# Progress in Luminosity Performance Studies

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- Systematic review of dispersion free steering for CLIC
  - Modifying gradient, RF phase and different particle types
- Systematic simulation of ILC main linac alignment
  - Different options of generation of energy difference
  - Inclusion of realistic prealignment (LICAS)
- Alternative implementation of linac feedback
  - Allows integration into tuning studies
  - Updated growth rates should be published
- Luminosity tuning bumps using wakefields in CLIC linac
  - Full simulations of linac, simplified BDS and beam-beam
  - Five bumps give better performance than ten did before
  - 3% noise leads to 3% luminosity loss
- Laser wire emulating luminosity
  - Good performance, laser wire size not critical, need to re-adjust beam wire once in a while only, to be followed by looking at moving machines
- Emittance tuning bumps using dispersion and wakefields for ILC
  - Reduces unacceptable emittance growth after dispersion free steering to acceptable level
  - Start of sensitivity study
  - More vulnerable to noise
- Started optimisation of beams at collision point
  - Beamstrahlung seems to be a good luminosity signal