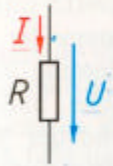

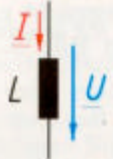
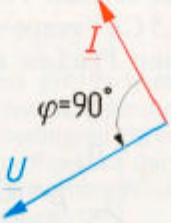
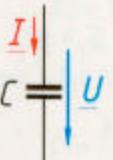
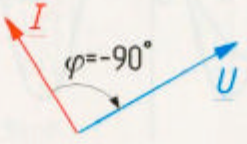
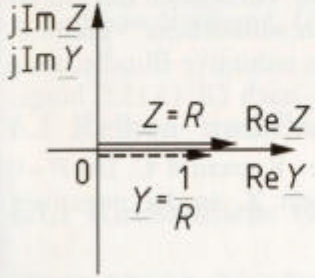
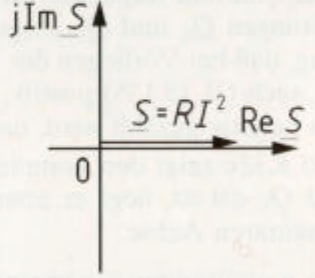
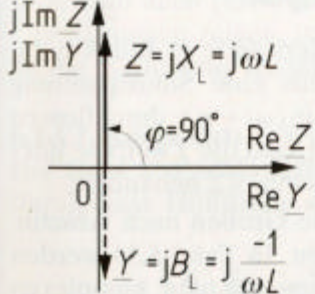
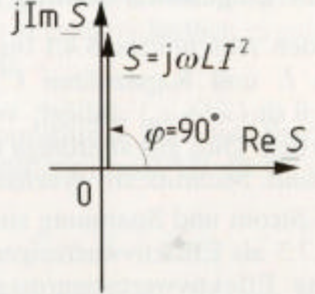
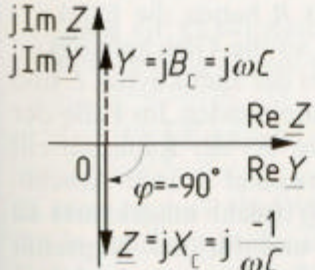
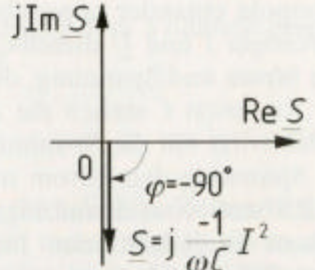


Die idealen passiven Grundzweipole bei Sinusstrom\*

Schaltzeichen	Zusammenhang zwischen Strom und Spannung		Komplexer komplexe Größen, Phasenwinkel
	Zeitfunktionen, komplexe Größen	Effektivwert-Zeigerdiagramme	
	$u = Ri$ $i = \frac{1}{R}u$ $\underline{U} = R \cdot \underline{I}$ $\underline{I} = \frac{1}{R} \cdot \underline{U}$		$\underline{Z} = R$ $\underline{Y} = \frac{1}{R}$ $\varphi = 0^\circ$
	$u = L \frac{di}{dt}$ $i = \frac{1}{L} \int u dt$ $\underline{U} = j\omega L \cdot \underline{I}$ $\underline{I} = \frac{1}{j\omega L} \cdot \underline{U}$		$\underline{Z} = j\omega L$ $\underline{Y} = \frac{1}{j\omega L}$ $= j \frac{-1}{\omega L}$ $\varphi = 90^\circ$
	$u = \frac{1}{C} \int i dt$ $i = C \frac{du}{dt}$ $\underline{U} = \frac{1}{j\omega C} \cdot \underline{I}$ $\underline{I} = j\omega C \cdot \underline{U}$		$\underline{Z} = \frac{1}{j\omega C}$ $= j \frac{-1}{\omega C}$ $\underline{Y} = j\omega C$ $\varphi = -90^\circ$

Widerstand und Leitwert Zeigerdiagramme	Komplexe Leistung	
	Wirkleistung, Blindleistung, Leistungsfaktor	Zeigerdiagramme
	$P = RI^2$ $= \frac{1}{R} U^2$ $Q = 0$ $\cos \varphi = 1$	
	$P = 0$ $Q = \omega LI^2$ $= \frac{1}{\omega L} U^2$ $\cos \varphi = 0$	
	$P = 0$ $Q = -\frac{1}{\omega C} I^2$ $= -\omega C U^2$ $\cos \varphi = 0$	

\*Aus "Grundlagen der Elektrotechnik", Moeller/Frohne/Löcherer/Müller, B. G. Teubner Stuttgart