

Project Report Title : The Motion Simulator for Three DOF Pitch, Roll, Heave
By Hydraulic System
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Academic Year : 2013

Abstract

This project is to develop and design. The Simulation and control of hydraulically system that moves two-degree of freedom 1 axis. It is controlled by Proportional Integral Differential : PID

The work consists of two parts. The first part is to design and build a control circuit direction of Proportional Valve by using IC : L298. It is IC Driver. The second part is the program development that controls by LabView. It can transfer data between the user and computer. It also inserts the command by AVR microcontrollers'family. The Arduino Mega 2560 model can generate PWM signal (Pulse Width Modul/ation : PWM) and receive the data of the sensor.

Test results show that PID control system can move into a good position. However, the speed of the response is not good enough. Due to the receiving and Sending data between Microcontroller Ardnino Mega 2560 Version aren't speed enough. The Arduino Mega 2560 microcontroller is suitable for close loop that is better than receiving data.