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Coupled bunch stability with variable filling patterns in PETRA IV

Wednesday, 10 May 2023 16:30 (2 hours)

The PETRA IV upgrade project is aiming at building a 6 GeV diffraction-limited light source. The storage ring's off-axis accumulation injection scheme will allow generating a wide range of filling patterns for the needs of photon science users. To preserve high beam quality and low transverse emittances it is imperative to ensure beam stability against collective effects. In this paper we investigate the impact of different filling patterns on the coupled-bunch stability in the ring using a semi-analytical Vlasov solver.

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Footnotes

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