Abstracts

Broad-Band Impedance Matching into Dielectric-Filled Waveguides

F.E. Goodwin and G.E. Moss. "Broad-Band Impedance Matching into Dielectric-Filled Waveguides." 1963 Transactions on Microwave Theory and Techniques 11.1 (Jan. 1963 [T-MTT]): 36-39.

The problem of impedance matching between two waveguides filled with different dielectrics is discussed, and the conditions for broad-band matching are determined. Experimental results are presented for standard waveguides matched to guides filled with dielectrics having permittivities epsilon as high as 100epsilon/sub 0/. Present applications include matching devices for X-band coupled-cavity transmission masers which employ ruby and alumina sections (epsilon /spl ap/ 10epsilon/sub 0/). Future applications include matching devices for masers utilizing rutile (epsilon as high as 250 epsilon/sub 0/).

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