Abstracts

Inductive Grids in the Region of Diffraction Anomalies: Theory, Experiment, and Applications

P.J. Bliek, L.C. Botten, R. Deleuil, R.C. McPhedran and D. Maystre. "Inductive Grids in the Region of Diffraction Anomalies: Theory, Experiment, and Applications." 1980 Transactions on Microwave Theory and Techniques 28.10 (Oct. 1980 [T-MTT]): 1119-1125.

We describe briefly a rigorous theory for the diffraction of a plane wave by inductive grids having circular apertures pierced in doubly periodic fashion in a thick, perfectly conducting screen. We compare the theory with measurements made at millimetric wavelengths both for normal incidence and off-axis (in the region of strong polarization effects). We discuss the conclusions to be drawn from the calculations and measurements on the use of such grids as filters which pass short wavelengths, particularly in relation to their possible application in the field of solar energy.

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