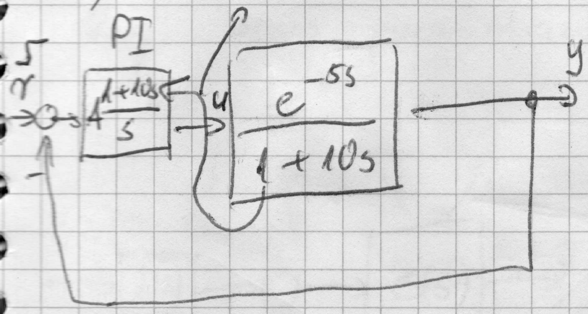
1.) egy ilyet próbálunk megjeleníteni

Hovi XII. 10.



r és y közötti rész

$$1 + \frac{1}{sT_I} = \frac{1+T_I}{sT_I} = A\,\frac{1+sT_I}{s}$$

P I

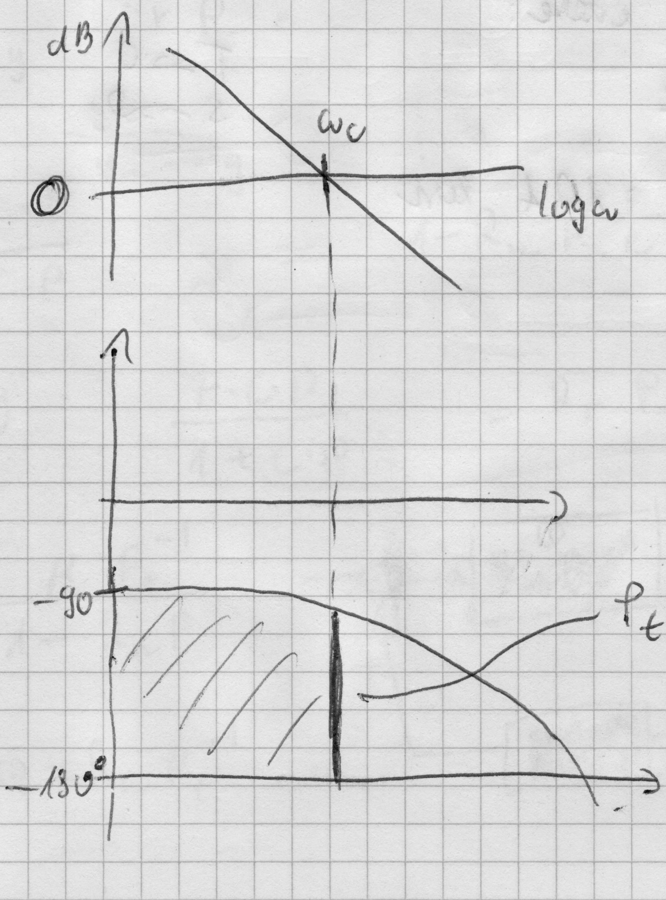
hurokátviteli fv.

$$L = \frac{Ae^{-5s}}{s}$$

$$\left.\frac{Ae^{-5s}}{s}\right|_{s=j\omega} = \frac{A\cdot e^{-j\omega 5}}{j\omega} = A(\omega)\,\varphi(\omega)$$

számláló fázisa
+ nevező fázisa

$$A(\omega) = \frac{A}{\omega} \qquad \varphi(\omega) = -5\omega - 90^\circ$$



$\varphi_t \cong 60^\circ$

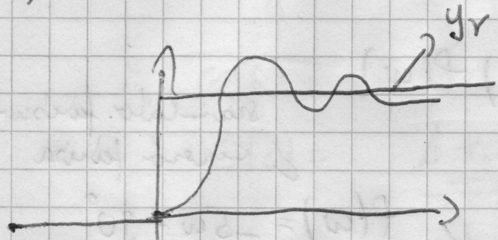
$\Rightarrow -5\omega_c - 90^\circ = -120^\circ$

$\frac{\pi}{6} = 5\omega_c$

$\omega_c = \dots$ → ezt kell számolni

$\overset{A(\omega)}{1} = \frac{A}{\omega_c} \Rightarrow A$ meghatározható

innen a szabályzót már meghatározhatjuk.



~~u 0 pillanatbeli~~

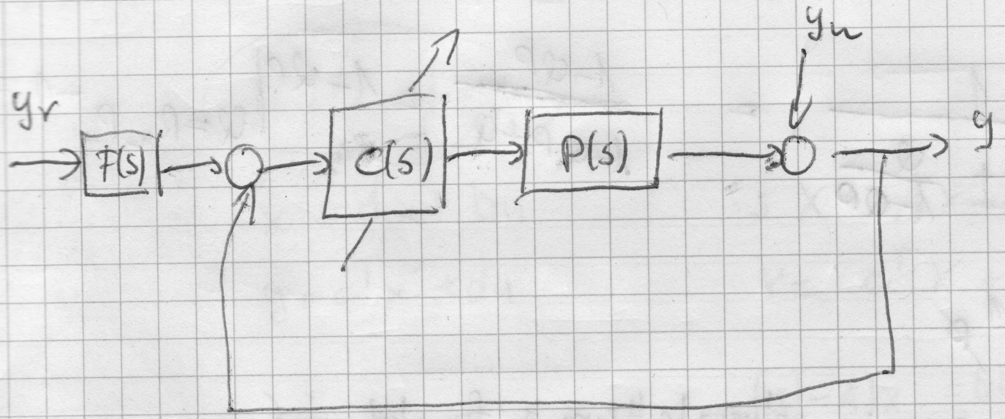
a állandósult állapotbeli értéke = 1 $\quad T \to \infty$, $s \to 0$

u 0 pillanatbeli értéke: $\quad T \to 0$, $s \to \infty$

$A \cdot \frac{1+10s}{s}$

összesen: 10A lesz

2.) Youla parametrizálás



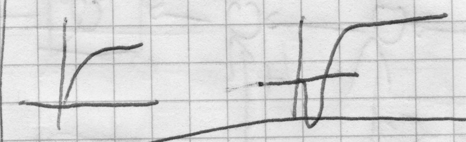
P : stabil önmagában

$$P = \underbrace{P_+}_{} \underbrace{P_- e^{-sT_d}}_{}$$

inverze is stabil — inverze labilis

$$1 - R_n P_- e^{-sT_d}$$

$$\frac{s+6}{s+4} \qquad \frac{s-6}{s+4} \rightarrow \text{stabil}$$



$y_n \to y$

$$R_r P_- e^{-sT_d}$$

$y_r \to y$

$y_n \to y$

$$\frac{1}{1+C\cdot P} = 1 - R_n P_- e^{-sT_d}$$

$y_r \to y$:

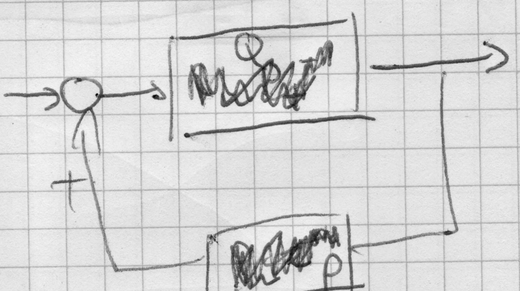
$$\frac{F\cdot C\cdot P}{1+C\cdot P} = R_r P_- e^{-sT_d}$$

$C = *$

$$F = \frac{R_r}{R_n}$$

$$* \Rightarrow C = \frac{R_n P_+^{-1}}{1 - R_n P}$$

$$Q = R_n P_+^{-1}$$

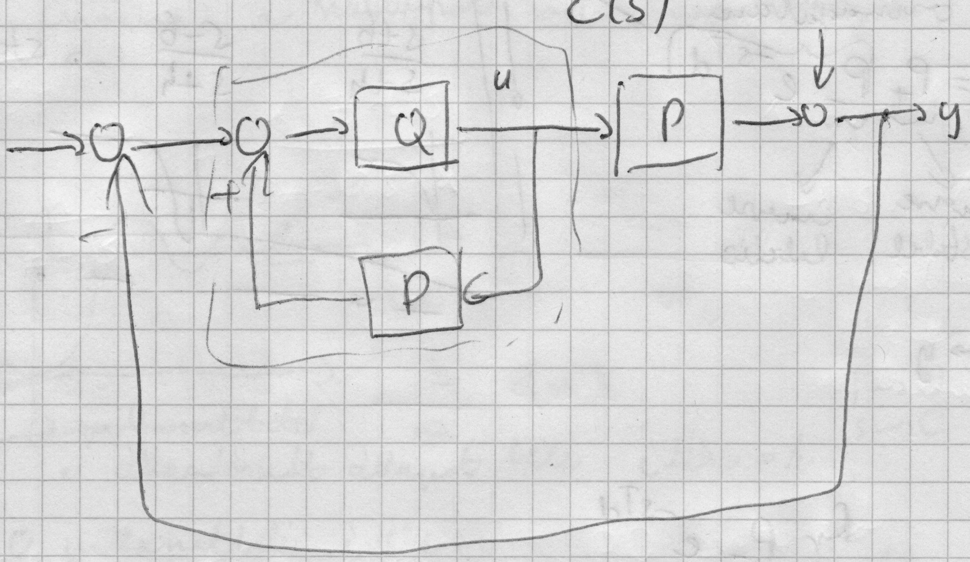


$$C = \frac{Q}{1-QP}$$

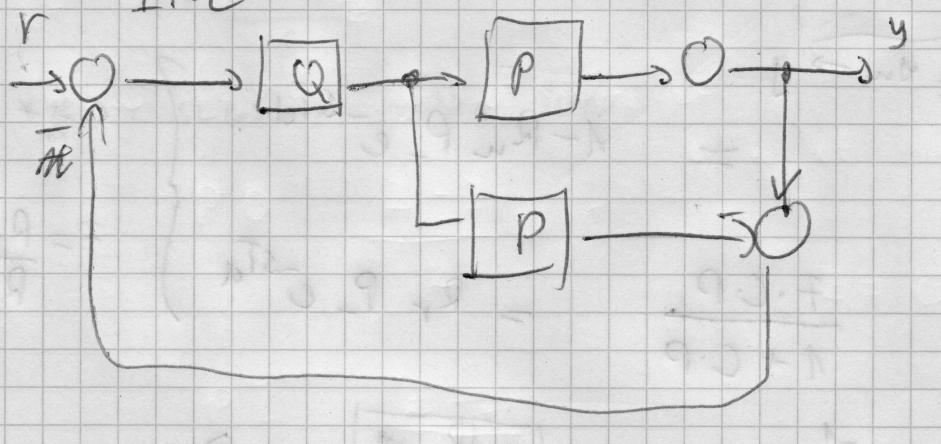
$$\frac{1}{1+CP} = \frac{1}{1+\frac{Q}{1-QP}} = \frac{1-QP}{1-QP+Q} = 1-QP\Big|_{Q=R_w P_t^{-1}} =$$

$$= 1 - R_w \cancel{P_t}^{-1} \cancel{P}$$

⋮ ennyi elvesztettem a fonalat ;-(



IMC



$u = Qr$