

FEATURES OF INTERMODULATION EFFECTS
ON LIGHT DIFFRACTION BY TWO ACOUSTIC
WAVES IN SYSTEMS WITH HETERODYNE
DETECTING

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The influence of intermodulation effects differential-phase measurement results on heterodyne detecting in the dual-beam interferometer scheme which uses Bragg light diffraction by two acoustic waves for laser beam splitting is considered. Heterodyne detector signal response is theoretically and experimentally investigated when acousto-optic link is increasing. The dependence of the amplitude and phase of a detector output signal on the power of the acoustic field in an acousto-optic cell and the effect of correlation between the amplitudes of spectral components in the light diffraction spectrum on the accuracy of differential-phase measurements using such systems are determined.