Abstracts

The Transition Region Between Bound-Wave and Leaky-Wave Ranges for a Partially Dielectric-Loaded Open Guiding Structure (1990 Vol. III [MWSYM])

P. Lampariello, F. Frezza and A.A. Oliner. "The Transition Region Between Bound-Wave and Leaky-Wave Ranges for a Partially Dielectric-Loaded Open Guiding Structure (1990 Vol. III [MWSYM])." 1990 MTT-S International Microwave Symposium Digest 90.3 (1990 Vol. III [MWSYM]): 1067-1070.

Most modes on partially dielectric-loaded open guiding structures are purely bound in some frequency range and leaky in another. The transition region between them is complicated and interesting, including a section where the dispersion curve doubles back, because it connects a complex nonspectral (leaky-wave) solution with a real spectral (boundwave or surface-wave) solution. The physical nature of this type of transition region is discussed in the context of a recently proposed novel leaky-wave antenna structure, and some anomalous features are described.

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