Abstracts

Present and Projected Performance of High-Temperature Superconducting Filters

S.H. Talisa, M.A. Janocko, J. Talvacchio and C. Moskowitz. "Present and Projected Performance of High-Temperature Superconducting Filters." 1991 MTT-S International Microwave Symposium Digest 91.3 (1991 Vol. III [MWSYM]): 1325-1328.

Microwave planar high-temperature superconducting (HTS) filterbanks will find application in radar and communications. Because of difficulties of growing HTS films on both sides of a substrate, it is convenient to use normal-conducting ground planes to fabricate HTS microstrip filters. The insertion losses in a filter have been estimated from a calculation of the effect of a normal-conducting ground plane on the losses of an HTS microstrip line. It is shown that, even with a gold ground plane, the performance of current filters could be limited by mismatch losses rather than conductor losses, and that, above Ka-band, the benefits of using an HTS ground plane are only marginal.

❑ Return to main document.