CONTROLLO A GIUNTI INDIP. 1

i-esimo motore 30 MAR. 2004

$$\tau_m = \tau_p + \tau_d \Rightarrow \tau_m - \tau_d = \tau_p$$

$$\tau_p = J_t \ddot{\theta}_m + \beta_t \dot{\theta}_m$$

$$\tau_d = \frac{1}{r} \tau'_d$$

$$J_t = \frac{1}{r^2} J_b + J_m$$

$$\beta_t = \frac{1}{r^2} \beta_b + \beta_m$$

$$\frac{\omega_m(s)}{\tau_d(s)} = -\frac{T}{J_t(1+sT)}$$

$$\frac{\omega_m(s)}{\tau_d(s)} = -\frac{\alpha T}{J_t(1+s\alpha T)}$$

$$\frac{\theta_m(s)}{\theta_r(s)} = \frac{K}{s^2 + \frac{1}{\alpha T}s + K}$$

$$\frac{\theta_m(s)}{\tau_d(s)} = -\frac{1}{J_t\left(s^2 + \frac{1}{\alpha T}s + K\right)}$$

$$K = \frac{K_D K_P K_t}{R_a J_t}$$

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$$\frac{\omega_n^2}{s^2 + 2\xi\omega_n s + \omega_n^2}$$

ξ

ω_n

$$\xi = h \cdot \frac{1}{\sqrt{J_t}}$$

dipende dalla configurazione

$$\omega_n = g \cdot \frac{1}{\sqrt{J_t}}$$