Abstracts

Slot-Fed Higher Order Mode Fabry-Perot Filters

J. McCleary, M.-y. Li and K. Chang. "Slot-Fed Higher Order Mode Fabry-Perot Filters." 1993 Transactions on Microwave Theory and Techniques 41.9 (Oct. 1993 [T-MTT] (Special Issue on Quasi-Optical Techniques)): 1703-1709.

Low loss bandpass filters consisting of Fabry-Perot resonators excited by waveguide fed slots coupling to higher order resonator modes are demonstrated. For close reflector spacings, the waveguide couples efficiently through the slots to the TEM/sub 400/ and TEM/sub 300/ modes. The characteristics of both rectangular and circular waveguide feeds with various slot lengths and widths are presented. At X-band the filters have unloaded Q values which range from 1000 to 7000 with insertion losses less than 1 dB. The filters which have the rectangular waveguide feeds are mechanically tunable over a 20% bandwidth.

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