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Overview of ESRF-EBS's four-year operation and strategy for further upgrade

Monday 2 June 2025 16:00 (2 hours)

The user operation of the Extremely Brilliant Source (EBS) since August 2020 has opened a new era of high energy fourth generation synchrotron radiation light sources. During the following four years of operation, the EBS accelerator has sustained user operation with high availability, reliability, and stability, and has continued to improve beam performance by reducing injection perturbations, increasing bunch/beam currents for different beam delivery modes, and consolidating the storage ring operation with a hot-swap power supply system, newly designed kicker ceramic chambers, etc. Sustainability has always been key to EBS operation and future upgrades. During user operation, measures on the RF system of the storage ring and HQPS operation have been implemented to save power consumption; in the near future, solid-state amplifiers and 4th harmonic RF system projects will ensure the sustainability of machine operation further. In addition, as a strategy for future upgrades of the EBS accelerator complex, injector upgrades are being considered, including the injection with a new linac, which can be further upgraded to inject full-energy beam into the storage ring.

Footnotes

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