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Title

Terahertz antiresonant-reflecting-hollow-waveguide-based directional coupler operating at antiresonant frequencies

Source

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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.