# Abstracts

## Aperture-coupled microstrip open-loop resonators and their applications to the design of novel microstrip bandpass filters

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The rapid growth of wireless and mobile communications has stimulated the development of multilayer filter technology. In this paper, two types of aperture-coupled microstrip open-loop resonators in a multilayer structure are proposed and investigated for the applications to the design of a new class of compact microstrip bandpass filters. The new filter configuration consists of two arrays of microstrip open-loop resonators that ran be coupled through the apertures on the common ground plane. Depending on the arrangement of the apertures, different filtering characteristics can easily be realized. Electromagnetic modeling of the aperture couplings is presented. Three experimental filters of this type with Chebyshev, elliptic function, and linear phase response respectively, are described together with theoretical and experimental results. The filter asymmetric responses associated with frequency-dependent couplings are investigated.

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