Abstracts

Modal analysis of the slotted-circular coaxial cavities used in space-harmonic millimeter wave magnetrons

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Computer-aided design of millimeter wave magnetrons operating in a non-/spl pi/ mode calls for self-consistent numerical simulation of the electron dynamics. For a modal analysis of the slotted-circular coaxial cavities used in these magnetrons, complete sets of eigenmodes, resonant as well as irrotational, have to be computed. The Generalized Spectral Domain (GSD) method provides a fast and accurate mean to calculate the eigenvalues of these modes and to investigate their modal field distributions. Results for a typical millimeter wave magnetron cavity are presented.

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