Str. 2

$Y_{max} = 0,215$ → amplituda

$G_0 = 4$ → točka oko koje oscilira

$e^{-s}$ → funkcija počinje u 1. pa je kašnjenje 1s

$Y_s = 4,02$ → ustaljena vrijednost je oscilacija udaljena 0,02 od 4

$$M_p = \frac{Y_{max} - Y_s}{Y_s} \cdot 100 = 55\% = 0,55$$

$$M_p = e^{\frac{-\pi\rho}{\sqrt{1-\rho^2}}} \quad / \ln$$

$$\ln M_p = -\frac{\pi\rho}{\sqrt{1-\rho^2}} \quad / \pi$$

$$\frac{\ln M_p}{\pi} = -\frac{\rho}{\sqrt{1-\rho^2}}$$

$$-0,19 = -\frac{\rho}{\sqrt{1-\rho^2}}$$

$$0,19 = \frac{\rho}{\sqrt{1-\rho^2}} \quad /^2$$

$$0,0361 = \frac{\rho^2}{1-\rho^2}$$

$$\rho^2 = 0,0361 - 0,0361\rho^2$$

$$1,0361\rho^2 = 0,0361$$

$$\rho^2 = 0,0348$$

$$\rho = 0,19$$

$T_d = 1,5$

$$\omega_n = \frac{1}{\rho T_d} = 3,5$$

$$G(s) = \frac{G_0 \cdot \omega_n^2 \cdot e^{-s}}{s^2 + 2(\omega_n \cdot \rho)s + \omega_n^2}$$

$$G(s) = \frac{49}{s^2 + 1,33s + 12,25} \cdot e^{-s}$$