

OVERVIEW ON ELECTRON BUNCH AND PHOTON BEAM DIAGNOSTIC TECHNIQUES FOR CW LINEAR ACCELERATORS USING THE EXAMPLE OF ELBE

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Abstract

For future light sources a continuous wave mode of operation enables perspectives for high precision time-resolved experiments. In order to ensure steady experimental conditions, various elements for electron bunch and photon beam diagnostics are used. Bunch Arrival Time Monitors (BAM), Bunch Compression Monitors (BCM), Electro-optical Sampling (EOS) and new types of THz-diagnostic are essential for the understanding of the machines behavior to generate stable secondary radiation. The detector readout benefits from the high repetition rate and allows data acquisition in frequency domain with enhanced sensitivity. The contribution will give an overview on CW Diagnostic elements at ELBE which are currently in commissioning state and first measurement results which have been carried out.

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