Abstracts

Permeability Measurement on Composites Made of Oriented Metallic Wires from 0.1 to 18 GHz (Short Papers)

P.-M. Jacquart and O. Acher. "Permeability Measurement on Composites Made of Oriented Metallic Wires from 0.1 to 18 GHz (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.11 (Nov. 1996 [T-MTT]): 2116-2120.

In this paper, we study the microwave properties of strongly anisotropic materials made of orientated conducting wires. We have developed a broad band method to determine their permeability μ // parallel to the direction of the wires. We investigate the magnetic properties of strongly anisotropic composites made of different types of paramagnetic and ferromagnetic wires. A simple model is proposed to account for the skin effect, and agrees with our observations. This leads to a unique broad band method for measuring the permeability of thin conducting wires.

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