

ABSTRACT

Unmanned aircraft technology or commonly called UAV (Unmanned Aerial Vehicle) can be controlled either manually or autonomously (automatically) remotely. Drone technology itself is often found in agriculture, the military, and so on depending on the desired needs. And generally, the research aimed at this blimp drone uses a bi-copter configuration. Then in this drone research, the blimp drone was implemented using a quadcopter drone configuration with the addition of a 24-inch PVC balloon without a frame as efficiency in lifting power apart from each brushless motor and also the use of balloons on the blimp drone this time to be more efficient in consumption of current in battery.

Then in this study the method used in the test is the PID fine tuning method in each test, this aims to get the stability value of the balloon so that it can be stable at a certain height. In the method of fine tuning the PID here, it is done by trying to get the best value from the response of each movement. And from this, in this study, the author can prove that with the balloon here, the blimp functions to increase the efficiency of lifting power up to 11.15% only with a balloon size of 24 inches or 69.96 cm in diameter. The blimp drone can be run stably at altitude and is able to maintain an altitude of 5 meters for at least 10 seconds and even run autonomously.

Keywords : Fine Tuning, UAV, altitude, Bi-copter, Blimp Drone, Autonomous.