

Optical sensors for gas-dynamic experiments with laser-interferometry recording

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Laser-interferometry methods allow obtaining time-continuous velocities of moving surfaces under study. Laser-interferometry methods are based on the Doppler effect. In laser-interferometry measurements, a moving non-irradiating sample is exposed to a probing laser beam, and the radiation reflected from the sample surface is recorded. Optical sensors of various types are used for emitting and receiving probing radiation. Optical sensors addressed in this study are widely used in laser interferometry. Measurement assemblies based on these sensors enable multi-channel recording in plane, cylindrical, and spherical systems. At that, several independent laser-interferometry methods can be used in a single experiment. The report also describes various applications of the optical sensor and the results obtained.