

APPROXIMATE
THEORY OF THE FORMATION
OF HOLOGRAMS IN (MONO)PHOTOFORMERS

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S u m m a r y

The photopolymer materials for holographic recording are analyzed, in which the image formation is based on the shrinkage effect of matter (modulation of the thickness of holograms or formation of micropores) under photopolymerization. The approximate theory of the record of holograms in such systems [(mono)photoformers] is advanced, where three first harmonics of a spatial distribution of components of the system are allowed. It is shown that the neglect by higher harmonics gives the average error of calculations at most 20%. The effect of a dynamic maximum of diffraction efficiency in photoformers with the shrinkage mechanism of the formation of holograms is discussed.