

rechnung_nichtinvertierender_verstaerker

Student Group

First Name	Surname	Matrikel Nr.

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$\$I.\quad\$$ Analysis of the Currents

aus (2+3)	$\textcolor{blue}\{i_p\} = \textcolor{blue}\{i_m\} = 0 \$$	therefore, $i_{p\$}$ and $i_{m\$}$ are defined
$\$$	$\$$	$\$$
aus (6)	$\textcolor{blue}\{i_o\} = i_1 \$$	$i_{o\$}$ is defined, when $i_{1\$}$ is defined
$\$$	$\$$	$\$$
aus (7) und (3)	$i_1 - i_2 \cdot \textcolor{blue}\{0\} = 0 \$$	$\$$
$\$$	$\$$	$\$$
$\$$	$i_1 = i_2 = i_o \$$	$\$$
$\$$	$\$$	$\$$
$\$$	$\$$	$\$$
$\$$	$\textcolor{blue}\{i_1\} = \textcolor{blue}\{i_2\} = \textcolor{blue}\{i_o\} \$$	with (8) and (9): $i_{\boxed{\$}} = \frac{U_{\boxed{\$}}}{R_{\boxed{\$}} \$$ and (5)
$\$$	$\$$	$\$$
$\$$	$\frac{U_1}{R_1} = \frac{U_2}{R_2} = \frac{U_A}{R_1 + R_2} \$$	Voltage divider, $i_{\$} = \text{const.} \$$
$\$$	$\$$	$\$$
(10)	$U_2 = U_A \cdot \frac{R_2}{R_1 + R_2} \$$	Voltage divider
$\$$	$\$$	$\$$

\$II.\quad\$ Analysis if the Voltage Amplification

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Last update: **2021/11/14 17:24**

