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Title:Observation of trapped-modes excited in double-layered symmetric electric ring resonators

Authors:Seo, B.J. (1); Kim, K. (1); Kim, S.G. (1); Kim, A. (1); Cho, H. (2); Choi, E. (1)

Author affiliation: (1) UNIST, Sch Elect & Comp Engn, Ulsan 689798, South Korea; (2) UNIST, Grad Sch Nat Sci, Ulsan 689798, South Korea

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Abstract:We report on experimental observations of trapped-mode resonances in double-layered symmetric electric ring resonators separated by dielectric inserts. The resulting metamaterial introduces trapped-mode resonances that were thought to be produced only by asymmetric metamaterial unit cells. Experimental verification of the newly observed trapped modes, along with the analysis of the stacked metamaterial geometry reported in this paper, opens an alternative way of forming sharp resonances in a symmetric metamaterial structure extended in all three dimensions. (C) 2012 American Institute of Physics. [<http://dx.doi.org/10.1063/1.4721993>]

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