

Exemples cours Corrigé

Page 77	Puissance active charge	$P = 711 \text{ W}$
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$$T = \frac{1}{f} = 20 \text{ ms} \quad \varphi = t \cdot f \cdot 2\pi = -4 \text{ ms} \cdot 50 \cdot 2\pi = -0,2 \cdot 2\pi = -72^\circ = -0,4\pi$$

$$P = UI \cos \varphi = 230 \cdot 10 \cdot 0,31 = 711 \text{ W}$$

Page 79	Puissance réactive, apparente et complexe charge	$Q = -2187 \text{ var}, S = 2300 \text{ VA}, S_{\text{compl}} = P + jQ = S^* e^{j\varphi} = 2300^* e^{j-72^\circ}$
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$$P = U \cdot I \cdot \cos \varphi = 230 \cdot 10 \cdot \cos(-72^\circ) = \underline{\underline{711 \text{ W}}}$$

$$Q = U \cdot I \cdot \sin \varphi = 230 \cdot 10 \sin(-72^\circ) = \underline{\underline{-2187 \text{ var}}}$$

$$S = \sqrt{P^2 + Q^2} = \sqrt{711^2 + 2187^2} = \underline{\underline{2300 \text{ VA}}}$$

$$\underline{\underline{S}} = P + jQ = S \cdot e^{j\varphi} = \underline{\underline{2300 \cdot e^{j-72^\circ} \text{ VA}}}$$