Abstracts

Nanosecond Measurement of Microwave Reflection Coefficients and Properties of Materials

R.S. Hawke. "Nanosecond Measurement of Microwave Reflection Coefficients and Properties of Materials." 1969 G-MTT International Microwave Symposium Digest of Technical Papers 69.1 (1969 [MWSYM]): 68-69.

This paper presents a technique of measuring the change in the microwave reflection coefficient and Hall rotation angle while an exploslve-generated, high-pressure shock wave propagates through a dielectric or semiconductor material in a magnetic field. With this technique, the permittivity, conductivity, and Hall coefficient can be calculated. The technique is widely applicable to measurement of fast changes (10 nanoseconds) in microwave properties; furthermore, the principles are adaptable to lower and higher frequency measurements.

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