

## **Compound Learning Control for Autonomous Position and Obstacle Control of Aerial Hovering Vehicles**

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### **ABSTRACT**

Aerial hovering vehicles represent application of non-linear devices in real environment. Controls of such devices are difficult due to instability in certain states of operation. Operating such device requires skills, and such knowledge of skills are even hard to develop as autonomous control system. In this research, a Compound Learning Control System for autonomous position control of aerial hovering vehicles among obstacle is designed. Compound function was applied together with two Learning Control functions concerning position transition and obstacles avoidance in the designed system. The system is expected to provide reliable and safe autonomous position transition through obstacle for an aerial hovering vehicle with non-linearity and was applied in simulation of an aerial hovering vehicle. Simulation results show that the system was able to provide autonomous position transition through obstacles successfully.

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