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Project Title : A Development of Servo Hydraulic System Controlling Experiment Set
Major Field : Mechatronics Engineering
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Abstract

This project is the development of experimental set to control a servo hydraulic system, by studying and comparing the results of the PID Controller, Fuzzy Controller, and Hybrid of Fuzzy and PID Controller. The development consists of four parts. The first part is the position control of cylinder is measured by the potentiometer and control the speed of the hydraulic motor is measured by the encoder. The second part is the development and construction of electronic circuits to control a hydraulic servo valve to control the direction of motion of the cylinder and a hydraulic motor. In the third part is used with a computer and LabVIEW program controlled servo hydraulic through the DAQ card model NI PCI/PXI-6221 (68-pin). And finally the usage of touch-screen microcontroller controls. Result of the development and experimental, the Fuzzy Controller has better response than the PID Controller, and a Hybrid of Fuzzy and PID controller has better response than the PID and Fuzzy Controller.