

Holographic method of recording parameters dispersed phase which accompanied high speed gas dynamic processes

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One of the current scientific tasks is to investigate parameters of cloud of particles which form as a result of the impact of a shock wave with a metal surface. The size of the particles is about several microns, and they move with the speed up to several kilometers per second. Investigated volume is about several dozen of cubic millimeter. It is necessary to determine size, concentration and dynamic of formation the cloud of particles. For this purpose, it is applying and develops method of digital holographic registration. To receive holographic images, it was customized our digital rotating mirror camera, so that we obtain sequence of holograms on digital full-frame sensor with high spatial resolution with frame rate 1 microsecond. It is presented description the method of registration, the experimental results and results of reconstruction and processing of holograms.