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Fast greens experiment program status at FERMI IOTA/FAST facility

Tuesday 3 June 2025 16:00 (2 hours)

In this paper we will report on the recent progress made on FAST-GREENS experiment program at IOTA/FAST facility at Fermilab. FAST-GREENS experiment will take advantage of the superconduct LINAC in IOTA/FAST facility. A 4 m-long strongly tapered helical undulator with a seeded prebuncher is used in the high gain TESSA regime to convert a significant fraction (up to 10 %) of energy from the 240 MeV electron beam from the FAST linac to coherent 515 nm radiation. We will report the progress of the preparation for this experiment, which includes the preparation work for the beamline, the preparation work for laser development and characterization work, and the design and installation of the laser transport system. We will also discuss the future timeline for the program.

Footnotes

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