

task_1m3izw2szosswtto_with_calculation

Student Group

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exam ee1 SS2023

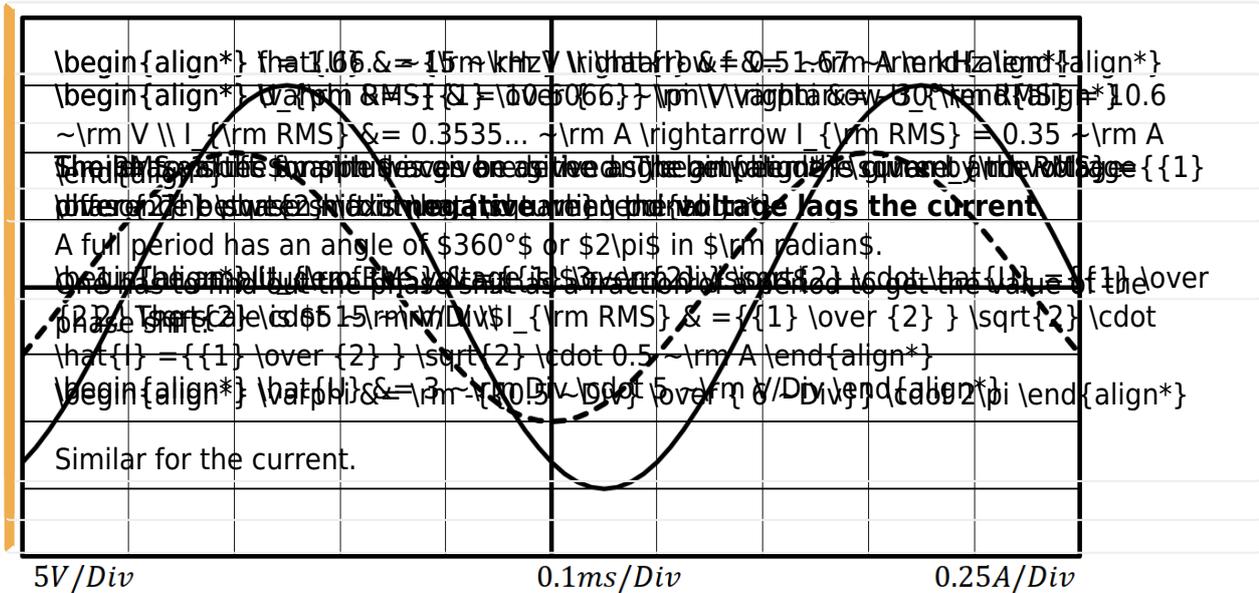
Exercise E3 Analyzing a Scope Plot
 (written test, approx. 12 % of a 60-minute written test, SS2023)

Q. What is the phase shift (in degrees) between the two signals (and in radians and degree)?

Result: The measured current curve shall be visible as a dashed line.

The continuous line shows the voltage.

Solution



Use the correct symbols and units in your answers!

1. Calculate the frequency f of the periodic signals.

Solution

Frequency f is given by the period T . The period can be measured in the image of the scope.

1. The sine waves repeat after $6 \sim \text{rm divisions}$ (e.g. from falling turning point to falling turning point of one curve)
2. The scale is $0.1 \sim \text{rm ms/Div}$

$$f = \frac{1}{T} \quad \text{with } T = 6 \sim \text{rm Div} \cdot 0.1 \sim \text{ms/Div} \\ \rightarrow f = \frac{1}{6 \sim \text{rm Div} \cdot 0.1 \sim \text{ms/Div}}$$

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