



Contribution ID: **2216** Contribution code: **THPA079**

Type: **Poster Presentation**

## Characterization and optimization of laser-generated THz beam for THz based streaking

*Thursday, 11 May 2023 16:30 (2 hours)*

At the Ferninfrarot Linac- und Test-Experiment (FLUTE) at the Karlsruhe Institute of Technology (KIT) a new and compact method for longitudinal diagnostics of ultrashort electron bunches is being developed. For this technique, which is based on THz streaking, strong electromagnetic pulses with frequencies around 240 GHz are required. Therefore, a setup for laser-generated THz radiation using tilted-pulse-front pumping in lithium niobate was designed, delivering up to 1  $\mu\text{J}$  of THz pulse energy with a conversion efficiency of up to 0.03 %. In this contribution we study the optimization of the THz beam transport and environment.

### Funding Agency

### Footnotes

M. N. acknowledges the support by the DFG-funded Doctoral School "Karlsruhe School of Elementary and Astroparticle Physics: Science and Technology" (KSETA) and funding by the BMBF ErUM-Pro project Compact TDS (FKZ 05K22VK3).

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Yes

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**Session Classification:** Thursday Poster Session

**Track Classification:** MC6: Beam Instrumentation, Controls, Feedback and Operational Aspects: MC6.T25: Lasers