



$$G(s) = \frac{y(s) - z(s)}{u(s)}$$

$$0 = \beta \cdot \frac{d}{dt} [z(t) - u(t)] + k_2 \cdot z(t)$$

$$0 = k_1 \cdot [y(t) - u(t)] + \beta \cdot \frac{dy(t)}{dt}$$

$$Wp = 0$$

$$\textcircled{1} 0 = \beta \cdot s [z - u] + k_2 \cdot z$$

$$\textcircled{2} 0 = k_1 \cdot [Y - u] + \beta \cdot s Y$$

$$\textcircled{1} \beta \cdot s \cdot u = z \cdot (\beta \cdot s + k_2)$$

$$\textcircled{1a} z = \frac{\beta s}{\beta s + k_2} \cdot u$$

$$\textcircled{2} k_1 \cdot u = Y \cdot (k_1 + \beta \cdot s)$$

$$Y = \frac{k_1}{k_1 + \beta s} \cdot u$$