Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday, December 12, 2006

(16:00 in Room 459/30b)

Terahertz Flashes at BESSY

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Abstract

Coherent sub–THz and THz pulses emitted by short bunches and by a sub–ps laser–induced density modulation on the bunch are experimentally observed at the BESSY II storage ring.

The pulses are characterized with respect to their temporal, spectral and polarization properties at the dedicated THz beamline at BESSY. It is demonstrated, how THz pulses are used to obtain diagnostic information about the bunch and its stability, as well as the transverse overlap, timing and energy modulation within the laser-electron interaction scheme needed for generation of fs X–rays (femtoslicing). Recent poof–of–principle pump–probe experiments using a cross–correlation between THz pulses and the seed laser will be reported.

D.P.Barber (MPY), S.Khan (Univ. HH), J.Roßbach (Univ. HH) and M.Vogt (MPY).