Contribution ID: **1889** Contribution code: **WEPS119** Type: **Poster Presentation**

Improvements in tracking with non-nominal RF frequency in Trackcpp

Wednesday 4 June 2025 16:00 (2 hours)

Trackcpp is the primary tool for simulations and studies of the SIRIUS accelerators at the Brazilian Synchrotron Light Laboratory. The application implements single-particle tracking routines with pass methods based on Tracy3 and Matlab Accelerator Toolbox. A limitation was identified in the treatment of the path length variable, as the existing implementation did not fully account for its dependence on non-nominal RF frequencies. This work addresses this limitation by modifying the path length variable. The modification, its implementation in Trackcpp and the validation of results through tracking simulations are presented.

Footnotes

Paper preparation format

LaTeX

Region represented

America

Funding Agency

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Session Classification: Wednesday Poster Session

Track Classification: MC5: Beam Dynamics and EM Fields: MC5.D11 Code Developments and Simulation Techniques