Abstracts

Analysis of the coaxial helical-groove slow-wave structure

Guofen Yu, Wenxiang Wang, Yanyu Wei and Shenggang Liu. "Analysis of the coaxial helical-groove slow-wave structure." 2002 Transactions on Microwave Theory and Techniques 50.1 (Jan. 2002, Part I [T-MTT] (Mini-Special Issue on 1999 International Microwave and Optoelectronics Conference (IMOC'99))): 191-200.

A coaxial helical-groove structure is presented and analyzed in this paper. The dispersion equation and coupling impedance of the structure are given. Numerical calculations of the dispersion relation and coupling impedance with different structure dimensions are carried out. Calculated results indicate that the cold bandwidth of this structure can reach 60%, while the coupling impedance is more than 16 /spl Omega/. It is shown that the coaxial helical groove is a wide-band slow-wave structure with high-power capacity.

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