

Introductory Motion and Control System Identification Process Model GUI

Model Transfer Function

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

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
 From existing model:
 User-defined: Value-->Initial Guess

Disturbance Model: None Initial state: Auto
 Focus: Simulation Covariance: Estimate

Iteration 4 Fit: 0.0061 Improvement 0 % Display

Name: P2U

Second-Order
Valve Model

Model Transfer Function

$$\frac{K}{s (1 + Tp1 s)}$$

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
 From existing model:
 User-defined: Value-->Initial Guess

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