Interferometer's optical system to control the shape of convex spherical surfaces of large-diameter on the base of concave spherical mirrors and Mangin mirror

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The new optical system of the laser interferometer proposed for non-contact testing the shape of large convex spherical surfaces without removing the faceplate from the machine. The wave front is formed objective lens. The objective lens consists of stationary spherical mirrors diameter of 1400 mm and six interchangeable Mangin's mirrors. The diameters of these mirrors in the range of from 20 to 150 mm. The wave aberration of the lens does not exceed 0.04 wavelength He-Ne laser in the path of the rays autocollimation. The reference wave front is formed by the reflection of the light beam from a concave spherical lenses surface each Mangin's mirrors.

Keywords: *interferometer, shop testing, optical surface shape, large-diameter convex spherical surface.*

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