Abstracts

The Dyadic Green's Functions for Cylindrical Waveguides and Cavities

M. Kisliuk. "The Dyadic Green's Functions for Cylindrical Waveguides and Cavities." 1980 Transactions on Microwave Theory and Techniques 28.8 (Aug. 1980 [T-MTT]): 894-898.

Four dyadics are derived to find the electric and magnetic fields generated by a given distribution of electric and magnetic (including aperture) currents in cylindrical waveguides and cavities of arbitrary cross sections. Two sets of vectors are used to form the dyadics: oneset is an expansion of "electric field" vectors, and the other is an expansion of "magnetic field" vectors. Explicit expressions in terms of TE and TM modes are obtained for the resulting electric and magnetic fields. Inside the source regions there are additional components proportional either to the axial components of the current demities (waveguides), or to the current densities vectors (cavities).

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