Abstracts

Excitation of Higher Order Modes in Spherical Cavities

R.N. Ghose. "Excitation of Higher Order Modes in Spherical Cavities." 1957 Transactions on Microwave Theory and Techniques 5.1 (Jan. 1957 [T-MTT]): 18-22.

An analysis for determining approximately the optimum position of the exciting source inside a spherical cavity for exciting any TE or TM mode is presented. For any TE or TM mode the orientation of the exciting probe or loop is determined by maximizing the surface integral of /bar H/ or line integral of /bar A/ which is proportional to the excitation coefficient for the corresponding mode. Specific examples of mode discrimination by proper orientation of the exciting source are also included in the paper. Besides, graphs of the surface integral of /bar H/ and the line integral of /bar A/ for various modes are presented to indicate the variation of mutual inductance for any mode, for different positions of the exciting source.

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