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Monitoring of Bolted Joints Using Piezoelectric Active-sensing for Aerospace Applications

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This paper is a report of an initial investigation into tracking and monitoring the integrity of bolted joints using piezoelectric active-sensors. The target application of this study is a fitting lug assembly of unmanned aerial vehicles (UAVs), where a composite wing is mounted to a UAV fuselage. The SHM methods deployed in this study are impedance-based SHM techniques, time-series analysis, and high-frequency response functions measured by piezoelectric active-sensors. Different types of simulated damage are introduced into the structure, and the capability of each technique is examined and compared. Additional considerations encountered in this initial investigation are made to guide further thorough research required for the successful field deployment of this technology.

Ключевые слова:

Содержание.

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