399.

Accession number:20113814355909

Title:Terahertz antiresonant-reflecting-hollow-waveguidebased directional coupler operating at antiresonant frequencies

Authors:Lai, Chih-Hsien (1); Sun, Chi-Kuang (2); Chang, Hung-Chun (2)

Author affiliation:(1) Department of Electronic Engineering, Hwa Hsia Institute of Technology, Taipei 23568, Taiwan; (2) Department of Electrical Engineering, National Taiwan University, Taipei 10617, Taiwan; (3) Graduate Institute of Photonics and Optoelectronics, National Taiwan University, Taipei 10617, Taiwan; (4) Graduate Institute of Communication Engineering, National Taiwan University, Taipei 10617, Taiwan

Corresponding author: Chang, H.C. (hcchang@cc.ee.ntu.edu.tw)

Source title:Optics Letters

Abbreviated source title:Opt. Lett.

Volume:36

Issue:18

Issue date:September 15, 2011

Publication year:2011

Pages:3590-3592

Language:English

ISSN:01469592

E-ISSN:15394794

CODEN:OPLEDP

Document type:Journal article (JA)

Publisher:Optical Society of America, 2010 Massachusetts Avenue NW, Washington, DC 20036-1023, United States

Abstract:We report a particular coupling phenomenon occurring in the directional coupler composed of two touching terahertz antiresonant reflecting hollow waveguides. Unlike conventional directional couplers where one even system mode and one odd system mode are excited, numerical results indicate that three (one even and two odd) system modes participate in the power transfer process at the antiresonant frequencies. As a result, the coupling length can be significantly reduced, and it is shown here to be less than 300 wavelengths.

Number of references:18