

## PIN-DIODE DIAGNOSTICS OF PULSED ELECTRON BEAM FOR HIGH REPETITION RATE MODE

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This work describes the operating principle and test results of diagnostics for measuring pulsed electron beam parameters under repetitive operation mode. The diagnostics is based on a PIN-diode, which is used as a bremsstrahlung detector. The signal from a PIN-diode was converted to a pseudo constant voltage signal which can be measured by a conventional voltmeter. Then the signal acquired by the voltmeter was compared with a reference signal indicating the normal operating regime of the accelerator, thus information about the shot-to-shot reproducibility of the electron beam parameters was given. The system was developed and tested for the ASTRA-M accelerator with the following operating parameters: 470 kV accelerating voltage, 120 ns beam duration and up to 50 pulses per second repetition rate.

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