Abstracts

Improved Selectivity in Cylindrical TE/sub 011/ Filters by TE/sub 211//TE/sub 311/ Mode Control (Short Papers)

D.E. Kreinheder and T.D. Lingren. "Improved Selectivity in Cylindrical TE/sub 011/ Filters by TE/sub 211//TE/sub 311/ Mode Control (Short Papers)." 1982 Transactions on Microwave Theory and Techniques 30.9 (Sep. 1982 [T-MTT] (Special Issue on Microwave Filters)): 1383-1387.

A new method is presented for the design of low loss cylindrical TE/sub 011/-mode resonators whereby transmission nulls can be placed near the TE/sub 011/, resonance by controlling the TE/sub 211/, and TE/sub 311/, modes that are naturally excited in the same resonator. The frequencies at which the nulls occur are controlled by the angular offset of the sidewall coupling apertures and the relative amplitude of the TE/sub 011/ mode compared to the TE/sub 211/ and TE/sub 311/ modes. It is also shown that a lumped constant circuit model can be used to accurately represent the multimode response of the resonator.

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