Contribution ID: **439** Contribution code: **TUP040** Type: **Poster Presentation**

Explicit symplectic representations of nonlinear dipole fringe field maps

Tuesday 12 August 2025 16:00 (2 hours)

The representation of beam transport through magnetic dipole fringe fields using effective "thin" maps has a long history. More recent work has extended the second-order Taylor model of Brown by providing Lie generators for symplectic maps that capture effects at higher order, expressed in terms of field integrals. These maps can be cumbersome to evaluate in an explicit symplectic form appropriate for particle tracking codes, and existing approaches often require additional approximations. We show how such maps can be recovered in a simple, explicit form as rational symplectic functions using a mixed-variable generating function approach.

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

No

Footnotes

Funding Agency

This work was was supported by the Director, Office of Science, Office of High Energy Physics, of the U.S. Department of Energy under Contract No. DE-AC02-05CH11231.

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Session Classification: TUP: Tuesday Poster Session

Track Classification: MC5 –Beam Dynamics and EM Fields