

Script and functions for determining the effective delay relation that gives the best FOPTD approximation from a setpoint overshoot experiment.

Relation 1:

$$\theta/t_{\text{peak}} = 0.309 + 0.209 \cdot \exp(-0.610 \cdot \tau_p / \theta)$$

Relation 2:

$$\theta/t_{\text{peak}} = 0.43$$

Relation 3:

$$\theta/t_{\text{peak}} = 0.305$$

run main.m for calculations

Relation 1 is found by the effective\_delay\_approx.m script