

# Radiation from Relativistic Electrons in Periodic Structures "RREPS-23" & Electron, Positron, Neutron and X-ray Scattering under External Influences "Meghri-23"



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## Beam parameters measurement at Novosibirsk FEL facility

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Novosibirsk free electron laser (NovoFEL) facility operates with three FELs. The FELs are installed on one-, two- and four- track energy recovery linacs (ERLs) with a common accelerating system. The ERL type of accelerator allows to achieve high average electron current (ordinarily about 10 mA) and to get the high average FEL power generally more than 100 W). The new diagnostic system was developed to control and study the third FEL's radiation parameters. The new system acquires spontaneous undulator and laser radiation in the middle infrared area 8-14  $\mu\text{m}$ . The diagnostics is based on the simultaneous application of reflective double-slit interferometer and diffractive monochromator. Using this approach, we can measure spontaneous and laser radiation

parameters in time and spectral domain. Spectral data can be obtained directly using a monochromator and can be compared with the measured correlation function. The new station is also used for the laser radiation spatial characteristics measurements. The calculations and the first results obtained with the new diagnostics are presented. We also present the first results on measuring the beam length at the first FEL obtained using cherenkov radiator and streak-camera. The results and Further experiments are discussed.

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