

$\frac{\Delta\beta}{\beta}$ @ IP4

OMC Team

K-Mod vs
TbT @ IP4

B1
B2

IP4 lattice

B1
B2

Beta-beating measurements at IP4

E.H. Maclean for the OMC Team

18 May 2012

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Beta-beating @ injection measured by analysis of turn-by-turn betatron oscillation data during commissioning:

- 15 March, Fill 2364.
- Oscillations induced with Tune-kicker (NOT the AC-Dipole).
- Local (f_{1010} & f_{1001}) and global ($\frac{\Delta\beta}{\beta}$ & $\frac{\Delta D_x}{\sqrt{\beta_x}}$) corrections applied.

Beta-beating @ injection in IR4 quadrupoles measured by K-modulation during MD block 1:

- 12 April (?), BI MD.
- B1: *MQY.5R4.B1, MQY.6R4.B1, MQM.7R4.B1.*
- B2: *MQY.5R4.B2, MQY.5L4.B2, MQY.6L4.B2.*
- Details from presentation: LSWG 15-May-2012,
'2012 MD#1 BI RESULTS (preliminary)',
F.Roncarolo on behalf of BI team.

Next slides compare measured post-correction beta-beat around IP4 from TbT (@ bpms) and K-mod (@ quads).

Comparison of K-mod and TbT results at IP4, Beam 1

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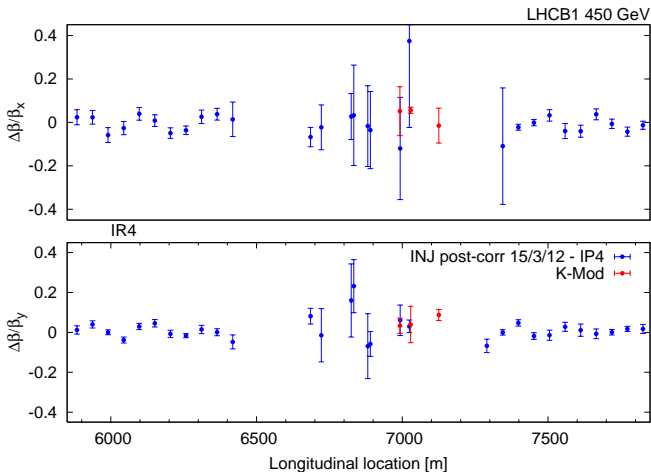


Figure: Beam 1 Beta-beating measurements at IP4 from K-Mod and TbT methods.

Comparison of K-mod and TbT results at IP4, Beam 2

$\frac{\Delta\beta}{\beta}$ @ IP4

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K-Mod vs
TbT @ IP4

B1
B2

IP4 lattice

B1
B2

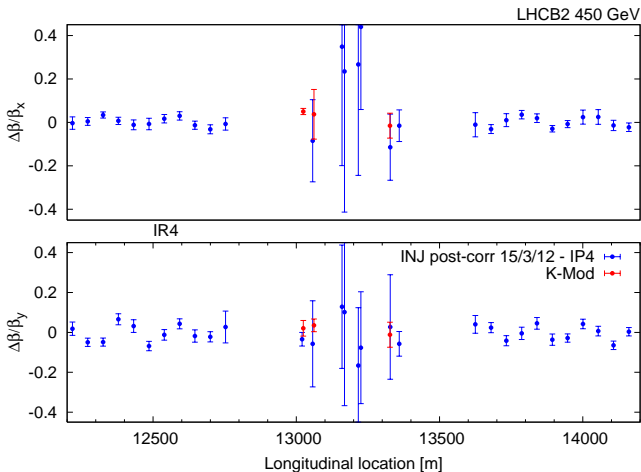


Figure: Beam 2 Beta-beating measurements at IP4 from K-Mod and TbT methods.

Lattice around IP4, Beam 1

$\frac{\Delta\beta}{\beta}$ @ IP4

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K-Mod vs
TbT @ IP4

B1
B2

IP4 lattice

B1
B2

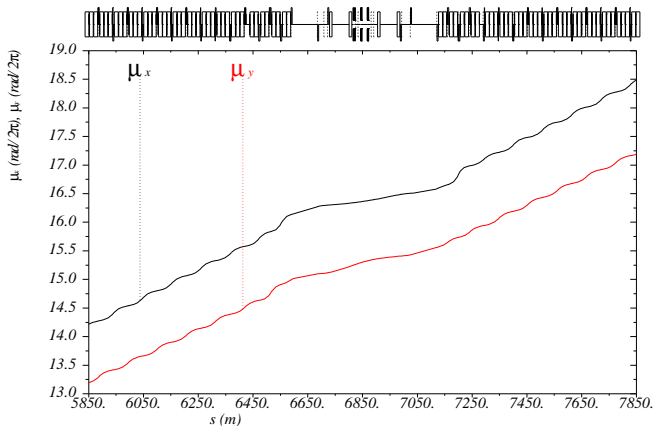


Figure: Beam 1 lattice and phase at IP4 from madx.

Lattice around IP4, Beam 2

$\frac{\Delta\beta}{\beta}$ @ IP4

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K-Mod vs
TbT @ IP4

B1
B2

IP4 lattice

B1
B2

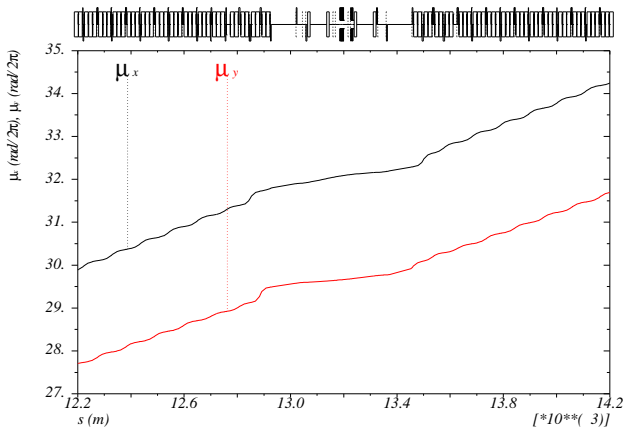


Figure: Beam 2 lattice and phase at IP4 from madx.