



Control Automático
EM-720

Tarea #8

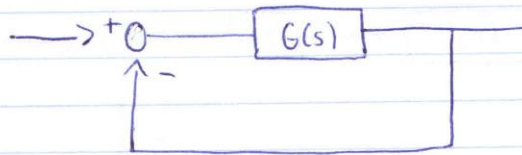
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Martes Noche
(6pm - 9pm)

Segundo Cuatrimestre 2018

Tarea # 8



$$G(s) = \frac{1}{(s+4)(s+6)}$$

- Valor final ante escalón
- Incremento de Valor final de 20%

$$E(s) = \frac{1}{1 + G(s)}$$

$$E_{ss} = \lim_{s \rightarrow 0} s \cdot E(s) = \lim_{s \rightarrow 0} \frac{s}{1 + G(s)} = \lim_{s \rightarrow 0} \frac{s}{1 + \frac{1}{(s+4)(s+6)}} = \lim_{s \rightarrow 0} \frac{s}{\frac{(s+4)(s+6) + 1}{(s+4)(s+6)}} = \lim_{s \rightarrow 0} \frac{s \cdot (s+4)(s+6)}{(s+4)(s+6) + 1}$$

$$= \frac{0 \cdot 4 \cdot 6}{4 \cdot 6 + 1} = \frac{0}{25} = 0,04$$

Luego, $0,05 = \frac{z}{p} \cdot 0,04$

$$\frac{z}{p} = \frac{0,05}{0,04}$$

$$\frac{z}{p} = 1,25$$

$$\therefore p = -1$$

$$z = -1,25$$