

Project 2:

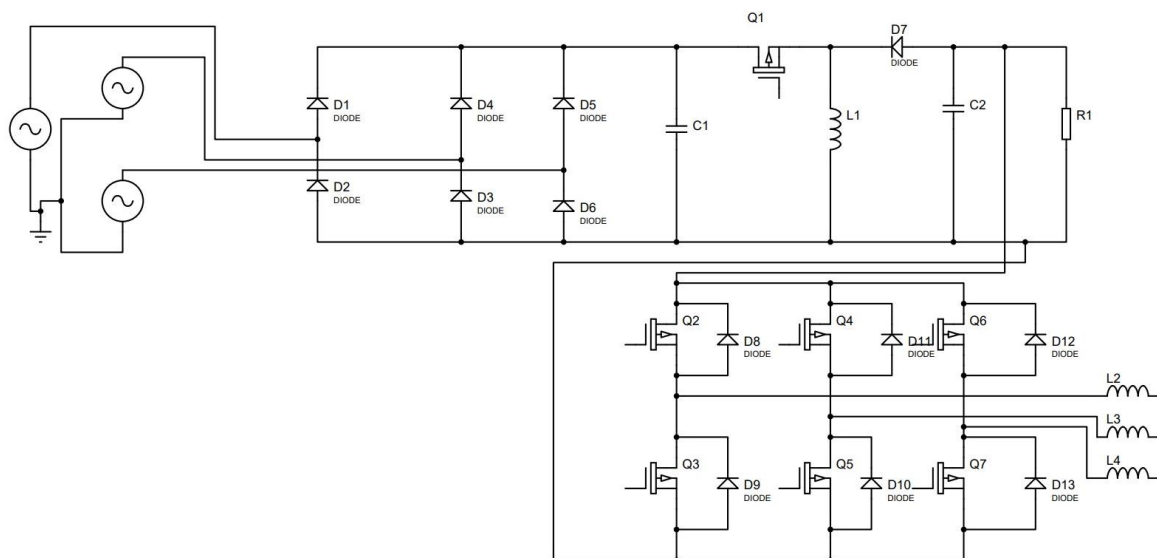
POWER ELECTRONIC INTERFACE

(To obtain constant DC output voltage from varying AC input)

Abstract

This project aims to design and implement a power electronics-based system for obtaining a constant DC voltage from a varying AC input voltage. A 3-phase diode bridge rectifier is used to convert the AC input into a pulsating DC waveform. The pulsating DC waveform is then fed to a DC buck-boost converter, which regulates the output voltage to a constant level. The project utilizes the principles of power electronics, including the use of semiconductor devices such as diodes and thyristors, to achieve the desired output voltage. The system is designed and implemented using MATLAB SIMULINK. The results demonstrate that the system can effectively obtain a constant DC voltage from a varying AC input and generate a 400V DC voltage for power supply purposes. This project has potential applications in renewable energy systems, electric vehicle charging systems, and other power electronics-based applications.

Simulation Model -



Result:

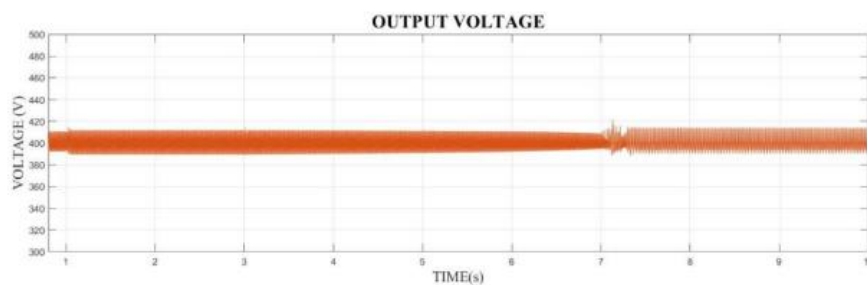


Fig.6 Output Voltage