World Academy of Science, Engineering and Technology
International Journal of Aerospace and Mechanical Engineering
Vol:9, No:05, 2015

# A Simple Autonomous Hovering and Operating Control of Multicopter Using Only Web Camera

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**Abstract :** In this paper, an autonomous hovering control method of multicopter using only Web camera is proposed. Recently, various control method of an autonomous flight for multicopter are proposed. But, in the previously proposed methods, a motion capture system (i.e., OptiTrack) and laser range finder are often used to measure the position and posture of multicopter. To achieve an autonomous flight control of multicopter with simple equipment, we propose an autonomous flight control method using AR marker and Web camera. AR marker can measure the position of multicopter with Cartesian coordinate in three dimensional, then its position connects with aileron, elevator, and accelerator throttle operation. A simple PID control method is applied to the each operation and adjust the controller gains. Experimental result are given to show the effectiveness of our proposed method. Moreover, another simple operation method for autonomous flight control multicopter is also proposed.

**Keywords :** autonomous hovering control, multicopter, Web camera, operation
**Conference Title :** ICIUS 2015 : International Conference on Intelligent Unmanned Systems
**Conference Location :** Amsterdam, Netherlands
**Conference Dates :** May 14-15, 2015