Abstracts

High Q two dimensional defect resonators-measured and simulated

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The concept of electromagnetic bandgaps (EBG) was utilized to develop a high Q resonator that can be integrated monolithically with other components due to a reduced height, planar design. The resonator was created by removing a single element in a periodic lattice. Both dielectric and metallo-dielectric lattices have been analyzed, with resulting unloaded Q's of 700 and up to 983, respectively. Finally, a 1% filter at approximately 11.75 GHz was simulated to demonstrate a potential application of this technology.

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