# Joint DESY and University of Hamburg Accelerator Physics Seminar

## Tuesday May 25, 2004

### (16:00 in Room 459/30b)

## The CeB6 Electron Gun for the Soft X–ray FEL Project at SPring-8

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**Abstract**

A high–volatage pulsed electron gun has been constructed for the injector system of the soft X–ray FEL project at SPring-8 (SCSS project). A CeB6 single crystal was chosen as a thermionic cathode, because of its excellent emission properties. The gun voltage of −500 kV was chosen to reduce the emittance growth due to space charge. We have succeeded in generating a 500 keV beam with 1 A peak current and 3 $\mu$s FWHM. The beam was very stable with low jitter. The beam emittance has been measured by means of the double–slits method, and a normalized rms emittance of 1.1 $\pi$ mm mrad has been obtained. We will report on the experimental result on the emittance measurement of the CeB6 electron gun.

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