

Abstracts

On the Realizability of the Impedance Matrix for Lossy Dielectric Posts in a Rectangular Waveguide (Short Papers)

C.G. Hsu and H.A. Auda. "On the Realizability of the Impedance Matrix for Lossy Dielectric Posts in a Rectangular Waveguide (Short Papers)." 1988 *Transactions on Microwave Theory and Techniques* 36.4 (Apr. 1988 [T-MTT]): 763-765.

The equivalent T network for some lossy dielectric posts in a rectangular waveguide is found to have a negative resistance in the parallel arm although the realizability conditions for the impedance matrix are strictly satisfied. Furthermore, the reactive part of the same impedance is found to be a monotonically decreasing function of frequency. These difficulties are overcome in the case of symmetrical post structures by using lattice networks. A simplified lattice network of lumped elements is developed to approximately realize the impedance matrix for resonant lossy post structures in the bandwidth.

 [Return to main document.](#)