Abstracts

Dual-Mode Dielectric Resonator Loaded Cavity Filters

S.J. Fiedziuszko. "Dual-Mode Dielectric Resonator Loaded Cavity Filters." 1982 Transactions on Microwave Theory and Techniques 30.9 (Sep. 1982 [T-MTT] (Special Issue on Microwave Filters)): 1311-1316.

A new miniature realization of dust-mode filters is presented. As a basic building element of the filter, the dielectric resonator axially mounted in a waveguide below cutoff and resonating in a hybrid, degenerate mode is used. A dramatic reduction in size and weight, and excellent temperature performance with minimum degradation of resonator Q was achieved. Dust-mode configuration, preferred in satellite applications, allows simple realization of high-performance elliptic function filters. Experimental results are presented and demonstrate excellent agreement with the theory. Bandpass filter configuration is discussed however, realizations of bandstop, directional, etc., filters are also possible.

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