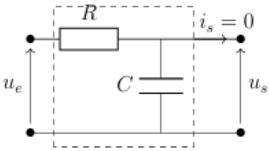
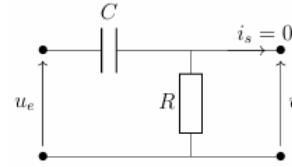
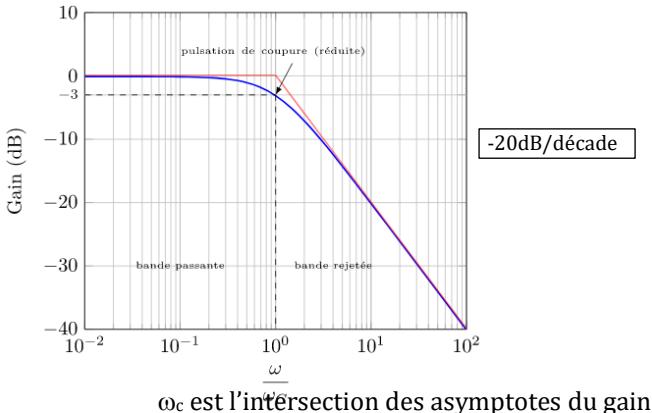
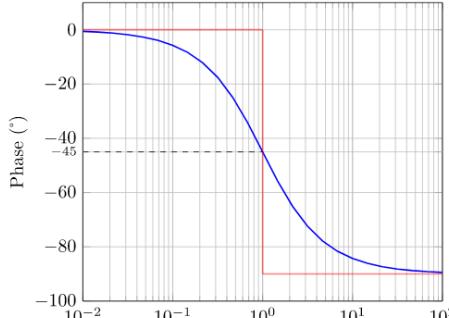
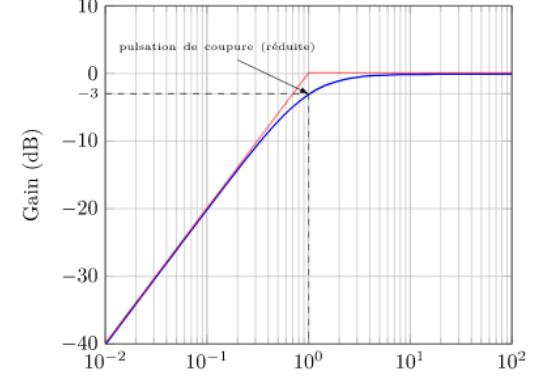
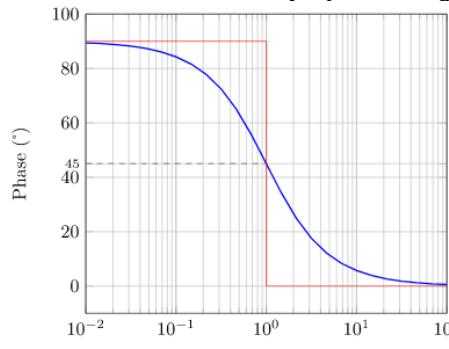
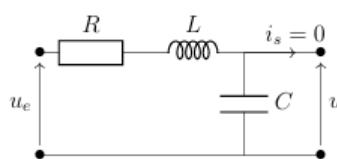
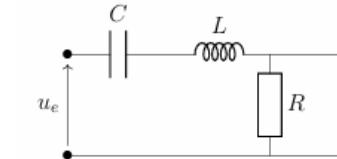
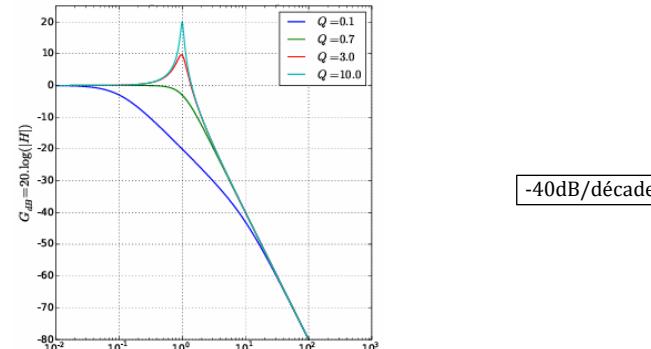
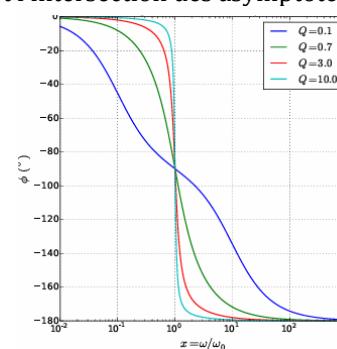
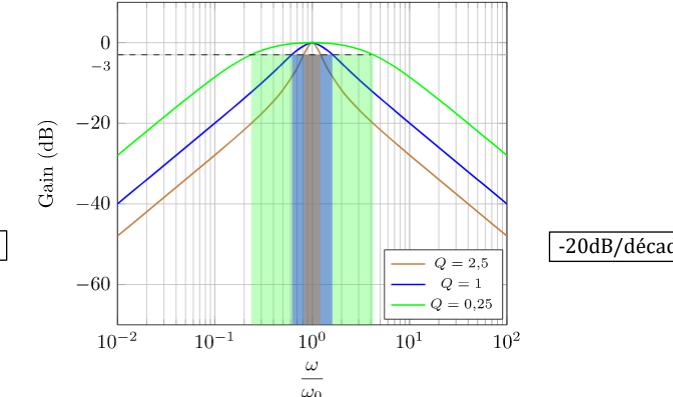
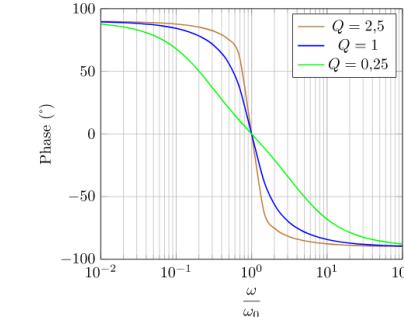


	Filtre passe bas du 1 ^{er} ordre	Filtre passe haut du 1 ^{er} ordre
Exemples		
Fonction de Transfert	$H = \frac{H_0}{1 + j \frac{\omega}{\omega_c}}$ <p>avec ω_c la pulsation de coupure et H_0 le gain statique ($H_0=H(0)$)</p>	$H = H_0 \frac{j \frac{\omega}{\omega_c}}{1 + j \frac{\omega}{\omega_c}} = H_0 \frac{1}{1 - j \frac{\omega_c}{\omega}}$ <p>avec ω_c la pulsation de coupure et H_0 le gain haute fréquence ($H_0=H(\infty)$)</p>
Gain maximal en dB	<p>Pour $\omega = 0 : G_{dB,max} = 20 \log (H_0)$</p>	<p>Pour $\omega \rightarrow \infty : G_{dB,max} = 20 \log (H_0)$</p>
Diagrammes de Bode	 	 

	Filtre passe bas du 2 nd ordre	Filtre passe bande du 2 nd ordre
Exemples		
Fonction de Transfert	$H = \frac{H_0}{1 - \left(\frac{\omega}{\omega_0}\right)^2 + j\frac{\omega}{Q\omega_0}}$ <p>avec ω_0 la pulsation propre et H_0 le gain statique ($H_0 = H(0)$)</p>	$H = \frac{H_0}{1 + jQ\left(\frac{\omega}{\omega_0} - \frac{\omega_0}{\omega}\right)}$ <p>avec ω_0 la pulsation propre mais également pulsation de résonance et H_0 le gain à la résonance ($H_0 = H(\omega_0)$)</p>
Gain maximal en dB	<p>Pour $\omega = 0$: $G_{dB} = 20 \log (H_0)$</p> <p>Il y a résonance si $Q > \frac{1}{\sqrt{2}}$.</p> <p>Si Q est très grand (en pratique $Q > 5$) : $\omega_r \approx \omega_0$</p>	<p>Il y a résonance pour $\omega = \omega_0$: $G_{dB} = 20 \log (H_0)$</p>
Diagrammes de Bode	 <p>-40dB/décade</p> <p>$G_{dB} = 20 \log (H)$</p> <p>$x = \omega/\omega_0$</p>  <p>-20dB/décade</p> <p>$\phi (°)$</p> <p>$x = \omega/\omega_0$</p> <p>ω_0 est l'intersection des asymptotes du gain</p>	 <p>-20dB/décade</p> <p>G</p> <p>ω/ω_0</p> <p>ω_0 est l'intersection des asymptotes du gain</p>  <p>-20dB/décade</p> <p>Phase (°)</p> <p>ω/ω_0</p>