

**Excell Übung 8 Kondensator Laden und Entladen**  
 Siehe Kondensator Arbeitsblatt 1  
 Fachkunde 4.3.3 Laden und Entladen von Kondensatoren

Aufgabenstellung      Siehe Arbeitsblatt 1  
 Messübung

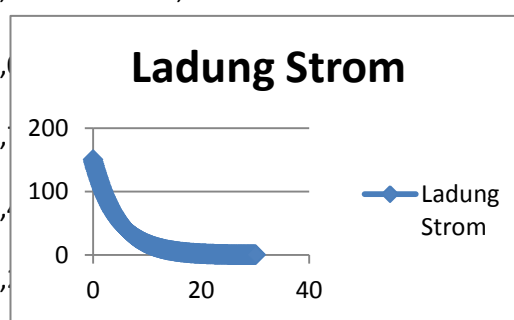
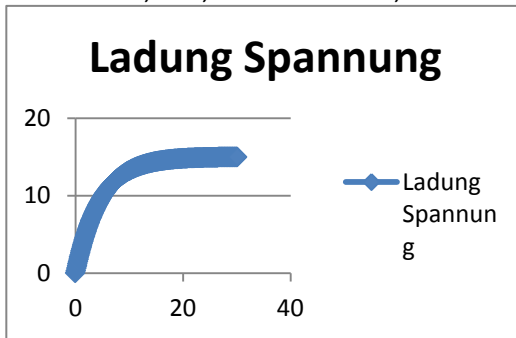
Zeitkonstante             $\tau = R * C [s]$      $t_c = 5 * \tau$

Ladevorgang               $u_c = U_o * (1 - e^{-t/\tau})$      $i_c = I_o * e^{-t/\tau}$      $I_o = \frac{U_o}{R}$

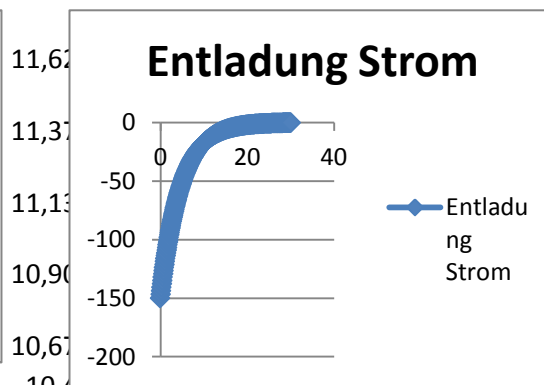
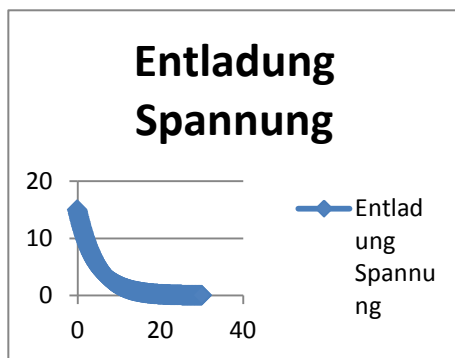
Entladevorgang           $u_c = U_o * e^{-t/\tau}$              $i_c = -I_o * e^{-t/\tau}$      $I_o = \frac{U_o}{R}$

Uo in V	15	Tau in sek	4,7
R in kOhm	100	Io in µA	150
C in µF	47		

	Ladung			Entladung	
zeit in sek	uc in V	ic in µA	uc in V	ic in µA	
0,001	0,00319115	149,968089	14,9968089	-	
0,1	0,31577769	146,842223	14,6842223	-	
0,2	0,62490767	143,750923	14,3750923	-	



0,7	2,07563834	129,243617	12,9243617	129,243617	
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1,7	4,55265297	104,47347	10,447347	-104,47347	
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