

Influence by illumination distribution in the optical scattering spot on the measurement of the photoelectric coupling coefficient of a photodetector devices of second-generation

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The article is devoted to the study of the influence by illumination distribution in the scattering spot on the measurement of the photoelectric coupling coefficient of the second-generation photodetector devices. Theoretical studies were carried out by mathematical modeling means for illumination forms different in structure, as well as for various photodetector step ratios to the effective size of the photosensitive area. A formula is obtained for calculating the photoelectric coupling coefficient with a known photodetector sensitivity distribution. The main conditions that affect the reliability of the obtained simulated measurement process results are described. The established pattern should be considered in physical measurements.

Keywords: photodetector, parameters measurement, methods, photoelectric coupling, photoelectric coupling coefficient, irregularity sensitivity.

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