

1 Exo

$$G(s) = \frac{s^2 + 5s + 25}{s(s^3 + 7,4s^2 + 76s + 360)}$$

$$S(s^3 + 7,4s^2 + 76s + 360)$$

$$G_1(s\omega) = \frac{25(1 - (\frac{\omega}{5})^2 + \frac{\omega}{5})}{5,5 \cdot (\frac{\omega}{5} + 1) \cdot 64(1 - (\frac{\omega}{5})^2 + 0,0375\omega)}$$

$$5,5 \cdot (\frac{\omega}{5} + 1) \cdot 64(1 - (\frac{\omega}{5})^2 + 0,0375\omega)$$

Constante de

MODE

$$\bullet \frac{25}{5,64} = \frac{5}{64}; 20 \log\left(\left|\frac{5}{64}\right|\right) = -22,14 \text{ dB}$$

$$\omega_N = 5 \Rightarrow f_0 = \frac{\omega_N}{2\pi} = 0,8$$

$$\omega_V = \omega_N \sqrt{1-0,9} = 3,5 \text{ rad/s}$$

$$\eta_{V1} = \sqrt{2,8 \sqrt{1-0,9}} = 1,25 \text{ dB}$$

$$\omega_M = 9 \text{ rad/s}; \zeta = 0,15; \omega_{VP} = \omega_N \sqrt{1-0,25} = 7,8 \text{ rad/s}$$

$$M_{ds} = 20 \log(2,5 \sqrt{1,5^2 - 1}) = 19,55 \text{ dB}$$

$$P/\omega \gg \omega_V$$

