413. Title:Broadband optical circular polarizers in the terahertz region using helical metamaterials Authors:Yu, Yang (1); Yang, Zhenyu (1); Zhao, Ming (1); Lu, Peixiang (1)
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Abstract:We propose a broadband circular polarizer in the terahertz region using helical metamaterials. The finite difference time domain method was used to design the structure and

metamaterials. The finite difference time domain method was used to design the structure and perform the simulation. By properly selecting the parameters of helical metamaterials, including the radius of wires, number of helix-periods, spacing of grids, length of helix-period, and radius of helix, we obtained a broadband helical circular polarizer in the terahertz region that can achieve an extinction ratio above 20:1 in the wavelength range from 66 to 105 νm. © 2011 IOP Publishing Ltd.