

The BESSY (and MLS) Low Alpha Optics and the Generation of Coherent Synchrotron Radiation

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The BESSY II optics is tuned to a low alpha optics for bunch shortening. This machine mode is offered 4 times per year for 3 days for users experiments. About 1mm short bunches emit coherent synchrotron radiation in the THz range and short x-ray pulses. Characteristics of the machine optics and measured THz signals are discussed. Limitations to produce ultra short bunches and a possible upgrading scheme for intense, short bunches are discussed.

The presently commissioned Metrology Light Source (MLS) next to the BESSY site includes the option for low alpha operation. Plans for the short bunch generation are presented.