Abstracts

Analysis of metallic waveguides of a large class of cross sections using polynomial approximation and superquadric functions

Sheng-Li Lin, Le-Wei Li, Tat-Soon Yeo and Mook-Seng Leong. "Analysis of metallic waveguides of a large class of cross sections using polynomial approximation and superquadric functions." 2001 Transactions on Microwave Theory and Techniques 49.6 (Jun. 2001, Part I [T-MTT]): 1136-1139.

By using the polynomial approximation and superquadric functions in the Rayleigh-Ritz procedure, a unified method has been proposed to analyze conducting hollow waveguides of a large class of cross sections in our previous paper. Some useful and complicated cross-sectional waveguides in the microwave system, namely, eccentric annular, pentagonal, L-shaped, single-ridged, and double-ridged waveguides are analyzed in this paper. Compared with other numerical methods, this method has the advantages of being straightforward, accurate, and computational effective.

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