

FLUTE, A COMPACT VERSATILE LINAC-BASED SOURCE FOR COHERENT ULTRA-SHORT THz PULSES

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ABSTRACT

FLUTE (Ferninfrarot Linac- Und Test-Experiment), a new linac-based test facility, is currently under construction at the Karlsruhe Institute of Technology (KIT) [1]. With a repetition rate of up to 10 Hz, electron bunches with charges from 1 pC to 3 nC will be accelerated up to 41 MeV and then compressed longitudinally in a magnetic chicane to generate intense coherent THz radiation. FLUTE's primary goals are to serve as a platform for a variety of accelerator studies as well as to generate strong ultra-short THz pulses for photon science. In this contribution, we focus on the layout of the accelerator, its RF components, commissioning progress of its 7 MeV section, operation parameters and results.

References

[1] M.J. NASSE et al., IPAC 2019, MOPTS018; ISBN:978-3-95450-208-0.