Abstract

Shafts used in the high lift system (wings of a plane) of an aircraft undergo extreme load conditions during takeoff and landing. Performance of shaft deteriorates along the life span of it. The failure of shaft can lead to a major catastrophe. Therefore, to ensure the safety of passengers, there is a need to develop a test system which can subject different shafts to various loads to which they are designed for and test them for their life cycle. This paper presents implementation of a test system built using LabVIEW – Field Programmable Gate Array (FPGA) which is able to simulate different load conditions on shaft. The real time data of torque and speed values are recorded using FPGA card. Software design of test system and results obtained for a test shaft are discussed in this paper.
LabVIEW FPGA based Software Implementation for an Automated Test System of Shafts used in High Lift

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Index Terms

Computer Science

Mechatronics

Keywords

LabVIEW Virtual Instrumentation  FPGA  Test System/Equipment  Automated Test System