Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday, February 12-th, 2008

(16:00 in Room 459/30b)

Laser Induced Energy Modulation for the Optical Replica Synthesizer Experiment at FLASH

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Abstract

In summer 2007, a new device for the measurement of the longitudinal electron bunch profile was installed at the free–electron laser FLASH at DESY. Its principle is based on the generation of a coherent light pulse (replica) that resembles the electron bunch shape. This replica can be analyzed with standard methods (frequency resolved optical gating) for short laser pulses. The commissioning and first measurements were done, verifying the laser–electron interaction. The principle of the optical replica synthesizer, the experimental setup in particular the laser transfer line as well as first results are presented.

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