Beta-beat over time
Local β corrections at 3.5 Tev, $\beta^* = <3.5, 1.5> m$
Global β corrections at 3.5 Tev, $\beta^* = 1.5m$
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Dynamic beta-beating
Summary and outlook

Beta-beat measurements and corrections 2011

G. Vanbavinckhove, M. Aiba, R. Calaga, R. Miyamoto and R. Tomás García

March 8, 2011

Beta-beat over time
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Acknowledgments

Thanks to: V. Kain, M. Lamont, S. Redaelli and F. Schmidt

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Beta-beat over time
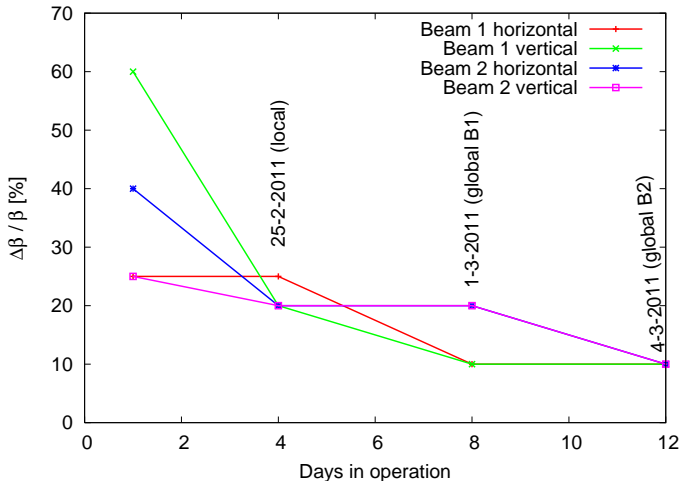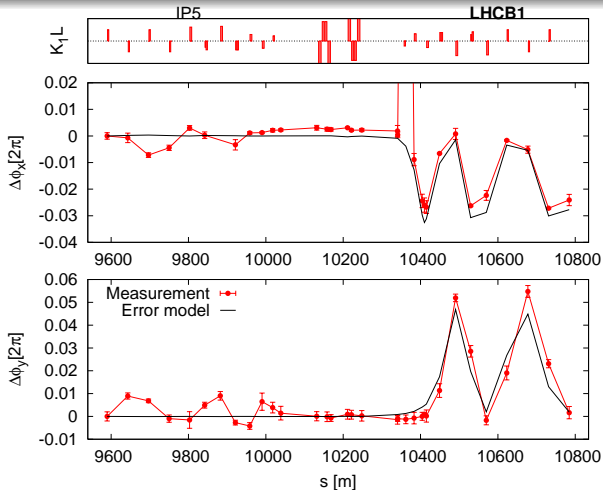**Local β corrections at 3.5 Tev, $\beta^* = < 3.5, 1.5 > m$**
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Local corrections

Local corrections at IP1,IP5,IP6 and IP8.

Corrector	ΔK	Relative change [%]
kq9.l1b1	3.8e-05	0.6 %
ktqx2.r1	-0.8e-5	0.09%
ktqx2.l5	1e-5	0.11 %
ktqx2.r5	1.3e-5	0.15 %
kq5.l6b2	-4.6e-05	0.7 %
ktqx2.l8	-2.3e-5	0.26 %
ktqx2.r8	-5.3e-6	0.06 %

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Example local correction
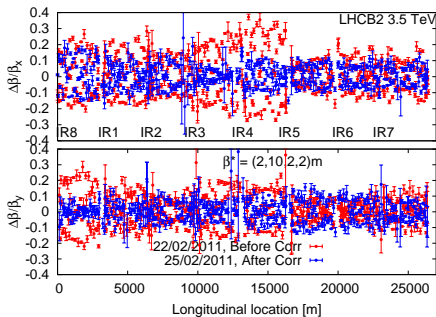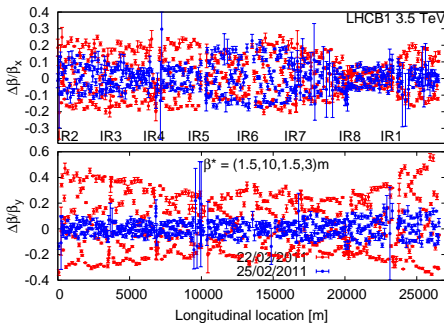
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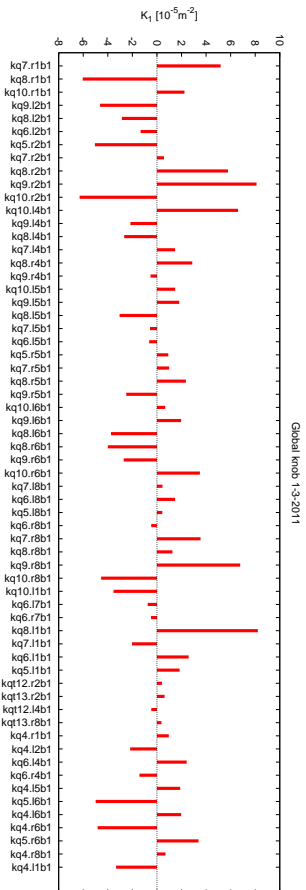Dynamic beta-beating
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Local coupling corrections at 3.5 Tev
Dynamic $\beta^* = < 3, 5, 1.5 > m$
Dynamic beta-beating
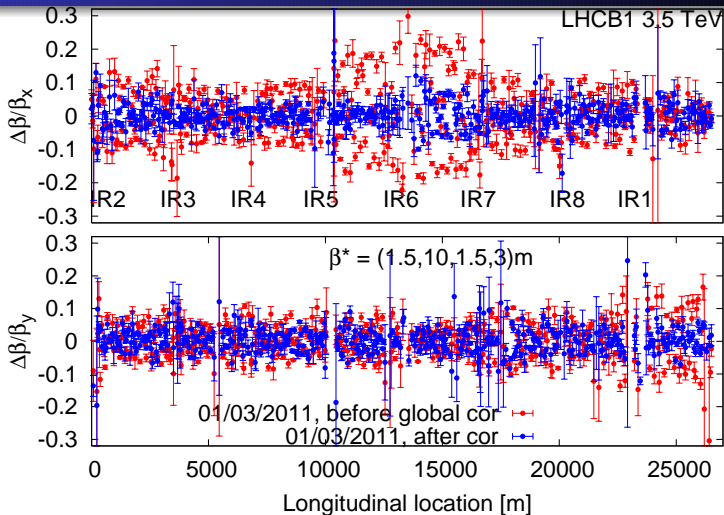Summary and outlook

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Global corrections beam 2

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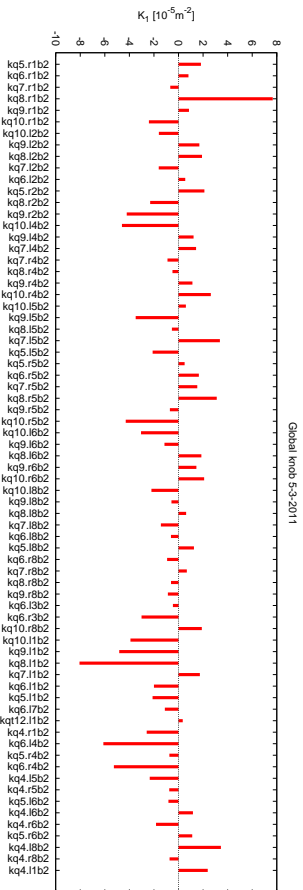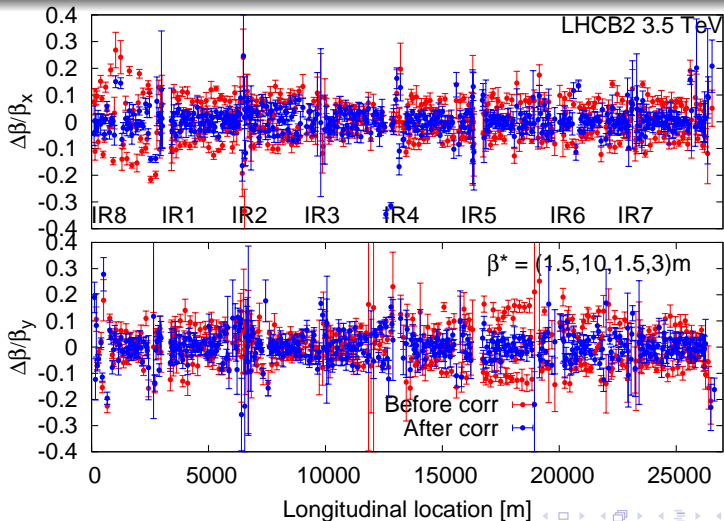Summary and outlook

Global corrections beam 2

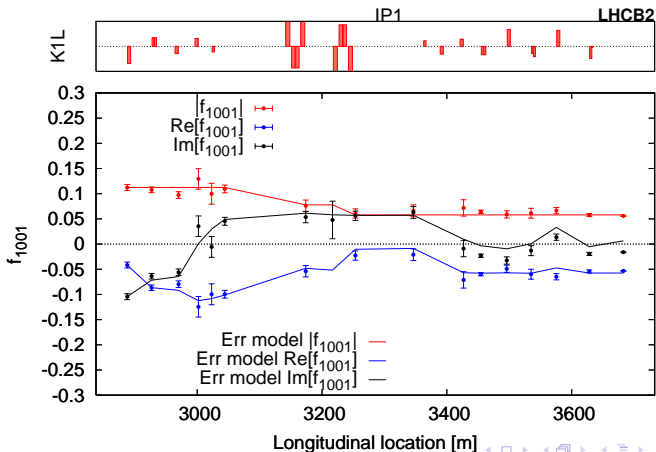Beta-beat over time
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Local coupling corrections

Local coupling corrections at IP1, IP5 and IP8

Corrector	Δ K
kqsx3.l5	0.0007
kqsx3.r5	0.0007
kqsx3.l1	0.0008
kqsx3.r1	0.0008
kqsx3.l8	-0.0005
kqsx3.r8	-0.0005

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Example coupling correction

Beta-beat over time
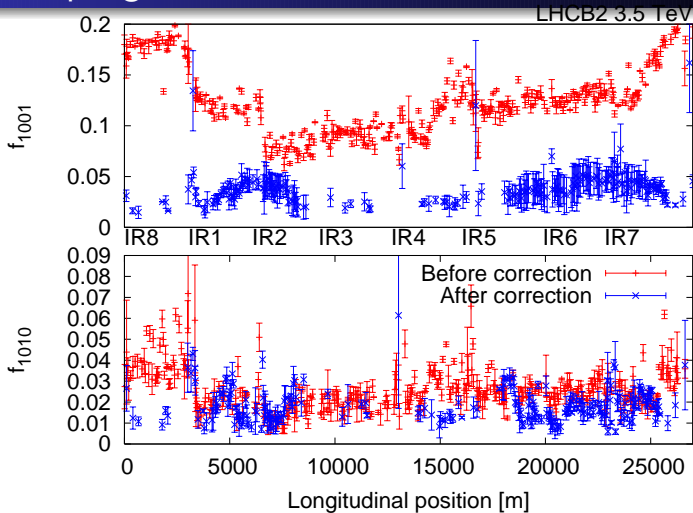Local β corrections at 3.5 Tev, $\beta^* = < 3.5, 1.5 > m$
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Dynamic beta-beating at injection ?

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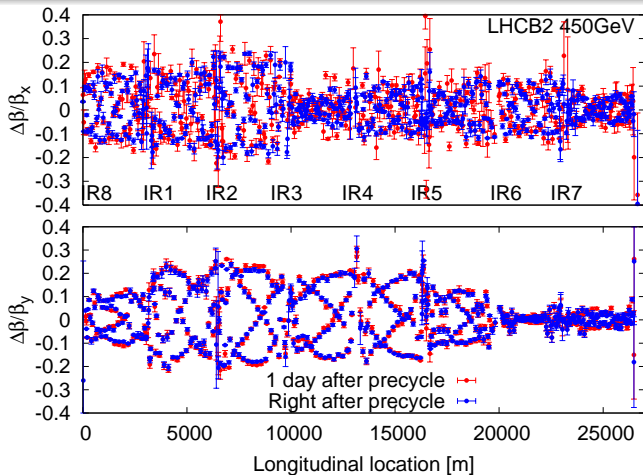
Summary and outlook

- Beta-beat in both beams has been reduced to the 10% level.
- Local coupling corrections have been carried out.
- K-modulation will be conducted to measure β^* with more accuracy and apply corrections with β^* knobs.