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SIMULATION OF INTEGRATED BEAM EXPERIMENT DESIGNS*

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Abstract

Simulations of designs of an Integrated Beam Experiment (IBX) class accelerator have been carried out. These simulations are an important tool for validating such designs. Issues such as envelope mismatch and emittance growth can be examined in a self-consistent manner, including the details of injection, accelerator transitions, long-term transport, and longitudinal compression. The simulations are three-dimensional and time-dependent, and begin at the source. They continue up through the end of the acceleration region, at which point the data is passed on to a separate simulation of the drift compression. Results are presented.

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