



ABU DHABI UNIVERSITY

ELECTRIC CIRCUITS II

Project Report
Problem 1 and 2

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Section 1

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Abstract

In this project we had two questions to answer. Both Questions were to be done in MULTISIM. In the First Question we had to find out V_{out} from a transformer and in the second Question we had to convert Delta to Wye and confirm the line currents.

1 Introduction

We were supposed to do two exercises, in both exercises we solved circuits using multi-sim. In the first one we got familiarized with the ideal transformer and we used ac analysis to find the voltage across the output of the transformer. In the second example we were introduced to the AC Power component, which is somewhat similar to AC Voltage. Here in this example the circuit contained a wye-connected source and a delta-connected load and we found the line and delta currents using ac analysis.

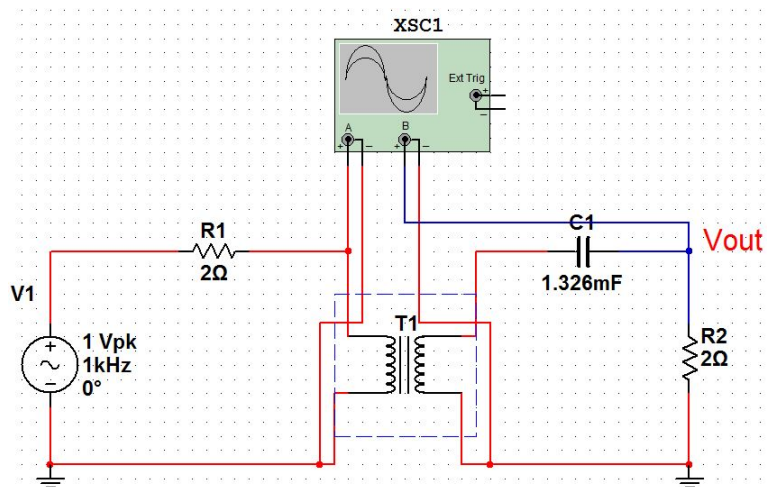
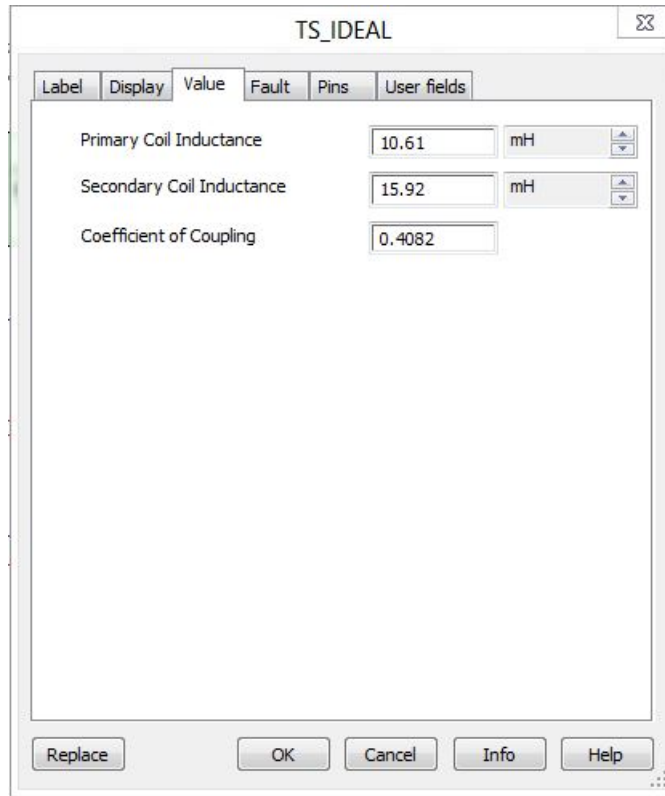
2 Project Set-up

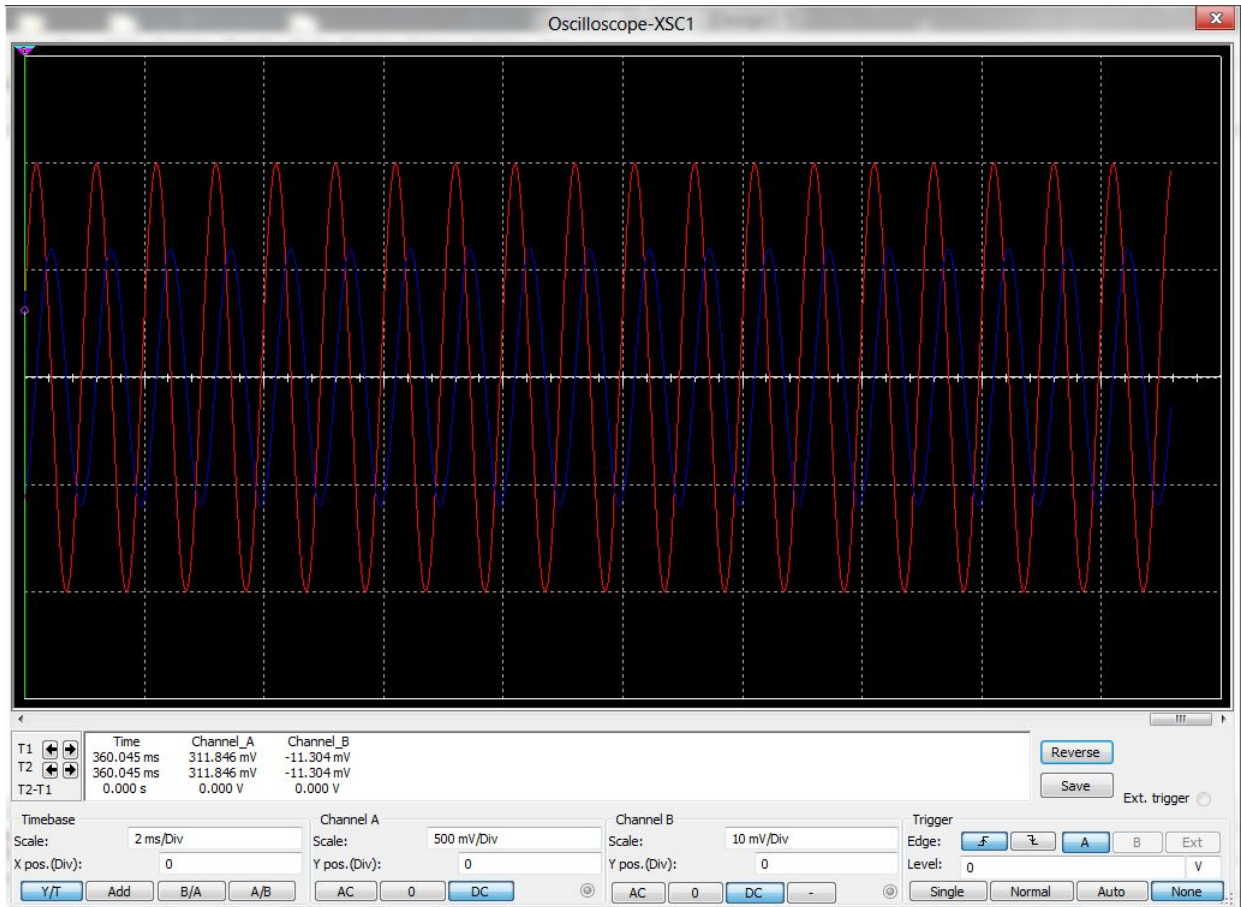
For the first exercise we connected an ac supply to a 2 resistor and then that resistor to a transformer in series, the outer terminals of the transformer were connected to a 1.326mF capacitor and then in series to a 2 resistor, and we found the voltage difference across the resistor. In the second exercise we have a wye-connected source and a delta connected load, we connected three 120 Vrms voltage sources in parallel then these voltage sources were then connected to three 10 resistors where all three resistors were connected to 20mH inductors.

3 List of Equipment used

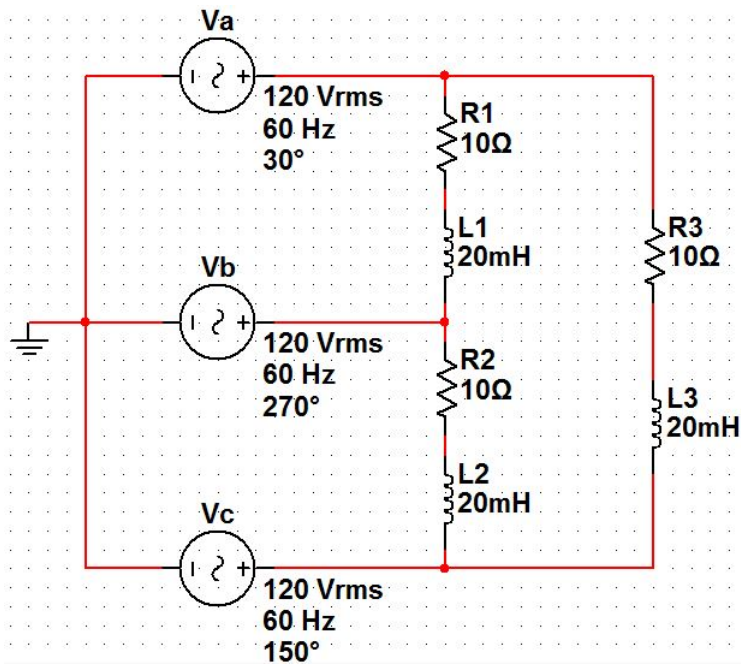
- MULTISIM.
- Computer.

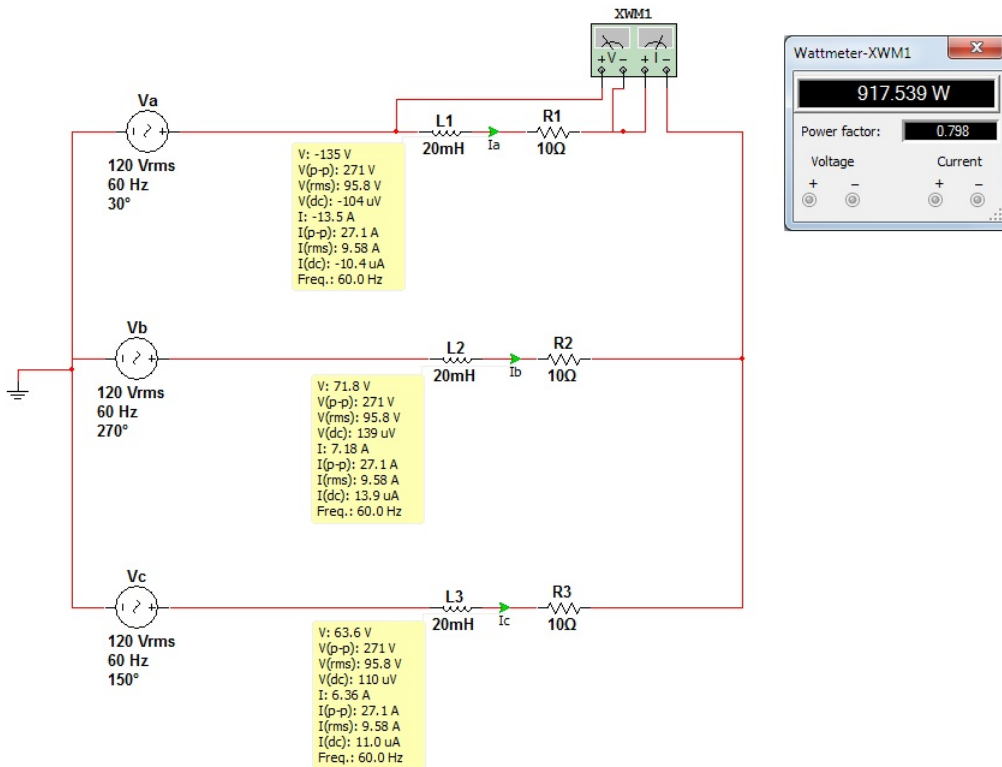
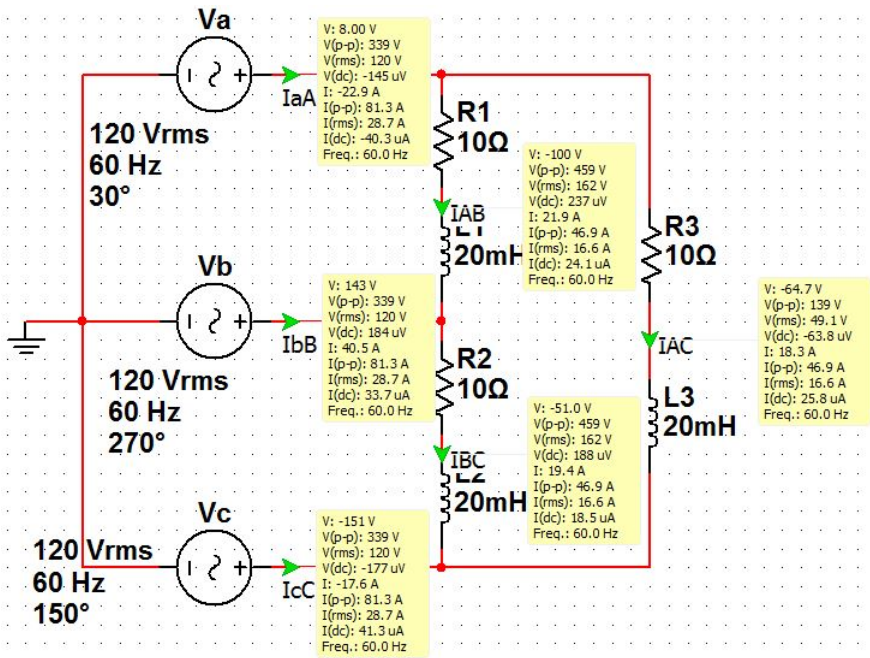
4 Question 1

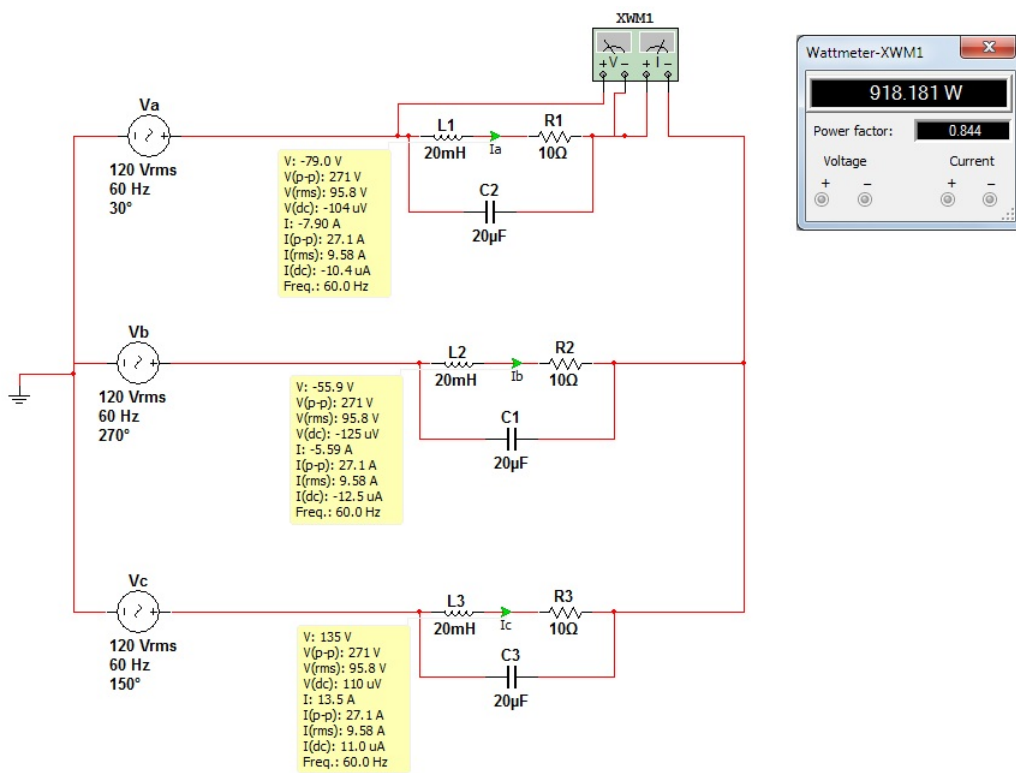




5 Question 2







6 Conclusion

- Adding the capacitors in parallel improved the power factor.
- power factor was improved because the capacitors have reduced the inductive impedance of the inductors, So the circuit has more real resistance.
- Y-Y connection is typically very easy to handle with.

7 Team Dynamics

Everybody in the group contributed equally in making Lab report, doing the experiment and concluding results analytically.

Report/Member	Weight/Grade	Mirza Mohsin	Ali Raza	Bilal Arshad	Muhammad Obaidullah
Abstract	10%	100%	0%	0%	0%
Introduction	20%	0%	50%	0%	50%
Procedure Part 1	10%	75%	0%	0%	25%
Procedure Part 2	10%	0%	75%	0%	25%
Procedure Part 3	10%	0%	0%	75%	25%
Results Part 1	10%	75%	0%	0%	25%
Results Part 2	10%	0%	75%	0%	25%
Results Part 3	10%	0%	0%	75%	25%
Conclusion	10%	0%	0%	100%	0%
Claimed Contribution		25%	25%	25%	25%
Contribution Validation Penalty		0%	0%	0%	0%
Overall Contribution		25%	25%	25%	25%
Overall Grade with Quality	100%	100.0%	100.0%	100.0%	100.0%