Project Report Title : Design and Development of Quad Rotor for Stability
with Closed loop control

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Academic Year : 2012

Abstract

This project is to design and develop four small propeller aircraft. It use microcontroller to control the stability of the aircraft based on the input from accelerometer and gyroscope sensors. Accelerometer is a sensor to measure acceleration and Gyroscope is a sensor to measure angular velocity. Size of aircraft is wide 45 cm long 45 cm and weigh is 1.1 kg. The structures made of aluminum and epoxy. The aircraft is powered by four motors of the rotor and the size 9 inches.

In this project, the test in stabilization automated controls by PID (Proportional Integral Differential) based on a microcontroller. The microcontroller is the angular

velocity of the gyro sensor feedback. Acceleration sensor and processed by the controller then sends commands to control the speed of each propeller.

Result of the development and experimental is use a PID controller can stabilize the aircraft at the desired level. Can be balancing in height level less than 2 meter.