

Abstracts

The Use of Scattering Matrices in Microwave Circuits

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Difficulties arising from the use of the impedance concept in microwave circuitry have led to the introduction of the scattering representation for work at these frequencies. This paper presents a development of the scattering approach in terms of fundamental transmission-line phenomena. The physical meaning of the quantities involved is brought out wherever possible and the relationships among the various elements of the scattering matrix are given. Several examples of the application of scattering techniques to analysis of the properties of microwave junctions are presented, and methods for measuring scattering parameters of such junctions are outlined.

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