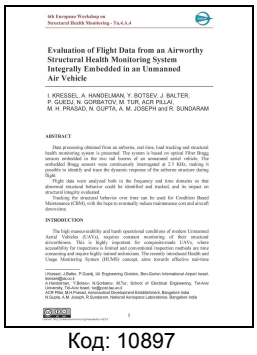

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Evaluation of Flight Data from an Airworthy Structural Health Monitoring System Integrally Embedded in an Unmanned Air Vehicle

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Data processing obtained from an airborne, real time, load tracking and structural health monitoring system is presented. The system is based on optical Fiber Bragg sensors embedded in the two tail booms of an unmanned aerial vehicle. The embedded Bragg sensors were continuously interrogated at 2.5 KHz, making it possible to identify and trace the dynamic response of the airborne structure during flight.

Flight data were analyzed both in the frequency and time domains so that abnormal structural behavior could be identified and tracked, and its impact on structural integrity evaluated.

Tracking the structural behavior over time can be used for Condition Based Maintenance (CBM), with the hope to eventually reduce maintenance cost and aircraft down-time.

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Ключевые слова:

Содержание