ABSTRACT

Quadcopter is kind of Unmanned Aerial Vehiclhe (UAV) rotary wing which has four arms. Quadcopter can fly vertically and horizontally, it is influenced by three axes, there are x-axis (pitch), y-axis (roll), and z-axis (yaw). To perform the horizontal movement needed the stability of four motors that quadcopter will not turn upside down. PID control is used to set the four motors, and to get the PID value used Ziegler Nichols tuning method. The control value obtained after tuning that Kp = 4.5, Kd = 2 on the x axis, Kp = 4.8, Kd = 2.7 on the y axis and Kp = 8.75, Kd = 0.005 z axis. Moving forward is basically the same as the hover movement, the difference is only found in the corner of one axis, and therefore the set of points given angle in order quadcopter can perform horizontal movement is 2^o - 10^o.

Keyword : *Quadcopter, PID, pitch, roll, yaw, Ziegler Nichols.*