

Abstracts

Gaussian Beam-Mode Analysis and Phase-Centers of Corrugated Feed Horns

R.J. Wylde and D.H. Martin. "Gaussian Beam-Mode Analysis and Phase-Centers of Corrugated Feed Horns." 1993 Transactions on Microwave Theory and Techniques 41.9 (Oct. 1993 [T-MTT] (Special Issue on Quasi-Optical Techniques)): 1691-1699.

The notion of phase-center for a feed-horn is critically examined and, using Gaussian beam-mode analysis, several variously-defined phase-centers, including a maximal-gain phase-center, are investigated in detail for corrugated feed-horns in balanced hybrid mode. Expressions for the locations of these phase centers are derived which are applicable for a wide range of corrugated horn dimensions and for near-field as well as far-field distances.

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