At the top of the diagram:

Reference
$r(t) = r_1(t) + r_2(t) + r_3(t)$

$+$ / $-$ summing junction with output E

Controller
$\frac{K_I}{s}$

U

Plant
$G = \frac{\alpha_1}{s+\alpha_0}$

Output (Y)

Least Squares identification method

$$\hat{\boldsymbol{\theta}}(k) = \hat{\boldsymbol{\theta}}(k-1) + \boldsymbol{P}(k)\boldsymbol{\phi}(k)\epsilon(k)$$

$$\boldsymbol{P}(k) = \frac{1}{\gamma}\left[\boldsymbol{P}(k-1) - \frac{\boldsymbol{P}(k-1)\boldsymbol{\phi}(k)\boldsymbol{\phi}(k)^T\boldsymbol{P}(k-1)}{\gamma + \boldsymbol{\phi}^T(k)\boldsymbol{P}(k-1)\boldsymbol{\phi}(k)}\right]$$

$$e(k) = z(k) - \boldsymbol{\phi}^T(k)\hat{\boldsymbol{\theta}}(k-1)$$

Estimates
$\hat{\theta}$

$\mathbf{P}(0) = \mathbf{P}_0 = \mathbf{P}_0^\intercal > 0$, $\mathbf{P}_0 = \rho \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$, $z = y(k) - y(k-1)$, $\boldsymbol{\phi} = \begin{bmatrix} e(k-1) + e(k-2) \\ y(k-1) - y(k-2) \end{bmatrix}$, $\boldsymbol{\theta} = \begin{bmatrix} \theta_1 \\ \theta_2 \end{bmatrix}$,

$\hat{\alpha_0} = -\frac{\ln \hat{\theta_2}}{T_S}$, $\hat{\alpha_1} = \frac{2\hat{\theta_1}\hat{\alpha_0}}{T_S(1-\hat{\theta_2})K_I}$, and T_S is sampling time.