

Refractive indices and correction coefficients for certain optically transparent media

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Nowadays laser interferometry is one of the main methods of recording fast processes. Laser-based interferometry complexes, available at RFNC-VNIITF, are based on optical heterodyning scheme (PDV) and operate at 1550 nm. Certain measurements involve the release of structure materials under investigation into various transparent window media. Here, it is important to consider the fact that the measured velocity of the sample-window interface (“apparent” velocity) will be different from the true velocity, which is due to the refractive index of the window medium. The given paper summarizes the research results on refractive indices and recalculation coefficients of such window materials as polymethylmethacrylate (PMMA), lithium fluoride (LiF), and periclase (MgO) for probing laser radiation wavelength of 1550 nm.