Research data for

Reflective chiral meta-holography:

multiplexing holograms for circularly polarized waves

Qiu Wang[1], Eric Plum[2], Quanlong Yang[1], Xueqian Zhang[1], Quan Xu[1], Yuehong Xu[1], Jiaguang Han[1], and Weili Zhang[1,3]

[1]Center for Terahertz waves and College of Precision Instrument and Optoelectronics Engineering, Tianjin University and the Key Laboratory of Optoelectronics Information and Technology (Ministry of Education), Tianjin 300072, China.
[2]Optoelectronics Research Centre and Centre for Photonic Metamaterials, University of Southampton, Highfield, Southampton, SO17 1BJ, UK
[3]School of Electrical and Computer Engineering, Oklahoma State University, Stillwater, Oklahoma 74078, USA.
Correspondence: E Plum, Email: erp@orc.soton.ac.uk; J Han, Email: jiaghan@tju.edu.cn

This research data description should be read and understood in the context of the corresponding manuscript. The figure numbers correspond to the figure numbers of the manuscript.

Data files: Fig2b.txt

Description: Intensity $|R_{--}|^2$ (column 2) and phase shift (column 3) of the LCP component of reflected electric field for LCP illumination of the L-type DSRR at 0.6 THz as a function of DSRR orientation β (column 1).

Data file: Fig2c.txt

Description: Reflectivity of the L-type DSRR for orientation β = 0 in terms of circularly polarized intensities (columns 2-5 as indicated in row 1) as a function of frequency (column 1). $|R_{+-}|^2$ represents the fraction of incident LCP (-) that will be reflected as RCP (+).

Data file: Fig2d.txt

Description: Reflectivity of the R-type DSRR for orientation β = 0 in terms of circularly polarized intensities (columns 2-5 as indicated in row 1) as a function of frequency (column 1). $|R_{+-}|^2$ represents the fraction of incident LCP (-) that will be reflected as RCP (+).

Data files: Fig4a.jpg … Fig4f.jpg

Description: (a) Simulated LCP-LCP, (b) simulated RCP-RCP, (c) measured LCP-LCP, (d) measured RCP-RCP, (e) measured LCP-RCP and (f) measured RCP-LCP intensity distributions ($|E|^2$) on the image plane of the meta-hologram at 0.6 THz. LCP-RCP corresponds to incident LCP and detected RCP intensities.