

Opto-Mechanical Characterization of Aspheric Lenses from the Hybrid Method

Authors : Aliouane Toufik, Hamdi Amine, Bouzid Djamel

Abstract : Aspheric optical components are an alternative to the use of conventional lenses in the implementation of imaging systems for the visible range. Spherical lenses are capable of producing aberrations. Therefore, they are not able to focus all the light into a single point. Instead, aspherical lenses correct aberrations and provide better resolution even with compact lenses incorporating a small number of lenses. Metrology of these components is very difficult especially when the resolution requirements increase and insufficient or complexity of conventional tools requires the development of specific approaches to characterization. This work is part of the problem existed because the objectives are the study and comparison of different methods used to measure surface rays hybrid aspherical lenses.

Keywords : manufacture of lenses, aspherical surface, precision molding, radius of curvature, roughness

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