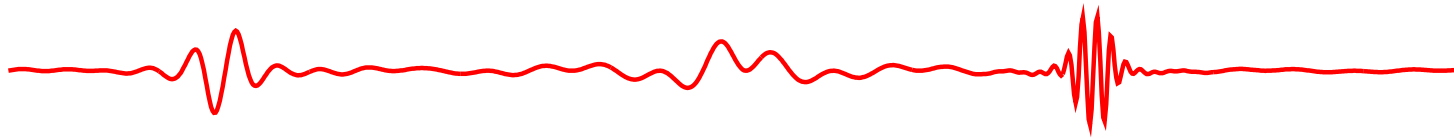


Optics during the ramp and IR non-linearities



R. Tomás for the OMC team

LSWG

September 2012

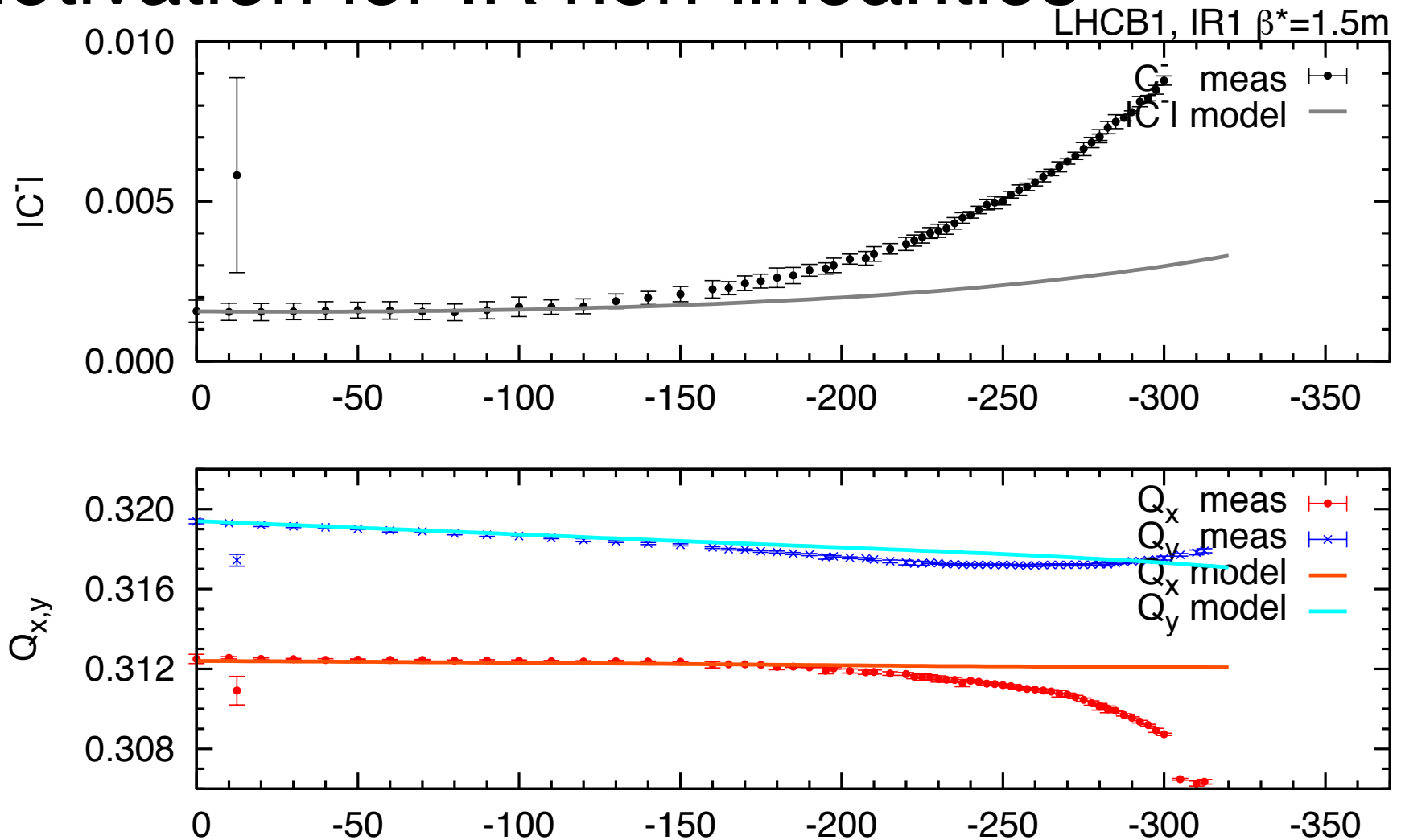
Parts of the MD and beam type

- ★ Ramp (20min): Optics measurement with AC dipole
- ★ Flattop (20min): B1V Amplitude detuning with AC dipole (requested by S. Fartoukh)
- ★ Squeeze (5h): Measurement and correction of IR non-linearities with AC dipole and orbit bumps.
- ★ Correction of chrom. coupling if time permits.

Single bunch $\approx 2 \times 10^{10}$ protons \rightarrow MPP **class A**

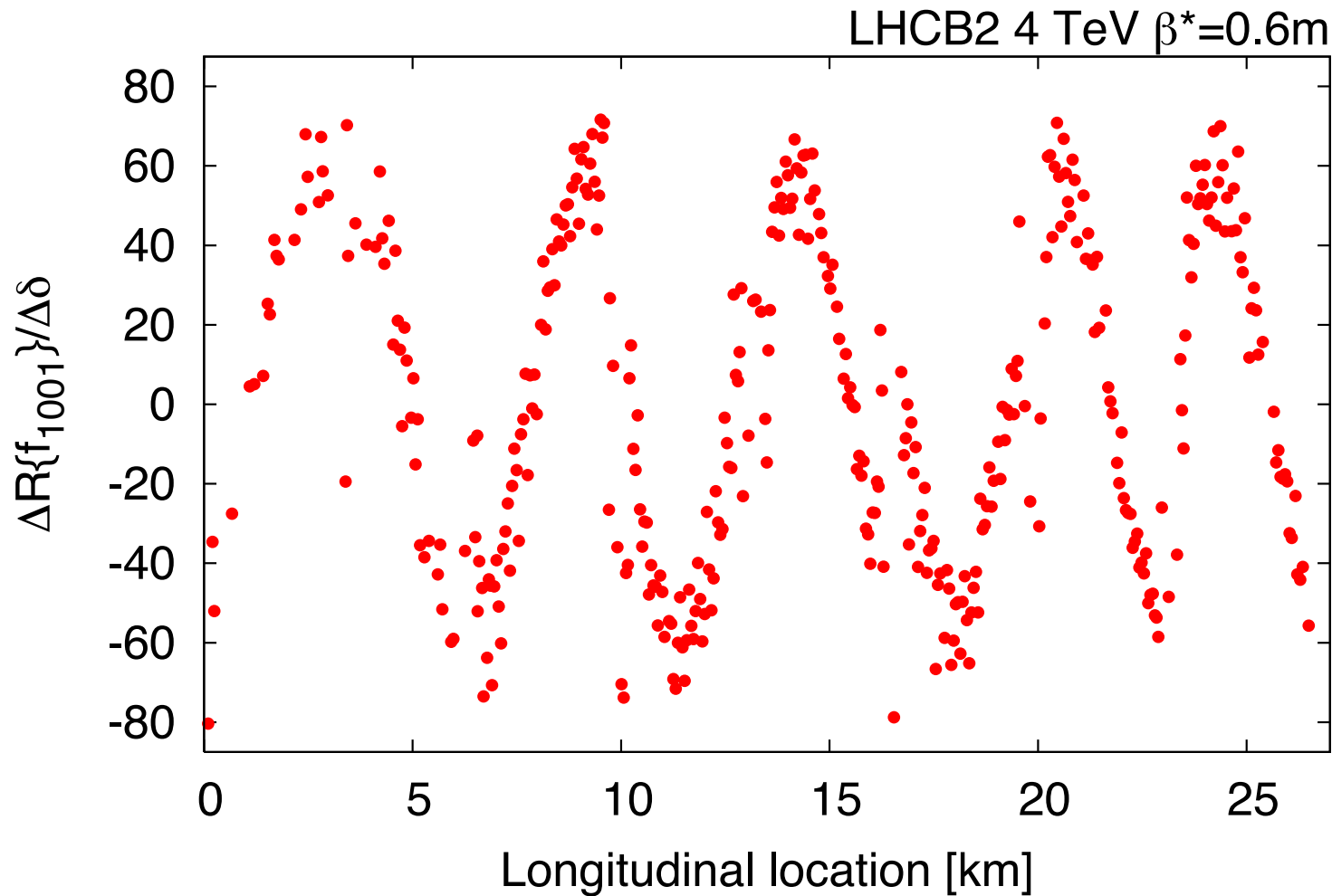
Mirko already checked all IT correctors (excluding RCOSX3.L1 and 60A limit in RCSSX3.L1).

Motivation for IR non-linearities



Sextupole errors seem to agree with magnetic measurements but higher orders largely disagree.

Motivation for chrom. coupling correction



At $dp/p=0.3 \times 10^{-3}$ this gives a $\Delta Q_{\min}=0.001$. This is easily correctable with arc skew sextupoles.

Ideal outcome

- ★ Understanding of emittance blow-up during the ramp
- ★ More info for the instabilities
- ★ Commissioning of the IR sextupolar corrections (potential use in 2012-13!) and understanding higher orders
- ★ Zero chromatic coupling