

Abstracts

High-Temperature Superconductive Passive Microwave Devices

W.G. Lyons, R.S. Withers, J.M. Harem, A.C. Anderson, P.M. Mankiewich, M.L. O'Malley, R.E. Howard, R.R. Bonetti, A.E. Williams and N. Newman. "High-Temperature Superconductive Passive Microwave Devices." 1991 MTT-S International Microwave Symposium Digest 91.3 (1991 Vol. III [MWSYM]): 1227-1230.

Two important classes of passive superconductive microwave devices are described that have been recently demonstrated using thin films of the high-temperature superconductor $\text{YBa}_{2}/\text{Cu}_{3}\text{O}_{7-x}$. The devices include tapped-delay-line transversal filters with multigigahertz bandwidths, with time-bandwidth products as large as 30, and narrowband (less than three-percent bandwidth) microstrip filters. These devices illustrate the potential performance advantages superconductive thin films offer to the designer of a high-frequency, wide-bandwidth analog signal processing system.

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