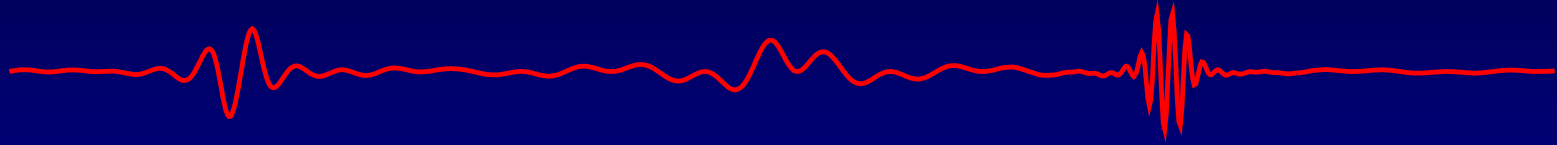
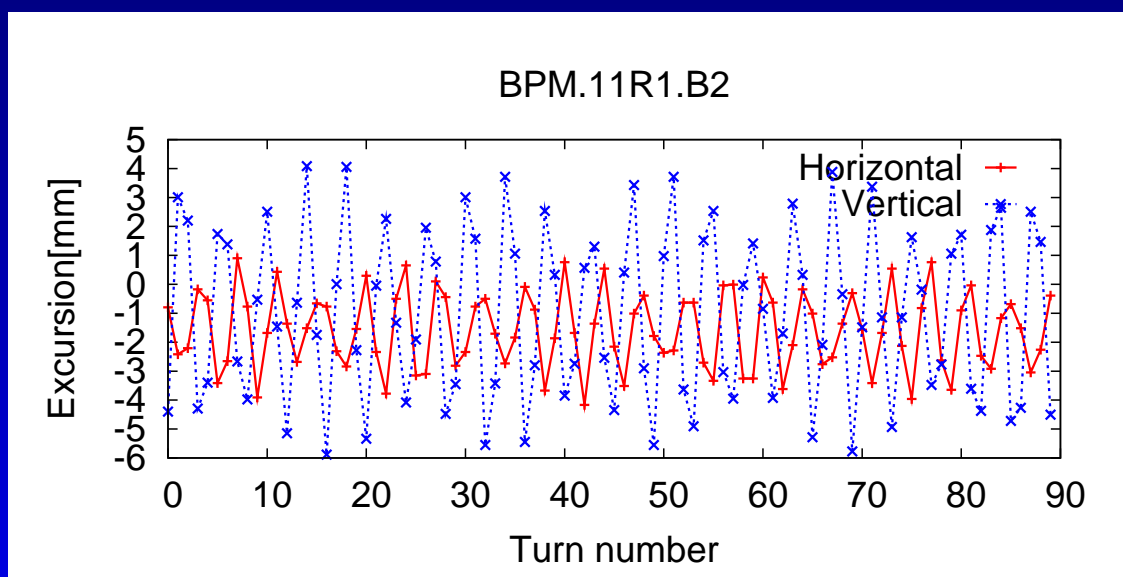
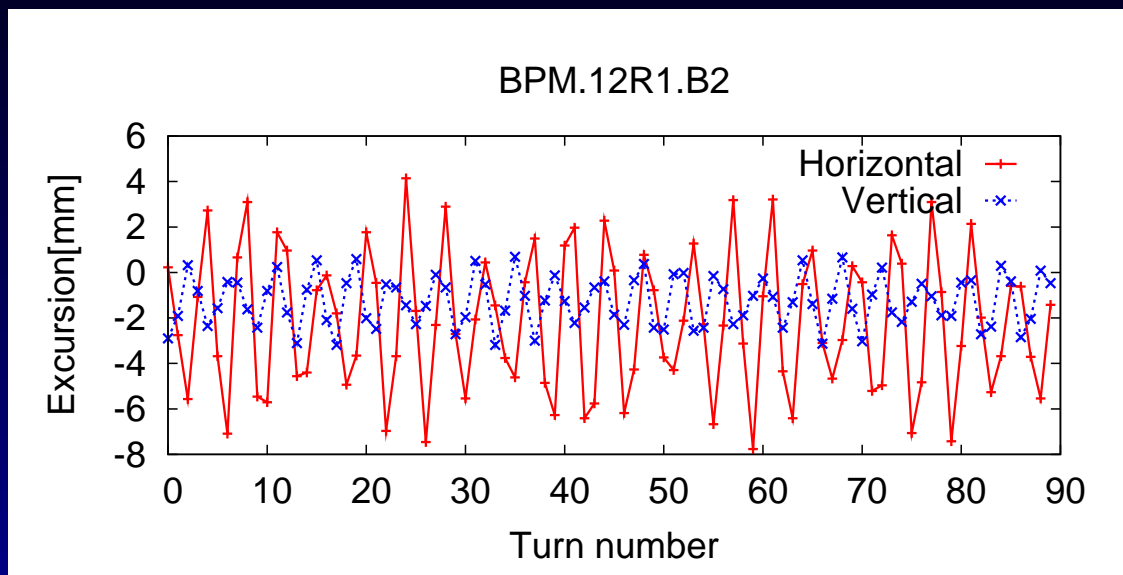


1st beta-beating measurement in the LHC



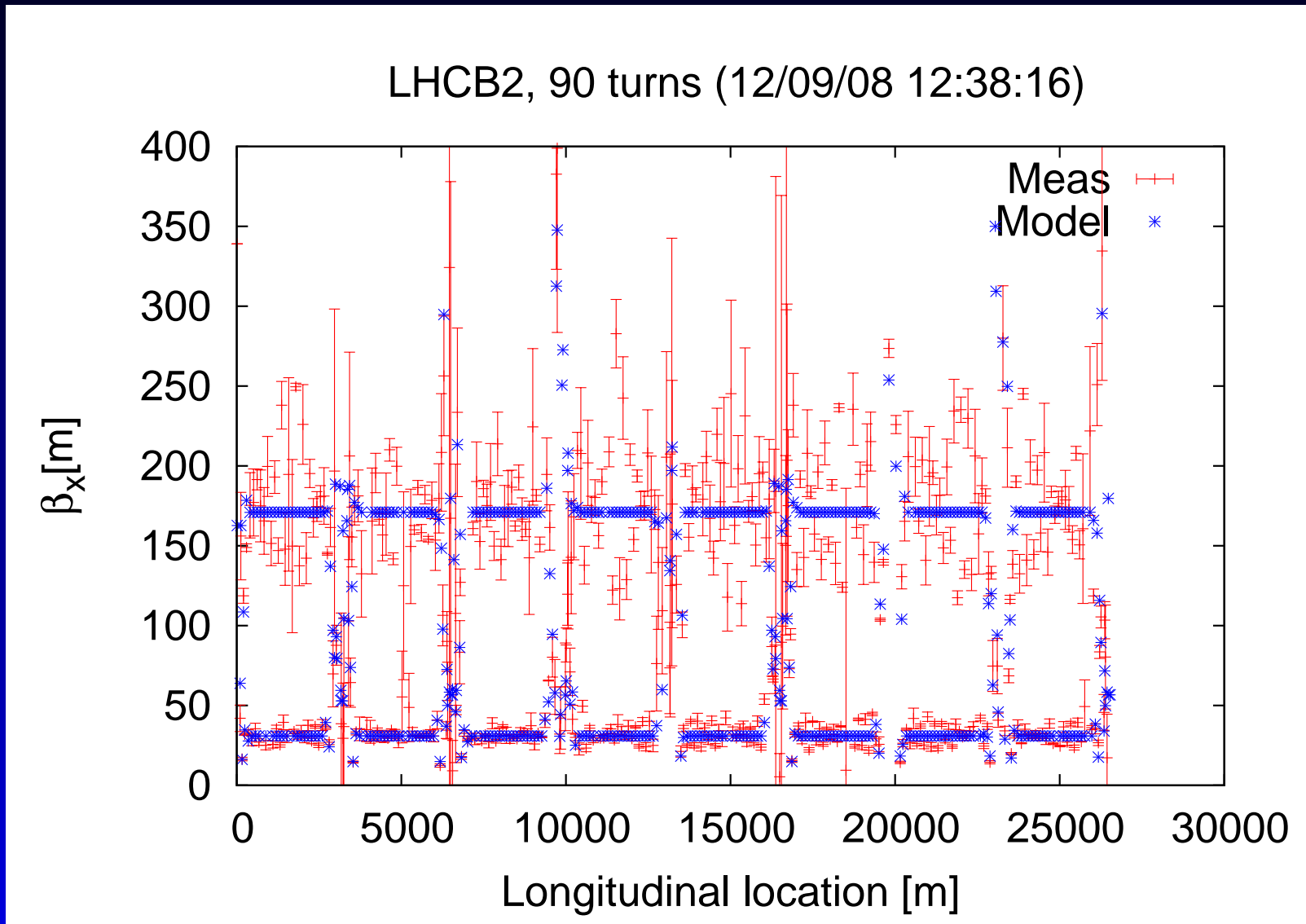
M. Aiba & R. Tomás for the beta-beating team
Thanks to J. Wenninger for the turn-by-turn data and
many others for help
16th September 2008

Data example (YASP acquisition)

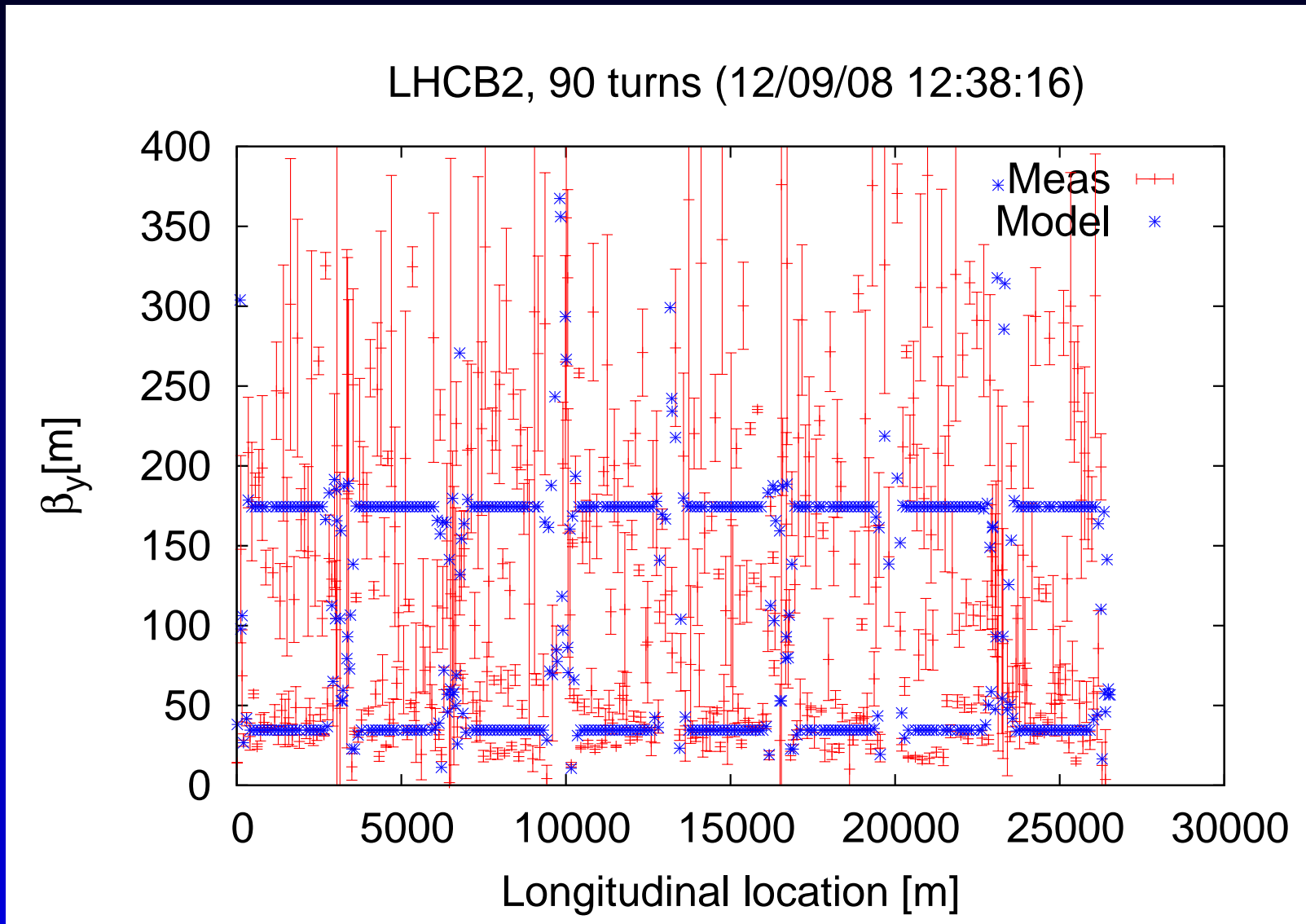


InjTurns_LHCRING_12-09-08_12-38-16_F831.data.zip

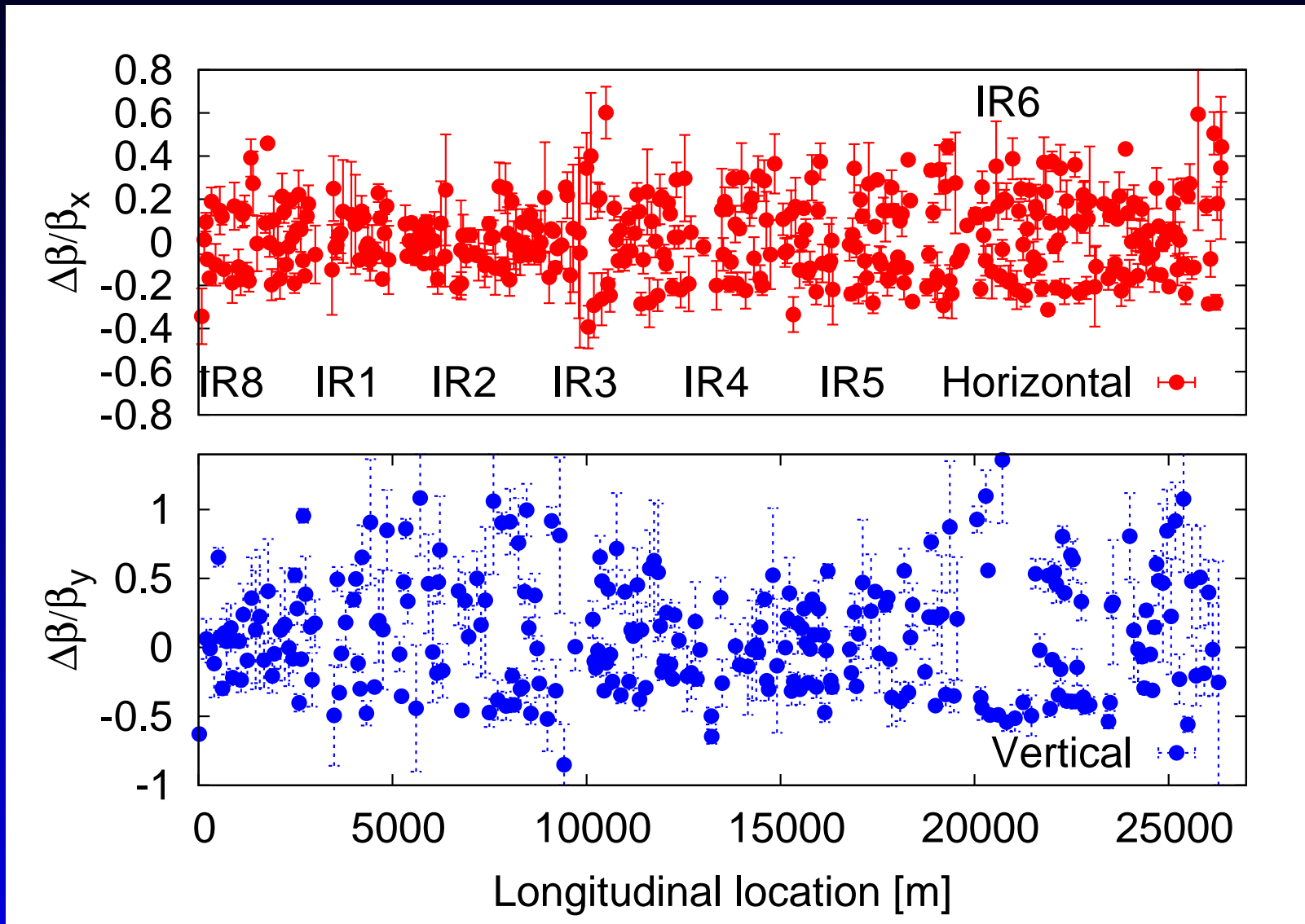
Horizontal beta ($Q_x = 0.301 \pm 0.001$)



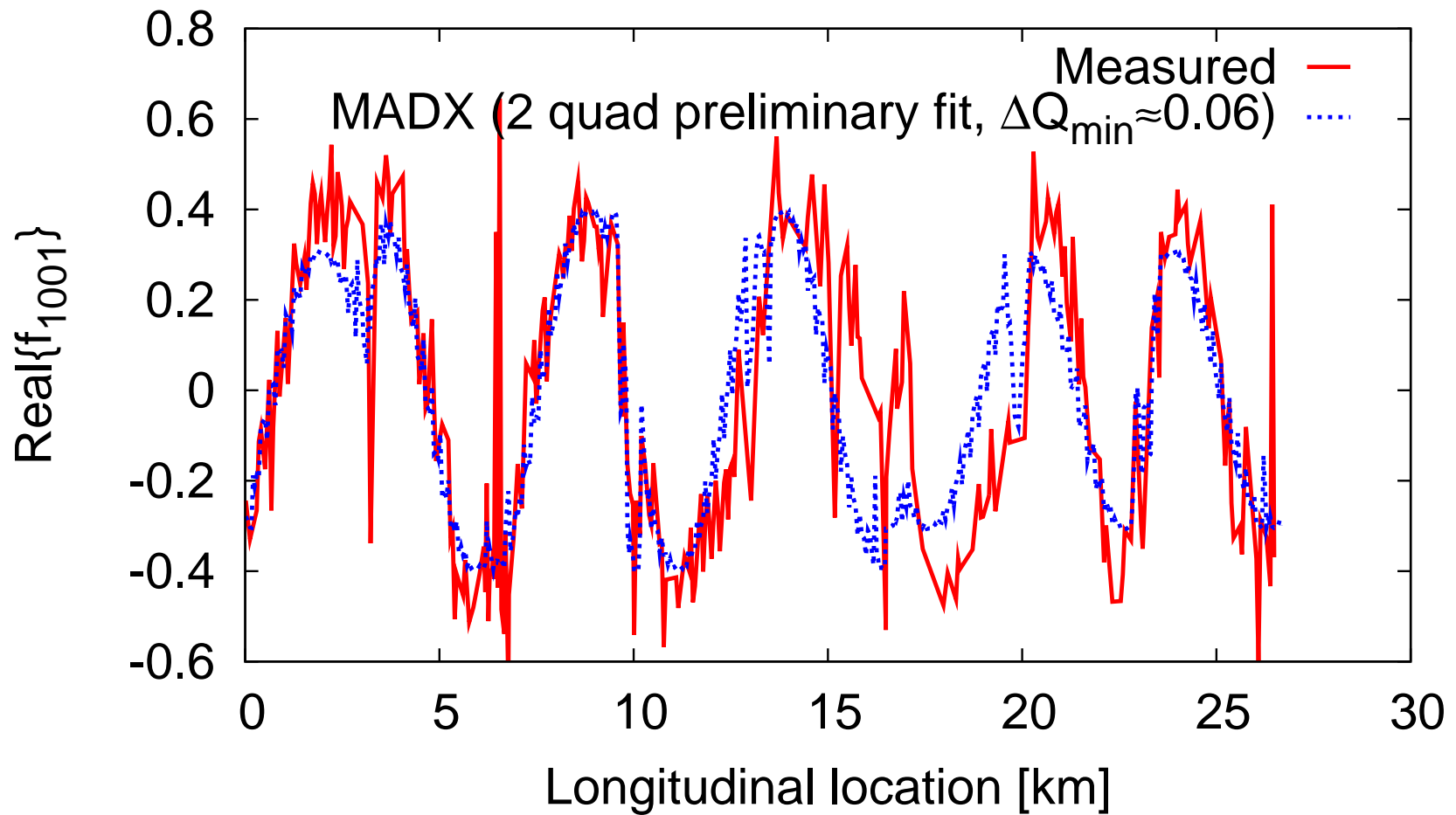
Vertical beta ($Q_y = 0.238 \pm 0.001$)



Beta-beating (removing large errors)



Measurement of Coupling



Rather large coupling!

Remarks

- Very preliminary!
1st beta-beat measurement in the LHC
Possible errors in IR3, ...
- Rather large coupling is observed.
- Very few bad BPMs!!:
Vertical: BPM.16L2.B2, BPMSW.1L2.B2, BPM.21R5.B2
Horizontal: BPM.11R2.B2
- Need more data for statistics
- Much better measurement for phase A4
(≈ 1000 turns)

Spectrum example

