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REGAE Beamline Upgrade

Monday, September 16, 2019 7:00 PM (1 hour)

The Relativistic Electron Gun for Atomic Exploration (REGAE) is a small accelerator located at DESY in Hamburg. The machine was designed and built to provide ultra-short electron bunches on the order of 10 fs, used as probe pulses for time-resolved electron diffraction experiments. Recently, REGAE has been upgraded and connected to the ANGUS high-power laser system. With this new configuration, additional experiments can be carried out at the accelerator. In particular, the setup now allows for external injection of electron bunches provided by REGAE into laser-driven plasma wakefields, driven by the ANGUS laser system. Also, due to new and improved diagnostics, studies of the longitudinal beam dynamics of the bunches created by the REGAE gun can be performed, aiming for an improved bunch compression.

An overview of the upgrade and the new capabilities of the machine will be given.

Primary author: ZEITLER, Benno (CFEL and University of Hamburg)

Presenter: ZEITLER, Benno (CFEL and University of Hamburg)

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Track Classification: WG4 - Application of compact and high-gradient accelerators