

A Useful Equivalence for a Coaxial-Waveguide Junction

R.L. Eisenhart, P.T. Greiling, L.K. Roberts and R.S. Robertson. "A Useful Equivalence for a Coaxial-Waveguide Junction." 1978 Transactions on Microwave Theory and Techniques 26.3 (Mar. 1978 [T-MTT]): 172-174.

The junction formed by a coaxial line entering the broad wall of a rectangular waveguide is commonly used, but has not been accurately analyzed due to the electromagnetic-field complexity. An excellent correlation has been established between this complex structure and a similar one which has already been thoroughly characterized. This close correlation permits use of the equivalent circuit of the previously characterized structure as a representation for the coax-waveguide junction as well. This usage is made possible by study of the relationship which exists between the two configurations, thus allowing accurate circuit analysis of components utilizing the coax-waveguide junction.

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