

$$\frac{\widehat{u_2}}{\widehat{u_1}} = \frac{j\omega \cdot (100 + j\omega)}{50 \cdot (1 + j\omega)^2}$$

$$= \frac{j\omega \cdot (100 + j\omega)}{50 \cdot (1 + j\omega) \cdot (1 + j\omega)}$$

$$= \frac{\overset{I}{j\omega}}{\underset{II}{50}} \cdot \frac{\overset{III}{(100 + j\omega)}}{\underset{II}{(1 + j\omega)(1 + j\omega)}}$$

	AMPLITUDE	PHASE
<span style="background-color: #d9ead3; border-radius: 50%; padding: 2px;">I</span> ZERO AT ORIGIN @ $\omega_1 = 0 \quad \omega = 0$	+ 20 dB / dec	CONST. 90° FROM ORIGIN
<span style="background-color: #fce4d6; border-radius: 50%; padding: 2px;">II</span> DOUBLE LEFT HALF-PLANE POLE @ $\omega_2 = 1$	- 40 dB / dec	- 180° CROSS 2 dec (SYNTHESIZED)
<span style="background-color: #d9ead3; border-radius: 50%; padding: 2px;">III</span> LEFT HALF-PLANE ZERO @ $\omega_3 = 100$	+ 20 dB / dec	+ 90° CROSS 2 dec (SYNTHESIZED)

# Bodeplots: Beispiel 2

