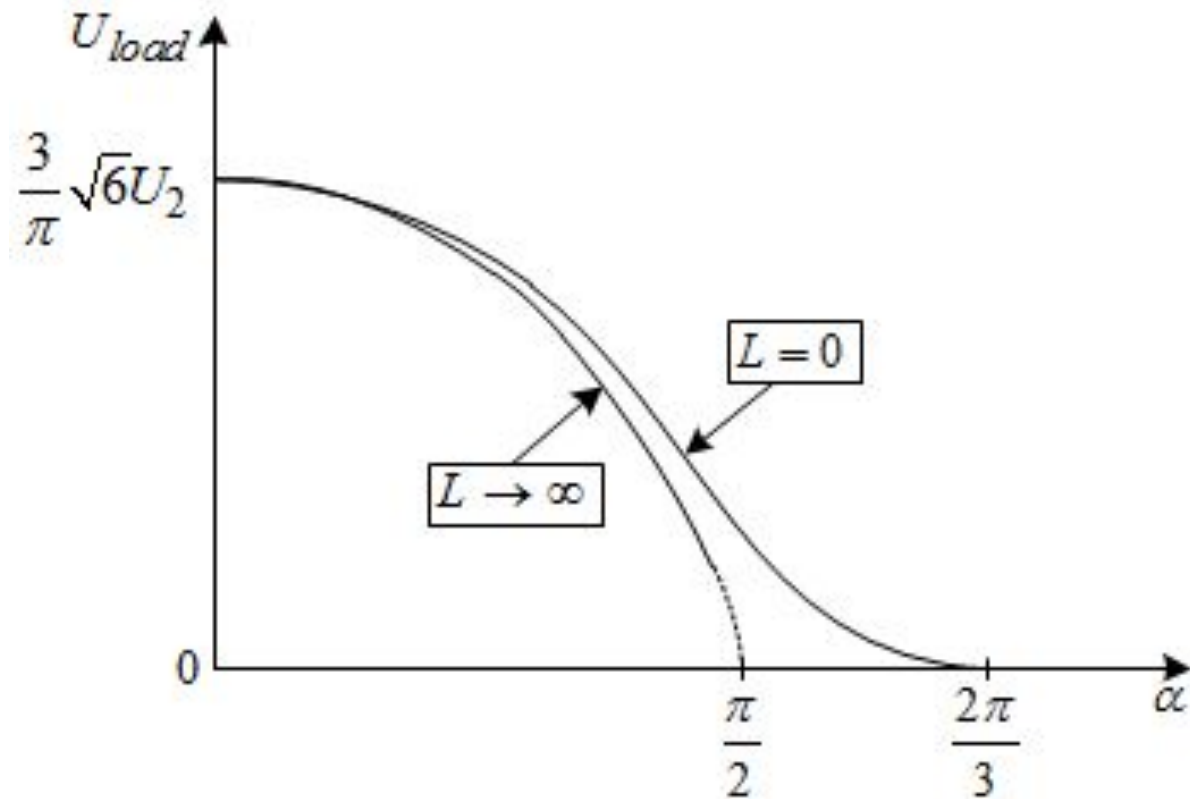
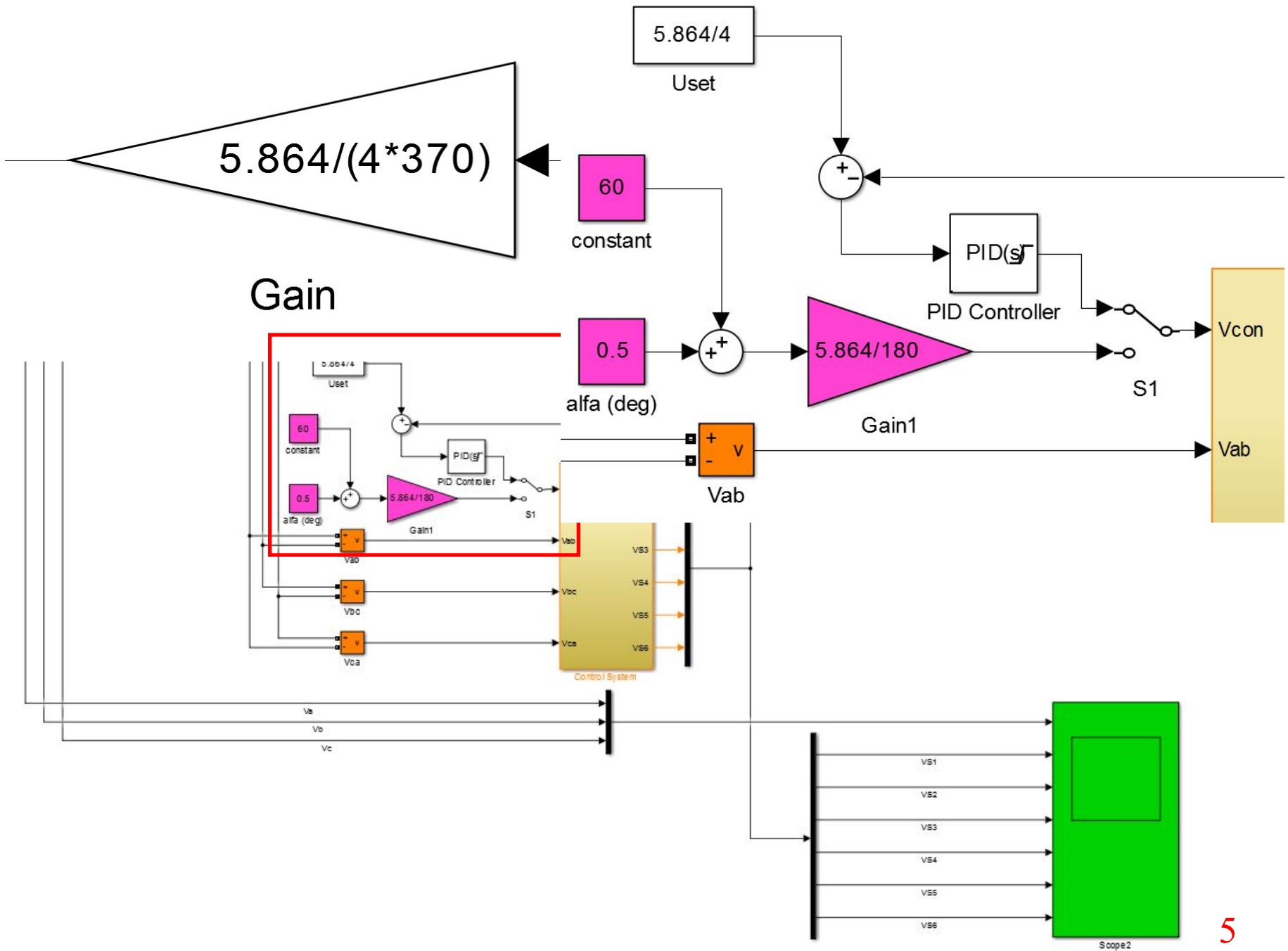


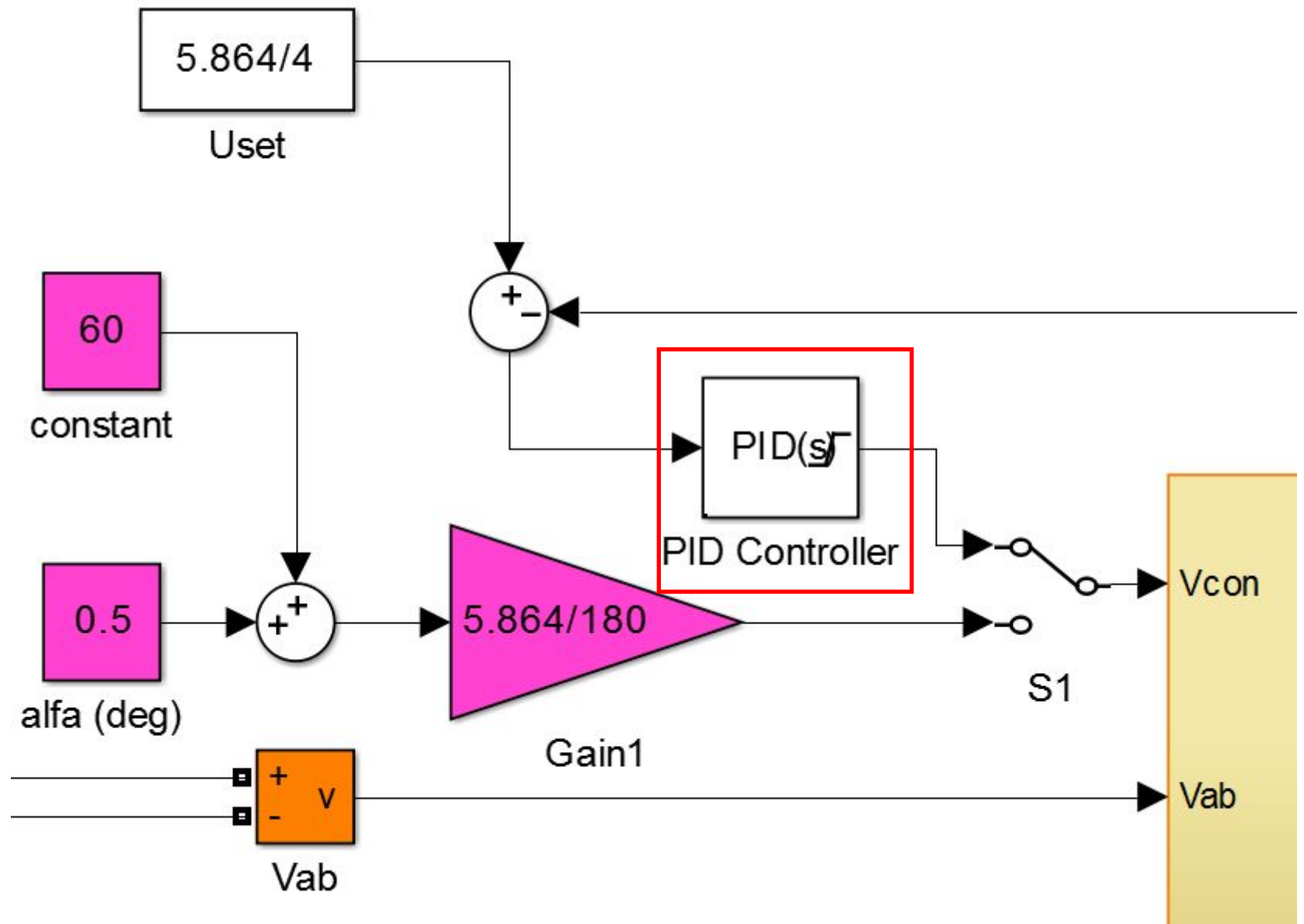
U_{load}, V	α, deg
	0
	30
	45
	60
	90

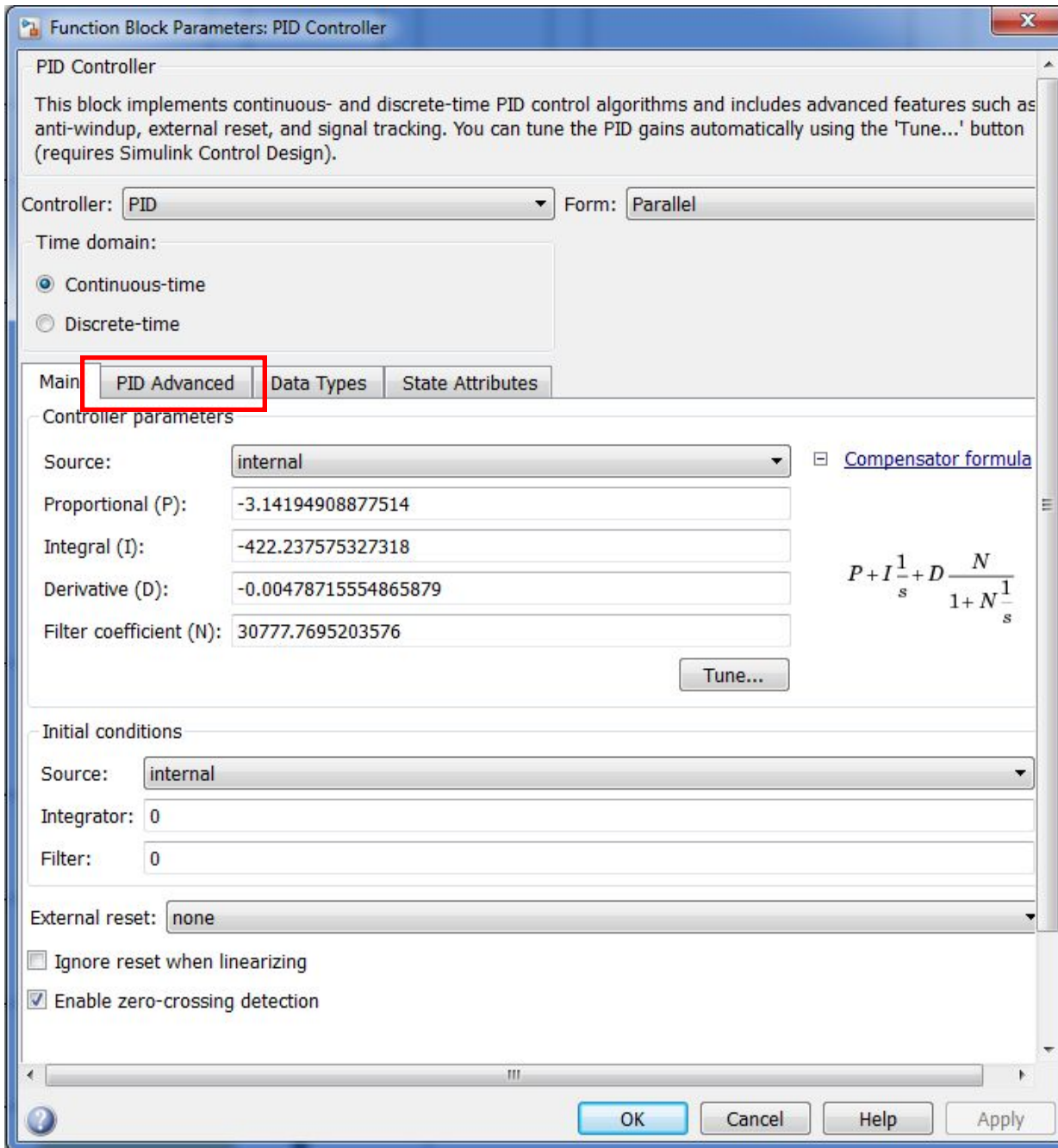
$$R_{\max} = \frac{U_{\alpha=0^{\circ}} \cdot R_{nom}}{U_{\alpha=45^{\circ}}}$$

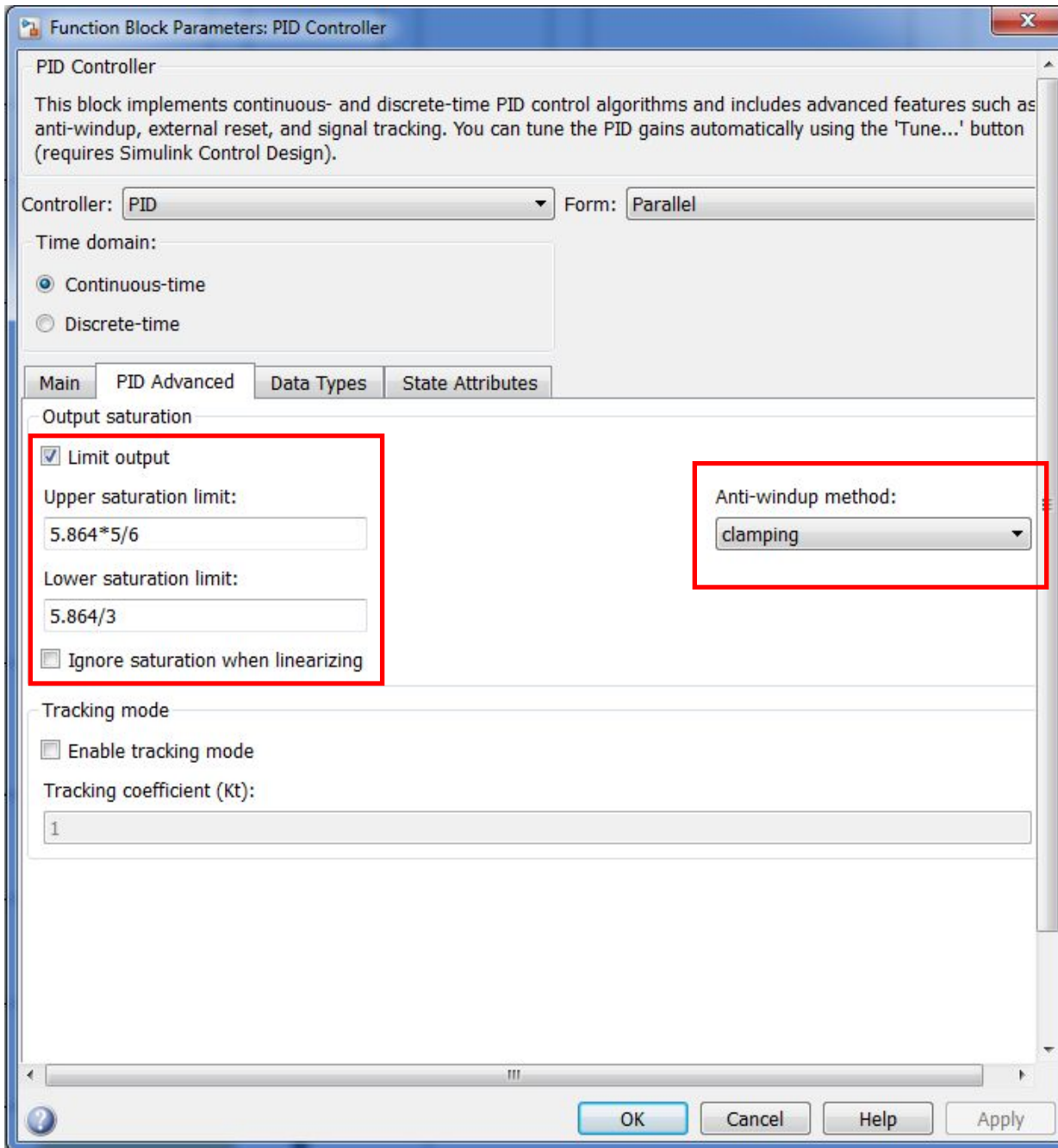
$$R_{\min} = \frac{U_{\alpha=90^{\circ}} \cdot R_{nom}}{U_{\alpha=45^{\circ}}}$$

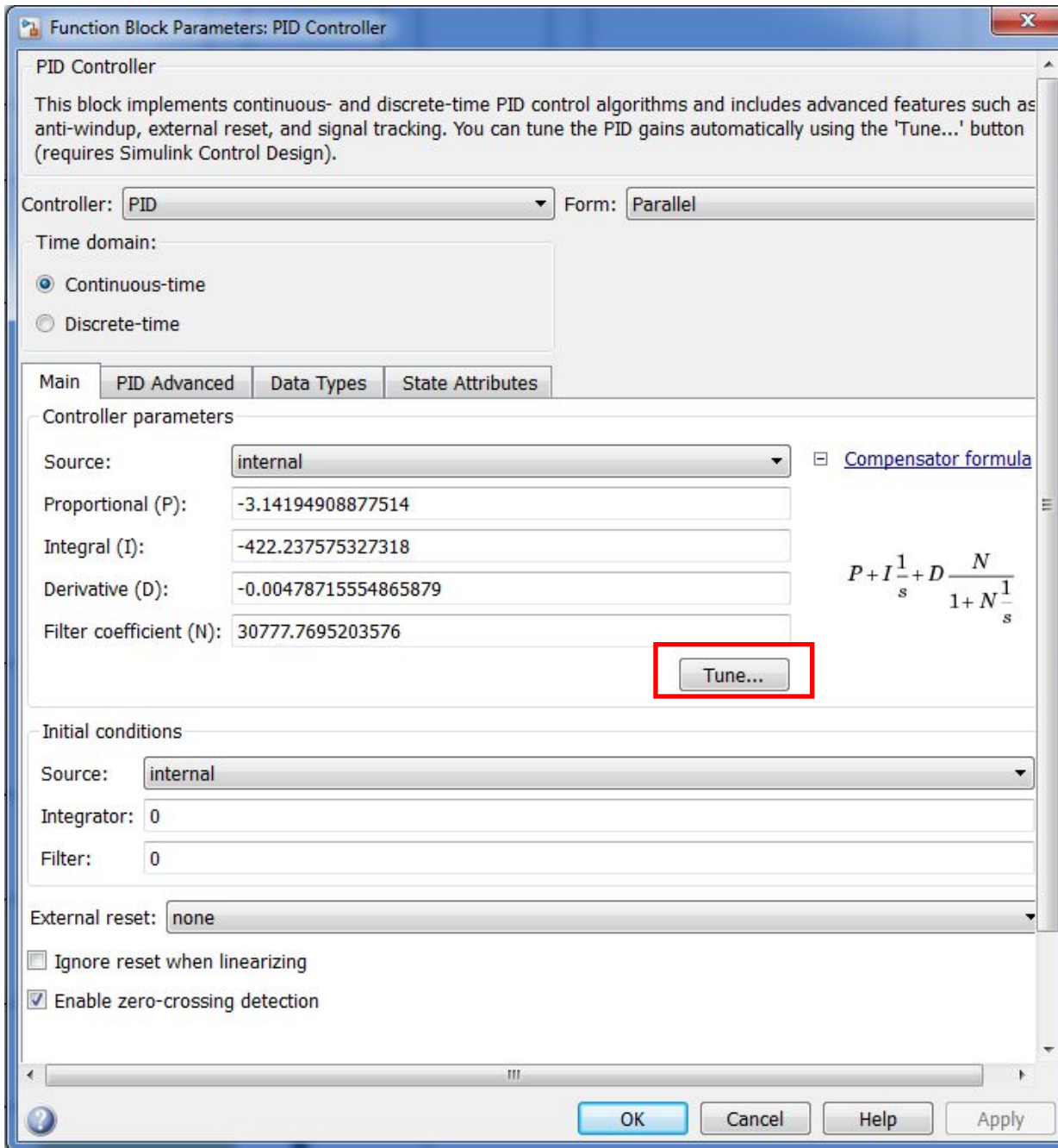


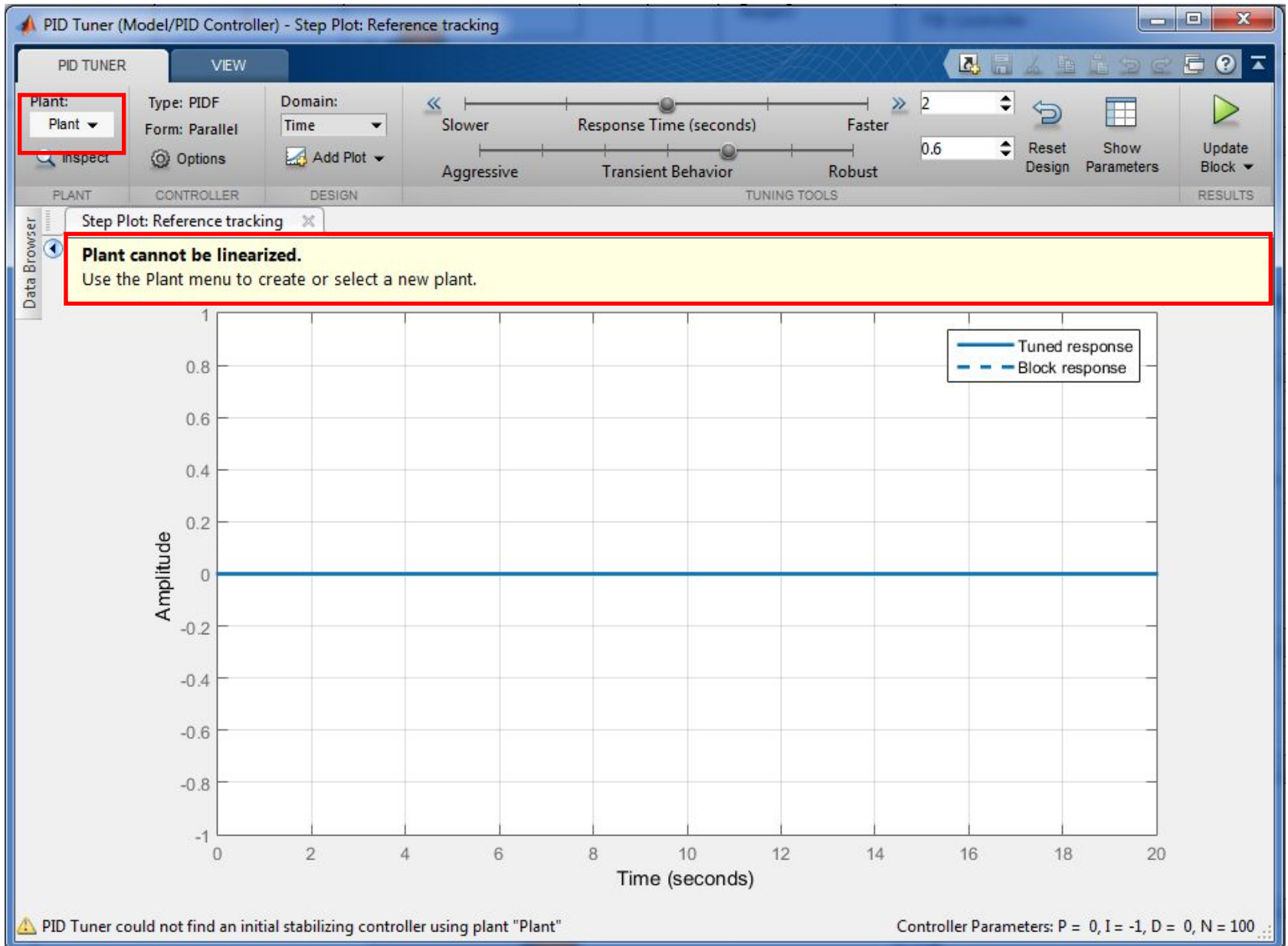


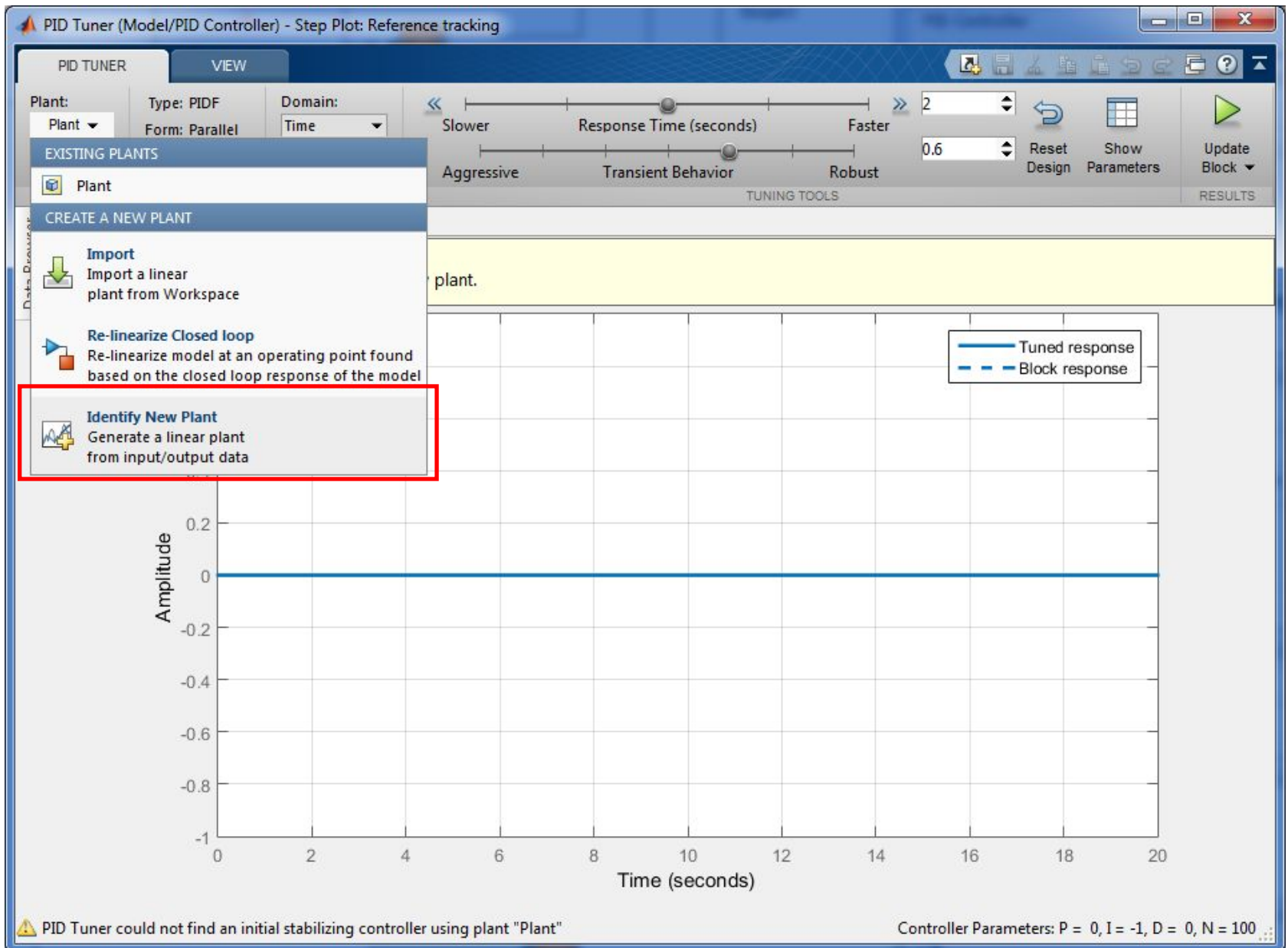


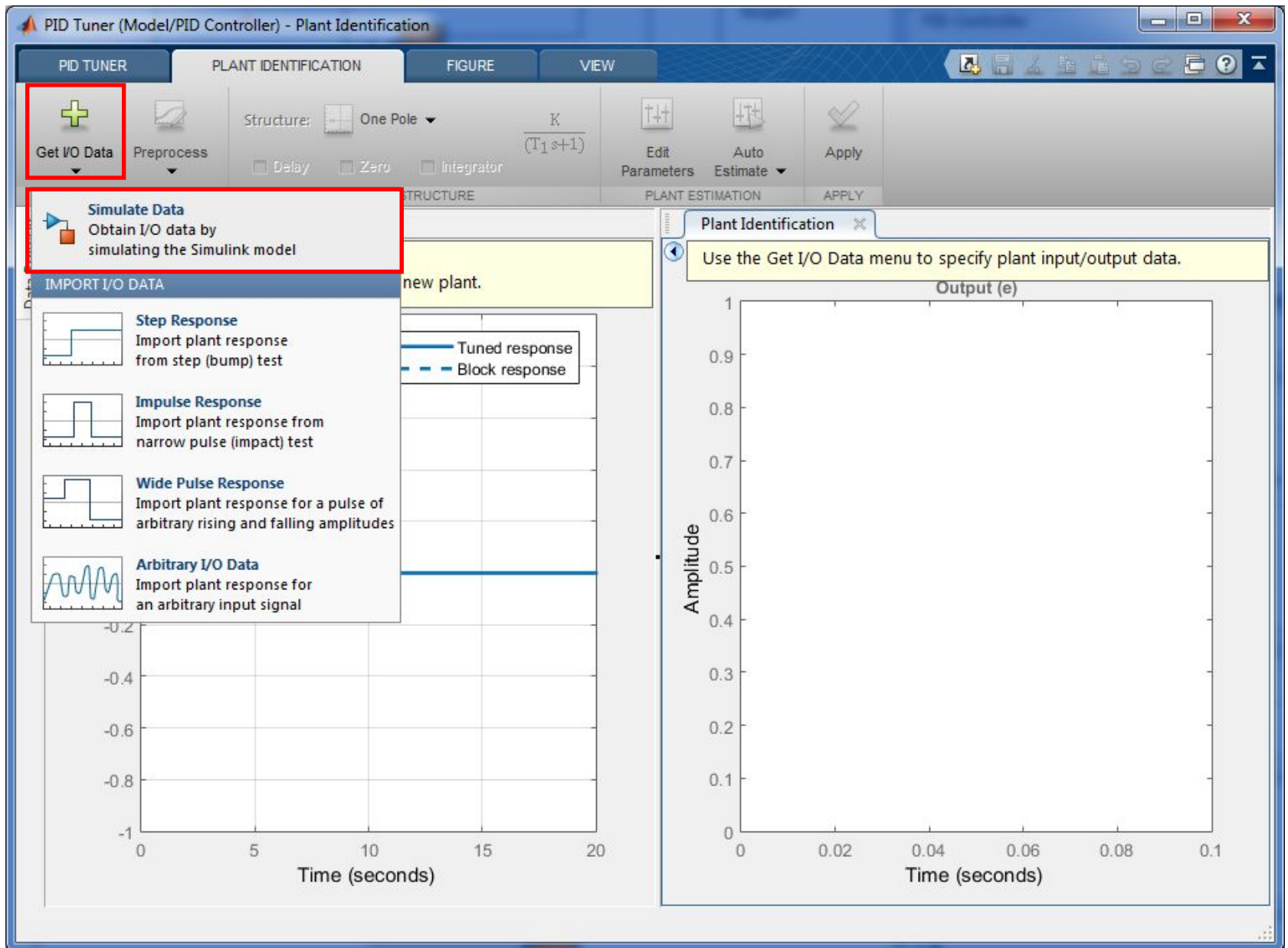


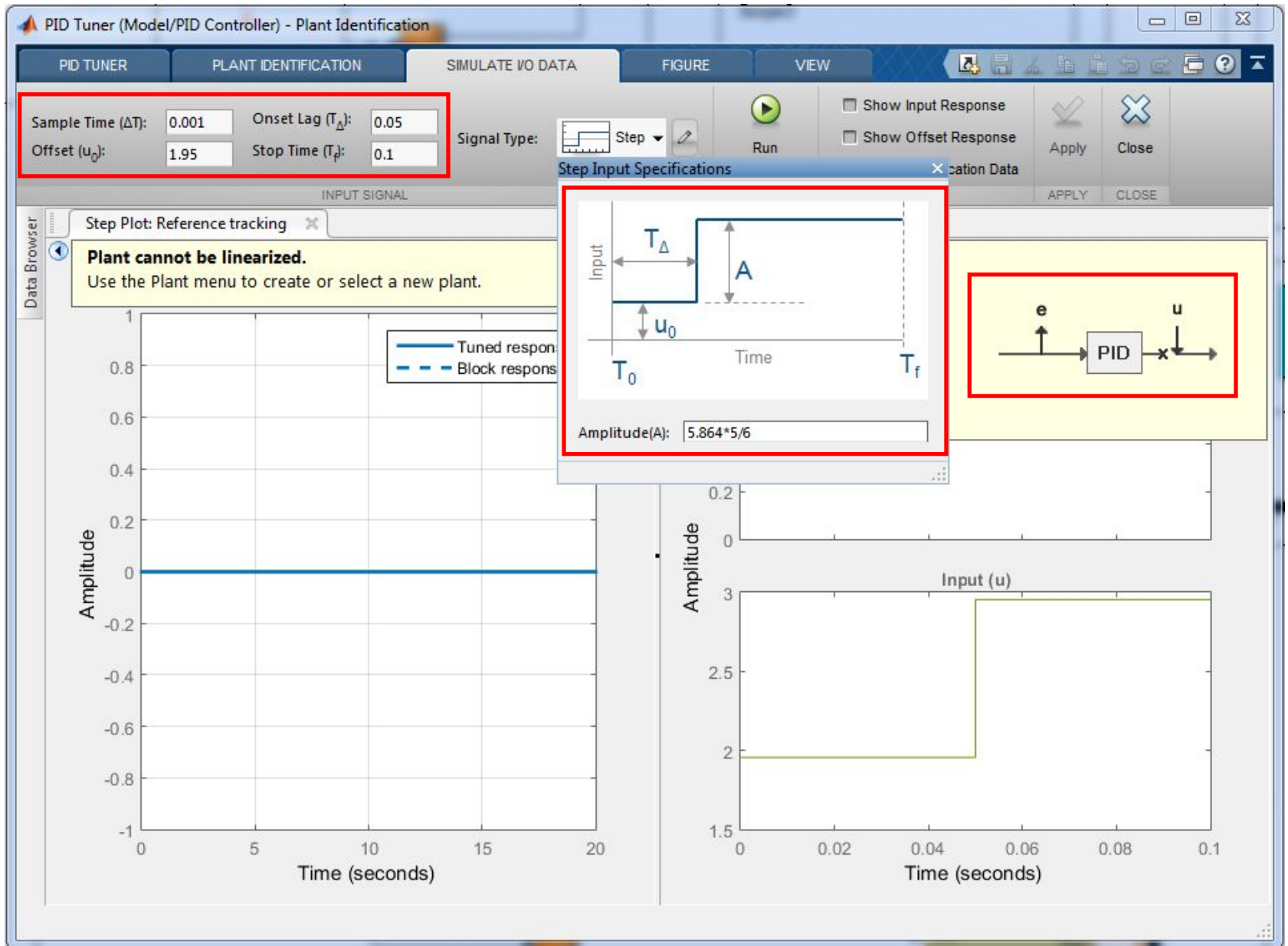


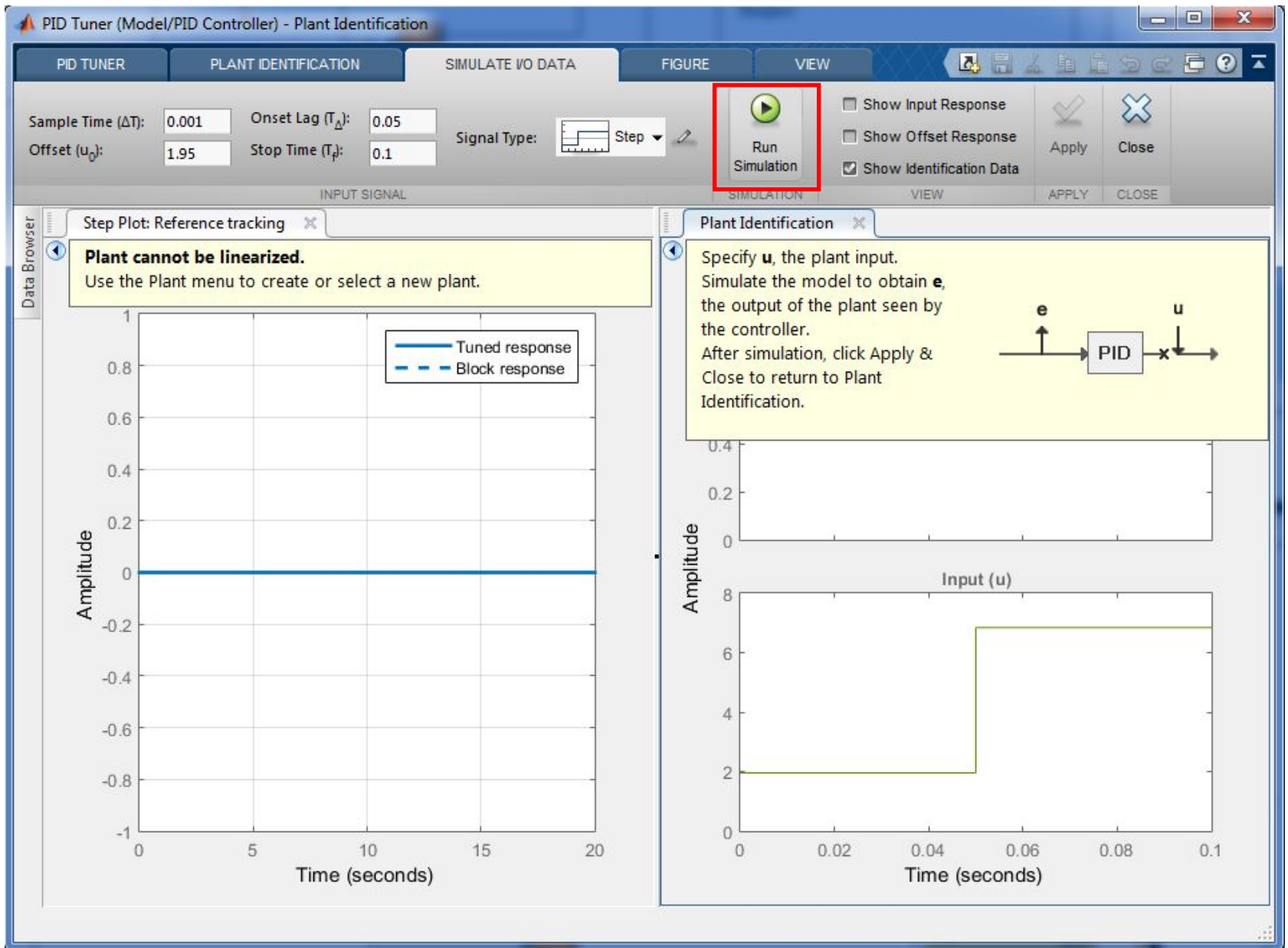


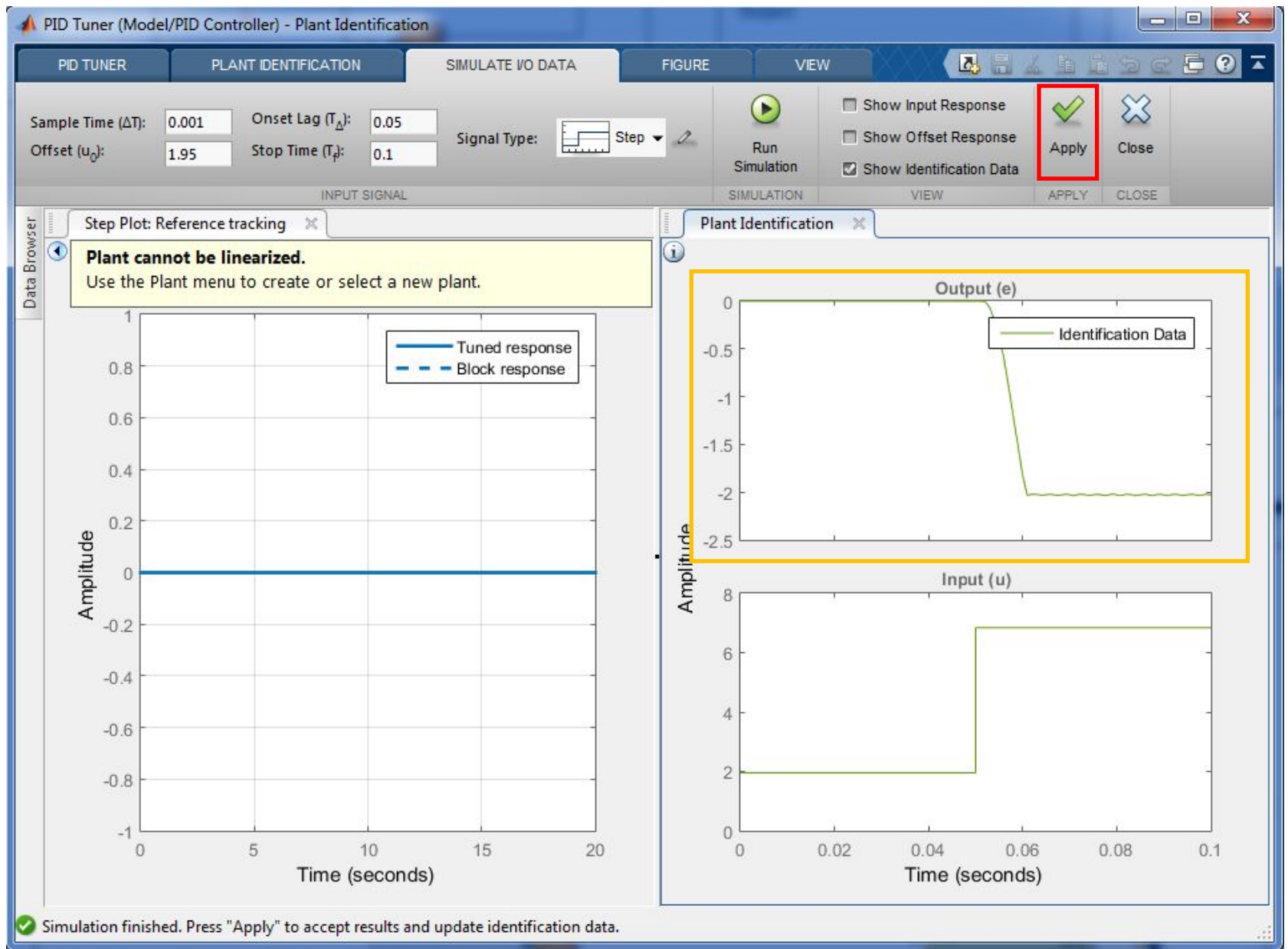


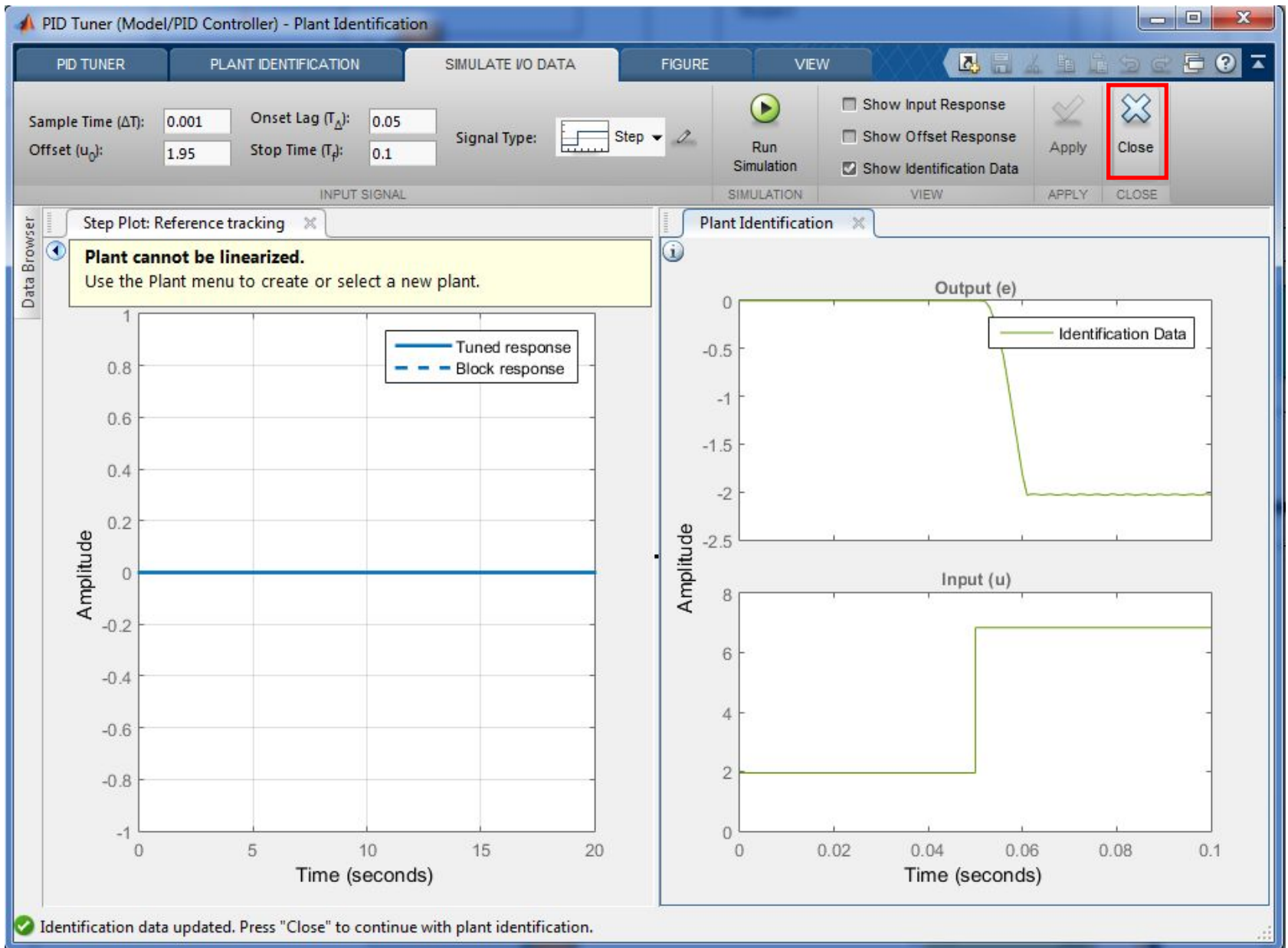


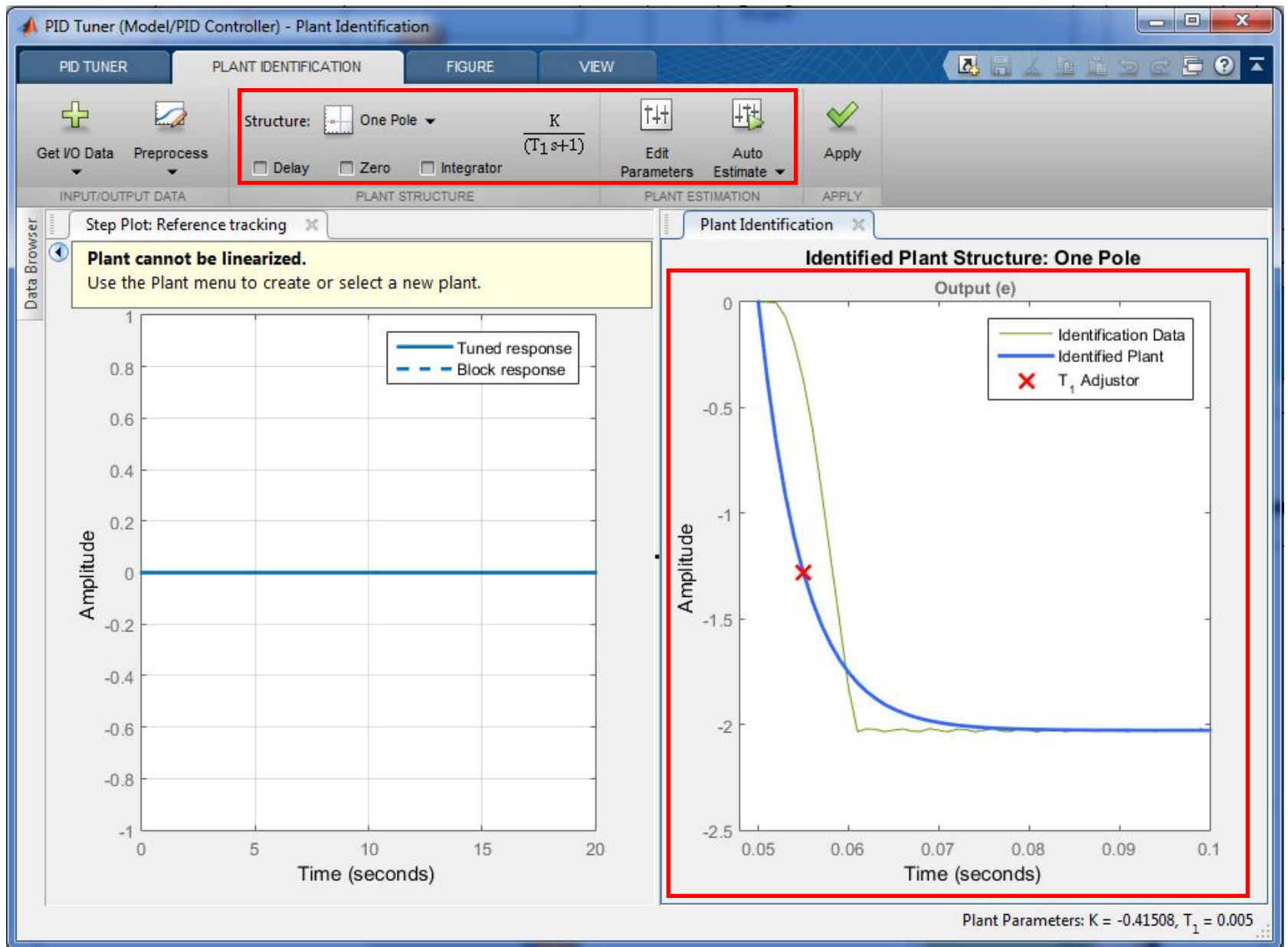


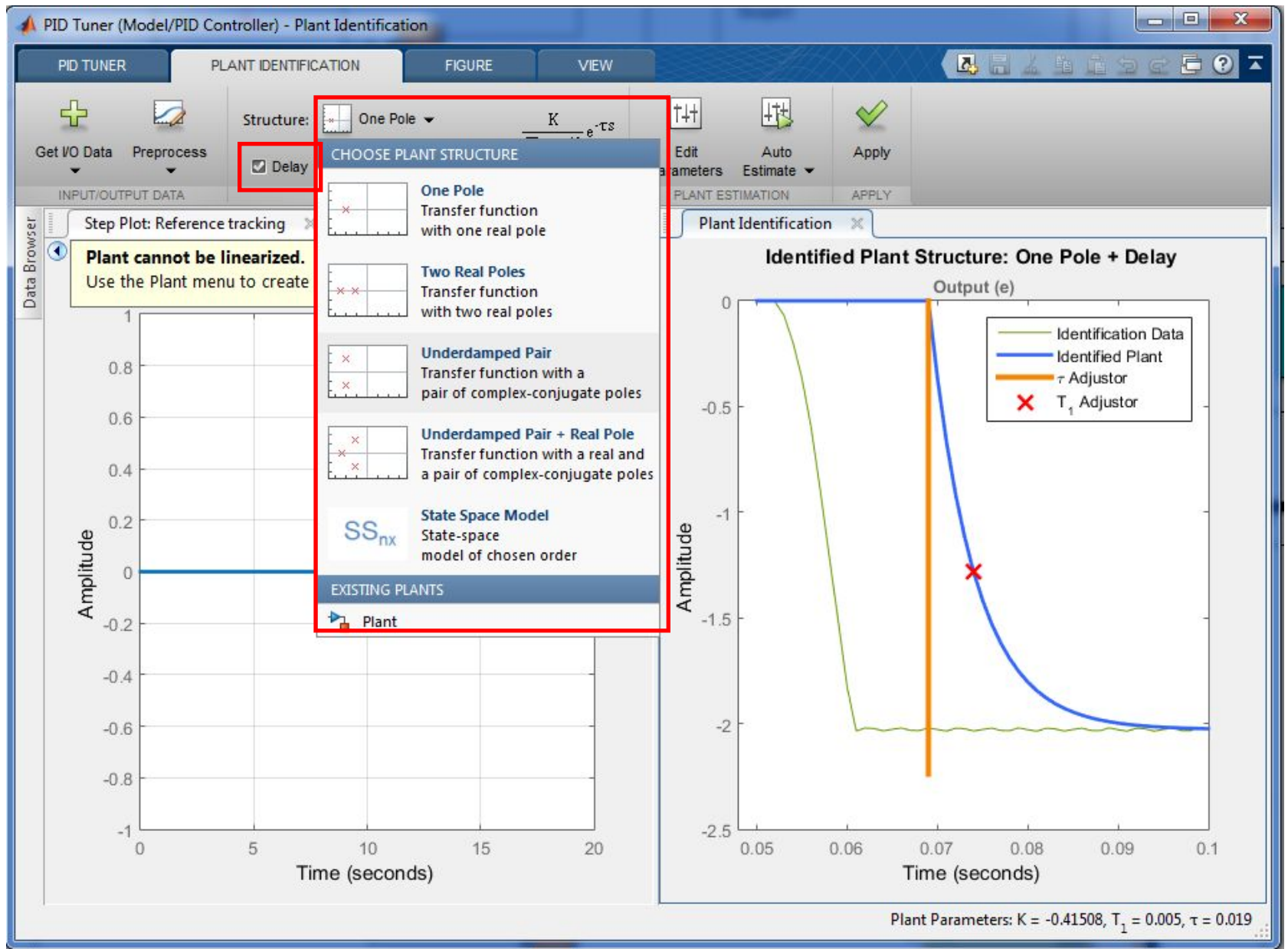


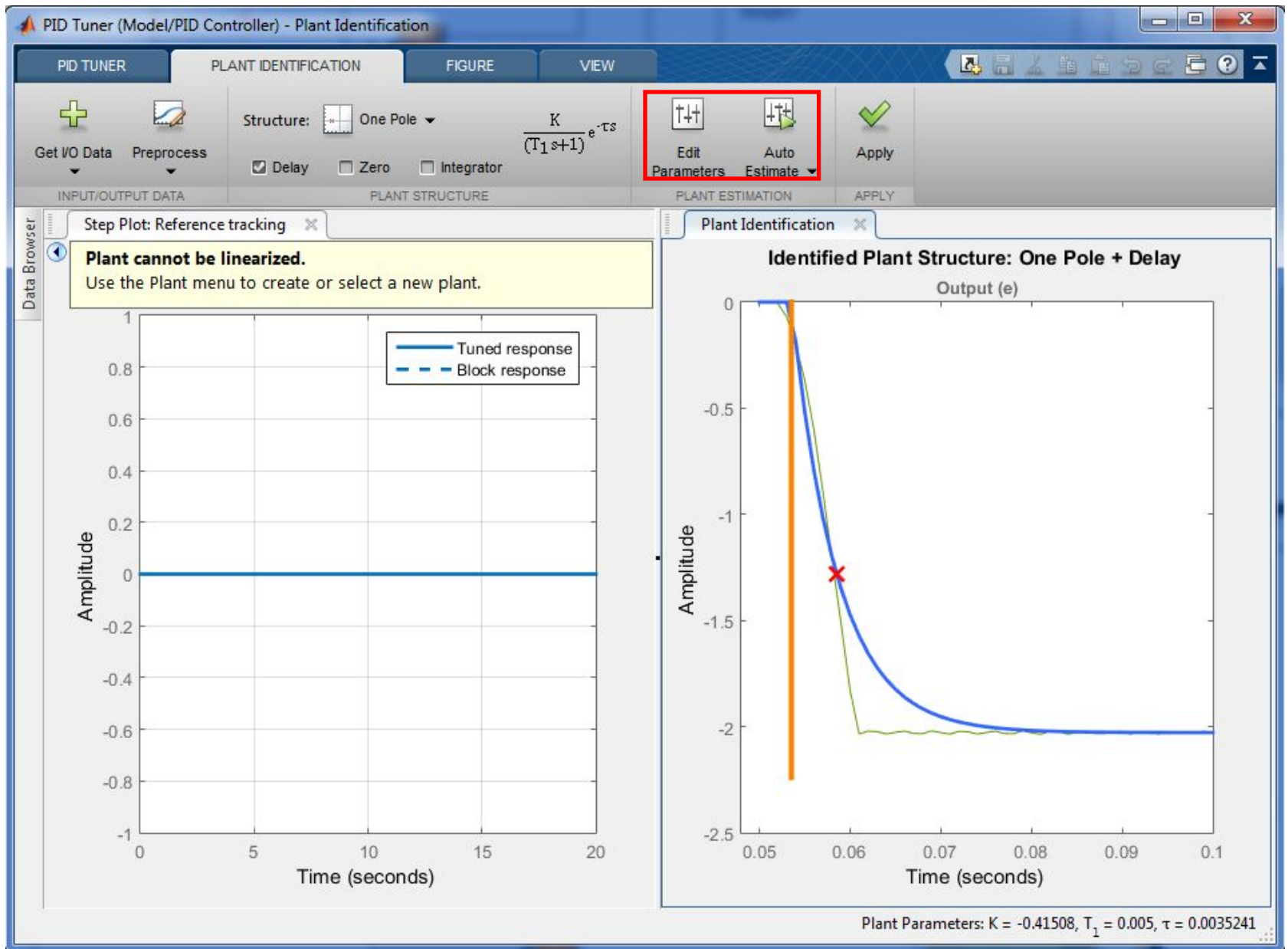












PID Tuner (Model/PID Controller) - Plant Identification

PID TUNER | PLANT IDENTIFICATION | FIGURE | VIEW

Get I/O Data | Preprocess

Structure: Underdamped Pair $\frac{K}{(T_{\omega}^2 s^2 + 2\zeta T_{\omega} s + 1)} e^{-\tau s}$

Delay Zero Integrator

Edit Parameters | **Auto Estimate** | Apply

Plant Identification Progress

Process Model Identification

Estimation data: Time domain data
Data has 1 outputs, 1 inputs and 51 samples.
Model Type: P2DU

Estimation Progress

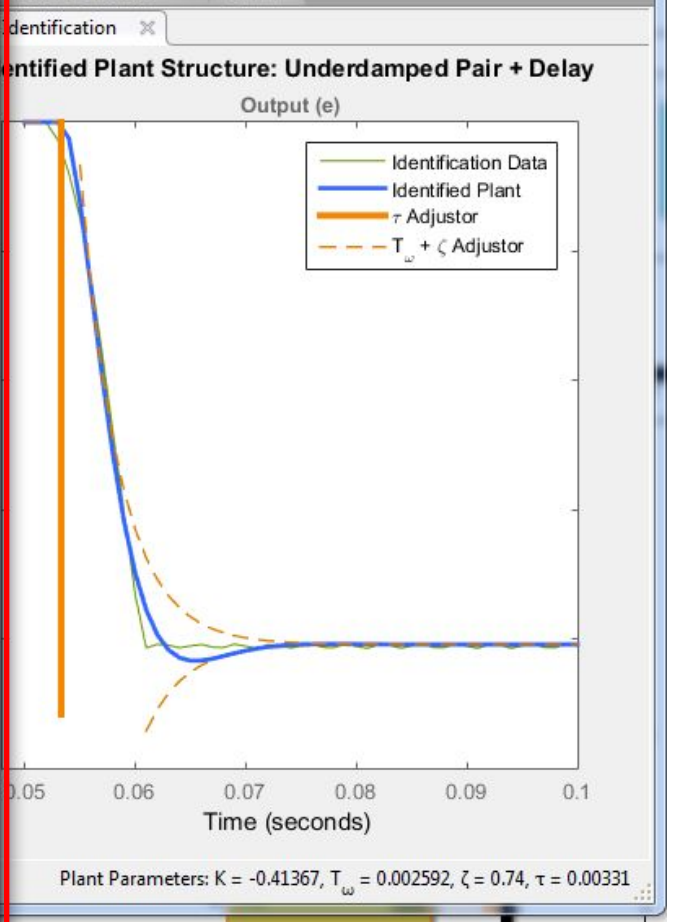
0	0.262384	-	3.16e+03	342	-	-
1	0.0411363	0.447	7.26e+03	342	84.3	0
2	0.00941245	26.9	3.53e+03	2.09e+03	77.1	0
3	0.0049904	75.3	3.59e+04	7.06e+03	47	0
4	0.00235113	80.5	3.39e+04	1.29e+04	52.9	0
5	0.00177823	0.102	1.1e+03	9.95e+03	24.4	0
6	0.00177663	2.73	404	45.2	0.0898	0
7	0.00177655	0.242	23.7	2.74	0.00479	0
8	0.00177654	0.277	34.6	0.247	0.000353	0
9	0.00177654	0.0705	4.1	0.0299	3.62e-05	0
10	0.00177654	0.0366	3.76	0.00432	4.82e-06	0
11	0.00177654	0.0127	1.03	0.000661	7.17e-07	0
12	0.00177654	0.00545	0.511	0.000104	1.11e-07	0
13	0.00177654	0.00208	0.181	1.63e-05	1.75e-08	0
14	0.00177654	0.000845	0.0768	2.58e-06	2.76e-09	0

Result

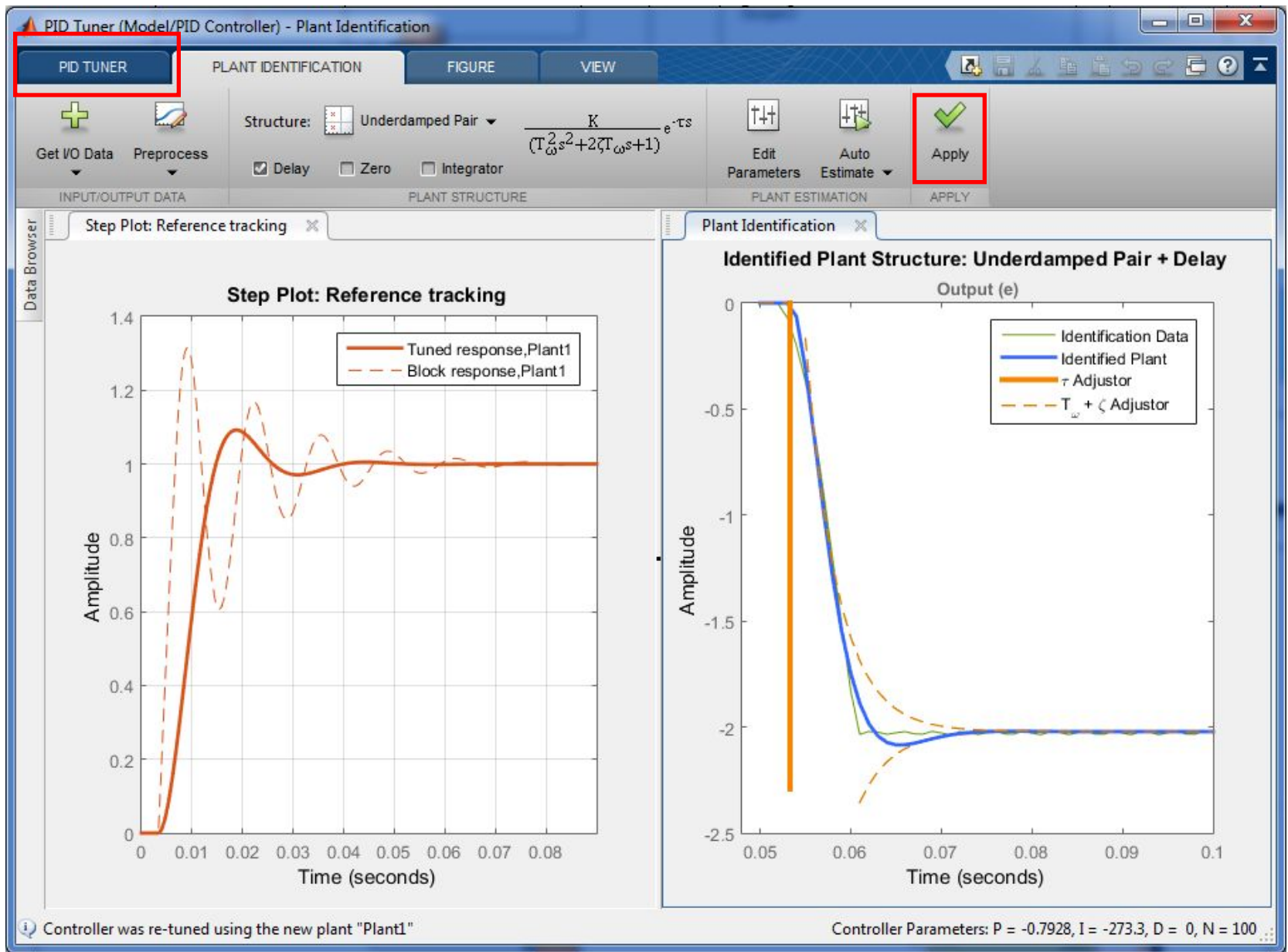
Termination condition: Near (local) minimum, (norm(g) < tol).
Number of iterations: 14, Number of function evaluations: 29

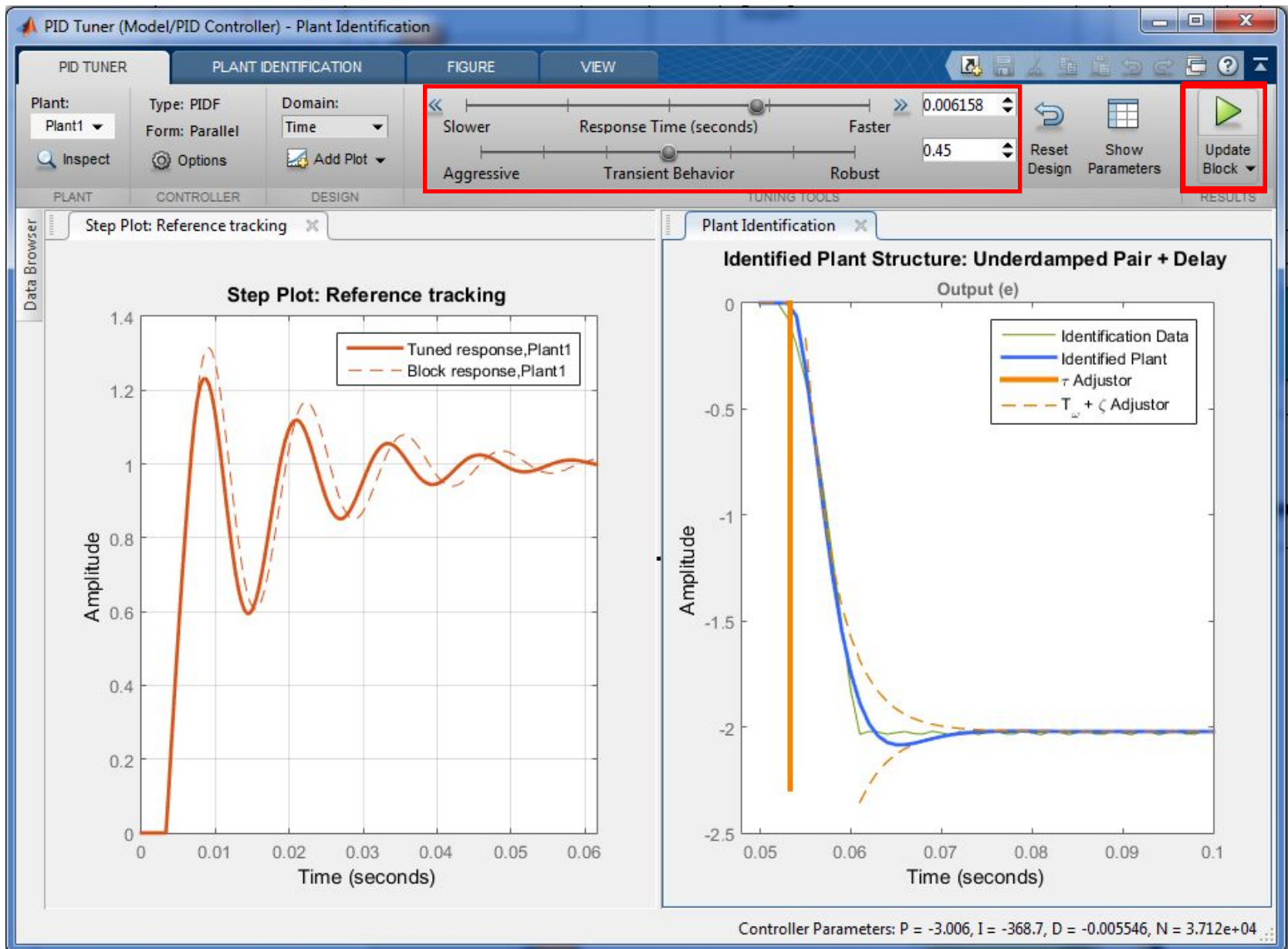
Status: Estimated using PEM with Focus = "simulation"
Fit to estimation data: 93.55%, FPE: 0.00205521

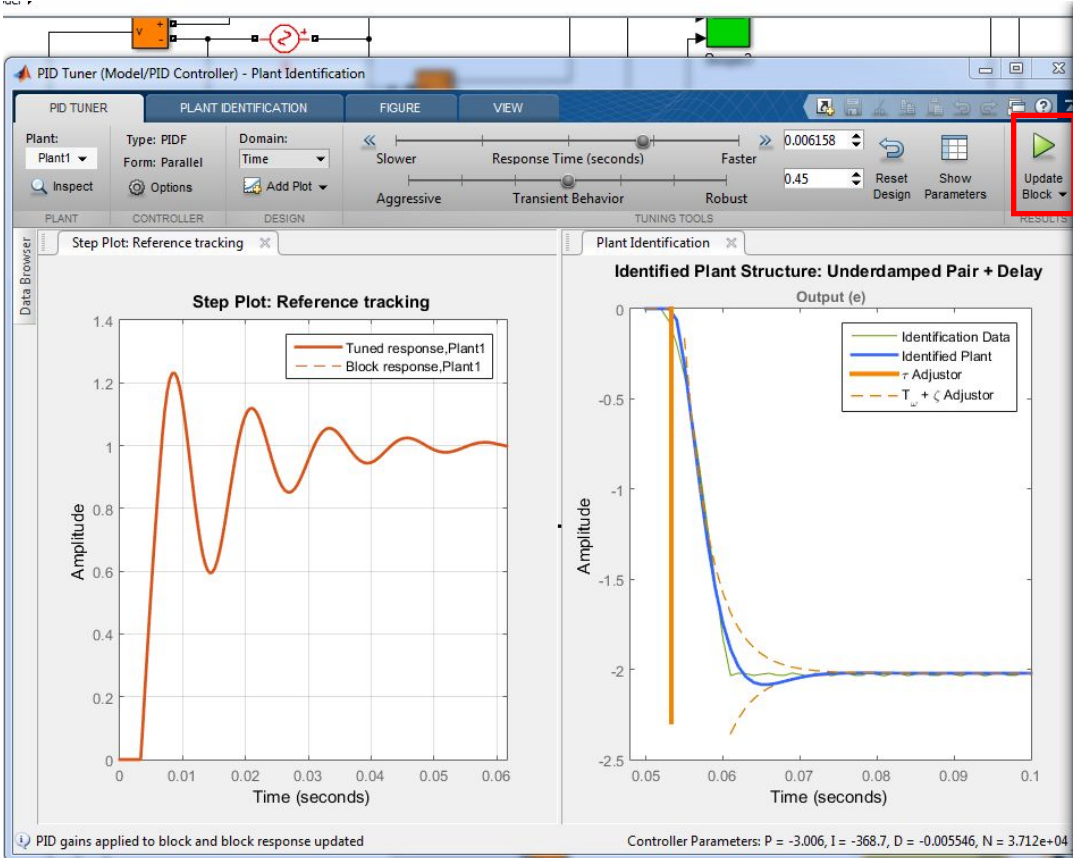
Stop | **Close**



Control System







Function Block Parameters: PID Controller

PID Controller

This block implements continuous- and discrete-time PID control algorithms and includes advanced features such as anti-windup, external reset, and signal tracking. You can tune the PID gains automatically using the 'Tune...' button (requires Simulink Control Design).

Controller: PID Form: Parallel

Time domain:

Continuous-time

Discrete-time

Main PID Advanced Data Types State Attributes

Controller parameters

Source: internal [Compensator formula](#)

Proportional (P): -3.00554233610572

Integral (I): -368.713748837762

Derivative (D): -0.00554615589176807

Filter coefficient (N): 37115.4301198785

Tune...

Initial conditions

Source: internal

Integrator: 0

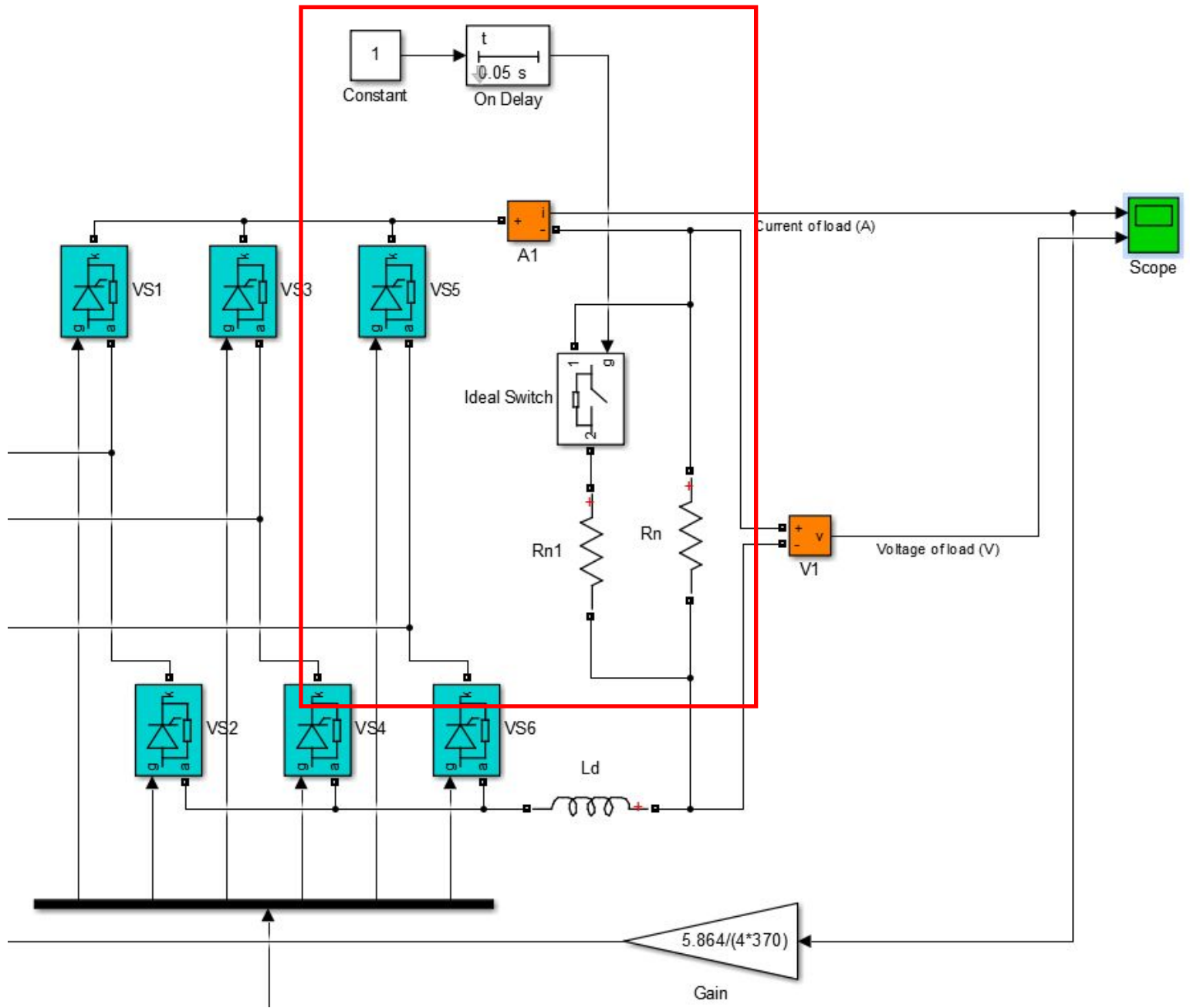
Filter: 0

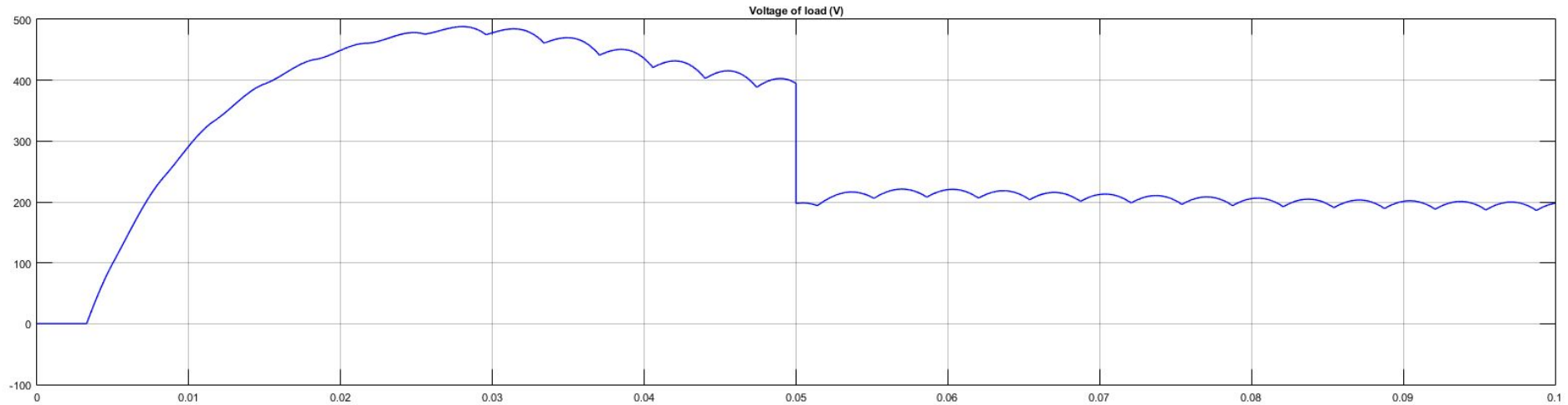
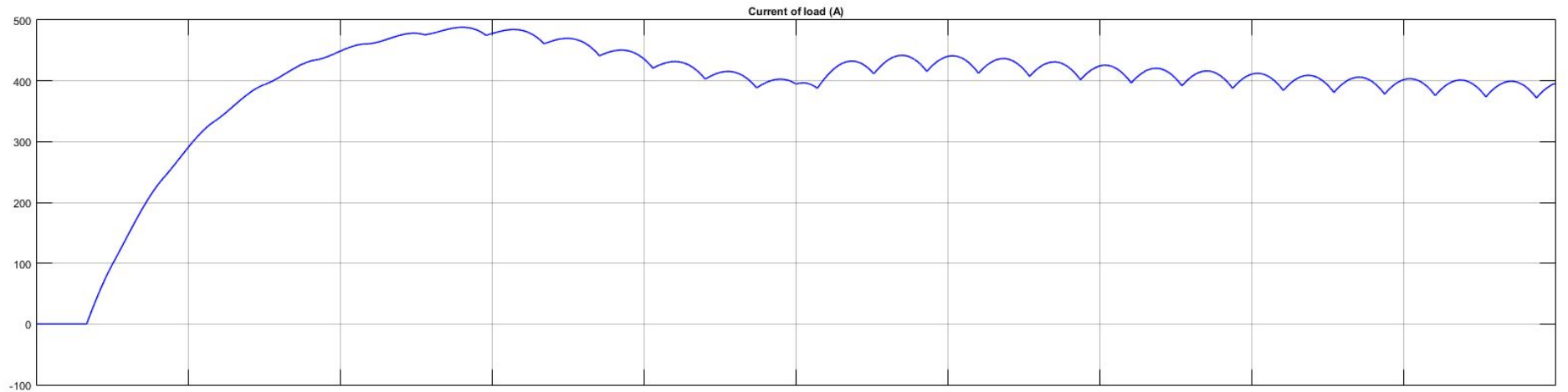
External reset: none

Ignore reset when linearizing

Enable zero-crossing detection

OK Cancel Help Apply





Time offset: 0