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Fourier transform holographic storage

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Keywords

optical system, aberration, spotdiagram

Abstract

Holographic optical elements for Fourier transform (HOE-FT) used in the optical memory system are considered in this paper. The determination of the optimal page composer capacity allows for the appropriate choice of the diameter of HOE-FT as well as the size of a hologram recorded in the fotorefractive crystal $LiNbO_3$:Fe, with the help of two different wavelengths of the laser light beam. When the interfering field is recorded in the HOE-FT structures, properties of the recorded spectrum are established. The proper choice of the phase function coefficients allows aberration to be corrected on the basis of spotdiagrams obtained.

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