

## Improved Selectivity in Cylindrical TE/sub 011/ Filters by TE/sub 211//TE/sub311/ Mode Control

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*D.E. Kreinheder and T.D. Lingren. "Improved Selectivity in Cylindrical TE/sub 011/ Filters by TE/sub 211//TE/sub311/ Mode Control." 1982 MTT-S International Microwave Symposium Digest 82.1 (1982 [MWSYM]): 396-398.*

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 frequency of the nulls are controlled by the angular offset of the sidewall coupling apertures and the relative amplitude of the TE/sub 011/ mode compared with 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.

 [Return to main document.](#)