Abstracts

Analysis of Rectangular Waveguide-Gratings for Amplifier Applications

B.D. McVey, M.A. Basten, J.H. Booske, J. Joe and J.E. Scharer. "Analysis of Rectangular Waveguide-Gratings for Amplifier Applications." 1994 Transactions on Microwave Theory and Techniques 42.6 (Jun. 1994 [T-MTT]): 995-1003.

A slow-wave structure composed of a grating inside a rectangular waveguide is analyzed. This type of slow-wave structure is examined for use in a low-voltage amplifier application with a sheet electron beam. Dispersion curves, mode field profiles, and taper designs for the waveguide-grating are presented. The amplifier application places stringent requirements on the taper sections that match the smooth waveguide to the waveguide-grating with minimal reflection.

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