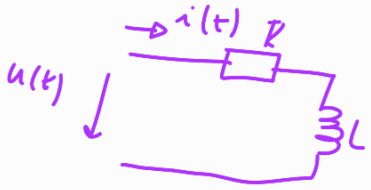
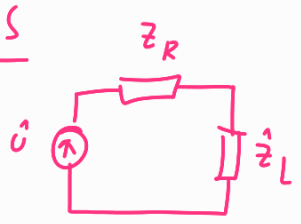


$u(t) = 5 + 10 \sin(10^3 t + 1/4\,\pi)$

SUS

$i = \frac{U}{R} = \frac{5}{10^3} = 5\,mA$

HUS

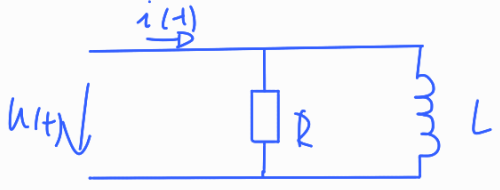


$Z = Z_R + Z_L = R + j\omega L =$

$= 10^3 + j\,10^3 \cdot 1 = 1414 \cdot e^{\pi/4\, j}$

$\hat{I} = \frac{U}{R} = \frac{10\, e^{\pi/4\, j}}{1414\, e^{\pi/4\, j}} = 7{,}02\,mA$

$i(t) = 5 + 7 \sin(1000\, t)\,mA$

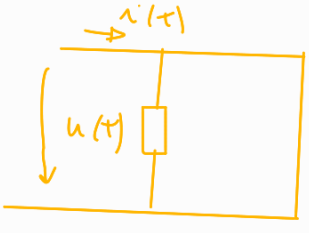


$i(t) = 10 + 5 \sin(10^3 t + 1/4\,\pi)\,mA$

$R = 1k\Omega$

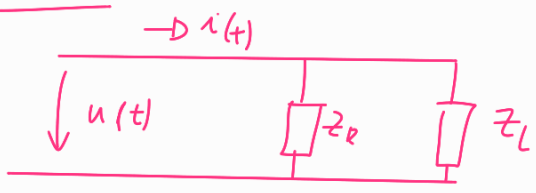
$L = 1H$

SUS



$u(t) = 0$

HUS



$Z = \frac{R\, j\omega L}{R + j\omega L} = \frac{10^6 j}{10^3 + 10^3 j} = \frac{10^6\, e^{j\pi/2}}{10^3(1+j)} = \frac{10^3\, e^{j\pi/2}}{\sqrt{2}\, e^{j\pi/4}} = 707\, e^{j\frac{\pi}{4}}$

$\hat{U} = \hat{Z}\hat{I} = 5 \cdot 10^{-3}\, e^{j\pi/4} \cdot 707\, e^{j\pi/4} = 3{,}535\, e^{j\pi/2}$

$u(t) = 3{,}535 \sin(10^3 t + \pi/2)\,V$