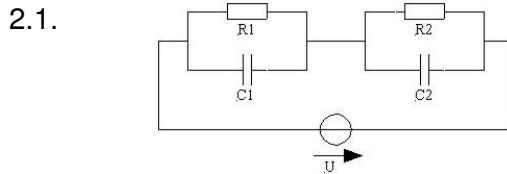


## Lösungen

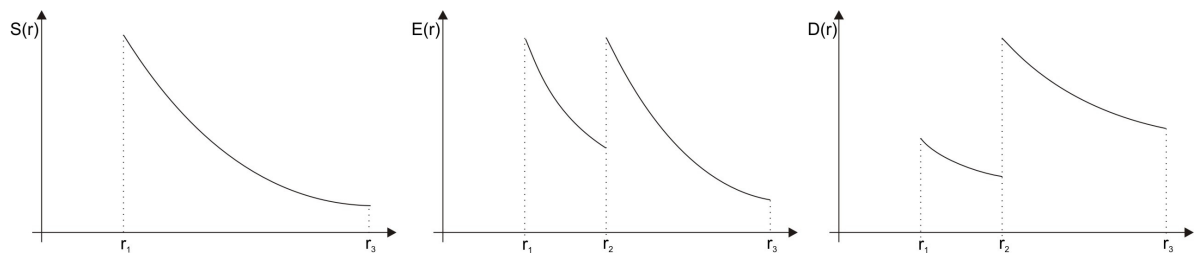
### Aufgabe 1:

- 1.1. Skalenteil: 100  $\vartheta_0 = 59\text{ }^{\circ}\text{C}$   
 2.2.  $I_q = 62,5\text{ mA}$

### Aufgabe 2:



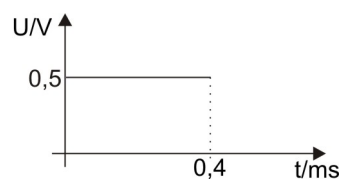
- 2.2. Maximalwerte:  
 $S(r_1) = 8 \cdot 10^{-4}\text{ A/m}^2$   $E(r_1) = 800\text{ kV/m}$   $D(r_1) = 1,4 \cdot 10^{-5}\text{ As/m}^2$   
 $E(r_2) = 800\text{ kV/m}$   $D(r_2) = 2,8 \cdot 10^{-5}\text{ As/m}^2$



- 2.3.  $\sigma = 2,45 \cdot 10^{-5}\text{ As/m}^2$   
 2.4.  $U_{\text{ges}}(t=35\text{ms}) = 6,8\text{ kV}$

### Aufgabe 3:

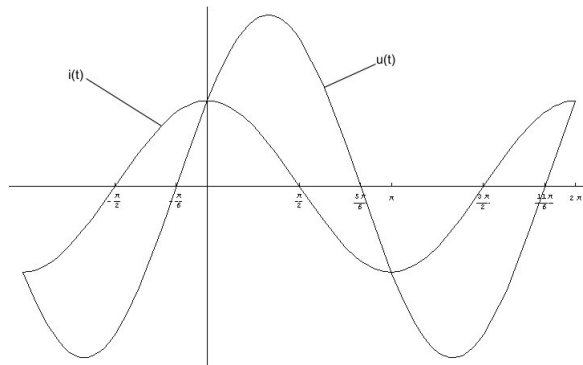
- 3.1.  $B_L = 0,92\text{ T}$   
 3.2.  $B_{L,\text{max}} = 1,03\text{ T}$   
 3.3.  $I = 819\text{ mA}$   
 3.4.  $u_{AB} = 0,51\text{ V}$



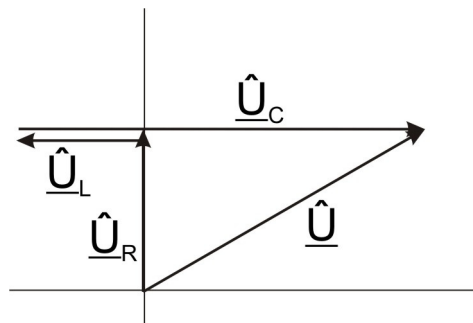
### Aufgabe 4:

4.1.  $i(t) = 0,1 \text{ A} \cdot \sin(\omega t + 90^\circ)$

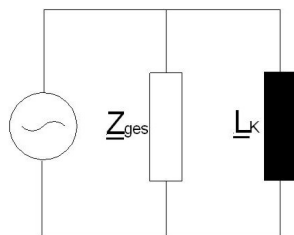
4.2.



4.3.  $\underline{\hat{U}}_R = 120 \text{ V} \cdot e^{j90^\circ}$      $\underline{\hat{U}}_L = 109,96 \text{ V} \cdot e^{j180^\circ}$      $\underline{\hat{U}}_C = 318,31 \text{ V} \cdot e^{j0^\circ}$



4.4.  $L_k = 12,3 \text{ H}$



4.5.

