Joint DESY and University of Hamburg Accelerator Physics Seminar

Wednesday, May 27-th, 2009

(15:00 in Room 200/24[1])

Investigations on the Electron Bunch Distribution in the Longitudinal Phase Space at a Laser Driven RF Electron Source for the European X–FEL
(PhD defense)

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Abstract

The Photoinjector Test facility at DESY, Zeuthen site, (PITZ) is aiming for the optimization of electron sources for FELs. For this it is necessary to investigate the characteristics of the six dimensional phase space of the bunch produced by a laser driven RF electron source.

The design of diagnostics systems for the analysis of the longitudinal phase space distribution within a momentum range from 5 to 40 MeV/c will be presented. Its subcomponents were analysed to understand sources of measurement uncertainties. Longitudinal beam properties and their dependence on different operation parameters, like RF launch phase, charge, accelerating field gradient and laser distribution have been measured and compared to simulations.

NOTE THE UNUSUAL DATE, TIME AND LOCATION

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

Visit our web site at `http://www-mpy.desy.de/AccPhySemDESY/index.html`

[1] new LINAC-II meeting room