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Photorefractive holography for optical reconstruction of structured light

This work presents the photorefractive holography possibilities of the optical reconstruction of structures light. In PRH, the hologram of a non-diffracting beam is optically constructed ('recording') and reconstructed ('reading') in a nonlinear photorefractive medium. The experimental realizations of many types of the structured light, for instance: non-diffracting beams, vortex beams and othes structured light, are made in a photorefractive holography setup using a photorefractive crystal as the holographic recording medium. The results are in agreement with the theoretical predictions and are presenting excellent prospects for the implementation of this technique in dynamical systems with applications in optics and photonics.

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