Abstracts

Higher-Order Evaluation of Electromagnetic Diffraction by Circular Disks

W.H. Eggimann. "Higher-Order Evaluation of Electromagnetic Diffraction by Circular Disks." 1961 Transactions on Microwave Theory and Techniques 9.5 (Sep. 1961 [T-MTT]): 408-418.

The problem of the diffraction of an arbitrary electromagnetic field by a circular perfectly-conducting disk has been solved by using a series representation in powers of k = 2 pi/lambda and the rectangular disk coordinates. The surface current density is given in terms of the field and its derivatives at the center of the disk. General expressions for the electric and magnetic-dipole moments, the farfield and the scattering coefficient for the case of a plane wave at arbitrary incidence are presented. The calculations agree with results published by other authors. A bibliography of the most recent publications on this problem is included.

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