

task_1m3izw2szosswtto_with_calculation

Student Group

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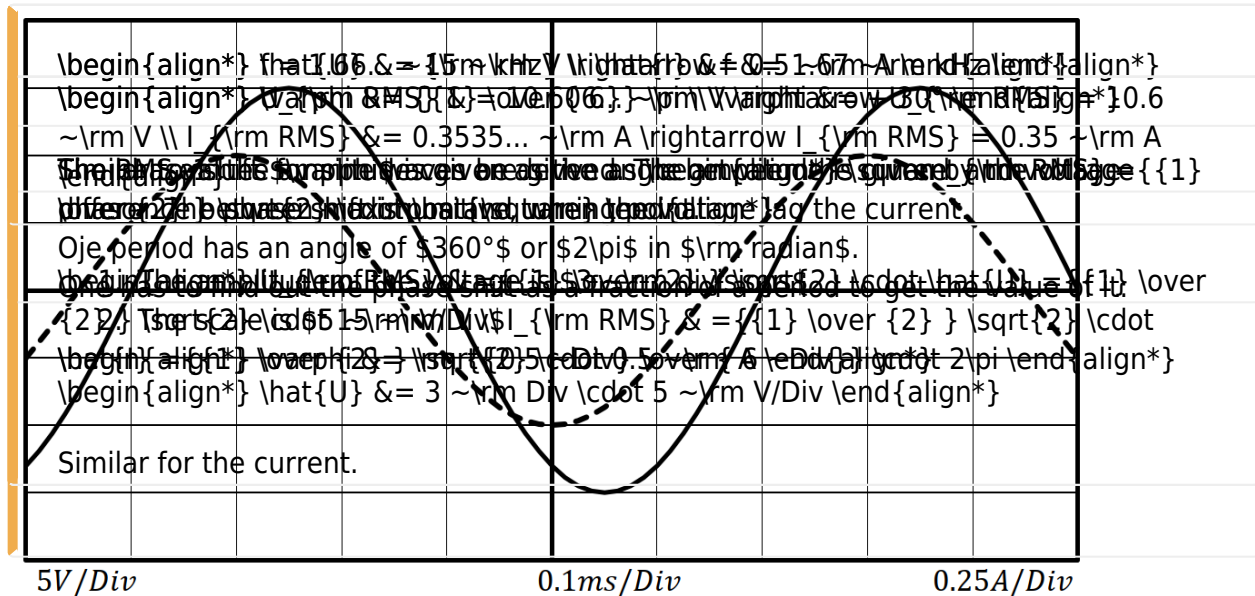
Exercise E1 Analyzing a Scope Plot (written test, approx. 12 % of a 60-minute written test, SS2023)

On which scale does the RMS value of the periodic signals lie? (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.

- The sine waves repeat after 6 Div (e.g. from falling turning point to falling turning point of one curve)
- The scale is 0.1 ms/Div

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

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