Abstracts

Mixed Two-Port Parameters for Characterizing Varactor Mounts in Waveguides (Correspondence)

M.E. Viggh. "Mixed Two-Port Parameters for Characterizing Varactor Mounts in Waveguides (Correspondence)." 1963 Transactions on Microwave Theory and Techniques 11.3 (May 1963 [T-MTT]): 218-219.

In the design of harmonic generators using varactors in waveguide mounts, one of the most important problems is to determine the impedance seen from the terminals of the nonlinear junction capacitance, as well as the transfer properties of the networks between the terminals of this capacitance and the output and input waveguides. Since the junction region in most cases of interest is many times smaller than one wavelength in size, the logical variables for describing the electrical conditions at the junction terminals are voltage and current. On the other hand, at the input and output waveguide ports, scattering variables a and b would be preferable. This communication will define a parameter system for two ports, where voltage and current are used as variables on one side, and scattering variables on the other. A method for experimental determination of these parameters will also be outlined.

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