

Select a file to view details

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»

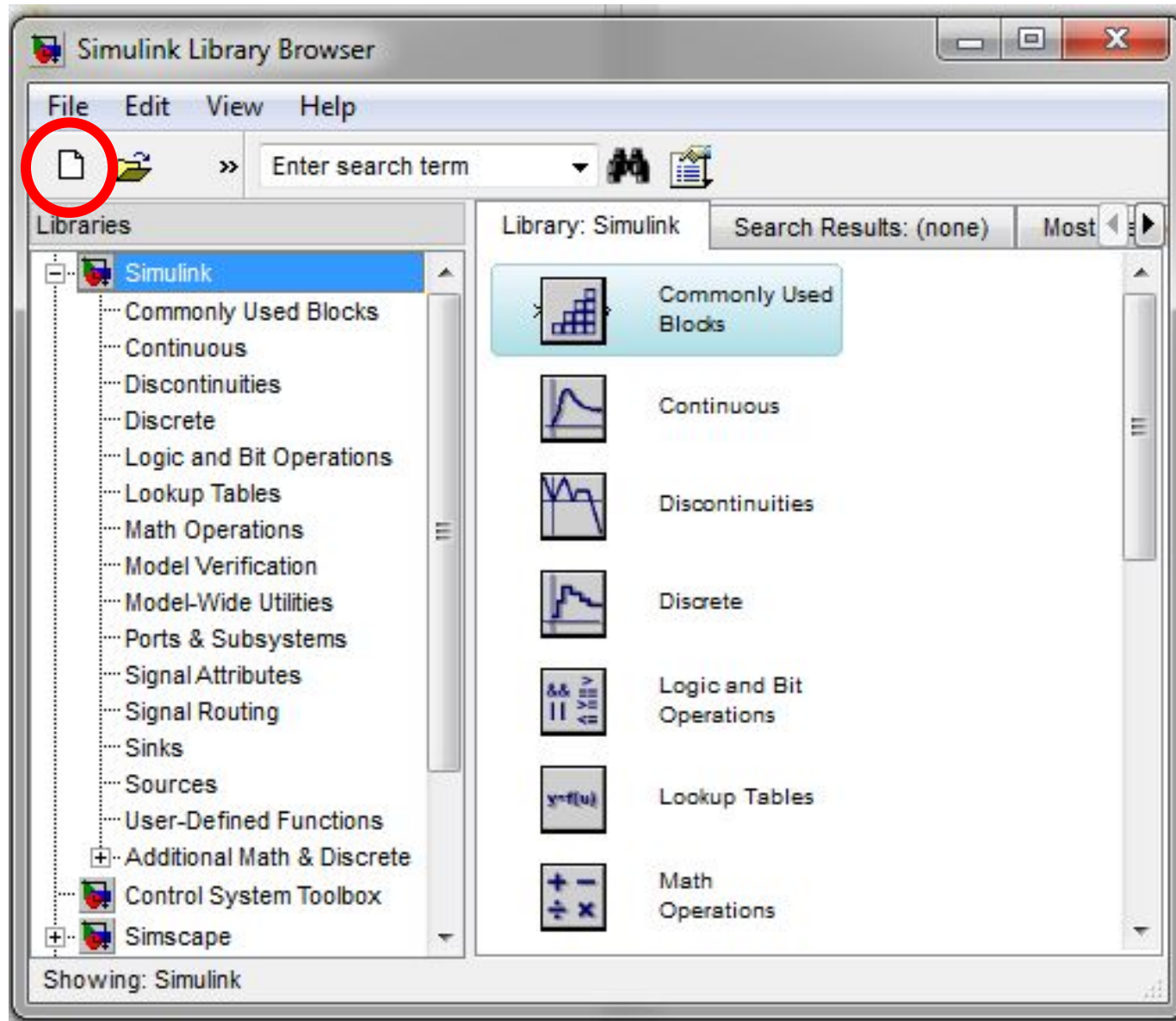
Select data to...

Name Value

```
-- 12.02.2019 10:46 -->
-- 19.02.2019 14:26 -->
-- 26.02.2019 10:40 -->
-- 05.03.2019 10:49 -->
-- 12.03.2019 10:36 -->
-- 19.03.2019 10:46 -->
-- 26.03.2019 10:33 -->
-- 26.03.2019 14:33 -->
-- 09.04.2019 10:31 -->
-- 16.04.2019 10:32 -->
-- 23.04.2019 10:46 -->
-- 23.04.2019 14:41 -->
-- 30.04.2019 10:40 -->
-- 08.05.2019 17:11 -->
-- 14.05.2019 10:47 -->
-- 21.05.2019 10:49 -->
-- 21.05.2019 15:42 -->
-- 28.05.2019 10:33 -->
-- 04.06.2019 12:58 -->
-- 04.06.2019 14:21 -->
-- 04.06.2019 14:30 -->
-- 19.06.2019 10:03 -->
  DPT_data
-- 03.09.2019 14:54 -->
```



Simulink library browser



Current Folder: C:\Users\student.ECAO2\Docum

Shortcuts How to Add What's New

Current Folder

<< MATLAB >>

Name

Simulink Library Browser

File Edit View Help

Enter search term

Libraries

- Simulink
 - Commonly Used Blocks
 - Continuous
 - Discontinuities
 - Discrete
 - Logic and Bit Operations
 - Lookup Tables
 - Math Operations
 - Model Verification
 - Model-Wide Utilities
 - Ports & Subsystems
 - Signal Attributes
 - Signal Routing
 - Sinks
 - Sources
 - User-Defined Functions
 - Additional Math & Discrete
- Control System Toolbox
- Simscape

Showing: Simulink

Library: Simulink Search Results: (none) Most

- Commonly Used Blocks
- Continuous
- Discontinuities
- Discrete
- Logic and Bit Operations
- Lookup Tables
- Math Operations

untitled

File Edit View Simulation Format Tools Help

10.0 Normal

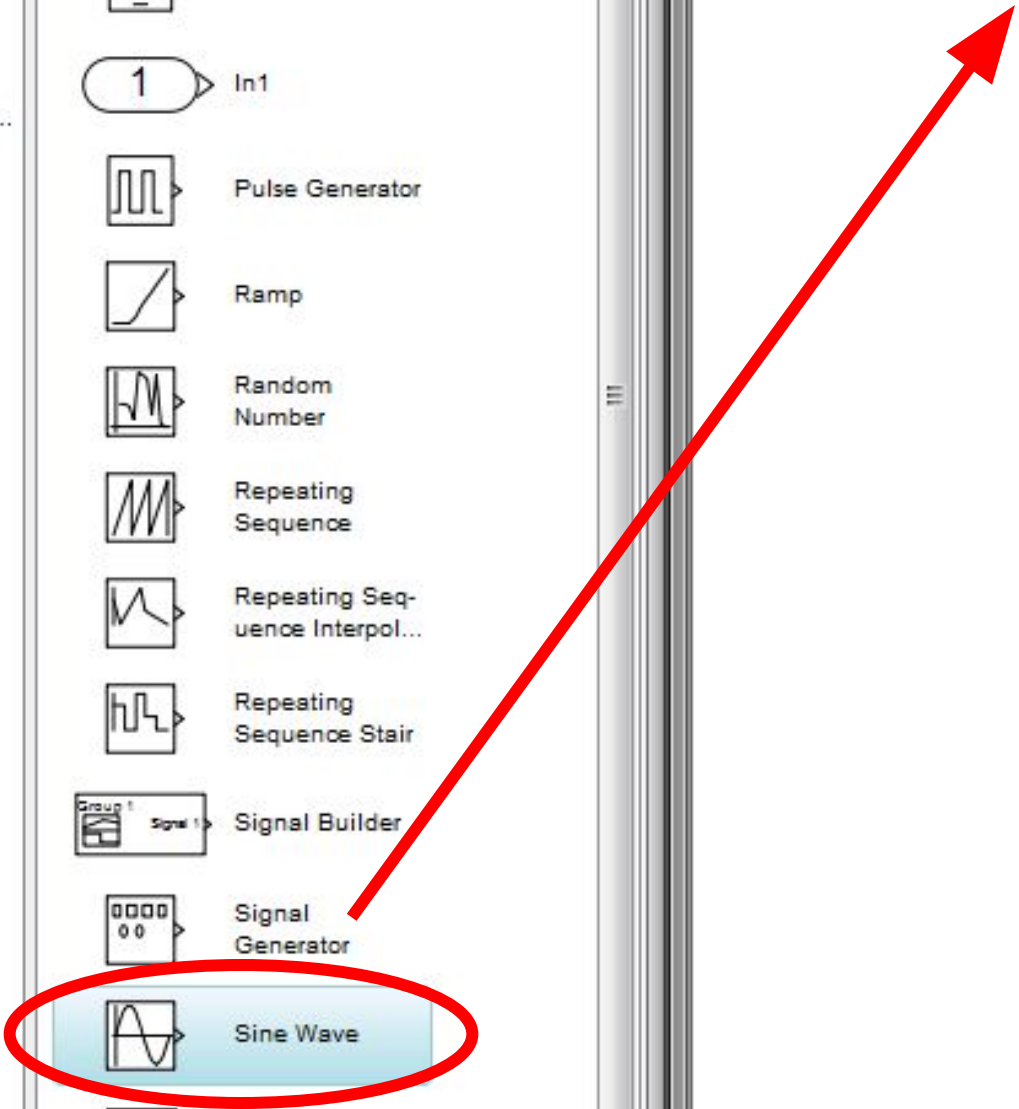
Ready 100% ode45

tails

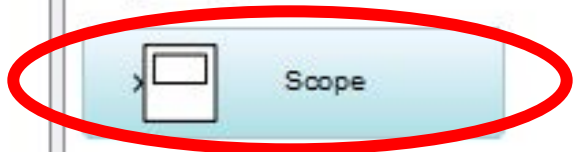
Select a file to view details

- Signal Routing
- Sinks
- Sources**
- User-Defined Functions
- + Additional Math & Discrete
- + Control System Toolbox
- + Simscape
- + Simulink 3D Animation
- + Simulink Coder
- + Simulink Extras
- Simulink Verification and Vali...
- Stateflow

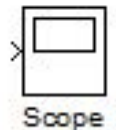
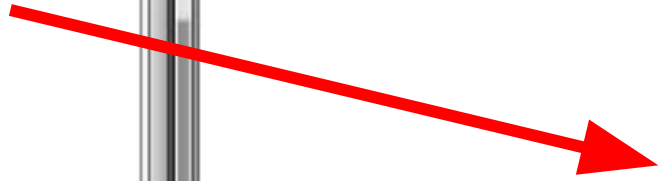
- Constant
- untitled.mat From File
- simIn From Workspace
- Ground
- 1 In1
- Pulse Generator
- Ramp
- Random Number
- Repeating Sequence
- Repeating Sequence Interpol...
- Repeating Sequence Stair
- Group 1 Signal Signal Builder
- Signal Generator
- Sine Wave**

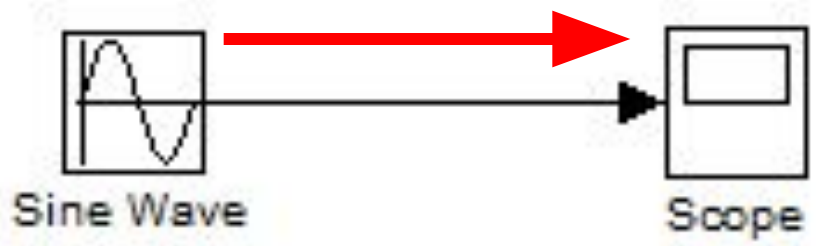


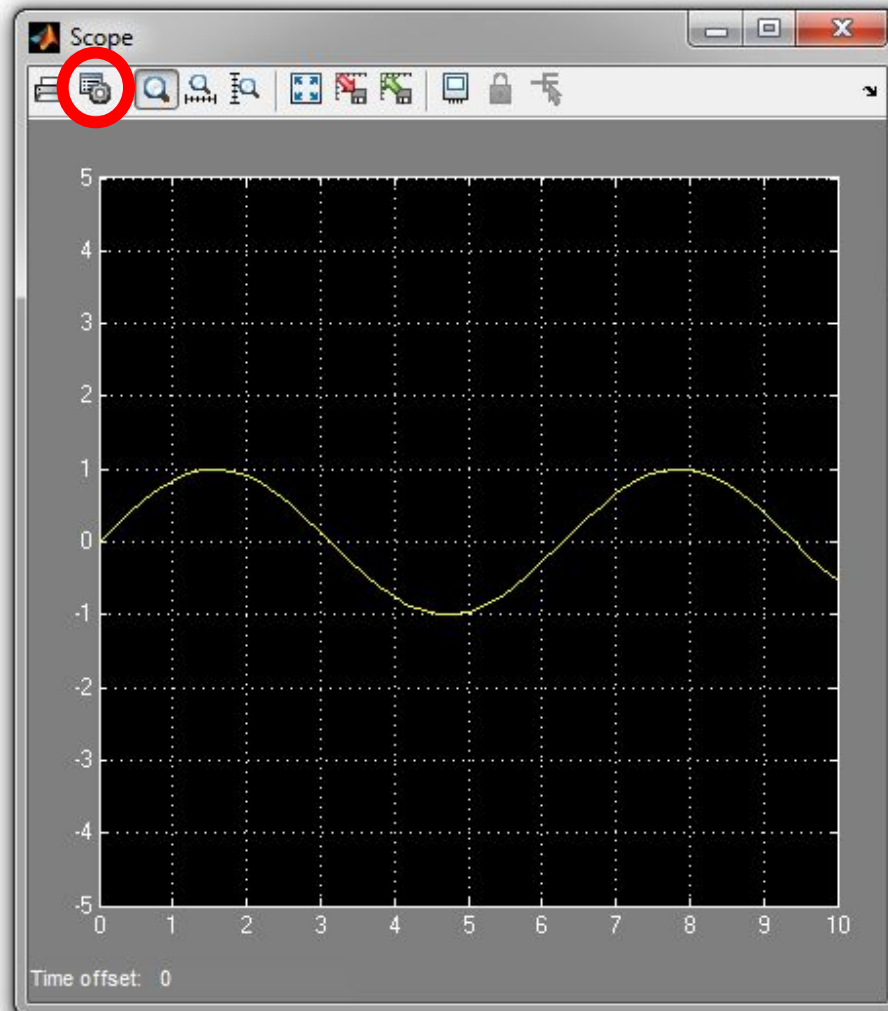
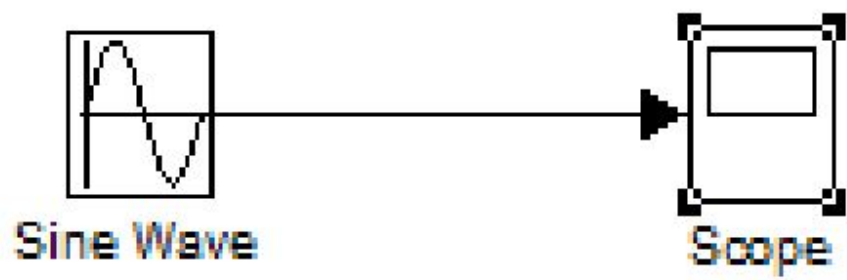
- Math Operations
- Model Verification
- Model-Wide Utilities
- Ports & Subsystems
- Signal Attributes
- Signal Routing
- Sinks**
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- User-Defined Functions
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- + Simulink Extras
- + Simulink Verification and Vali...
- + Stateflow



- Scope
- STOP Stop Simulation
- Terminator
- untitled.mat To File
- simout To Workspace
- XY Graph









'Scope' parameters



General

History

Style



Limit data points to last:

5000



Save data to workspace

Variable name:

ScopeData

Format:

Structure with time

OK

Cancel

Help

Apply



'Scope' parameters



General

History

Style



Limit data points to last:

5000



Save data to workspace

Variable name:

ScopeData

Format:

Structure with time

OK

Cancel

Help

Apply



'Scope' parameters



General

History

Style

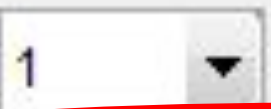
Figure color:



Axes colors:



Properties for line: 1



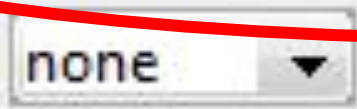
Line:



0.5



Marker: none



OK

Cancel

Help

Apply



'Scope' parameters



General

History

Style

Figure color:



Axes colors:



Properties for line:

1

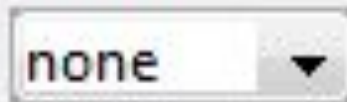
2.0

Line:



Marker:

none

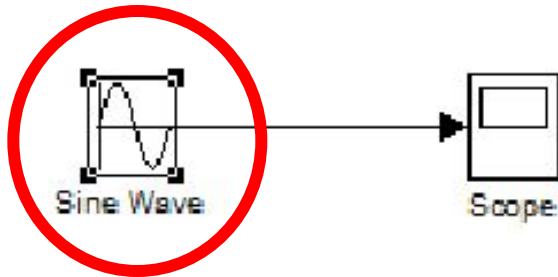


OK

Cancel

Help

Apply



Source Block Parameters: Sine Wave

Sine Wave

Output a sine wave:

$$O(t) = \text{Amp} * \text{Sin}(\text{Freq} * t + \text{Phase}) + \text{Bias}$$

Sine type determines the computational technique used. The parameters in the two types are related through:

Samples per period = $2 * \pi / (\text{Frequency} * \text{Sample time})$

Number of offset samples = $\text{Phase} * \text{Samples per period} / (2 * \pi)$

Use the sample-based sine type if numerical problems due to running for large times (e.g. overflow in absolute time) occur.

Parameters

Sine type:

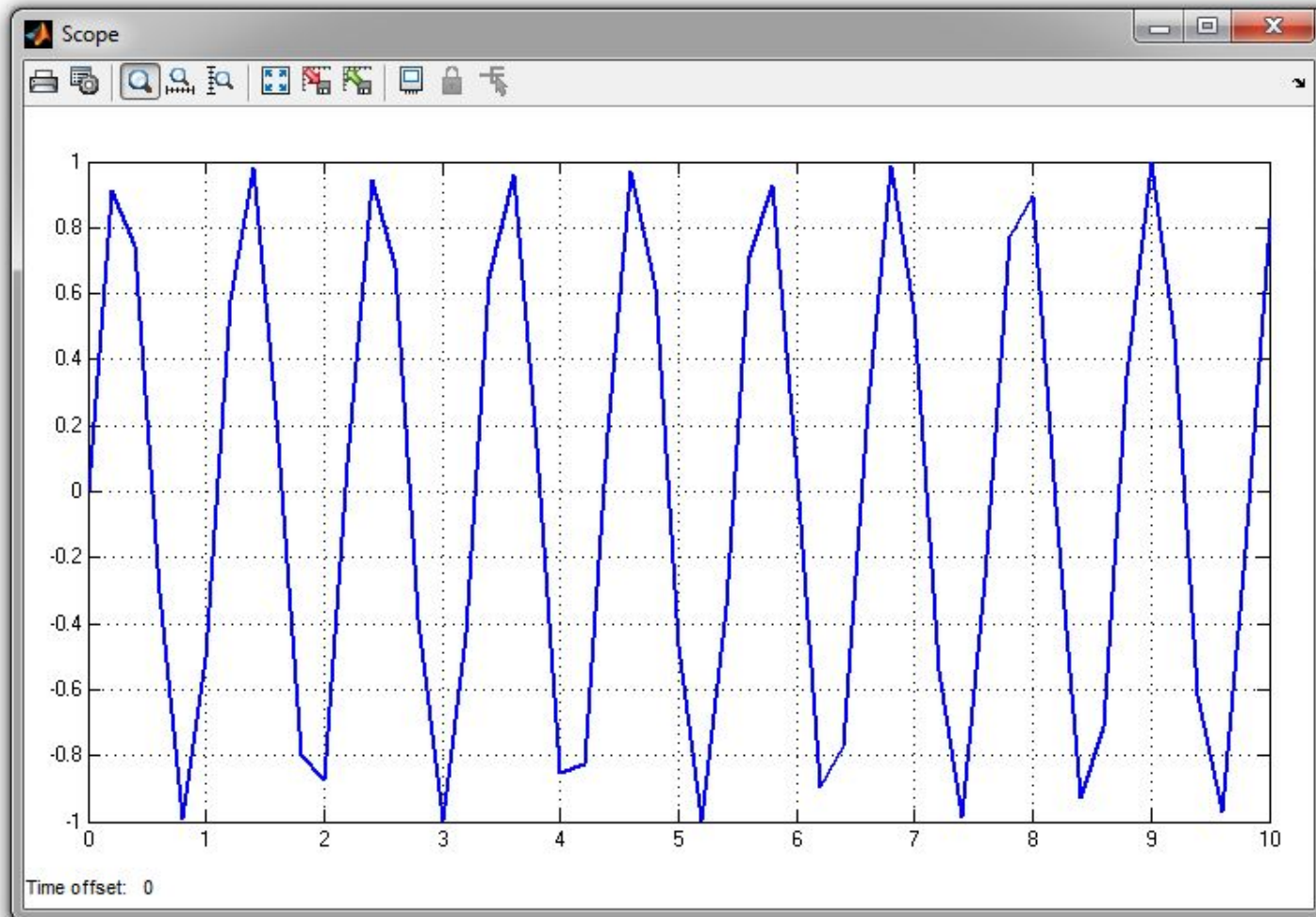
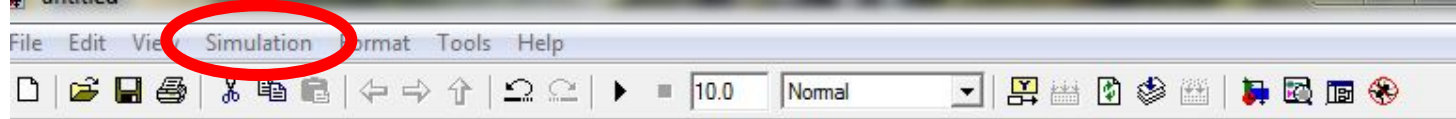
Time (t):

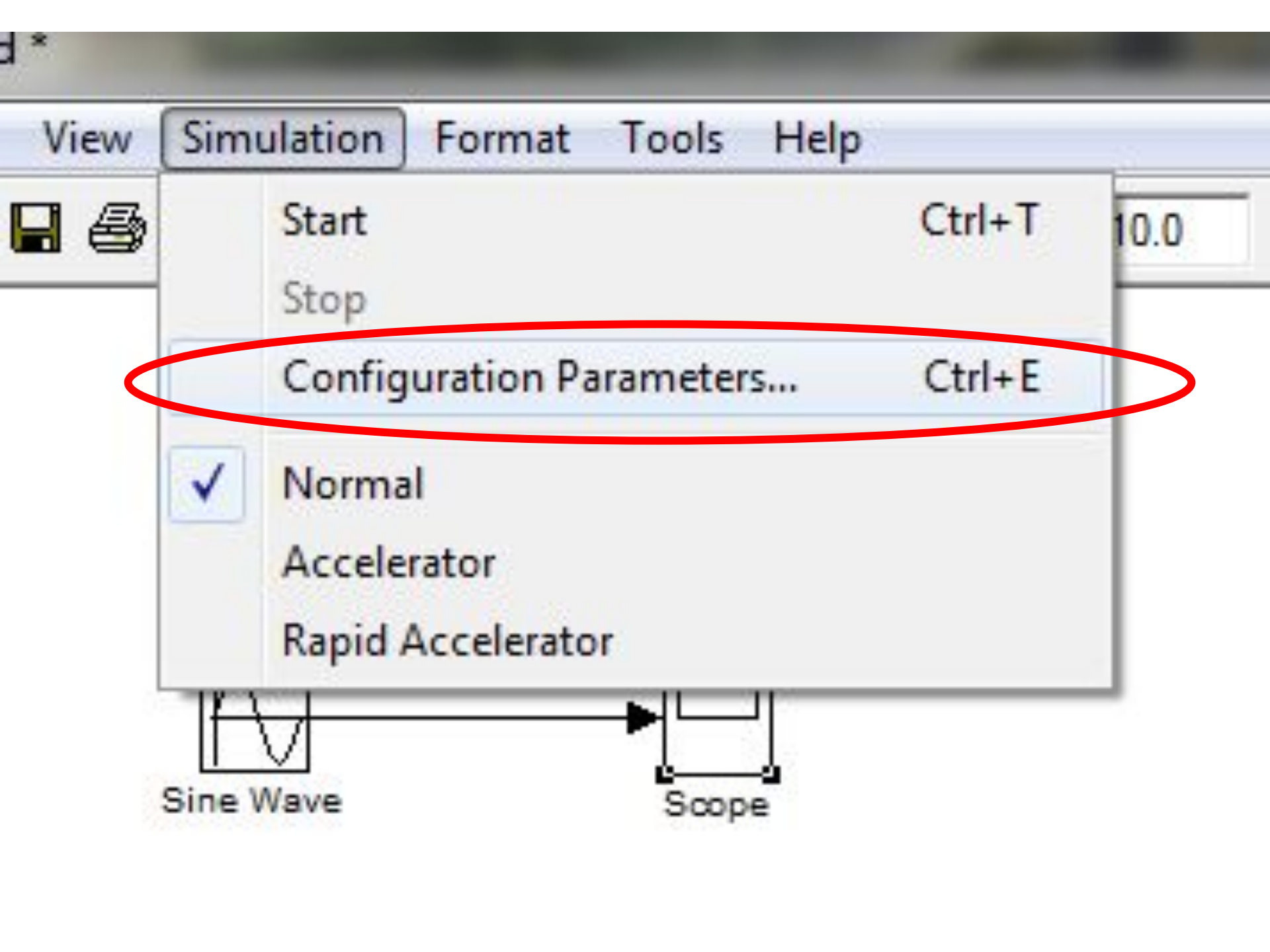
Amplitude:

Bias:

Frequency:

Phase (rad):





View

Simulation

Format

Tools

Help

Start

Ctrl+T

Stop

Configuration Parameters...

Ctrl+E



Normal

Accelerator

Rapid Accelerator



Sine Wave



Scope

- Select:
- Solver
- Data Import/Export
- Optimization
- Diagnostics
- Hardware Implementation
- Model Referencing
- Simulation Target

Simulation time
Start time: 0.0 Stop time: 10.0

Solver options
Type: Variable-step Solver: ode45 (Dormand-Prince)
Max step size: auto Relative tolerance: 1e-3
Min step size: auto Absolute tolerance: auto
Initial step size: auto Shape preservation: Disable All
Number of consecutive min steps: 1

Tasking and sample time options
Tasking mode for periodic sample times: Auto
 Automatically handle rate transition for data transfer
 Higher priority value indicates higher task priority

Zero-crossing options
Zero-crossing control: Use local settings Algorithm: Nonadaptive
Time tolerance: 10*128*eps Signal threshold: auto
Number of consecutive zero crossings: 1000

Simulation time

Start time: 0.0

Stop time: 10.0

Solver options

Type: Variable-step

Solver: ode45 (Dormand-Prince)

Max step size: 1/10000

Relative tolerance: 1e-3

Min step size: auto

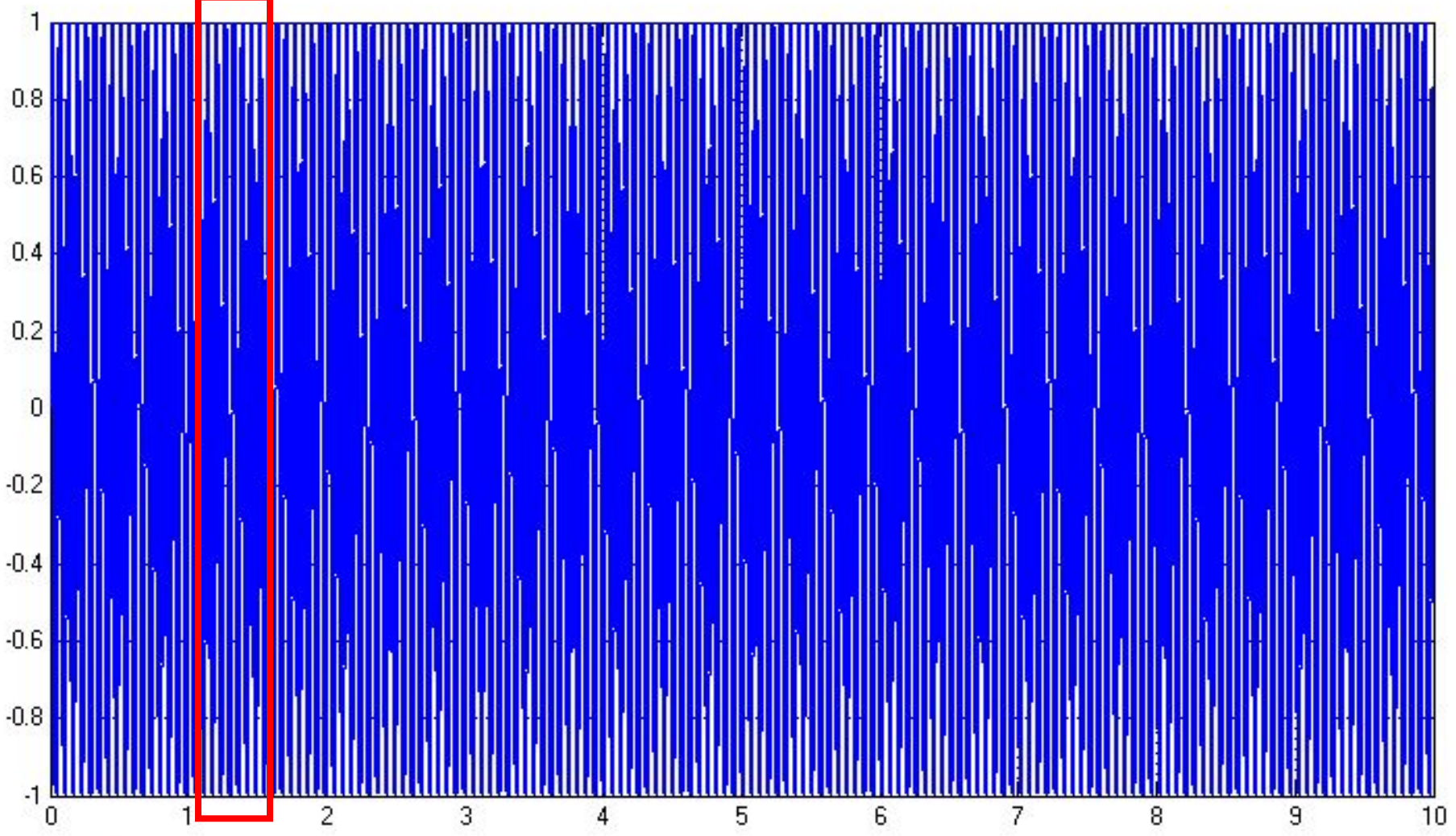
Absolute tolerance: auto

Initial step size: auto

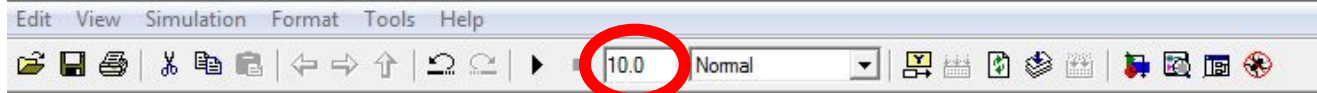
Shape preservation: Disable All

Number of consecutive min steps:

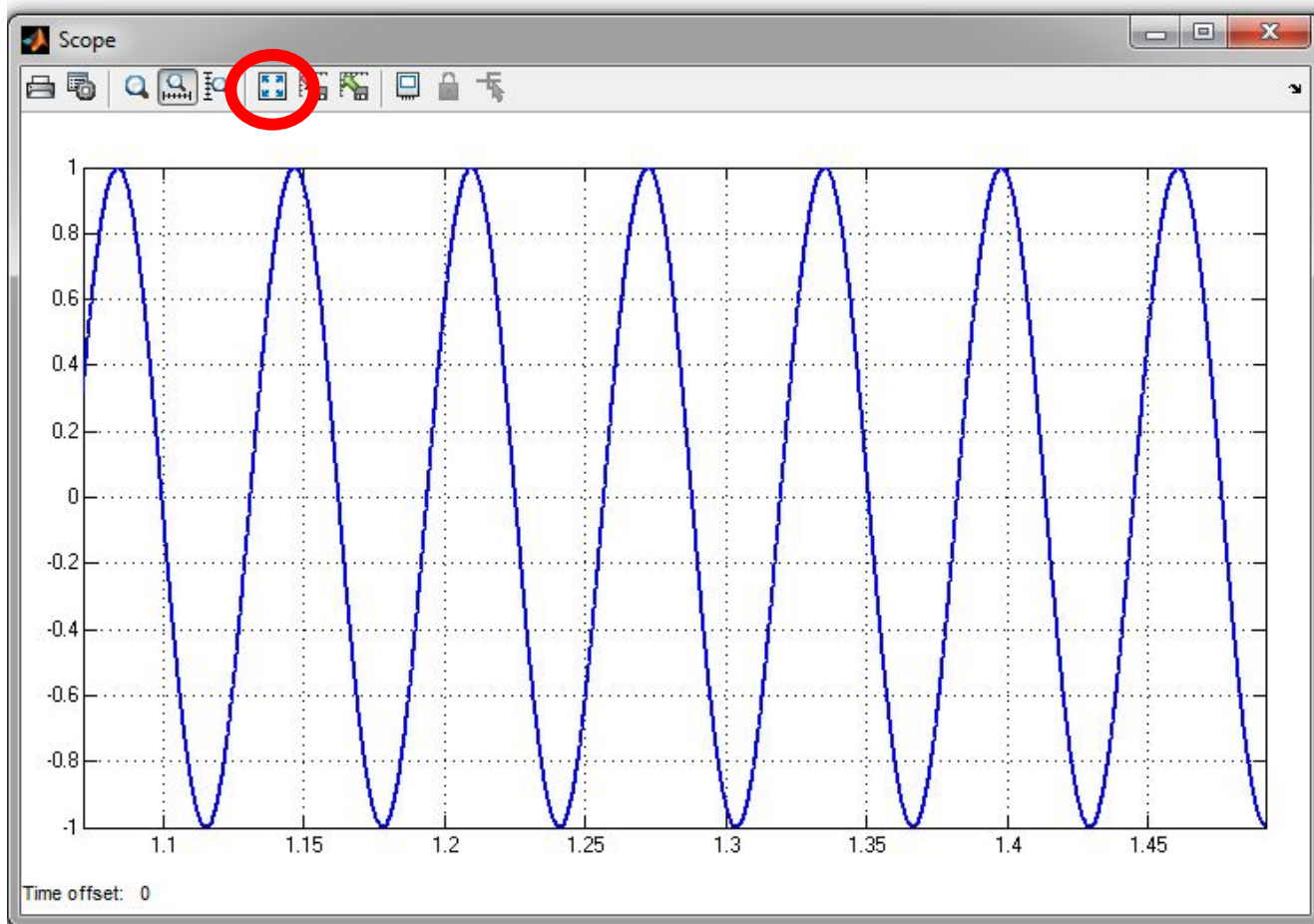
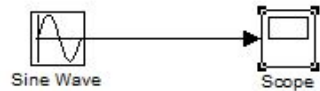
1

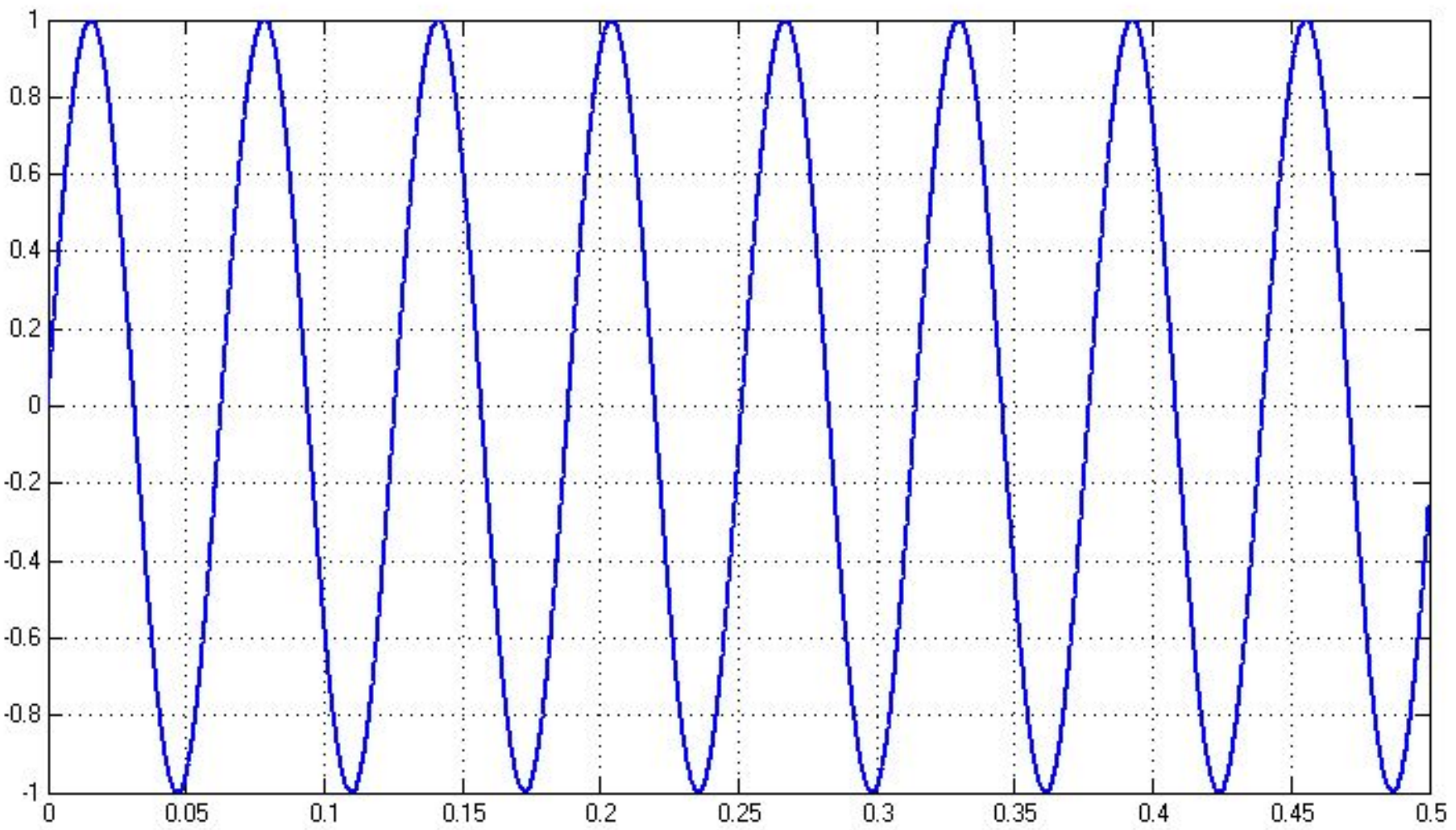


Time offset: 0

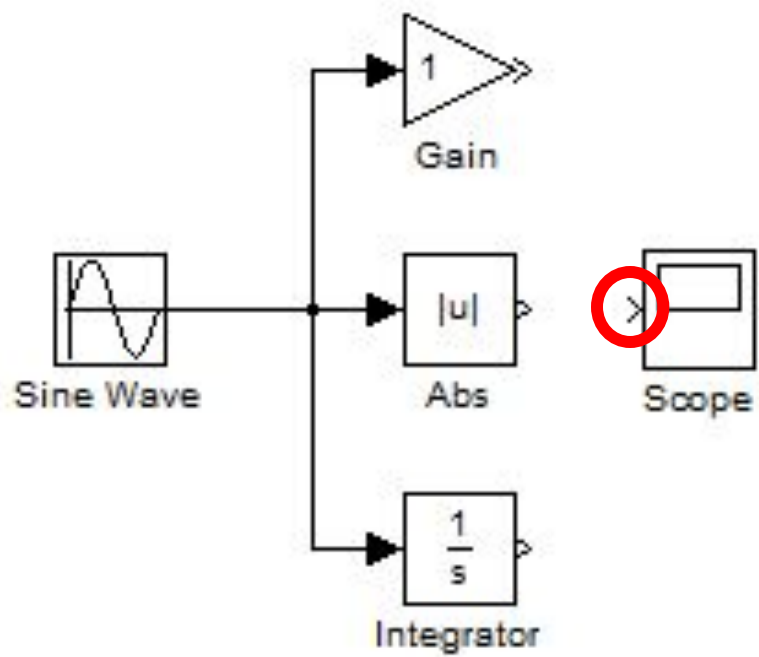


0.5





Time offset: 0





'Scope' parameters



General

History

Style

Axes

Number of axes: 3

Floating Scope

Time range: auto

Legends

Tick labels: bottom axis only

Sampling

Decimation

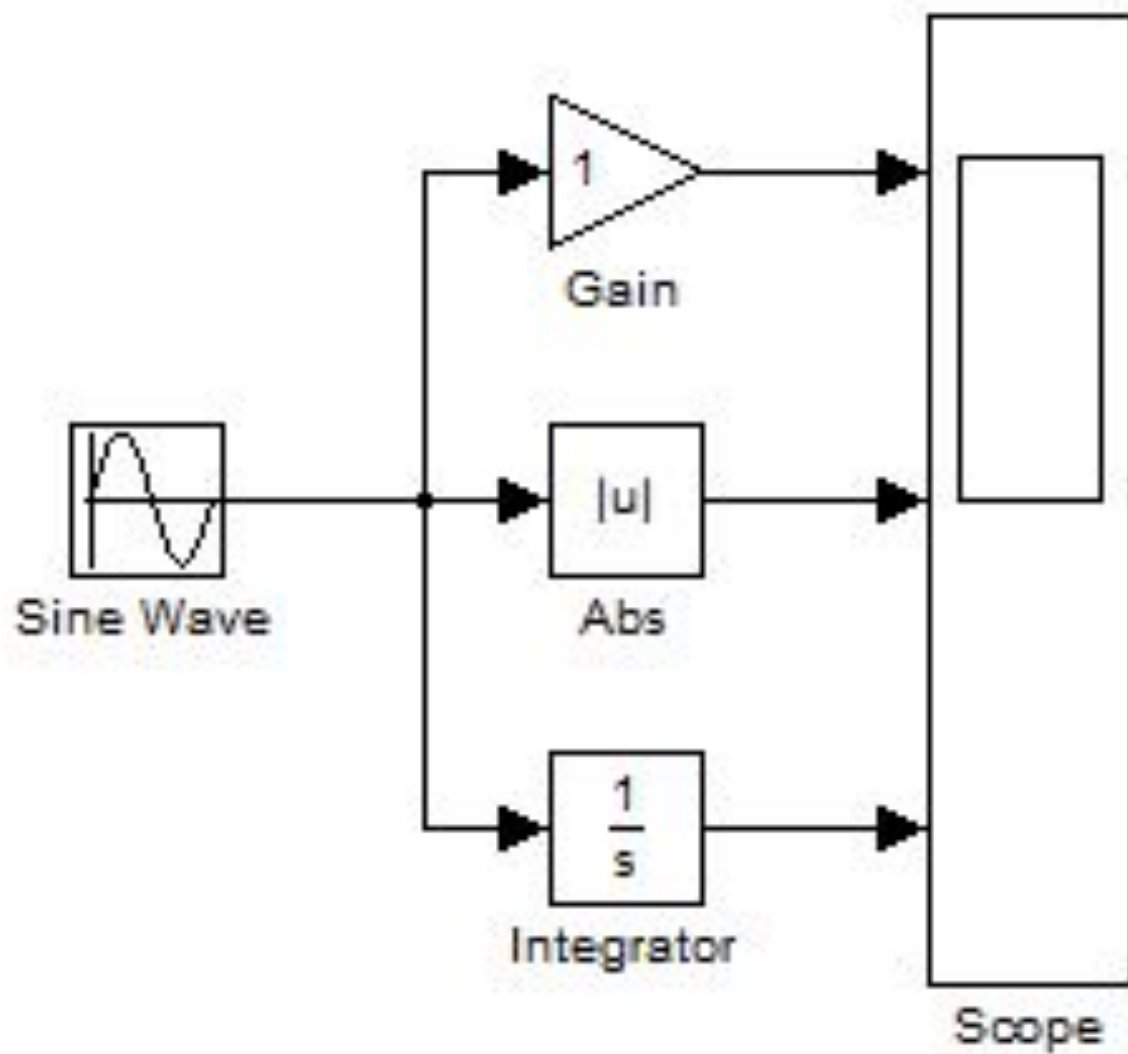
1

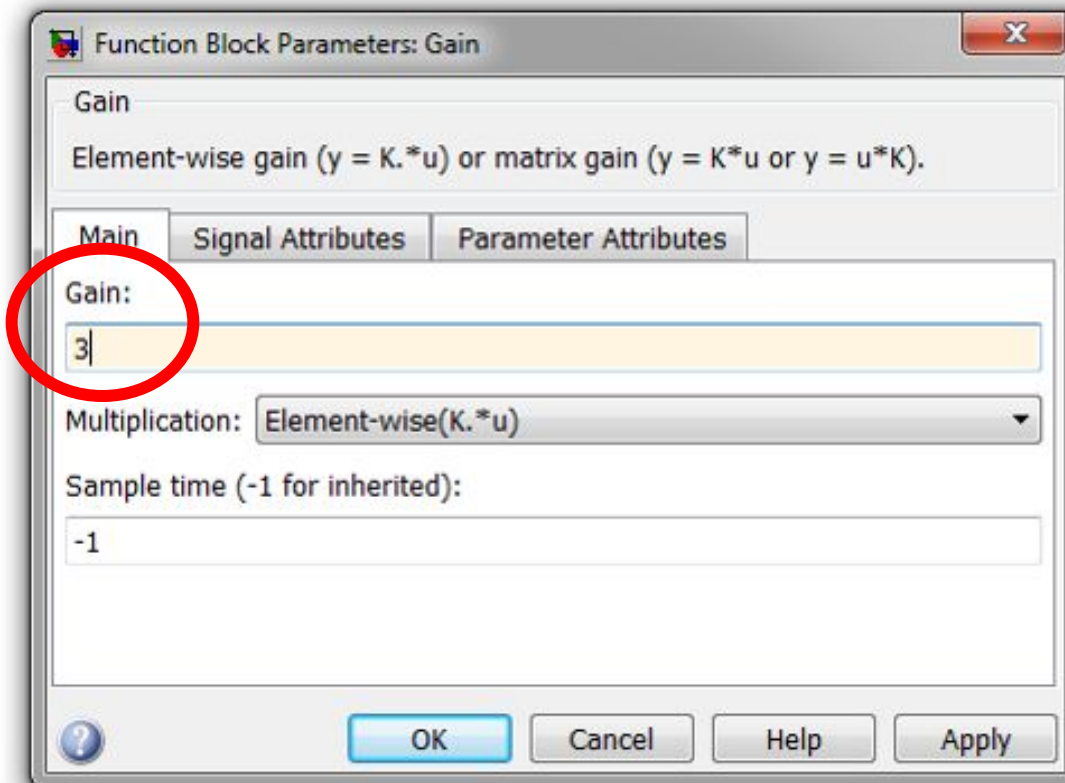
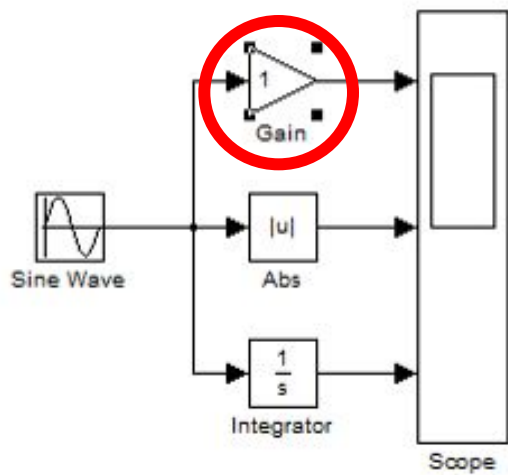
OK

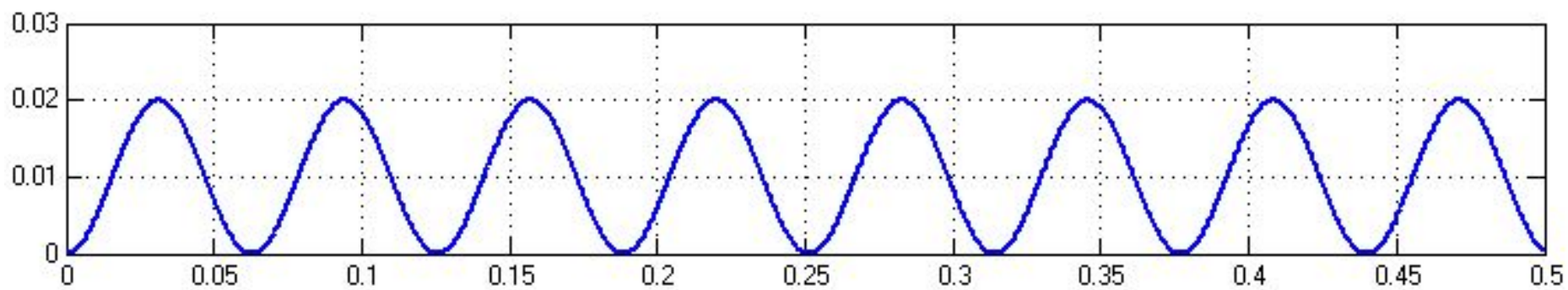
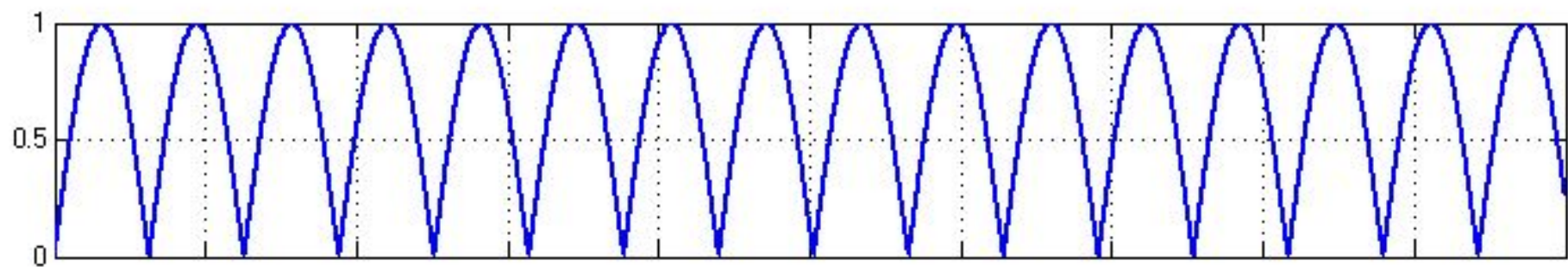
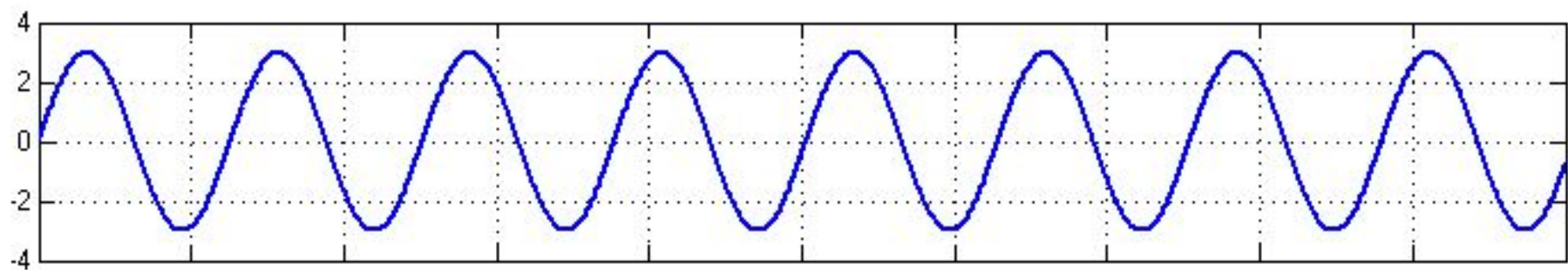
Cancel

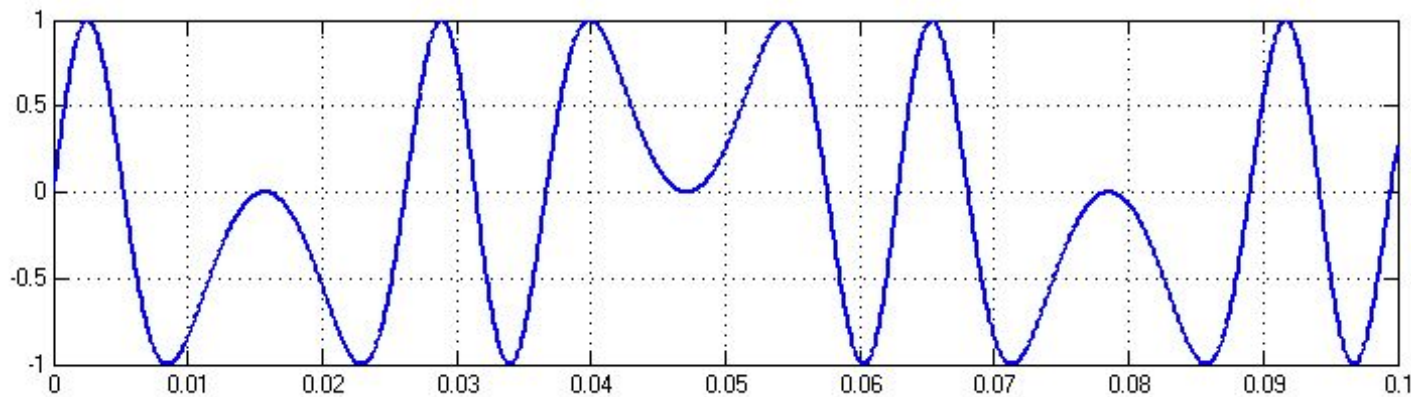
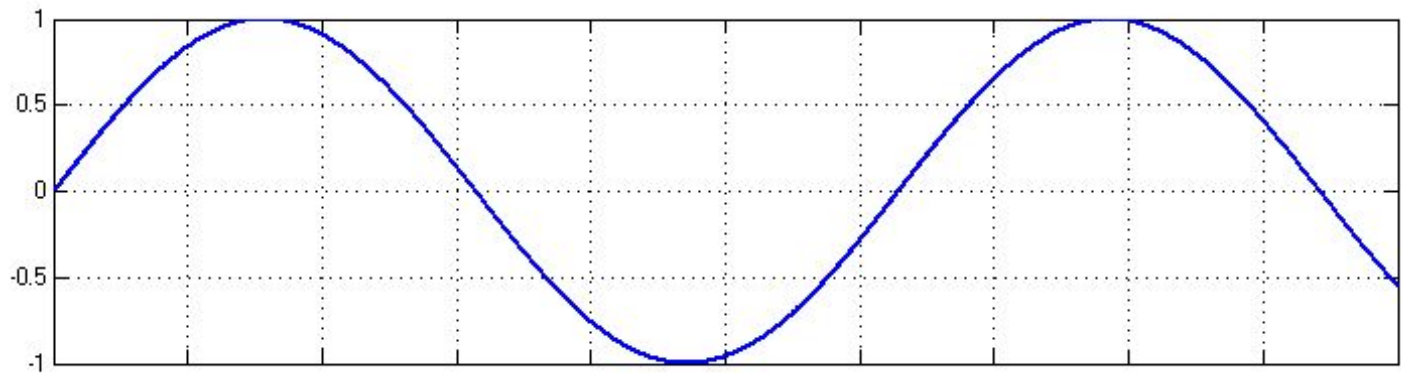
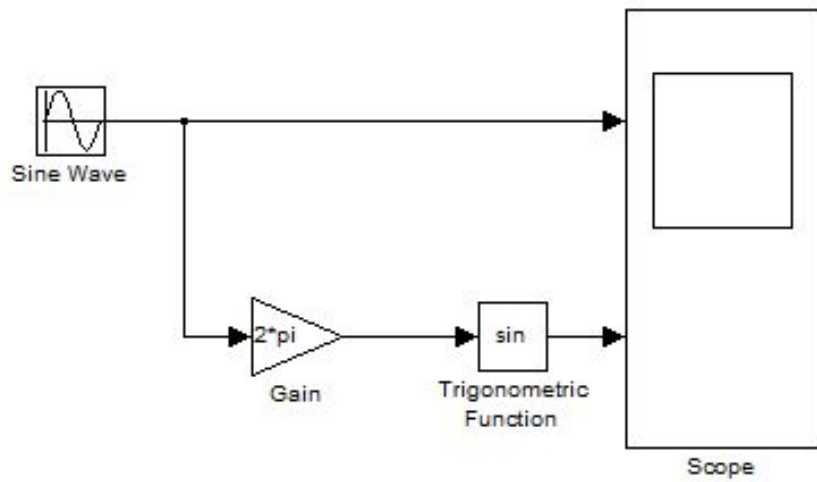
Help

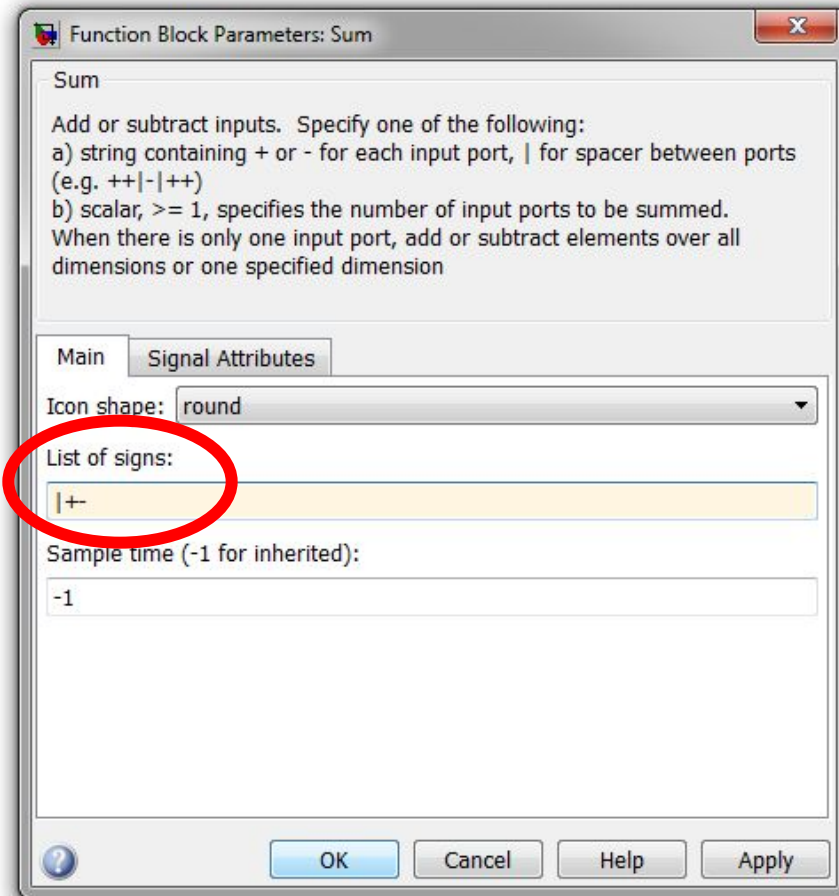
Apply

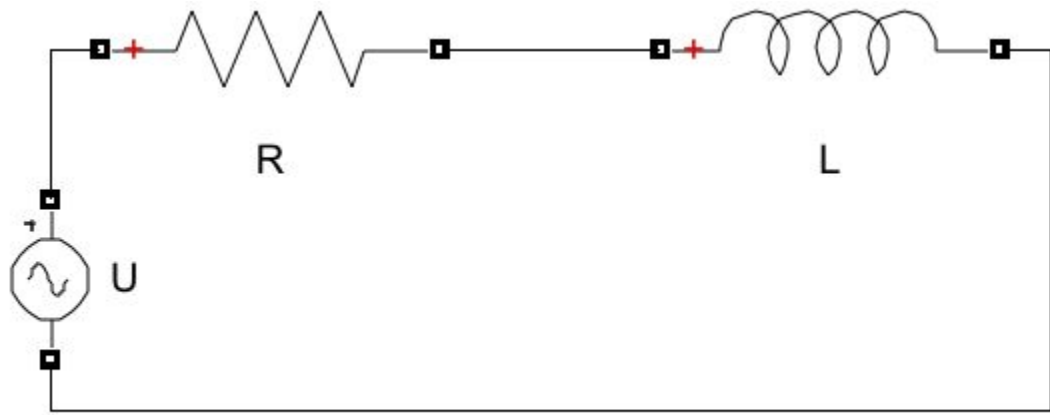












$$u(t) = e(t) + i(t) \cdot R$$

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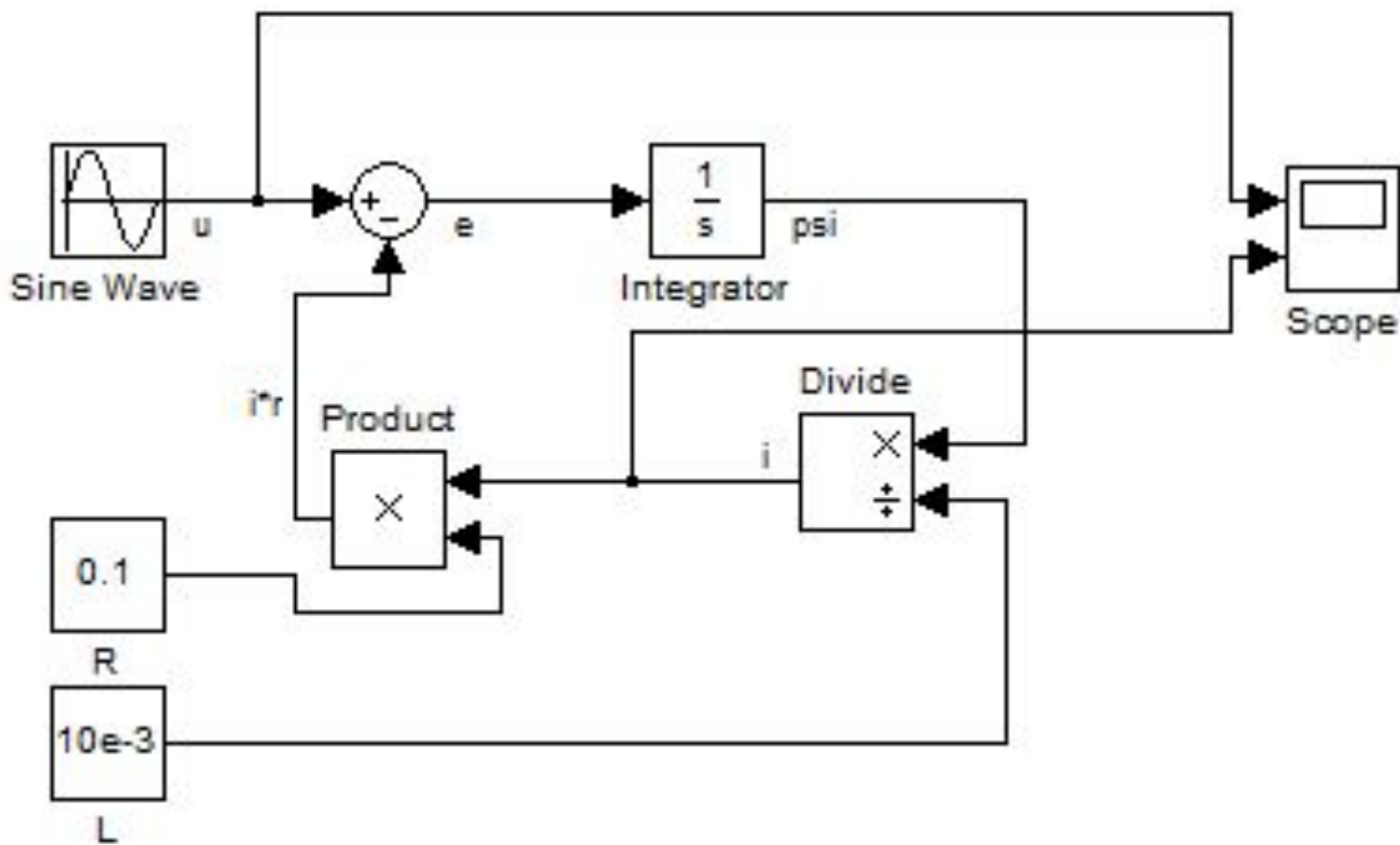
$$u(t) = e(t) + i(t) \cdot R$$

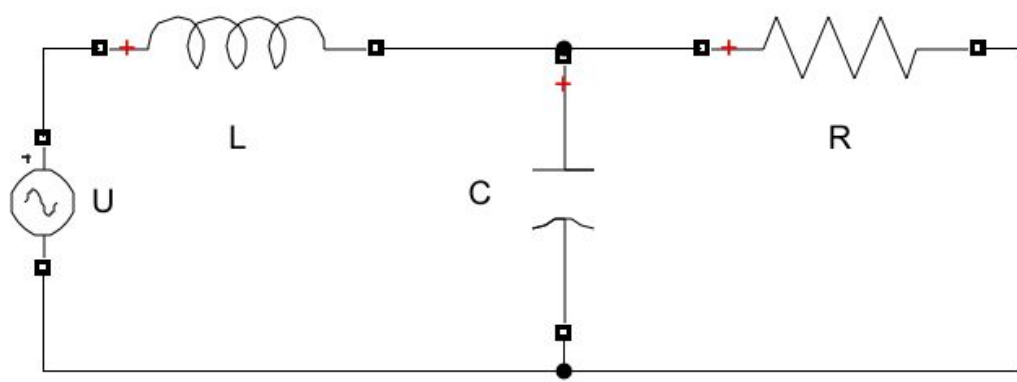
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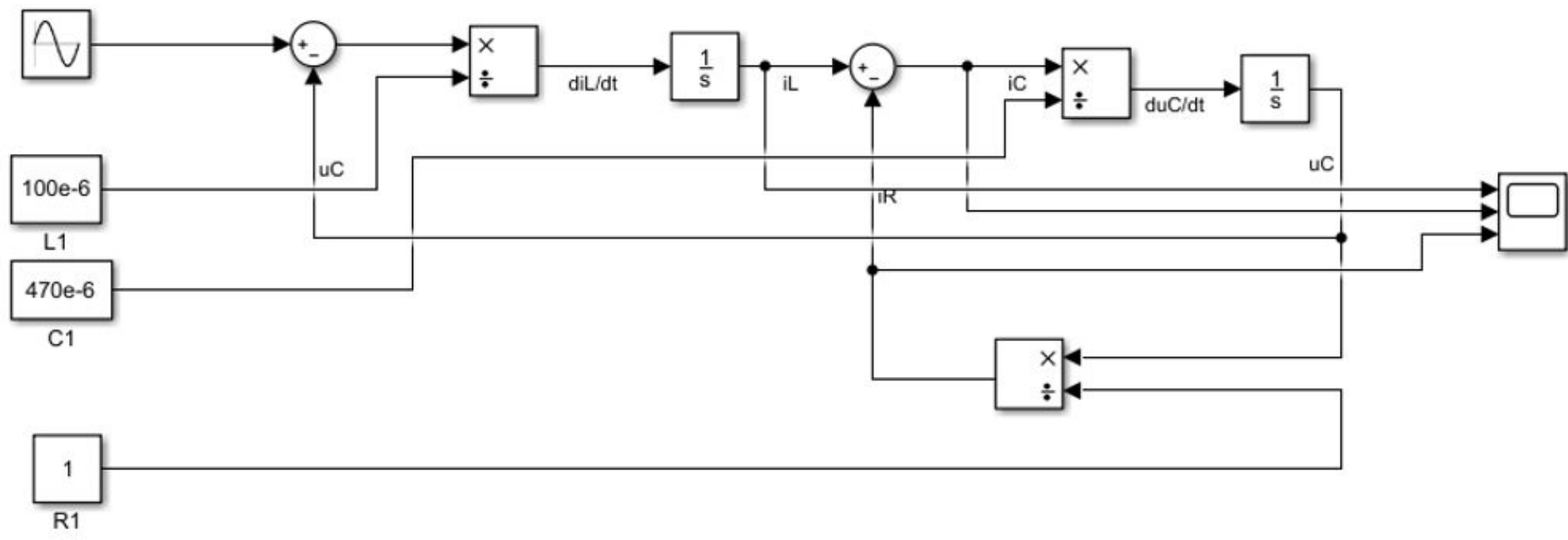
$$u(t) = e(t) + i(t) \cdot R$$

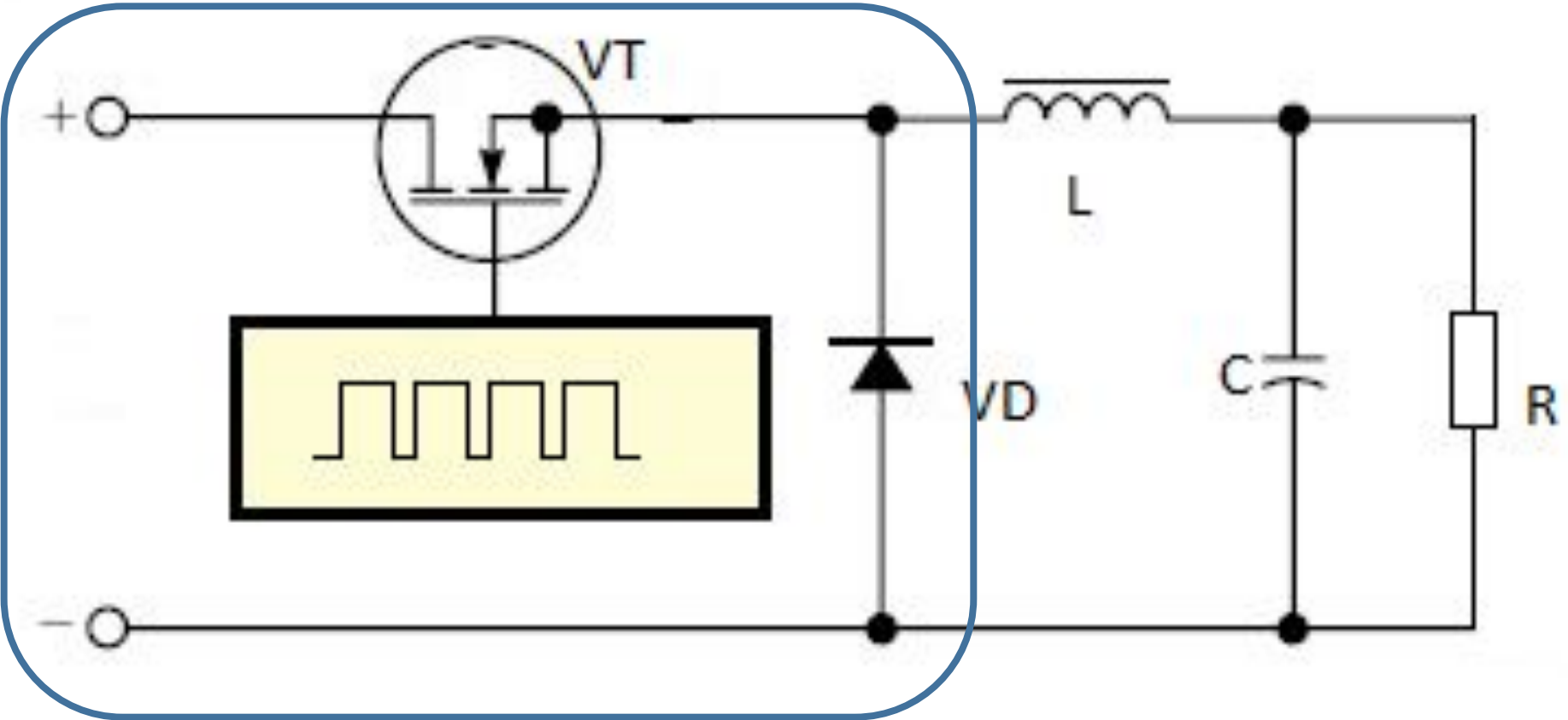
$$u(t) = e(t) + i(t) \cdot R$$

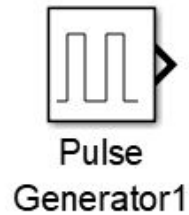
$$u(t) = e(t) + i(t) \cdot R$$

$$u(t) = e(t) + i(t) \cdot R$$

$$u(t) = e(t) + i(t) \cdot R$$







Source Block Parameters: Pulse Generator1

Pulse Generator

Output pulses:

```
if (t >= PhaseDelay) && Pulse is on
  Y(t) = Amplitude
else
  Y(t) = 0
end
```

Pulse type determines the computational technique used.

Time-based is recommended for use with a variable step solver, while Sample-based is recommended for use with a fixed step solver or within a discrete portion of a model using a variable step solver.

Parameters

Pulse type: Time based

Time (t): Use simulation time

Amplitude:
50

Period (secs):
5e-4

Pulse Width (% of period):
50

Phase delay (secs):
0

Interpret vector parameters as 1-D

OK Cancel Help Apply

№ вар.	1	2	3	4	5	6			
U_{in} , В	30	40	50	30	40	50			
f , Гц	350	300	250	250	300	350			
R_H , Ом	3.3	3.9	4.7	5.6	6.8	8.2			
№ вар.	7	8	9	10	11	12	13	14	15
U_{in} , В	60	70	80	60	70	80	90	100	110
f , Гц	350	300	250	250	300	350	350	300	250
R_H , Ом	3.3	3.9	4.7	5.6	6.8	8.2	5.6	6.8	8.2

U_{in} – входное напряжение регулятора; f – частота переключения ключа;
 R – сопротивление нагрузки

Для всех вариантов $D = 0,5$

$$L \geq \frac{R_H}{2f} (1 - D_{min}).$$

D_{min} – минимальное значение
коэффициента заполнения равно 0,1

$$2\pi \cdot f \cdot C_{out} R_H \gg 1.$$