

ABSTRACT

IMPLEMENTATION OF PID AND FUZZY LOGIC CONTROL TO DC MOTOR SPEED CONTROL SYSTEM AS DIGITAL CONTROL PRACTICUM APPLICATION

Andriana Febiyanti

Supervisor: Dr. Ir. Basuki Rahmat, M.T. and Agung Surya Wibowo, S.T., M.T.

The industry process now is more complicated so that become of the reason need for increased and improved system performance to support the industry process goes well. Therefore, the required control systems are integrated and controlled by computer in order to output destination system in accordance be expected. To learn about reliable control systems on a small scale, then implemented of PID and fuzzy logic control for DC motor speed control system. In addition to implementing of PID and fuzzy logic control, the purpose of this research is to see the response of the DC motor speed control system. The analysis does is compare the response speed control system of DC motor using PID and fuzzy logic control.

Media of communication built in this research use the ethernet network. On a ethernet network there were several device used, such as: PC and Arduino (Ethernet Shield and Mega). Connection Arduino Mega with PC using rj45 cable. Arduino Mega used as data gatherer of transmitted data of DC motor module to be sent to PC. Serial communication used to easy data exchange among motor DC modules with Arduino Mega.

Testing carried out in this research was by inserting setpoint value a changeable and can be set through PC. From this testing is expected to have an observed output response.

Keywords: PID, Fuzzy Logic, DC Motor Module, Arduino Mega.