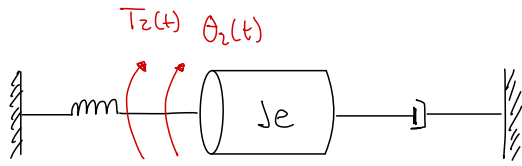Celaya González David Alejandro.

$$T_2(S) = (Jes^2 + Des + Ke)\theta_2(S)$$

$$Ke = k_1 + k_2\left(\frac{N_1}{N_2}\right)^2 + k_3\left(\frac{N}{N_2}\right)^2 + \left(\frac{N_3}{N_4}\right)^2$$

$$Je = J_2 + J_1\left(\frac{N_2}{N_1}\right)^2 + J_3\left(\frac{N_3}{N_4}\right)^2$$

$$De = D\left(\frac{N_3}{N_4}\right)^2$$

$$\Rightarrow \quad G(S)$$

$$G(S) = \frac{\theta_2(S)}{T_2(S)} = \frac{1}{(Jes^2 + Des + Ke)}$$

$$G(S) = \frac{1}{\left[\left(J_2 + J_1\left(\frac{N_2}{N_1}\right)^2 + J_3\left(\frac{N_3}{N_4}\right)^2 s^2 + D\left(\frac{N_3}{N_4}\right)^2\right)S + k_2 + k_1\left(\frac{N_2}{N_1}\right)^2 + k_3\left(\frac{N_3}{N_4}\right)^2\right]}$$