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Beam loading simulations in PyAT for the ESRF

Wednesday, 10 May 2023 16:30 (2 hours)

The Extremely Brilliant Source (EBS) at the European Synchrotron Radiation Facility (ESRF) is a 4th generation light source operating with a horizontal emittance of 135 pm. This low horizontal emittance reduces the lifetime in filling modes with high current per bunch. This will be alleviated in the future with an active 4th harmonic cavity. In order to simulate the effect of the 4th harmonic cavity on the EBS performance, beam loading needed to be added included to PyAT (Python –Accelerator Toolbox). Here, we introduce the beam loading model and show the benchmarking simulations with theory and other simulation codes.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

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