Abstracts

A new method for the design of a quasi-optical mode converter with a special reflector

Shiwen Yang, Soon Hie Tan and Hongfu Li. "A new method for the design of a quasi-optical mode converter with a special reflector." 2002 Transactions on Microwave Theory and Techniques 50.7 (Jul. 2002 [T-MTT]): 1849-1852.

This paper presents a new method for the design of a special reflector for quasi-optical mode converters, using the combination of vector diffraction theory and geometrical optics. The reflector is formed in a piecewise manner, according to a base reflector shape chosen previously. Each piece of reflector cell is adjusted separately. A numerical example is carried out for the quasioptical mode conversion of a circular waveguide TE/sub 52/ mode at 35 GHz, and the calculated results show that the output Gaussian wave beam waist radius is only less than twice the wavelength.

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