DEVELOPMENT AND INTEGRATION OF A LOW COST, HIGH VOLTAGE POWER SUPPLY INTO A THIN FILM DEPOSITION SYSTEM

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Thin Film Applications

- Transistors
- Semiconductors

- Microcontrollers
- Computer Chips

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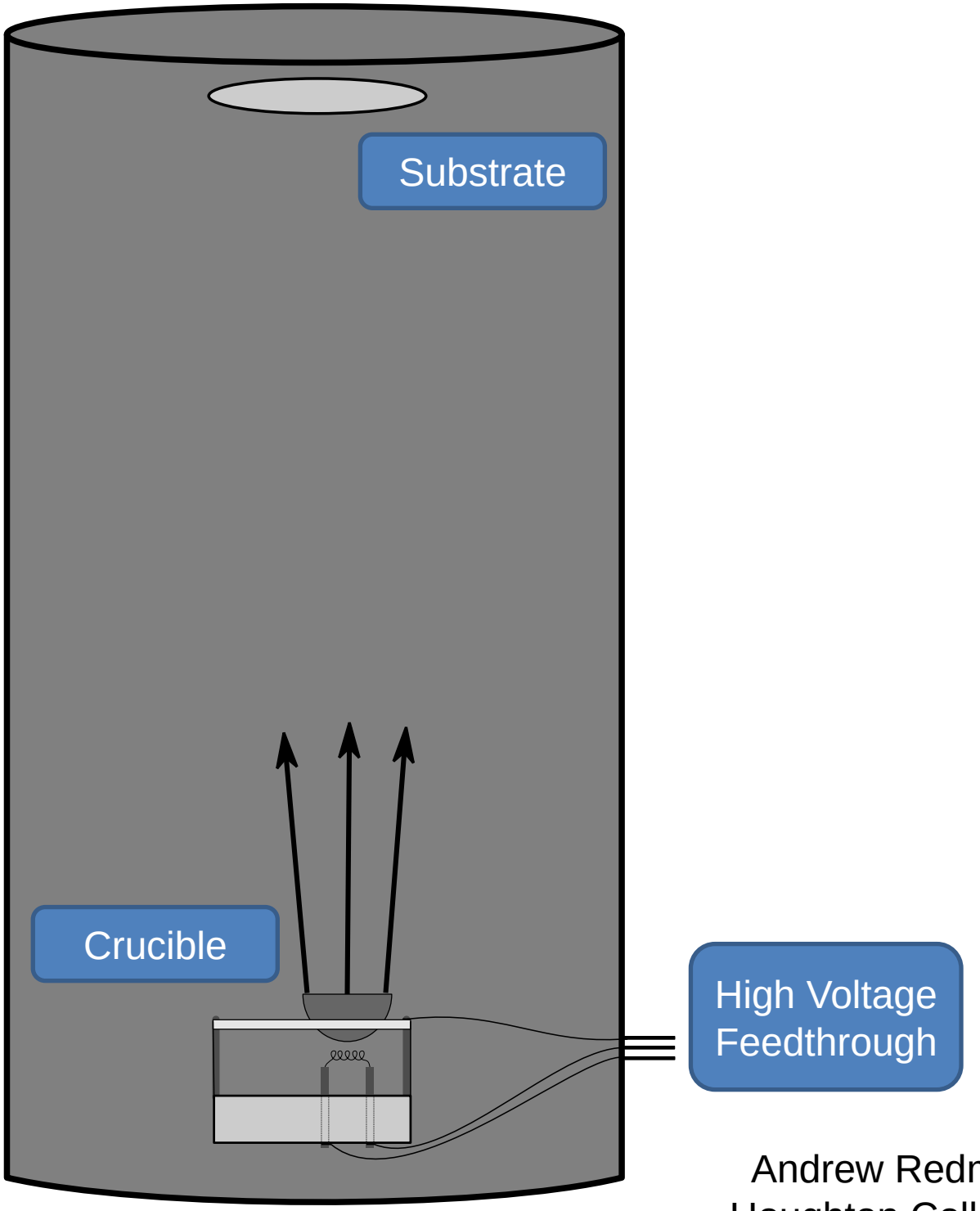

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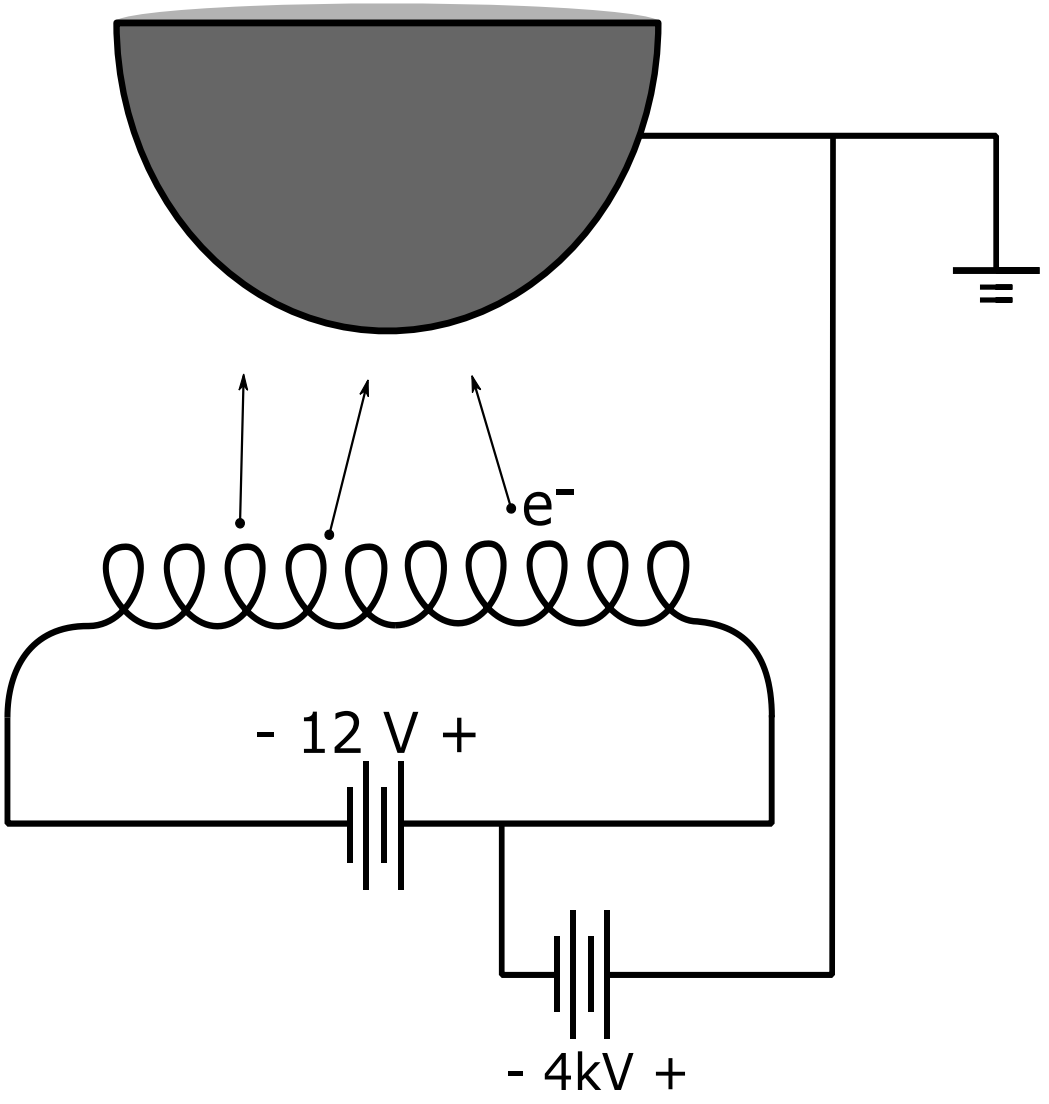
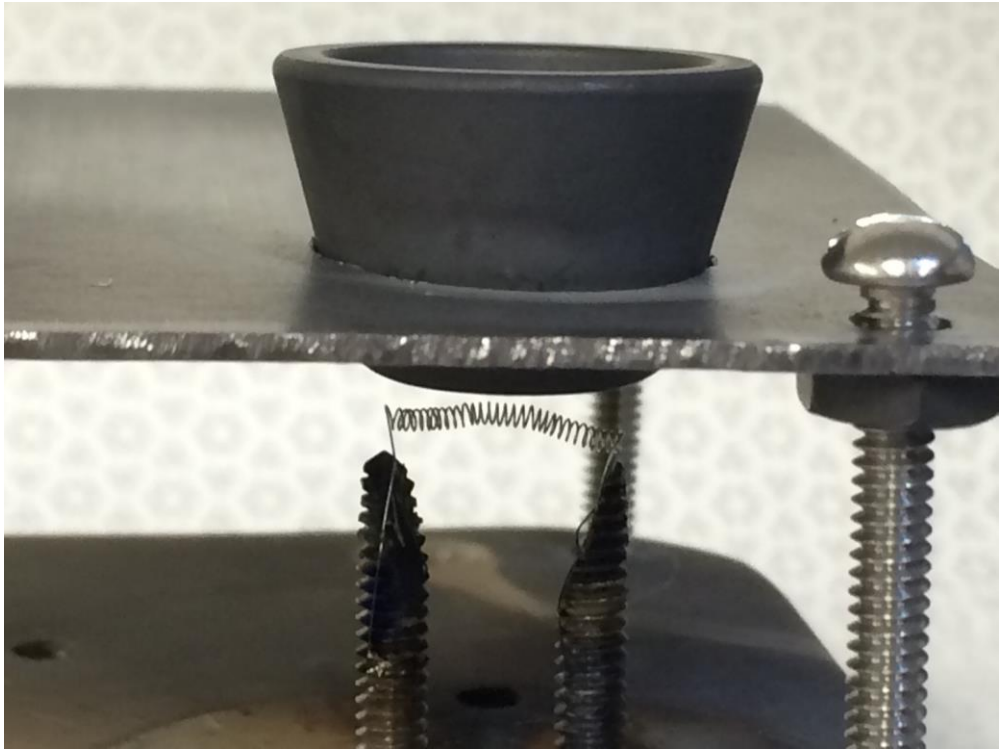
The Crucible





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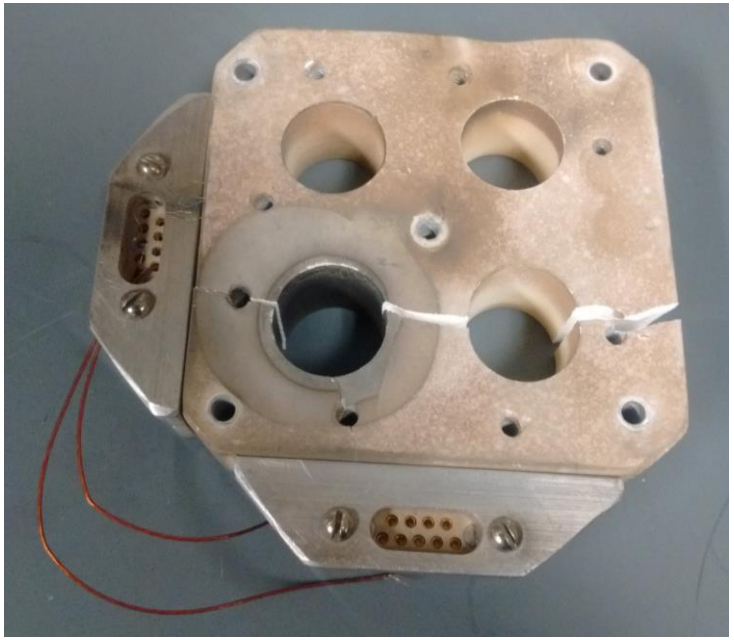

1

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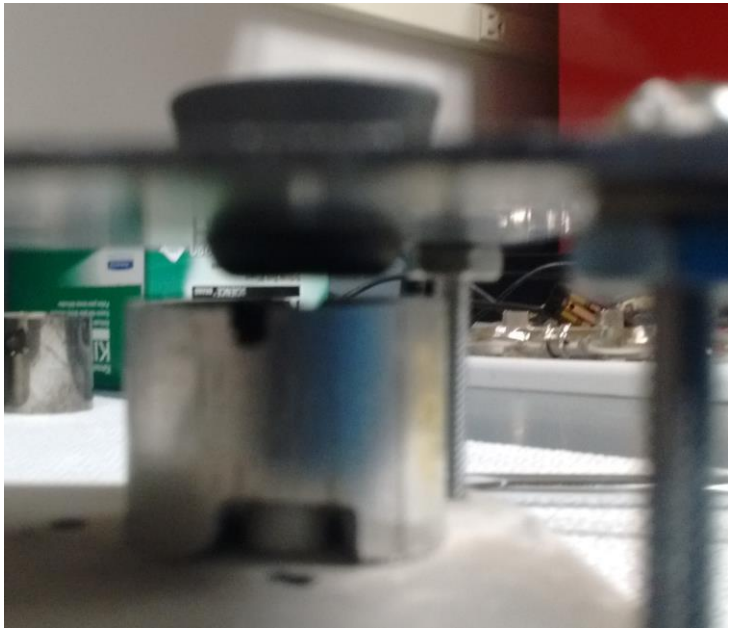

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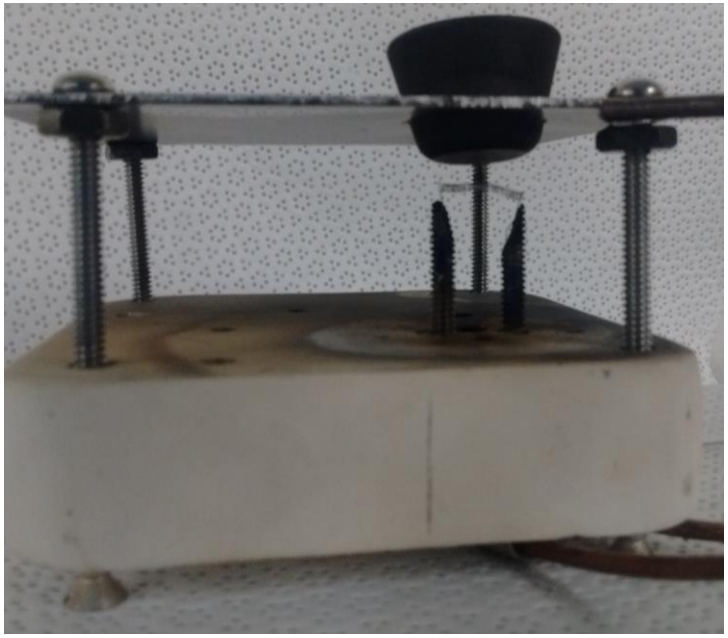

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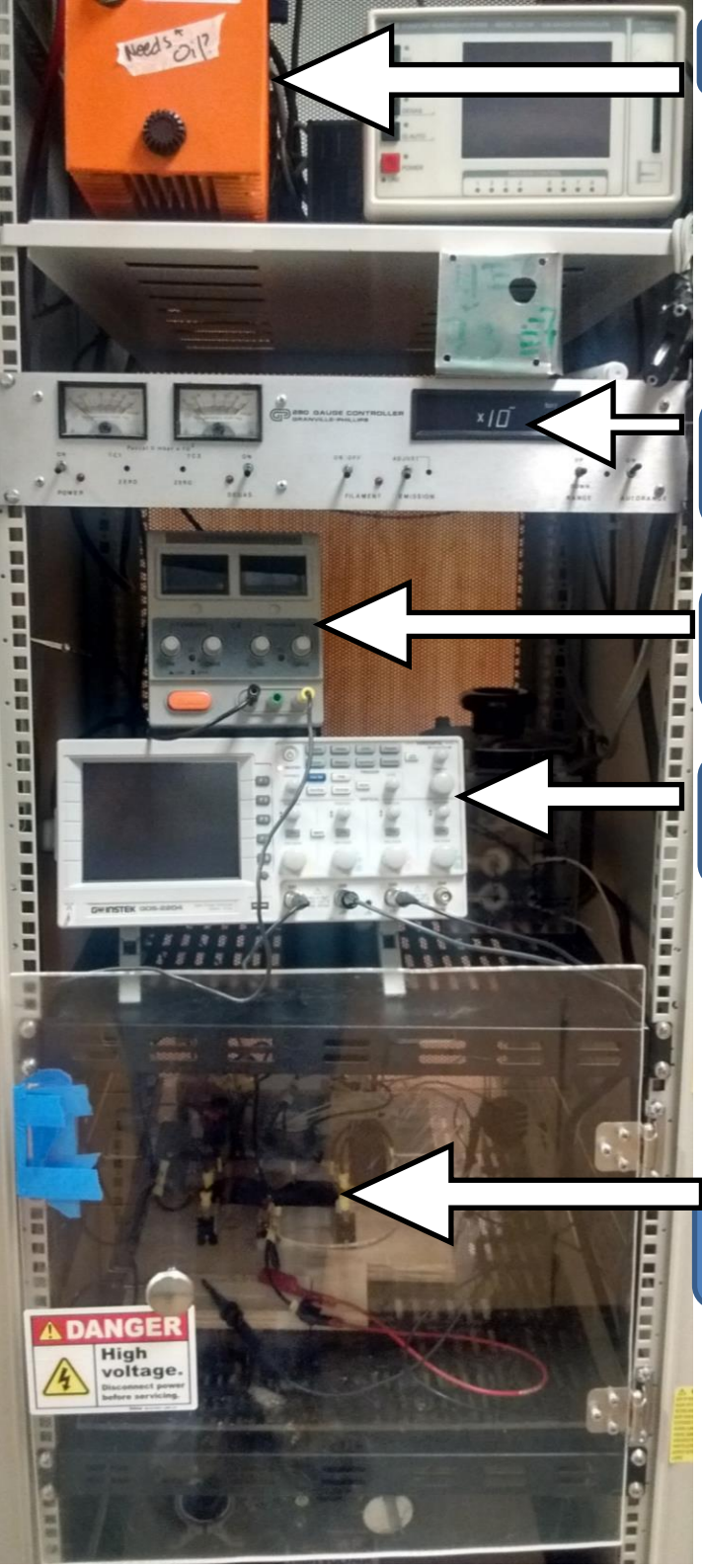


Rough Pump

Turbo Pump

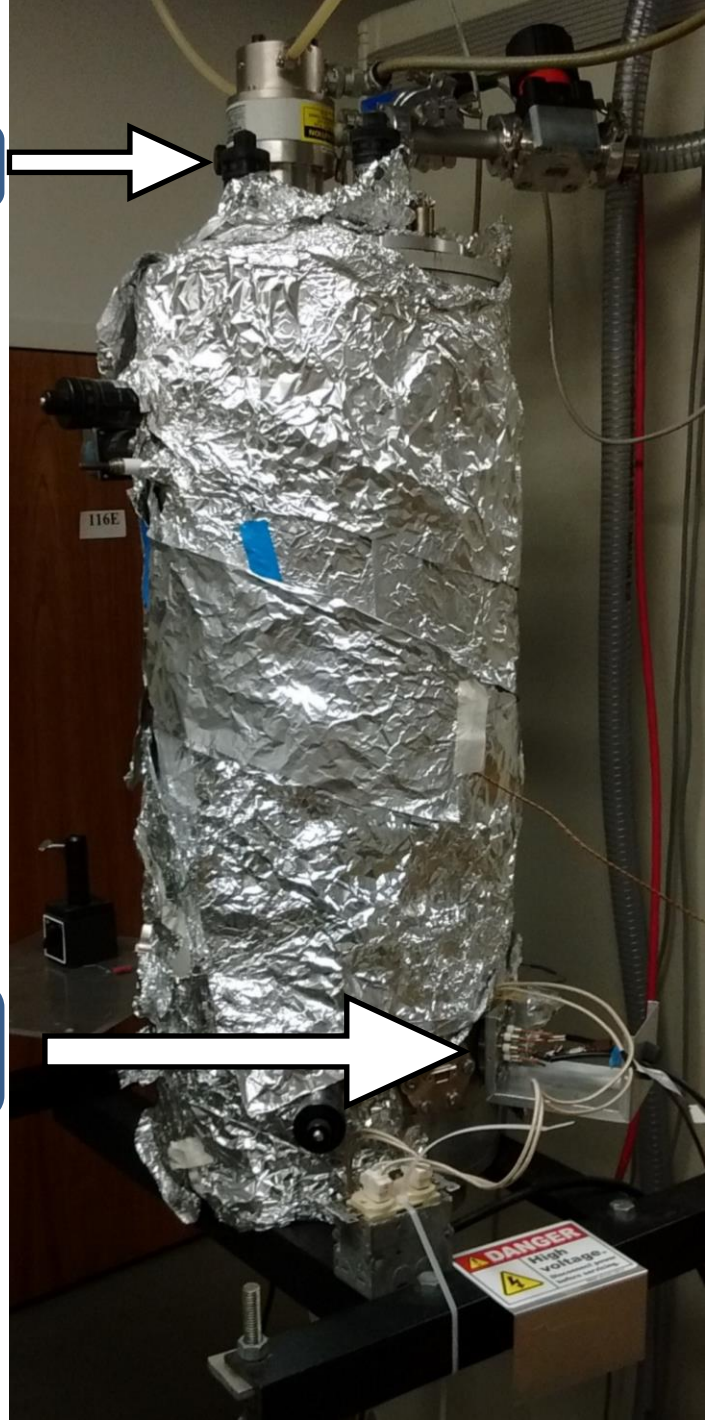
Pressure Gauge

Safety Power Supply

Oscilloscope

High Voltage Feedthrough

High Voltage Electronics



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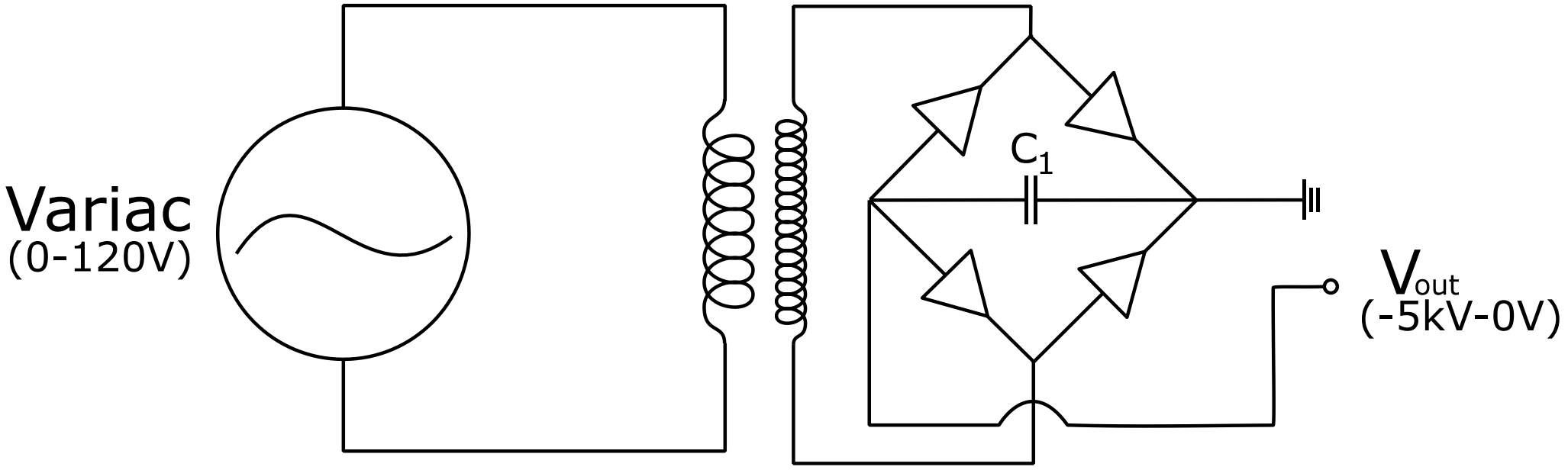
Original Circuit Design



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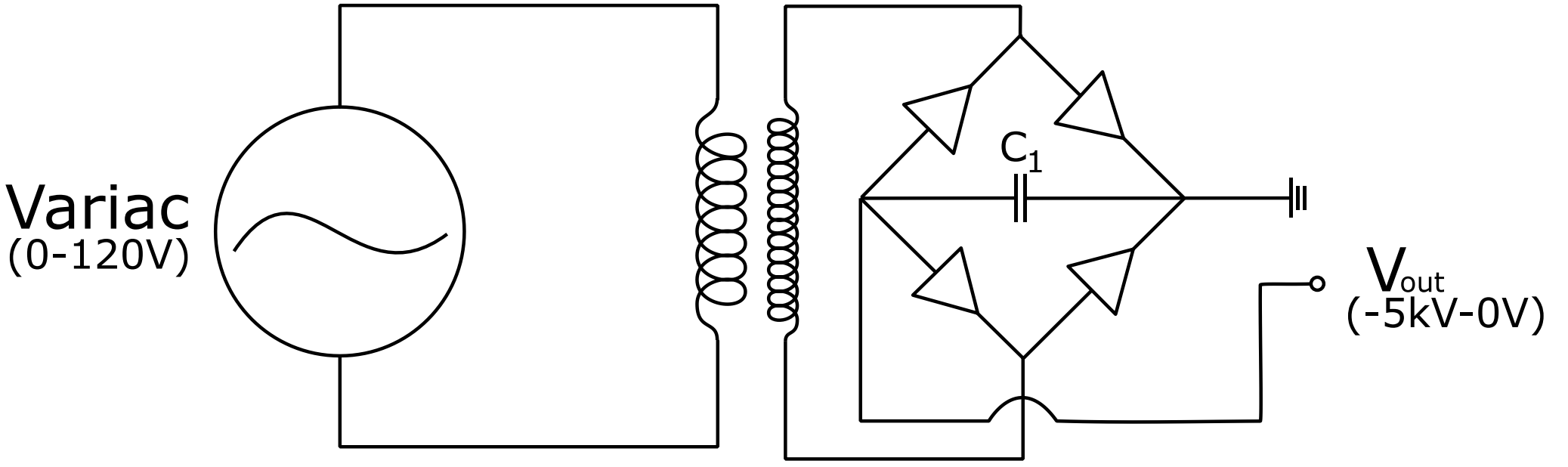

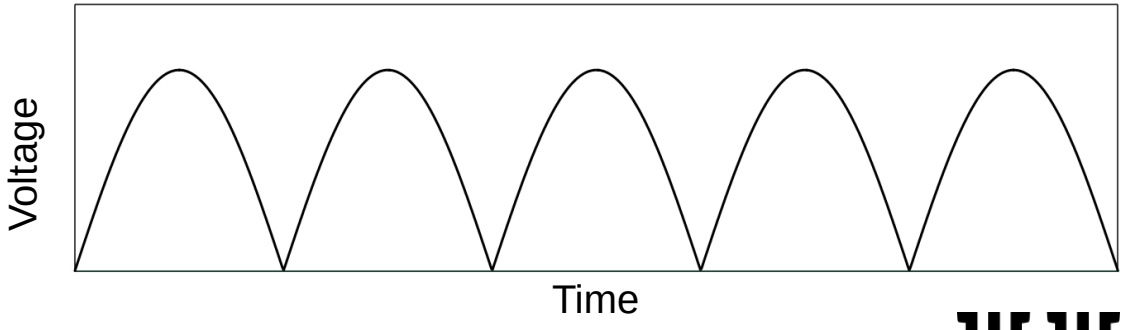

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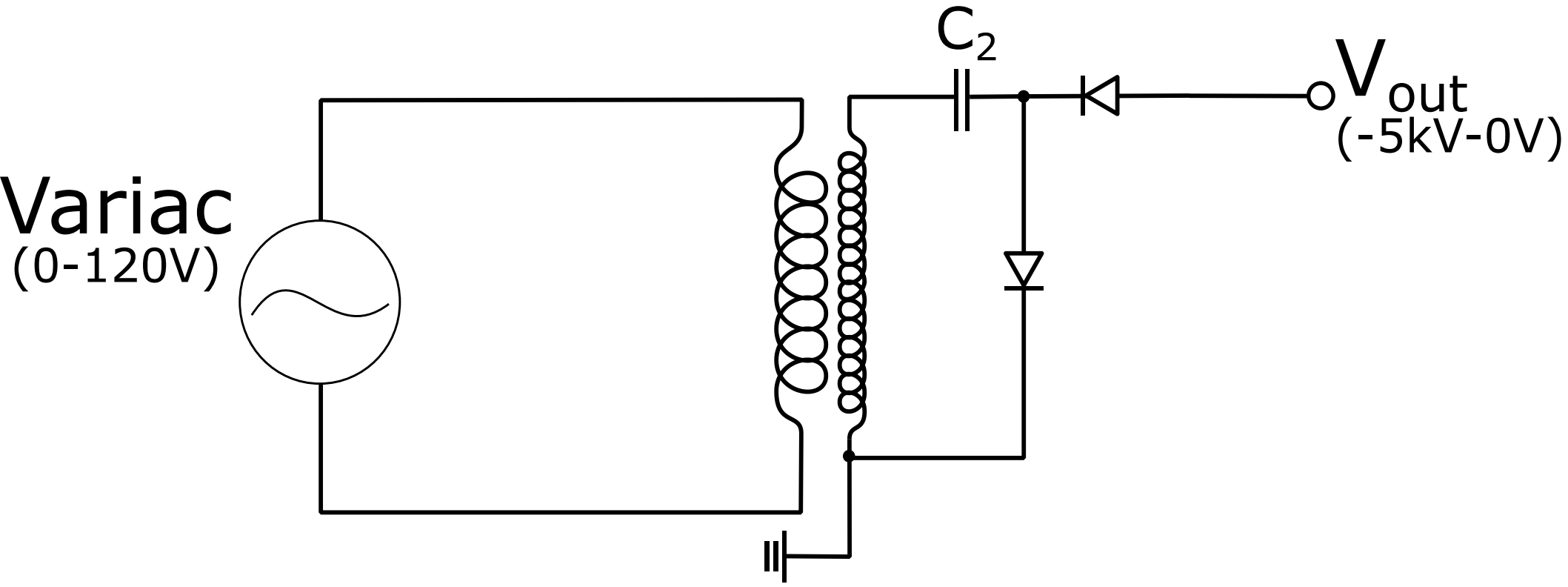
New Circuit Design



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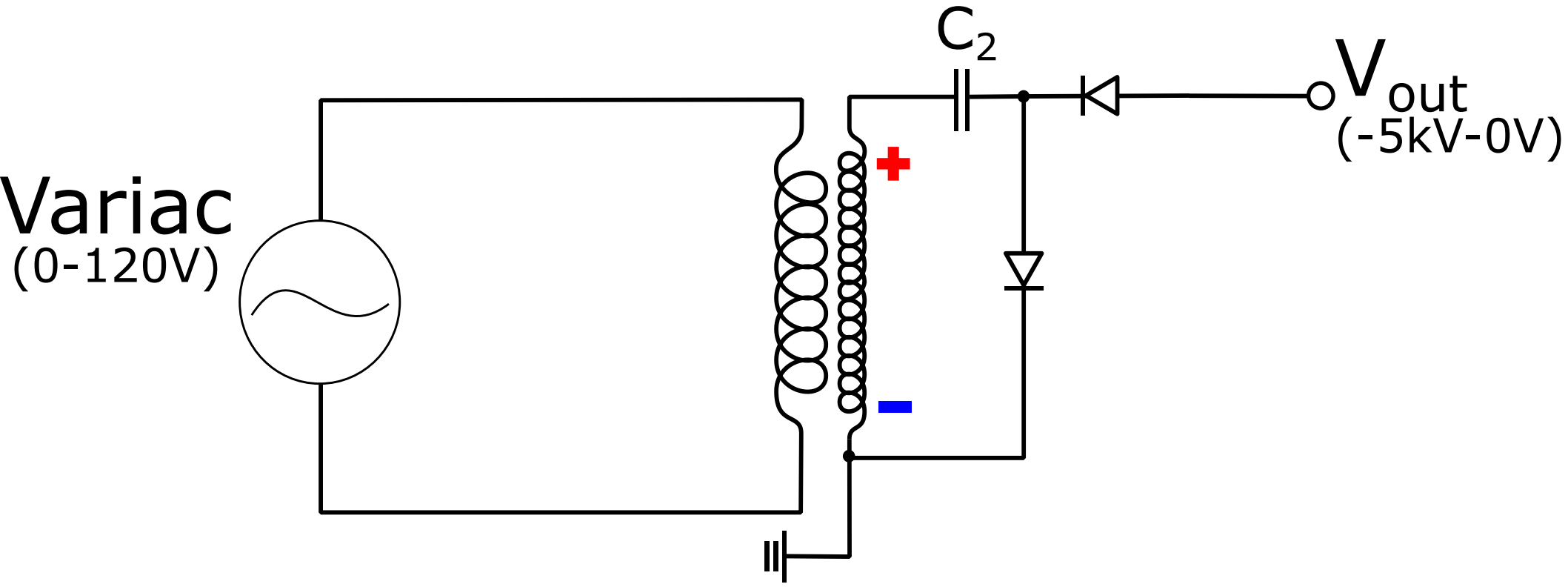

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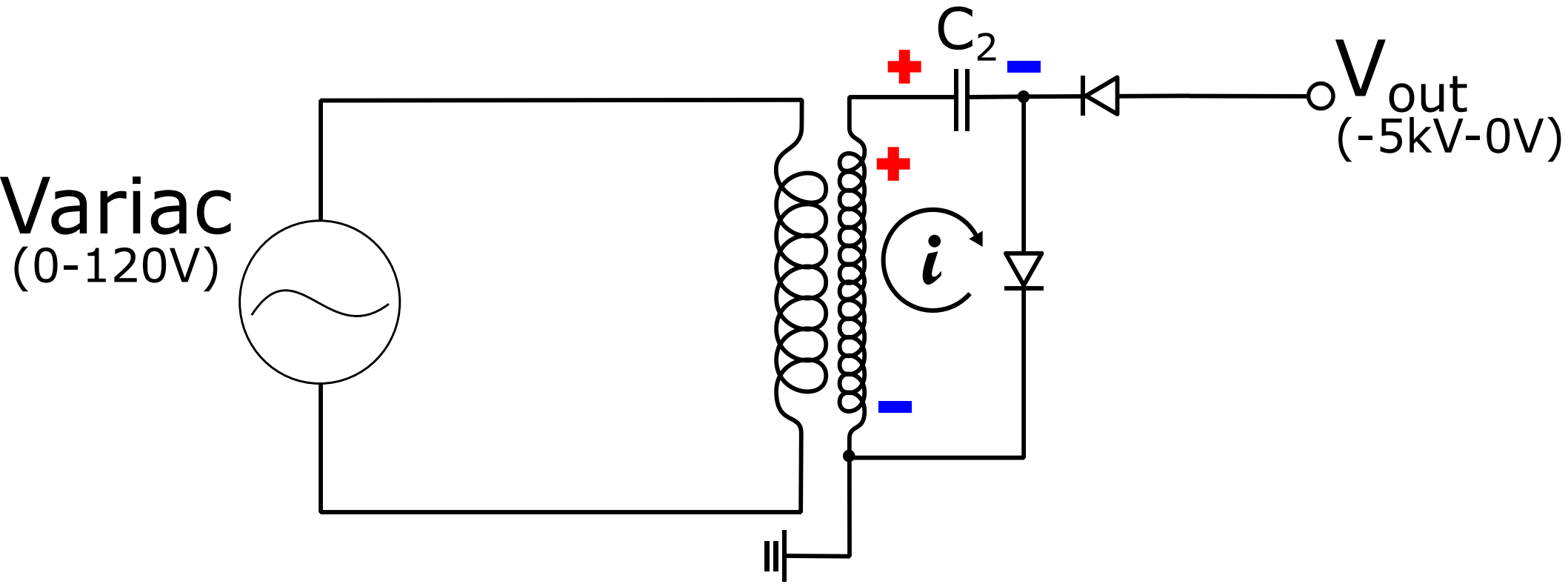

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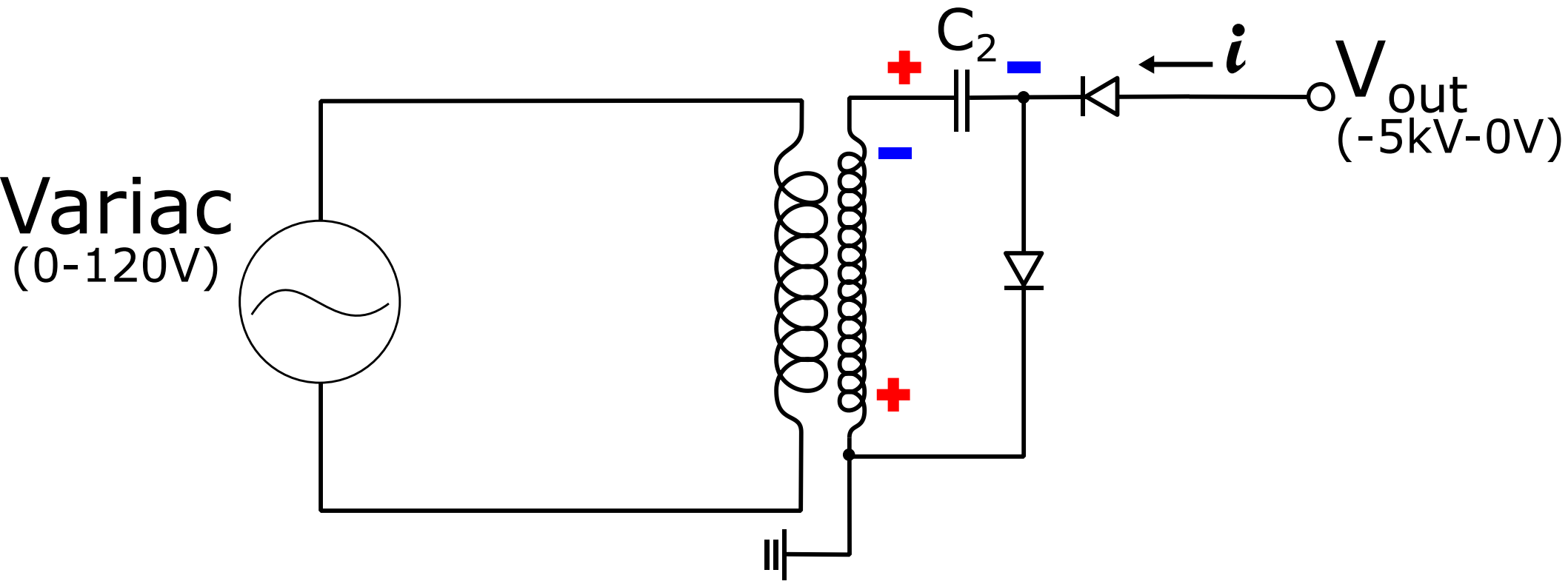

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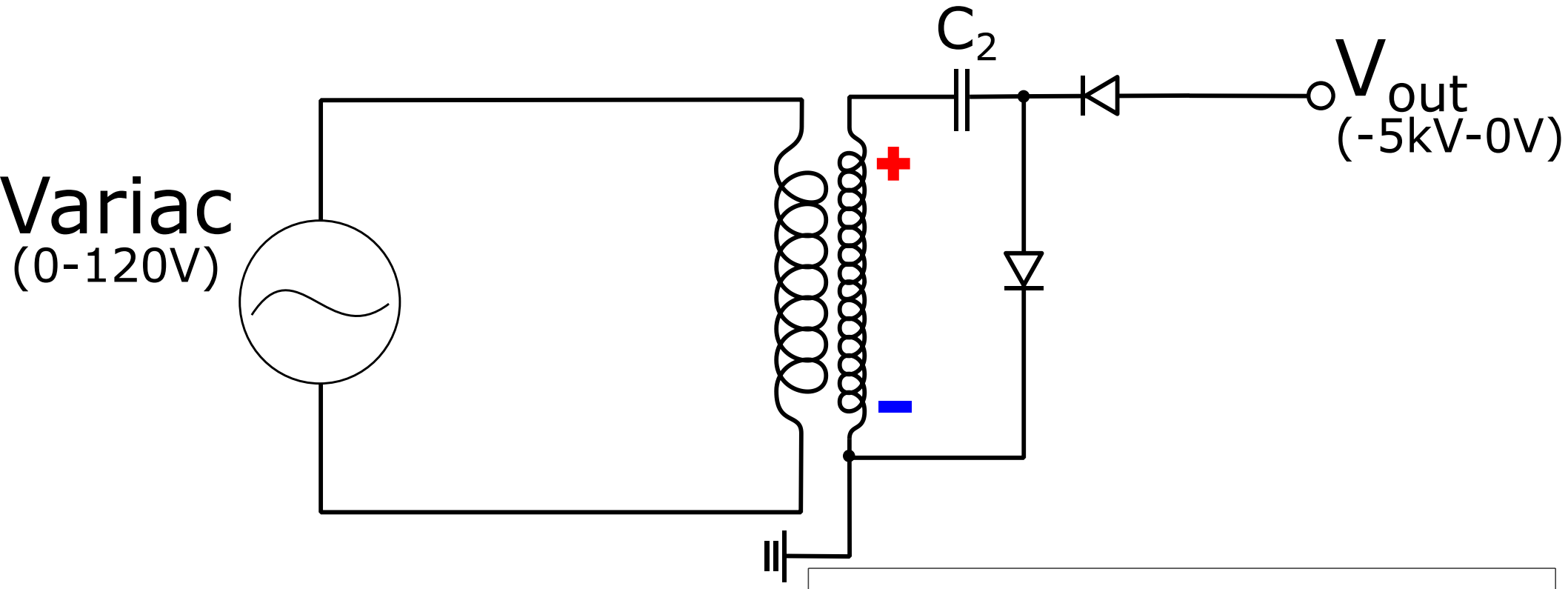

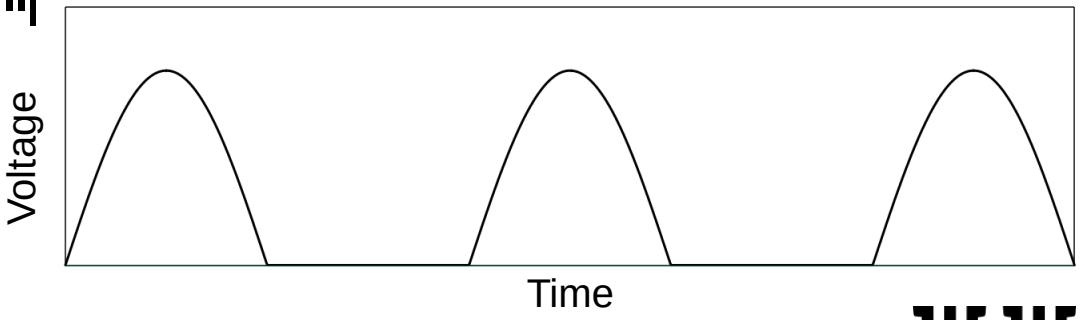

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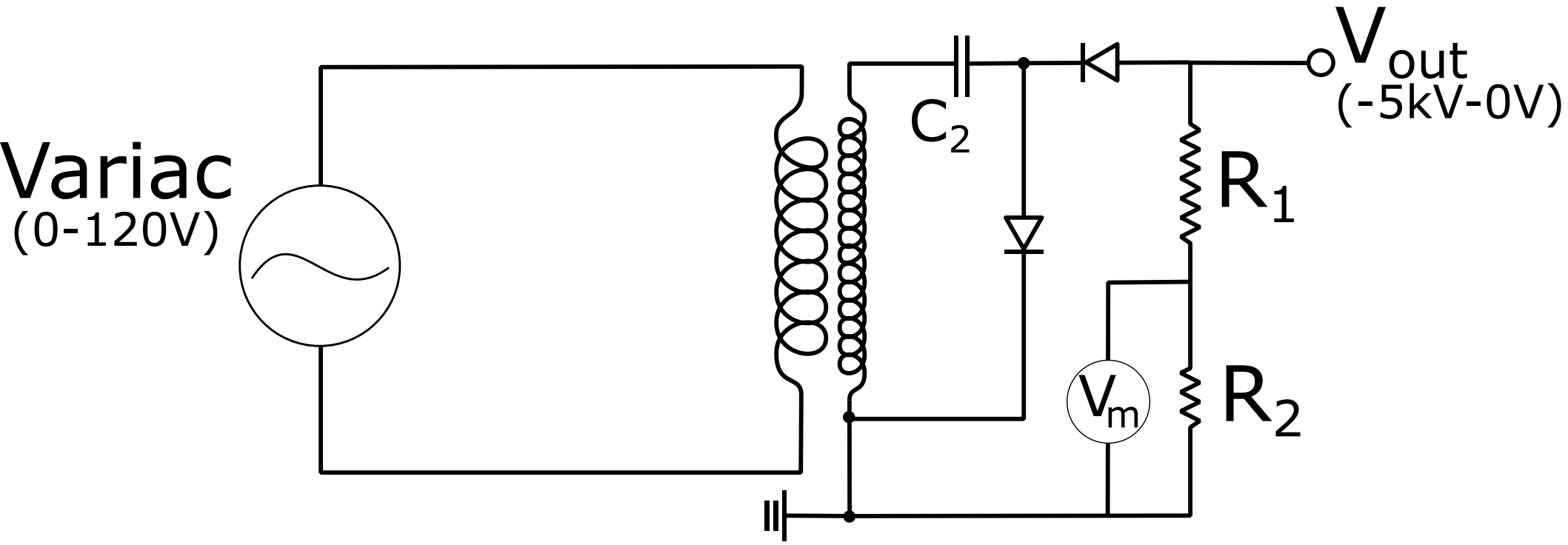

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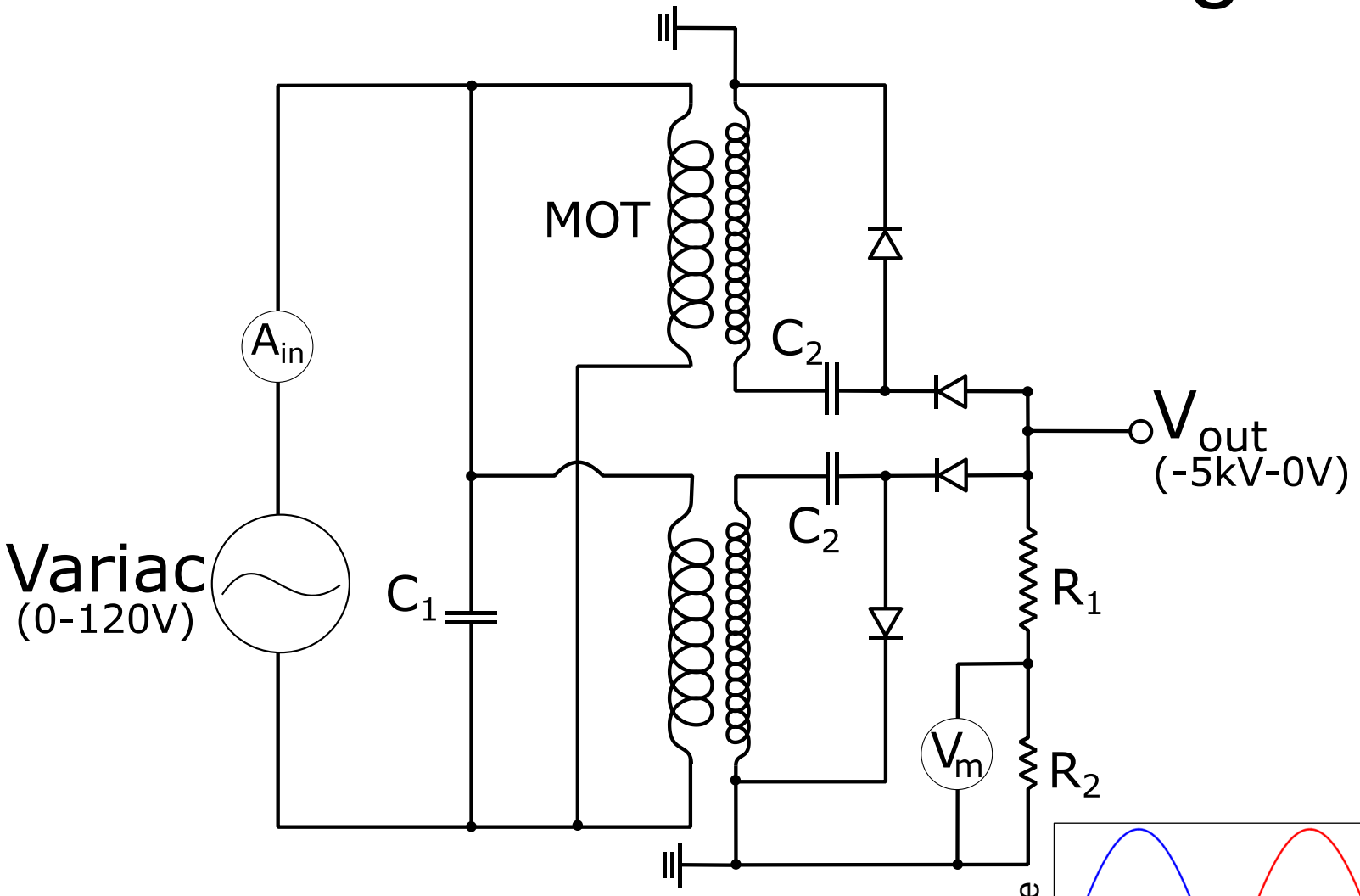

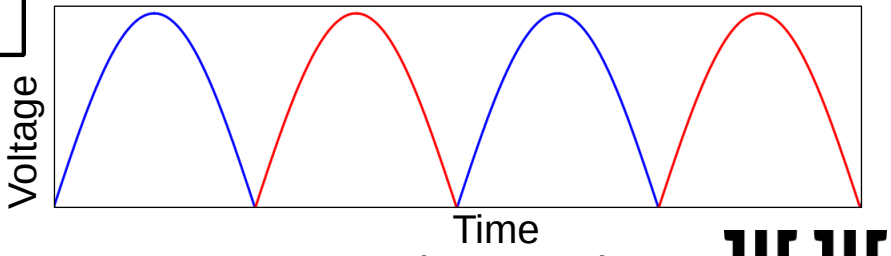

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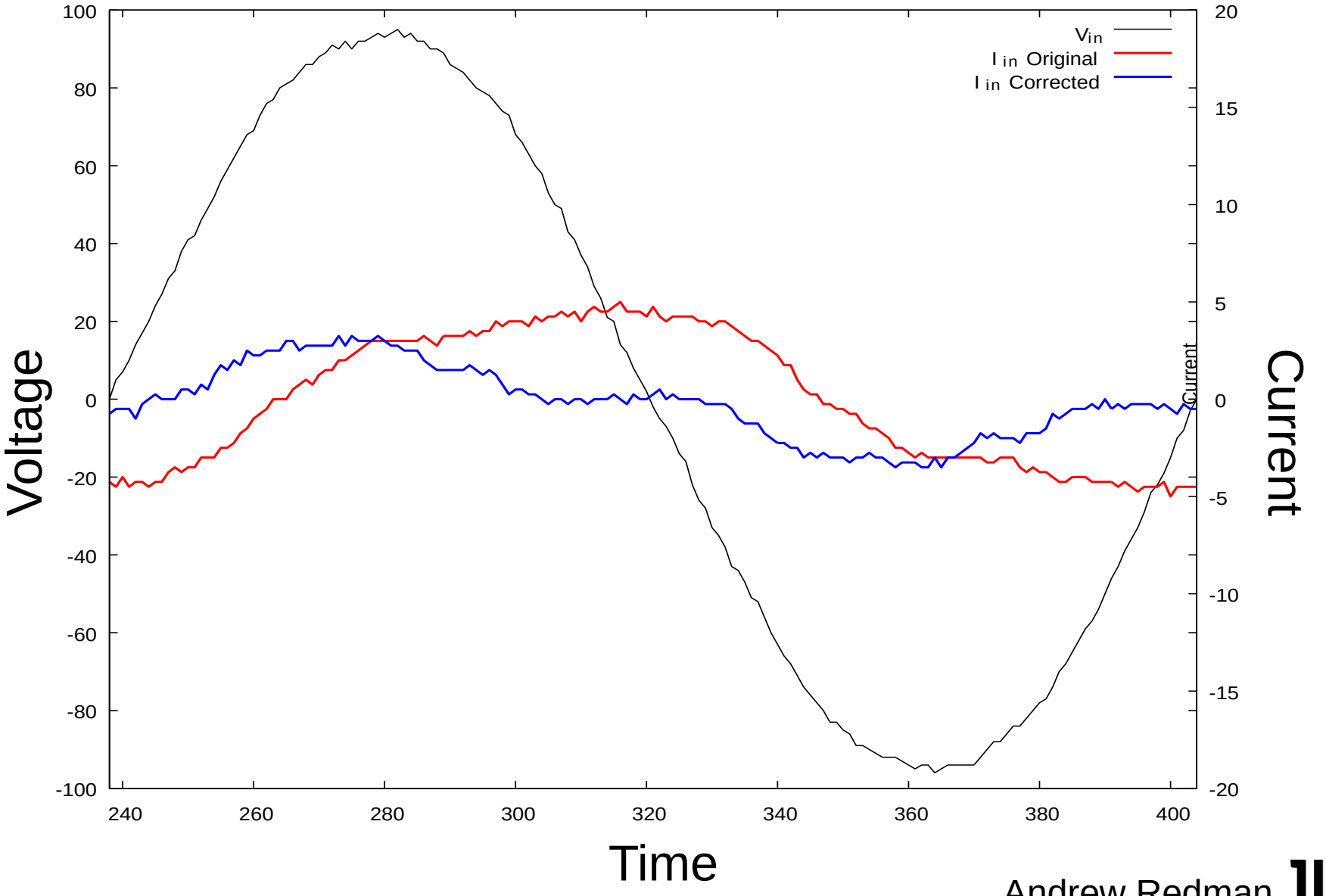
Phase Difference



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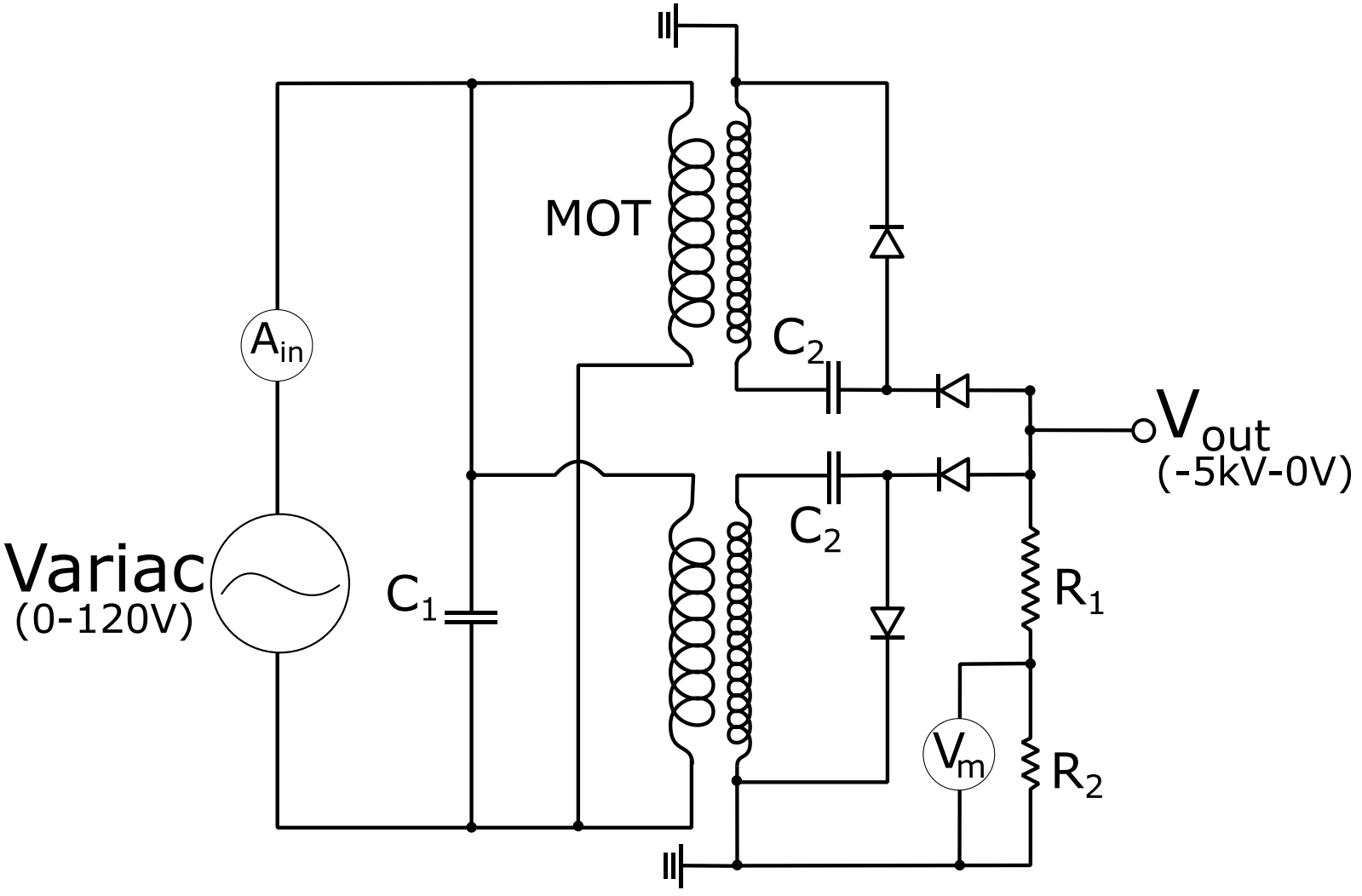

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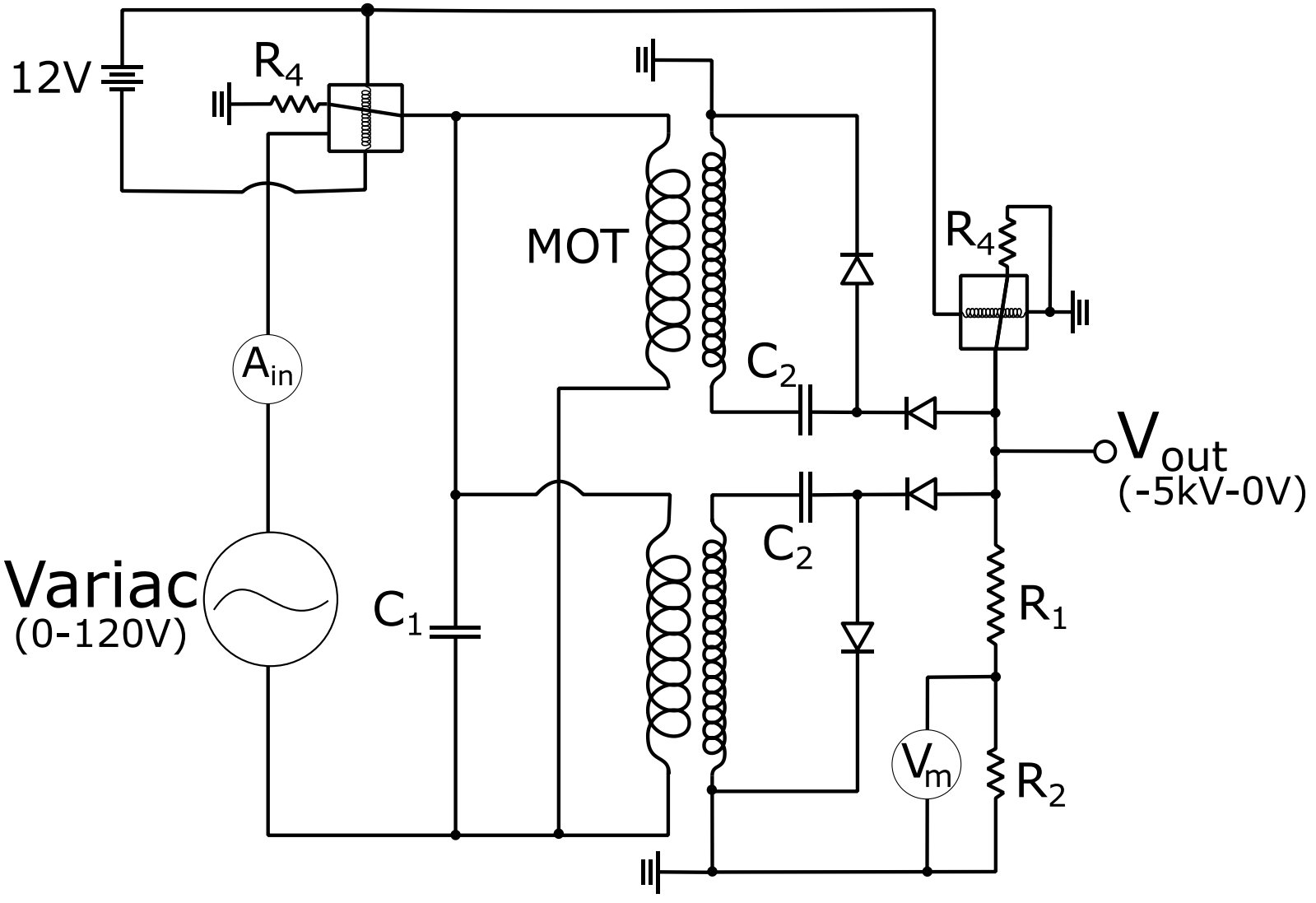

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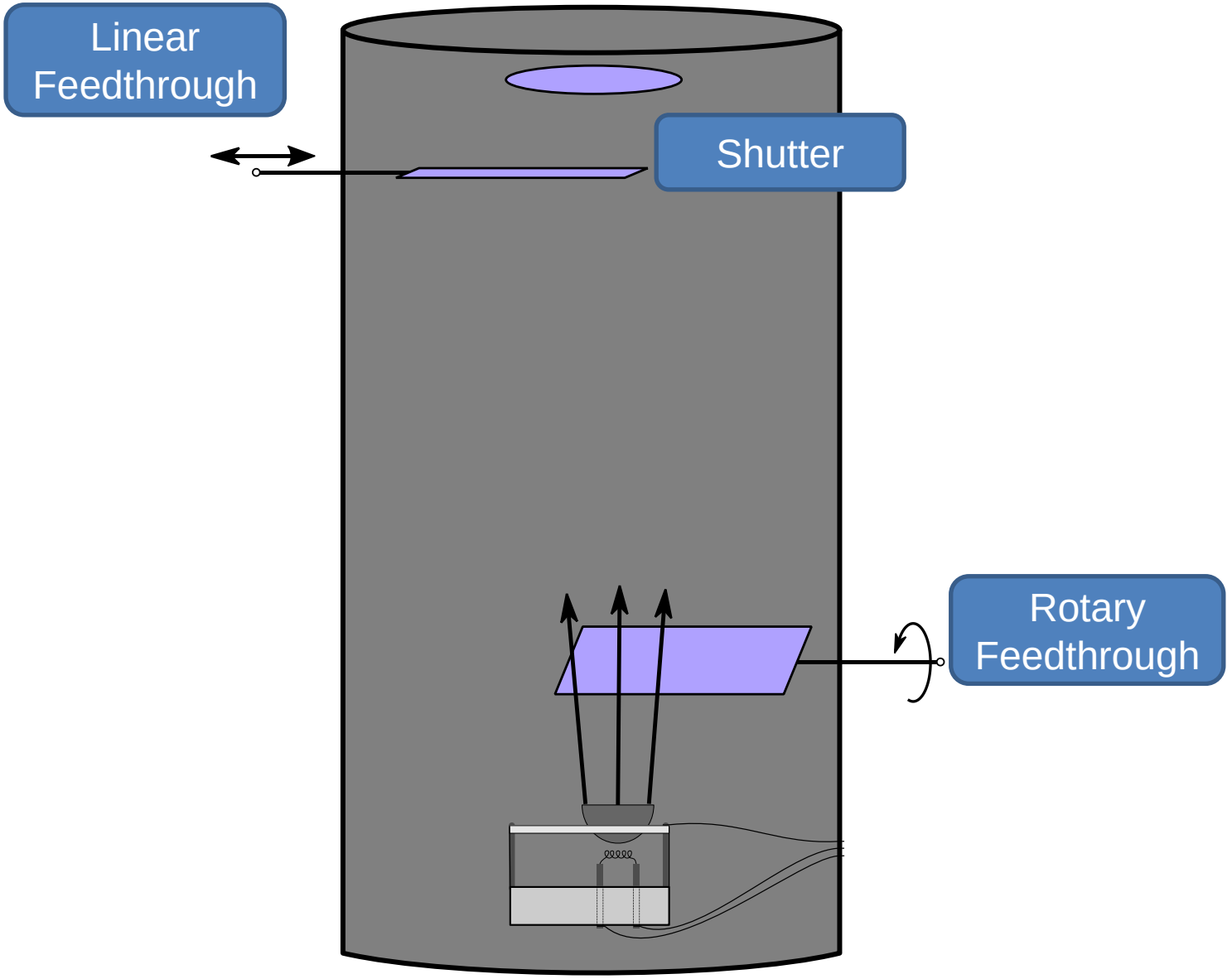
Future Work



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Questions

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Phase Correction

$$\frac{1}{Z_T} = \frac{1}{Z_L} + \frac{1}{Z_C}$$

$$z_L = \frac{V}{I}(\cos(\phi) - i\sin\phi) \qquad Z_c = i\omega C$$

$$\frac{I}{V \cdot 2\pi f}\sin\phi = C = 49\ \mu F$$

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