Annotation

In this work, an eddy current flaw detector was designed to determine the operational damageability of structural elements. The introduction substantiates the relevance and necessity of development.

In the first section, an analytical review was conducted, which considered: the main parts of the aircraft glider, in particular, their skin and the material from which it is made. Defects that appear in the casing during operation have also been reported. In addition, a general review and regulatory framework for eddy current control and available devices on the project topic were conducted.

In the second section, the type of eddy current transducer, the method of measuring the information parameter and the calculation of this transducer were selected. In the calculation of the converter, the design parameters of the converter were selected, the output signals, the limiting value of the coil overheating current, etc. were calculated.

The third section developed and described the block diagram of the device and selected components of the circuit, such as a microcontroller, frequency synthesizer, operational amplifier, etc. In addition, a low-pass filter was calculated. The developed eddy current flaw detector for determination of operational damageability of designs meets all requirements.