Abstracts

Slow-wave bandpass filters using ring or stepped-impedance hairpin resonators

Lung-Hwa Hsieh and Kai Chang. "Slow-wave bandpass filters using ring or stepped-impedance hairpin resonators." 2002 Transactions on Microwave Theory and Techniques 50.7 (Jul. 2002 [T-MTT]): 1795-1800.

This paper proposes a new class of slow-wave bandpass filters that uses a microstrip line periodically loaded with microstrip ring or stepped-impedance hairpin resonators. The new slow-wave periodic structures utilize the parallel and series resonance characteristics of the resonators to construct a bandpass filter. Unlike conventional slow-wave filters, the proposed bandpass filters are designed to produce a narrow passband at the fundamental mode of the resonators. The new filters provide lower insertion loss than that of parallel- or cross-coupled ring and stepped-impedance hairpin bandpass filters. The calculated frequency responses of the filters agree well with experiments.

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