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- ABSTRACT**
- PRESENTATION**
- PAPER**

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## **AUTOMATED MULTI-SPECTRAL INSPECTION FOR DAMAGE DETECTION OF AERONAUTICAL COMPOSITE MATERIALS**

Aircraft undergo thorough inspections, utilizing non-destructive tests (NDT) to identify accidental or progressive damages impacting structural integrity. Such inspections are time-consuming and often involve dismantling or lifting equipment. To streamline this process, a multi-sensor robotized NDT platform has been developed. It integrates visible light for surface damage detection and infrared light

for in-depth evaluation. A 3D map is recorded to determine optimal scan trajectories. Advanced AI algorithms have been developed to enhance image recalibration, facilitating precise diagnostics for complex geometries. Ongoing efforts focus on deploying these methods for damage monitoring in aeronautical applications, utilizing 3D camera-acquired cartography.