

ECE 209L - PHASOR CIRCUITS - LAB 6

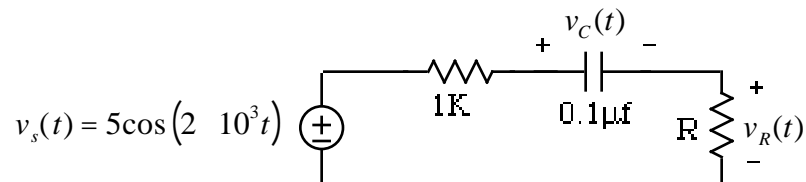
VOLTAGE DIVISION IN PHASOR CIRCUITS

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A.P. FELZER

OBJECTIVE

The objective of this lab is to verify that voltage division works for the phasor circuits of circuits like the following



PARTNER 1: $R = 1K$

PARTNER 2: $R = 2K$

LAB

1. **Prelab** - Obtain and measure your resistor and capacitor values. Then compare your nominal and measured values. Put your results in a Table
2. Measure the amplitudes and phases of $v_R(t)$ and $v_C(t)$ without changing the locations of any of the circuit elements.
3. Explain how you were able to measure the phase of $v_C(t)$ **without** changing the locations of any of the circuit elements. Hint - explain how you used the external trigger.
4. Make use of your measurements in Problem (2) to obtain equations for $v_R(t)$ and $v_C(t)$.
5. **Prelab** - Draw the phasor circuit with your measured circuit values and then make use of voltage division to solve for $v_R(t)$ and $v_C(t)$
6. Compare your measured and calculated values for the magnitudes and phases of $v_R(t)$ and $v_C(t)$