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## Beam injection issues at SuperKEKB

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A high-charge, low-emittance injection beam is essential for SuperKEKB. For its both rings, HER and LER, the injection efficiencies and detector backgrounds have not been good enough up to the recent run. There are many reasons for the issues. For example, serious emittance growths are observed through the beam transport lines between the injector linac and both rings. It is considered that some parts of them are due to coherent synchrotron radiation as the observed horizontal emittance blowups depend on the bunch charge. Especially for the HER injection, physical aperture around the injection point and ring dynamic aperture also contribute, as both are narrower than the design.

In this paper, we discuss the injection issues up to 2022 operation and outlook for the future to maximum collision currents.

### Funding Agency

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

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