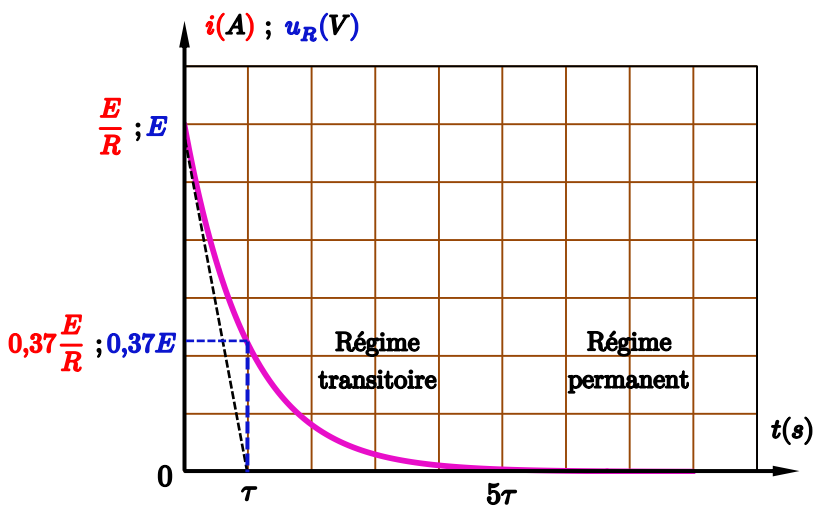
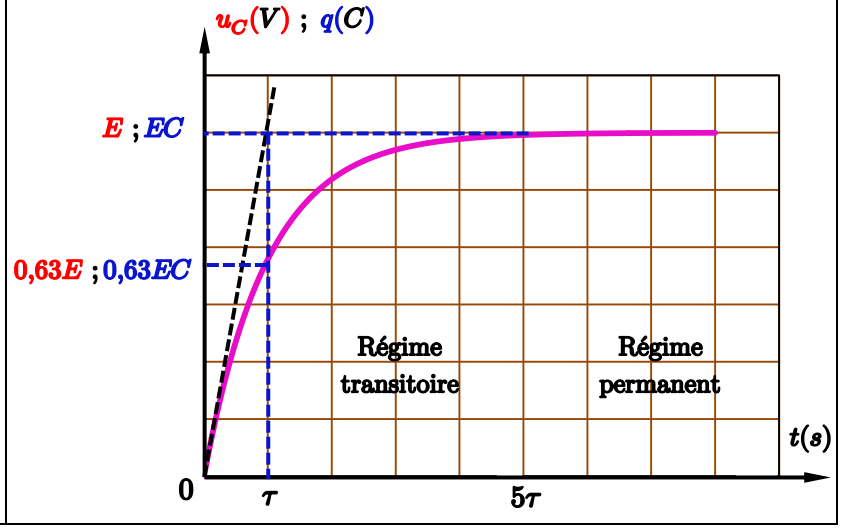
Résumé de dipôle RC : Charge

	Tension u_c	Charge q	Intensité i	Tension u_R
Equation différentielle	$RC\frac{du_c}{dt}+u_c=E$	$RC\frac{dq}{dt}+q=EC$	$RC\frac{di}{dt}+i=0$	$RC\frac{du_R}{dt}+u_R=0$
Solution de l'E.D.	$u_c(t)=E(1-e^{-t/\tau})$	$q(t)=EC(1-e^{-t/\tau})$	$i(t)=\frac{E}{R}e^{-t/\tau}$	$u_R(t)=Ee^{-t/\tau}$
Conditions initiales $t=0$	$u_c(0)=U_{c,0}=0$	$q(0)=Q_0=0$	$i(0)=I_0=\frac{E}{R}$	$u_R(0)=U_{R,0}=E$
Régime permanent $t\to\infty$	$u_c(\infty)=U_{c,max}=E$	$q(\infty)=Q_{max}=EC$	$i(\infty)=I_{max}=0$	$u_R(\infty)=U_{R,max}=0$
$t=\tau$	$u_c(\tau)=0{,}63.E$	$q(\tau)=0{,}63.EC$	$i(\tau)=0{,}37.\frac{E}{R}$	$u_R(\tau)=0{,}37.E$
Graphes				

Résumé de dipôle RC : Décharge

	Tension u_c	Charge q	Intensité i	Tension u_R
Equation différentielle	$RC\frac{du_c}{dt}+u_c=0$	$RC\frac{dq}{dt}+q=0$	$RC\frac{di}{dt}+i=0$	$RC\frac{du_R}{dt}+u_R=0$
Solution de l'E.D.	$u_c(t)=Ee^{-t/\tau}$	$q(t)=ECe^{-t/\tau}$	$i(t)=-\frac{E}{R}e^{-t/\tau}$	$u_R(t)=-Ee^{-t/\tau}$
Conditions initiales $t=0$	$u_c(0)=U_{c,0}=E$	$q(0)=Q_0=EC$	$i(0)=I_0=-\frac{E}{R}$	$u_R(0)=U_{R,0}=-E$
Régime permanent $t\to\infty$	$u_c(\infty)=U_{c,max}=0$	$q(\infty)=Q_{max}=0$	$i(\infty)=I_{max}=0$	$u_R(\infty)=U_{R,max}=0$
$t=\tau$	$u_c(\tau)=0{,}37.E$	$q(\tau)=0{,}37.EC$	$i(\tau)=0{,}37.\left(-\frac{E}{R}\right)$	$u_R(\tau)=0{,}37.(-E)$
Graphes