

P1320L, Displacement Current

Lab 13, Work Sheet

Submitted by: _____ Experiment's date: _____

Team members:

1.- _____ 2.- _____

3.- _____ 4.- _____

Instructor must initial: _____

Introduction

Write a short paragraph about the purpose of this lab.

Data

Instructions: Collect your data using your lab manual as a guide, unless directed to do otherwise by your lab instructor. Each measurement must have units. If a table is used, then it must have headers (for rows or columns) that include units

Measure the period of the input signal, and the actual values of Resistance, and Capacitance. Record the values in columns.

Measure the peak-to-peak voltage drop across the resistor and capacitor for each of the input voltages listed. Record the values in columns.

Analysis

Instructions: Follow the steps on this worksheet, using your lab manual as a guide, unless directed to do otherwise by your lab instructor. Show at least one sample calculation for each result requested. The results must include appropriate SI units. If a table is used, then it must have headers (for rows or columns) that include units

1. Determine the angular frequency of the input signal.

2. For each voltage drop across the resistor, determine the peak-to-peak value of the conduction current (use Ohm's law). Show here a sample calculation, and record your results in the first column the table below.

6. What should be the value of the slope of the fitted line? Why?

7. Compare the actual value of your fitted line to the expected value.