Abstracts

Surface Waves and Their Relation to the Eigenfrequencies of a Circular-Cylindrical Cavity

J.V. Subrahmanyam, G.A.H. Cowhart, M. Keskin, H. Uberall, G.C. Gaunaurd and E. Tanglis. "Surface Waves and Their Relation to the Eigenfrequencies of a Circular-Cylindrical Cavity." 1981 Transactions on Microwave Theory and Techniques 29.10 (Oct. 1981 [T-MTT]): 1066-1072.

The eigenfrequencies of a finite-length cylindrical cavity may be interpreted as the resonances caused by the phase-matching of circumferential waves that circumnavigate the cavity along certain helical paths, and that get reflected back and forth from its top and bottom flat surfaces. In this paper, we obtain the dispersion curves of these circumferential waves that correspond to a series of well-defined pitch angles of their helix for different values of the cylindrical cavity's length-to-radius ratio.

❑ Return to main document.