Abstracts

Mode Propagation in a Nonuniform Cylindrical Medium (Correspondence)

A.W. Snyder. "Mode Propagation in a Nonuniform Cylindrical Medium (Correspondence)." 1971 Transactions on Microwave Theory and Techniques 19.4 (Apr. 1971 [T-MTT]): 402-403.

A simplified form of the coupling coefficient C(beta/sub p/, beta/sub q/) resulting from a coupled mode theory analysis of wave propagation in a nonuniform medium is derived. It is found for most situations of interest that C(beta/sub p/, beta/sub q/) is proportional to 1/(beta/sub p/-beta/sub q/) and the power transfer between two modes is proportional to 1/(beta/sub p/-beta/sub q/)/sup 4//spl dot/ beta/sub p/ and beta/sub q/ are the two different modal propagation constants. For a dielectric rod C(/spl beta//sub p/, /spl beta//sub q/) is a simple line integral around the rod boundary. Approximate forms are presented for optical waveguides.

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