

## ***ABSTRACT***

*In general, line follower robot control systems uses conventional controllers such called PID (Proportional Integral Derivatives). The output results from the use of this system can sometimes make the movement of the robot unstable if given sensitive constant. The more sensitive the constant value is given can cause a high overshoot and undershoot value if there is a disturbance. However, if the reference value is less sensitive, it can reduce the overshoot and undershoot values, but it will extend recovery time. In order to overcome this problem, Fuzzy logic propose to help determine the constant from the error parameters and change the value of the previous error and reduce time recovery. From the test field and designing process of Fuzzy-PID control shows better control reaction with 40% minimized overshoot from the original PID overshoot amplitude, and shorter recovery time which cut into 3.12 seconds rather than non-tuned PID constant. The use of Fuzzy logic to tune PID can compensate stability of robot movement which use ackerman steering system and PID control.*

***Keywords:*** *Fuzzy-PID, Robot, Line Follower, Image Processing.*