

# Novel miniaturized multiband bandstop filters based on asymmetric multimode resonators Loaded with tree-shape branches

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## Abstract

In this letter, the operating mechanism of proposed bandstop filters with asymmetric multiple-mode resonator loaded with tree-shape branches is introduced. Based on the design procedure, centre frequencies of the proposed bandstop filters can be controlled due to the designed degree of freedom. Meanwhile, the proposed BSFs feature compact sizes and sharp roll-off skirts for transition bands. To validate the design and analysis, a prototype filter has been fabricated with six stopbands centered at 1.91/2.38/3.54/5.19/ 5.79/6.85 GHz. The measured results of the fabricated filter agrees well with the simulation, which shows that the proposed structure is a good candidate for multi-band BSF designs and validates the proposed design flow well.

## Hosted file

Novel miniaturized multi-band bandstop filters based on asymmetric multimode resonators loading tree-shape branches available at <https://authorea.com/users/512039/articles/607478-novel-miniaturized-multiband-bandstop-filters-based-on-asymmetric-multimode-resonators-loaded-with-tree-shape-branches>