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## SYSTEM OF RESEARCH OF IMPACT AND NON-IMPACT COMPRESSIBILITY OF STRUCTURAL MATERIALS AT MULTIPURPOSE RESEARCH COMPLEX \*)

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Obtaining experimental data on compression and unloading of materials is important for verifying calculation models used in modeling various processes of high energy density physics.

To conduct studies of shock and ramp compressibility of structural materials, a stand was created at the multi-purpose research complex (MRC) using a scheme of indirect target irradiation and designed to measure the shock wave velocity with an error of less than 1%. The stand includes:

- a laser pulse source synchronized with the power radiation for illuminating the rear side of the target;

- an optical system for reconstructing the target image;

- a channel for recording the target's own luminescence;

- a vernier system consisting of two interferometric channels and designed to measure the frequency of radiation reflected from the target;

- a set of photochronographs with spatial and temporal resolution for recording the deformation parameters and shock wave velocity in target materials.

The work presents the structure of the stand and its main characteristics. A shock wave with the required space-time structure is obtained in the target material. The possibility of measuring the shock wave velocity with an error of less than 1% is substantiated.

<sup>\*)</sup> abstracts of this report in Russian