Stepper Motor control using Raspberry Pi for Laser Beam position control

Abstract

Automatic laser beam alignment is essential for positioning the laser beam path aligned with the imaging lens system. It will also help to couple maximum power to the plasma for the diagnostics to improve the signal-to-noise ratio. Laser beam position has been control using Gimbal mirror which is controlled thorough stepper motor or Pico motor. Raspberry pi based stepper motor control required for laser beam stabilization. The student has to work on the instrumentation and control hardware and software development for stepper motor using Raspberry Pi.

Academic Project Requirements:

1) Required No. of student(s) for academic project: 1

2) Name of course with branch/discipline: B.E./B.Tech. Electronics and Instrumentation Engineering

3) Academic Project duration:

(a) Total academic project duration: 8 Weeks
(b) Student's presence at IPR for academic project work: 5 Full working Days per week

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