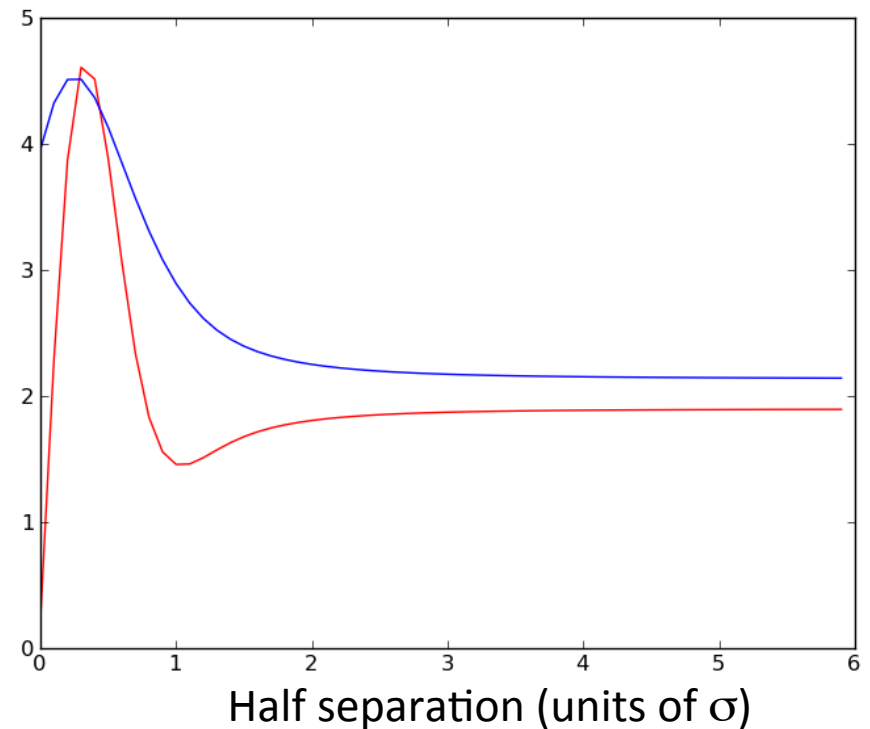


IP1 and IP5 synchronously

IP2 and IP8 crossing angle off



IP2 and IP8 crossing angle on



Chroma trims are settled with single beams: this effect is not compensated!
Can one think of feed-forward correction based on models?

On-going:

Adjust Beam Process:

- Add octupoles trims during adjust
- Check differences between adjust beam process of 2012 run (i.e. IP8 tilting, asynchronous closure of bumps crossing and sep plane... etc)
- Check impact of octupole polarity change

Stable Beams:

- Check impact on chromaticity during stable beams (special attention IP8 bunches)

Squeeze:

- Add to modeling long-range encounters and reproduce squeeze changes