Abstracts

Generalized reaction and unrestricted variational formulation of cavity resonators. I. basic theory

A.M. Shams-Zadeh-Amiri, S. Safavi-Naeini, S.K. Chaudhuri and R. Sabry. "Generalized reaction and unrestricted variational formulation of cavity resonators. I. basic theory." 2002 Transactions on Microwave Theory and Techniques 50.11 (Nov. 2002 [T-MTT] (Mini-Special Issue on the 2002 IEEE Radio Frequency Integrated Circuit (RFIC) Symposium)): 2480-2490.

Based on the reciprocity theorem, the reaction concept in electromagnetic theory is generalized to the cases where both surface electric and magnetic currents overlap across boundaries, i.e., neither the E-field, nor H-field meets the continuity conditions. An improved systematic method is then developed to obtain unrestricted variational expressions in a cavity resonator for which the tangential components of the trial fields can be discontinuous across its interior boundaries.

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