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Maximum entropy phase space tomography under nonlinear beam transport

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Obtaining the complete distribution of a beam in high-dimensional phase space is crucial for predicting and controlling beam evolution. Previous studies on tomographic phase space reconstruction often required linear beam optics in the relevant transport section. In this paper, we show that the method of maximum entropy tomography can be generalized to incorporate nonlinear transformations, thereby widening its scope to the case of nonlinear beam transport. The improved method is verified using simulation results and potential applications are discussed.

Footnotes

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