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## Impact of insertion devices on SSRF-U lattice

*Thursday, 23 May 2024 16:00 (2 hours)*

The Shanghai Synchrotron Radiation Facility upgrade (SSRF-U) lattice is a 4th generation, 3 GeV, upgrade plan for SSRF. It aims to reach the diffraction limit while keeping the existing beam lines and spaces. The majority of insertion devices (IDs) in operation of current SSRF will be considered as the ID scheme in SSRF-U. The kick-map method has been used to build ID models, including the EPU and SCW. Optical distortion caused by IDs was compensated using both local and global corrections. Then, frequency map analysis (FMA) method was used to identify potentially dangerous resonance lines. After considering high-order magnetic field errors, the dynamic aperture, energy acceptance, and Touschek lifetime were examined.

### Footnotes

### Funding Agency

### Paper preparation format

Word

### Region represented

Asia

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