

Nonlinear chrom correction with beam response matrix

(Session 1: April 4, 2007)

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1. b2 measurement at Yellow injection (< 10min.)
2. Test online application for nonlinear chrom correction (< 20min.)
3. Plan for next session

b2 measurement at Yellow injection

1) from Q' measurement:

$$Q'_x \text{ (measured)} = Q'_x \text{ (model)} + 19.8$$

$$Q'_y \text{ (measured)} = Q'_x \text{ (model)} - 20.4$$

if assuming $(K2L)_{\text{mean}} = 0.0$

==> To match Q's, $(K2L)_{\text{mean}} = -0.055 \text{ m}^{-2}$.

2) Yellow $(K2L)_{\text{mean}}$ is consistent to Blue $(K2L)_{\text{mean}}$

$$(K2L)_{\text{mean, blue, inj}} = -0.0505 \text{ m}^{-2}$$

$$(K2L)_{\text{mean, yellow, inj}} = -0.055 \text{ m}^{-2}$$

3) b2 measurement done and understood:

Blue store, Blue injection, Yellow injection

==> old 'b2 tables' can be replaced with these numbers!

Not understood: Yellow store.

Test online Q' adjusting on top of nonlinear chrom correction

1) To quickly apply nonlinear chrom correction

experts: setting nonlinear chrom correction setting
operation: shifts Q'_{x,y} on top of nonlinear settings

2) Test Nikolay's Q' change in RampEditor

Q=(0.23189/ 0.227202)
Q'=(1.95 / 2.95)
Q''=(28 /130)

Then add Q' by 2 units

Q=(0.232344/ 0.227508)
Q'=(3.67 / 4.60)
Q''=(-6.85/ 67)

Plan for next session

1. Tasks:

--> yellow b2 re-measurements (< 8 min.)

--> response matrix measurements

--->test yellow offline model

--->test yellow online Q' change on top of nonlinear settings

2. Time request:

2.0 hrs.