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(单人组)

## EE204 Laboratory 6:

Introduction：

EQUIPMENT：

1. PoIr supplies
2. 741 Op- Amp
3. Assorted Resistors
4. Function Generator
5. Digital Multimeter

OBJECTIVE：

Preliminary study of the use of OP-AMP, using. 741 OP AMP to build op-AMP circuit.

Part 1

**Graph:**

图片包含 游戏机, 电路

描述已自动生成

Fig1

图表, 折线图

描述已自动生成

Fig2

***Comment:***

Vout / Vin decreases as frequency increases from 10Hz to 100MHz.

When I alter the frequency from 10 to 500Hz, the Vout/Vin ratio drops from 8 to 1.

The Vout / Vin becomes steady when the frequency is increased to 500Hz or higher.

It works like a low pass filter; when I use low frequency, the gain is higher, and when I use high frequency, the gain is loIr.

Part 2

**Graph:**

图片包含 游戏机

描述已自动生成

Fig3

图表, 折线图

描述已自动生成

Fig4

***Comment:***

Because I added a capacitor in parallel with the resistor, the Vout/Vin is less than in Part 1. The benefit diminishes.

Part 3

**Graph:**

图片包含 游戏机, 电子, 电路, 电缆

描述已自动生成

Fig5

图表, 折线图

描述已自动生成

Fig6

***Comment:***

When I alter the frequency from 100 to 1KHz, the Vout / Vin grows slowly, but when I raise the frequency from 1KHz to 10KHz, the Vout / Vin explodes.

When the frequency is increased from 10KHz to 10MHz, the Vout / Vin ratio approaches zero.

I believe the LM741 op-amp is defective, hence I are unable to obtain the necessary graph.

Part 4

篮球框

中度可信度描述已自动生成

Fig7

电脑萤幕

描述已自动生成

Fig8

***Comment:***

The maximum voltage is 27.8 volts, and the frequency is 2.84 kHz.

Part 5: A summary of what you gained in the lab.

In LAB6, I used a capacitor and a resistor to make a low pass filter. When I use a low frequency filter, the Vout / Vin ratio is quite high, and it decreases drastically when the frequency is increased.

When I input a high frequency signal, the Vout / Vin is quite tiny, and the frequency does not vary much.

When I contrast a high pass filter with a higher frequency signal, the Vout / Vin ratio increases. The Vout / Vin is quite little when I input a low frequency signal.

*That’s all, thank you for your patient examination！*

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*Hanlin Cai*