

Progress of the FELICITA I Free-Electron-Laser Experiment at DELTA*, D. NÖLLE, DELTA GROUP

- The Free-Electron-Laser experiment FELICITA I, set up at the DELTA storage ring, is designed for the wavelength regime ranging from 400 down to about 200 nm. With the flexible electromagnetic undulator FEL and optical klystron operation is possible. Beside of some preliminary experiments, started in parallel to the commissioning of DELTA [1], the commissioning of FELICITA I started in late 97. The start up wavelength was chosen to be 470 nm corresponding to an electron energy of 450 MeV. Up to now electron beam currents of 15-30 mA in single or 4 bunch operation have been stored with a bunch length below 100 ps (FWHM). Losses of the optical cavity as low as 0.5% per pass have already been demonstrated. This paper will report the actual results of the experiment, hopefully first lasing.

* This work was supported by the BMBF under contract 05 3PEAAI.

[1] D. Nölle et al., Status of the Dortmund Electron Test Accelerator Facility, this conference.