Phasors

After completing this section, students should be able to do the following.

- Remember the cosine-referenced phasor transformation equation.
- Apply phasor transformation to transform time-domain circuit equations for a resistor, capacitor, and inductor to the frequency domain.
- Apply phasor transformation to transform time-domain sinusoidal signals to frequency-domain signals (phasors) and vice versa, transform phasors to time-domain.
- Explain the phasors theory in terms of a superposition of two signals.
- Solve a simple electric circuit using phasors.
- Sketch vector phasor diagram to visualize voltage and current addition.
- Visualize and sketch sinusoidal voltages and currents in time-domain for simple RC, RL circuits.
- Recognize a simple circuit from the visualized time-domain or phasor voltages and currents.

Learning outcomes:
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