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Beam-beam effects in presence of errors: results and strategies for optics tuning

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Xsuite enables detailed beam dynamics simulations including full lattice descriptions, synchrotron radiation, lattice errors, corrections and beam-beam effects. In this work we explore the interplay by these effects by systematically combining individual effects to produce and understand comprehensive simulations and complex behaviour. We also explore different dynamic indicators including emittance, luminosity, dynamic aperture, momentum acceptance and life times under these conditions and their correlations.

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