





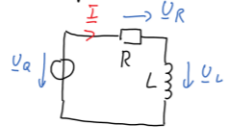
20. Mai 2021

Donnerstag, 20. Mai 2021 08:26

Literatur:

- Meßler 5.7, 5.8
- Meßler 11.2

Beispiel

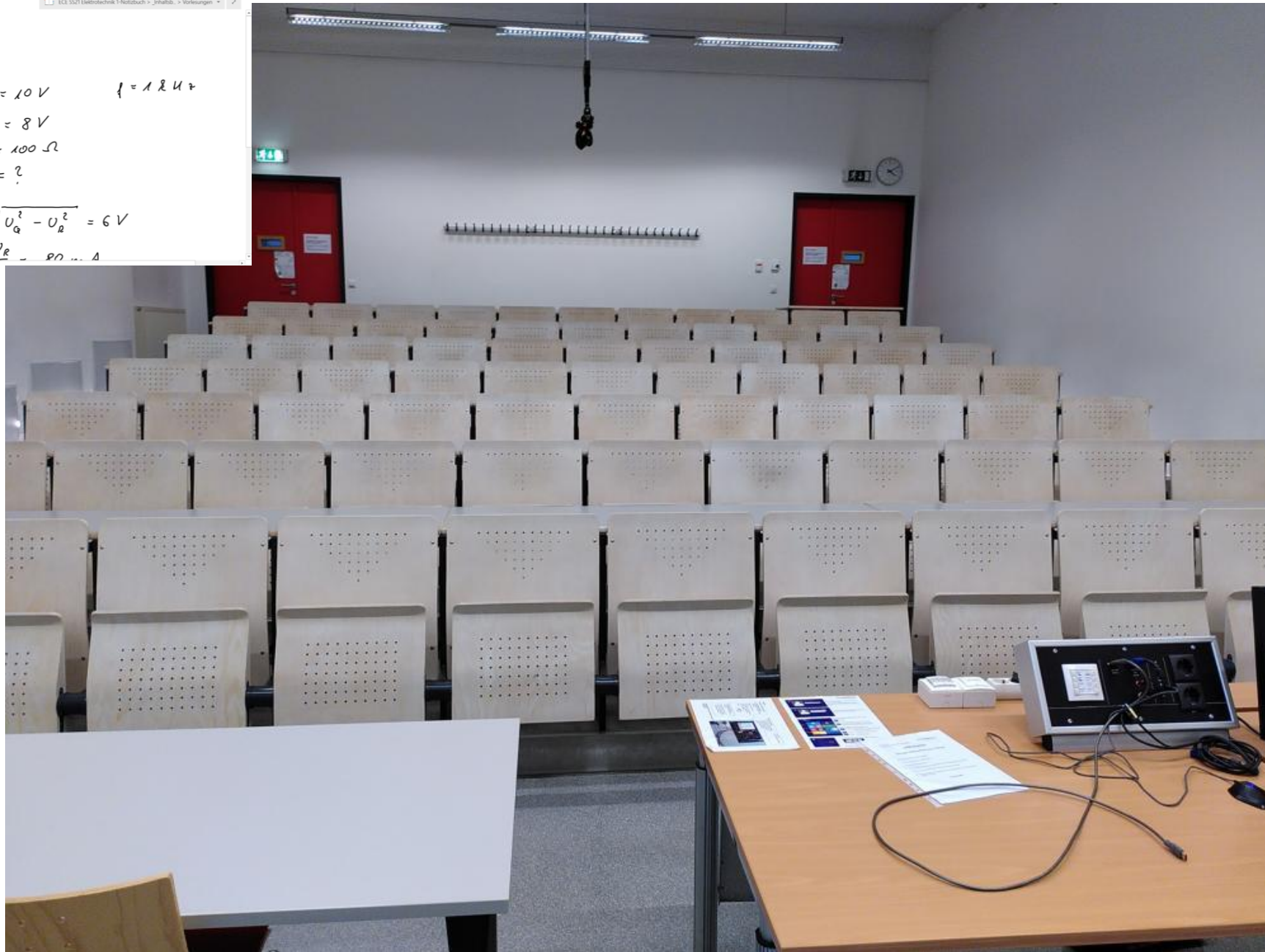


$$U_Q = 10 \text{ V} \quad f = 1 \text{ kHz}$$
$$U_R = 8 \text{ V}$$
$$R = 100 \text{ } \Omega$$
$$L = ?$$

$$U_L = \sqrt{U_Q^2 - U_R^2} = 6 \text{ V}$$

$$I = \frac{U_R}{R} = 80 \text{ } \mu\text{A}$$

U_Q



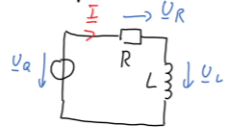
20. Mai 2021

Donnerstag, 20. Mai 2021 08:26

Literatur:

- Modell 5.2, 5.8
- Mathebuch 11.2

Beispiel



$$U_Q = 10 \text{ V} \quad f = 1 \text{ kHz}$$

$$U_R = 8 \text{ V}$$

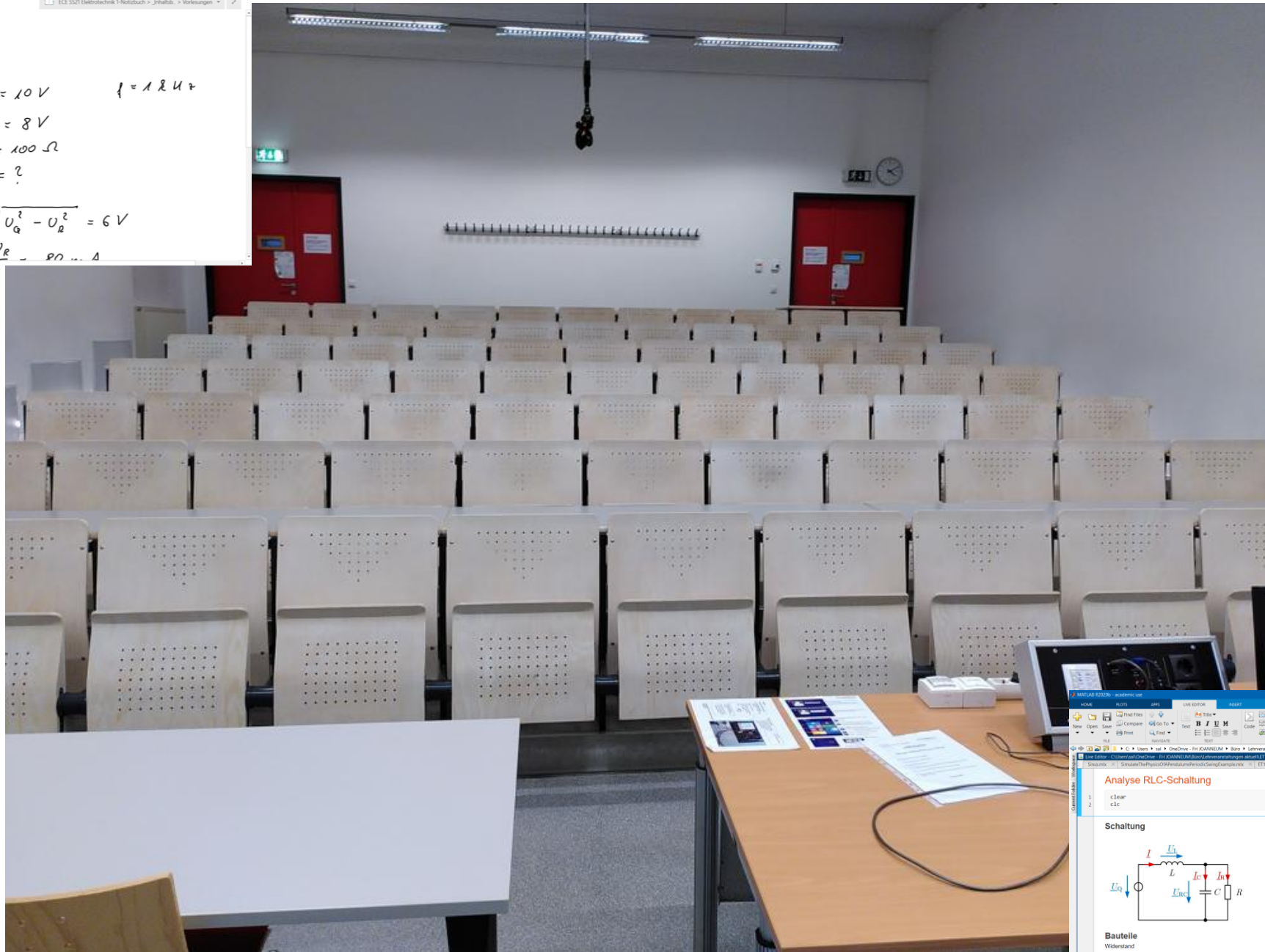
$$R = 100 \, \Omega$$

$$L = ?$$

$$U_L = \sqrt{U_Q^2 - U_R^2} = 6 \text{ V}$$

$$I = \frac{U_R}{R} = 80 \text{ mA}$$

U_Q



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clear
clc
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Analyse RLC-Schaltung

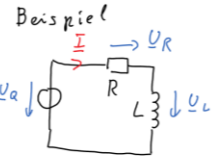
Schaltung

Bauteile
Widerstand

20. Mai 2021

Donnerstag, 20. Mai 2021 08:26

Literatur
• Modell S.2, S.8
• Matheosur 11.2

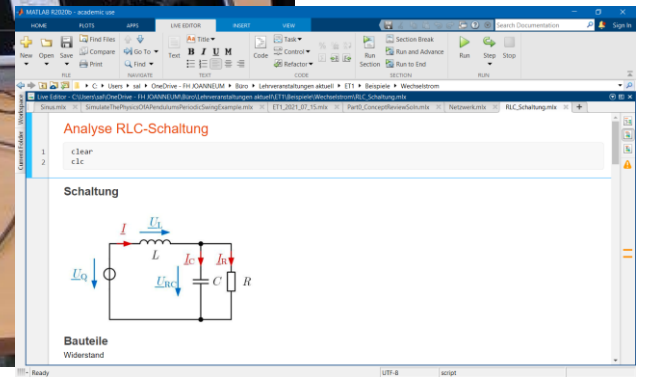
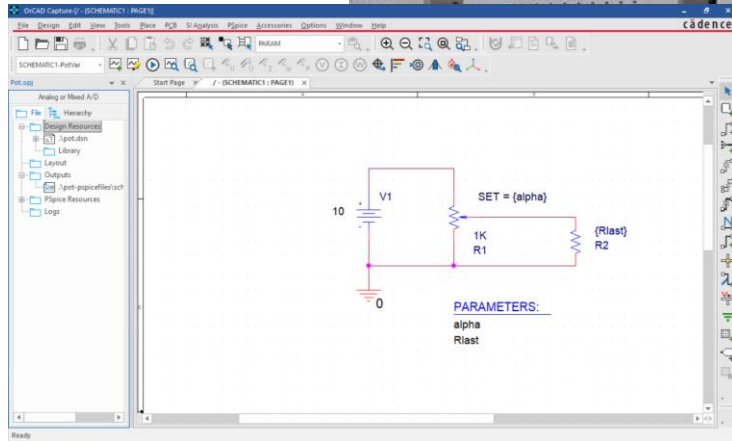
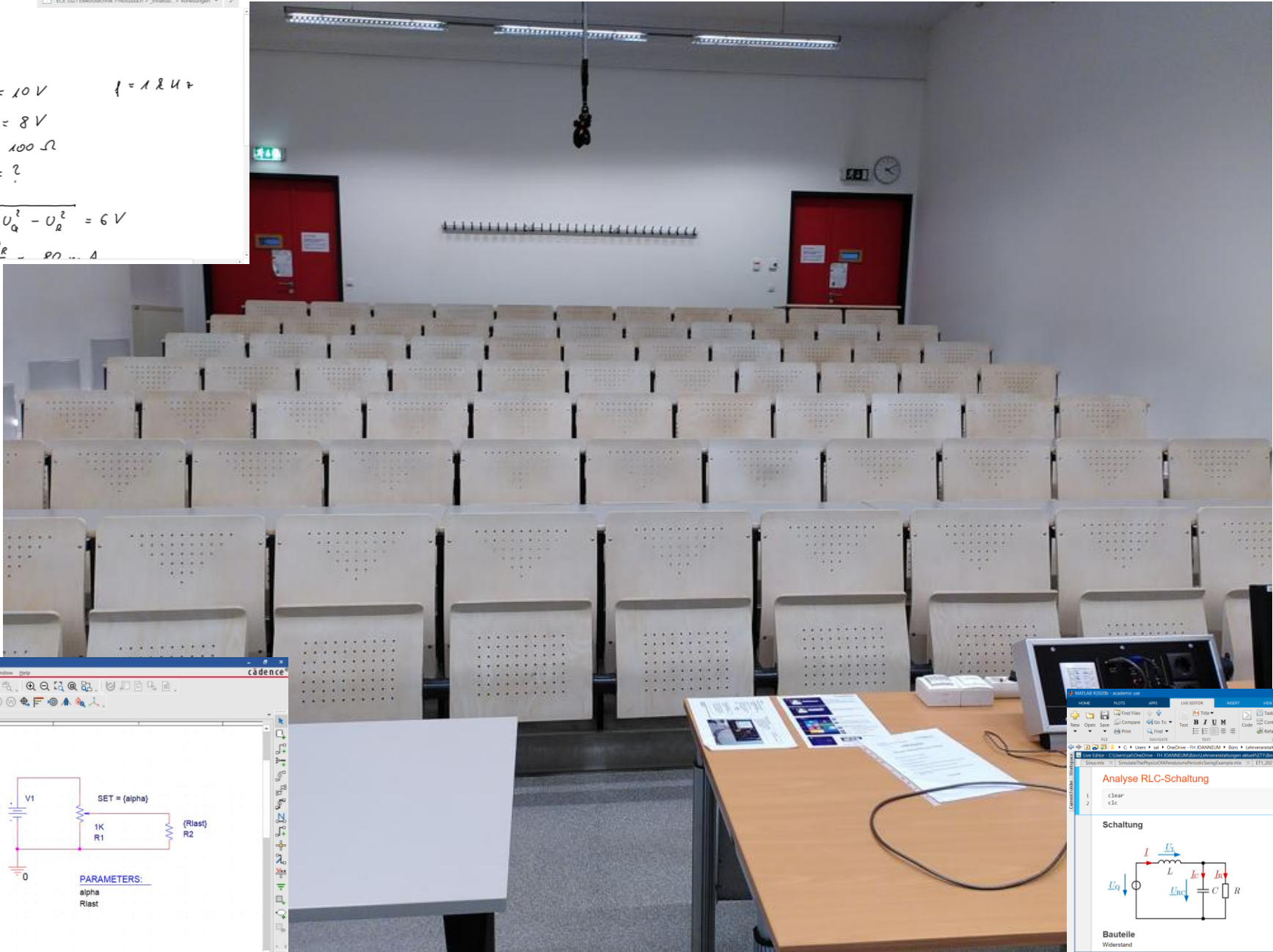


$$U_Q = 10 \text{ V}$$
$$U_R = 8 \text{ V}$$
$$R = 100 \Omega$$
$$L = ?$$
$$f = 1 \text{ kHz}$$

$$U_L = \sqrt{U_Q^2 - U_R^2} = 6 \text{ V}$$

$$I = \frac{U_R}{R} = 80 \text{ mA}$$

U_Q



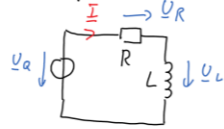
20. Mai 2021

Donnerstag, 20. Mai 2021 08:26

Literatur

- Mader 5.7.5.8
- Matheosor 11.2

Beispiel



$$U_Q = 10\text{ V} \quad f = 1\text{ kHz}$$

$$U_R = 8\text{ V}$$

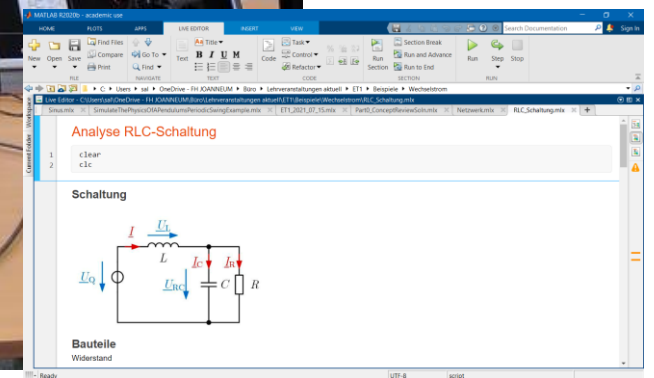
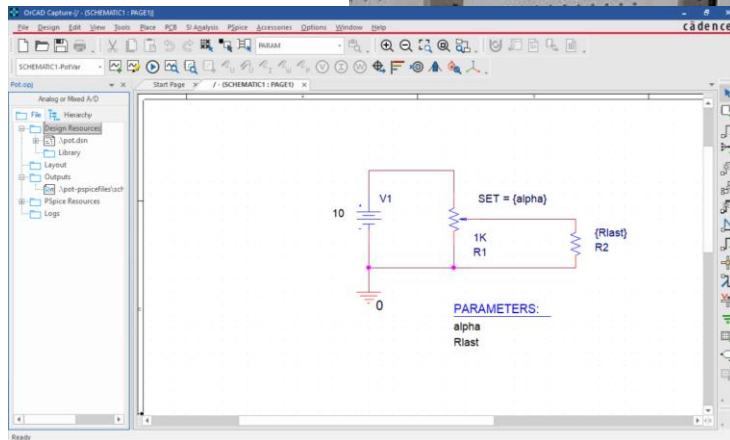
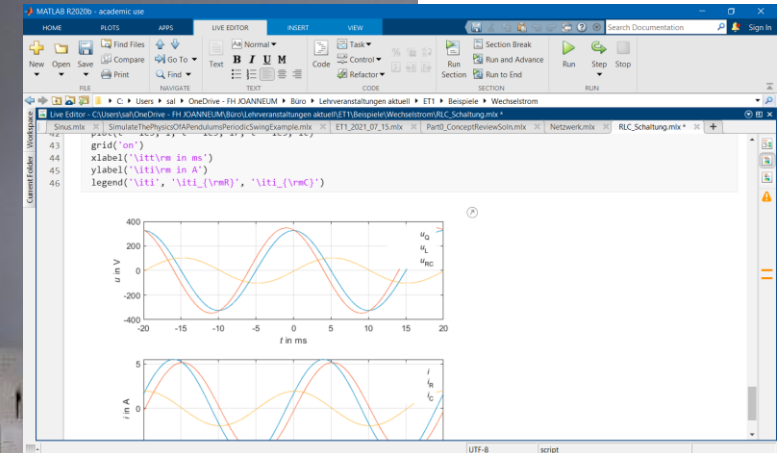
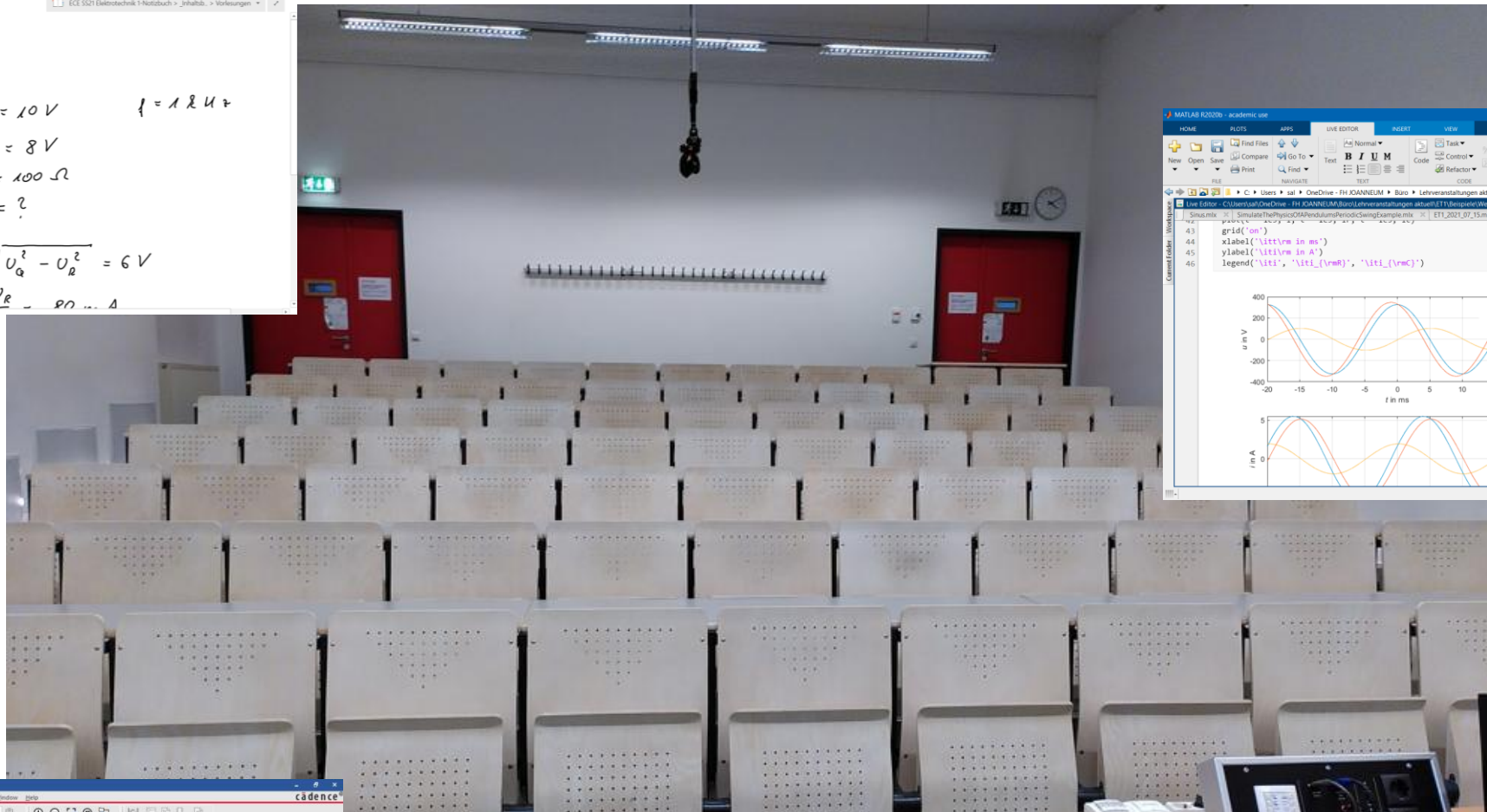
$$R = 100\ \Omega$$

$$L = ?$$

$$U_L = \sqrt{U_Q^2 - U_R^2} = 6\text{ V}$$

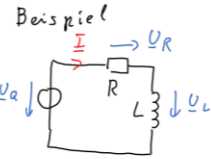
$$I = \frac{U_R}{R} = \frac{8\text{ V}}{100\ \Omega} = 80\ \mu\text{ A}$$

U_Q



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Literatur
• Meßler 5.7.5.8
• Meßler 11.2



$$U_Q = 10\text{ V}$$

$$U_R = 8\text{ V}$$

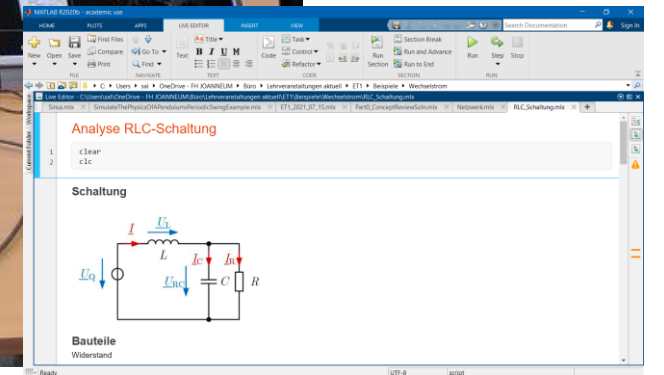
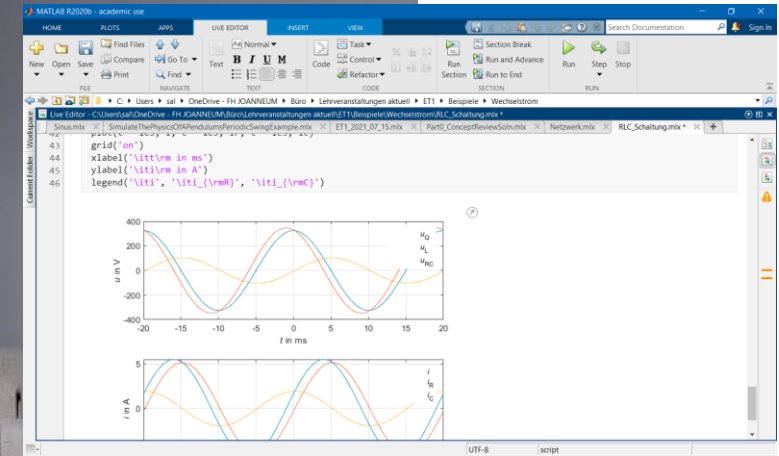
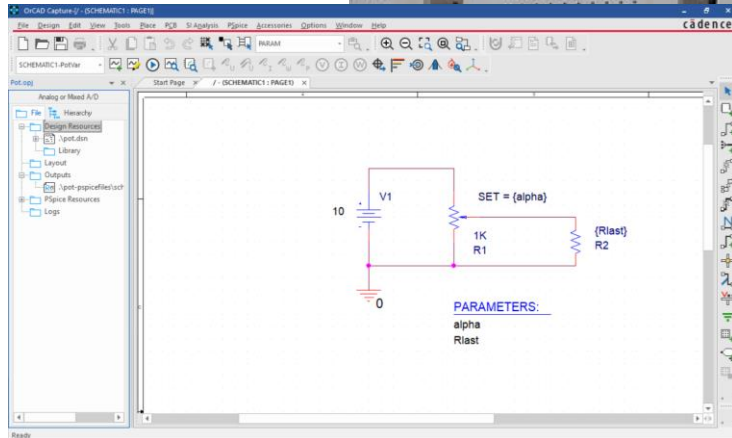
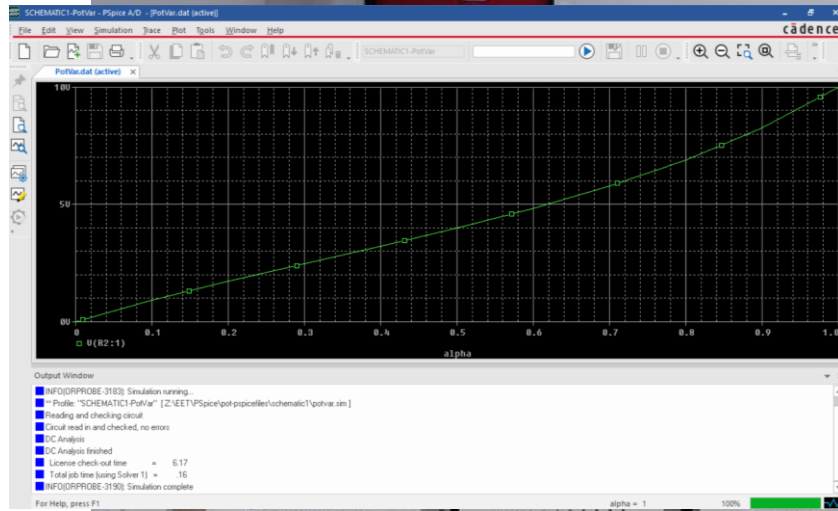
$$R = 100\ \Omega$$

$$L = ?$$

$$I = 1\ \text{A}$$

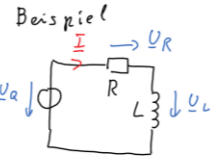
$$U_L = \sqrt{U_Q^2 - U_R^2} = 6\text{ V}$$

$$L = \frac{U_L}{I} = \frac{6\text{ V}}{1\ \text{A}} = 6\ \text{mH}$$



20. Mai 2021

Literatur
• Modell 5.7.5.8
• Medizintechnik 11.2



$$U_Q = 10\text{ V}$$

$$U_R = 8\text{ V}$$

$$R = 100\ \Omega$$

$$L = ?$$

$$I = 1\ \text{mA}$$

$$U_L = \sqrt{U_Q^2 - U_R^2} = 6\text{ V}$$

$$L = \frac{U_L}{I} = \frac{6\text{ V}}{1\ \text{mA}} = 6000\ \text{H}$$

