

3. Linear sources and dipoles

Student Group

First Name	Surname	Matrikel Nr.

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Gegeben sind folgende Gleichungen

$SU_A = f(U_E)$	mit III.	test
$SU_A = \text{color{blue}} \{ -U_D \} - U_C$	mit II. und I.	$\text{color{blue}} \{ U_D \} = \{ 1 \text{ over } A_D \} \cdot U_A \text{ \overset{A_D -> \infty} \longrightarrow } 0$
$SU_A = \text{color{blue}} \{ U_C \}$	mit V.	$\text{color{blue}} \{ U_C \} = \{ 1 \text{ over } C \} \cdot \int_0^{t_1} I_C \, dt + Q_0(t_0)$
$SU_A = - \{ 1 \text{ over } C \} \cdot \int_0^{t_1} \text{color{blue}} \{ I_C \} \, dt + Q_0(t_0)$	mit IV.	$\text{color{blue}} \{ I_C \} = I_R$
$SU_A = \text{color{blue}} \{ - \{ 1 \text{ over } C \} \cdot \int_0^{t_1} I_R \, dt + Q_0(t_0) \}$	Ausklammern	
$SU_A = - \{ 1 \text{ over } C \} \cdot \int_0^{t_1} I_R \, dt - \text{color{blue}} \{ Q_0(t_0) \}$	Integrationskonstante betrachten	$\text{color{blue}} \{ Q_0(t_0) \} \text{ over } C = U_C(t_0) = -U_A(t_0)$
$SU_A = - \{ 1 \text{ over } C \} \cdot \int_0^{t_1} \text{color{blue}} \{ I_R \} \, dt + U_{A0}$	mit VI. und II.	$\text{color{blue}} \{ I_R \} = \{ U_R \text{ over } R \} = \{ U_E \text{ over } R \}$
$SU_A = - \{ 1 \text{ over } C \} \cdot \int_0^{t_1} \text{color{blue}} \{ U_E \} \, dt + U_{A0}$	Konstante vorziehen	
$SU_A = - \{ 1 \text{ over } R \cdot C \} \cdot \int_0^{t_1} U_E \, dt + U_{A0}$		

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Last update: **2021/05/09 09:45**

