Abstracts

Mobius filters and resonators

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Resonator and filter topologies are introduced which rely on the geometric deformation of a guiding structure resulting in the establishment of resonant conditions in more compact structures. Conceptually, the structures are analogous to Mobius strips. The path length of the edge in a Mobius strip is twice an length of the edge of the rectangle deformed in creating the Mobius strip geometry. Analogously, this means the structure can be at resonance even though the length of the line, before deformation, was a half wavelength long. The concept has been demonstrated in planar geometries and in wire-loaded cavity structures. The dual-mode nature of the fundamental resonance is readily apparent.

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