Abstracts

Generation of High-Frequency Radiation by Quasi-Optical Gyrotron at Harmonics of the Cyclotron Frequency (Short Papers)

B. Levush and W.M. Manheim. "Generation of High-Frequency Radiation by Quasi-Optical Gyrotron at Harmonics of the Cyclotron Frequency (Short Papers)." 1984 Transactions on Microwave Theory and Techniques 32.10 (Oct. 1984 [T-MTT]): 1398-1401.

A quasi-optical gyrotron can operate, in principle, at high harmonics of the electron-cyclotron frequency, as well as at the fundamental. Lower harmonics are suppressed by exploiting their larger diffraction losses. The radiation-field amplitude is kept below the breakdown value by taking advantage of the focusing properties of the quasi-optical resonator. Cavity design parameters and starting currents are presented which characterize the operation of the quasi-optical gyrotron at the eighth harmonic of gyrofrequency.

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