

eeFACT 2025 - 70th ICFA Advanced Beam Dynamics Workshop on High Luminosity Circular e+e-Colliders



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Impedance budget and single-bunch collective instability simulations for SuperKEKB low energy ring with a nonlinear collimation system after a first long shutdown

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A nonlinear collimation system (NLC) was introduced into the SuperKEKB low energy ring (LER), a 4 GeV positron ring, during the first long shutdown (LS1) to reduce the impedance in the vertical direction. We built the impedance model of the LER after LS1 and simulated the tune shift as a function of the bunch current and the single-bunch collective instability for this model using PyHEADTAIL. We report the impedance budget and the results of the simulations with comparison to the tune shift measurements.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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