Abstracts

Bandpass filters using dual-mode and quad-mode Mobius resonators

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Compact bandpass filters are being developed using Mobius wire-loaded cavity resonators. Initial results on tuned filters indicate that excellent filter characteristics can be attained in devices that are significantly smaller than traditional wire-loaded cavity technologies. A novel quad-mode Mobius resonator is presented which occupies the same volume as a dual-mode Mobius resonator. A four-pole bandpass filter is demonstrated using a single quad-mode Mobius resonator. Precisely controlled dielectric loading of dual-mode Mobius wire resonators has been implemented to realize bandpass filters. Two-pole and four-pole bandpass filters are demonstrated using one and two dual-mode dielectric-loaded Mobius resonators, respectively.

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