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Bayesian methods and differentiable models for optics studies at the ISOLDE facility

Monday 2 June 2025 16:00 (2 hours)

The Isotope mass Separator On-Line facility (ISOLDE) delivers a wide range of low-energy radioactive ion beams to its experimental users. To meet varying demands, the facility uses different target materials, ionization methods, and cooling/bunching techniques, with beam configurations potentially changing weekly. To model particle transport through the transfer lines, it is essential to reconstruct the beam's initial transverse phase space for each setup, achieved via quadrupole scan measurements. This work explores the application of Bayesian techniques and differentiable models to reduce the time required to perform the beam setup.

Footnotes

Paper preparation format

LaTeX

Region represented

Europe

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