Optics Measurements, Corrections and Modeling for High-Performance Storage Rings



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Experience with low emittance tuning tool for SuperB, Diamond, SLS, and Dafne

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The Low Emittance Tuning (LET) algorithm, developed for the SuperB project, allows to obtain low emittance, correcting simultaneously orbit, dispersion, coupling and beta-beating using correctors and skew quadrupoles. The technique determines an orbit that takes advantage of the passage off axis in sextupoles and quadrupoles lowering emittance of a factor almost ten (in simulations for SuperB) respect to Dispersion Free Steering. BPM tilts are also estimated from the measurements and considered for correction. The technique has been tested at Diamond and at SLS, and is currently under test at Daphne. Preliminary results are presented in this talk

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