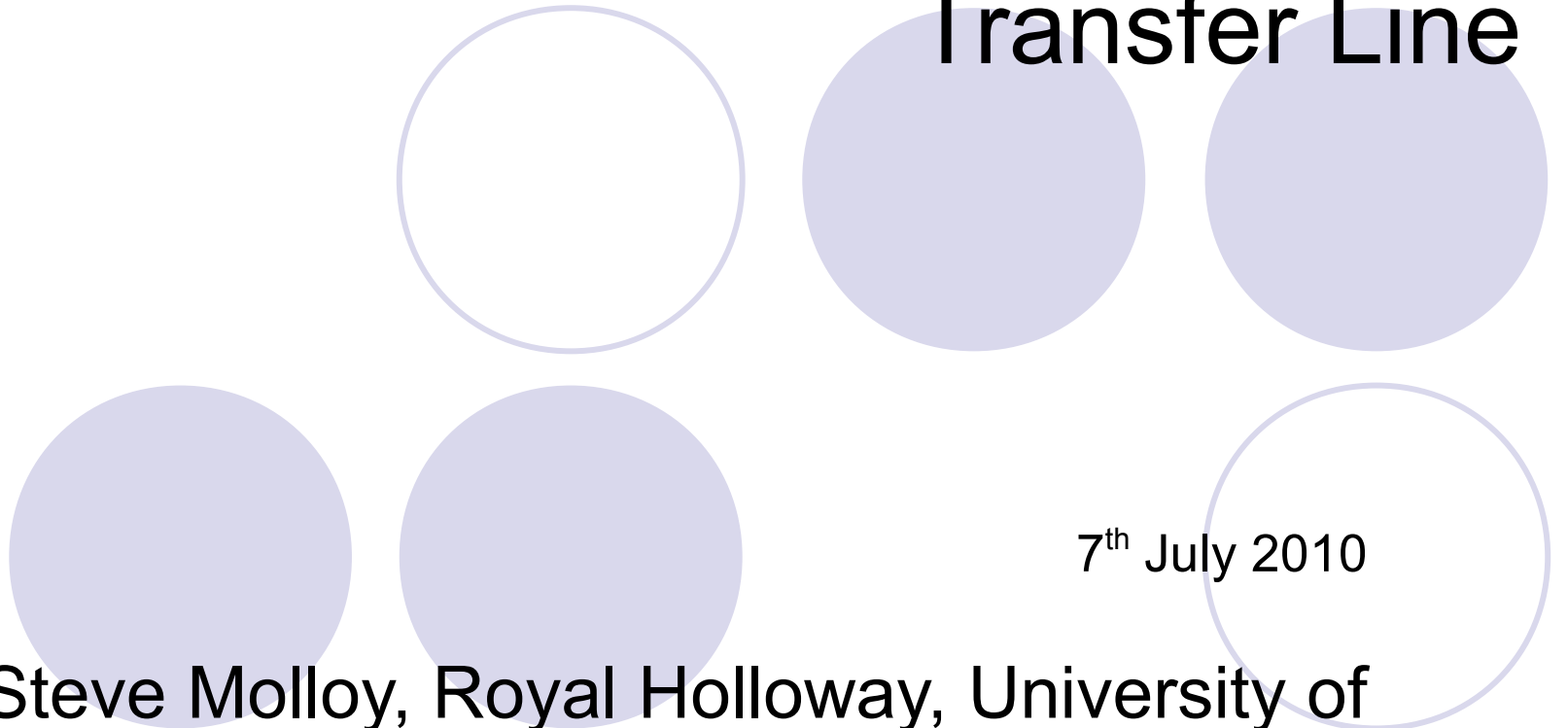


Static Misalignment in CLIC RTML Transfer Line



7th July 2010

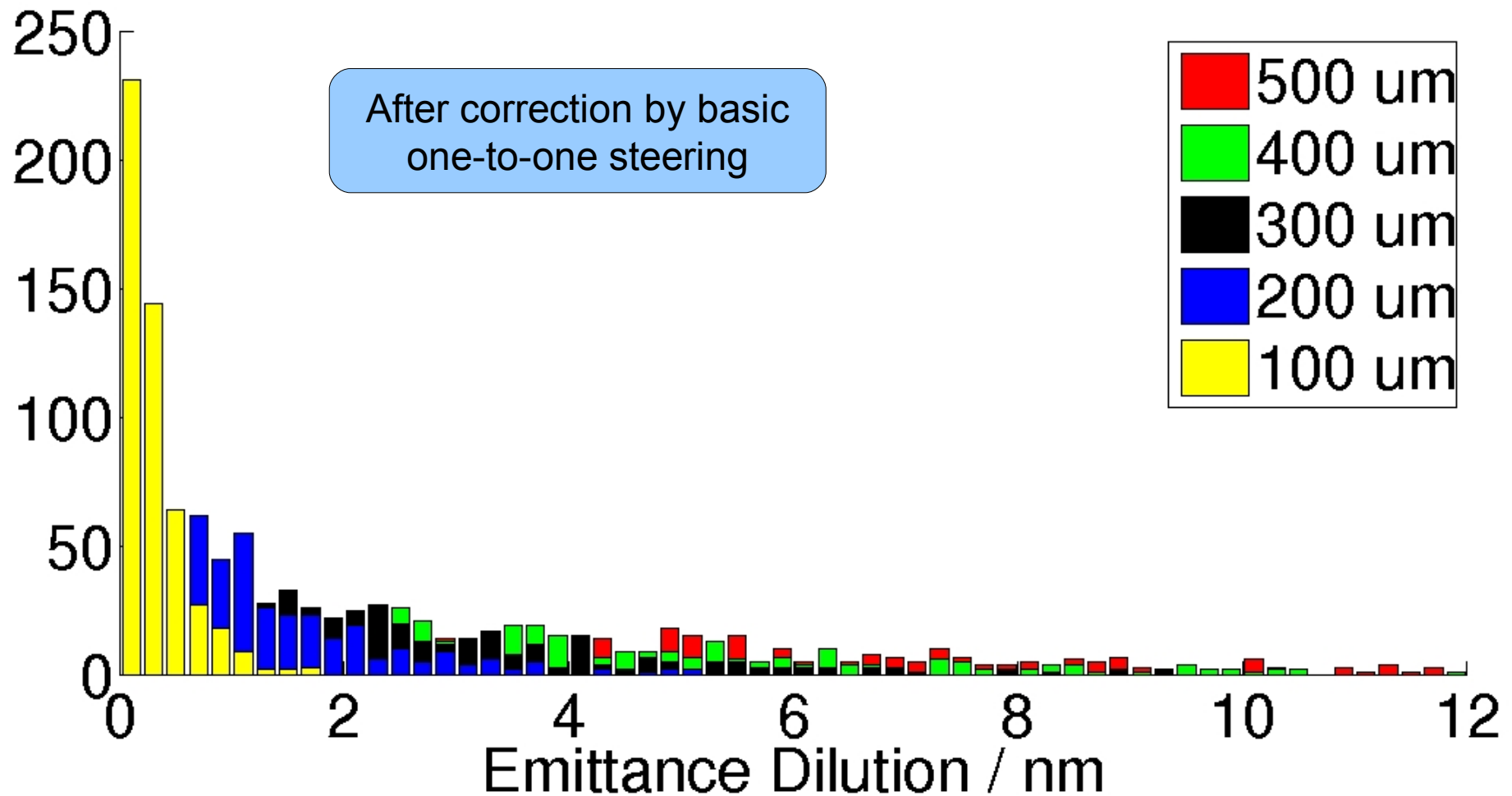
Steve Molloy, Royal Holloway, University of
London

Misalignment Studies

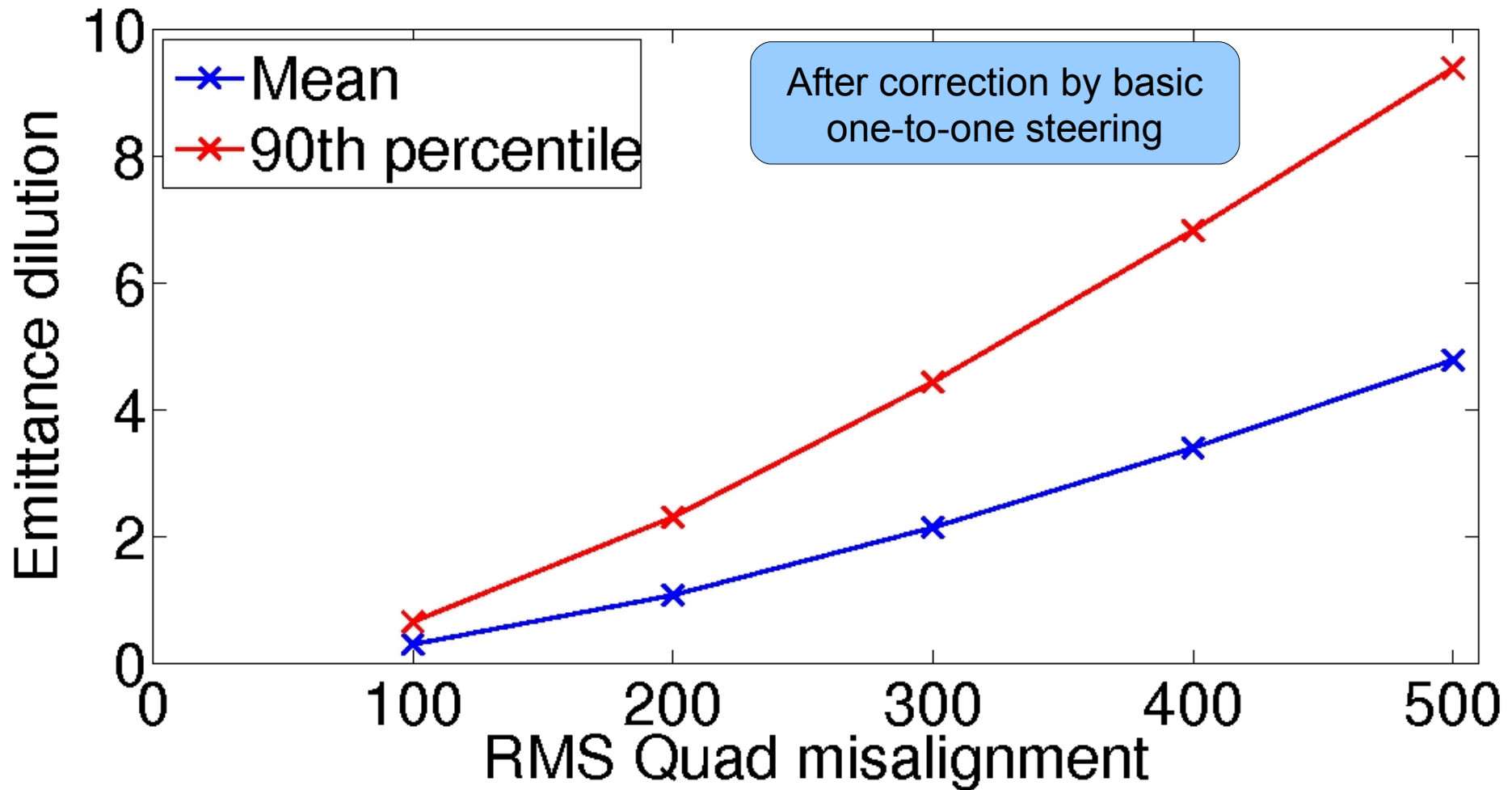
- Lattice → “Baseline_3TeV_2010-03_v1”
 - Turnaround loop not simulated due to design errors
 - Long transfer line may be problematic
 - Due to its length
 - Therefore, only simulated this region
- Simulations performed in Lucretia
 - Lattice supplied in Elegant format :(
 - Convert Elegant to XSIF
 - Custom written Python routine
 - Automagically change element & parameter definitions
 - RPN→Infix, line length, tabs,
 - Am happy to supply this to others!



Dilution over transfer line due to quad misalignments (x, y, z)



Dilution over transfer line due to quad misalignments (x, y, z)



Future work (for CDR & beyond)

- Completion of study of static errors
 - Determination of tolerances for all magnetic & RF elements
 - Testing of various algorithms
 - 1-to1, DFS, kick minimisation, etc.
 - Provide a limit on the pulse-to-pulse misalignment (due to GM)
- Begin study of dynamic errors
 - GM, beam jitter, power supply jitter, etc.
 - Feedbacks

