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Phase space tomography with SciBmad tracking

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This paper presents the application of SciBmad tracking, a component of the SciBmad software ecosystem for differentiable accelerator physics simulations in Julia. The study demonstrates the use of phase space tomography to reconstruct the phase space distribution of a particle beam given the two-dimensional projections of its phase space distribution. Using the SciBmad tracking interface, the phase space distribution of the beam before transport through a set of beam optics can be constructed from the beam's projections after transport. This result showcases the utility of SciBmad and highlights its potential for study and optimizing injection, transport, and acceleration of beams.

Footnotes

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