ABSTRACT

Balancing robot is the based on the concept of inverted pendulum. Balancing robot is a mobile robot that has two wheels that will not be able to run balanced without the existence of a precisely adjusted control system. In case to make robot balancing balanced we need a control method that is adjusted precisely so that the robot can balance itself without any external force.

This research will be designed a balancing robot with the PID method with accelerometer and gyroscope sensors *and equipped with a wireless WIFI controller to control the instrument. The goal is that the robot can be controlled from a safe distance by the user.*

At 1 degrees setpoint with the setting Kp=12, Ki=0.001 Kd=0.24 with an average response time of 2 seconds The robot can manage to maintain its balance and receive good quality motion control input from the user with an optimum distance of 10-30 meters

Keywords*: balancing robot, accelerometer, gyroscope, PID.*