Abstracts

Electromagnetic Design of High-Temperature Superconducting Microwave Filters

J.W. Bandler, R.M. Biernacki, S.H. Chen, P.A. Grobelny, C. Moskowitz and S.H. Talisa. "Electromagnetic Design of High-Temperature Superconducting Microwave Filters." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 993-996.

We present novel approaches to electromagnetic design of high-temperature superconducting quarter- wave parallel coupled-line microstrip filters. The dielectric constant of substrate materials used in high-temperature superconductor technology is too large to be accurately treated by traditional microwave circuit design software packages with analytical/empirical models. We employ electromagnetic field simulation and develop a look-up table method and a powerful space mapping optimization technique, which dramatically reduce the CPU time for the design process.

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