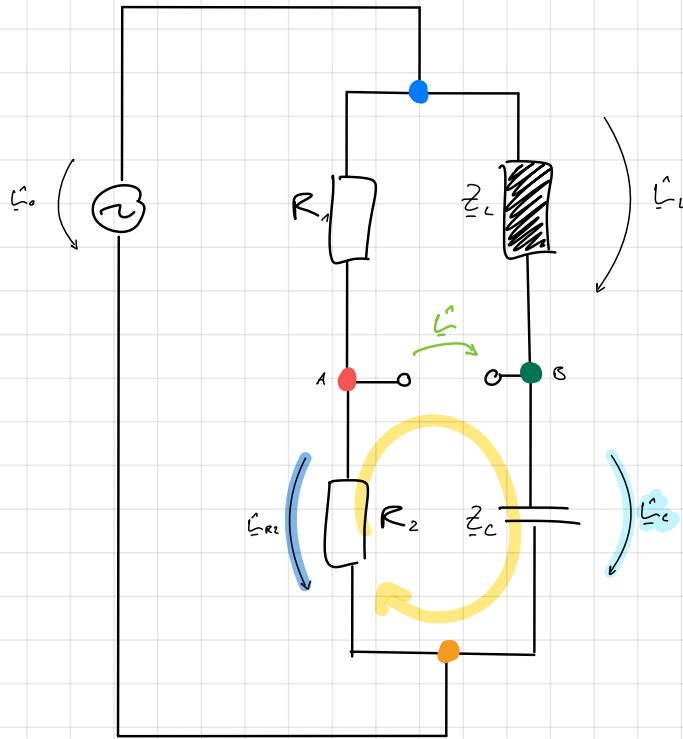


BSP 1 :

1) SKIZZE :



(1) MASCHENGLEICHUNG : $\underline{I} = \underline{I}_{R2} - \underline{I}_C$

SPANNUNGSTEILER : $\underline{I}_C = \underline{I}_0 \cdot \frac{\underline{Z}_C}{\underline{Z}_C + \underline{Z}_L}$
 (FÜR \underline{I}_C)
 $= \underline{I}_0 \cdot \frac{\frac{1}{j\omega C}}{\frac{1}{j\omega C} + j\omega L}$
 $= \underline{I}_0 \cdot \frac{1}{1 - \omega^2 LC}$

SPANNUNGSTEILER : $\underline{I}_{R2} = \underline{I}_0 \cdot \left(\frac{1}{2}\right)$
 (FÜR \underline{I}_{R2})
 ZWEI GLEICHE WIDERSTÄNDE
 $\frac{R}{R+R} = \frac{1}{2}$

2(1) : $\underline{I} = \frac{\underline{I}_0}{2} - \underline{I}_0 \cdot \frac{1}{1 - \omega^2 LC}$

$= \underline{I}_0 \left[\frac{1}{2} - \frac{1}{1 - \omega^2 LC} \right]$

BSF1 - 2 :

$$\lim_{\omega \rightarrow 0} \frac{1}{1 - \omega^2 LC} = \lim_{\omega \rightarrow 0} \left[\frac{1}{1 - \omega^2 LC} \right] = \frac{1}{2}$$

$$\lim_{\omega \rightarrow \infty} \frac{1}{1 - \omega^2 LC} = \lim_{\omega \rightarrow \infty} \left[\frac{1}{1 - \omega^2 LC} \right] = \frac{1}{2}$$