

# rechnung\_spannungsfolger

## Student Group

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## Table of Contents

### I. Analysis of the Currents

by (2+3)	$I_p = I_m = 0$	Therefore, $I_p$ and $I_m$ are defined
by (3) and (5)	$I_o = I_m = 0$	By this, $I_o$ is defined

### II. Analysis of the Voltage Amplification

by (0)	$A_V = \frac{U_O}{U_I}$	
	$A_V = \frac{U_O}{U_I}$	with (4)
	$A_V = \frac{U_O}{U_O + U_D}$	
	$A_V = \frac{U_O}{U_O + U_D}$	with (1)
	$A_V = \frac{A_D \cdot U_D}{A_D \cdot U_D + U_D}$	
	$A_V = \frac{A_D \cdot U_D}{A_D \cdot U_D + U_D}$	
	$A_V = \frac{A_D \cdot U_D}{A_D \cdot U_D + U_D}$	Expand with $\frac{1}{A_D \cdot U_D}$
	$A_V = \frac{A_D \cdot U_D}{A_D \cdot U_D + U_D} \cdot \frac{1}{A_D \cdot U_D}$	
	$A_V = \frac{1}{1 + \frac{1}{A_D}}$	
	$A_V = \frac{1}{1 + \frac{1}{A_D}}$	with $\frac{1}{A_D} \rightarrow 0$
	$A_V = \frac{1}{1 + 0}$	
	$A_V = \frac{1}{1} = 1$	

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