**METHOD FOR FLAW DETECTION OF NON-METALLIC HETEROGENEOUS MATERIALS**

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The spilled method of flaw detection of non-metallic heterogeneous materials, based on vibrationally excited thermal fields in heterogeneous structures. The advantages of this method over classical defectoscopy methods are shown.

Making a decision

Design features

Surface condition

material

Theoretical transformation of information

Comparison of a priori information with experiment

Infrared stream to video stream converter

A priori information about the research object

Math model

Emissivity coefficient

Thermal imager

IR analog stream

Object of study

Digitization of analog infrared stream

Digital video stream

Data processing

Memorization and collection of measurement information

Visualization of information

Results of observation

Results of measurement

Error of measurement

PC

Devices for measuring temperature by the contact method

Generator of mechanical energy

Figure 3 - Structural diagram of such a measuring system

The proposed system of non-contact temperature measurement using infrared devices, which implements the specified method. Such a system is designed to measure the integral parameters of non-metallic thermal processes in heterogeneous structures due to the processing of infrared flows from their surface and can be integrated as a separate link into the general automated control system.

At the next stage of the research, it is planned to develop mathematical models that describe the temperature distribution on the surface of heterogeneous materials during excitation in the defective zone of thermal energy by the vibration method.