Abstracts

Finite Element Analysis of Microstrip Line on Ferroelectric (Ba - Sr)TiO/sub 3/ Substrate

Y. Sung, S. Choi and S. Nam. "Finite Element Analysis of Microstrip Line on Ferroelectric (Ba - Sr)TiO/sub 3/ Substrate." 1995 MTT-S International Microwave Symposium Digest 95.3 (1995 Vol. III [MWSYM]): 1261-1264.

The characteristics of microstrip line on ferroelectric (Ba - Sr)TiO/sub 3/ substrate is analyzed. The static field analysis is performed iteratively to obtain the position-dependent dielectric constant in BST substrate with DC bias voltage. On the assumption of small AC field compared to DC field, the propagation constant and the characteristic impedance of the microstrip line on such a biased BST substrate is found by edge-based finite element method. The results can be used for the accurate design of various devices using BST such as dielectric phase shifter, voltage controlled resonators, etc.

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