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Coherent Optical Information Processing Using a Stimulated Echo Hologram

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Abstract

© 2016, Springer Science+Business Media New York.We consider information recording and reconstruction using a reversed stimulated echo hologram, when the recording medium is exposed to pulses of nonresonant electromagnetic standing waves. We show that the spatial intensity distribution in the stimulated echo hologram response depends on the strength of the electric fields in the nonresonant standing waves, which makes it possible to control the reconstructed image.

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Keywords

echo hologram, information recording and reconstruction, nonresonant standing waves, transparency, wavefront