

AC Circuits

As you work through the steps in the lab procedure, record your experimental values and the results on this worksheet. Use the exact values you record for your data to make later calculations.

Procedure A: Determining resonant frequency

CHECKPOINT 1: Ask your TA to check your circuit.

What is the value of V_0 ?

Complete Data Table 1.

Data Table 1

f (Hz)	V_R (V)	f (Hz)	V_R (V)
10		90	
20		100	
30		110	
40		120	
50		130	
60		140	
70		150	
80		160	

What is the experimental value of the resonant frequency?

What is the experimental value of the angular resonant frequency?

What is the theoretical value of the angular resonant frequency?

What is the percent error in the value of angular frequency?

CHECKPOINT 2: Ask your TA to check your data and calculations.

Procedure B: Determining phase shift

Does V_R peak before or after the output voltage for $f = 10$ Hz?

What is the phase shift in this case?

Does V_R peak before or after the output voltage for $f = 160$ Hz?

What is the phase shift in this case?

CHECKPOINT 3: Ask your TA to check your data and calculations.