



Contribution ID: 2082 Contribution code: MOPM108

Type: **Poster Presentation**

A THz superconducting undulator for flute - Design parameters and layout

Monday, 8 May 2023 16:30 (2 hours)

The far-infrared linac and test experiment (FLUTE) serves as an accelerator test facility for a variety of accelerator physics studies. FLUTE is foreseen to provide coherent radiation in ultra-short, very intense light pulses in the terahertz (THz) and far-infrared spectral range. A superconducting undulator in the accelerator structure after bunch compression offers the possibility to generate high-energy, pulsed radiation between 4 THz and 12 THz corresponding to photon energies between 16.5 meV and 50 meV. This energy range, for instance, is of high interest for interaction and reaction studies of liquids, especially in water, and thus for materials and medical research.

In this contribution we describe the specific design parameters and the general layout of the THz superconducting undulator to reach the envisioned scientific goals.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary author: GRAU, Andreas (Karlsruhe Institute of Technology)

Co-authors: ARNSBERG, Jonas (Karlsruhe Institute of Technology); GLAMANN, Nicole (Karlsruhe Institute of Technology); GROHMANN, Steffen (Karlsruhe Institute of Technology); KRASCH, Bennet (Karlsruhe Institute of Technology); HOBL, Achim (Bilfinger Noell GmbH); SAEZ DE JAUREGUI, David (Karlsruhe Institute of Technology); WU, Hong (Bilfinger Noell GmbH)

Presenter: GRAU, Andreas (Karlsruhe Institute of Technology)

Session Classification: Monday Poster Session

Track Classification: MC2: Photon Sources and Electron Accelerators: MC2.T15: Undulators and Wigglers