Abstracts

An Effective Approach for Study of Multiple Discontinuities of Transmission Lines

In this paper, a novel approach for calculation of discontinuities of transmission lines is presented. This approach is flexible, simple and effective. For calculation of multiple discontinuities or taking into account the thickness of the obstacles, it is only necessary to transfer the relationship between the electric and magnetic field components from one discontinuity to another and match them on the last one. The method of transfer may be arbitrary, it may also be realized by using the well-known method of lines or others methods. Both single and multiple waveguide discontinuities are calculated and the computed results are in good agreement with the literature. Examples of finite thickness waveguide discontinuities are also given. The proposed method may be readily used to calculate microstrip discontinuities. Extension to discontinuities of other types of transmission lines can also be performed.

❏