



Department of Electrical Engineering

Power Systems Laboratory

List of Experiments

ROTOR -1

1. Write a MATLAB program to evaluate the equivalent pi-model and the transmission matrix for a 3-phase long transmission line.
2. Write a MATLAB program to find the sending end voltage & power and the voltage regulation of a 3-phase medium transmission line.
3. Develop a MATLAB model to find the voltage, current and power at the receiving end and the voltage regulation for a medium transmission line.
4. A balanced three phase voltage is applied to a Y-connected load with ungrounded neutral. The three phase load consists of three mutually- coupled reactances. Write a MATLAB program to:
 - a) Determine the line currents by mesh analysis without using symmetrical components.
 - b) Determine the line currents by using symmetrical components.
5. Construct the V curve for a synchronous motor with varying field excitation from leading to lagging power factor. Assume suitable OC characteristics.

ROTOR-2

6. Study and describe the various elements in the Simpower System library of Simulink.
7. To verify the superposition theorem for a 3-phase radial electrical power system using Simulink.
8. Develop a Simulink model for the single phase energisation of a three phase transmission line.
9. Design a surge arrestor used in a transmission line using Simulink.
10. Develop a Simulink model for a series compensated transmission line.