



Automatic Balancing System in Quadcopter with change in Center of Gravity

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Abstract

This paper presents an automatic balancing system using PID feedback control in Quad - Roter Helicopter also called as Quadcopter with center of gravity moved on account of payload. Nowadays, a Quadcopter is widely used for variety of applications due to high stability performance. In many applications in Quadcopter usually carried a payload on the middle of its frame to maintain the balance during flight. However, in some case of application needs to attached a payload in one side that position of payload cause the center of gravity moved to improperly position. In this paper, we used the combination of the mass of battery and landing gear to create a counterbalance in order to compensate the payload. The affect of counterbalancing implemented by PID algorithm to stabilized. The result indicate that the PID control algorithm works well to maintain the balance in Quadcopter with center of gravity moving during flight.

Keywords: Balancing System, Quadcopter, PID Controller