Abstracts

Analysis of a Tapered Circular Waveguide Using Spherical Modes

In this paper the coupled mode equations governing the propagation of TE°/sub 0m/ waves in a tapered circular waveguide are derived. The derivation is based on the assumption that an elementary section of the taper can be thought of as an elementary truncated cone. This approach is superior to the cylindrical mode representation in that it eliminates the singularity in the coupled mode equations for the modal amplitudes at "cut-off " and also leads to a faster converging expansion. An iterative method of solving these equations is also outlined.

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