

ENGR 301

Lab 1

Time and Frequency Responses of Series RLC Circuits

Partner 1

Partner 2

Date: MM/DD/YYYY

Objective:

- To investigate the *step, impulse, and frequency responses* of series *RLC* circuits. To compare *experimental* results with *theory* and *LTspice simulations*, and to account for possible differences.

Components/Instrumentation:

- Check the manual

Procedures, Data, Results, Analysis:

M1: Procedure

- a.) Put the measurements in a table format.
- b.) Explanations/Analysis of the result
Put Image here to support the result.

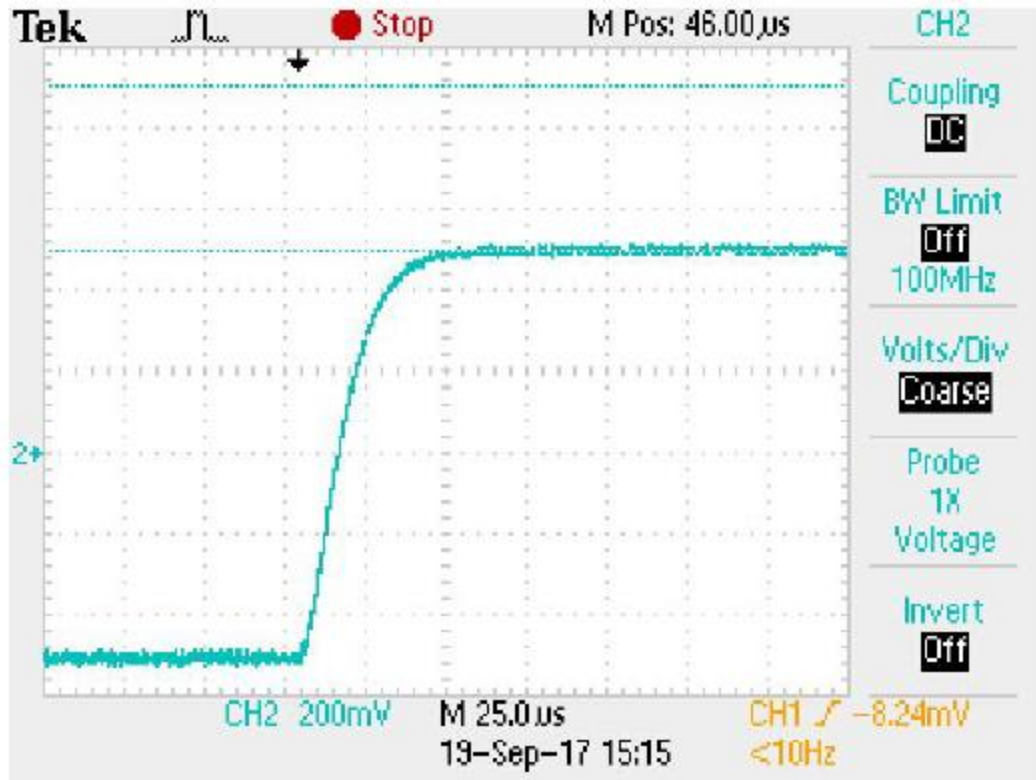
E.g. The damping ratio determines whether the system response will produce overshoot or not.

There is overshoot when the system is underdamped because...

C2: Procedure

- a.) Make sure you use MS Word Equation Editor.

$$f_0 = \frac{1}{2\pi\sqrt{LC}}$$



Conclusion:

Talk about what you learned in the lab. Summarize the concepts. Explain whether your measurement match the simulation results and the calculation. Talk about the difficulties you face during the lab, e.g. the 5% discrepancy between the measurement and the simulation is likely due to component