

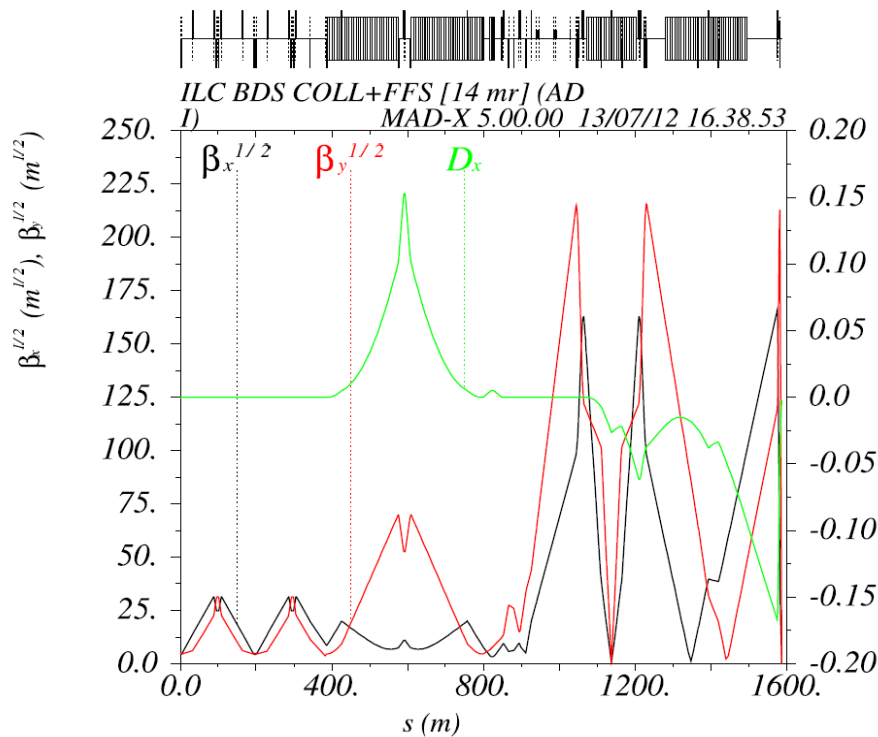
ILC-BDS (update)

17/07/12

v.351LD0_135D1B

- 125 GeV beam (250 GeV CoM)
- Original plot ($Dx = -1.735 \times 10^{-3}$)

$\beta_x = 0.015$;
 $\beta_y = 0.00040$;
 $Dx = -1.73528e-02$



Corresponding beam sizes:

$$\sigma_x^1 = 3.39e-06$$

$$\sigma_y^1 = 7.57e-09$$

$$\sigma_x^2 = 3.39e-06$$

$$\sigma_y^2 = 7.63e-09$$

$$\sigma_x^3 = 3.47e-06$$

$$\sigma_y^3 = 1.57e-08 \text{ etc..}$$

v.351LD0_135D1B

- 125 GeV beam (250 GeV CoM)
- Matched to new values:
- Used QDO, Qf1, QD2A, KQf3, Qf5, QD4, QD2B + matching quads
- Nevertheless following matching with sextupoles was unsuccessful

$$\beta_x = 0.013 ;$$

$$\beta_y = 0.00041 ; \alpha_x = 0(e-10);$$

$$\alpha_y = 0(e-10); D_x = 0(e-10);$$

Corresponding
beam sizes:

$$\sigma_x^1 = 7.29e-07$$

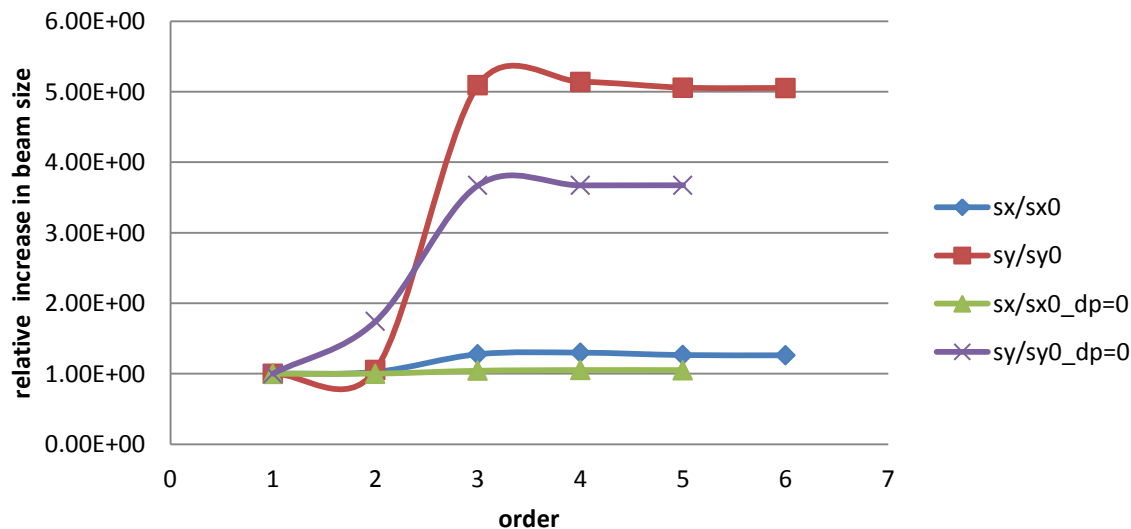
$$\sigma_y^1 = 7.66e-09$$

$$\sigma_x^2 = 1.07e-06$$

$$\sigma_y^2 = 7.86e-09$$

$$\sigma_x^3 = 1.43e-06$$

$$\sigma_y^3 = 4.31e-08 \text{ etc..}$$



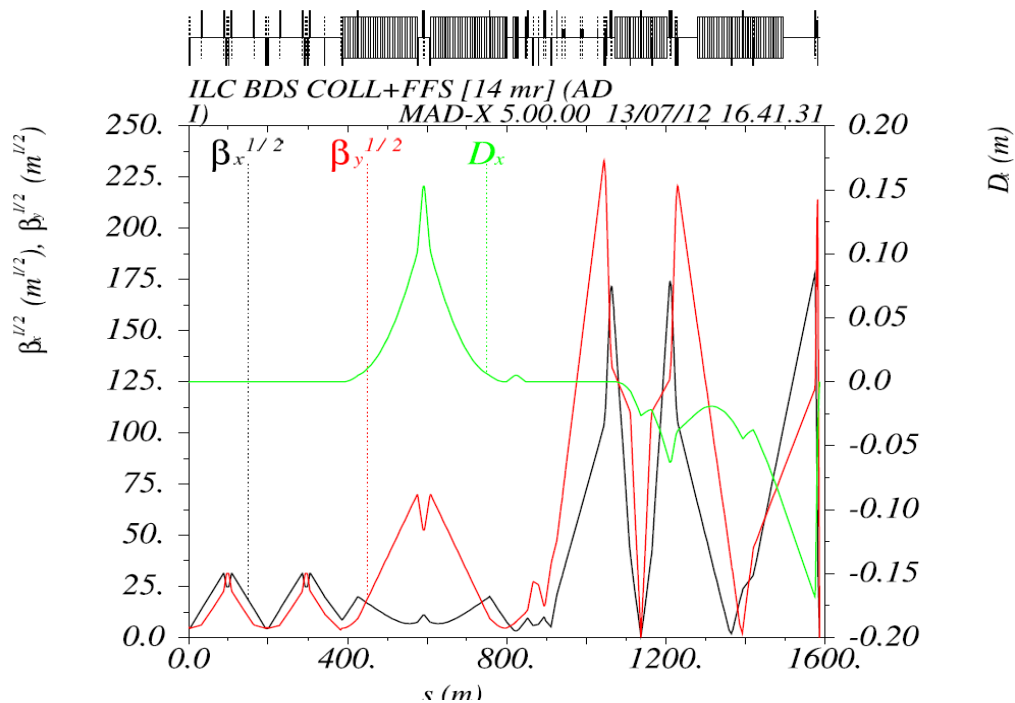
v.351LD0_135D1B

- Used QDO, Qf1, QD2A, Qf3, **QD6**, Qf5, QD4, QD2B + matching quads

$$\beta_x = 0.012999;$$

$$\beta_y = 0.0004100; \alpha_x = 8e-04;$$

$$\alpha_y = 1.9e-01 \quad D_x = 0(e-5);$$



Corresponding
beam sizes:

$$\sigma_x^1 = 7.36e-07$$

$$\sigma_y^1 = 7.66e-09$$

$$\sigma_x^2 = 7.45e-07$$

$$\sigma_y^2 = 7.85e-09$$

$$\sigma_x^3 = 7.75e-07$$

$$\sigma_y^3 = 8.57e-09$$

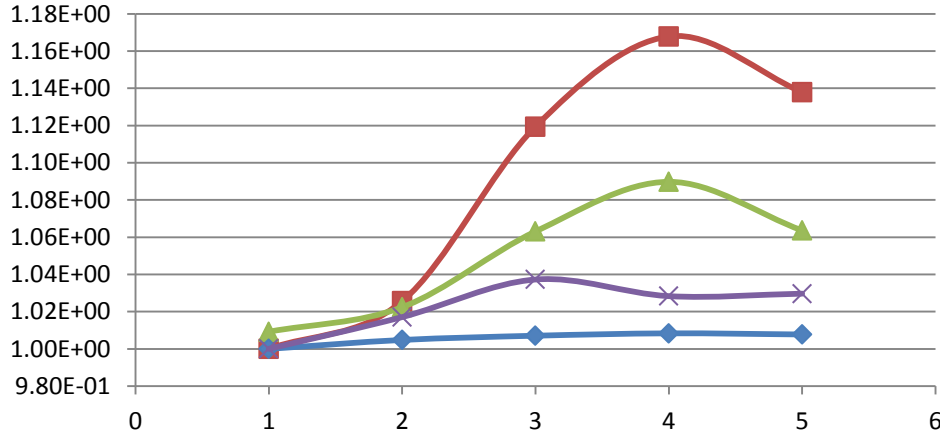
$$\sigma_x^4 = 7.94e-07$$

$$\sigma_y^4 = 8.94e-09$$

$$\sigma_x^5 = 7.74e-07$$

$$\sigma_y^5 = 8.72e-09$$

v.351LD0_135D1B



$\beta_x = 0013$;
 $\beta_y = 0.00041$;
 $Dx = -6.25e-05$;
 $\alpha_x = 0(e-09)$;
 $\alpha_y = 0(e-09)$;

Corresponding beam sizes:

$$\sigma_x^1 = 7.36e-07$$

$$\sigma_y^1 = 7.66e-09$$

$$\sigma_x^2 = 7.55e-07$$

$$\sigma_y^2 = 7.75e-09$$

$$\sigma_x^3 = 7.83e-07$$

$$\sigma_y^3 = 8.26e-09$$

$$\sigma_x^4 = 7.92e-07$$

$$\sigma_y^4 = 8.41e-09$$

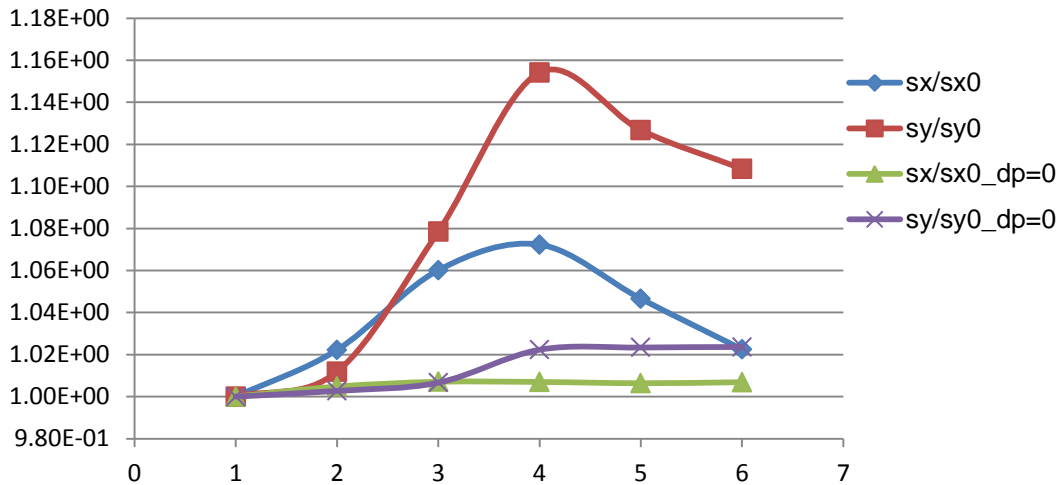
$$\sigma_x^5 = 7.73e-07$$

$$\sigma_y^5 = 8.63e-09$$

$$\sigma_x^6 = 7.72e-07$$

$$\sigma_y^6 = 8.58e-09$$

Even better



Plans

- To finish 250 GeV CoM lattice
v.351LD0_135D1B
- Started optimisation for 450D0_205D1B

5th order

