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Title:Highly efficient broadband double-sided Fresnel lens for THz range
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Abstract:Modern passive THz setups require effective optical elements with a large numerical aperture. Here we propose a new type of the optical element for THz applications, which is a broadband double-sided Fresnel-like lens with an optimized thickness. The optimization is performed to obtain a very low attenuation, low material cost, and small weight in the element media. It also provides achromatic properties for the assumed wavelength range. The experimental evaluation of the proposed diffractive lens by means of time-domain spectroscopy is presented and discussed. © 2012 Optical Society of America.
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