

Fourier transform digital holography

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Abstract

In this paper a Fourier transform digital holography experimental arrangement is presented. It is actually a hybrid arrangement, half digital half analog. The Fourier hologram was constructed using the analogous means of the so called lensless configuration. The hologram was recorded digitally by a camera with a large CCD array in stead of the recording medium. The recording of the image was analyzed with a computer and the original image was reconstructed by means of the discrete Fourier transform.

Keywords: digital holography, Fourier transform, interferometry