Abstracts

Full-Wave Analysis of Quasi-Optical Structures

T.W. Nuteson, G.P. Monahan, M.B. Steer, K. Naishadham, J.W. Mink, K.K. Kojucharow and J. Harvey. "Full-Wave Analysis of Quasi-Optical Structures." 1996 Transactions on Microwave Theory and Techniques 44.5 (May 1996 [T-MTT]): 701-710.

A full-wave moment method implementation, using a combination of spatial and spectral domains, is developed for the analysis of quasi-optical systems. An electric field dyadic Green's function, including resonant and nonresonant terms corresponding to coupling from modal and nonmodal fields, is employed in a Galerkin routine. The dyadic Green's function is derived by separately considering paraxial and nonparaxial fields and is much easier to develop than a mixed, scalar and vector, potential Green's function. The driving point impedance of several antenna elements in a quasi-optical open cavity resonator and a 3 x 3 grid in free space are computed and compared with measurements.

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