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Energy selection of synchrotron booster for SLRI beam test facility

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The SLRI Beam Test Facility (SLRI-BTF) is able to produce electron test beam with maximum energy of 1.2 GeV and various intensities from a few to millions of electrons per repetition. The main components of the SLRI-BTF are the Siam Photon Source (SPS) injector consisting of a 40-MeV linear accelerator, a low-energy transport beamline, a synchrotron booster increasing electron energy to 1.2 GeV, and a high-energy transport beamline. As the SLRI-BTF has successfully utilized the electron test beam to characterize pixel sensors for high-energy particle detectors and to perform high-energy electron irradiation, the test beam with lower energy ranges has also been requested by users. In this work, the test beam with lower energy can be obtained by changing the acceleration pattern of the SPS booster and adjusting high-energy transport beamline to match the extracted beam energy. Production of test beam with lower energy can be confirmed by test beam measurement at the SLRI-BTF experimental station.

Footnotes

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