

ABSTRACT

In the learning process often have difficulty in understanding the concept of a theory of learning. One was learning to control the balance. On a balance control design, system balance is an issue that is very important. The existence of a balance control with system feedback allows the balance will be achieved despite the interference in the system.

In this thesis have designed a prototype that describes a theory of process control concepts that will be applied to balance a seesaw. In the seesaw device comprises a microcontroller, sensor positions, and DC motors. In the initial state of the system seesaw is poised. When given the load on one side or the load has 2 different weight seesaw will then be in a position not balanced anymore, so the sensor will detect the change and send it to a microcontroller that will be processed and forwarded DC motor that will drive the teeter-obtained tipping until the desired balanced position.

From the research, obtained the balance control system using the method of looking for a value error and then fix it (Trial and Error) that uses a closed-loop control with feedback derived from the value of the voltage coming out of the potentiometer is used as a sensor. Microcontroller reads the ADC value then the value of the correction made by comparing the value of the set point (2.45 v). If the error value is positive then the motor will rotate to the left and if the error is negative then the motor will rotate to the right.

Keywords : Balance Control , Sensor Position , Motor DC , Trial And Error