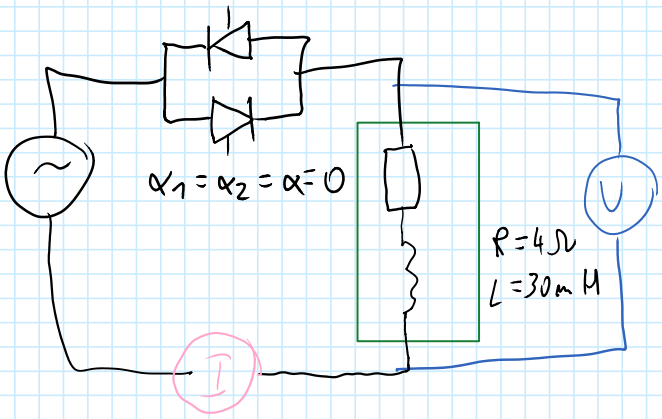
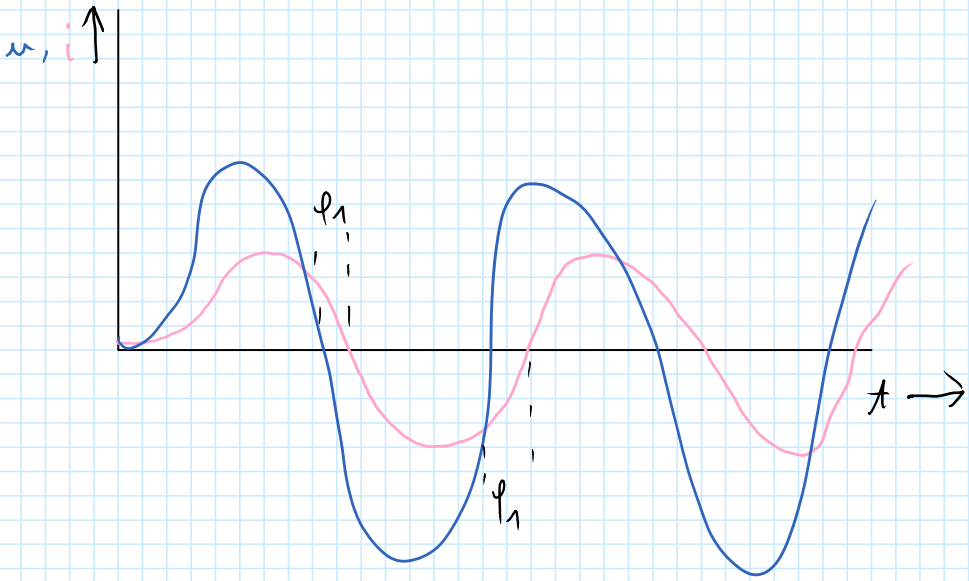
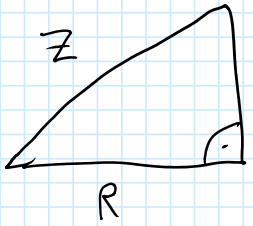
Reale Spule

Samstag, 25. Oktober 2014 13:57







$\omega L \Rightarrow R = \sqrt{|\underline{Z}|^2 - (\omega L)^2}$

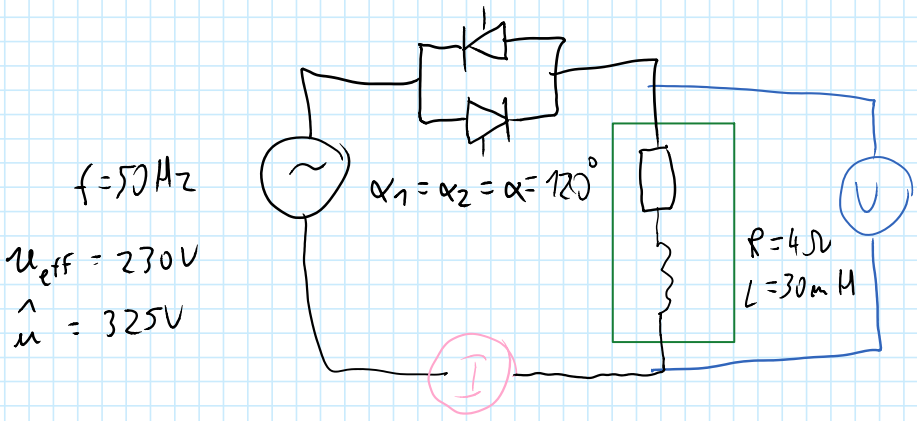
$R = \sqrt{|\underline{Z}|^2 - (2\pi \cdot 50Hz \cdot 30mH)}$

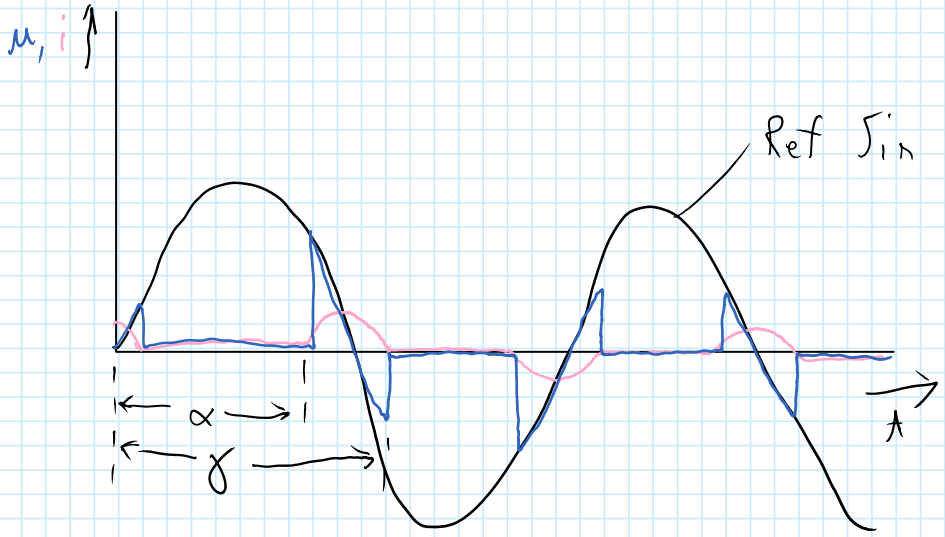
$|\underline{Z}(\omega)| = \frac{\hat{u}}{\hat{i}}$ $\hat{u}, \hat{i}$ = Amplitudenwerte der Grundschwingungen

Oder: $R = \frac{U_{eff}}{I_{eff}} = \frac{\hat{u}}{\hat{i}}$

Bei nahezu idealen 50Hz Sinus:

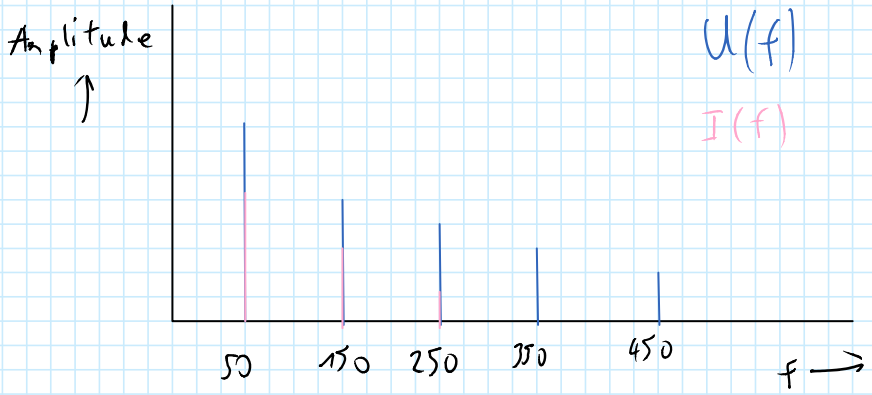
$\frac{\hat{u}}{\hat{i}} = \frac{\hat{u}}{\hat{i}} = \frac{U_{eff}}{I_{eff}}$





γ = Ventilöffnungswinkel

FFT der Messgrößen



$$R = \frac{U(50\,Hz)}{I(50\,Hz)} \qquad 2.$$

oder $$R = \frac{\sqrt{U(50\,Hz)^2 + U(150\,Hz)^2 + U(250\,Hz)^2 \ldots}}{\sqrt{I(50\,Hz)^2 + I(150\,Hz)^2 + I(250\,Hz)^2 \ldots}}$$