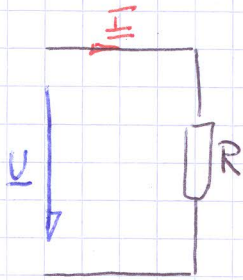


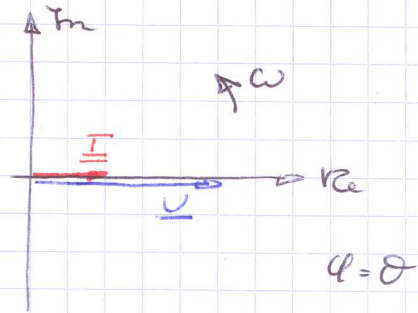
Komplexe Wechselstromrechnung

a) ohmscher Widerstand

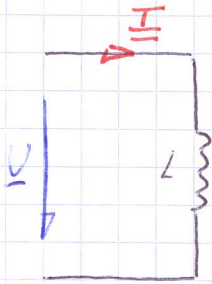


$$\underline{U} = \underline{I} \cdot \underline{R}$$

$$\underline{R} = R$$



b) induktiver Blindwiderstand

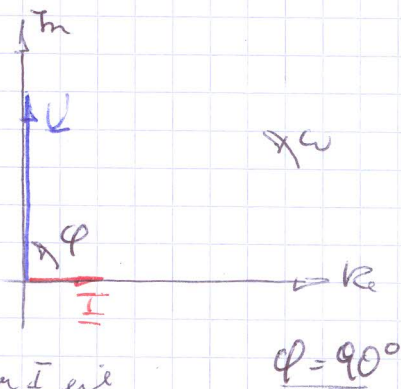


$$\underline{X}_L = j\omega L$$

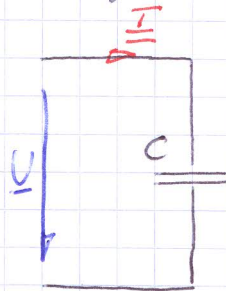
$$\underline{U} = \underline{X}_L \cdot \underline{I}$$

$$= j \underline{X}_L \cdot \underline{I}$$

→ somit U 90° vor I



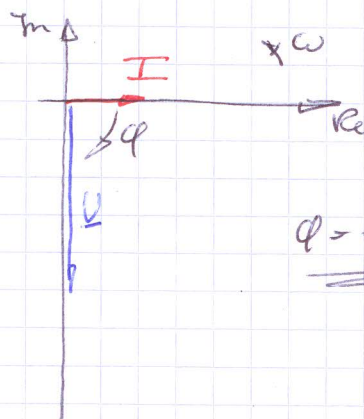
c) kapazitiver Blindwiderstand



$$\underline{X}_C = \frac{1}{j\omega C} = \frac{1}{j\omega C} \cdot \frac{j}{j} = -j \frac{1}{\omega C}$$

$$\underline{U} = \underline{X}_C \cdot \underline{I}$$

$$= -j \underline{X}_C \cdot \underline{I}$$



(I 90° U
nachdem!)

bei U ist I
90° nachdem!

$$\underline{\phi} = -90^\circ$$