

Ka-Band Slot-Fed Higher Order-Mode Low-Loss Fabry-Perot Filters (Short Papers)

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Low-loss bandpass filters consisting of Fabry-Perot resonators excited by slots which couple to higher order resonator modes are demonstrated. For close reflector spacings, the slots efficiently couple power from rectangular waveguide to the TEM/sub 400/ and TEM/sub 300/ modes of the resonator. At Ka-band the filters have insertion losses less than 1 dB in general and less than 0.5 dB in some cases. The unloaded Q values of the filters range from 1500 to 3000. The filters are mechanically tunable over a 25% bandwidth.

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