Abstracts

Superconducting microstrip bandpass filter on LaAlO/sub 3/ with high out-of-band rejection

M. Reppel and J.-C. Mage. "Superconducting microstrip bandpass filter on LaAlO/sub 3/ with high out-of-band rejection." 2000 Microwave and Guided Wave Letters 10.5 (May 2000 [MGWL]): 180-182.

A superconducting eight-pole narrow-band filter on lanthanum aluminate substrate material (/spl epsi//sub r//spl ap/4) is introduced. The filter has a center frequency of 1.8 GHz and a fractional bandwidth of 0.84%. Steep filter skirts (/spl sim/20 dB at 700 kHz) and high out-of-band rejection (/spl sim/60 dB at 5 MHz) have been achieved by a quasi-elliptic filter design with two transmission zero pairs. The measured high-quality factor of /spl sim/60 000 at 70 K results in an insertion loss of less than /spl sim/0.3 dB in the passband and /spl sim/0.5 dB at the band edges.

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