**REPORT**

*注意事項: 當天demo只需填寫Experiment Result與 Waveform，剩下部分由同學回去自行填寫*

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| --- |
| **Experiment 1: Difference Amplifier** |

請參考講義 “109電工學實驗 Lab07 ver 1.pdf” 第8頁

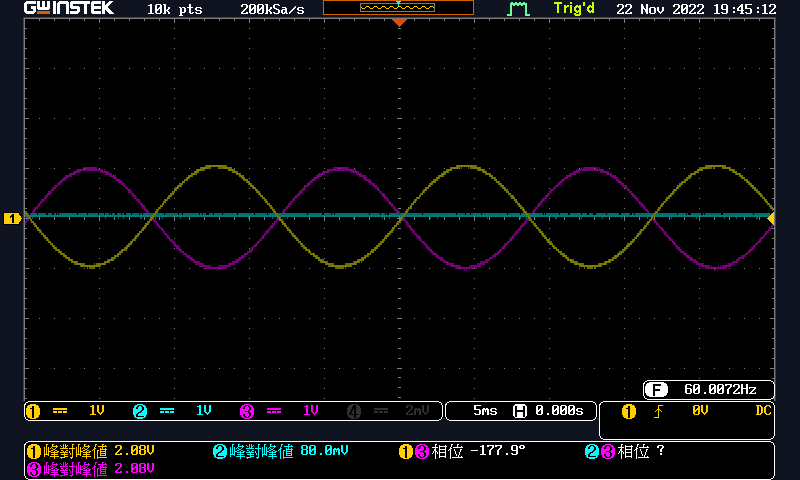
**Write down your pinout. (示波器的通道)**

|  |  |
| --- | --- |
|  |  |

**2. Differential Mode**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | v1,pp  (V) | v2,pp  (V) | vd,pp=v2-v1  (V) | vout,pp  (V) | ADM  (V/V) | Phase (vout->v1)  (degree) |
| **Theoretical Result** |  |  |  |  |  |  |
| **Experiment Result** |  |  |  |  |  |  |
| **Simulation Result** |  |  |  |  |  |  |
| **Error (%)** |  |  |  |  |  |  |

P1\_vout , v2 and v1 experiment waveform (一張圖同時呈現三通道的波型，用Meas 顯示Phase)



**Simulation:**

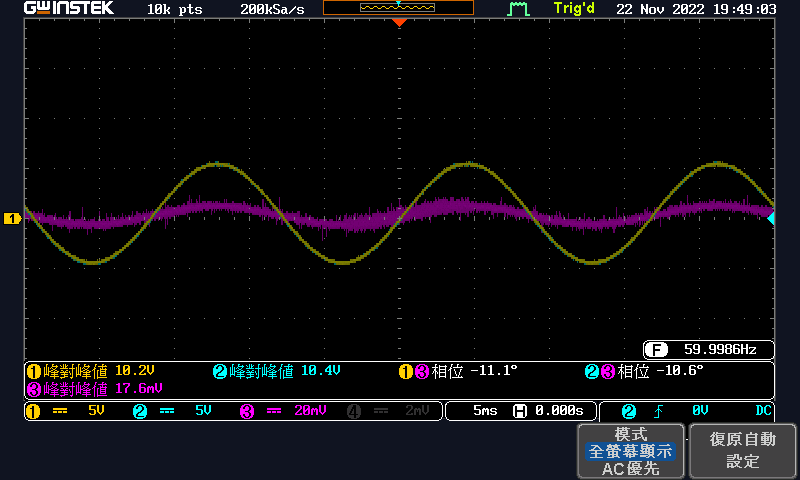
P2\_LTspice電路圖

P3\_vout , v2 and v1 simulation waveform

**3. Common Mode**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | v1,pp (V) | vout,pp (V) | ACM (V/V) | Phase (vout->v1)  (degree) |
| **Theoretical Result** |  |  |  |  |
| **Experiment Result** |  |  |  |  |
| **Simulation Result** |  |  |  |  |
| **Error (%)** |  |  |  |  |

P4\_vout , v2 and v1 experiment waveform (一張圖同時呈現三通道的波型，用Meas 顯示Phase)



**Simulation:**

P5\_LTspice電路圖

P6\_vout , v2 and v1 simulation waveform

**4. CMRR**

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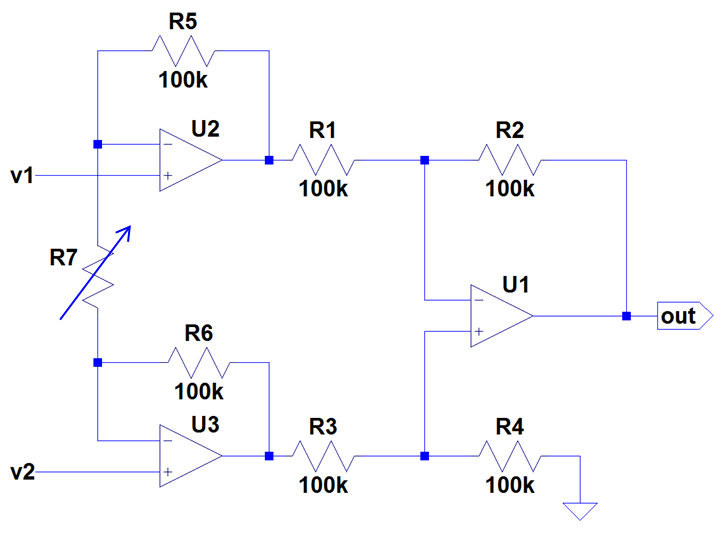
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**5.Discuss:**

|  |
| --- |
| **Experiment 2: Instrumentation Amplifier** |

請參考講義 “109電工學實驗 Lab07 ver 1.pdf” 第14頁

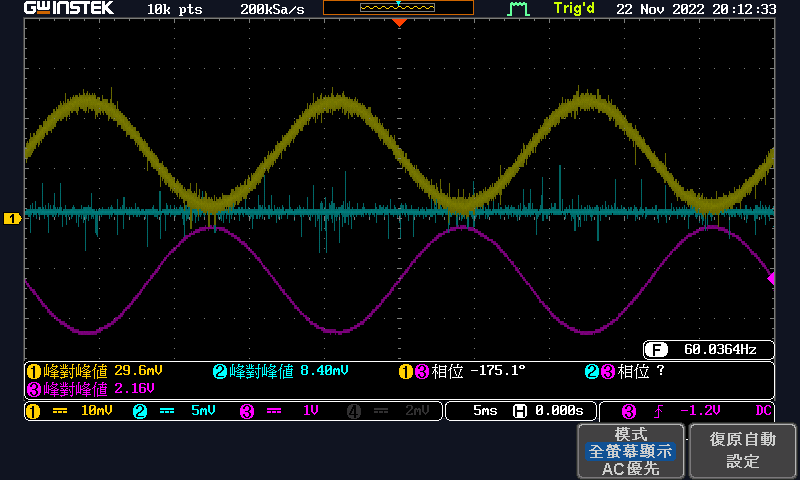
**Write down your pinout. (示波器的通道)**



2. Differential Mode

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | v1,pp  (V) | v2,pp  (V) | vd,pp=v2-v1  (V) | vout,pp  (V) | ADM  (V/V) | Phase (vout->v1)  (degree) |
| **Theoretical Result** |  |  |  |  |  |  |
| **Experiment Result** |  |  |  |  |  |  |
| **Simulation Result** |  |  |  |  |  |  |
| **Error (%)** |  |  |  |  |  |  |

P7\_vout , v2 and v1 experiment waveform (一張圖同時呈現三通道的波型，用Meas 顯示Phase)



**Simulation:**

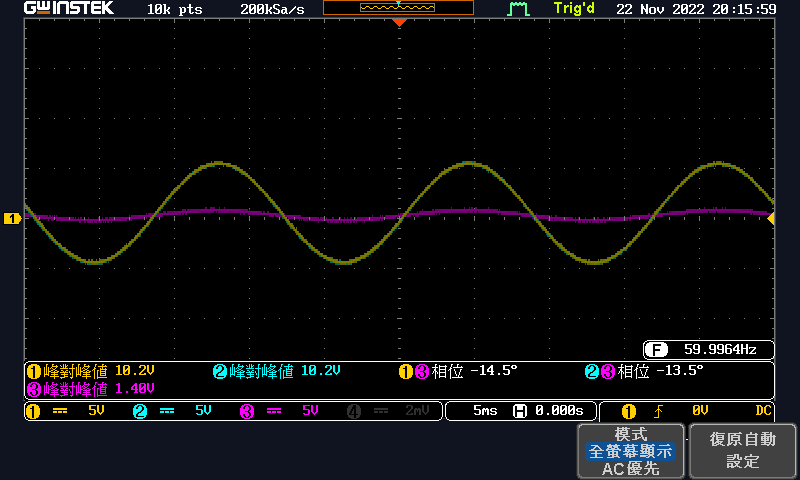
P8\_LTspice電路圖

P9\_vout , v2 and v1 simulation waveform

3. Common Mode

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | v1,pp (V) | vout,pp (V) | ACM (V/V) | Phase (vout->v1)  (degree) |
| **Theoretical Result** |  |  |  |  |
| **Experiment Result** |  |  |  |  |
| **Simulation Result** |  |  |  |  |
| **Error (%)** |  |  |  |  |

P10\_vout , v2 and v1 experiment waveform (一張圖同時呈現三通道的波型，用Meas 顯示Phase)



**Simulation:**

P11\_LTspice電路圖

P12\_vout , v2 and v1 simulation waveform

**4. CMRR**

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**5.Discuss:**

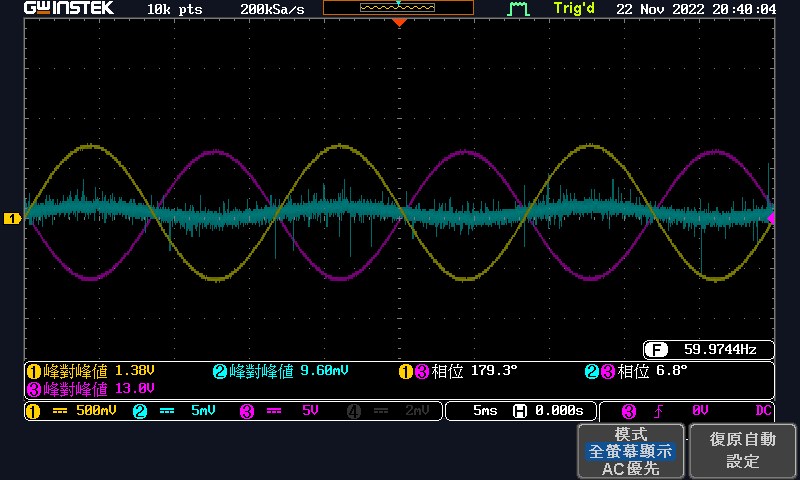
|  |
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| **Experiment 3: Difference Amplifier** |

**Write down your pinout. (示波器的通道)**

|  |  |
| --- | --- |
|  |  |

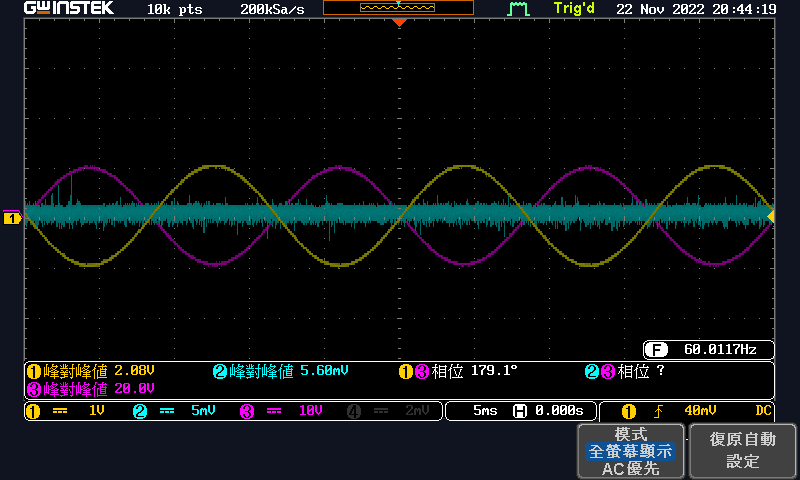
**2. Differential Mode (R1 = 100Ω, R2 = 1kΩ)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | v1,pp  (V) | v2,pp  (V) | vd,pp=v2-v1  (V) | vout,pp  (V) | ADM  (V/V) | Phase (vout->v1)  (degree) |
| **Experiment Result** |  |  |  |  |  |  |



**3. Differential Mode (R1 = 10kΩ, R2 = 100kΩ)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | v1,pp  (V) | v2,pp  (V) | vd,pp=v2-v1  (V) | vout,pp  (V) | ADM  (V/V) | Phase (vout->v1)  (degree) |
| **Experiment Result** |  |  |  |  |  |  |



**4. Compare the difference between the two difference amplifiers, and explain why.**