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Title:Continuous-wave terahertz in-line digital holography
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Abstract:A terahertz (THz) in-line digital holography project has been proposed based on a COinf2/inf pumped 2.52 THz continuous-wave laser and a pyroelectric-array camera used as the detector. The THz Gabor in-line digital holograms have been obtained and then the high resolution reconstruction of THz in-line digital holography was realized. The resolution of an in-line digital holography system has been tested by the use of a series of objects. High-quality and high-resolution reconstructed images have been obtained, and the real lateral resolution is higher than 0.2 mm. It can be inferred from the results that the THz Gabor in-line digital holography system has the abilities of real-time and high-resolution imaging. © 2012 Optical Society of America.
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