

$$Y = Y_C + \frac{1}{Z_{RL}} = jC\omega + \frac{1}{R + jL\omega}$$

$$Y = \boxed{jC\omega} + \frac{R - jL\omega}{R^2 + j^2 L^2 \omega^2}$$

$$= jC\omega + \frac{R}{R^2 + L^2 \omega^2} - j \frac{L\omega}{R^2 + L^2 \omega^2}$$

$$Y = \frac{R}{R^2 + L^2 \omega^2} + j \left(C\omega - \frac{L\omega}{R^2 + L^2 \omega^2} \right)$$

$$Y_{eq} = R_{eq} + jX_{eq} = (0,05 - j0,03) S$$

$$\hookrightarrow |Y_{eq}| = \sqrt{R_{eq}^2 + X_{eq}^2}$$

$$\hookrightarrow \varphi(Y_{eq}) = \text{Arctan} \left(\frac{X_{eq}}{R_{eq}} \right)$$