Contribution ID: **376** Contribution code: **MOP066** Type: **Poster Presentation**

Online multi-objective Bayesian optimization of injection efficiency and beam lifetime with skew quadrupoles at NSLS-II

Monday 11 August 2025 16:00 (2 hours)

At NSLS-II, the vertical emittance of electron beam is typically blown up to ˜30 pm with a coupling wave to increase beam lifetime during user operation. As more and more insertion devices are added to the storage ring, injection efficiency to the ring drops noticeably in certain machine states, apparently due to degraded dynamic apertures. To help alleviate this issue, we have recently performed online multi-objective Bayesian optimization to increase injection efficiency while maintaining beam lifetime, by adjusting the strengths of 15 skew quadrupoles in non-dispersive sections. We report the results of this optimization effort.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

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I have read and accept the Privacy Policy Statement

Yes

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