MICROWAVE NONDESTRUCTIVE MEASUREMENT OF CONCRETE USING AN OPEN-ENDED WAVEGUIDE

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ABSTRACT

This project work involves a testing of several samples of composite materials by using microwave nondestructive testing technique. The technique used is an open-ended waveguide technique, which make it possible for the measurement of concrete as a sample. The frequency range is from 8.0 GHz to 12.5 GHz . This testing proposes to measure the complex permittivity of composite materials. The main equipment for testing is *WILTRON 37269B* Vector Network Analyzer. A computer program using Fortran 77 were develops for calculation of complex permittivity. Data measurement from the analyzer is applied to this program to get the result needed.

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