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Emittance blow-up with a magnetic shaker at different chromaticities

Tuesday, 21 May 2024 16:00 (2 hours)

The ESRF-EBS storage ring is operated with constant vertical emittance at 10 pm. The emittance blow-up is obtained with a magnetic shaker exciting the beam with a noise in a range of frequencies including the betatron tunes. The amplitude of the shaker is tuned by a feedback depending on the measured emittance. The coherent oscillations given to the beam by the shaker at each turn become incoherent thanks to the chromaticity and the amplitude detuning. Simulations and measurements have been performed to assess the efficiency of the emittance blow-up as a function of the chromaticities.

Footnotes

Funding Agency

Paper preparation format

LaTeX

Region represented

Europe

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