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Implementation of MENT algorithm for transverse phase space reconstruction at SIRIUS

Thursday 5 June 2025 15:30 (2 hours)

SIRIUS is the Brazilian 4th-generation synchrotron light source. In order to keep its top-up operation mode, diagnostic techniques that access beam quality in the injector system are essential for its optimization. In this work, the MENT algorithm was implemented for the reconstruction of two-dimensional probability densities, aiming to determine the electron density in the transverse phase space at the end of the LINAC. The implemented method has been validated through simulations of several distributions, demonstrating its reliability, and applied to analyse preliminary experimental results.

Footnotes

Paper preparation format

LaTeX

Region represented

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