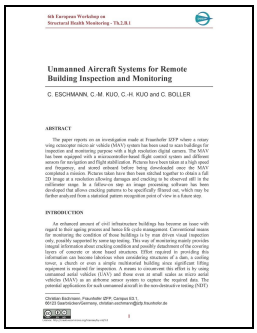

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Unmanned Aircraft Systems for Remote Building Inspection and Monitoring

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The paper reports on an investigation made at Fraunhofer IZFP where a rotary wing octocopter micro air vehicle (MAV) system has been used to scan buildings for inspection and monitoring purpose with a high resolution digital camera. The MAV has been equipped with a microcontroller-based flight control system and different sensors for navigation and flight stabilization. Pictures have been taken at a high speed and frequency, and stored onboard before being downloaded once the MAV completed a mission. Pictures taken have then been stitched together to obtain a full 2D image at a resolution allowing damages and cracking to be observed still in the millimeter range. In a follow-on step an image processing software has been developed that allows cracking patterns to be specifically filtered out, which may be further analyzed from a statistical pattern recognition point of view in a future step.

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Ключевые слова:

Содержание

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Introduction
System components
Building inspection
Automated crack detection
Conclusion