

# Lab 6: The Impedance of Capacitors

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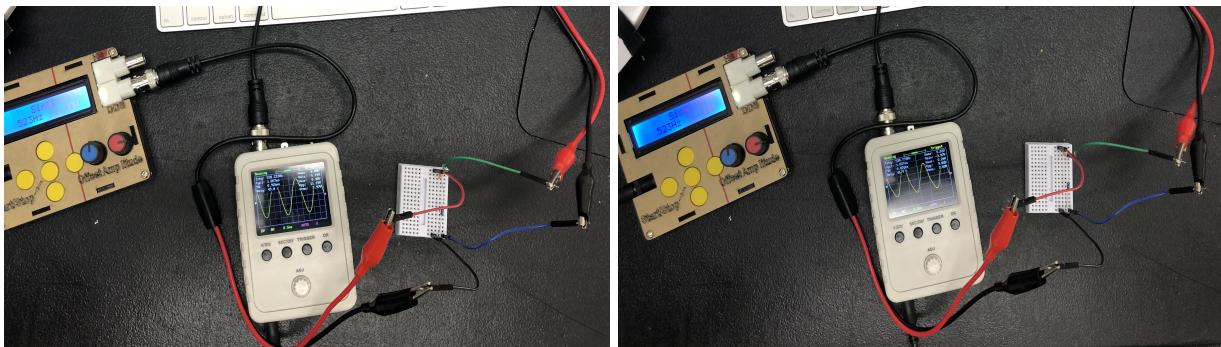
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## Part 1

**Table 1: Impedance of a Capacitor**

C	R	$V_{RC}$	$V_R$	V/DIV for $V_R$	$f_{gen}$	$f_{osc}$	$I_R$	$V_C$	$X_{C,exp}$	$X_{C,the}$
$0.22\mu F$	$1k\Omega$	3.97V	3.08V	2V	523Hz	538.793Hz	0.0031	2.5049V	993.6Ω	1383.2Ω
$0.33\mu F$	$1k\Omega$									
$0.10\mu F$	$1k\Omega$									
$0.47\mu F$	$1k\Omega$									
$0.68\mu F$	$1k\Omega$									
$1.00\mu F$	$1k\Omega$									

**Picture  $R_{RC}$  &  $R_c$**



**Graph 1**

**Graph 2**

## Discussion 1

1. What slope do you find for graph 2 and how does it compare to your expectation?
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2. What does a deviation from the linear fit indicate? How would you correct for the ones with the largest error?
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