

Measurement of light scattering depending on the radius of curvature of the aperture diaphragm edge

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Abstract

It has been shown experimentally that if the propagation of an incoherent light beam is limited by an opaque metal screen with a sharp edge, than the energy of the light scattered at the edge of the screen will be approximately two times higher than the energy of the light scattered on a convex smooth edge with a radius of curvature greater than 10-15 mm. Moreover, if the radius of curvature of the convex smooth edge of the screen is reduced by three times, then the energy of the scattered light falling in the shadow region behind the screen will increase approximately by 1.3 times.

Keywords: light scattering, aperture diaphragm, sharp edge, smooth edge, radius of curvature, screen.

Citation: Borodin AN, Malov AN, Chuprakov SA. Measurement of light scattering depending on the radius of curvature of the aperture diaphragm edge. Computer Optics 2005; 28: 87-88.

[Access full text \(in Russian\)](#)

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