Lab 8

Operation Amplifier

ELEN 50 Lab: Electric Circuits I
Course Number: 51310
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Submitted
At

By:

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Table 2 - Resistance Values

	Ri	Rf1	Rs	Rf2	
Nom Values	2.7	5.6	1.2	3.8	kOhm
Meas Values	2.692	5.586	1.195	3.830	kOhm

Table 3 - Gain of Operational Amplifier Circuits

	Expected Gain	Measured Gain	% Error
Inverting OpAmp	-2.075	-2.066	0.43%
Non-Inverting OpAmp	4.2050	4.181	0.57%

Table 4 - Voltage Amplitude

Rdec (Ohm)	**Vg (V)**	**Vout (mV)**	**Vout with voltage follower (V)**
5000	1.05	0.84	0.99
3000	1.05	0.75	0.99
1000	1.05	0.49	0.94
800	1.05	0.43	0.93
400	1.05	0.29	0.88
200	1.05	0.19	0.83
100	1.05	0.14	0.81
50	1.05	0.60	0.80

Without the voltage follower, the Vout is being affected with the Rdec so that the voltage decreases. The voltage follower aids in maintaining the voltage in order to prevent it from dropping more than without the voltage follower.

Table 5 - Resistance Values

	R1	R2	R3	R4	
Nom Values	1.2	2.2	2.7	3.8	kOhm

Meas Values	1.192	2.1912	2.694	3.826	kOhm

Table 6 - Voltages of Operation Amplifier Circuit

	Theoretical (V)	Measured (V)	Percent Error
Va	1	1	0.00%
Vo1	1.704	1.694	0.59%
Vb	1	1	0.00%
Vo	0.617	0.620	-0.49%

There are practically no discrepancies, since the percent error all are showing insignificant percent errors.