Abstracts

Polarization Effects on Microwave Imaging of Dielectric Cylinder (Short Papers)

T.-H. Chu. "Polarization Effects on Microwave Imaging of Dielectric Cylinder (Short Papers)." 1988 Transactions on Microwave Theory and Techniques 36.9 (Sep. 1988 [T-MTT]): 1366-1369.

In this paper, theoretical and experimental studies of frequency-swept microwave imaging of an infinitely long lossless homogeneous dielectric cylinder illuminated by a right-hand circularly polarized (RHCP) plane wave are presented. The reconstructed polarization-dependent microwave image can be seen as embodying contributions from specular, axial, glory, and stationary ray components of the scattered field of the selected receiving polarization state. An automated microwave imaging system employing frequency and polarization diversity techniques is utilized to verify the theoretical and numerical results.

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