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Abstract

PUBLICATIONS

Coherent scattering properties of a cationic ring-opening volume holographic recording material

[Frantz, Jesse A.](#), [Kostuk, Raymond K.](#), Optical Science Ctr./Univ. of Arizona; [Waldman, David A.](#), Aprillis, Inc.

Publication: [Proc. SPIE Vol. 4296, p. 267-273, Practical Holography XV and Holographic Materials VII, Stephen A. Benton; Sylvia H. Stevenson; T. John Trout; Eds.](#)

Publication Date: 6/2001

Abstract:

Experimental results demonstrating the coherent scattering properties of a cationic ring-opening photopolymer are presented. The film is exposed continuously with a single beam at a single angle, and the transmission characteristics are measured as a function of exposure. A critical cumulative coherent exposure level is observed. At exposures above this level the presence of noise gratings is observed through a decrease in the transmittance of the photopolymer. The magnitude of the efficiency of these gratings differs depending upon the method used for preconditioning the photopolymer. Noise gratings are also measure in the case of angularly multiplexed exposures, and it is found that if the exposure fluence of each multiplexed recording is reduce to levels consistent with those used for recording data pages in this sensitive recording medium then no measurable noise gratings are formed.



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