Abstracts

A novel K-band tunable microstrip bandpass filter using a thin film HTS/ferroelectric/dielectric multilayer configuration

G. Subramanyam, F. Van Keuls and F.A. Miranda. "A novel K-band tunable microstrip bandpass filter using a thin film HTS/ferroelectric/dielectric multilayer configuration." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 1011-1014.

We report on YBCO/strontium titanate (STO) thin film K-band tunable bandpass filters on lanthanum aluminate substrates. The 2 pole filters were designed for a center frequency of 19 GHz and 4% bandwidth. Tunability is achieved through the nonlinear DC electric field dependence of the relative dielectric constant of STO (/spl epsiv//sub rSTO/). Center frequency shifts greater than 2 GHz were obtained at a 400 V bipolar DC bias at temperatures below 77 K, with minimal degradation in the insertion loss of the filters.

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