

Abstracts

Theory and Simulation of the Gyrotron Traveling Wave Amplifier Operating at Cyclotron Harmonics

K.R. Chu, A.T. Drobot, H.H. Szu and P. Sprangle. "Theory and Simulation of the Gyrotron Traveling Wave Amplifier Operating at Cyclotron Harmonics." 1980 Transactions on Microwave Theory and Techniques 28.4 (Apr. 1980 [T-MTT]): 313-317.

An analytical expression for the efficiency of the gyrotron traveling wave amplifier is derived for the case of nonfundamental cyclotron harmonic interaction. It scales the efficiency with respect to the modes and parameters of operation. This relation, together with a general linear dispersion relation, also derived in the present paper, gives the characteristics and optimum operation conditions of the gyrotron traveling wave amplifier.

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