
A Method for Testing Surface Deforms of Large Convex Mirrors

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Both ground and space telescopes are being built larger and larger. Accordingly, the secondary mirrors become larger which are convex mostly on the surface form. Testing convex mirrors becomes more difficult and delicate than testing concave mirrors in optics, because additional optical components are needed to make the reflected rays converge. Hindle type tests are frequently used for measuring the surface deforms of convex mirrors, which employs a meniscus lens to reverse the diverted rays from the mirrors. In case of testing large convex mirrors by using Hindle type tests, attention would be needed as larger meniscus lens is required. A method of modified Hindle test has been studied and the characteristics are analyzed. In this talk, current methods of testing convex mirrors are presented, and the new method is discussed.