Abstracts

Mixed Modes Dielectric Resonator Loaded Cavity Filters

J.-F. Liang, K.A. Zaki and A.E. Atia. "Mixed Modes Dielectric Resonator Loaded Cavity Filters." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 731-734.

A novel configuration of dielectric loaded cavity filters is presented. The new filter combines the superior spurious free performance of TE/sub 01/ mode ring dielectric resonators with the advantage of HE/sub 11/ dual-mode dielectric loading. Resonant frequency and field distributions of each cavity is computed by rigorous mode-matching technique. The fields are used to compute the coupling between cavities by small aperture approximation based on formulae modified by Levy. An L-band 6-pole quasi-elliptic function filter is designed, constructed and tested. The experimental results verify the advantage of this new type of filter.

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