THE THREE BASIC TYPES OF CIRCUIT

AC CIRCUITS

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TOPIC OUTLINE

The R-Circuit

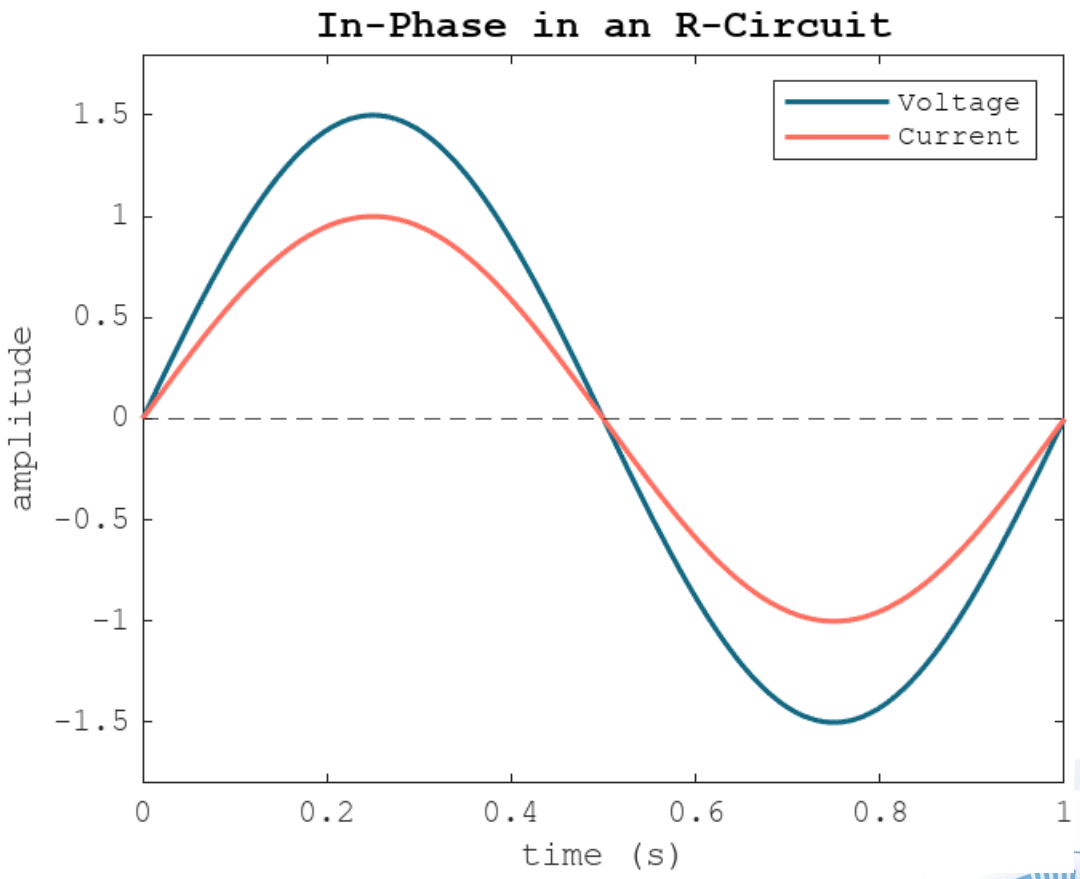
The C-Circuit

The L-Circuit

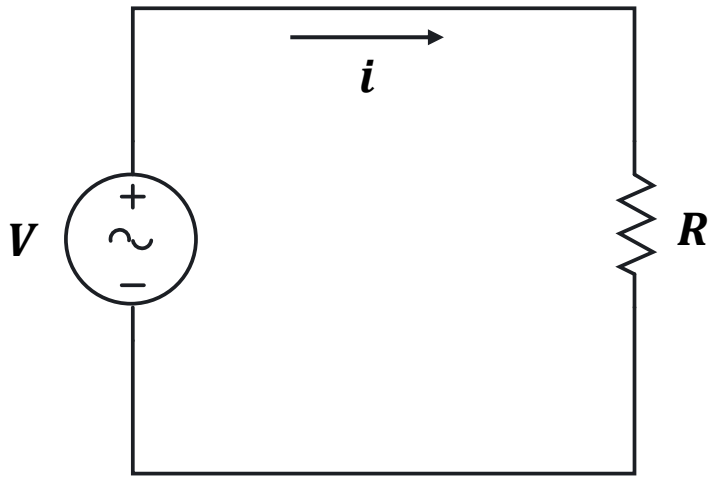
THE THREE BASIC TYPES OF CIRCUIT

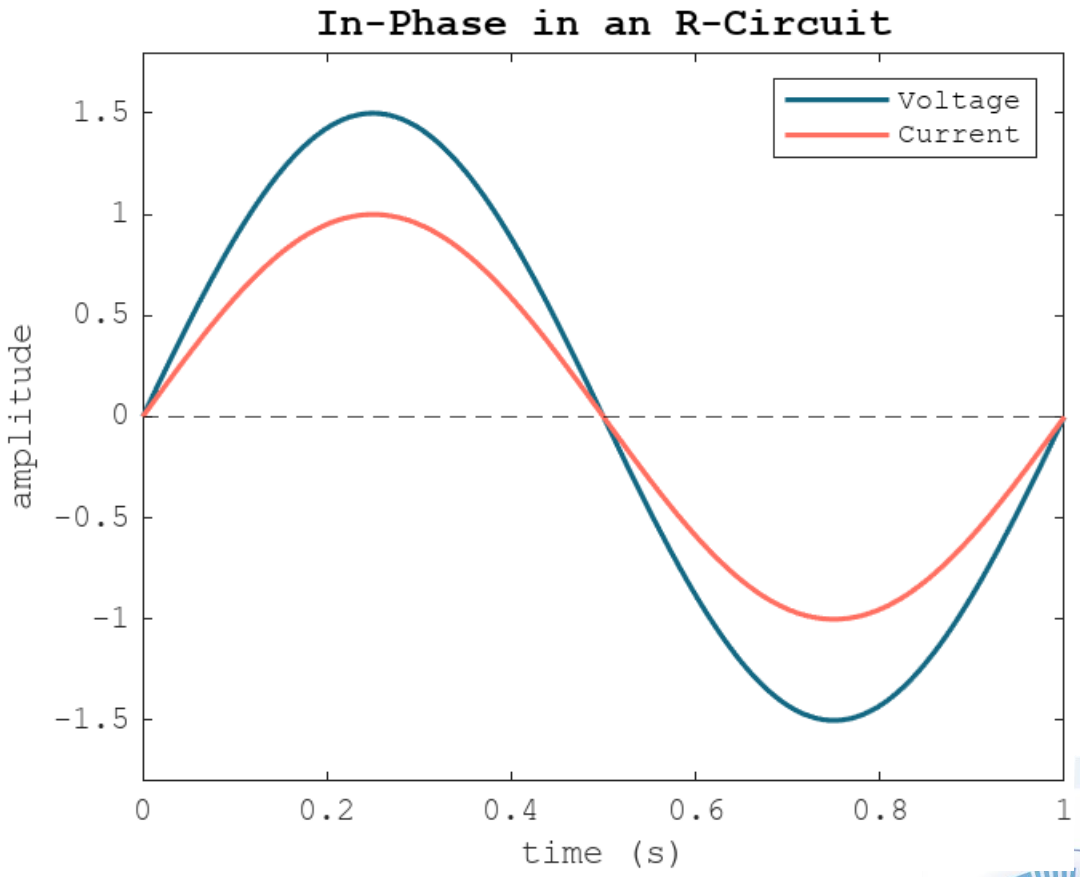
THE R-CIRCUIT

In a purely **resistive circuit**, the voltage and current are **in phase**. Resistors are frequency-independent components, their behavior remains the same for both DC and AC circuits.



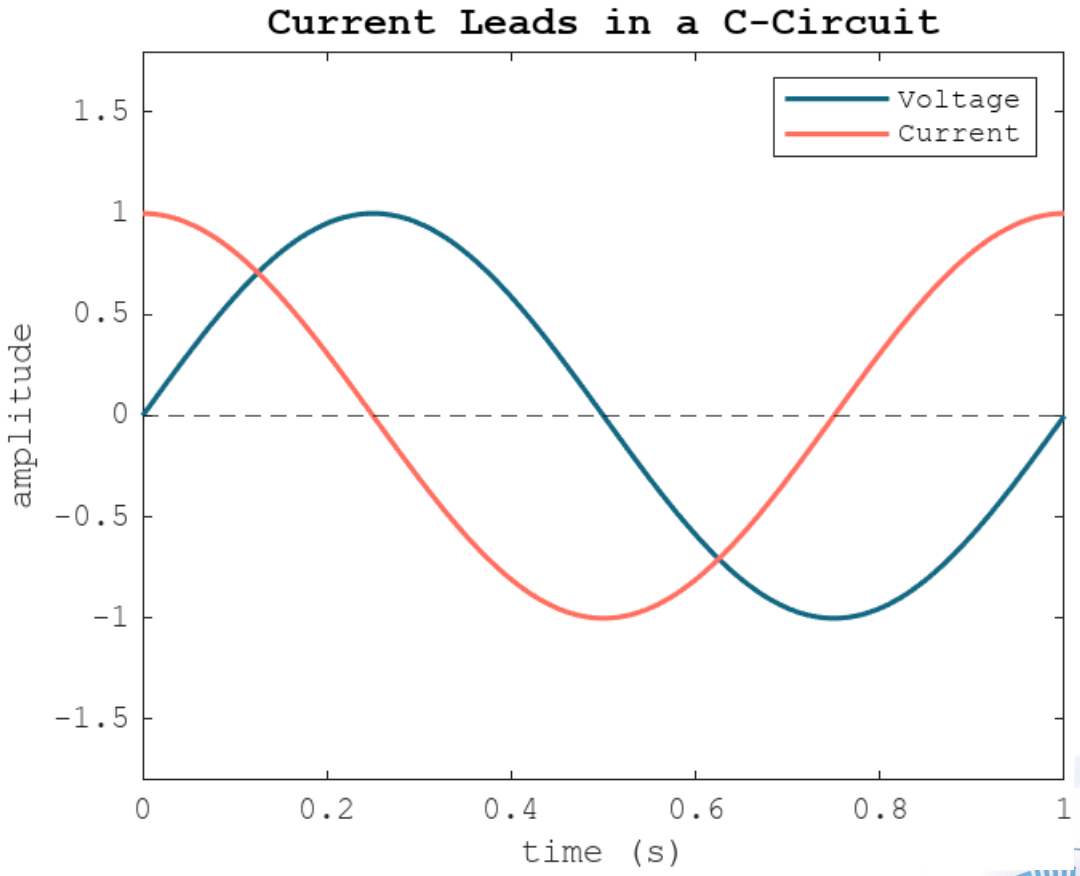
THE R-CIRCUIT



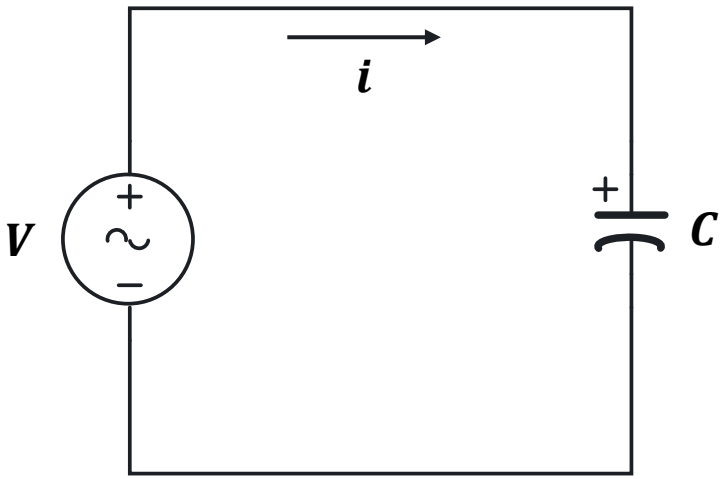


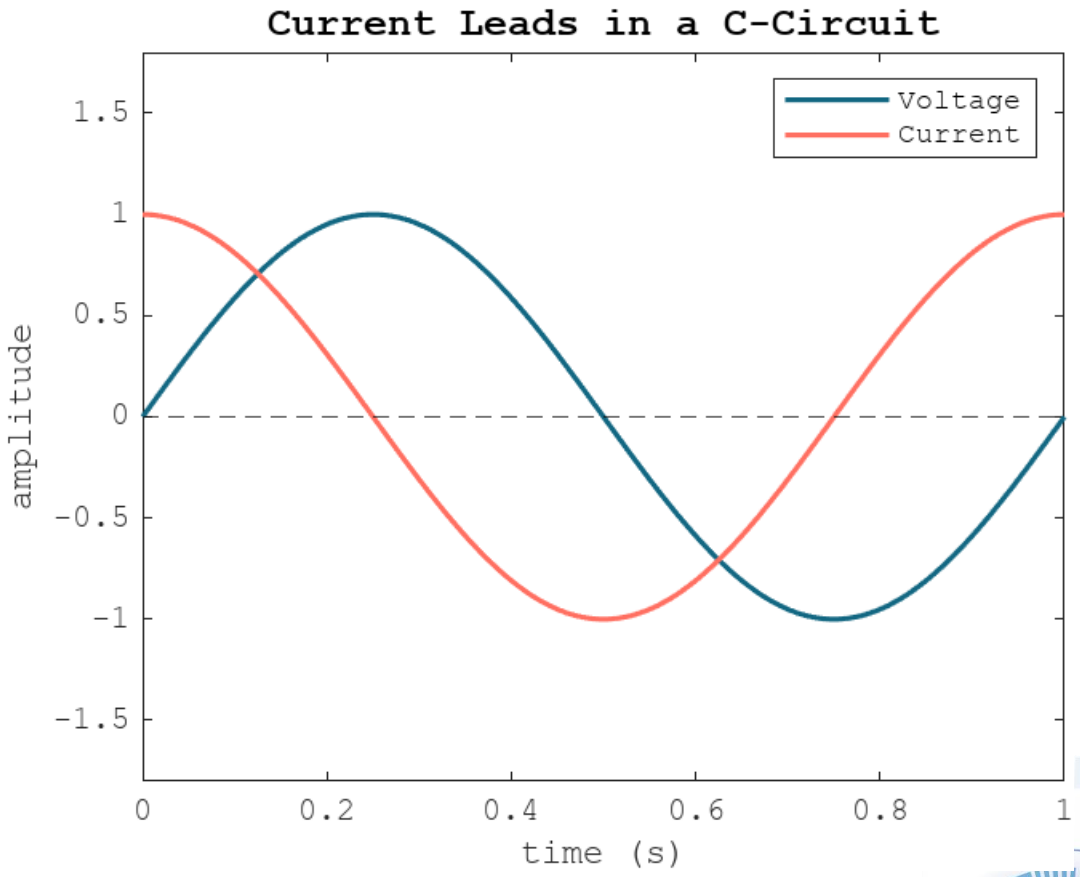
THE C-CIRCUIT

In a purely **capacitive circuit**, the **current leads** the voltage by 90 degrees. This phase difference occurs because the capacitor resists changes in voltage.



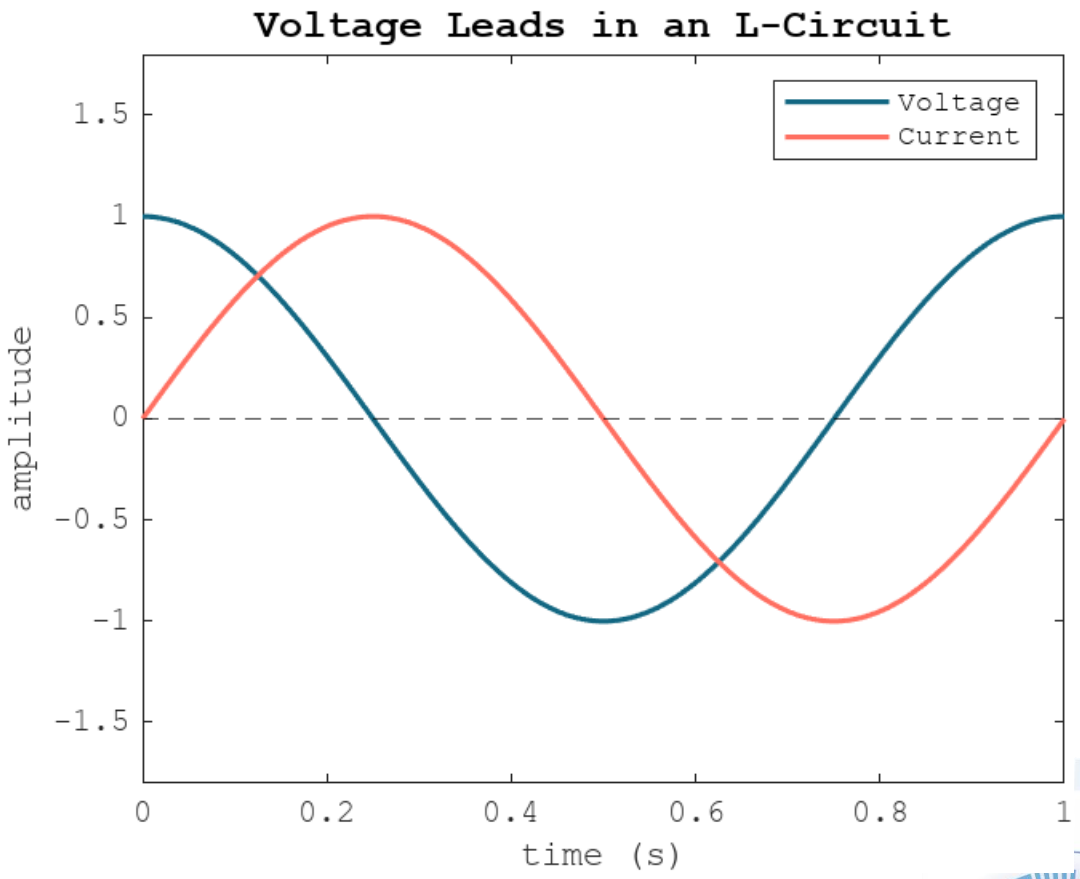
THE C-CIRCUIT



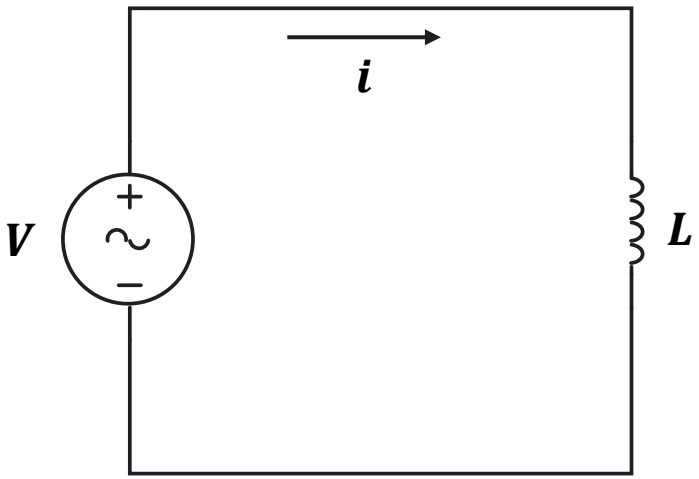


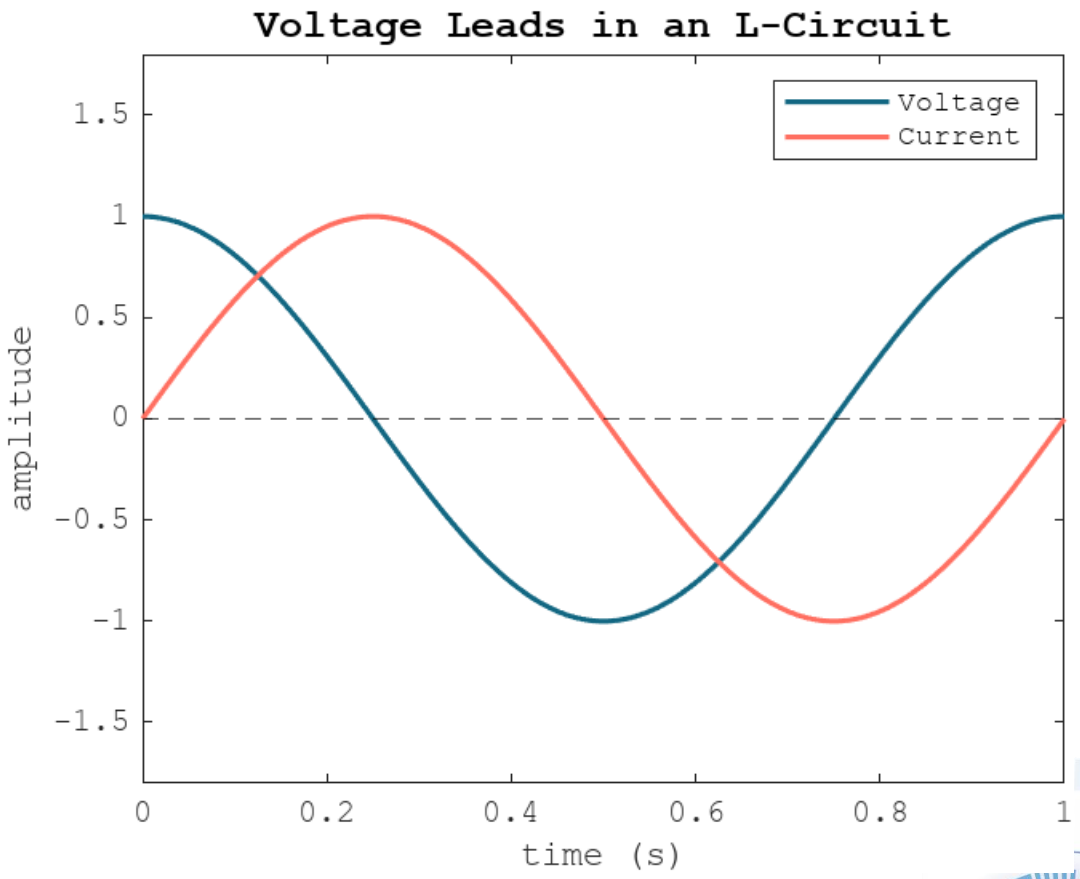
THE L-CIRCUIT

In a purely **inductive circuit**, the **voltage leads** the current by 90 degrees. This phase difference occurs because the inductor resists changes in current.



THE L-CIRCUIT





LABORATORY