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Accession number:20123815457060

Title:Far field subwavelength imaging of magnetic patterns

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Source title:Applied Physics Letters

Abbreviated source title:Appl Phys Lett

Volume:101

Issue:11

Issue date:September 10, 2012

Publication year:2012

Article number:111102

Language:English

ISSN:00036951

CODEN:APPLAB

Document type:Journal article (JA)

Publisher:American Institute of Physics, 2 Huntington Quadrangle, Suite N101, Melville, NY 11747-4502, United States

Abstract:Far field imaging of subwavelength magnetic objects in real time is a very challenging issue. We propose an original solution based on a planar array of closely spaced split ring resonators. Hybridization between the resonators of such metalens induces subwavelength modes with different frequencies. Thanks to these high Q resonating modes, Purcell like effect allows an evanescent source, close to the metalens, to emit waves that can be collected efficiently in the far field. We present the first microwave experimental demonstration of such metalens to image of a subwavelength magnetic pattern. Numerical simulation shows that this approach is still valid at THz frequencies. © 2012 American Institute of Physics.

Number of references:21

Main heading:Physics

Controlled terms:Physical properties

Uncontrolled terms:Different frequency - Far field - Far-field imaging - Magnetic patterns - MetaLens - Planar arrays - Real time - Split ring resonator - Sub-wavelength - Subwavelength imaging - THz frequencies

Classification code:931 Classical Physics; Quantum Theory; Relativity - 931.2 Physical Properties of Gases, Liquids and Solids - 932 High Energy Physics; Nuclear Physics; Plasma Physics - 933 Solid State Physics

DOI:10.1063/1.4748974

Database:Compendex