Abstracts

Polynomial Approximations for the Electric Polarizabilities of Some Small Apertures

N.A. McDonald. "Polynomial Approximations for the Electric Polarizabilities of Some Small Apertures." 1985 Transactions on Microwave Theory and Techniques 33.11 (Nov. 1985 [T-MTT]): 1146-1149.

Polynomial expressions are given for the electric polarizabilities of some small apertures of various shapes, as functions of the aperture width to length ratios. The shapes considered are rectangle, diamond, rounded end slot, and ellipse, of which only the last is known to have an exact solution. Although the polynomial expressions are not exact, all embody features which would exist in exact solutions if they could be found. Values calculated from the polynomials compare well with previously published data, indicating accuracy sufficient for many purposes.

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