Abstracts

The Diagonal Horn as a Sub-Millimeter Wave Antenna

J.F. Johansson and N.D. Whyborn. "The Diagonal Horn as a Sub-Millimeter Wave Antenna." 1992 Transactions on Microwave Theory and Techniques 40.5 (May 1992 [T-MTT]): 795-800.

The far-field radiation pattern of a diagonal horn has been calculated by aperture integration. The radiation patterns for a 4 x 4 diagonal horn array, measured at 100 GHz, agree very well with the theoretical predictions. The aperture electric field was also expanded into Gauss-Hermite modes. The results indicate that the fraction of the power radiated into the fundamental Gaussian mode is about 84%. About 10% of the power is radiated in the cross-polarized component.

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