Abstracts

Mode and Energy Guidance Properties of a Slab of Inhomogeneous Medium with Transverse Variations of the Gain Only

L. Ronchi Abbozzo and R. Pratesi. "Mode and Energy Guidance Properties of a Slab of Inhomogeneous Medium with Transverse Variations of the Gain Only." 1981 Transactions on Microwave Theory and Techniques 29.4 (Apr. 1981 [T-MTT]): 378-383.

The mode and energy guidance properties of a planar slab of parabolic graded index medium are examined when there are transverse variations of the gain or of the losses only. Mode configurations and propagation constants are evaluated of the first four even modes. The results are presented and discussed. In particular it is found that a gain decreasing away from the symmetry plane does not favor the existence of guided modes, as happens when the graded index medium is not limited to a slab. Evidence is found that the presence of the boundaries affects the mode proagation even when the caustic surface is well inside the lab.

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