Abstracts

An innovative fast powerful method for tackling electromagnetic eigenvalue problems for multistrip transmission lines (Comments)

M. Mrozowski. "An innovative fast powerful method for tackling electromagnetic eigenvalue problems for multistrip transmission lines (Comments)." 2002 Transactions on Microwave Theory and Techniques 50.10 (Oct. 2002 [T-MTT]): 2409-2410.

For original paper see A. Casanueva and J.L. Garcia, ibid., vol.50, no.1, p.36-40 (2002). The original authors applied a technique developed by the commenter to calculate dispersion characteristics of multistrip transmission lines. The novelty of the work lay in the technique for solving the resulting eigenvalue problem. Casanueva and Garcia treated the problem as a system of homogeneous equations and advocate solving it by using singular value decomposition (SVD) combined with the search of minimum on the complex /spl beta/ plane. The commenter clarifies an apparent misunderstanding as to the numerical treatment of the eigenvalue problem. In reply, Casanueva and Garcia agree with the general outline and accept that the numerical technique suggested by Mrozowski is more orthodox than the one they used. They conclude by stressing that Mrozowski's proposed algorithms are valid for planar transmission lines when both the spectral-domain approach and the singular-value-decomposition technique have been implemented to obtain an accurate set of basic functions.

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