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Progress & developments of Beam Delivery Simulation (BDSIM)

Wednesday, 22 May 2024 16:00 (2 hours)

Beam Delivery Simulation (BDSIM), is a C++ program that seamlessly models particle beam transport within an accelerator model that can encompass the beam line, the accelerator's environment, and any accompanying detectors. Based on a suite of high-energy physics software including Geant4, CLHEP, and ROOT, BDSIM transforms the optical design of an accelerator into a detailed 3D model. This facilitates the simulation of particle interactions with matter and the subsequent production of secondary particles. Widely utilized across diverse accelerators worldwide, BDSIM is ideal for simulating energy deposition and assessing charged particle backgrounds. Here, the latest BDSIM developments are shown, including python bindings & interfacing with external tracking tools such as Xsuite.

Footnotes

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