Abstracts

Guided Waves in Inhomogeneous Focusing Media Part III: Wall Effects, Losses, and the Transition from Fast to Slow Waves

C.N. Kurtz and W. Streifer. "Guided Waves in Inhomogeneous Focusing Media Part III: Wall Effects, Losses, and the Transition from Fast to Slow Waves." 1969 Transactions on Microwave Theory and Techniques 17.7 (Jul. 1969 [T-MTT]): 360-363.

This paper is concerned with the determination of field patterns, propagation constants, and losses for axially propagating modes guided by an enclosed circular cylindrical, radially inhomogeneous dielectric of the type discussed in Parts I and II. The homogeneous outer medium (gamma >= a) is assumed to have a large relative permittivity epsilon/sub 2/, and the analysis includes the perfect conductor case epsilon/sub 2/ --> /spl infin/. The transition to trapped waves as the binding effect increases is demonstrated. Propagation constants in the case with loss are determined using a perturbation technique.

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