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REFERENCE RADIATION GENERATION SYSTEM OF A MULTIPURPOSE RESEARCH COMPLEX *)

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High-power neodymium glass laser facilities with nanosecond pulse durations are currently the main tool in work on the interaction of high-power laser radiation with matter. Such facilities are usually built according to a multichannel scheme. At present, two modules of the facility (16 laser channels) have been put into operation, on which experiments on irradiation of various types of targets are carried out at the multipurpose research complex (MRC). Radiation with specified spatial, temporal, spectral and energy characteristics is set in the reference radiation generation system (RRGS) and injected into the input of the main amplifiers.

The paper presents the results of a study of the radiation parameters of key elements of the RRGS, such as: a master heterojunction laser, a booster fiber amplifier, a parametric amplifier, a pump laser for the parametric amplifier, a system for forming a spatial beam profile, and a polarization system for splitting radiation into four.

*) abstracts of this report in Russian