Abstracts

The Excitation of a Dielectric Rod by a Cylindrical Waveguide

C.M. Angulo and W.S.C. Chang. "The Excitation of a Dielectric Rod by a Cylindrical Waveguide." 1958 Transactions on Microwave Theory and Techniques 6.4 (Oct. 1958 [T-MTT]): 389-393.

This paper is a theoretical analysis of the excitation of the lowest circular symmetric TM surface wave along an infinite circular dielectric rod by a metallic cylindrical waveguide coaxial with the rod. The asymptotic expressions for all the fields are obtained by means of the Wiener-Hopf method. The expressions for the total average power transmitted to the surface wave, the total average power reflected, and the total power radiated, per unit incident power, are derived and computed for epsilon=2.49 for various radii of the dielectric rod.

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