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Error analysis and commissioning simulations for the SSRF-U lattice

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SSRF-U, a 3.0 GeV diffraction limited storage ring lattice with emittance of 53.2 pm-rad, is an alternative to SSRF for future upgrades. A large number of high-field intensity and multi-function magnets are used in this compact lattice, which greatly increases the error sensitivity to the beam. To quickly complete beam commissioning and achieve stable operation in the future, error analysis and commissioning simulations were studied during the design phase. In this paper, we present commissioning simulations for the SSRF-U and analyze the lattice error acceptance depending on the simulation results at each stage.

Footnotes

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