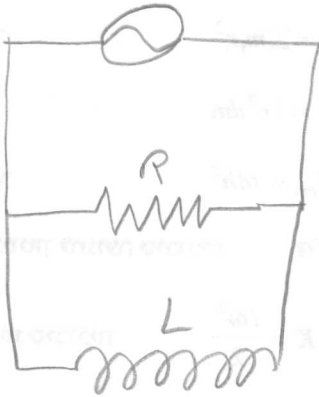


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$$V(t) = V_0 \cos \omega t$$

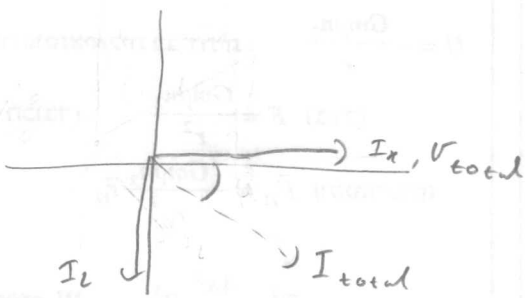
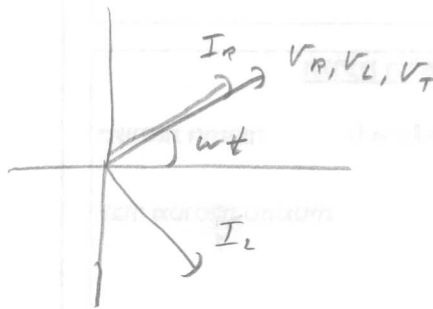
← זרם בקבוצה

הזרם ע"י נכנסת כ"כ נכנסת

כיוון זרם

V_R - כיוון I_R

V_L - כיוון I_L - $\frac{\pi}{2}$ שני



זרם ז"כ (1.32)

נכנסת

$$\tan \varphi = \frac{I_L}{I_R} = \frac{V/X_L}{V/R} = \frac{R}{X_L} = \frac{R}{\omega L}$$

$$I_{total} = \sqrt{I_R^2 + I_L^2}$$

$$= \sqrt{\frac{V^2}{R^2} + \frac{V^2}{X_L^2}} = V \sqrt{\frac{1}{R^2} + \frac{1}{X_L^2}} = V \sqrt{\frac{1}{R^2} + \frac{1}{(\omega L)^2}}$$

$$Z = \frac{V_{total}}{I_{total}} = \frac{V}{I_{total}} = \frac{1}{\sqrt{\frac{1}{R^2} + \frac{1}{X_L^2}}}$$

$$\frac{1}{Z} = \sqrt{\frac{1}{R^2} + \frac{1}{X_L^2}} = \sqrt{\frac{1}{R^2} + \frac{1}{(\omega L)^2}}$$