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Operation of SSRF and Reliability based on the Feedback System

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SSRF is a 3rd generation 3.5 GeV light source. It became fully operational for users in 2009 and is presently celebrating its 10 years operation in 2019. From the former seven beamline, SSRF has fifteen beamlines and nineteen experiment stations in 2019. Ten Insert Devices (IDs) had been installed in the Shanghai Synchrotron Radiation Facility (SSRF) storage ring. The ID gaps were repeatedly adjusted for the scientific experiments during the user time. The residual quadrupole errors beyond the ID feedforward disturbed the beam optics, which include the betatron tune deviates that will spoil machine performance and brightness stability. To resolve the deterioration, a feedback system including SOFB, FOFB, ID Feedforward and Tune Feedback system has been developed and implemented in SSRF. The report will give a brief introduction of the operation of SSRF and the Feedback System using in the SSRF.

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