

ME 4710 Motion and Control

System Identification Process Model GUI

Process Models

Model Transfer Function

$$\frac{K}{(1 + (2 \text{ Zeta } T_w) s + (T_w s)^2)}$$

Poles: 2 Underdamped

Zero
 Delay
 Integrator

Parameter	Known	Value	Initial Guess	Bounds
K	<input type="checkbox"/>	-1.2135	Auto	[-Inf Inf]
Tw	<input type="checkbox"/>	0.010008	Auto	[0.001 Inf]
Zeta	<input type="checkbox"/>	0.55824	Auto	[0.001 Inf]
Tp3	<input type="checkbox"/>	0	0	[0.001 Inf]
Tz	<input type="checkbox"/>	0	0	[-Inf Inf]
Td	<input type="checkbox"/>	0	0	[0 0.03]

Initial Guess: Auto-selected

Disturbance Model: None Initial state: Auto

Focus: Simulation Covariance: Estimate

Iteration 4 Fit: 0.0061 Improvement 0 % Display

Name: P2U

Second-Order Valve Model

Process Models

Model Transfer Function

$$\frac{K}{s(1 + T_{p1} s)}$$

Poles: 1 All real

Zero
 Delay
 Integrator

Parameter	Known	Value	Initial Guess	Bounds
K	<input type="checkbox"/>	-0.24655	Auto	[-Inf Inf]
Tp1	<input type="checkbox"/>	0.031454	Auto	[0.001 Inf]
Tp2	<input type="checkbox"/>	0	0	[0.001 Inf]
Tp3	<input type="checkbox"/>	0	0	[0.001 Inf]
Tz	<input type="checkbox"/>	0	0	[-Inf Inf]
Td	<input type="checkbox"/>	0	0	[0 0.03]

Initial Guess: Auto-selected

Disturbance Model: None Initial state: Auto

Focus: Simulation Covariance: Estimate

Iteration 3 Fit: 8.7e-006 Improvement 0 % Display

Name: P1I

Second-Order Cylinder Model