

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



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Refined techniques for phase measurements

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Extracting the phase from signals in beam position monitors is a common operation in accelerator facilities and can be used to reconstruct many optics parameters as well as the impedance distribution in the machine. The main limit in these operations is set by the accuracy of the phase measurement. On this topic we will present a recently developed algorithm, named all-phase FFT (apFFT), which allows reaching better accuracies in the case of simulations or measurements for which the noise level is low. Comparisons with typical FFT and SUSSIX will also be presented as well as an application to the localization of transverse beam coupling impedance sources.

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