Abstracts

Semicircular Ridges in Rectangular Waveguides

J.G. Van Bladel and O. Von Rohr, Jr.. "Semicircular Ridges in Rectangular Waveguides." 1957 Transactions on Microwave Theory and Techniques 5.2 (Apr. 1957 [T-MTT]): 103-106.

The two-dimensional Hehnholtz equation is solved in a rectangle having two semicircular projections in the center of its broad faces. More particularly, the lowest two eigenvalues are determined for Nenmann's boundary condition, and the lowest eigenvalue for Dirichlet's boundary condition. The results are of interest in various fields of physics, such as vibrations of a membrane, but are of particular importance in the study of waveguide propagation. The latter application is stressed in the article, in accordance with the practical, importance of ridged waveguides.

❑ Return to main document.