

rechnung_umkehrintegrator

Student Group

First Name	Surname	Matrikel Nr.

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$U_A = f(U_E)$	mit III.	
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_E dt + U_{A0}$		$U_D = \frac{1}{A_D} \int U_A dt \rightarrow \infty$
$U_A = U_D - U_C$	mit II. und I.	
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$
$U_A = 0$	mit V.	
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$
$U_A = -\frac{1}{C} \int U_D dt + \frac{1}{C} \int U_C dt + U_{A0}$	mit IV.	$U_C = U_R$
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$
$U_A = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt + U_{A0}$	Ausklammern	
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$
$U_A = -\frac{1}{C} \int U_D dt + \frac{1}{C} \int U_C dt + U_{A0}$	Integrationskonstante betrachten	$U_{A0} = U_C(t_0) - \frac{1}{C} \int U_D dt + \frac{1}{C} \int U_C dt$
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$
$U_A = -\frac{1}{C} \int U_D dt + \frac{1}{C} \int U_C dt + U_{A0}$	mit VI. und II.	$U_R = U_C = U_E$
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$
$U_A = -\frac{1}{C} \int U_D dt + \frac{1}{C} \int U_C dt + U_{A0}$	Konstante vorziehen	
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$
$U_A = -\frac{1}{C} \int U_D dt + \frac{1}{C} \int U_C dt + U_{A0}$	Zeitkonstante $\tau = R \cdot C$ einfügen	
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$
$U_A = -\frac{1}{C} \int U_D dt + \frac{1}{C} \int U_C dt + U_{A0}$		
$\frac{1}{C} \int U_A dt = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_C dt$		$U_C = \frac{1}{C} \int U_D dt - \frac{1}{C} \int U_A dt + U_{C0}$

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