

# Update on ILC BDS Tuning Studies

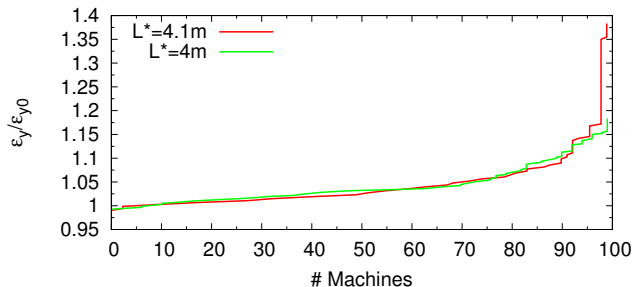
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## Tuning Comparison

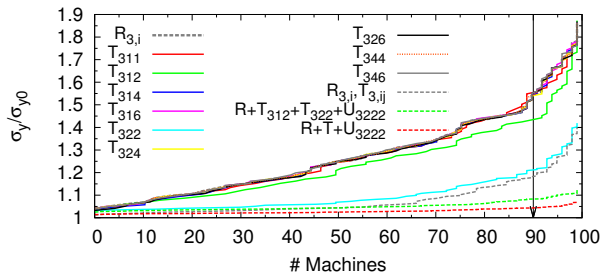
New design of the FFS has been obtained with QD0 and QF1 4.1 m and 9.1 m upstream IP, respectively



No significant difference is observed with respect to previous design with QD0 and QF1 at 4m and 9.5m upstream IP, respectively

## High Order Correlations

most dominant aberrations are  $\langle p_x, y \rangle$ ,  $T_{312}$ ,  $T_{322}$  and  $U_{3222}$

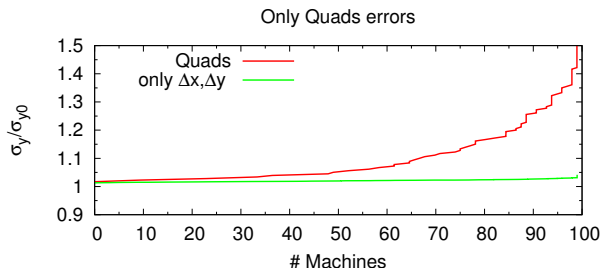


Comparable to previous studies

## Who introduces $U_{3222}$ ?

Investigation of sources that introduce  $U_{3222}$ -like correlations is ongoing

Assuming no sextupole and no octupole errors (alignment, strength)



Candidates remaining are tilt error on quadrupoles or strength error on quadrupoles

## Outlook

- continuing study of sources of correlation  $U_{3222}$
- construct  $U_{3222}$  knob by using alternative variables