

ELEC 302-81  
Lab 1  
Power in AC Circuits

January 16, 2013

Date Performed:	January 14, 2013
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## 1 Introduction

## 2 Procedure

## 3 Results

## 4 Conclusion

## 5 Calculated Data

R $\Omega$	L H	C $\mu F$	I <sub>1</sub> A	E <sub>1</sub> V	P W	$\theta$ deg	S VA	Q VAR	p.f.
1200	0.8	—	0.210	60	4.56	68.77	12.58	11.73	0.36
1200	0.8	2.2	0.164	60	4.56	62.48	9.86	8.75	0.46
1200	0.8	4.4	0.122	60	4.56	51.65	7.34	5.76	0.62
1200	0.8	8.8	0.076	60	4.56	-2.67	4.56	-0.21	1.00
1200	1.6	—	0.114	60	3.39	60.27	6.84	5.94	0.50
1200	1.6	2.2	0.075	60	3.39	41.06	4.50	2.96	0.75
1200	1.6	4.4	0.057	60	3.39	-0.50	3.39	-0.03	1.00
1200	1.6	8.8	0.115	60	3.39	-60.51	6.89	-6.00	0.49

Table 1: Calculated Data

## 6 Experimental Data

R $\Omega$	L H	C $\mu F$	I <sub>1</sub> A	E <sub>1</sub> V	P W	$\theta$ deg	S VA	Q VAR	p.f.
1200	0.8	—	0.206	60.9	4.53	68.0	12.58	11.73	0.36
1200	0.8	2.2	0.158	60.9	4.56	60.9	9.86	8.75	0.46
1200	0.8	4.4	0.117	60.9	4.59	49.0	7.34	5.76	0.62
1200	0.8	8.8	0.081	61.0	4.65	-4.4	4.56	-0.21	1.00
1200	1.6	—	0.116	61.0	3.94	55.4	6.84	5.94	0.50
1200	1.6	2.2	0.079	61.0	3.96	32.8	4.50	2.96	0.75
1200	1.6	4.4	0.067	61.0	3.99	-6.6	3.39	-0.03	1.00
1200	1.6	8.8	0.124	61.2	4.05	-57.4	6.89	-6.00	0.49

Table 2: Experimental Data

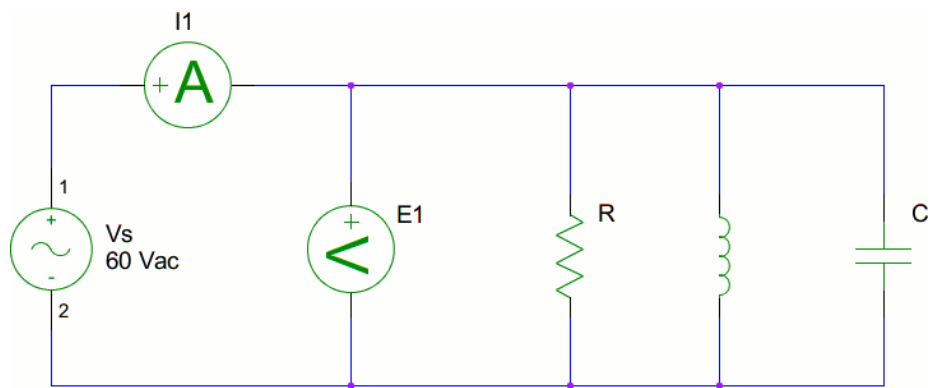


Figure 1: Parallel RLC Circuit Configuration