

### Errata of "Process Control - Theory and applications"

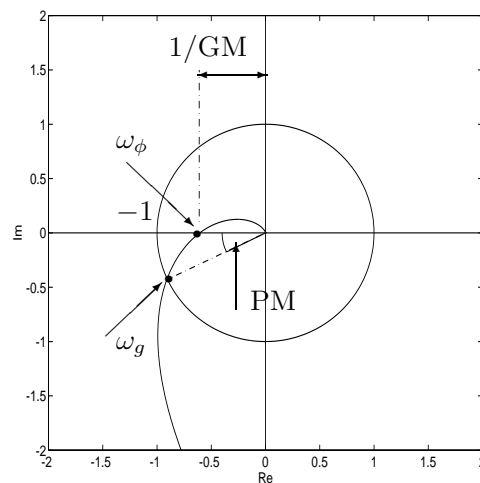
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$$\begin{aligned}\delta(t) &= 0 \quad \forall t \neq 0 \\ \delta(0) &= +\infty \\ \int_{-\infty}^{+\infty} \delta(t) dt &= 1 \\ \int_{-\infty}^{+\infty} f(t) \delta(t - t_0) dt &= f(t_0)\end{aligned}$$

Page 215: the black circles were lightly displaced as shows the corrected figure .



Equation (8.48)

$$\lambda_{ij} = \frac{\left( \frac{\partial Y_i}{\partial U_j} \right)_{U_k=0, k \neq j}}{\left( \frac{\partial Y_i}{\partial U_j} \right)_{Y_l=0, l \neq i}}$$

Equation (13.78)

$$\begin{aligned}S(q) &= q - 1 \\ R(q) &= K \left[ q - 1 + \frac{T_s}{T_I} \right] \\ T(q) &= R(q)\end{aligned}$$

Equation (14.158)

$$\frac{d(t_c + \sqrt{2|A| - t_c^2})}{dt_c} = 0 \implies t_c = \sqrt{|A|}$$

Equation (14.295)

$$S = F^T [S - S G (G^T S G + R)^{-1} G^T S] F + M Q M$$

Equation (15.30)

$$\begin{aligned}\hat{y}(t+1) &= 1.97y(t) - 0.97y(t-1) + 1.2\Delta u(t) + 0.58\Delta u(t-1) \\ \hat{y}(t+2) &= 2.9109y(t) - 1.9109y(t-1) \\ &\quad + 1.2\Delta u(t+1) + 2.944\Delta u(t) + 1.1426\Delta u(t-1) \\ \hat{y}(t+3) &= 3.8236y(t) - 2.8236y(t-1) \\ &\quad + 1.2\Delta u(t+2) + 2.944\Delta u(t+1) + 4.6357\Delta u(t) + 1.6883\Delta u(t-1)\end{aligned}$$

Equation (15.32)

$$\begin{aligned}\hat{y}(t+1|t) &= 0.58\Delta u(t-1) + 1.97y(t) - 0.97y(t-1) \\ \hat{y}(t+2|t) &= 1.1426\Delta u(t-1) + 2.9109y(t) - 1.9109y(t-1) \\ \hat{y}(t+3|t) &= 1.6883\Delta u(t-1) + 3.8236y(t) - 2.8236y(t-1)\end{aligned}$$

Equation (15.35)

$$\begin{aligned}\Delta u(t) &= 0.5181[r(t+1) - \hat{y}(t+1|t)] + 0.1823[r(t+2) - \hat{y}(t+2|t)] \\ &\quad - 0.0435[r(t+3) - \hat{y}(t+3|t)] \\ &= -0.4354\Delta u(t-1) - 1.385y(t) + 0.7281y(t-1) \\ &\quad + 0.5181r(t+1) + 0.1823r(t+2) - 0.0435r(t+3)\end{aligned}$$

Equation (17.147)

$$u = \frac{v - L_f^r h(x) - \beta_1 L_f^{r-1} h(x) - \dots - \beta_{r-1} L_f h(x) - \beta_r h(x)}{L_g L_f^{r-1} h(x)}$$