

rechnung_spannungsfolger

Student Group

First Name	Surname	Matrikel Nr.

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

[illegible]

Analysis of the Voltage Amplification

by (0)	$\{\color{blue}\{A_V\}=\frac{\{U_O\}}{\{U_I\}}\}$	$\$ \text{quad\$}$
$\$ \text{quad\$}$	$\$ A_V = \frac{\{U_O\}}{\{\color{blue}\{U_I\}\}}$	$\$ \text{quad\$}$ with (4)
$\$ \text{quad\$}$	$\$ A_V = \frac{\{U_O\}}{\{\color{blue}\{U_{O+U_D}\}\}}$	$\$ \text{quad\$}$
$\$ \text{quad\$}$	$\$ A_V = \frac{\{\color{blue}\{U_O\}\}}{\{\color{blue}\{U_{O+U_D}\}\}}$	$\$ \text{quad\$}$ with (1)
$\$ \text{quad\$}$	$\$ V = \frac{\{\color{blue}\{A_{D\cdot U_D}\}}{\{\color{blue}\{A_{D\cdot U_D} + U_D\}\}}$	$\$ \text{quad\$}$
$\$ \text{quad\$}$	$\$ V = \frac{\{A_{D\cdot U_D}\}}{\{A_{D\cdot U_D} + U_D\}}$	$\$ \text{quad\$}$
$\$ \text{quad\$}$	$\$ V = \{\color{blue}\{\frac{\{A_{D\cdot U_D}\}}{\{A_{D\cdot U_D} + U_D\}}\}\}$	Expand with $\$ \frac{\{1\}}{\{A_{D\cdot U_D}\}}$
$\$ \text{quad\$}$	$\$ V = \{\color{blue}\{\frac{\{A_{D\cdot U_D}\}}{\{A_{D\cdot U_D} + U_D\}}\} \cdot \frac{\{1\}}{\{A_{D\cdot U_D}\}}\}$	$\$ \text{quad\$}$
$\$ \text{quad\$}$	$\$ V = \{\color{blue}\{\frac{\{1\}}{\{1 + \frac{\{A_D\}}{\{A_D\}}\}}\}$	$\$ \text{quad\$}$
$\$ \text{quad\$}$	$\$ V = \frac{\{1\}}{\{1 + \frac{\{A_D\}}{\{A_D\}}\}}$	$\$ \text{quad\$}$ with $\$ \frac{\{1\}}{\{A_D\}} \rightarrow 0$
$\$ \text{quad\$}$	$\$ V = \frac{\{1\}}{\{1 + \color{blue}\{0\}\}}$	$\$ \text{quad\$}$
$\$ \text{quad\$}$	$\$ V = \frac{\{1\}}{\{1\}} = \$$	$\$ \text{quad\$}$

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