Thursday 12 November 2020

Aurora Test + Closed Loop Control

Aim: To control the speed of a DC motor using a PID controller

Equipment: Aurora 4 Test Rig, Servo Motor, Encoder, Computer with Aurora 4 software

Method:

1. Connect the servo motor to the Aurora 4 Test Rig and the encoder to the motor.
2. Connect the Aurora 4 Test Rig to the computer using a USB cable.
3. Open the Aurora 4 software and select the servo motor and encoder.
4. Set the desired speed of the motor in the software.
5. Enable the PID controller in the software.
6. Observe the motor speed and adjust the PID parameters as necessary to achieve the desired speed.
7. Record the PID parameters and the motor speed.

Results:

PID Parameters	Motor Speed
P = 1.0, I = 0.1, D = 0.01	1000 RPM
P = 2.0, I = 0.2, D = 0.02	1500 RPM
P = 3.0, I = 0.3, D = 0.03	2000 RPM

Conclusion: The PID controller was able to control the speed of the DC motor to the desired speed. The PID parameters can be adjusted to achieve different motor speeds.

ADUR & WORTHING PLANNING SERVICES

PLAN NUMBER: 0333/17

DATE VALID: 18 SEP 2017

Location Plan

Existing Site Plan

Proposed Site Plan

Existing Elevations

Proposed Elevations

Existing Floor Plans

Proposed Floor Plans

Section

Site Survey

Roof Plan

Landscaping Plan

Tree Survey

Arboricultural Report

Ecological Report

Flood Risk Assessment

Drainage Strategy

Design & Access Statement

Planning Statement

Transport Assessment

Noise Assessment

Air Quality Assessment

Contaminated Land Assessment

Heritage Statement

Archaeological Report

Viability Report

Retail Impact Assessment

Sequential Test

Other

Fee

Signature

Date