Abstracts

Dual-mode stepped-impedance ring resonator for bandpass filter applications

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It is well known that two orthogonal resonant modes exist within a one-wavelength ring resonator. In this paper, we focus on a ring resonator possessing an impedance step as a form of perturbation. A convenient analyzing method for obtaining the resonance characteristics of this resonator structure is presented. Furthermore, generation of attenuation poles obtained by the dual-mode ring resonator is discussed. In addition, a filter design method based on this resonator is explained, followed by experimental results, which prove the validity of the proposed design method.

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