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Study on beam injection and ramping efficiency for Korea-4GSR booster

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The Korea fourth-generation storage ring (Korea-4GSR) project was launched in 2021 to generate high-brightness photon beams as a diffraction-limited light source. The 200 MeV beam is injected into the booster synchrotron. The beam parameters and transmission efficiency fluctuate with initial beam conditions such as beam Twiss parameters and centroid offsets during the injection and energy ramping process. Therefore, the study on the initial conditions of the incident beam to the booster synchrotron needs to be carried out to gain high beam quality and efficiency. This paper presents the energy ramping results of the beams injected into the booster synchrotron with various initial beam conditions.

Footnotes

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Asia

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