Experimental Optimization and Characterization of Electron Beams for Generating IR/THz SASE FEL Radiation with PITZ.

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HELMHOLTZ ASSOCIATION

PITZ Photo Injector Test Facility Zeuthen

DESY

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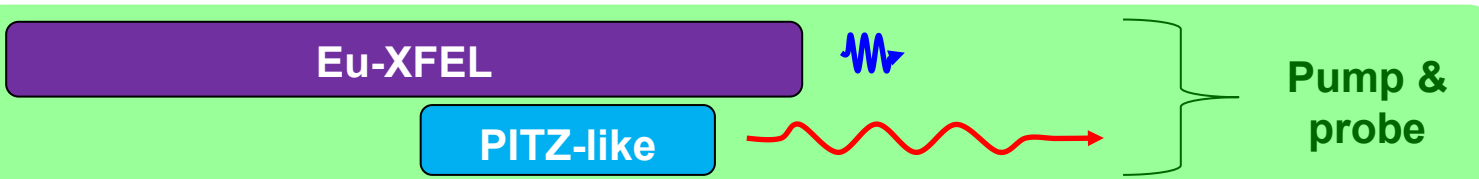
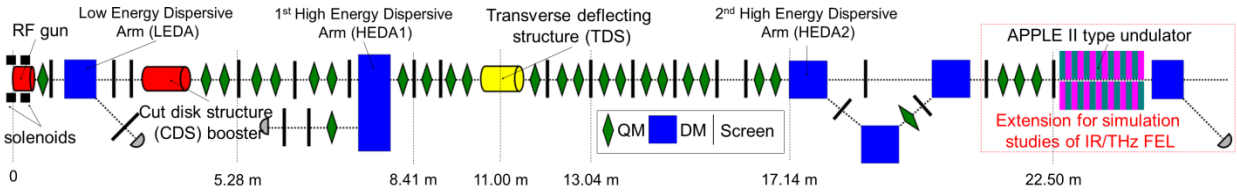


E.A. Schneidmiller, M.V. Yurkov, (DESY, Hamburg), M. Krasilnikov, F. Stephan, (DESY, Zeuthen), "Tunabale IR/THz source for pump probe experiments at the European XFEL, Contribution to FEL 2012, Nara, Japan, August 2012

PITZ can serve as a prototype for the IR/THz source development

One of the interesting options is a SASE FEL with PITZ electron beams



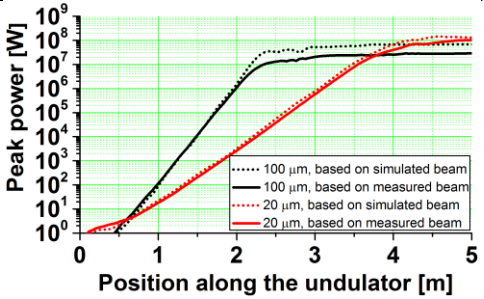
Optimization and characterization of electron beams for the SASE FEL

Q~4 nC | **σ_z~2 mm** | **P_z~ 15,22 MeV/c**

- Transverse projected emittance
- Slice emittance
- Bunch profile
- Slice momentum spread

Input for

The SASE FEL calculations based on the measured e-beam parameters using the GENESIS 1.3 code



See you at the poster!