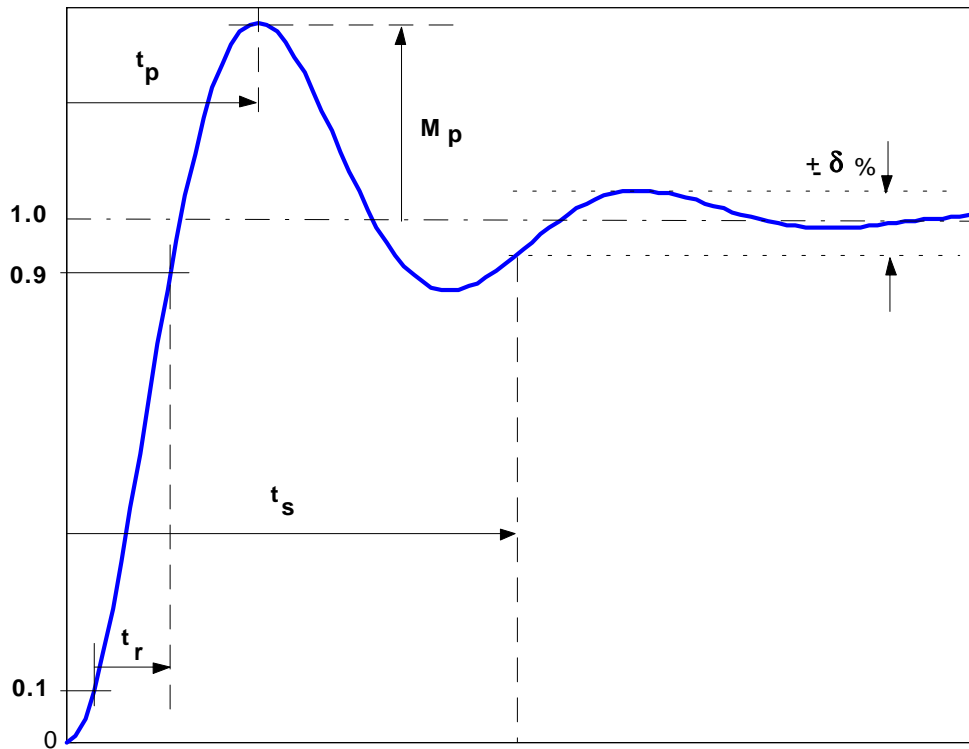


Especificações no Domínio do Tempo



$$y(t) = 1 - \frac{e^{-\zeta\omega_n t}}{(1-\zeta^2)^{1/2}} \text{sen}(\omega_d t + \phi)$$

$$\omega_d = \omega_n(1 - \zeta^2)^{1/2}$$

$$\phi = \text{tg}^{-1}[(1 - \zeta^2)^{1/2} / \zeta]$$

Índices de desempenho:

$$t_r \approx 1,8 / \omega_n \quad (\zeta = 0,5)$$

$$M_p = e^{-\pi\zeta/(1-\zeta^2)^{1/2}}$$

$$t_{s,1\%} = 4,6 / \zeta\omega_n$$

$$t_{s,5\%} = 3 / \zeta\omega_n$$