

RESULTS FROM THE FREE-ELECTRON LASER FLASH

S. Schreiber, DESY, Hamburg

Abstract

Since summer 2005 FLASH at DESY is a user facility providing laser like FEL radiation using the SASE principle in the VUV and soft X-ray range. In the last year, we have continuously extended the wavelength range and improved the overall performance of FLASH. The run time is organized in blocks of runs for user experiments alternating with machine study weeks to improve the beam quality. FLASH now covers the wavelength range between 13 and 45 nm. So far, we reached saturation at 13.7 and 32 nm. Also, to a certain extend flexible bunch pattern have been delivered to experiments, such as intra train repetition rates of 1 MHz, 250 kHz or 100 kHz with various numbers of bunches train. An upgrade in the energy reach to 1 GeV is scheduled early 2007. This will allow lasing down to 6 nm.

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