



11th April, 2016 - 11:00

CFEL-bldg. 99, seminar room III (EG.080)

Sergey Rykovanov

GSI Helmholtzzentrum für Schwerionenforschung, Darmstadt

Towards table-top Inverse Compton Scattering Sources

Narrow bandwidth, high energy photon sources can be generated by Inverse Compton Scattering (ICS) of laser light from energetic electrons, and detailed control of the interaction is needed to produce high quality sources.

Analytic and numerical calculations of the energy-angular spectra and photon yield that parametrise the influences of the electron and laser beam parameters to allow source design are presented. Nonlinear ICS and methods to decrease the induced bandwidth growth using laser pulse chirping will be discussed. It will be shown that using Laser Plasma Accelerators and high-intensity interaction is a promising way towards “table-top” narrow-bandwidth photon sources.