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A numerical study on injection efficiency improvement at SuperKEKB electron ring

Monday 2 June 2025 16:00 (2 hours)

SuperKEKB is an asymmetric lepton collider with 7-GeV electron and 4-GeV positron beams. The current vertical beta function (βy) at the collision point is set to 1 mm. Experimental results confirm that reducing βy leads to narrower dynamic apertures in both the horizontal and vertical directions, which in turn decreases the beam injection efficiency. This study presents a numerical investigation aimed at improving injection efficiency to achieve higher beam luminosity.

Footnotes

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Region represented

Asia

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