

Report Generated by Test Manager

Title: TestResults
Author: CoDeAs team 2
Date: 13-Feb-2021 10:27:25

Test Environment

Platform: PCWIN64
MATLAB: (R2020b)

Summary

| Name | Outcome | Duration (Seconds) |
|--|---------|-----------------------|
| Results: 2021-Feb-13 10:20:25 | 11 ✓ | 43.853 |
|  controllerTest | 11 ✓ | 43.853 |
|  No Charge | ✓ | 16.397 |
|  Scenario 10 | ✓ | 16.397 |
|  Dead | ✓ | 6.309 |
|  Scenario9 | ✓ | 6.311 |
|  Combined | 4 ✓ | 8.867 |
|  Scenario 1 | ✓ | 1.637 |
|  Scenario2 | ✓ | 2.029 |
|  Scenario3 | ✓ | 2.746 |
|  Scenario4 | ✓ | 2.198 |
|  Regenerative Braking | 4 ✓ | 9.102 |
|  Scenario5 | ✓ | 2.559 |
|  Scenario6 | ✓ | 1.951 |
|  Scenario7 | ✓ | 2.235 |
|  Scenario8 | ✓ | 2.229 |
|  Electrical Drive | ✓ | 2.763 |
|  Scenario11 | ✓ | 2.763 |

Results: 2021-Feb-13 10:20:25

Result Type: Result Set
Parent: None
Start Time: 13-Feb-2021 10:20:40
End Time: 13-Feb-2021 10:21:23
Outcome: Total: 11, Passed: 11

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controllerTest

Test Result Information

Result Type: Test File Result
Parent: [Results: 2021-Feb-13 10:20:25](#)
Start Time: 13-Feb-2021 10:20:40
End Time: 13-Feb-2021 10:21:23
Outcome: Total: 11, Passed: 11

Test Suite Information

Name: controllerTest

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No Charge

Test Result Information

Result Type: Test Suite Result
Parent: [controllerTest](#)
Start Time: 13-Feb-2021 10:20:40
End Time: 13-Feb-2021 10:20:56
Outcome: Total: 1, Passed: 1

Test Suite Information

Name: No Charge

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Scenario 10

Test Result Information

Result Type: Test Case Result
Parent: [No Charge](#)
Start Time: 13-Feb-2021 10:20:40
End Time: 13-Feb-2021 10:20:56
Outcome: **Passed**
Description:

State = no charge

AccPedal = exponential growth and decay over time


BrakePedal = 0

SOC = between 0 and 0.1

Test Case Information

Name: Scenario 10
Type: Baseline Test

Logical and Temporal Assessments

| Name | Assessment |
|---|---|
|  Assessment1 | At any point of time, ((ICreq <= AccPedal) (ICreq <= 1)) must be true |

Input Data

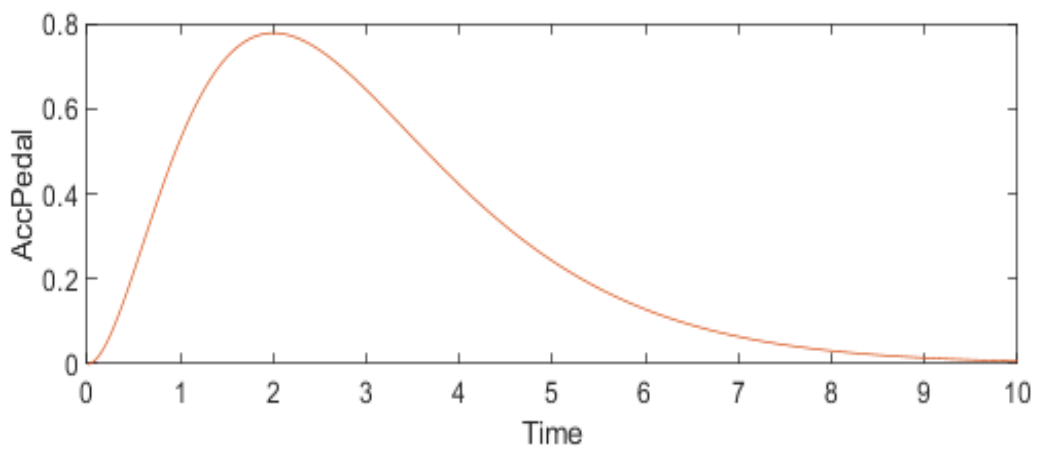
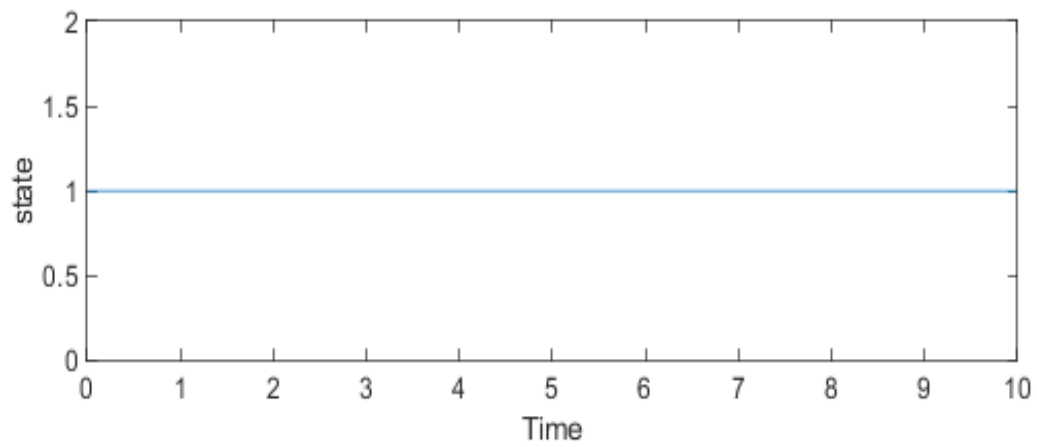
Input Information

External Input controllerInputs10.mat
Name:
External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-

controller\Test\ControllerTest\testScenarios\controllerInputs10.mat

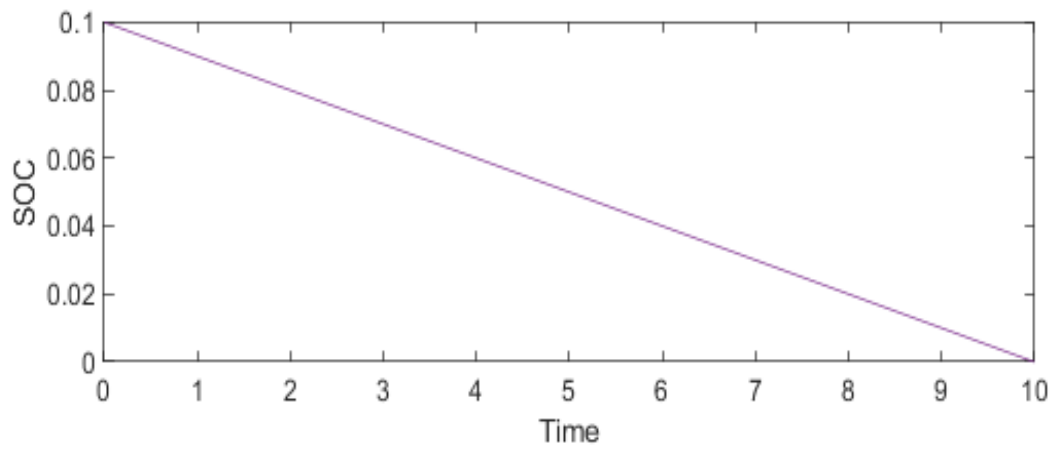
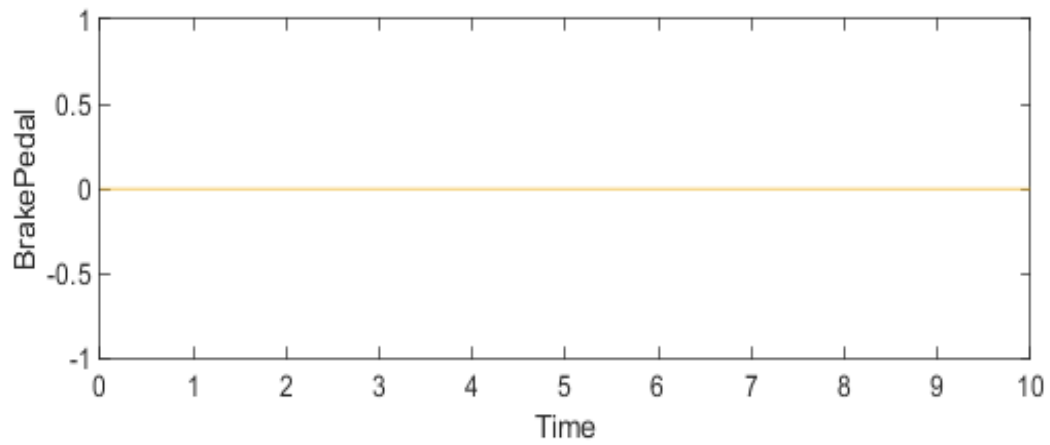
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

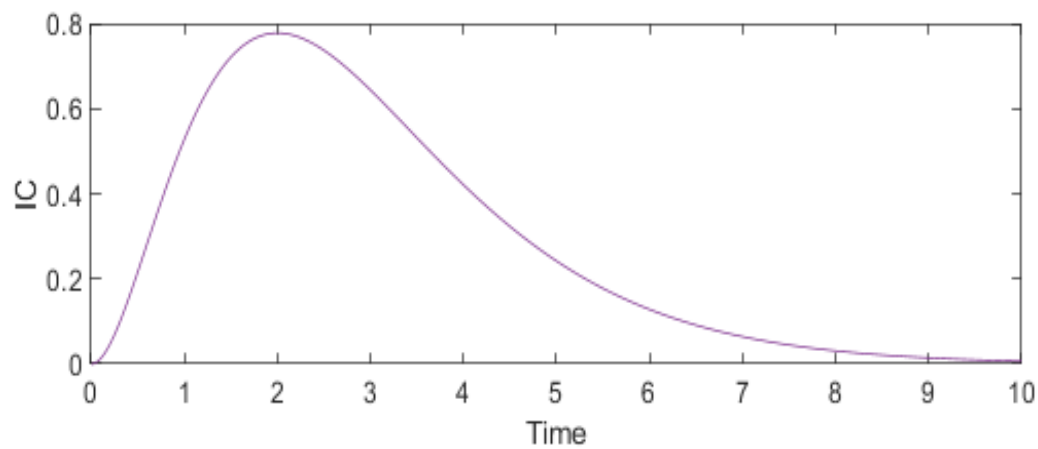
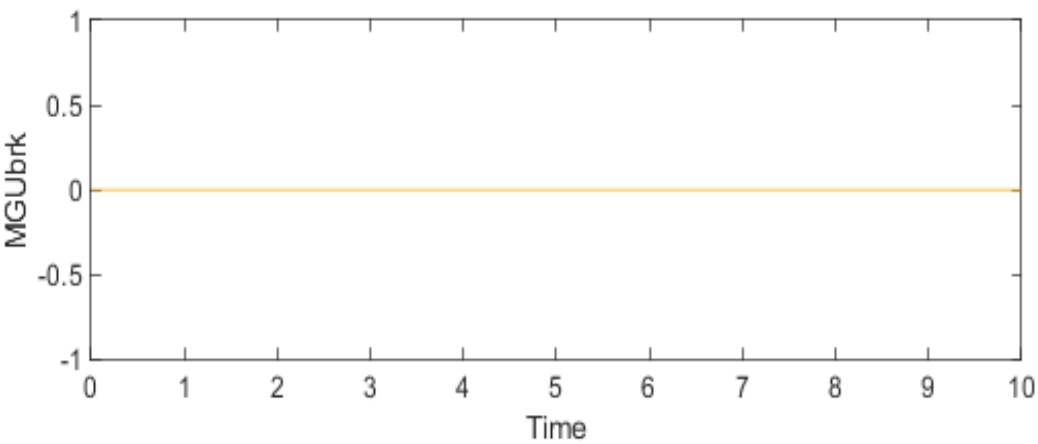
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs10.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs10.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 845622032 1545117639 3135930151 3593435725
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:20:40
 Simulation Stop Time: 2021-02-13 10:20:49
 Platform: PCWIN64

Simulation Output

| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |

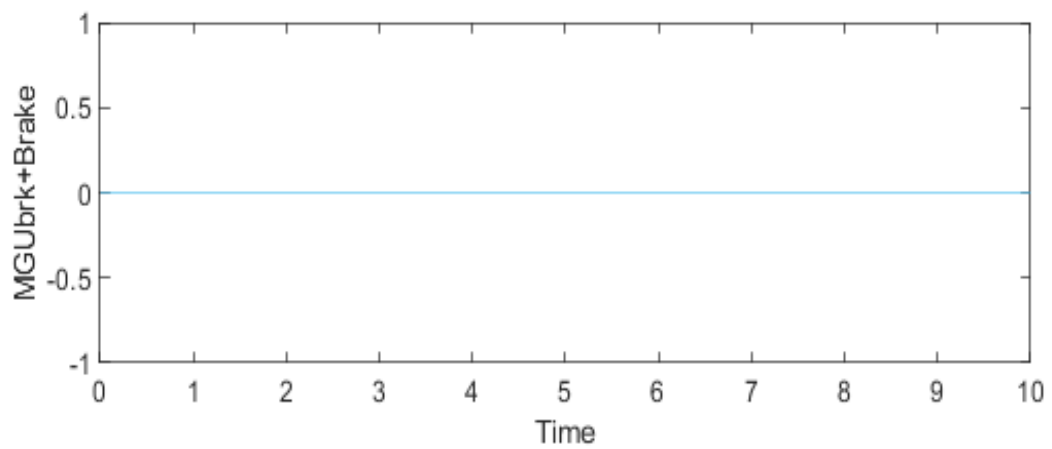
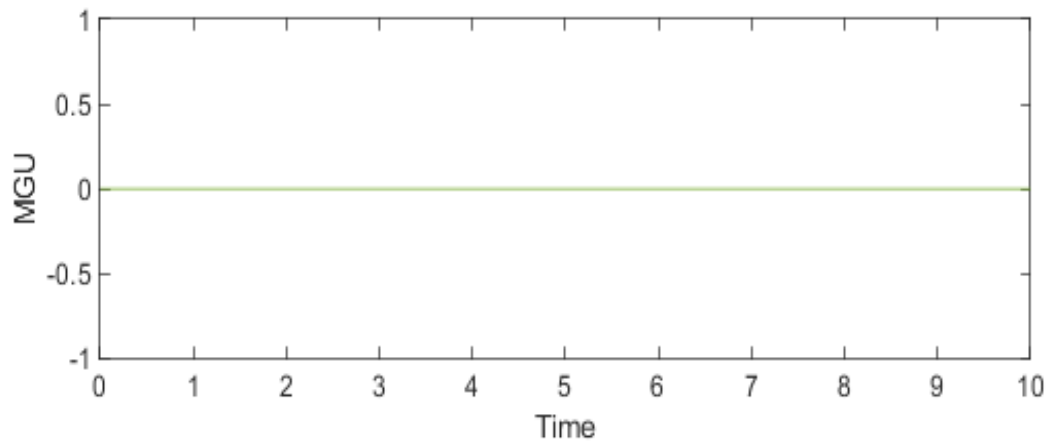
| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



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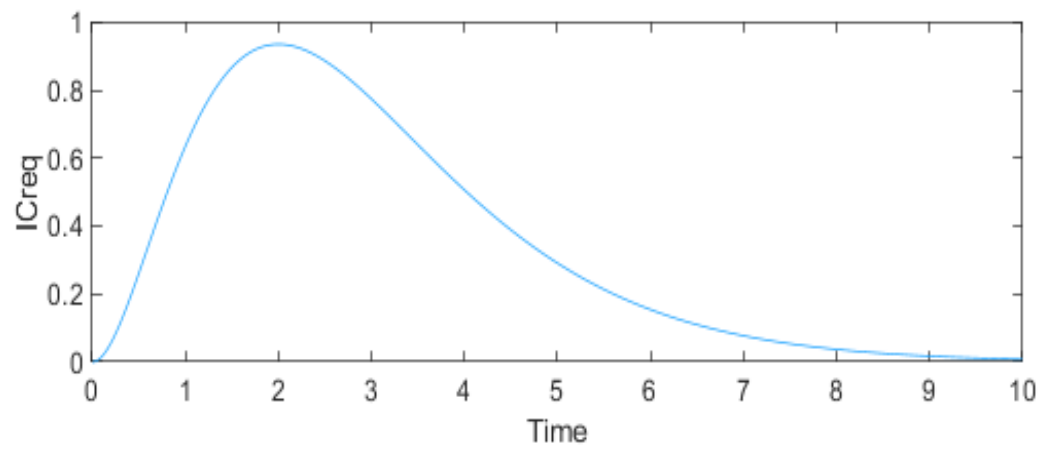
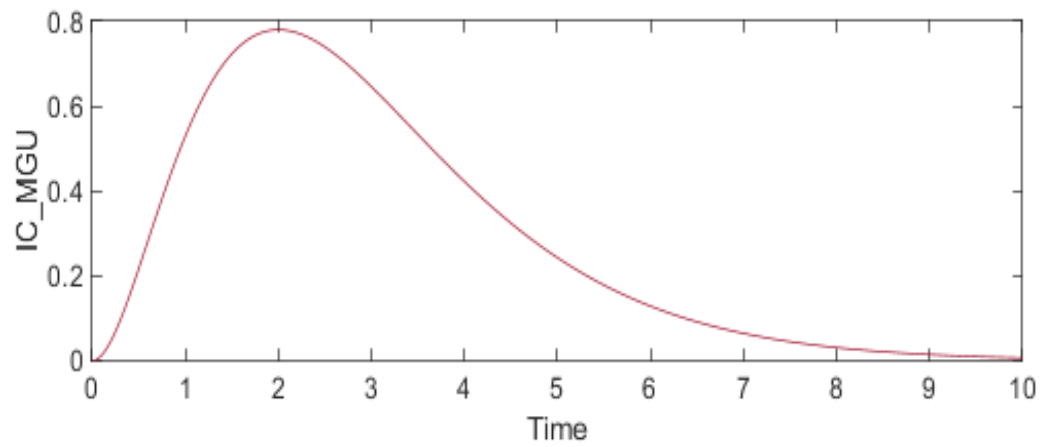
| Name | Data Type | Units | Sample Time | Interp | Sync |
|------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |

| | | | | | |
|--------------|--------|--|------------|--------|-------|
| MGUbrk+Brake | double | | Continuous | linear | union |
|--------------|--------|--|------------|--------|-------|



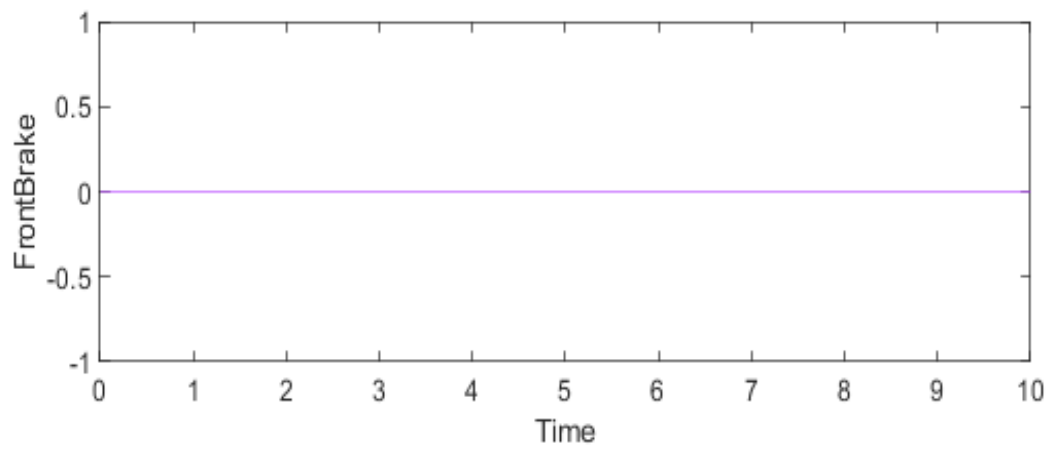
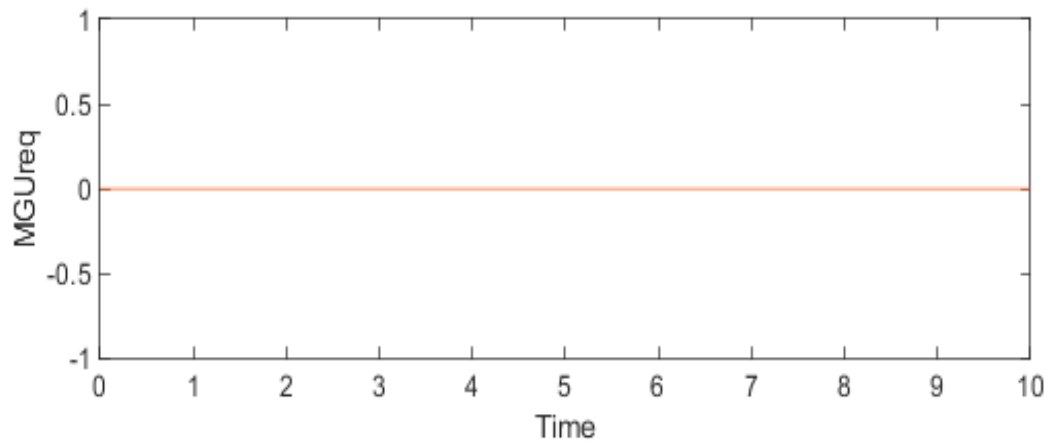
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



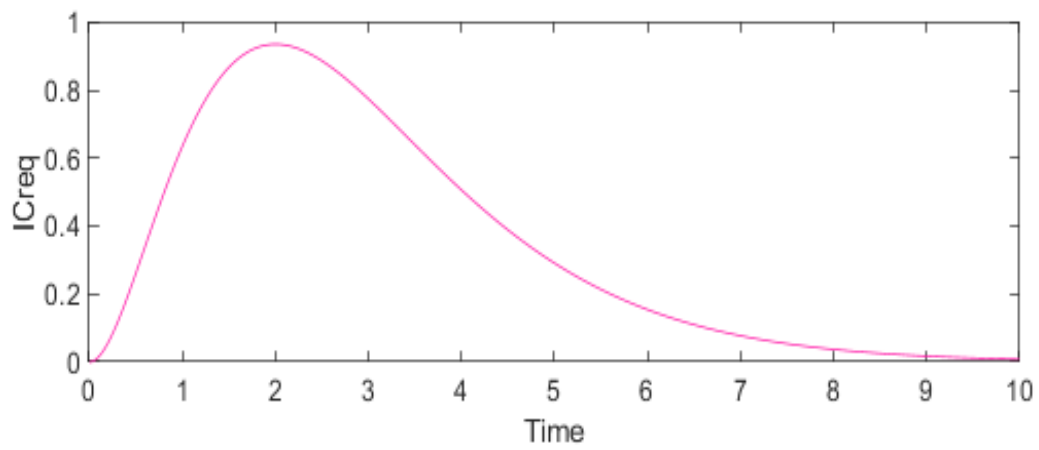
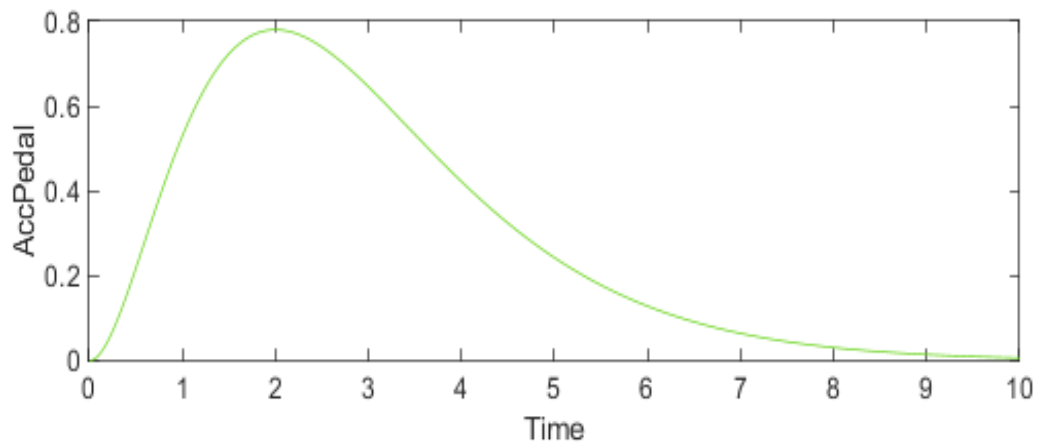
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| AccPedal | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Test Logs:

No baseline criteria evaluation performed as no baseline data is available for this test.

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Dead

Test Result Information

| | |
|--------------|--------------------------------|
| Result Type: | Test Suite Result |
| Parent: | controllerTest |
| Start Time: | 13-Feb-2021 10:20:56 |
| End Time: | 13-Feb-2021 10:21:02 |
| Outcome: | Total: 1, Passed: 1 |
| Description: | |

Dead case suite of tests

Test Suite Information

Name: Dead

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Scenario9

Test Result Information

| | |
|--------------|----------------------|
| Result Type: | Test Case Result |
| Parent: | Dead |
| Start Time: | 13-Feb-2021 10:20:56 |
| End Time: | 13-Feb-2021 10:21:02 |
| Outcome: | Passed |
| Description: | |

Scenario 9:

State = dead

AccPedal = exp growth and decay

BrakePedal = 0

SOC = from 0.1 to 0

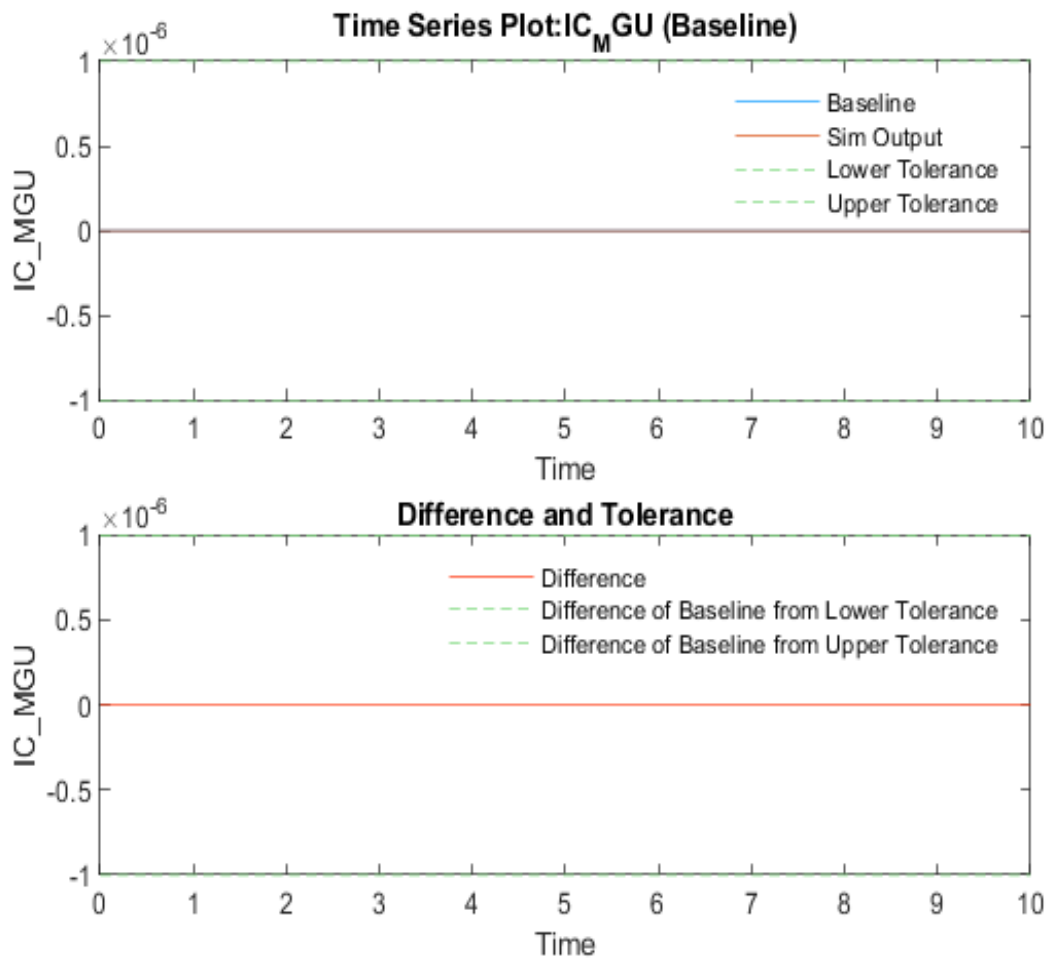
Test Case Information

Name: Scenario9
Type: Baseline Test
Baseline Name: Dead_baseline.mat
Baseline File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\Baselines\Dead_bas
eline.mat

Baseline Comparison

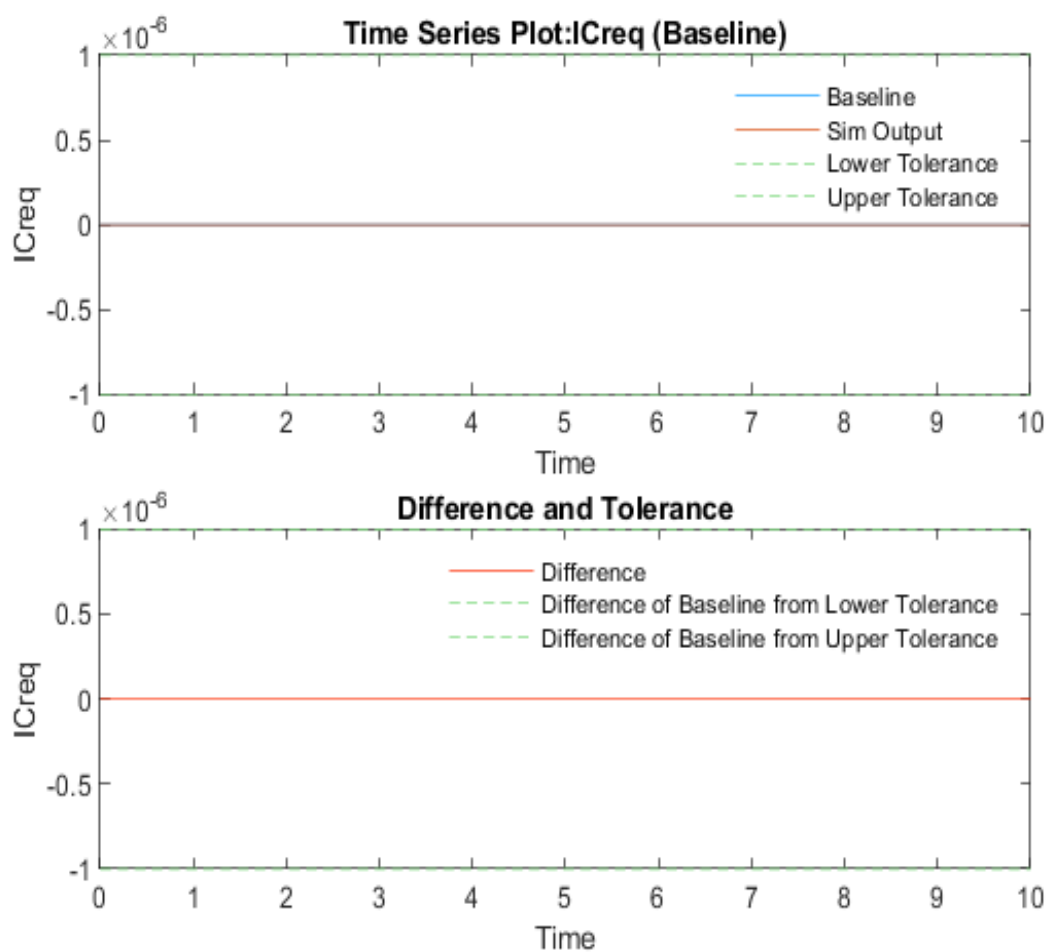
| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync | Link to Plot |
|----------|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|----------------------|
| ✓ IC_MGU | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union | Link |
| ✓ ICreq | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union | Link |
| ✓ MGUreq | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union | Link |
| ✓ IC | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union | Link |
| ✓ MGU | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union | Link |
| ✓ MGUreq | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync |
|----------|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|
| ✓ IC_MGU | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union |



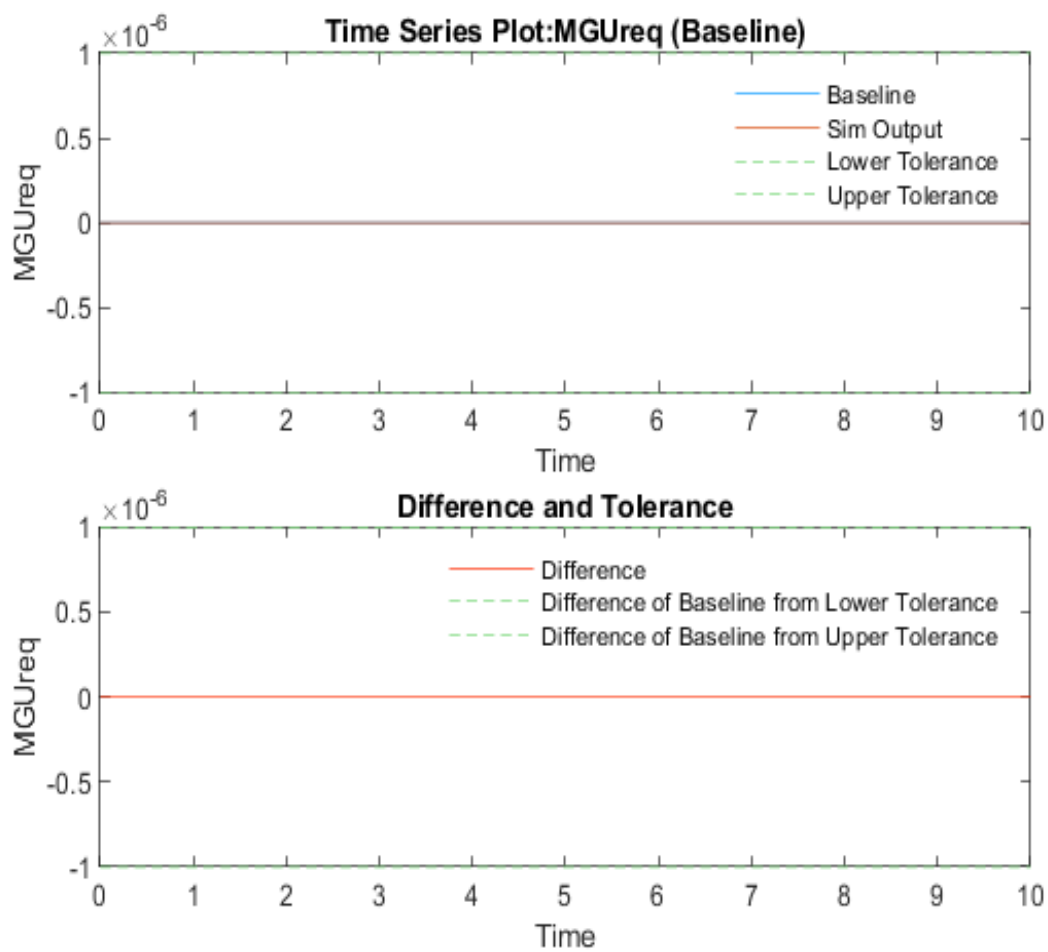
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| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync |
|---------|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|
| ✓ ICreq | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union |



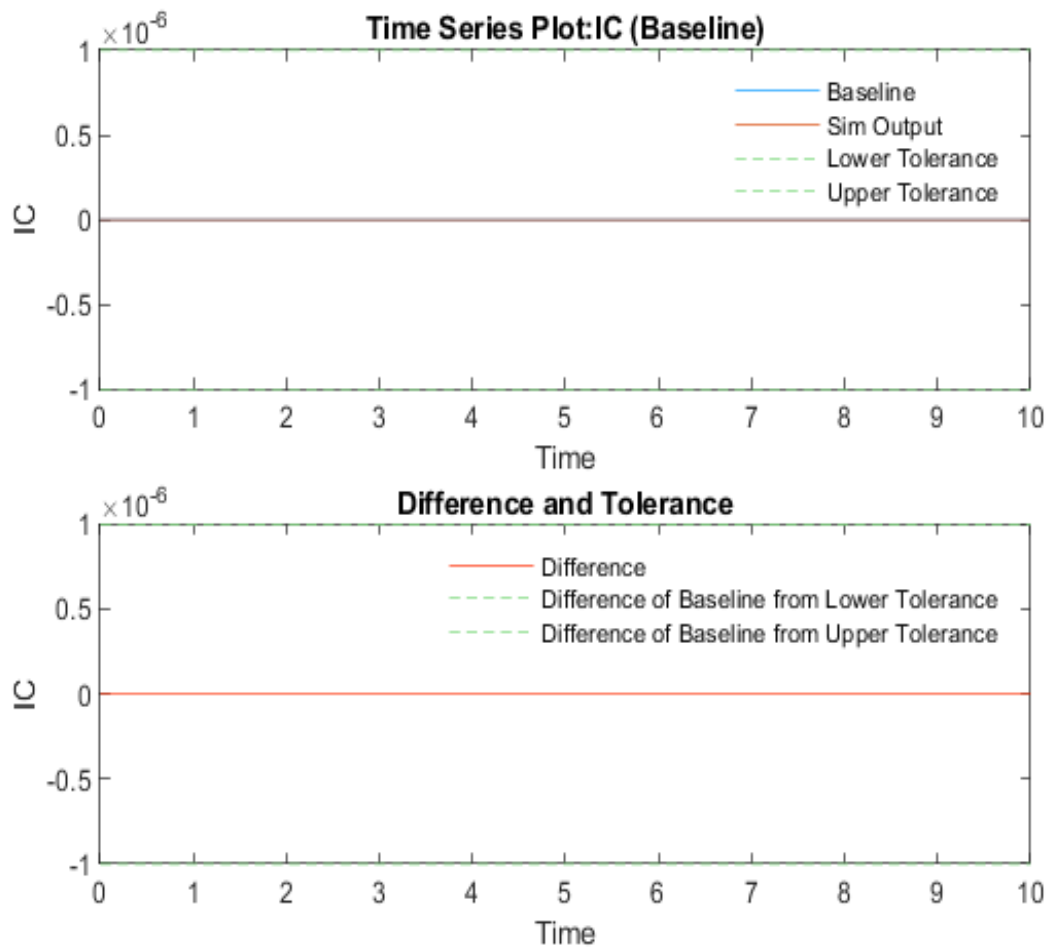
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| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync |
|----------|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|
| ✓ MGUreq | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union |



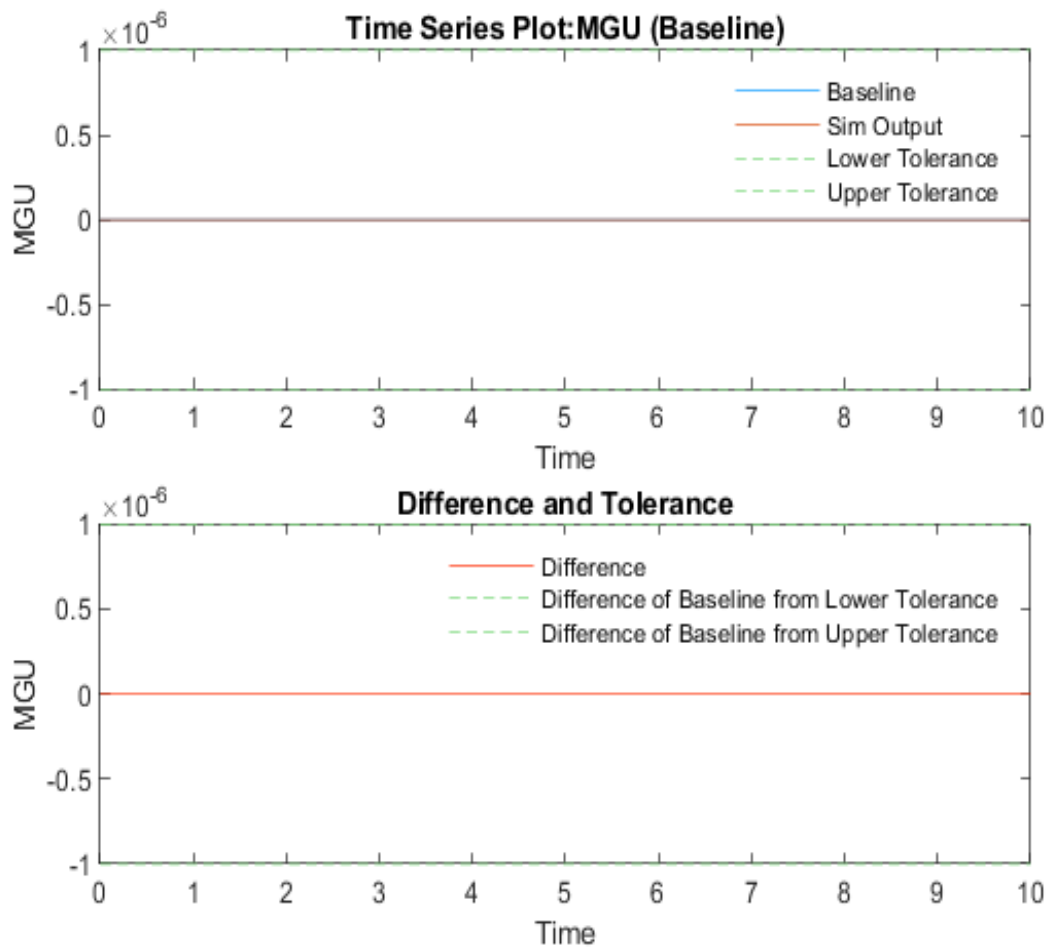
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| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync |
|------|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|
| ✓ IC | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union |



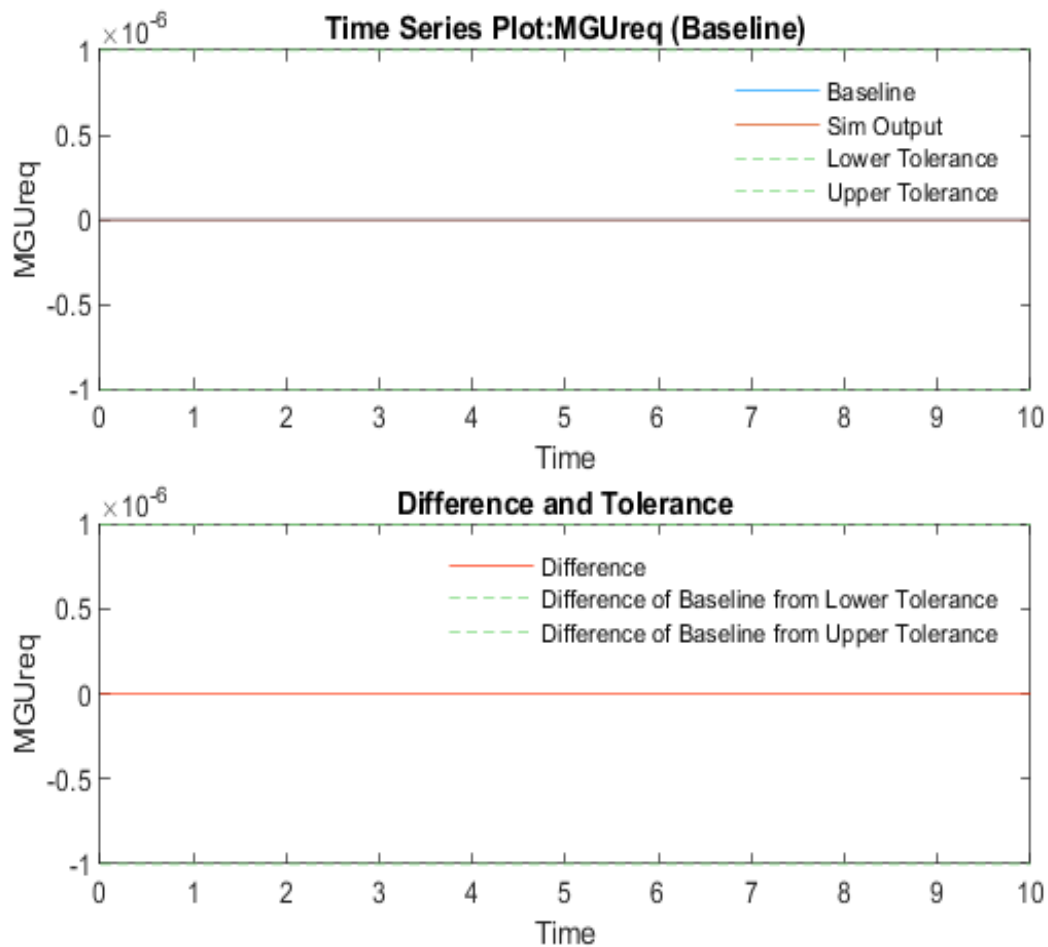
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| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync |
|-------|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|
| ✓ MGU | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union |



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| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync |
|----------|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|
| ✓ MGUreq | 1e-06 | 1e-06 | 0 | 0 | 0 | double | | Continuous | double | | Continuous | linear | union |



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Input Data

Input Information

External Input controllerInputs9.mat

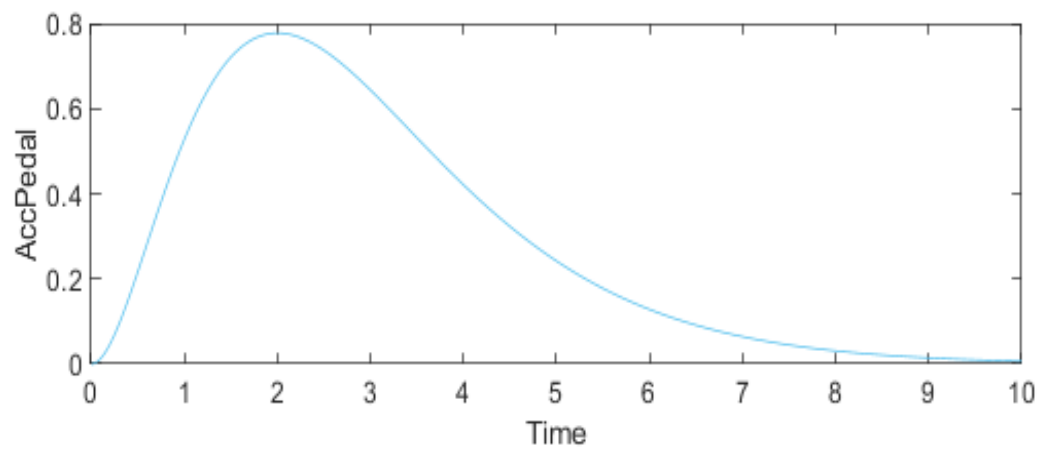
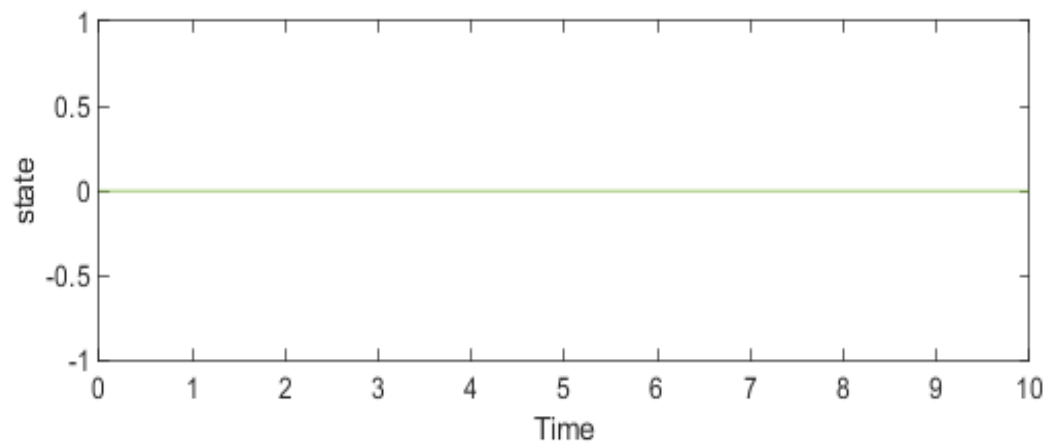
Name:

External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-

controller\Test\ControllerTest\testScenarios\controllerInputs9.mat

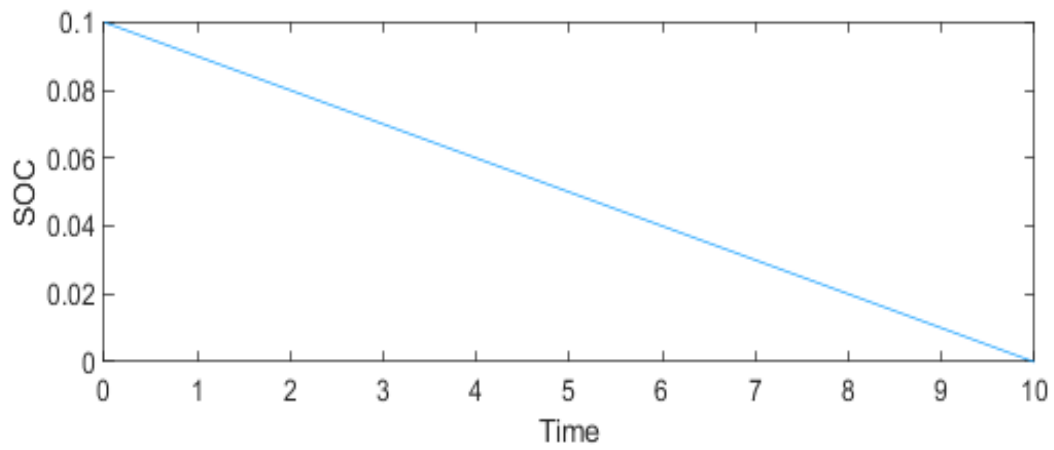
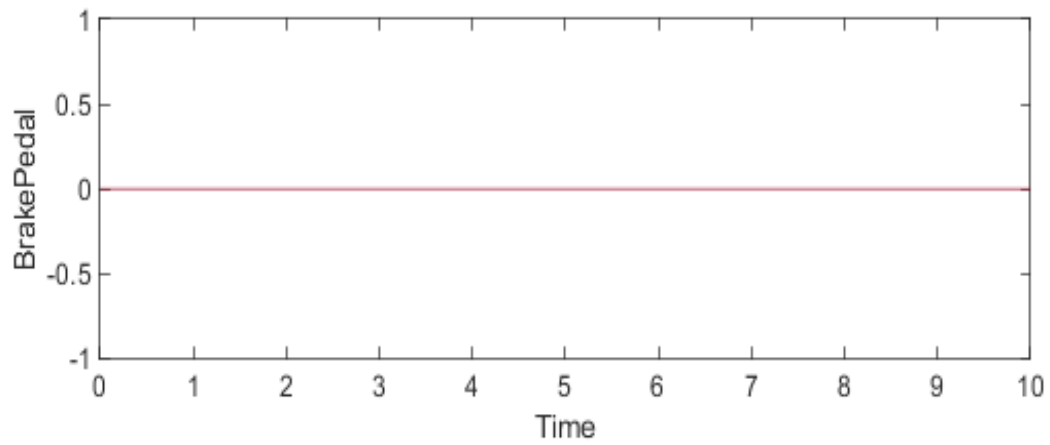
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

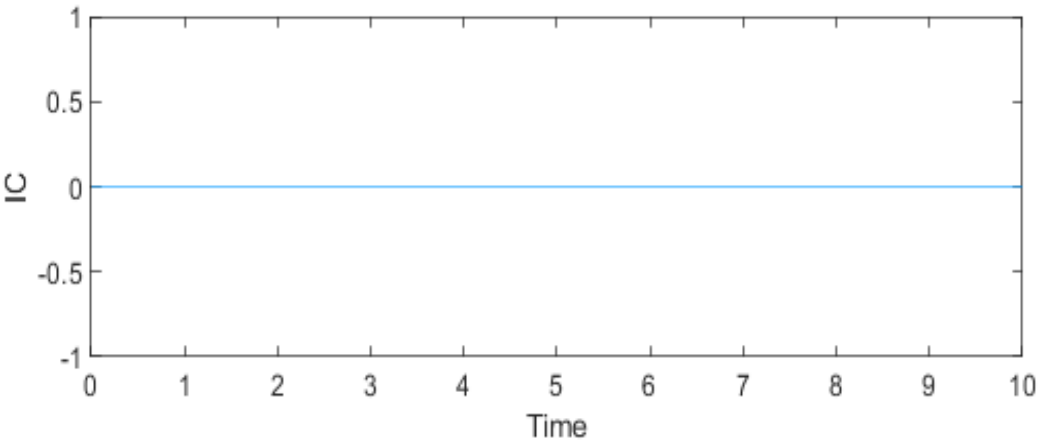
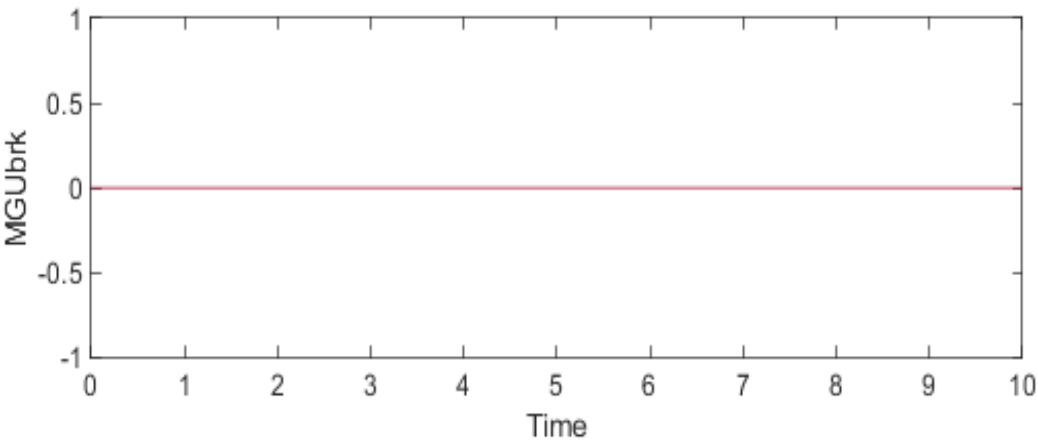
Configuration Set: Configuration
 External Input Name: controllerInputs9.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs9.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 1287163782 373983747 439209516 3247550277
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:20:56
 Simulation Stop Time: 2021-02-13 10:20:58
 Platform: PCWIN64

Simulation Output

| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |

| | | | | | | |
|--------|--------|--|------------|--------|-------|----------------------|
| MGUreq | double | | Continuous | linear | union | Link |
|--------|--------|--|------------|--------|-------|----------------------|

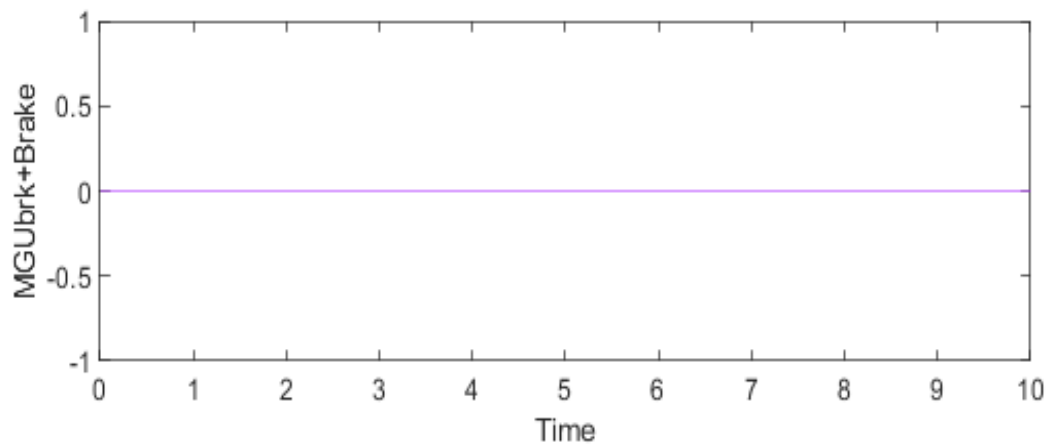
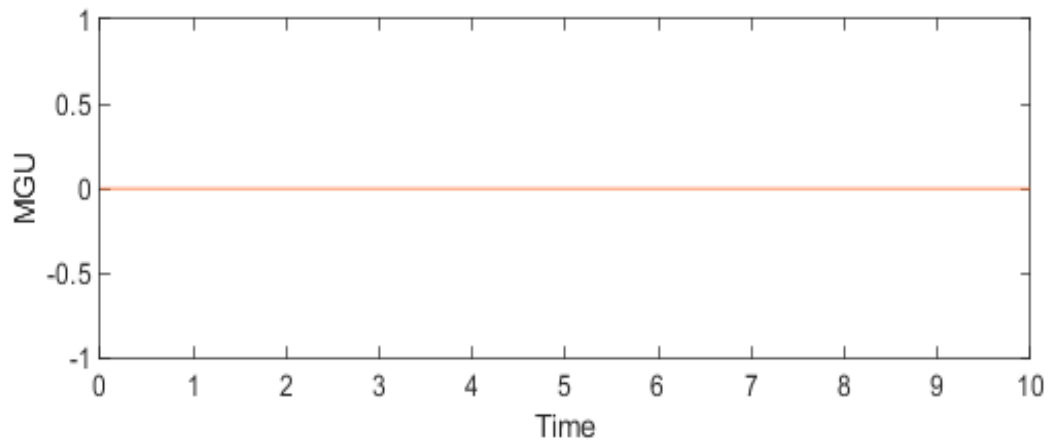
| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



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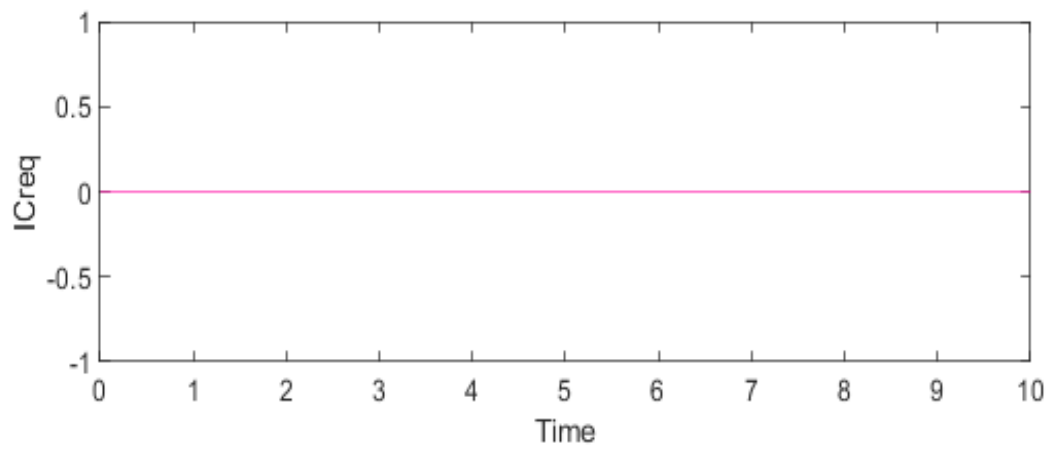
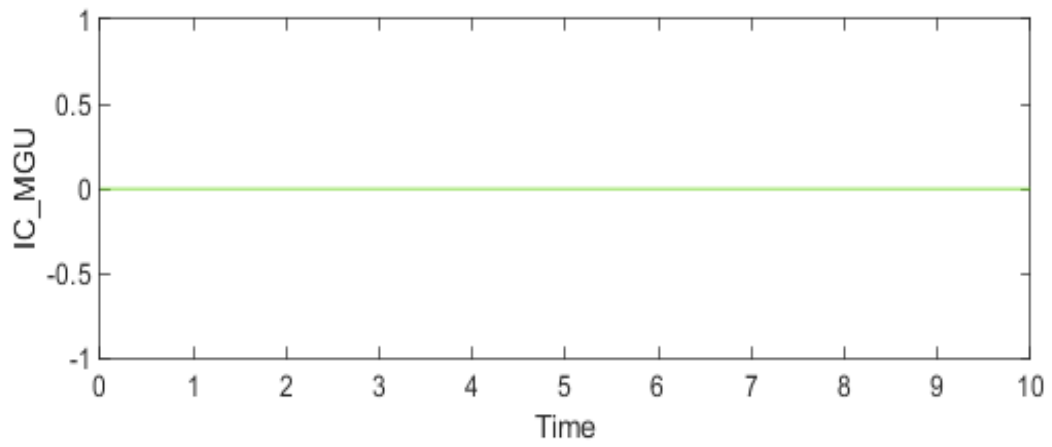
| Name | Data Type | Units | Sample Time | Interp | Sync |
|------|-----------|-------|-------------|--------|------|
|------|-----------|-------|-------------|--------|------|

| | | | | | |
|--------------|--------|--|------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



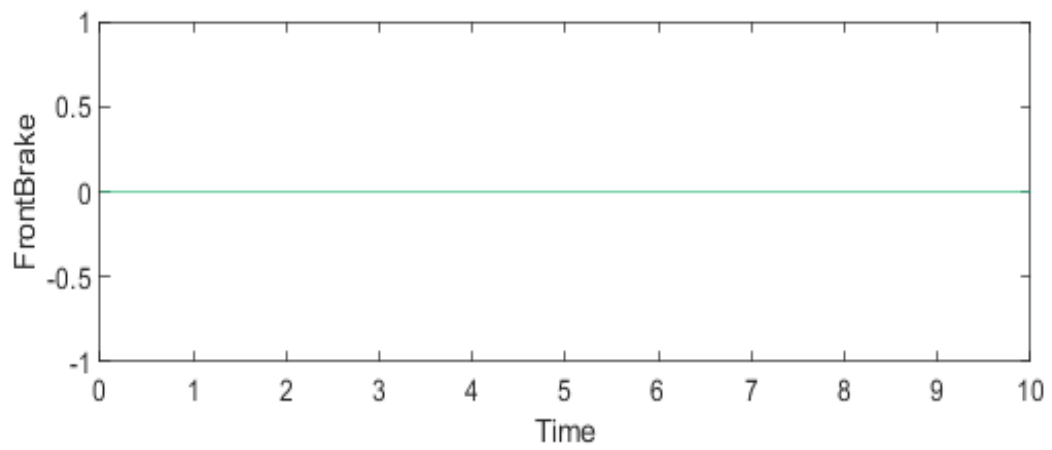
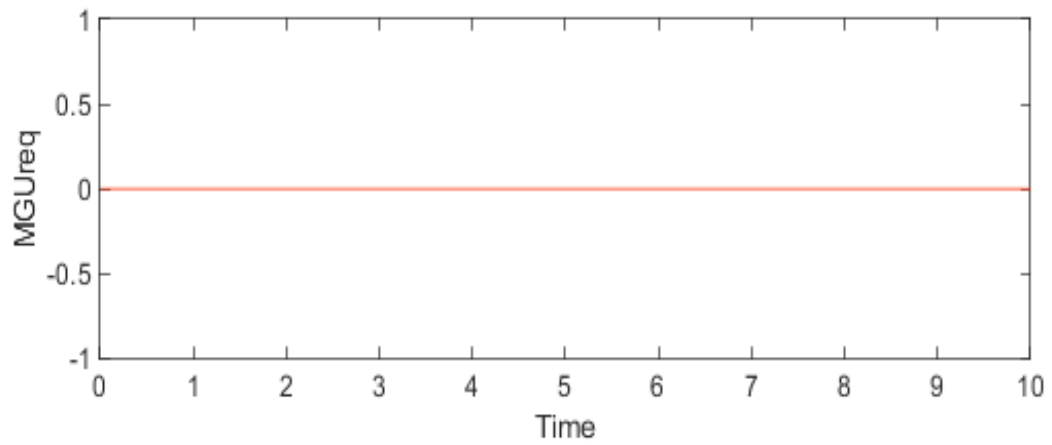
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



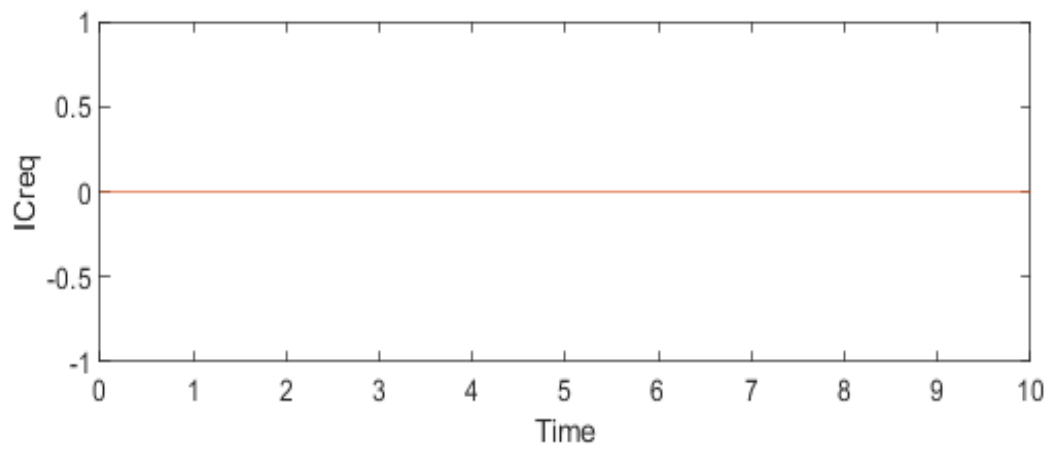
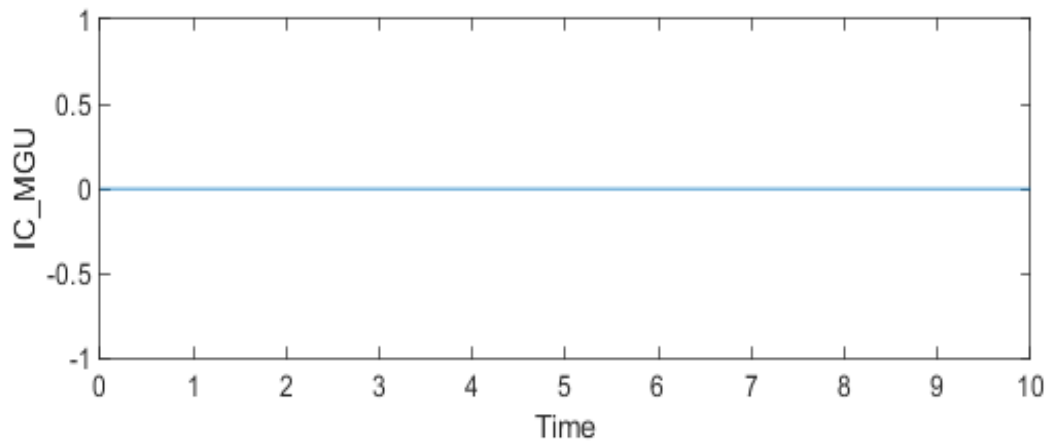
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



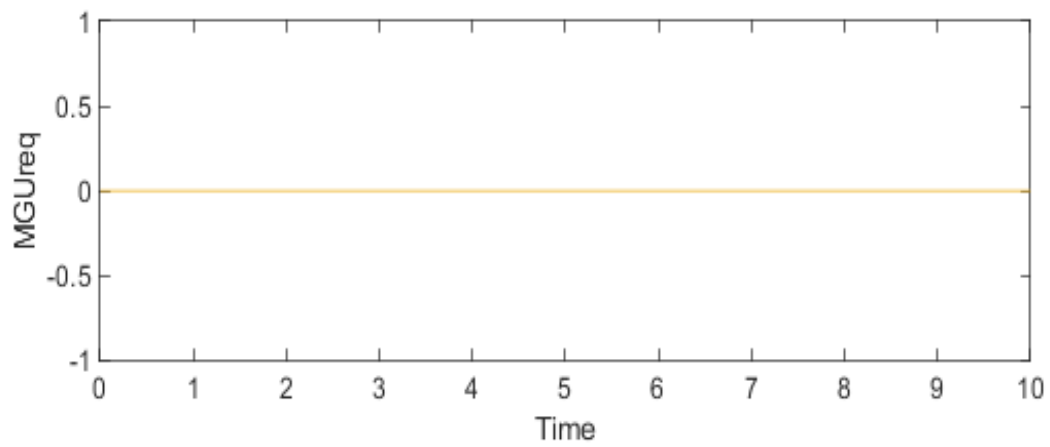
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Test Logs:

Some of the signals specified in baseline criteria were not found in the file located at 'C:\Users\mordi\Desktop\Materiale Università\Compliance\hybrid-controller\Hybrid-controller\Test\ControllerTest\Baselines\Dead_baseline.mat':

Name: MGUreq **Data Source:** data.getElement(7).Values.Data

Name: MGUbrk **Data Source:** data.getElement(8).Values.Data

Name: FrontBrake **Data Source:** data.getElement(9).Values.Data

Name: MGUbrk+Brake **Data Source:** data.getElement(10).Values.Data

You may have updated the baseline file with new set of signals. Try to add the baseline file again to the test to get the updated signal list.

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Combined

Test Result Information

| | |
|--------------|--------------------------------|
| Result Type: | Test Suite Result |
| Parent: | controllerTest |
| Start Time: | 13-Feb-2021 10:21:03 |
| End Time: | 13-Feb-2021 10:21:11 |
| Outcome: | Total: 4, Passed: 4 |
| Description: | |

Combined case suite of tests

Test Suite Information

Name: Combined

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Scenario 1

Test Result Information

Result Type: Test Case Result
 Parent: [Combined](#)
 Start Time: 13-Feb-2021 10:21:03
 End Time: 13-Feb-2021 10:21:04
 Outcome: **Passed**
 Description:

Scenario 1:

State = combined

AccPedal = pulse signal of amplitude 0.5, width 0.5 and period 10 seconds

BrakePedal = 0

SOC = 50%

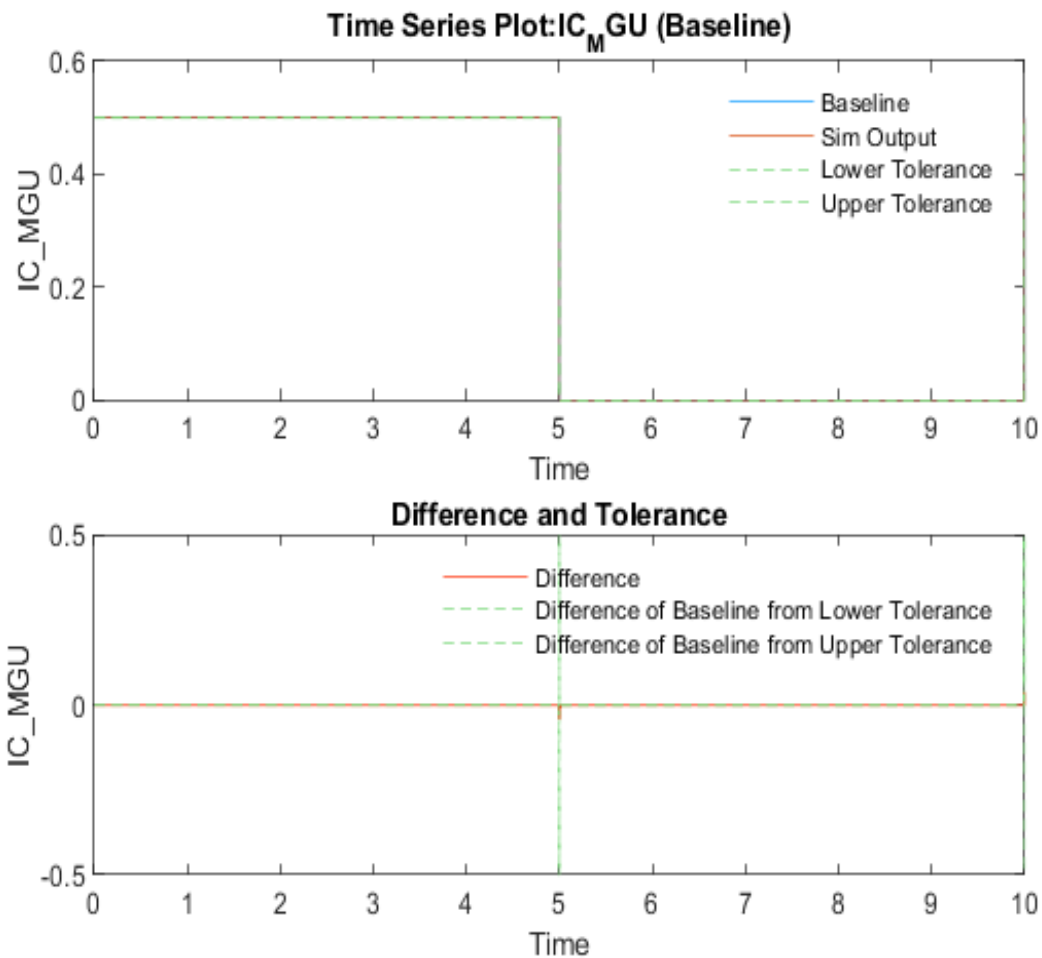
Test Case Information

Name: Scenario 1
 Type: Baseline Test
 Baseline Name: Combined_Baseline1.mat
 Baseline File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\Baselines\Combine
 d_Baseline1.mat

Baseline Comparison

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type | Unit | Sample Time | Data Type | Unit | Sample Time | Interp | Sync | Link to Plot |
|----------|---------|---------|----------|---------|----------|-----------|------|-------------|-----------|------|-------------|--------|-------|----------------------|
| ✓ IC_MGU | 1e-05 | 0.001 | 0.001 | 0.001 | 0.041 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type | Unit | Sample Time | Data Type | Unit | Sample Time | Interp | Sync |
|----------|---------|---------|----------|---------|----------|-----------|------|-------------|-----------|------|-------------|--------|-------|
| ✓ IC_MGU | 1e-05 | 0.001 | 0.001 | 0.001 | 0.041 | double | | Continuous | double | | Continuous | linear | union |



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Input Data

Input Information

External Input controllerInputs1.mat

Name:

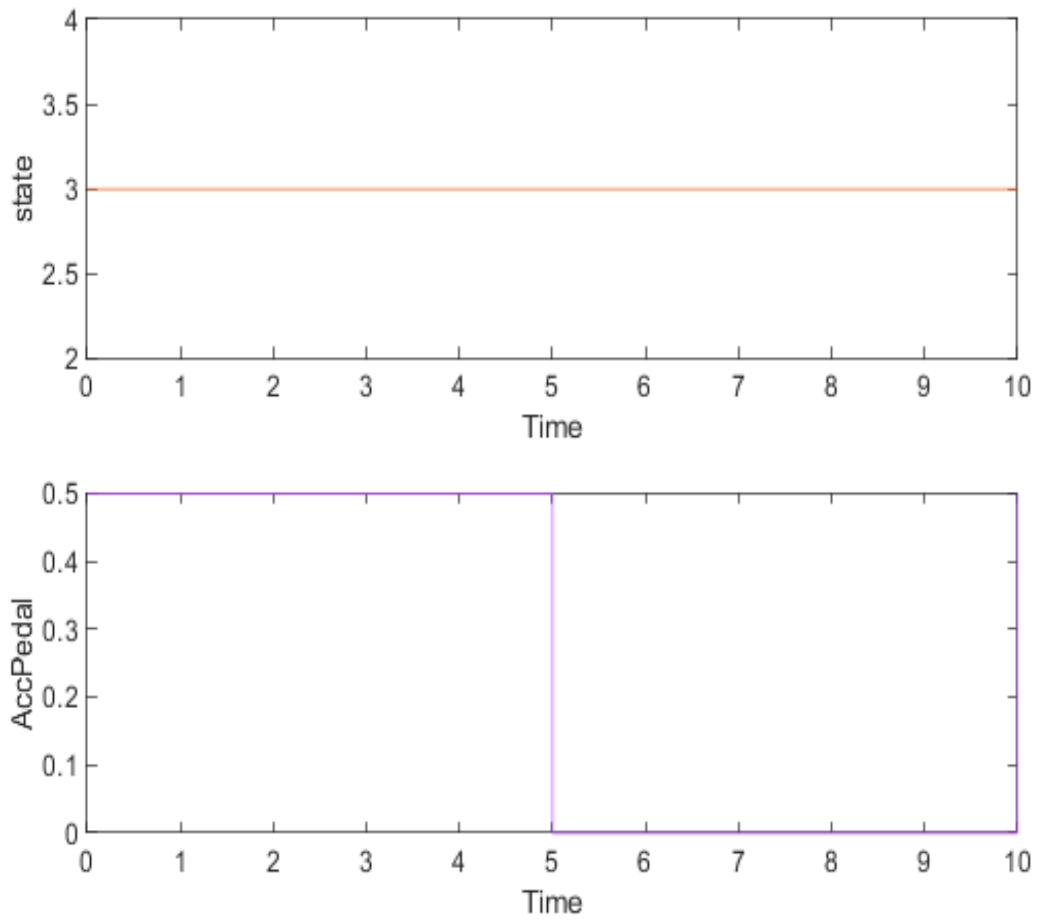
External Input File: C:\Users\mordi\Desktop\Materiale

Università\Compliance\hybrid-controller\Hybrid-

controller\Test\ControllerTest\testScenarios\controllerInputs1.mat

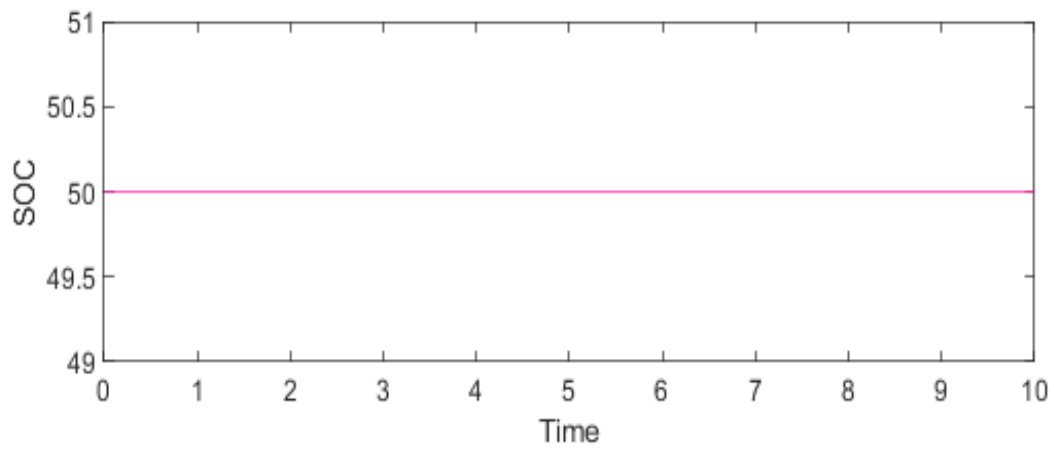
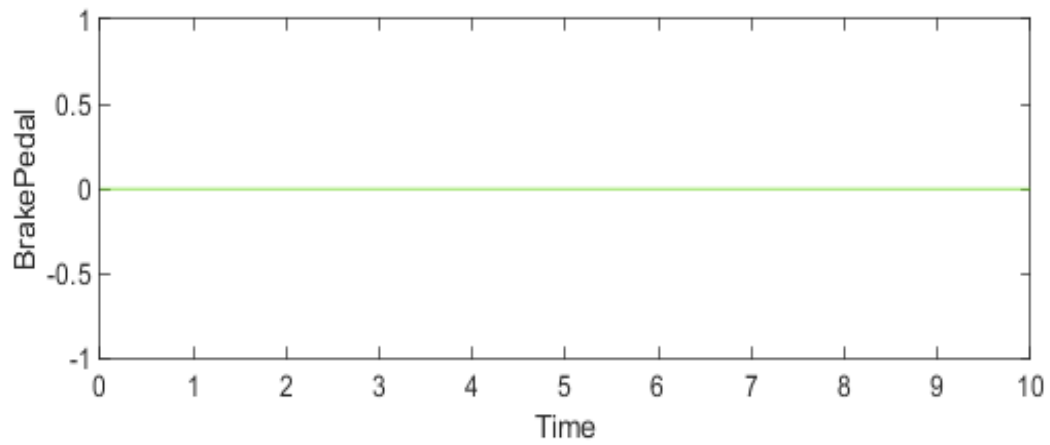
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

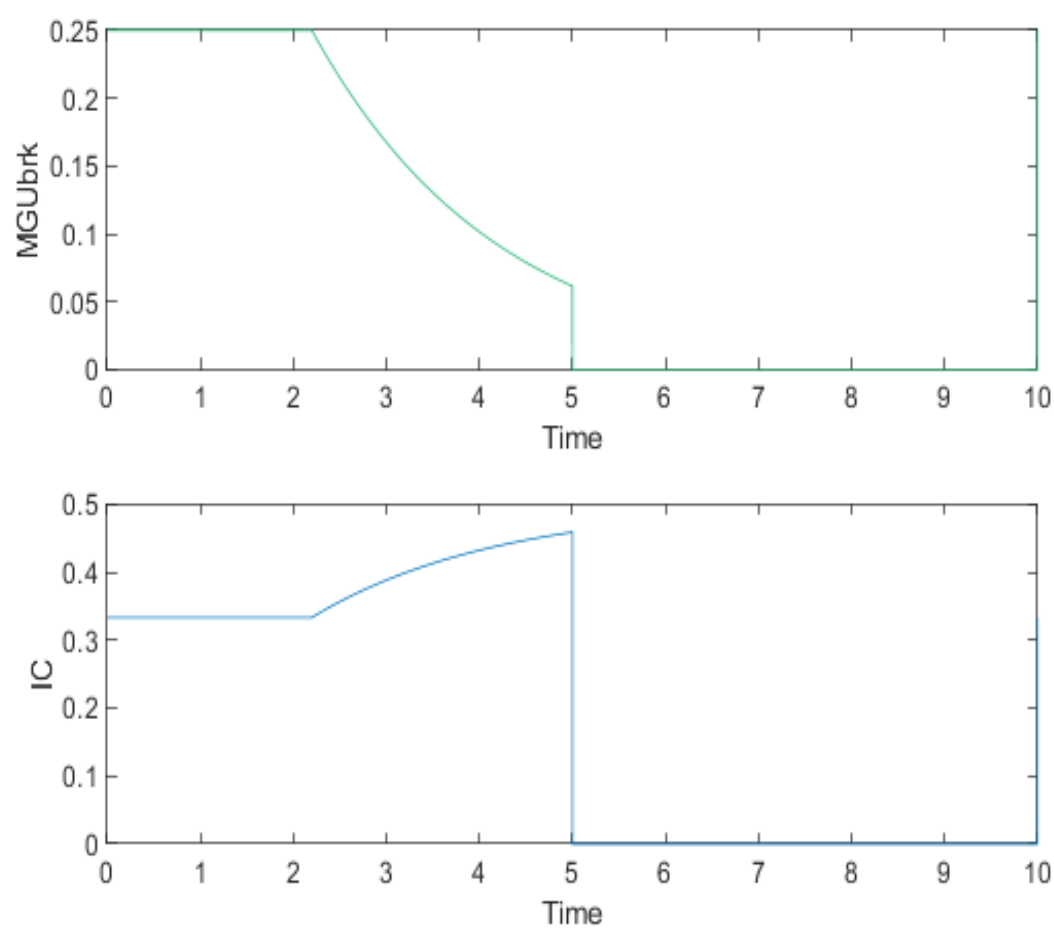
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs1.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs1.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 2693918124 1571846799 555791410 30976912
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:03
 Simulation Stop Time: 2021-02-13 10:21:03
 Platform: PCWIN64

Simulation Output

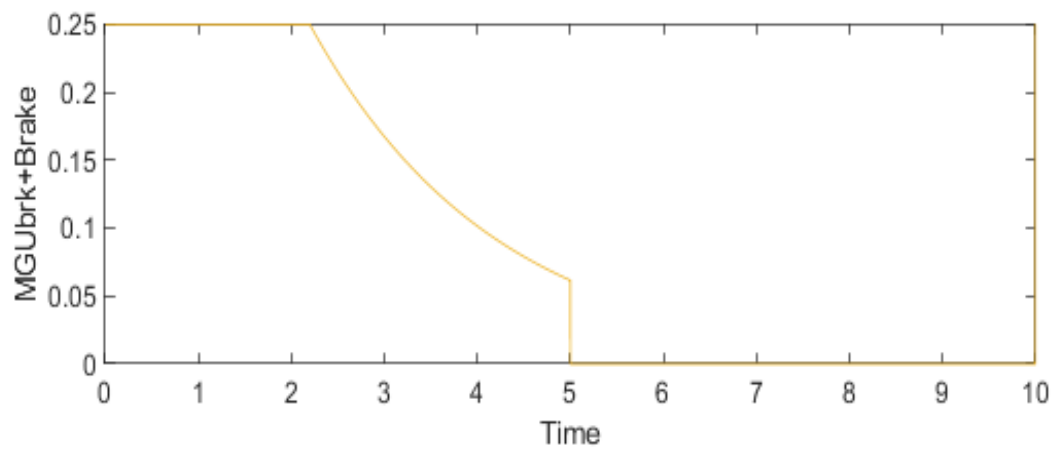
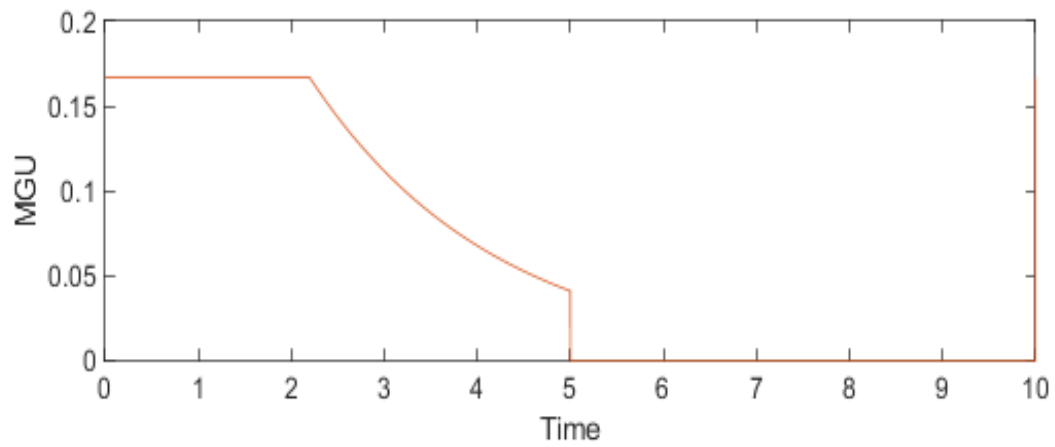
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



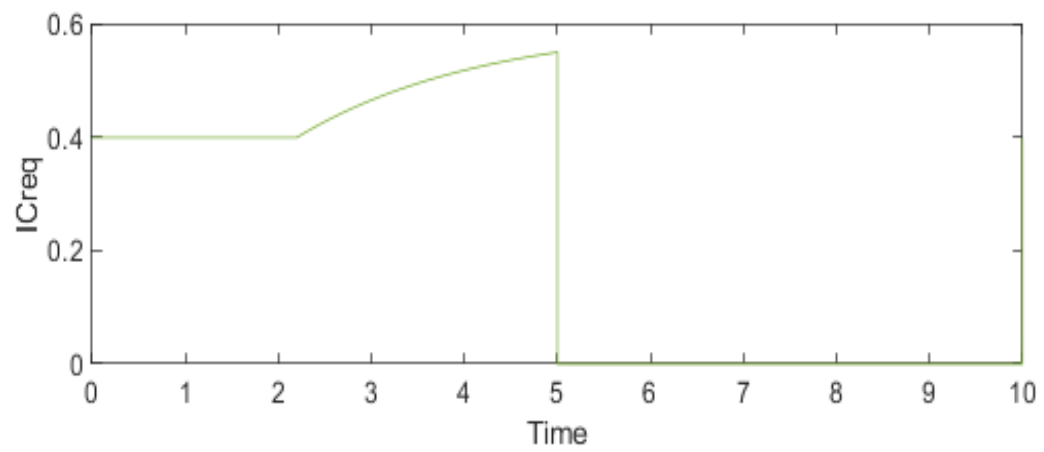
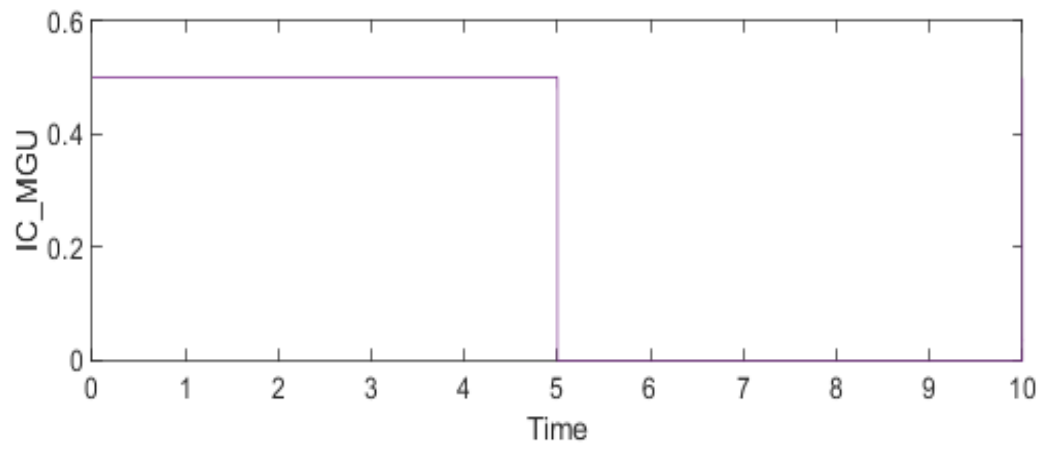
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



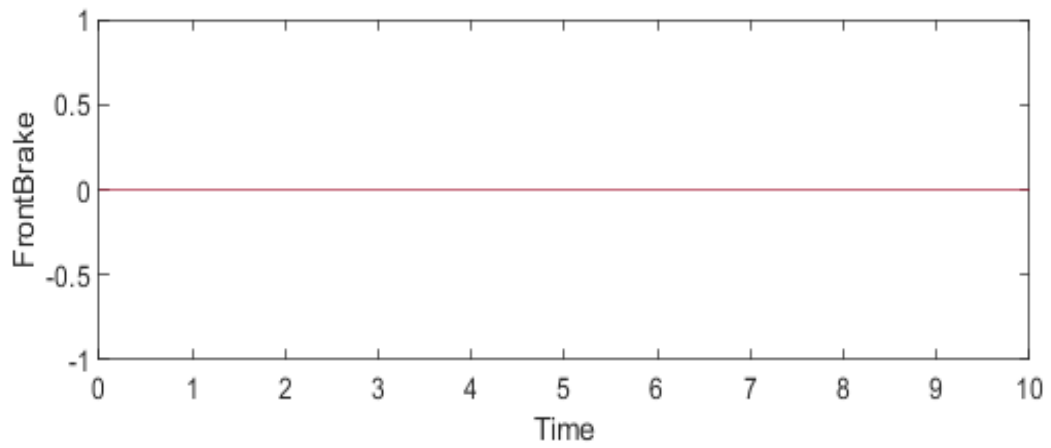
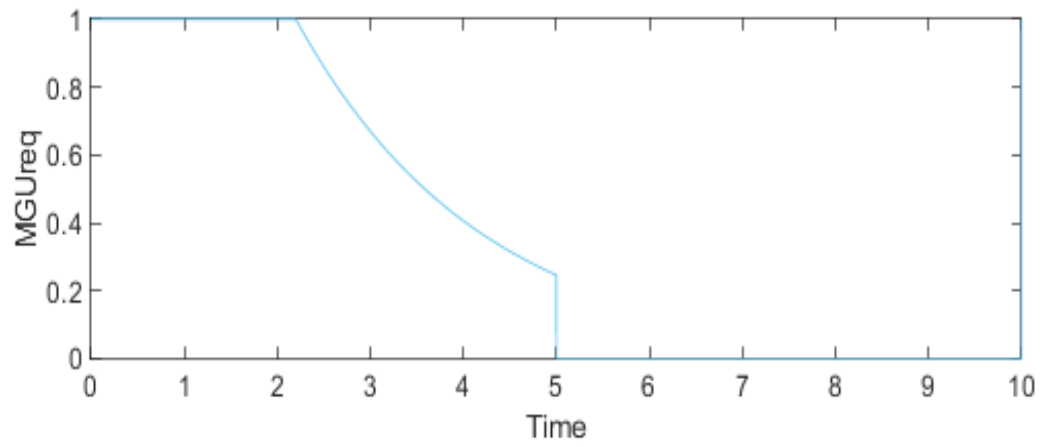
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



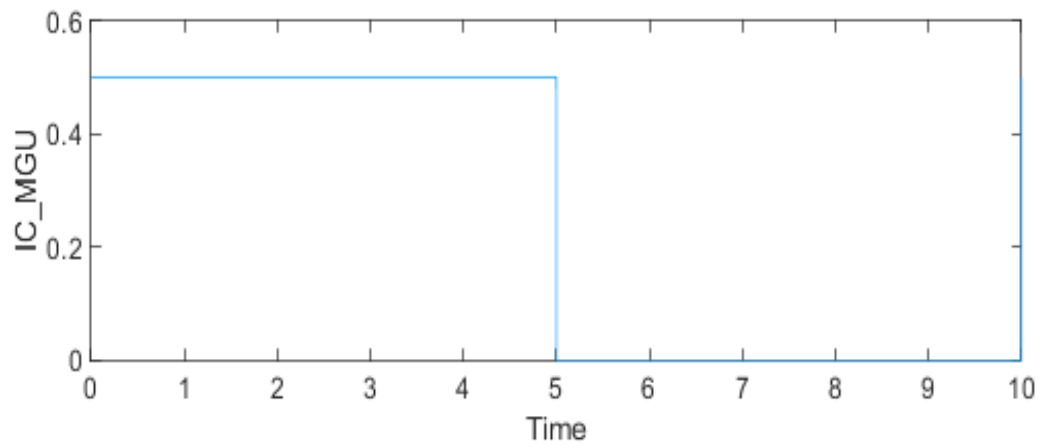
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Scenario2

Test Result Information

Result Type: Test Case Result
Parent: [Combined](#)
Start Time: 13-Feb-2021 10:21:04
End Time: 13-Feb-2021 10:21:06
Outcome: **Passed**
Description:

Scenario 2:

State = combined

AccPedal = pulse signal of amplitude 0.1, width 0.5 and period 10 seconds


BrakePedal = 0

SOC = 50%

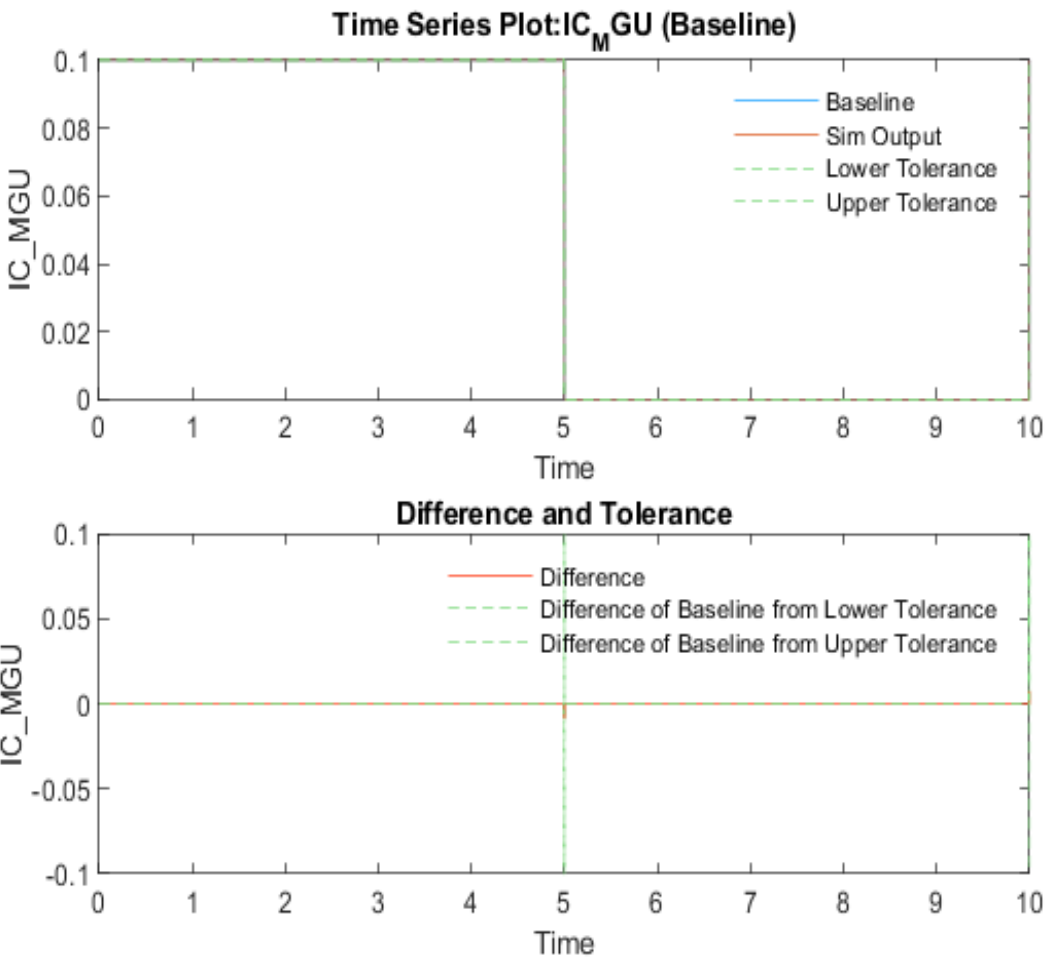
Test Case Information

Name: Scenario2
Type: Baseline Test
Baseline Name: Combined_Baseline2.mat
Baseline File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\Baselines\Combine
d_Baseline2.mat

Baseline Comparison

| Name | Abs Tol | Rel Tol | Lead Time | Lag Time | Max Diff | Data Type 1 | Unit 1 | Sample Time 1 | Data Type 2 | Unit 2 | Sample Time 2 | Interpolation | Sync | Link to Plot |
|--|---------|---------|-----------|----------|----------|-------------|--------|---------------|-------------|--------|---------------|---------------|-------|----------------------|
|  IC_MGU | 1e-05 | 0 | 0.001 | 0.001 | 0.0082 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel T ol | Lead T ol | Lag Tol | Max Diff | Data Typ e 1 | Units 1 | Sample Time 1 | Data Typ e 2 | Units 2 | Sample Time 2 | Interp | Sync |
|----------|---------|----------|-----------|---------|----------|--------------|---------|---------------|--------------|---------|---------------|--------|-------|
| ✓ IC_MGU | 1e-05 | 0 | 0.001 | 0.001 | 0.0082 | double | | Continuous | double | | Continuous | linear | union |



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Input Data
Input Information

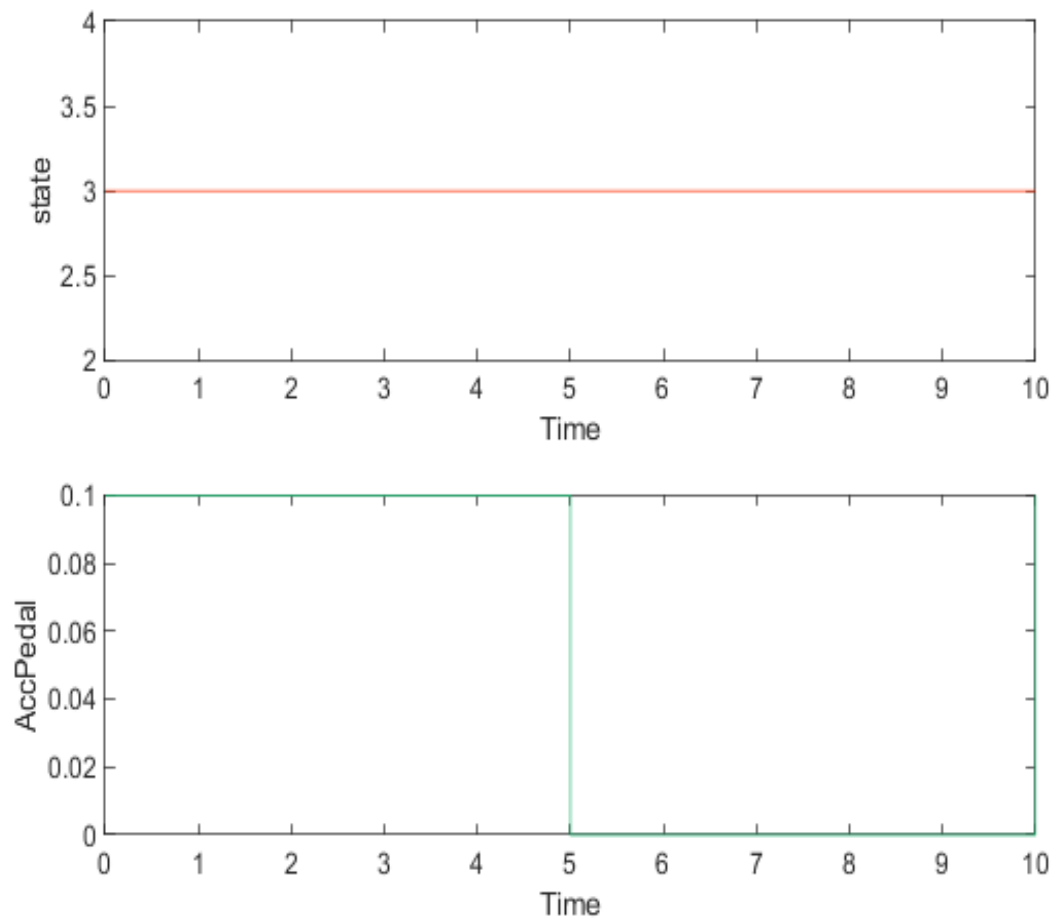
External Input controllerInputs2.mat

Name:

External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\testScenarios\contr
ollerInputs2.mat

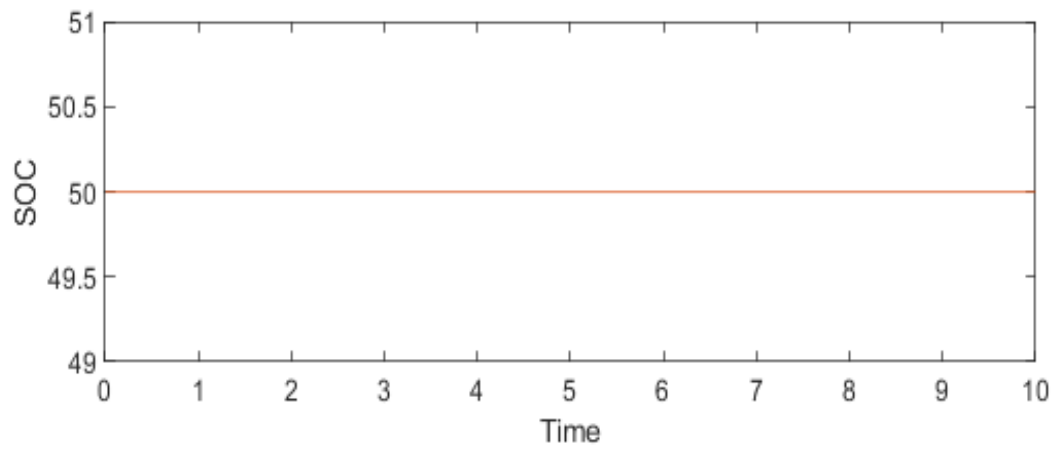
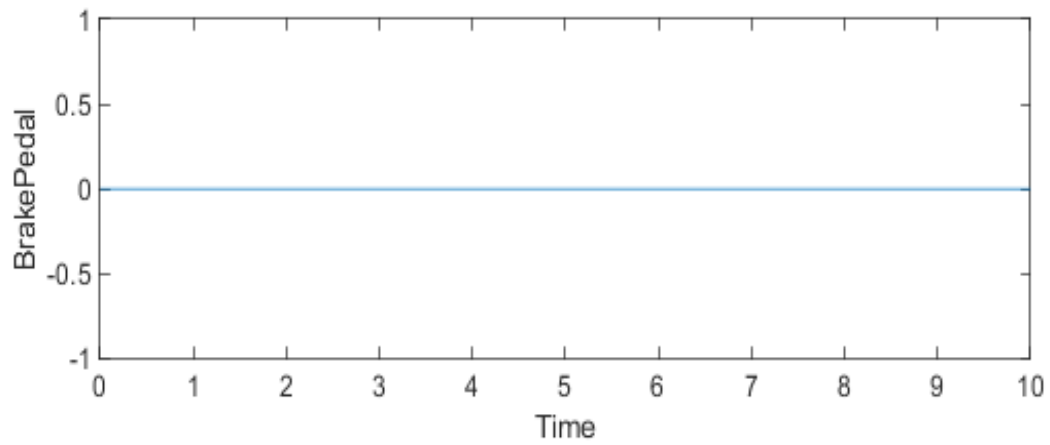
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

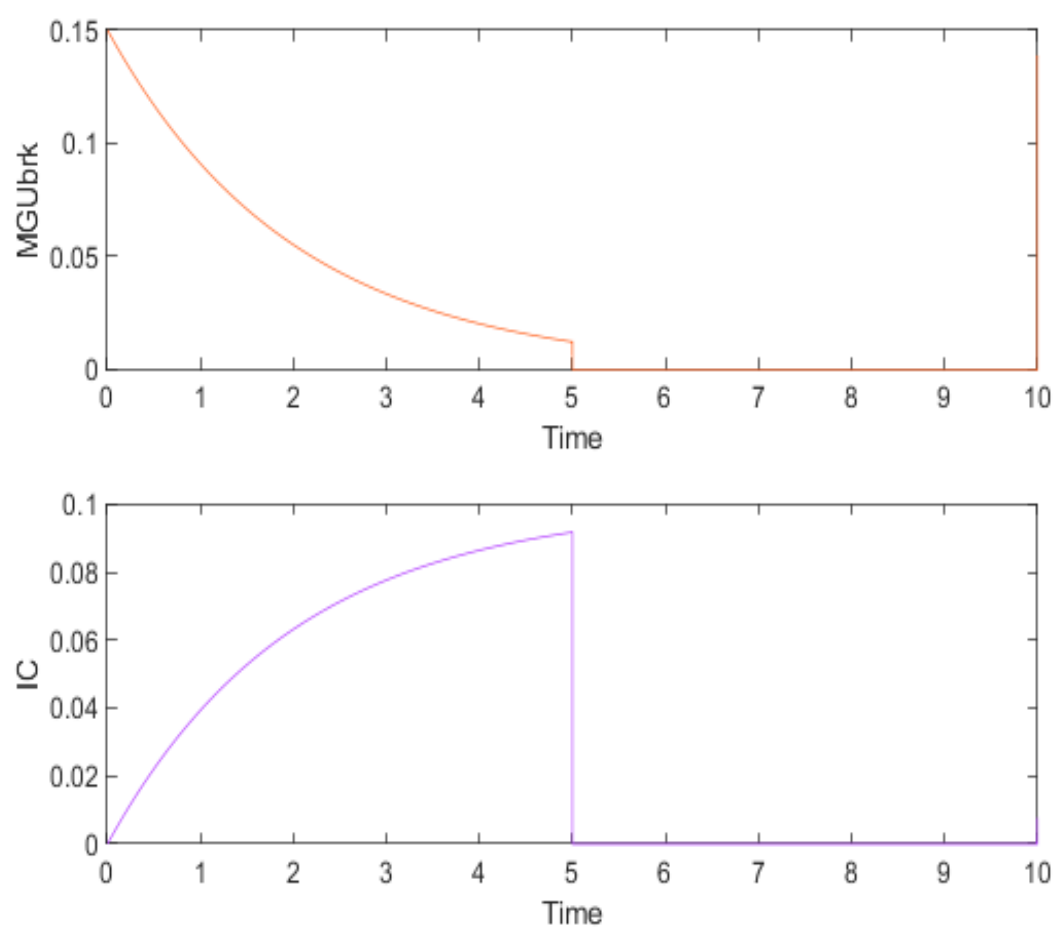
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs2.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs2.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 2693918124 1571846799 555791410 30976912
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:04
 Simulation Stop Time: 2021-02-13 10:21:05
 Platform: PCWIN64

Simulation Output

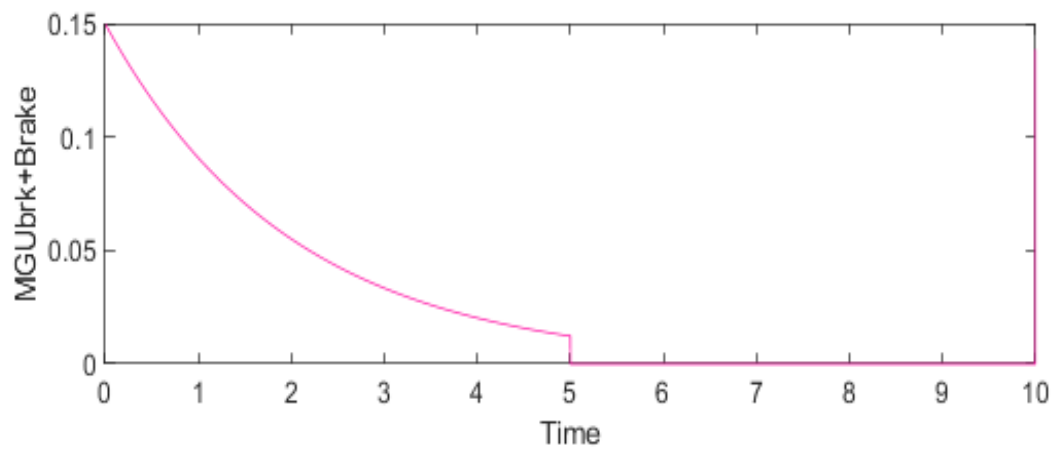
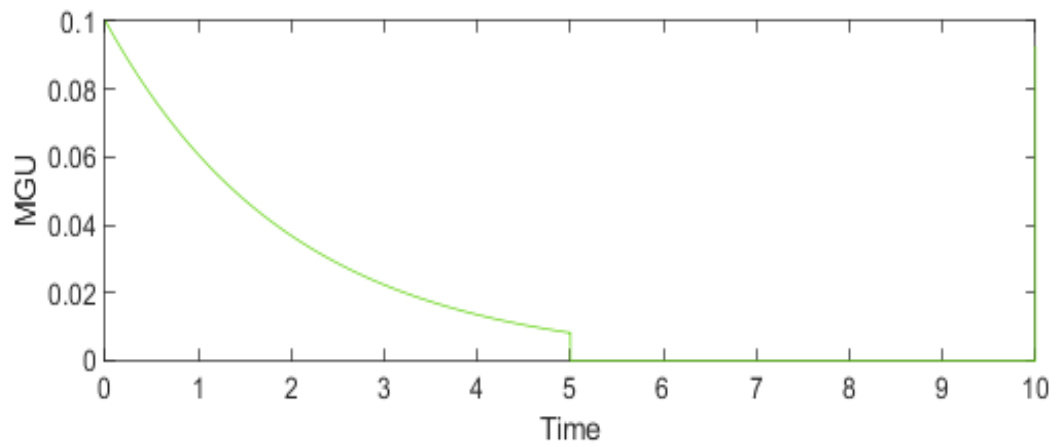
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



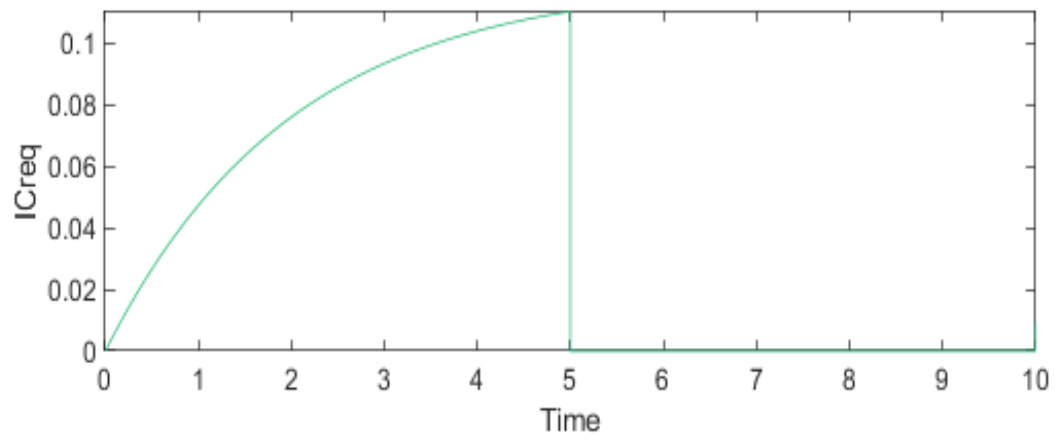
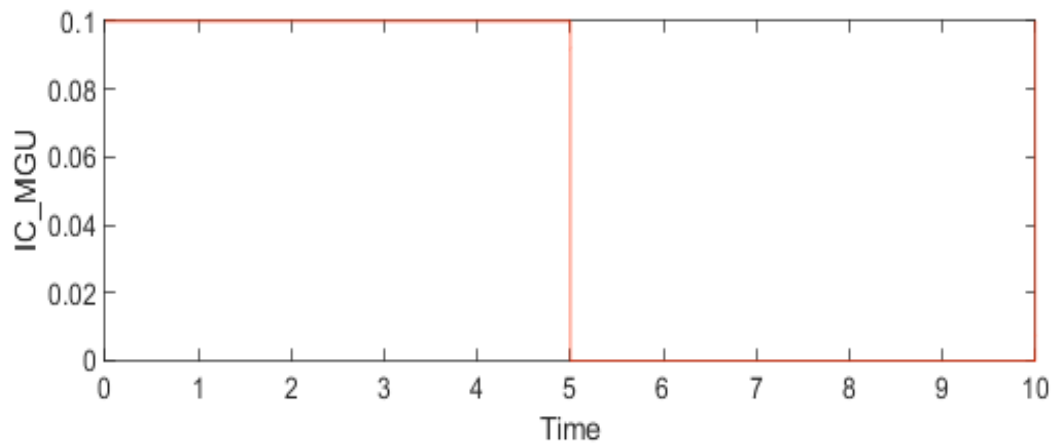
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



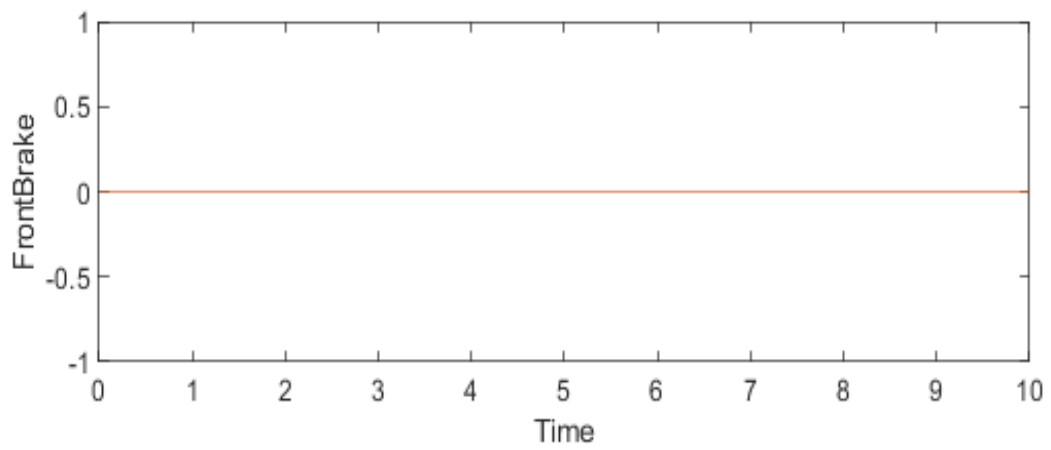
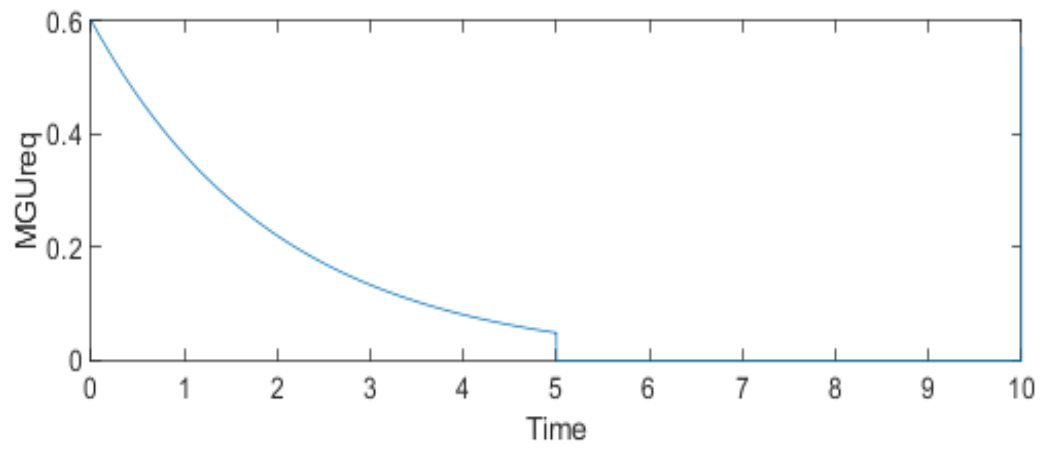
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



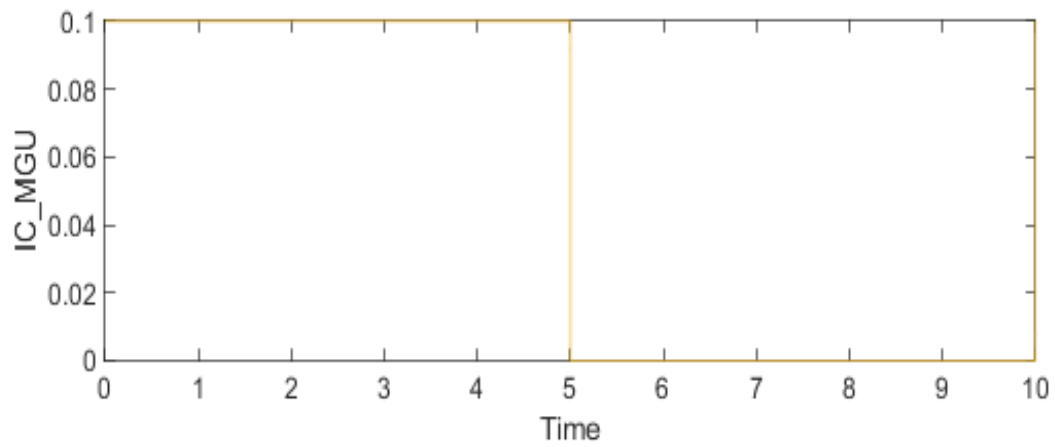
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Scenario3

Test Result Information

Result Type: Test Case Result
Parent: [Combined](#)
Start Time: 13-Feb-2021 10:21:06
End Time: 13-Feb-2021 10:21:09
Outcome: **Passed**
Description:

Scenario 3:

State = combined

AccPedal = pulse signal of amplitude 0.9, width 0.5 and period 10 seconds


BrakePedal = 0

SOC = 50%

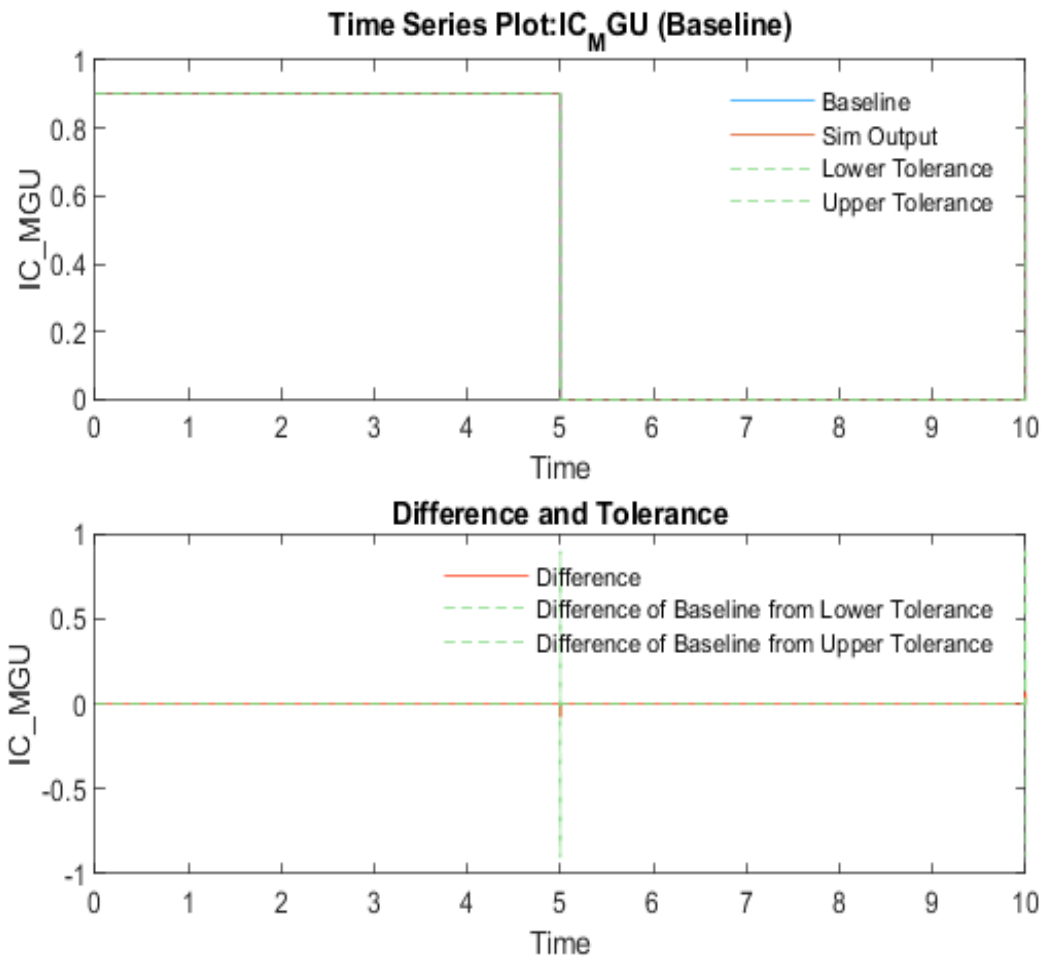
Test Case Information

Name: Scenario3
Type: Baseline Test
Baseline Name: Combined_Baseline3.mat
Baseline File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\Baselines\Combine
d_Baseline3.mat

Baseline Comparison

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Unit 1 | Sample Time 1 | Data Type 2 | Unit 2 | Sample Time 2 | Interpolation | Sync | Link to Plot |
|--|---------|---------|----------|---------|----------|-------------|--------|---------------|-------------|--------|---------------|---------------|-------|----------------------|
|  IC_MGU | 1e-05 | 0 | 0.001 | 0.001 | 0.0738 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel T ol | Lead T ol | Lag Tol | Max Diff | Data Typ e 1 | Units 1 | Sample Time 1 | Data Typ e 2 | Units 2 | Sample Time 2 | Interp | Sync |
|----------|---------|----------|-----------|---------|----------|--------------|---------|---------------|--------------|---------|---------------|--------|-------|
| ✓ IC_MGU | 1e-05 | 0 | 0.001 | 0.001 | 0.0738 | double | | Continuous | double | | Continuous | linear | union |



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Input Data
Input Information

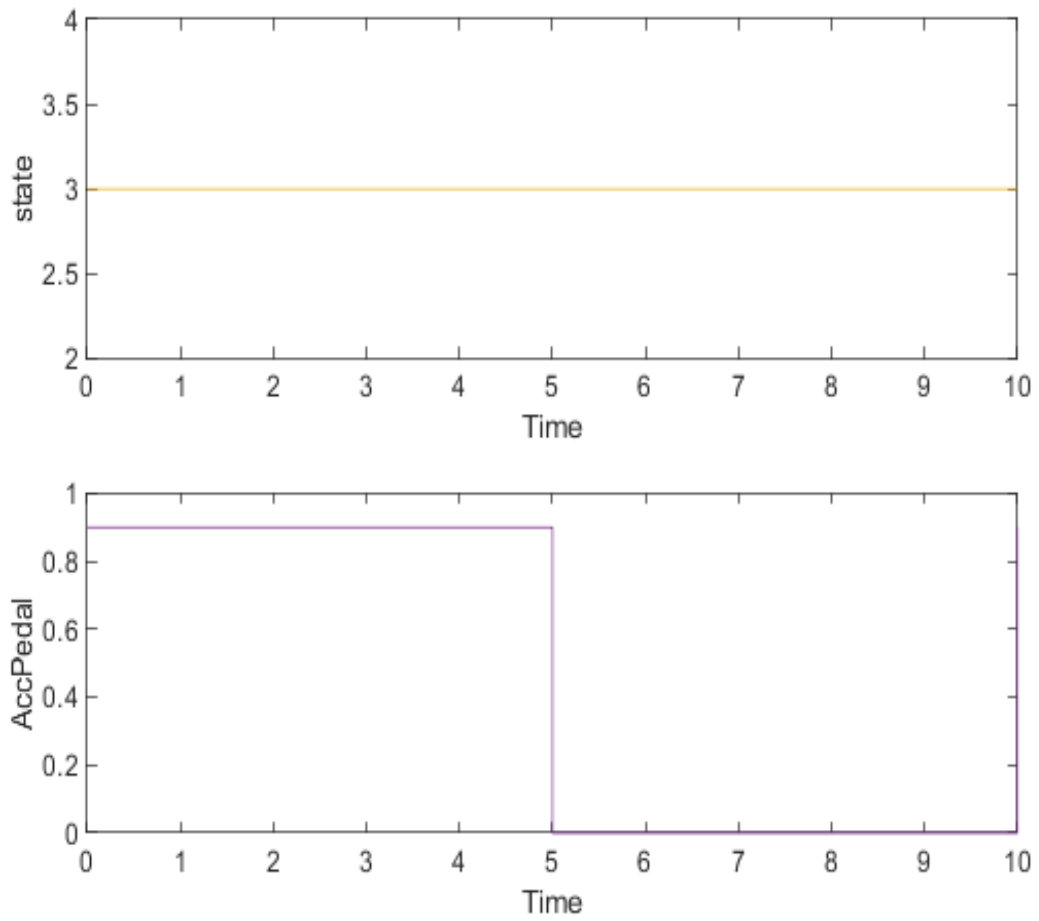
External Input controllerInputs3.mat

Name:

External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\testScenarios\contr
ollerInputs3.mat

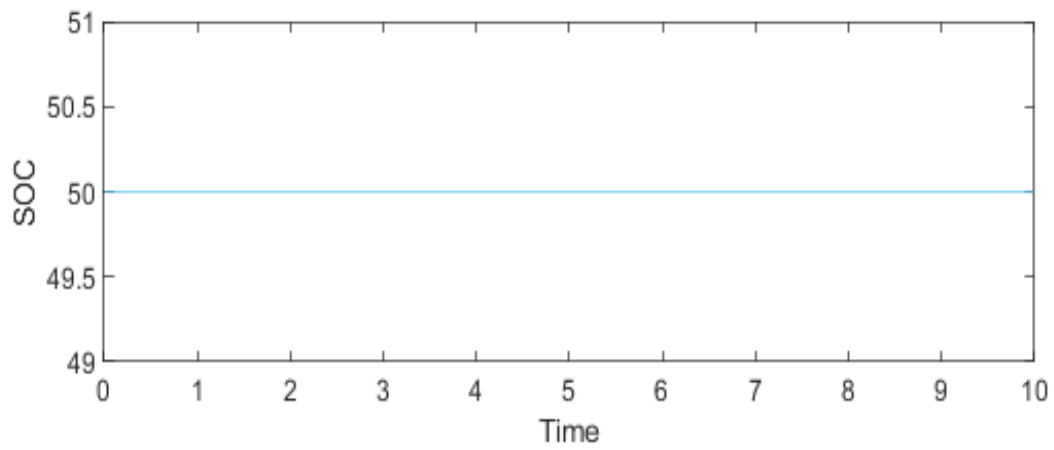
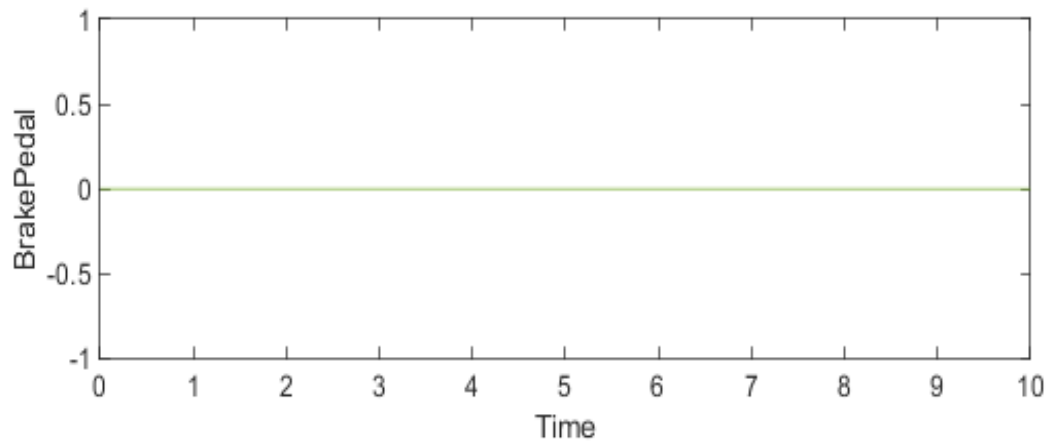
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

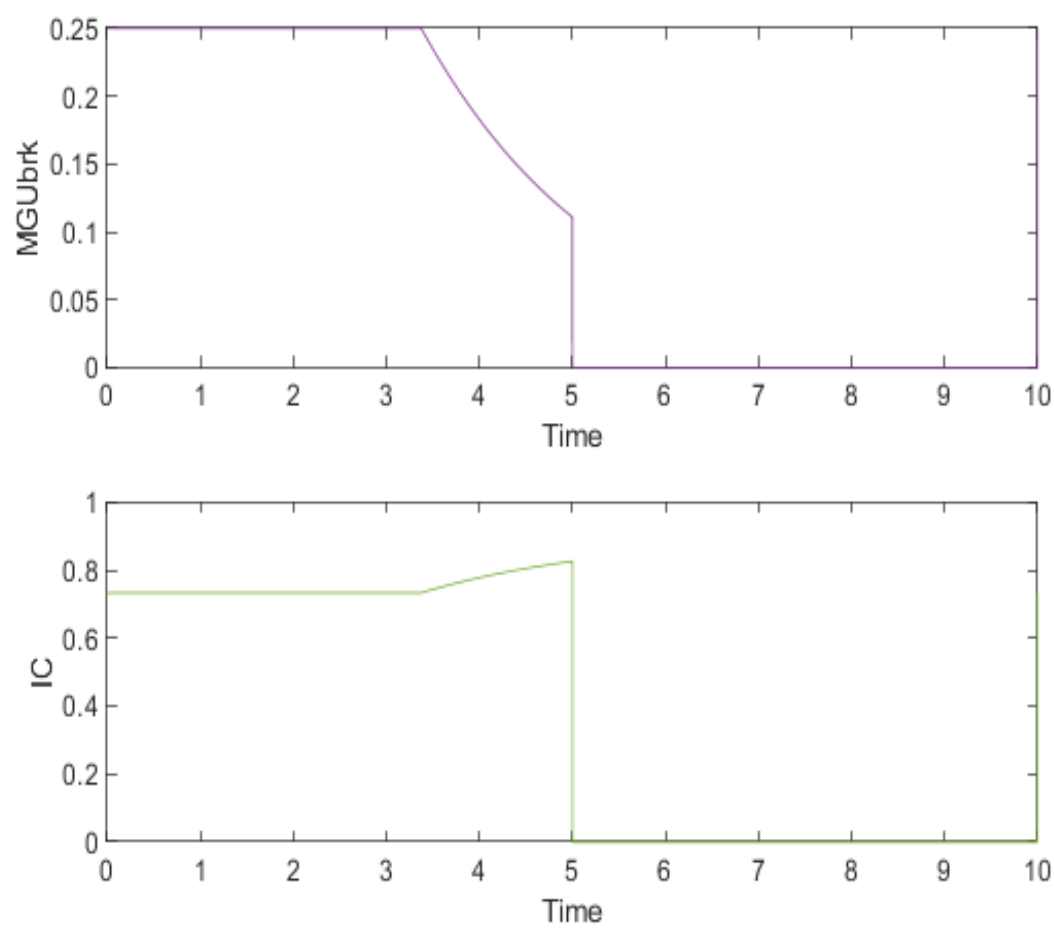
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs3.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs3.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 2693918124 1571846799 555791410 30976912
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:07
 Simulation Stop Time: 2021-02-13 10:21:08
 Platform: PCWIN64

Simulation Output

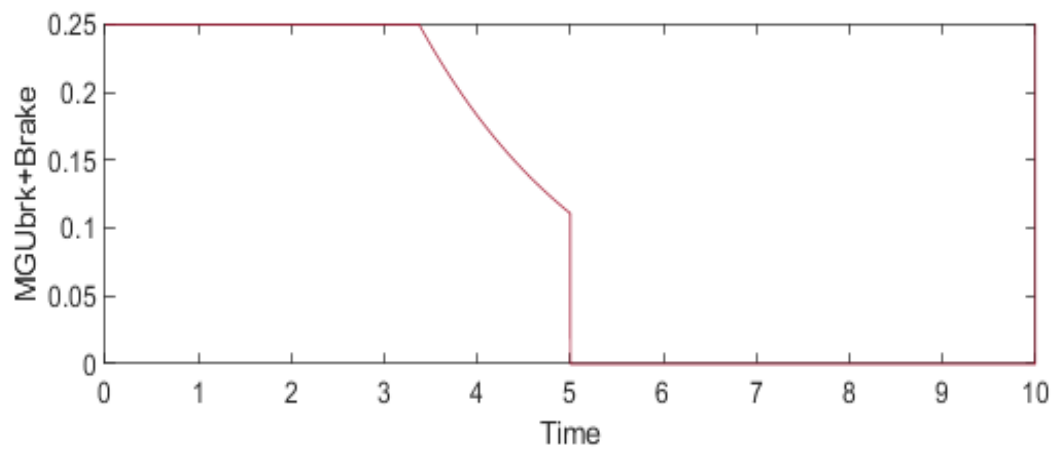
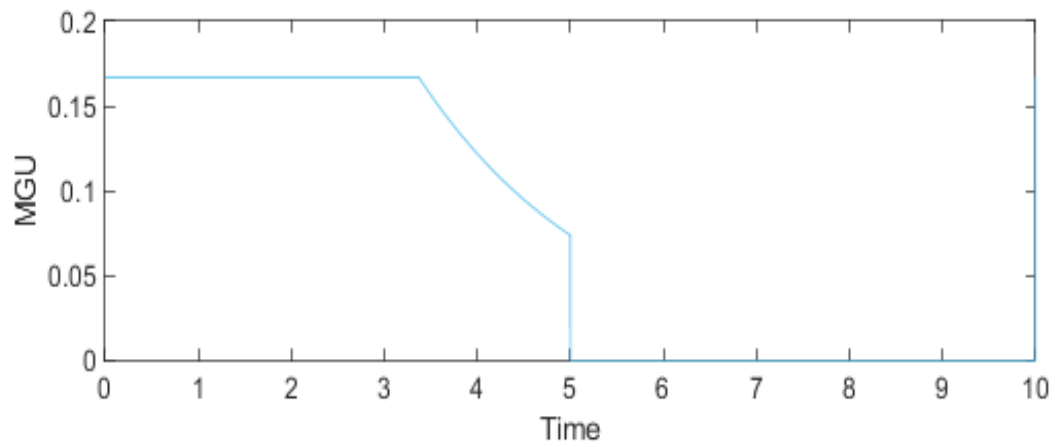
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



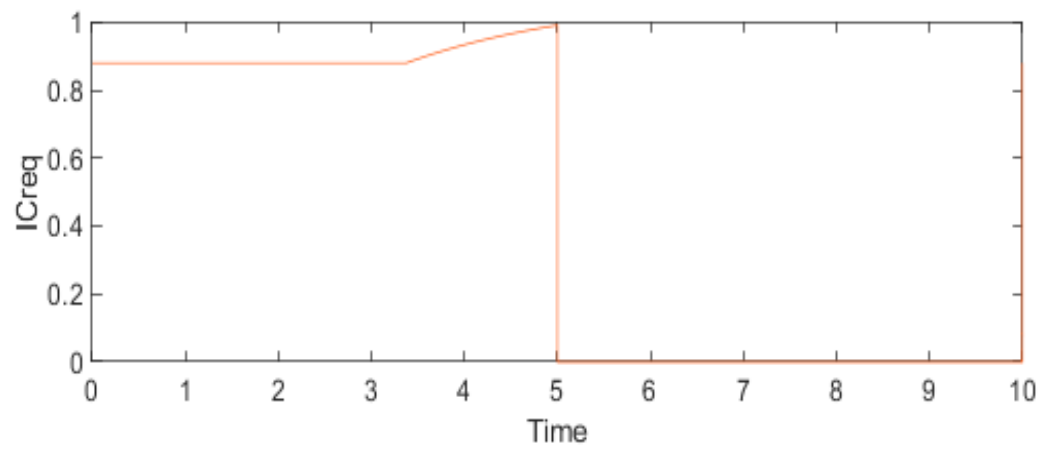
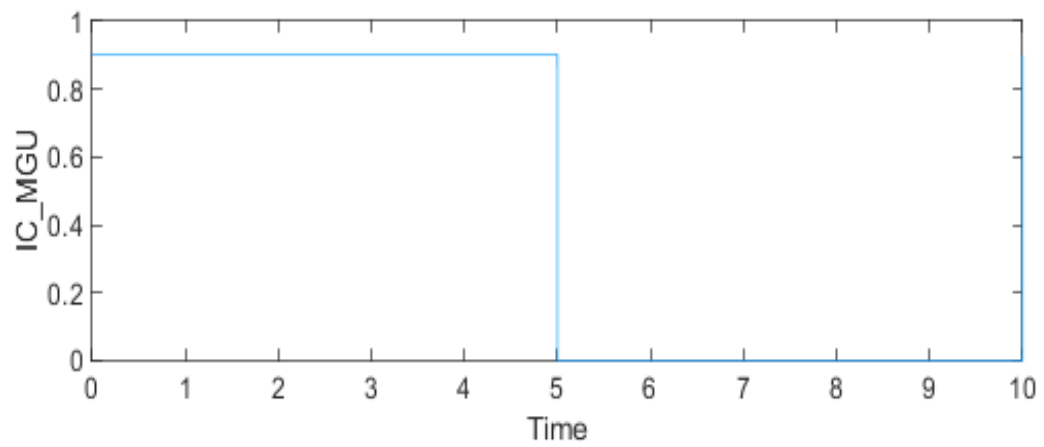
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



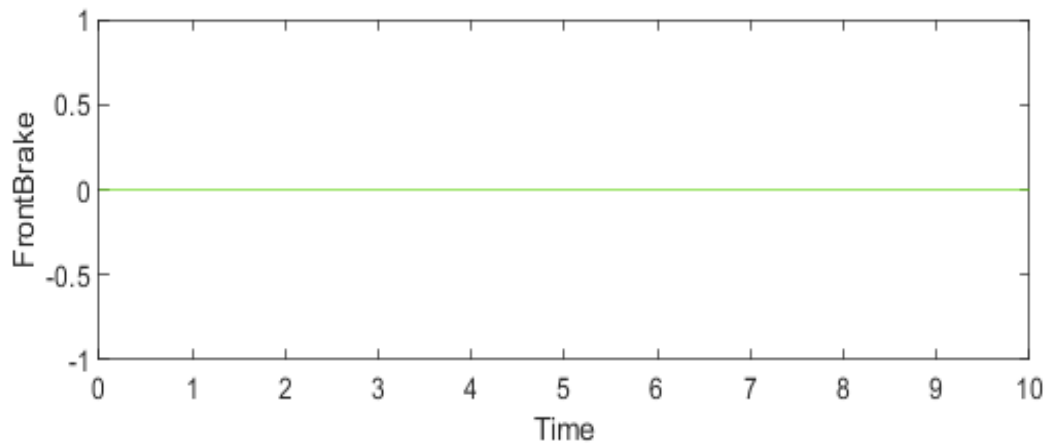
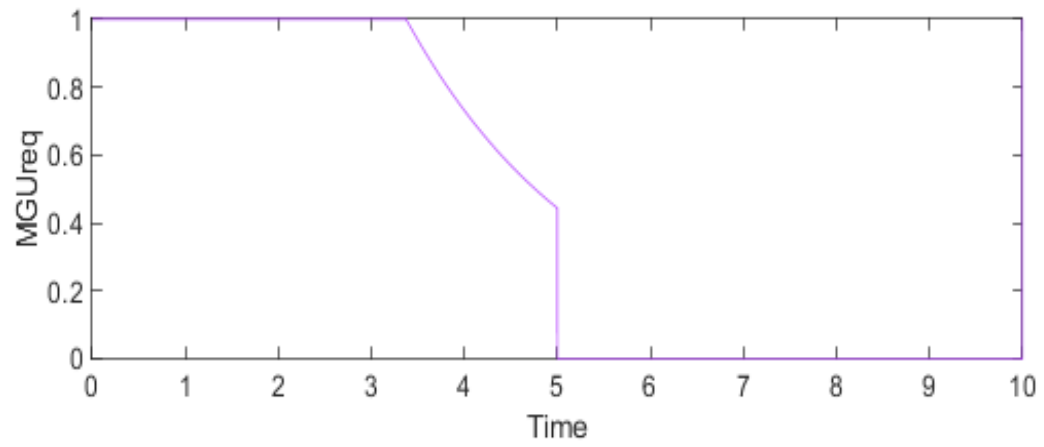
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



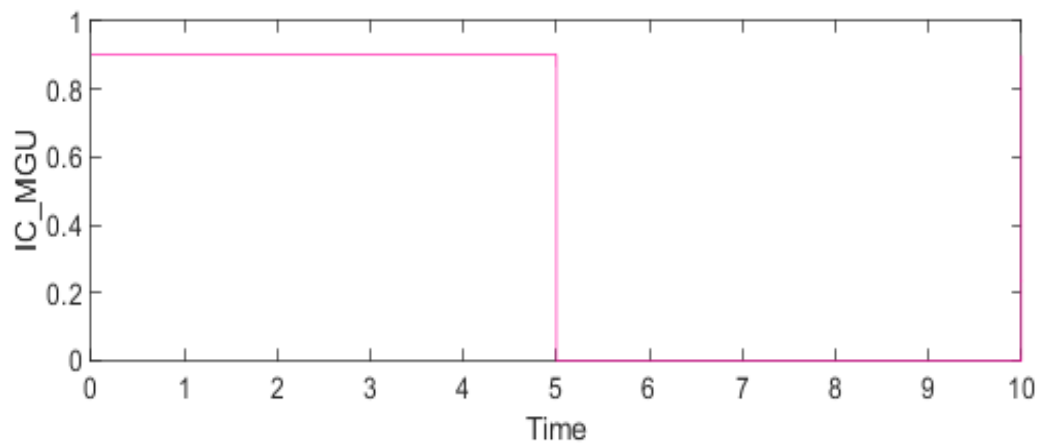
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Scenario4

Test Result Information

Result Type: Test Case Result
Parent: [Combined](#)
Start Time: 13-Feb-2021 10:21:09
End Time: 13-Feb-2021 10:21:11
Outcome: **Passed**
Description:

Scenario 4:

State = combined

AccPedal = exponential growth and decay over time


BrakePedal = 0

SOC = 50%

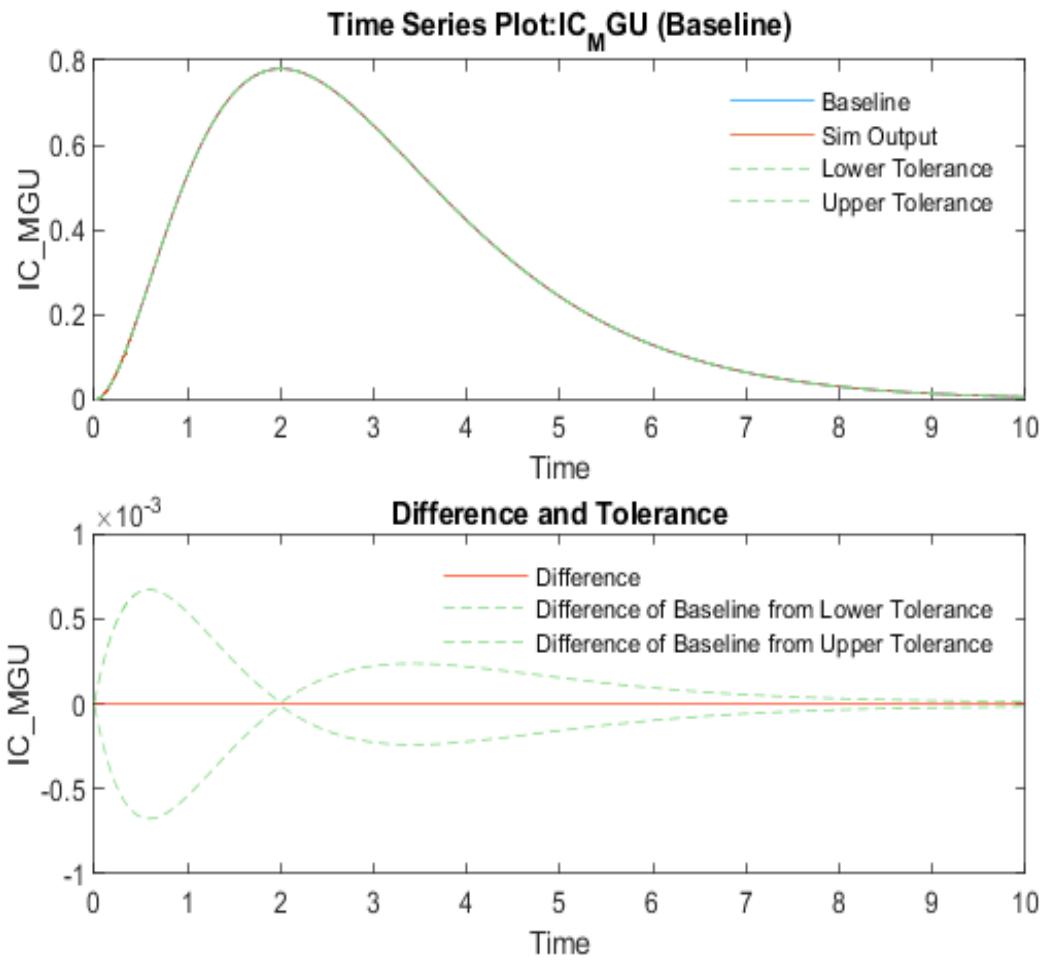
Test Case Information

Name: Scenario4
Type: Baseline Test
Baseline Name: Combined_Baseline4.mat
Baseline File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\Baselines\Combine
d_Baseline4.mat

Baseline Comparison

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Unit 1 | Sample Time 1 | Data Type 2 | Unit 2 | Sample Time 2 | Interpolation | Sync | Link to Plot |
|--|---------|---------|----------|---------|----------|-------------|--------|---------------|-------------|--------|---------------|---------------|-------|----------------------|
|  IC_MGU | 1e-05 | 0 | 0.001 | 0.001 | 1.11e-16 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type | Units | Sample Time | Data Type | Units | Sample Time | Interp | Sync |
|----------|---------|---------|----------|---------|----------|-----------|-------|-------------|-----------|-------|-------------|--------|-------|
| ✓ IC_MGU | 1e-05 | 0 | 0.001 | 0.001 | 1.11e-16 | double | | Continuous | double | | Continuous | linear | union |



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Input Data
Input Information

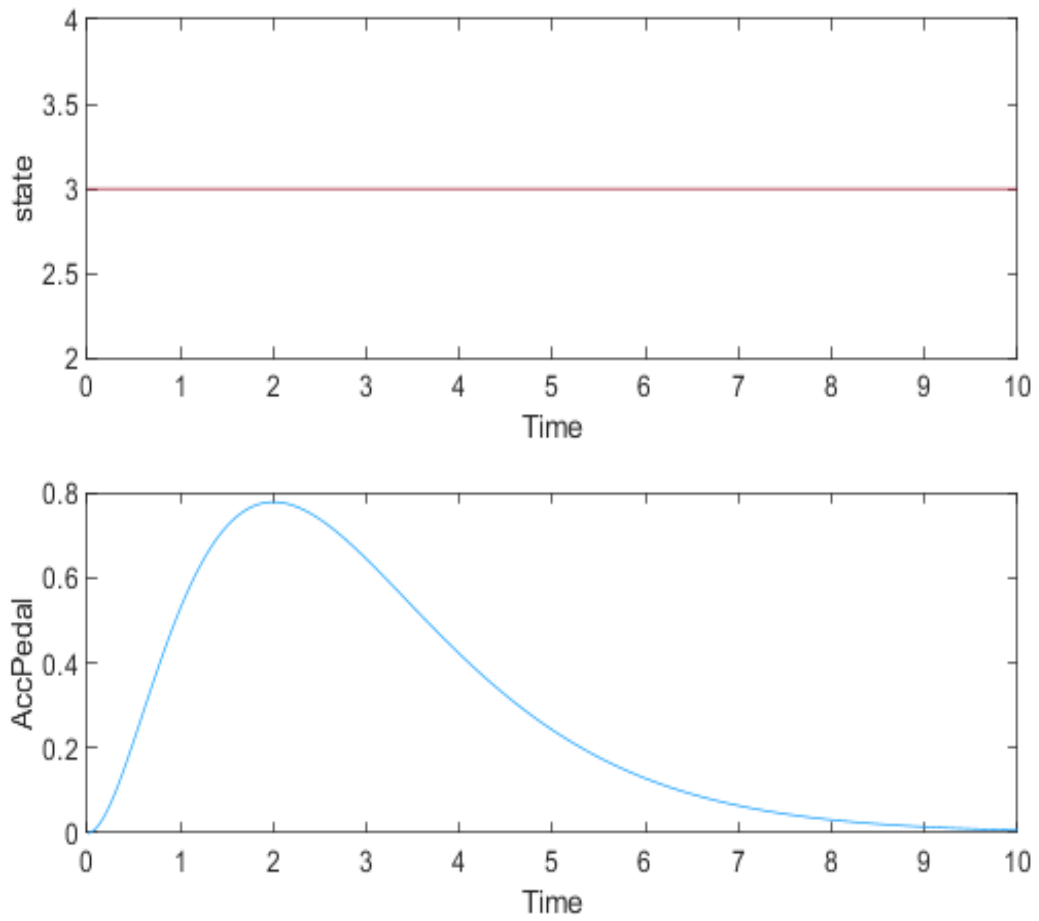
External Input controllerInputs4.mat

Name:

External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\testScenarios\contr
ollerInputs4.mat

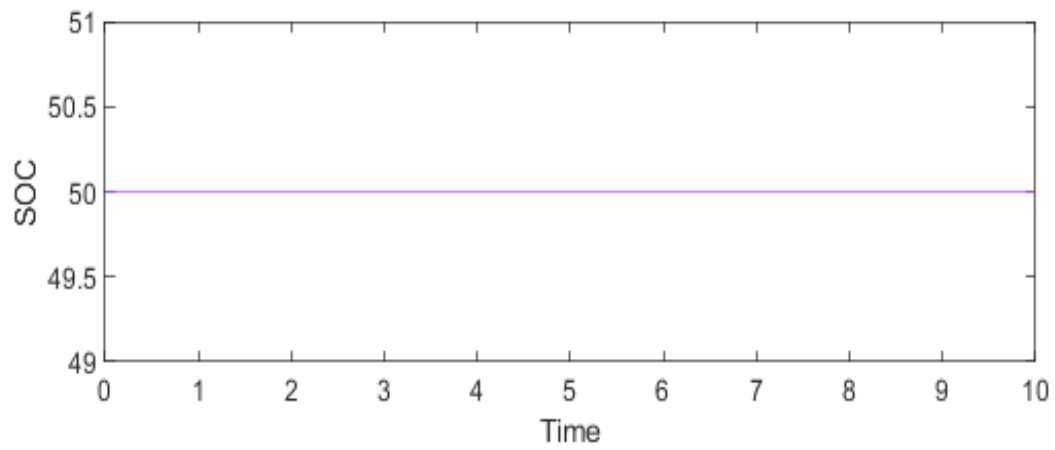
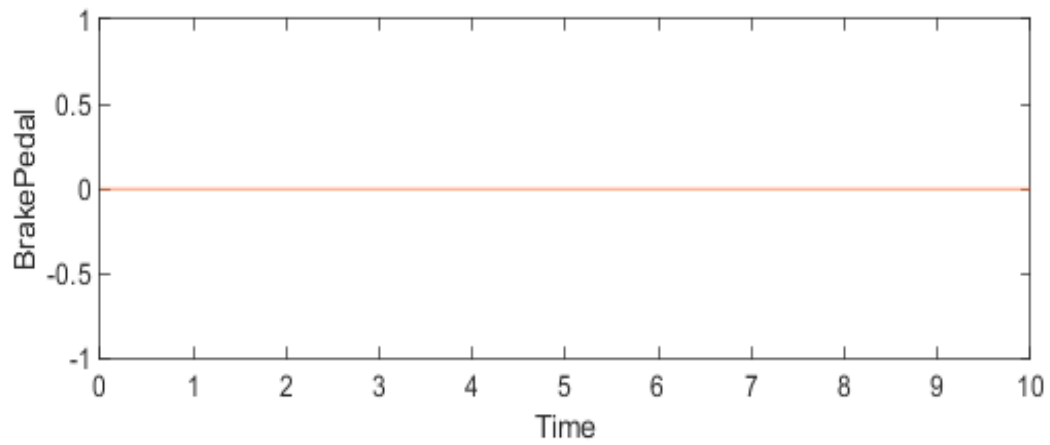
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

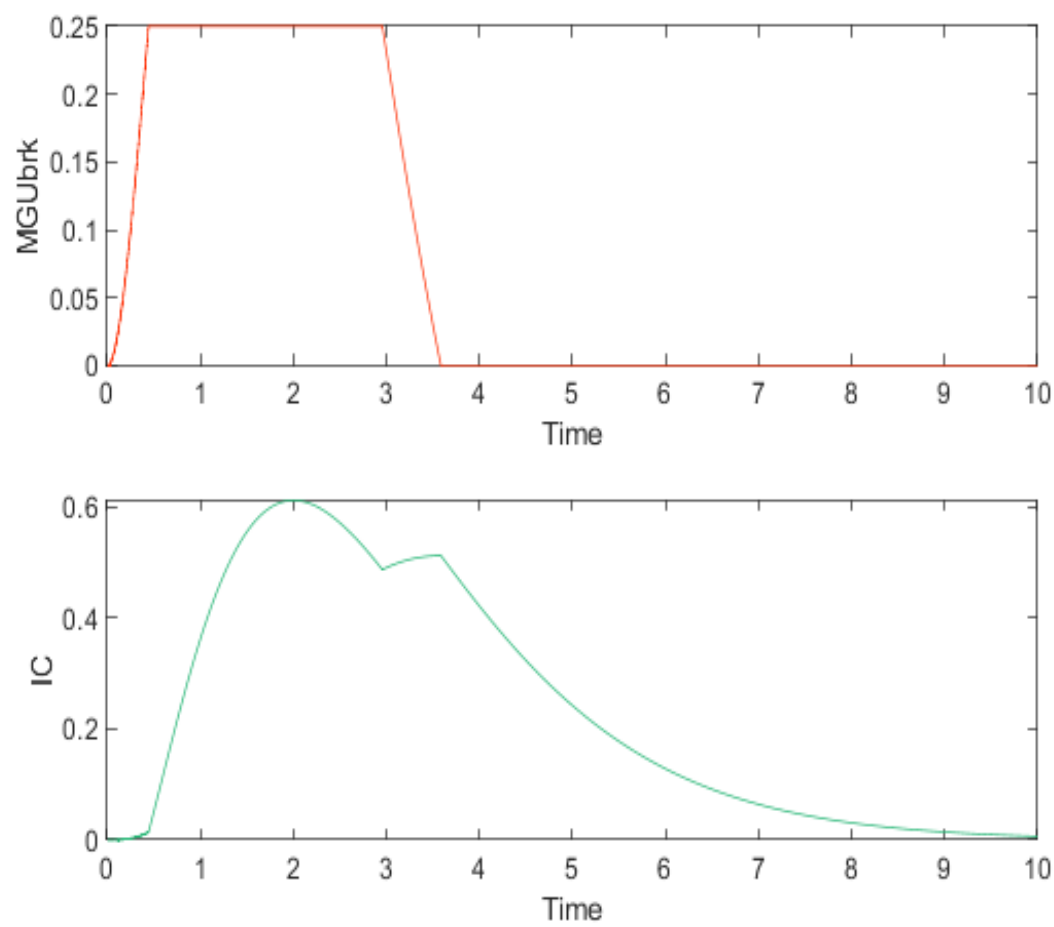
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs4.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs4.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 2693918124 1571846799 555791410 30976912
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:09
 Simulation Stop Time: 2021-02-13 10:21:10
 Platform: PCWIN64

Simulation Output

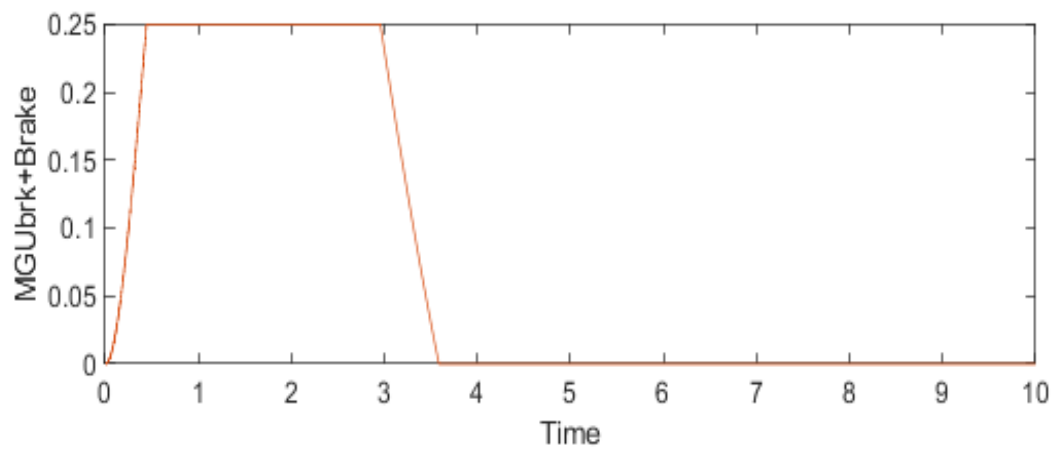
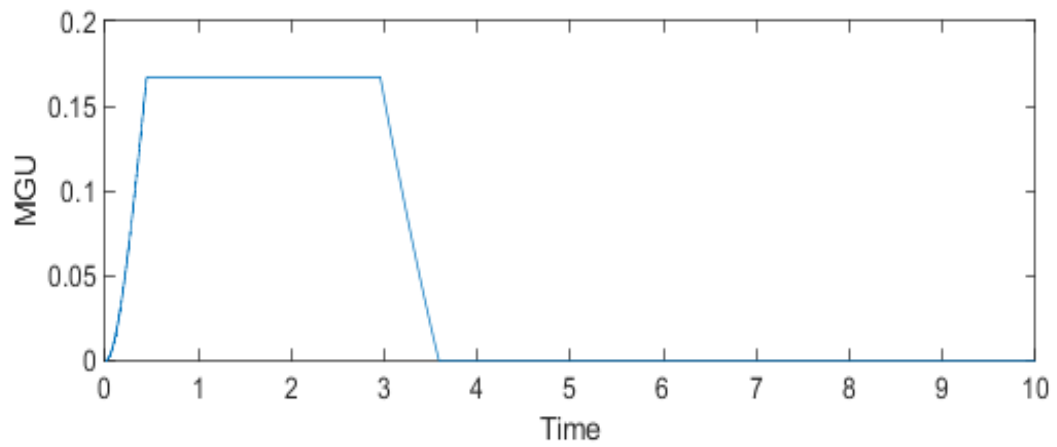
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



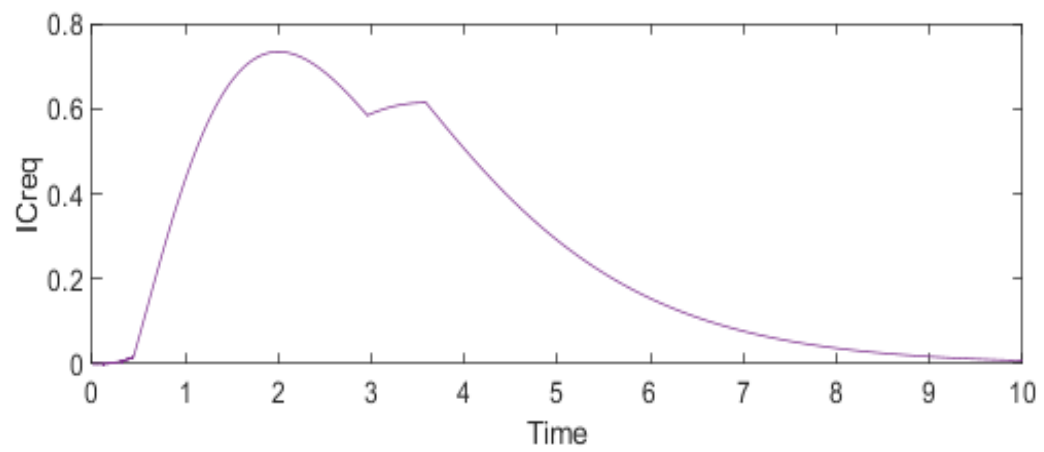
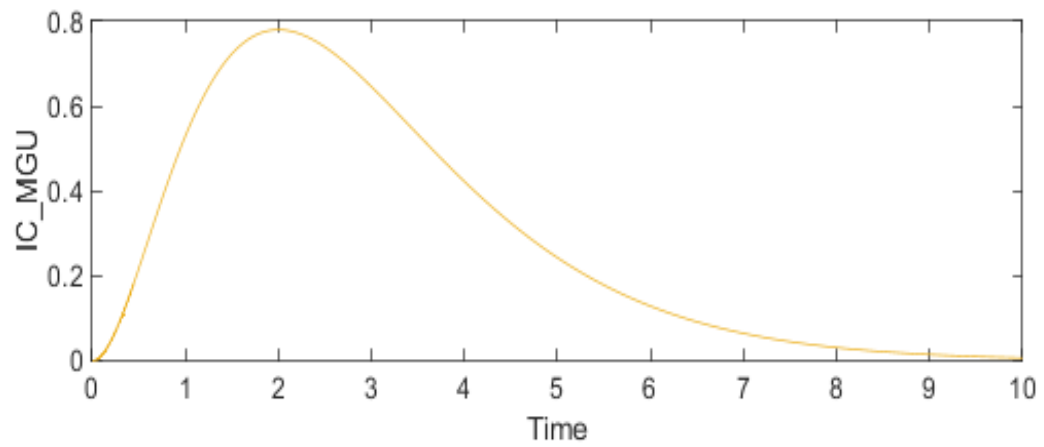
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



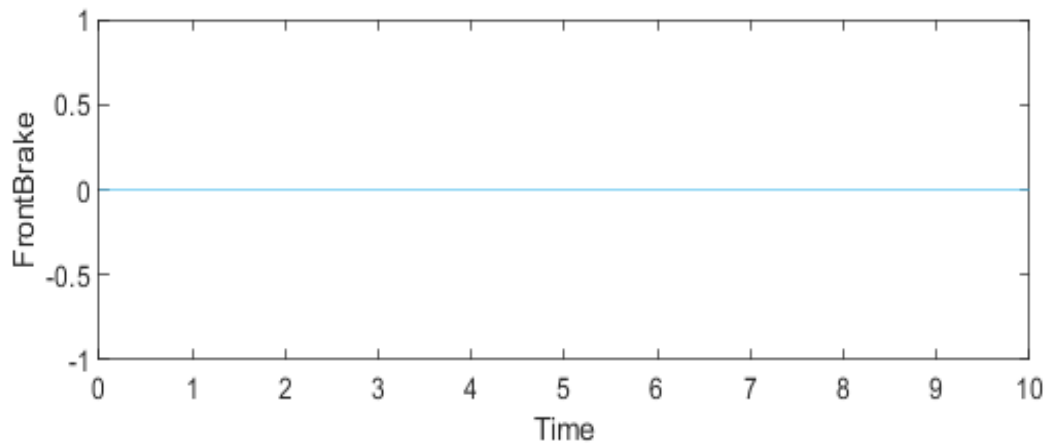
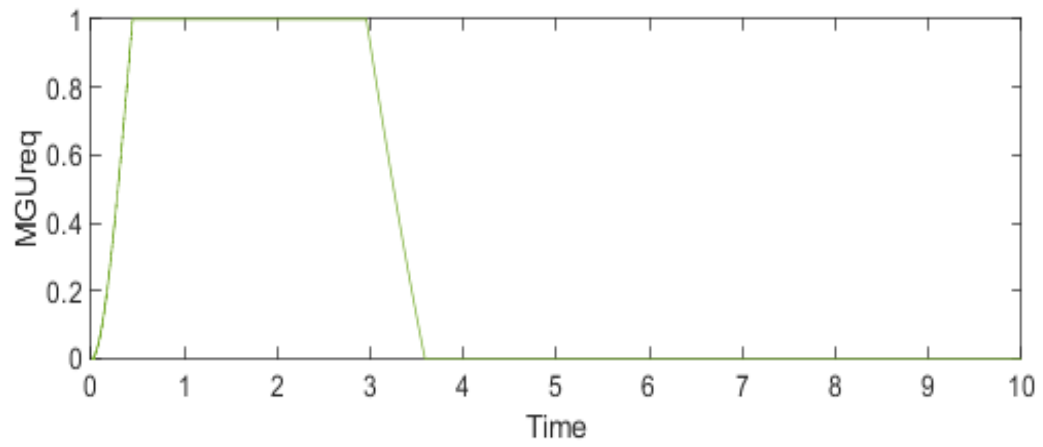
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



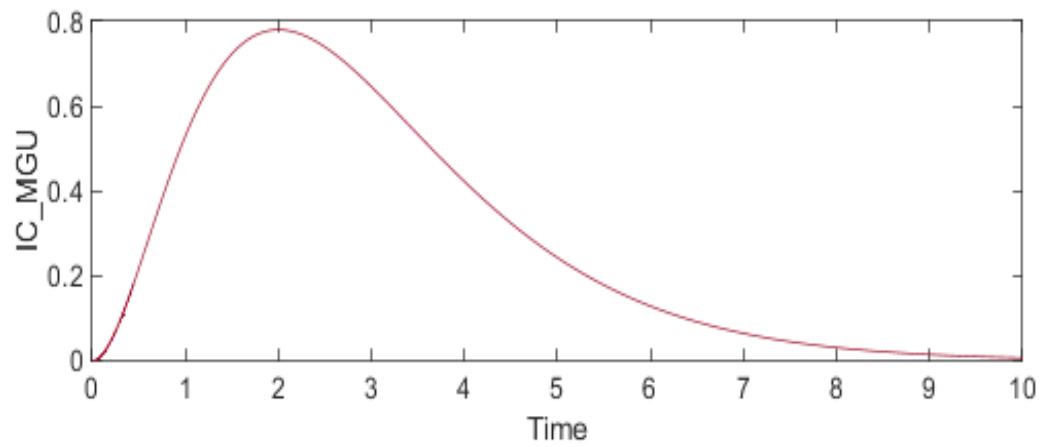
[Back to Report Summary](#)[Back to Signal Summary](#)

| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Regenerative Braking

Test Result Information

Result Type: Test Suite Result
Parent: [controllerTest](#)
Start Time: 13-Feb-2021 10:21:11
End Time: 13-Feb-2021 10:21:21
Outcome: Total: 4, **Passed: 4**
Description:

Regenerative Braking case suite of tests

Test Suite Information

Name: Regenerative Braking
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Scenario5

Test Result Information

Result Type: Test Case Result
Parent: [Regenerative Braking](#)
Start Time: 13-Feb-2021 10:21:11
End Time: 13-Feb-2021 10:21:14
Outcome: **Passed**
Description:

Scenario 5:

State = regenerative braking

AccPedal = 0


BrakePedal = pulse signal of amplitude 0.5, width 0.5 and period 10 seconds.


SOC = 50%

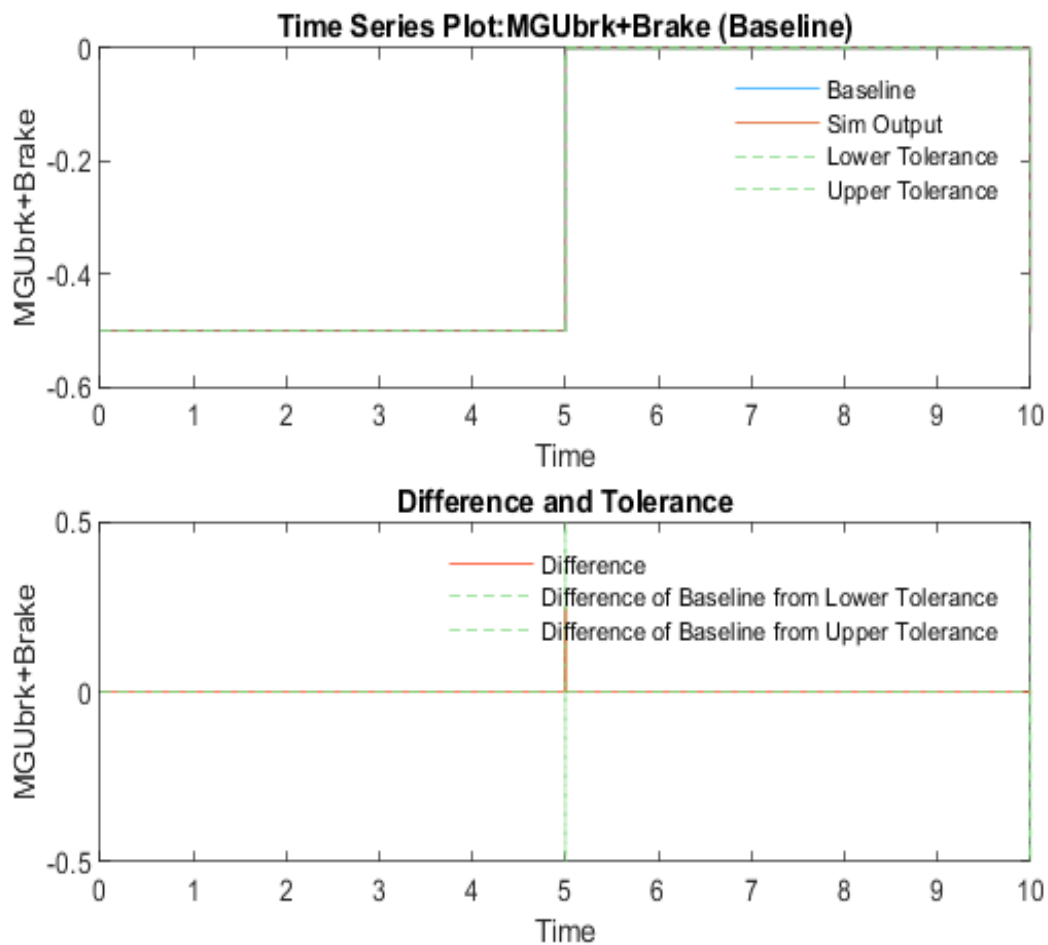
Test Case Information

Name: Scenario5
Type: Baseline Test
Baseline Name: Regen_Baseline1.mat
Baseline File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\Baselines\Regen_B
aseline1.mat

Baseline Comparison

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync | Link to Plot |
|--|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|----------------------|
|  MGUbrk+ Brake | 1e-05 | 0 | 0.001 | 0.001 | 0.249 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Units 1 | Sample Time 1 | Data Type 2 | Units 2 | Sample Time 2 | Interp | Sync |
|--|---------|---------|----------|---------|----------|-------------|---------|---------------|-------------|---------|---------------|--------|-------|
|  MGUbrk+ Brake | 1e-05 | 0 | 0.001 | 0.001 | 0.249 | double | | Continuous | double | | Continuous | linear | union |



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Input Data

Input Information

External Input controllerInputs5.mat

Name:

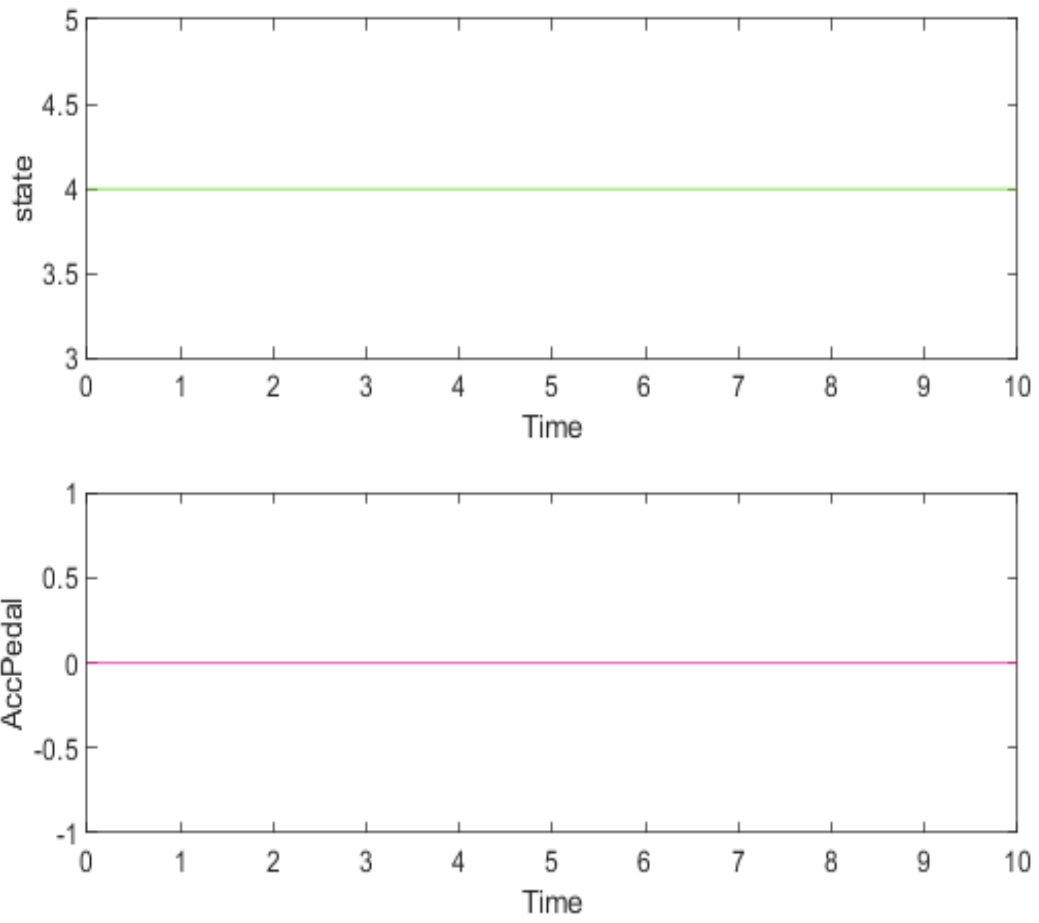
External Input File: C:\Users\mordi\Desktop\Materiale

Università\Compliance\hybrid-controller\Hybrid-

controller\Test\ControllerTest\testScenarios\controllerInputs5.mat

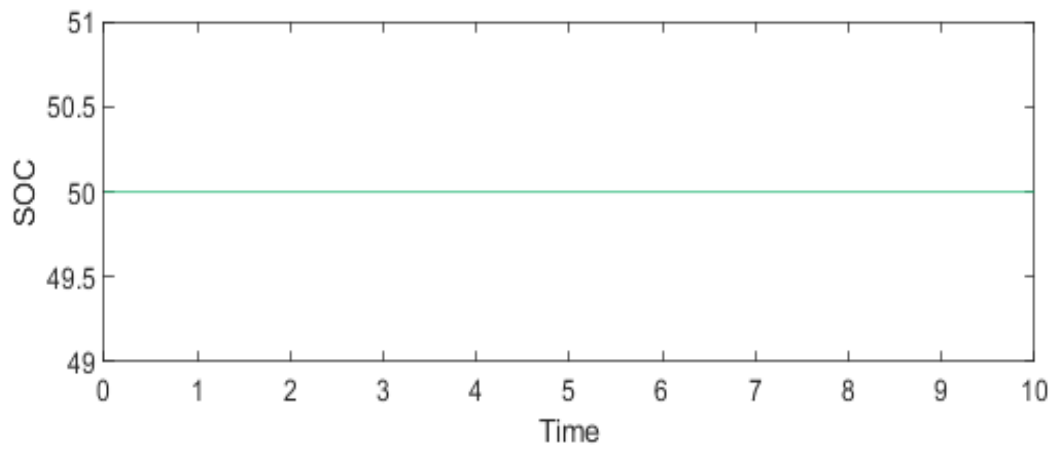
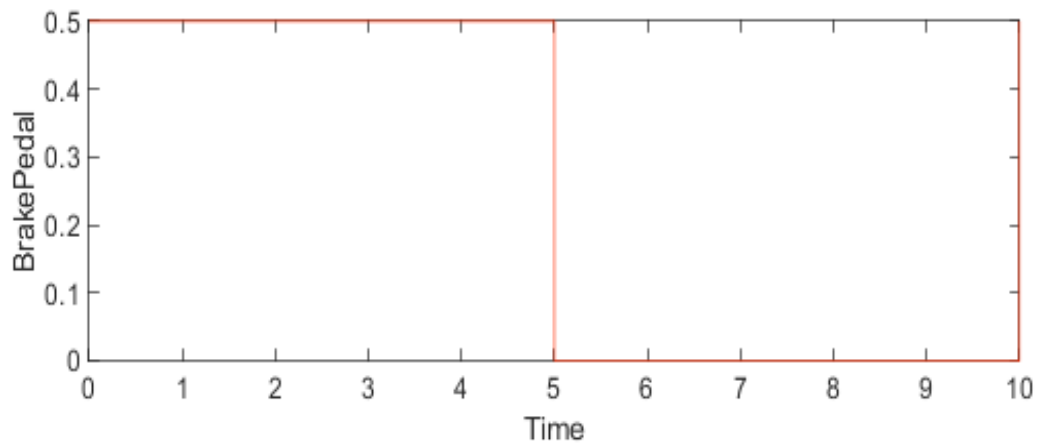
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

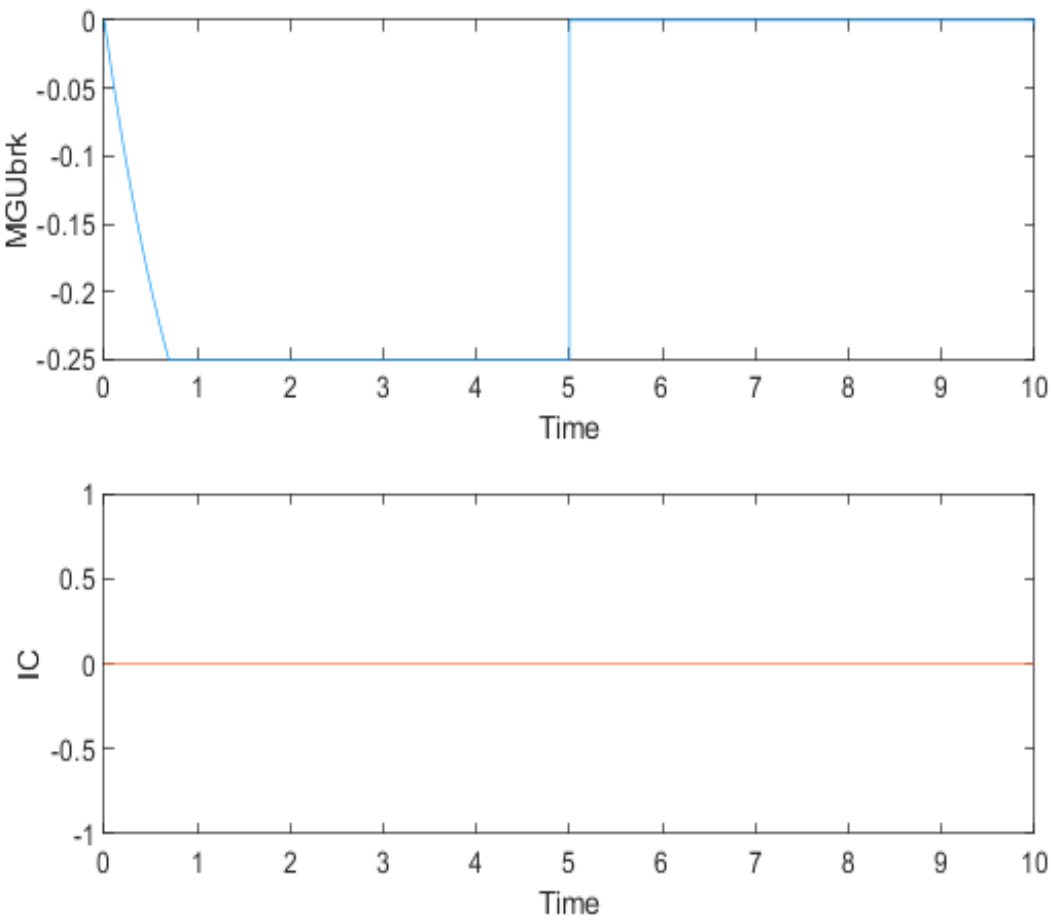
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs5.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs5.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 838192833 3751127671 4267247710 2037611767
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:12
 Simulation Stop Time: 2021-02-13 10:21:13
 Platform: PCWIN64

Simulation Output

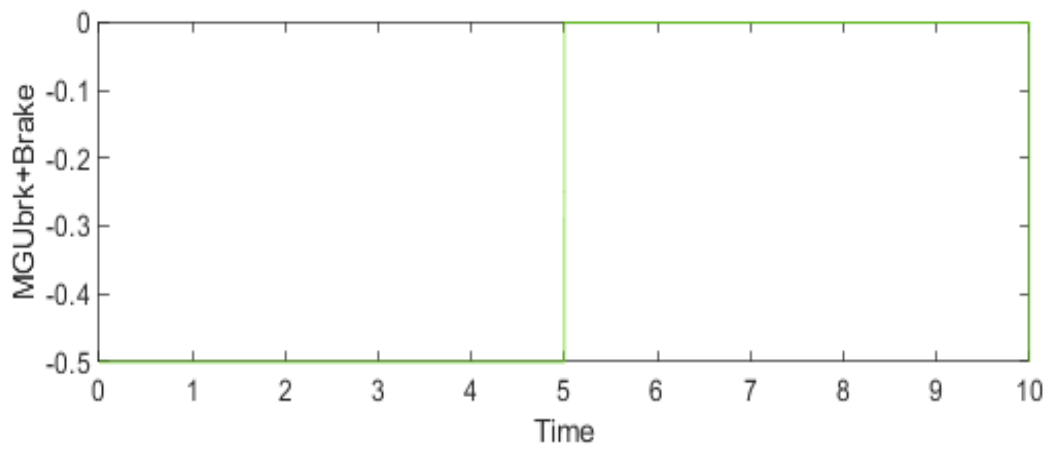
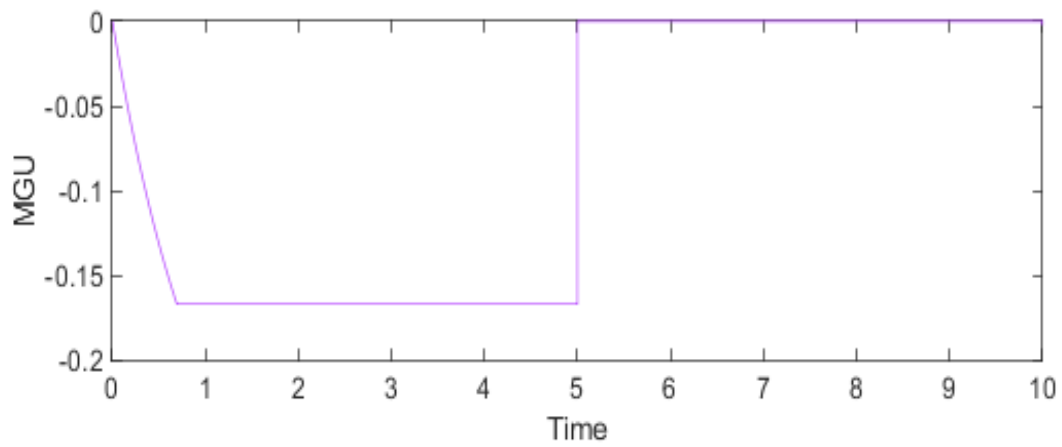
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



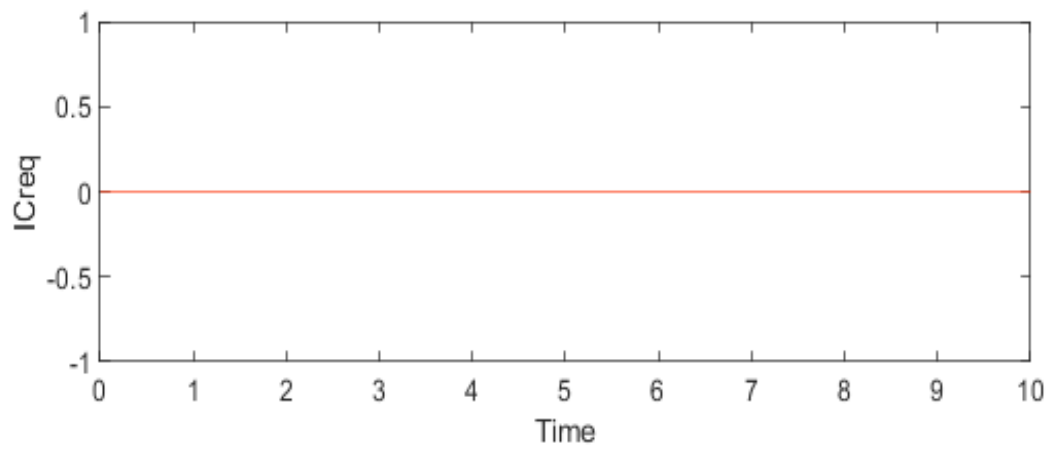
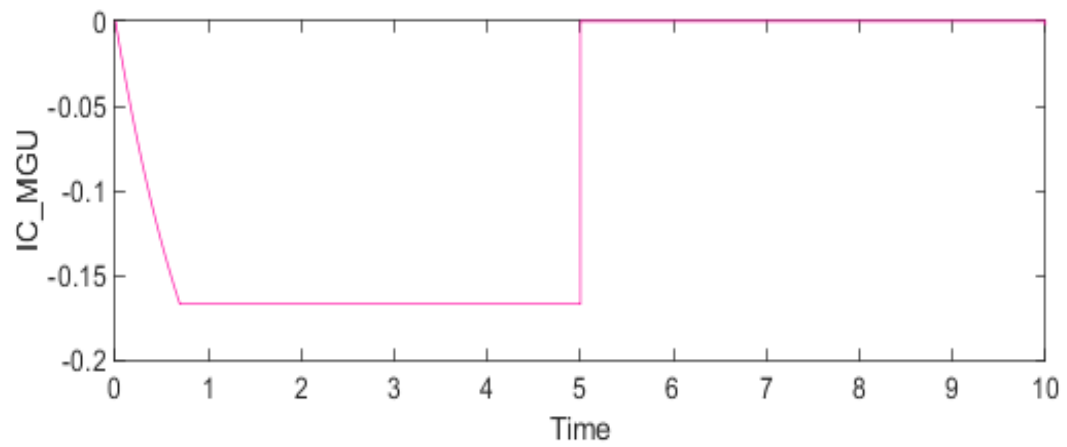
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



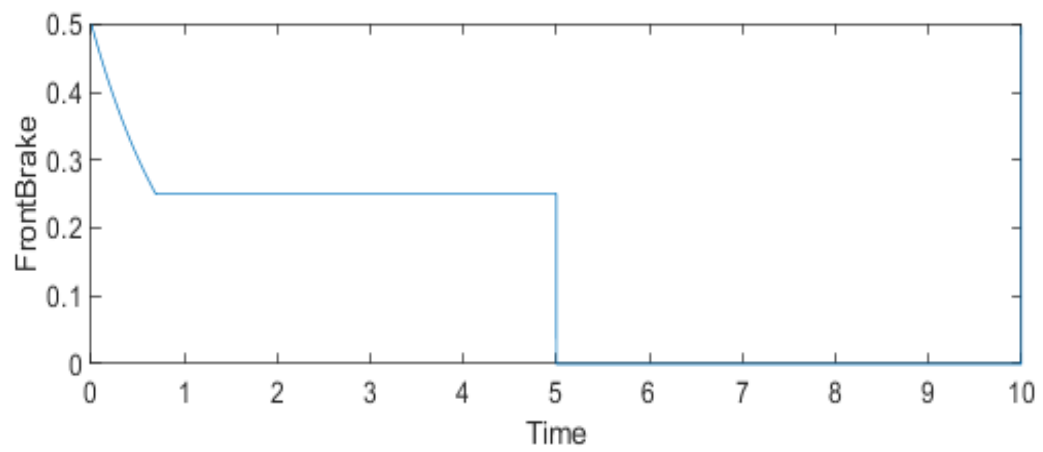
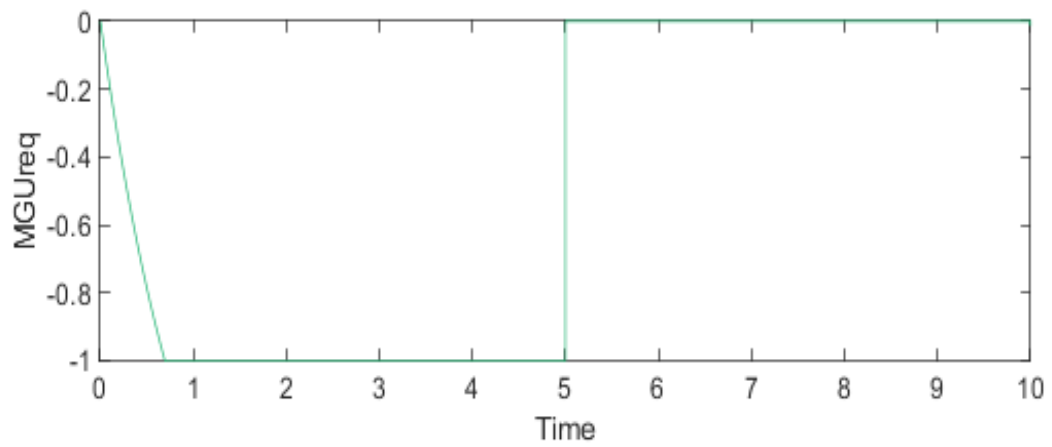
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



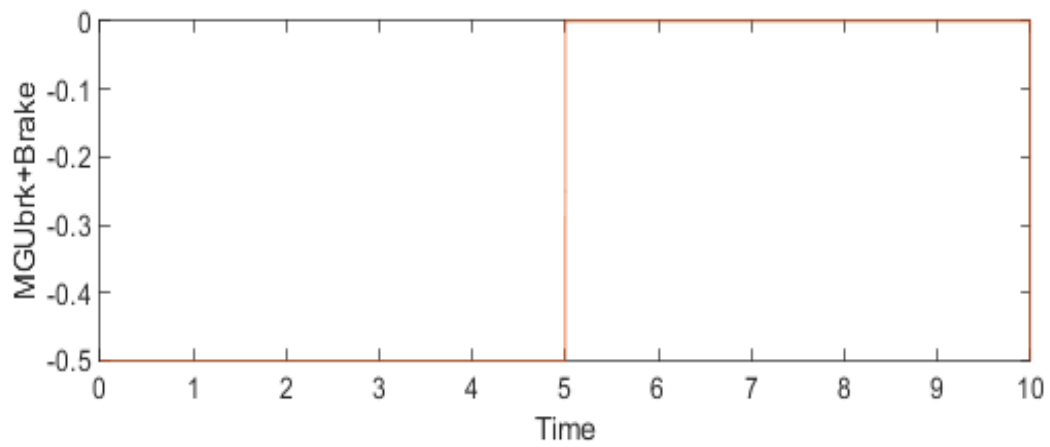
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGUbrk+Brake | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Scenario6

Test Result Information

Result Type: Test Case Result
Parent: [Regenerative Braking](#)
Start Time: 13-Feb-2021 10:21:14
End Time: 13-Feb-2021 10:21:16
Outcome: **Passed**
Description:

Scenario 6:

State = regenerative braking

AccPedal = 0

BrakePedal = pulse signal of amplitude 0.1, width 0.5 and period 10 seconds.

SOC = 50%

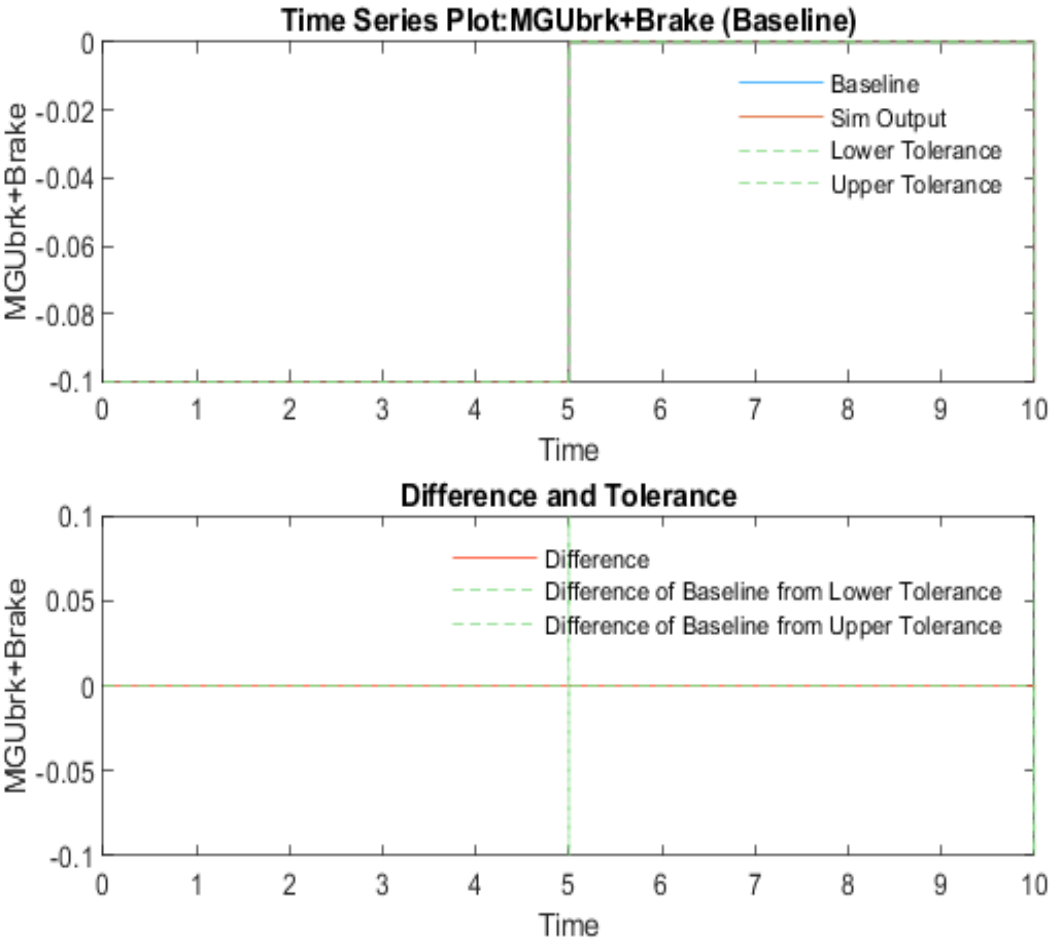
Test Case Information

Name: Scenario6
Type: Baseline Test
Baseline Name: Regen_Baseline2.mat
Baseline File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\Baselines\Regen_B
aseline2.mat

Baseline Comparison

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Unit 1 | Sample Time 1 | Data Type 2 | Unit 2 | Sample Time 2 | Interpolation | Sync | Link to Plot |
|------------------|---------|---------|----------|---------|----------|-------------|--------|---------------|-------------|--------|---------------|---------------|-------|----------------------|
| MGUbrk+ Brake | 1e-05 | 0 | 0.001 | 0.001 | 0.000673 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type | Units | Sample Time | Data Type | Units | Sample Time | Interp | Sync |
|--------------|---------|---------|----------|---------|----------|-----------|-------|-------------|-----------|-------|-------------|--------|-------|
| MGUbrk+Brake | 1e-05 | 0 | 0.001 | 0.001 | 0.000673 | double | | Continuous | double | | Continuous | linear | union |



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Input Data
Input Information

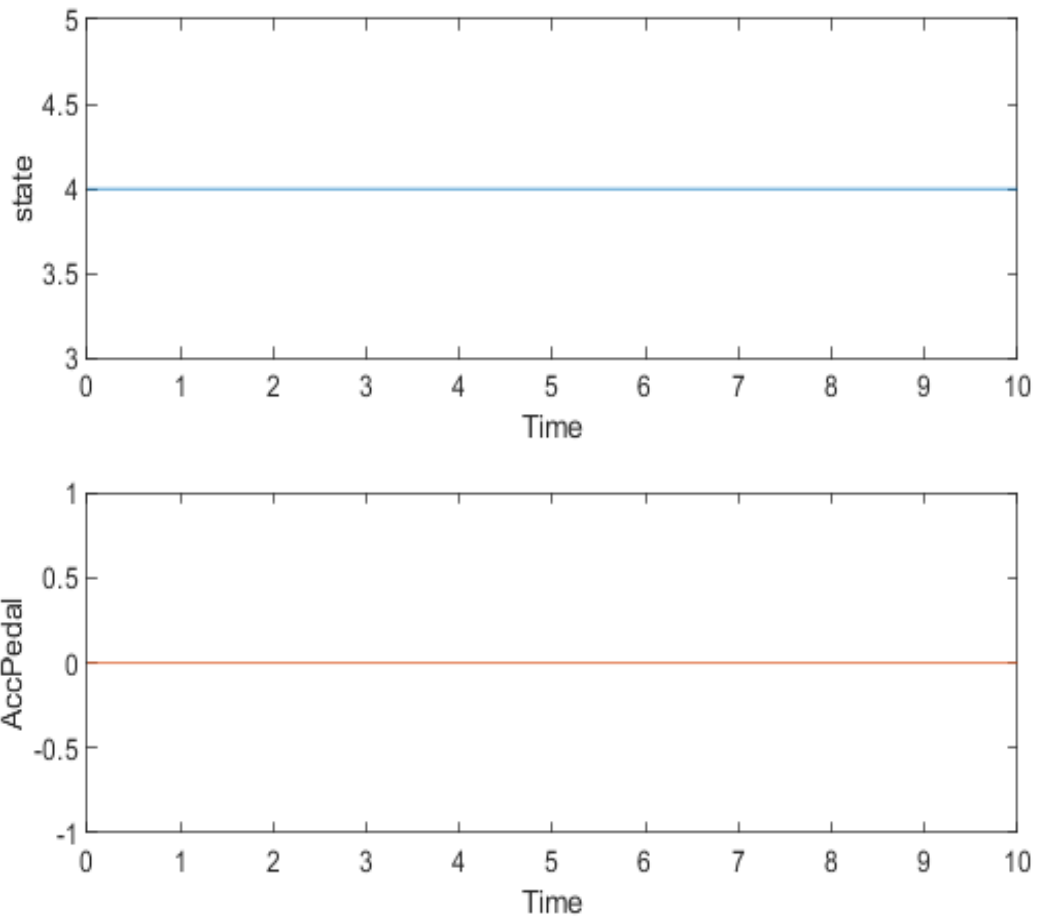
External Input controllerInputs6.mat

Name:

External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\testScenarios\contr
ollerInputs6.mat

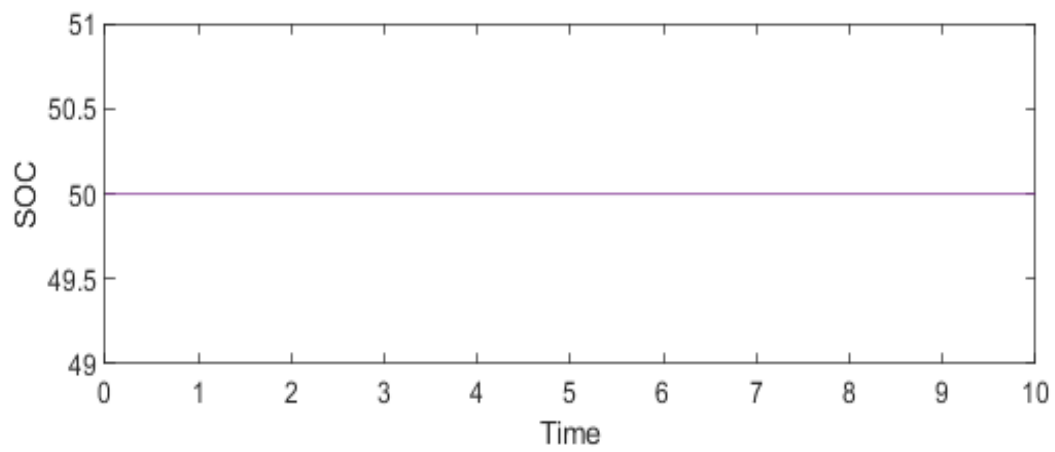
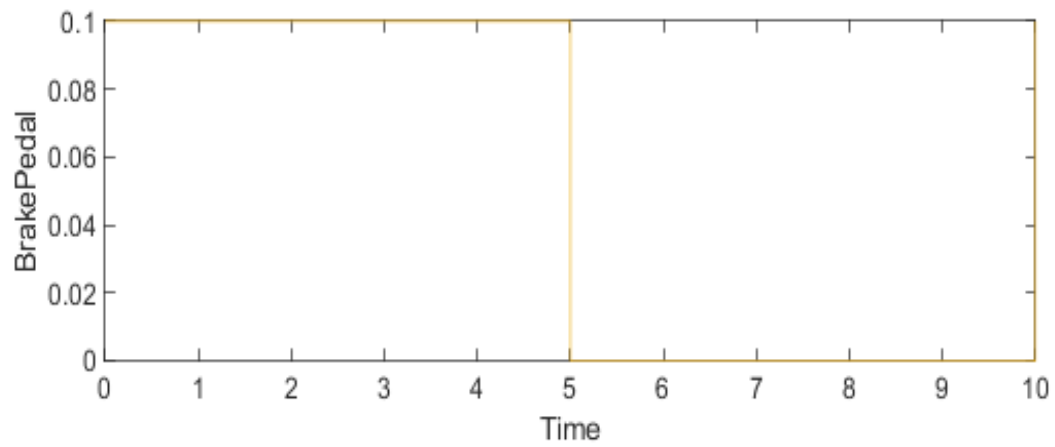
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

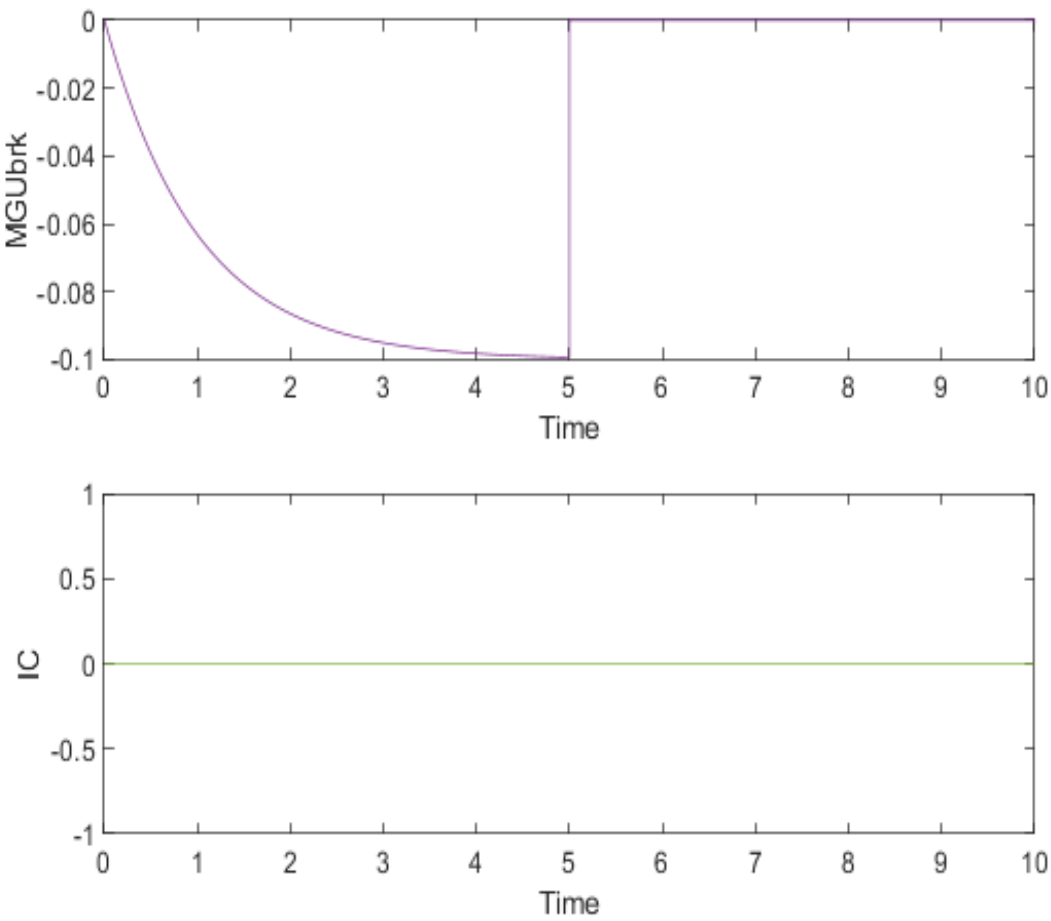
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs6.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs6.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 838192833 3751127671 4267247710 2037611767
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:14
 Simulation Stop Time: 2021-02-13 10:21:15
 Platform: PCWIN64

Simulation Output

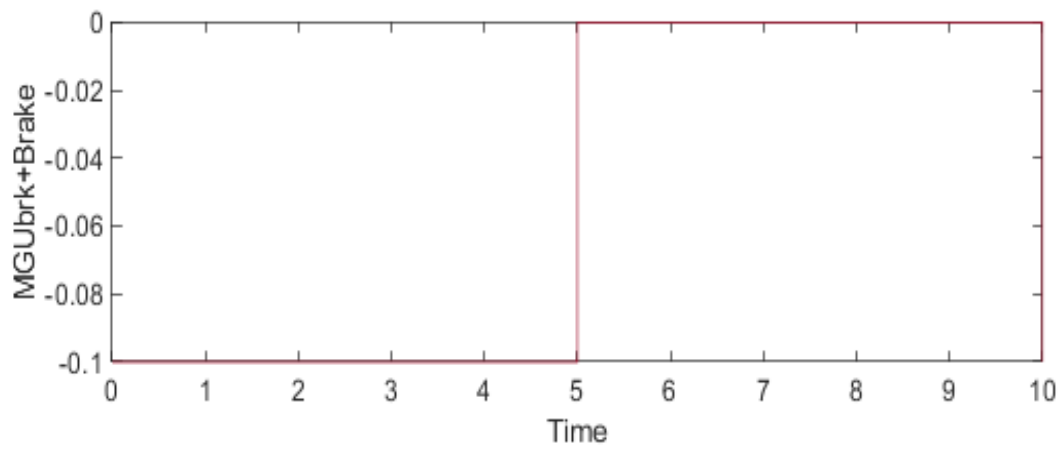
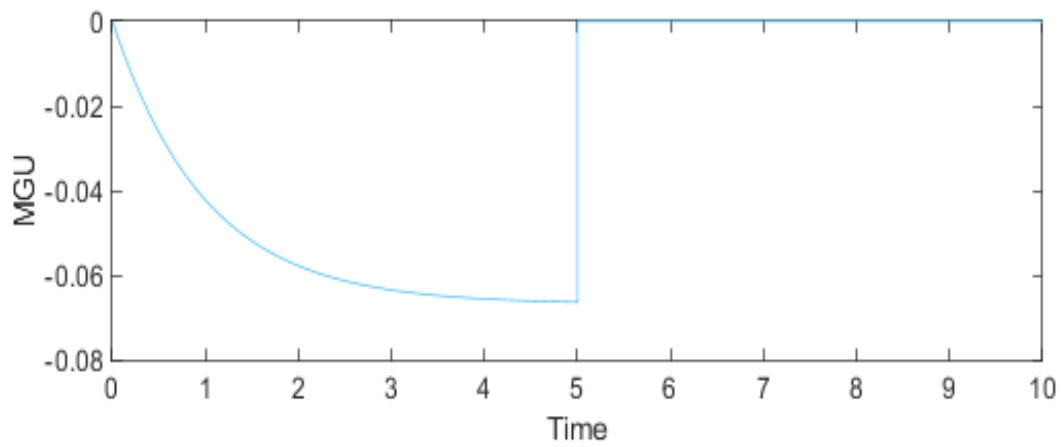
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



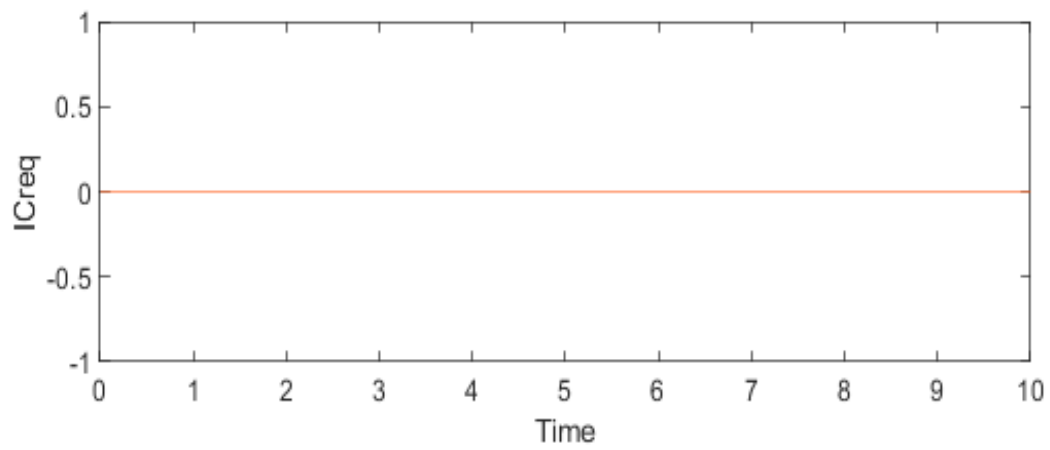
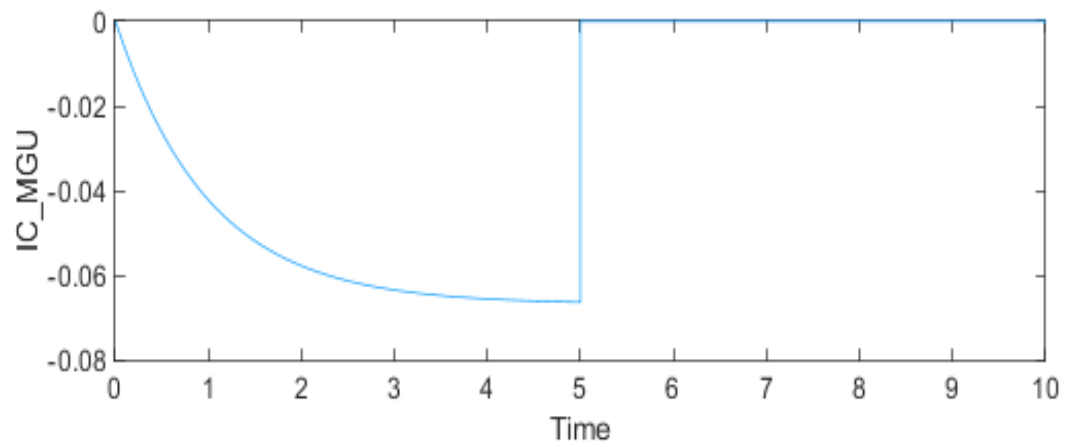
[Back to Report Summary](#)[Back to Signal Summary](#)

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



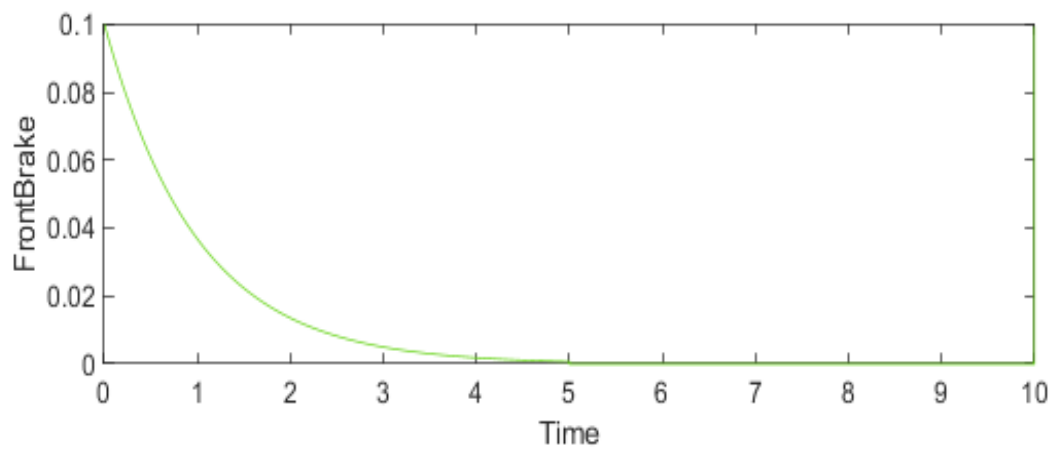
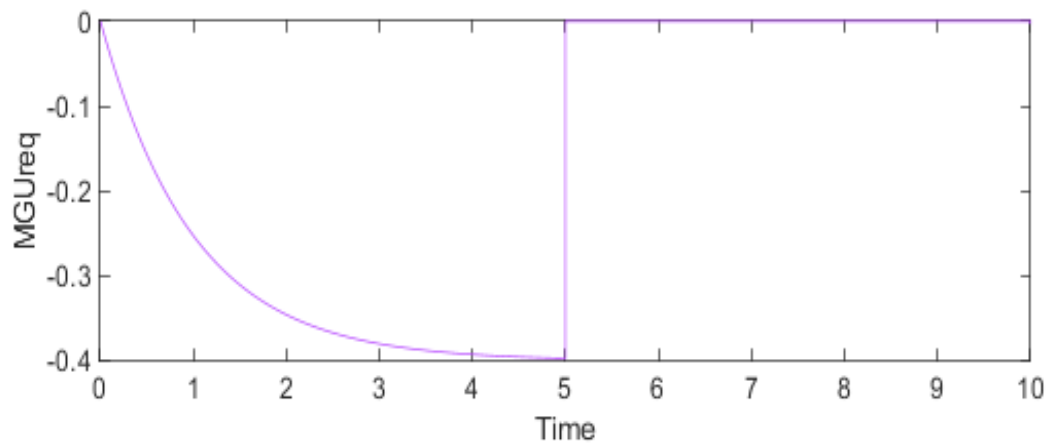
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



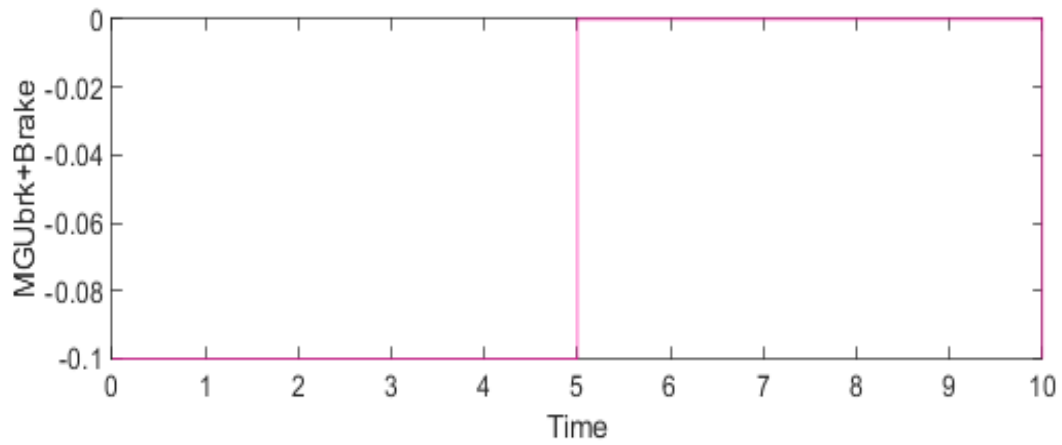
[Back to Report Summary](#)[Back to Signal Summary](#)

| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGUbrk+Brake | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Scenario7

Test Result Information

Result Type: Test Case Result
Parent: [Regenerative Braking](#)
Start Time: 13-Feb-2021 10:21:16
End Time: 13-Feb-2021 10:21:18
Outcome: **Passed**
Description:

Scenario 7:

State = regenerative braking

AccPedal = 0


BrakePedal = pulse signal of amplitude 0.9, width 0.5 and period 10 seconds.

SOC = 100%

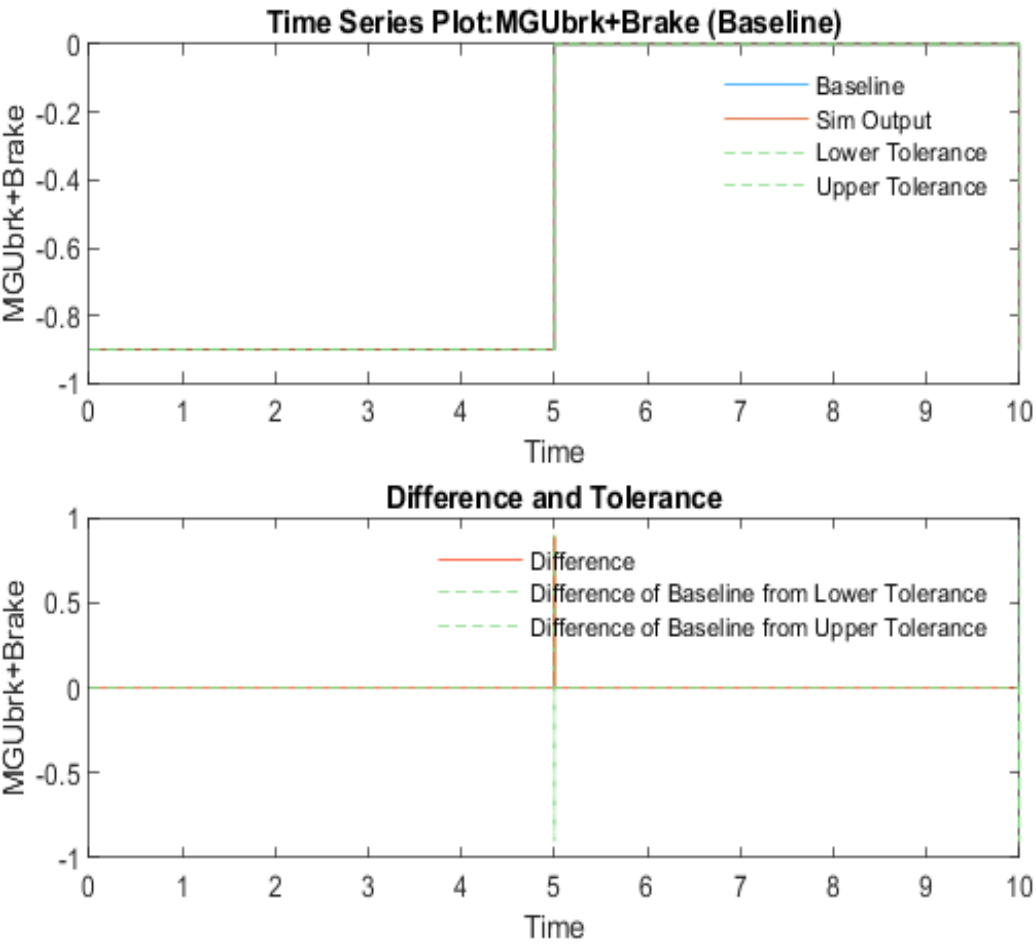
Test Case Information

Name: Scenario7
Type: Baseline Test
Baseline Name: Regen_Baseline3.mat
Baseline File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\Baselines\Regen_B
aseline3.mat

Baseline Comparison

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Unit 1 | Sample Time 1 | Data Type 2 | Unit 2 | Sample Time 2 | Interpolation | Sync | Link to Plot |
|--|---------|---------|----------|---------|----------|-------------|--------|---------------|-------------|--------|---------------|---------------|-------|----------------------|
|  MGUbrk+ Brake | 1e-05 | 0 | 0.001 | 0.001 | 0.891 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel T | Lead Tol | Lag Tol | Max Dif | Data Type | Units | Sample Time | Data Type | Units | Sample Time | Interp | Sync |
|--------------|---------|-------|----------|---------|---------|-----------|-------|-------------|-----------|-------|-------------|--------|-------|
| MGUbrk+Brake | 1e-05 | 0 | 0.001 | 0.001 | 0.891 | double | | Continuous | double | | Continuous | linear | union |



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Input Data
Input Information

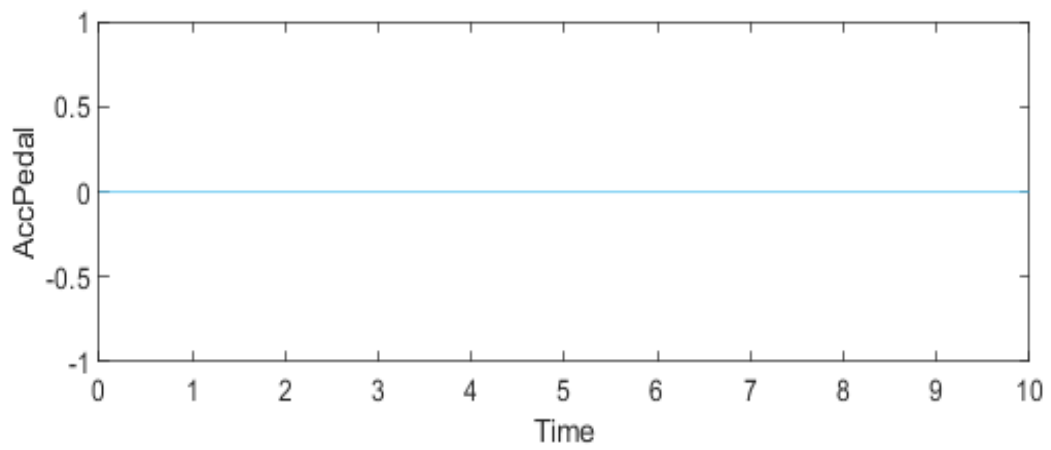
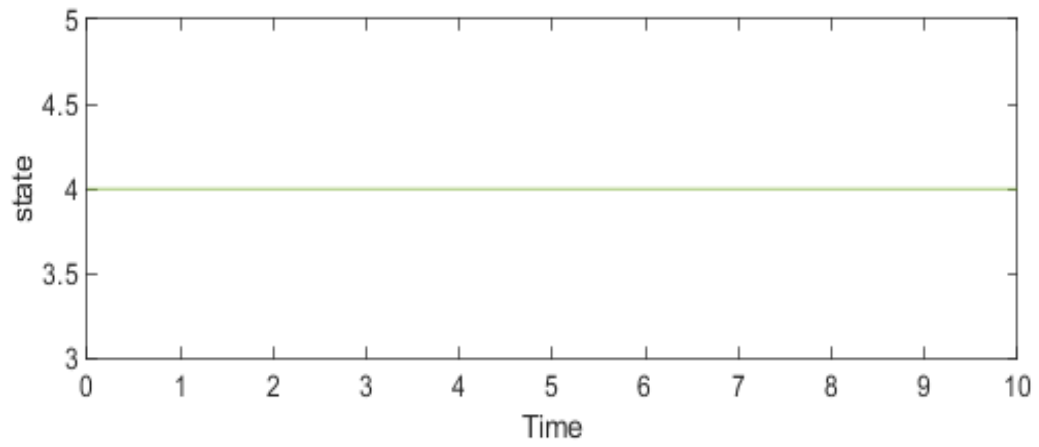
External Input controllerInputs7.mat

Name:

External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\testScenarios\contr
ollerInputs7.mat

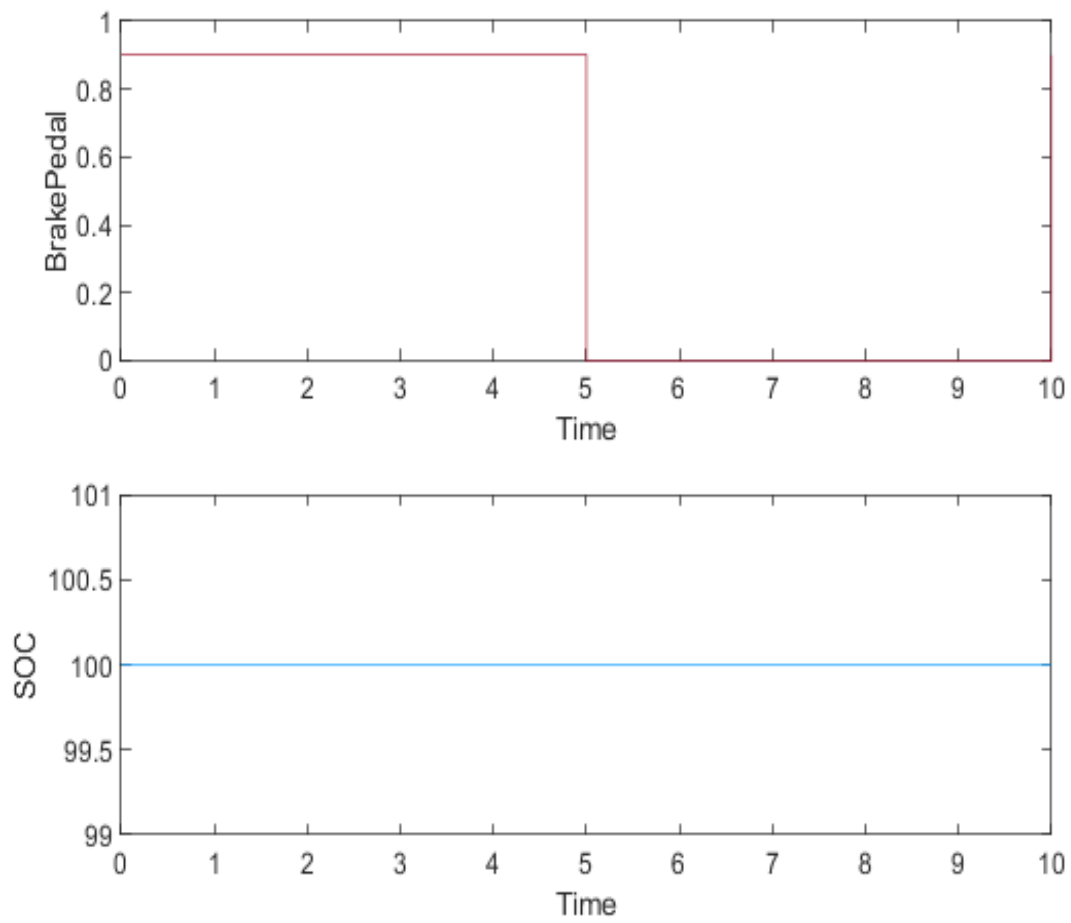
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

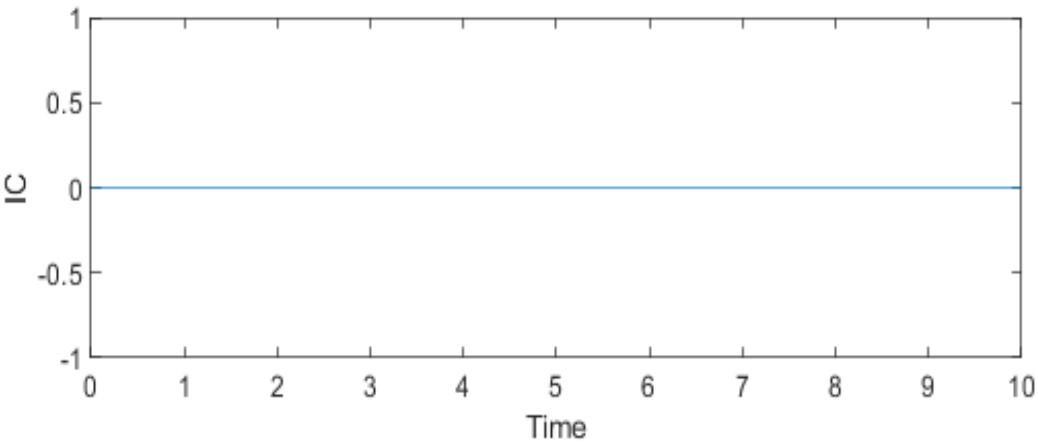
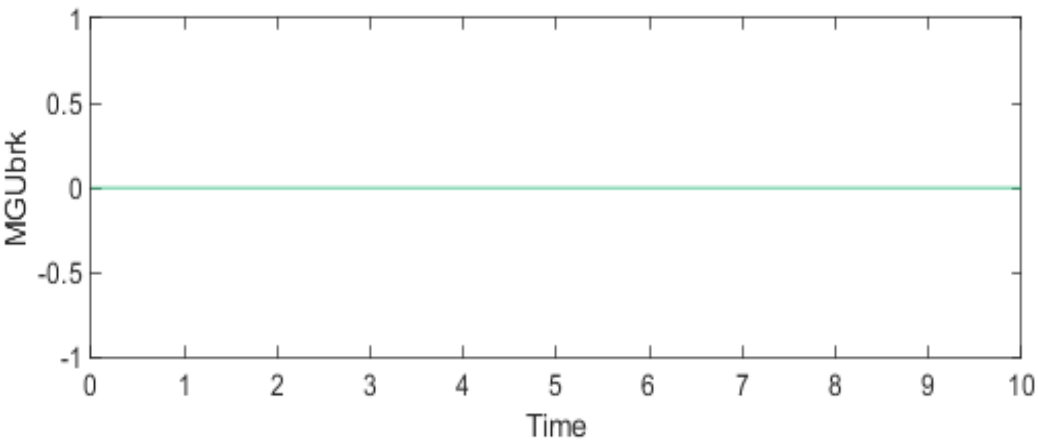
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs7.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs7.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 838192833 3751127671 4267247710 2037611767
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:16
 Simulation Stop Time: 2021-02-13 10:21:17
 Platform: PCWIN64

Simulation Output

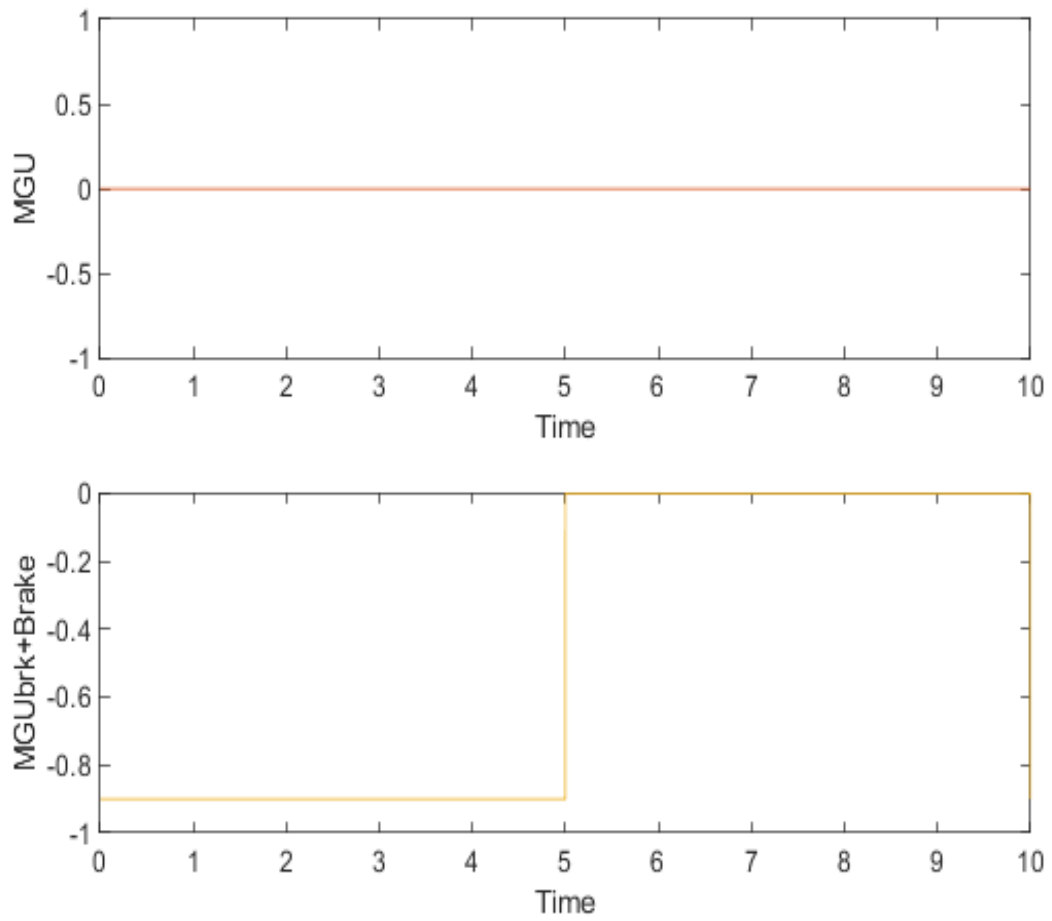
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



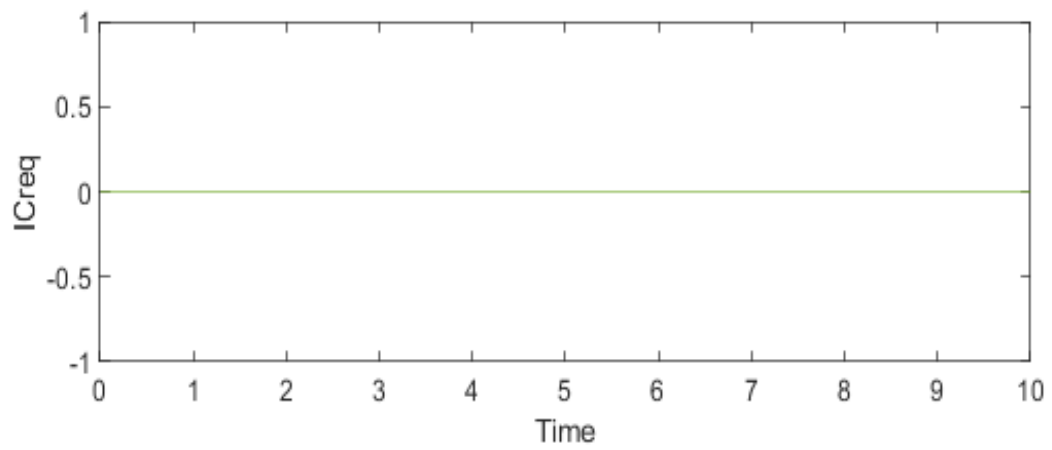
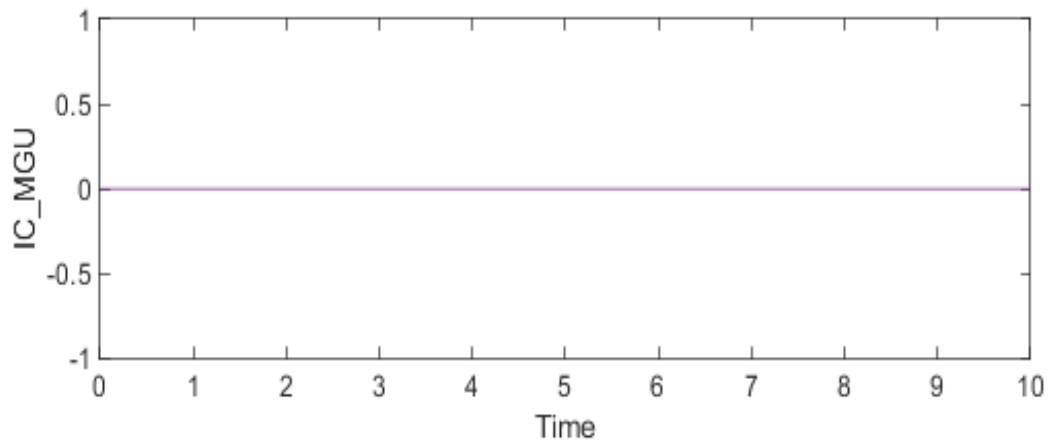
[Back to Report Summary](#)[Back to Signal Summary](#)

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



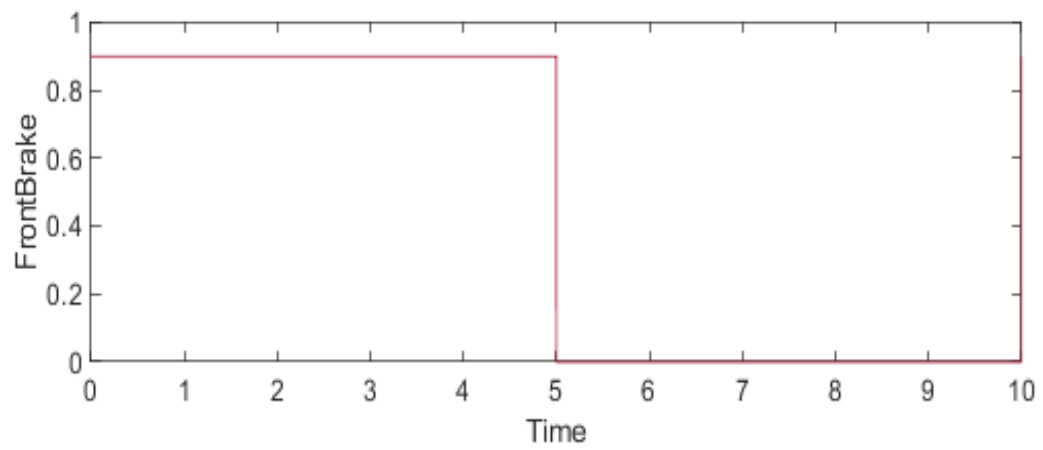
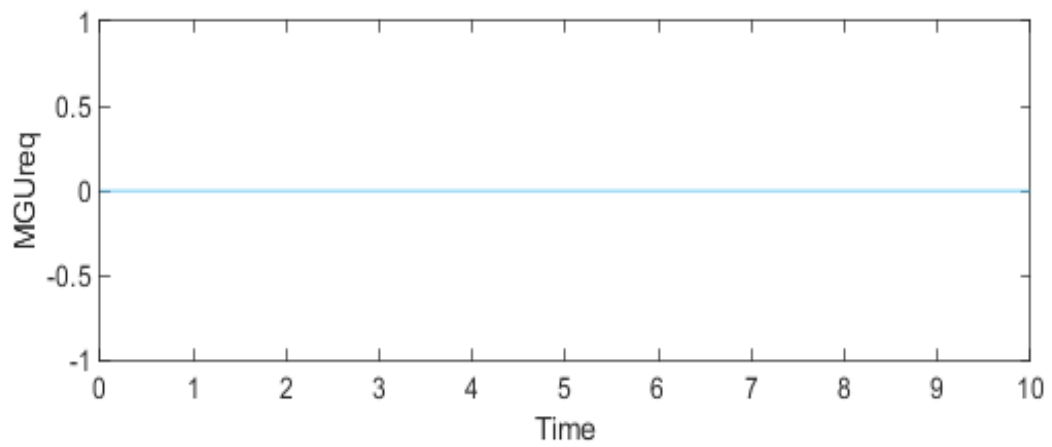
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



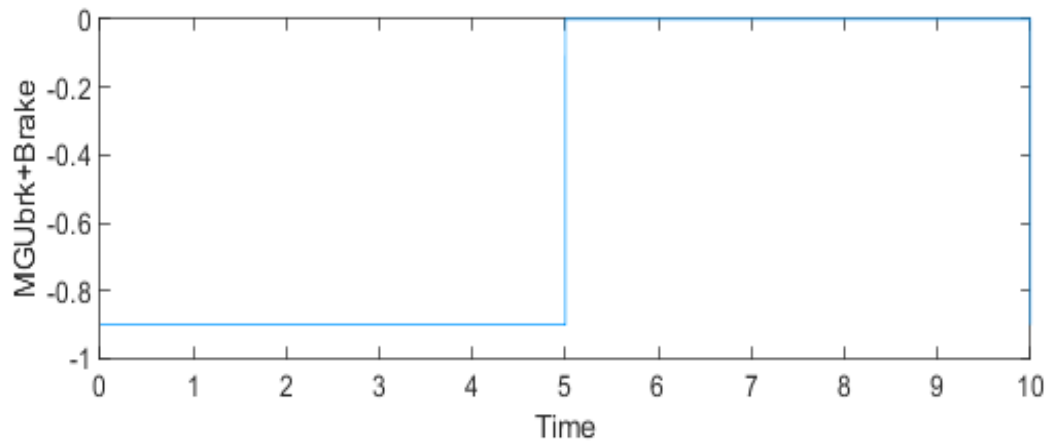
[Back to Report Summary](#)[Back to Signal Summary](#)

| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGUbrk+Brake | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Scenario8

Test Result Information

Result Type: Test Case Result
Parent: [Regenerative Braking](#)
Start Time: 13-Feb-2021 10:21:18
End Time: 13-Feb-2021 10:21:21
Outcome: **Passed**
Description:

Scenario 8:

State = regenerative braking

AccPedal = 0

BrakePedal = exponential growth and decay over time

SOC = 50%

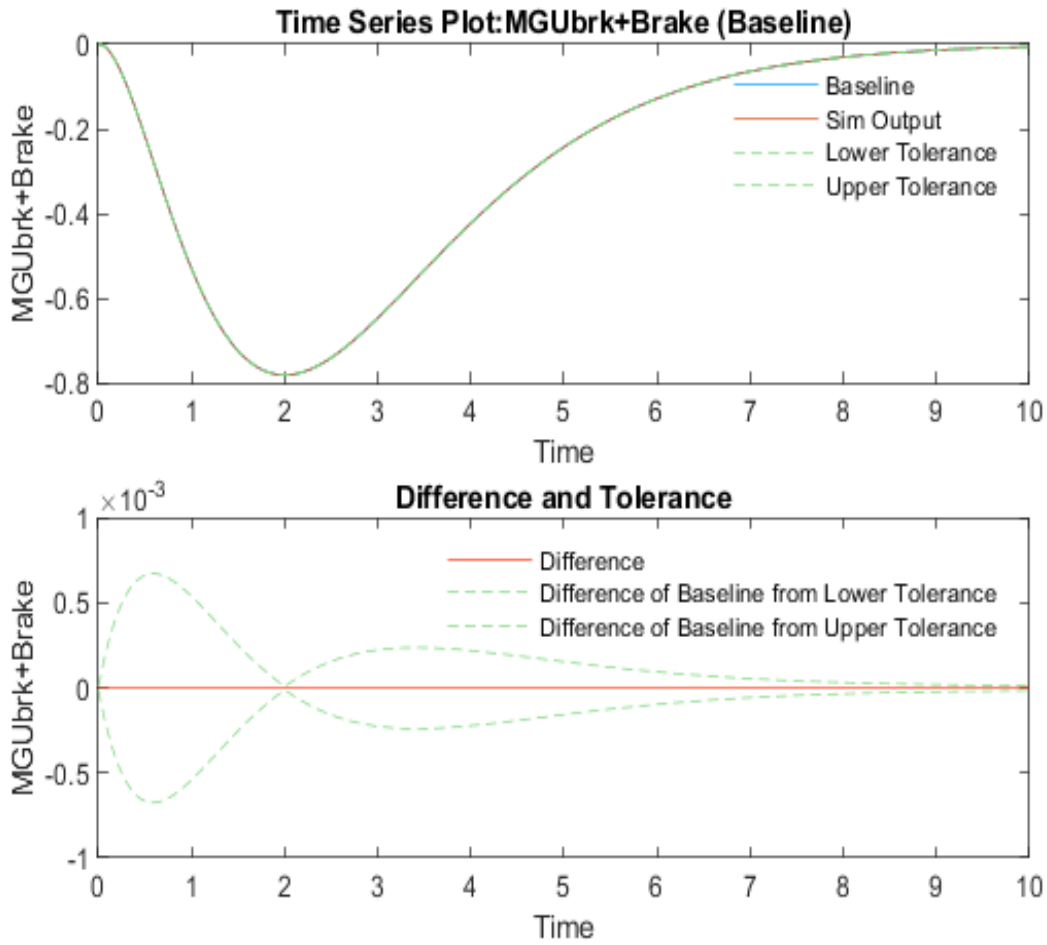
Test Case Information

Name: Scenario8
Type: Baseline Test
Baseline Name: Regen_Baseline4.mat
Baseline File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\Baselines\Regen_B
aseline4.mat

Baseline Comparison

| Name | Abs Tol | Rel Tol | Lead Tol | Lag Tol | Max Diff | Data Type 1 | Unit 1 | Sample Time 1 | Data Type 2 | Unit 2 | Sample Time 2 | Interpolation | Sync | Link to Plot |
|------------------|---------|---------|----------|---------|----------|-------------|--------|---------------|-------------|--------|---------------|---------------|-------|----------------------|
| MGUbrk+ Brake | 1e-05 | 0 | 0.001 | 0.001 | 5.55e-17 | double | | Continuous | double | | Continuous | linear | union | Link |

| Name | Abs Tol | Rel T ol | Lead T ol | Lag Tol | Max Diff | Data Type e 1 | Units 1 | Sample Time 1 | Data Type e 2 | Units 2 | Sample Time 2 | Interp | Sync |
|----------------|---------|----------|-----------|---------|----------|---------------|---------|---------------|---------------|---------|---------------|--------|-------|
| ✓ MGUbrk+Brake | 1e-05 | 0 | 0.001 | 0.001 | 5.55e-17 | double | | Continuous | double | | Continuous | linear | union |



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Input Data
Input Information

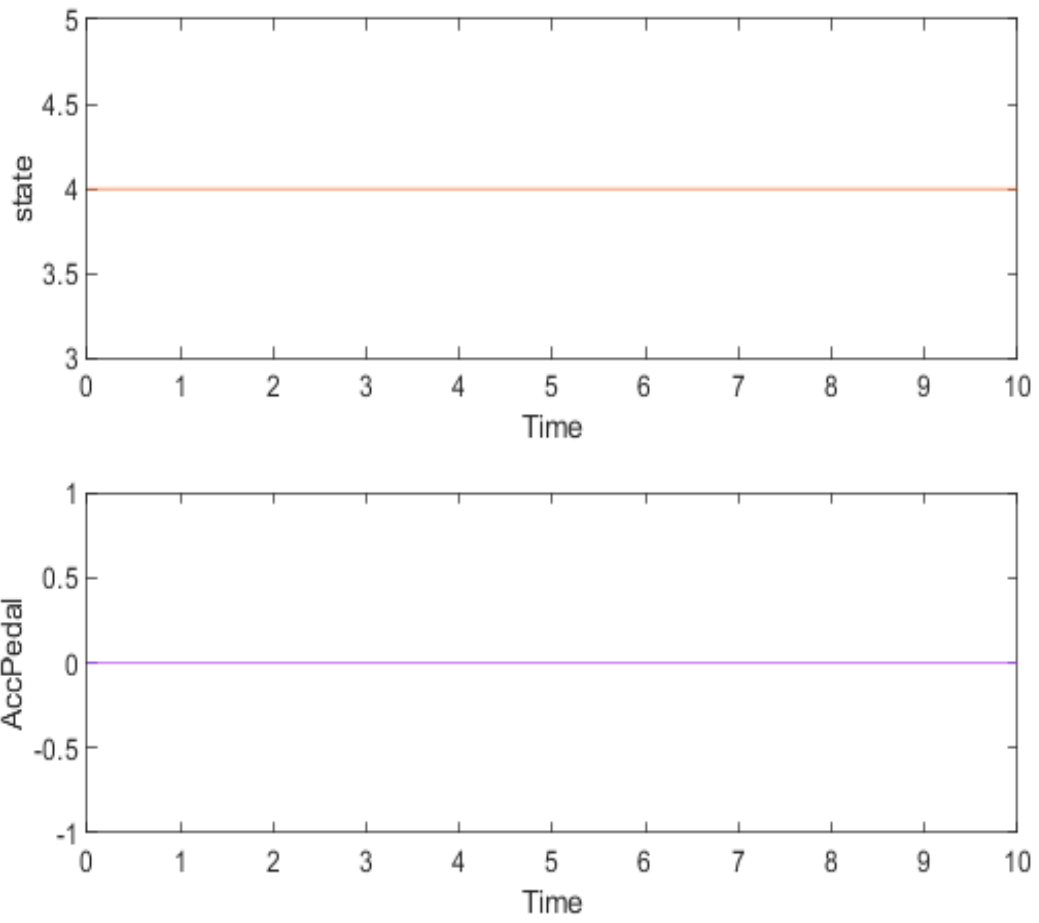
External Input controllerInputs8.mat

Name:

External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-
controller\Test\ControllerTest\testScenarios\contr
ollerInputs8.mat

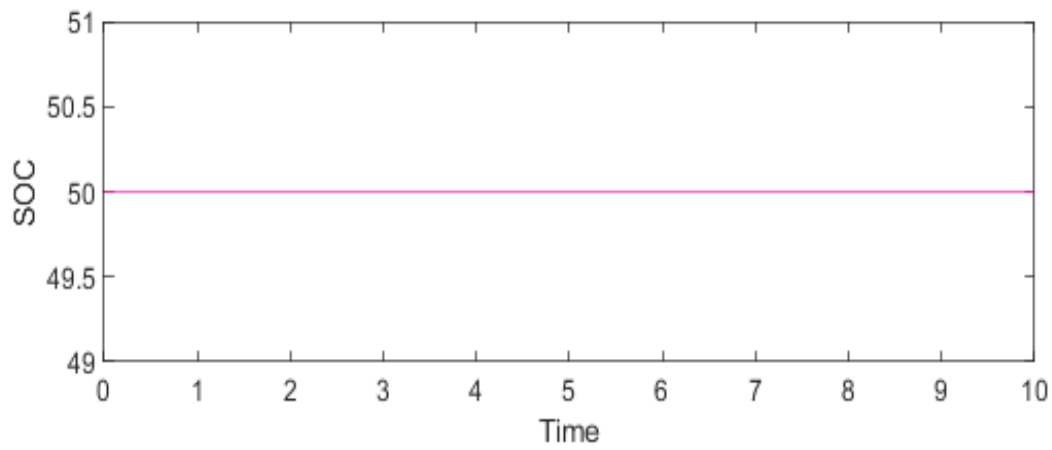
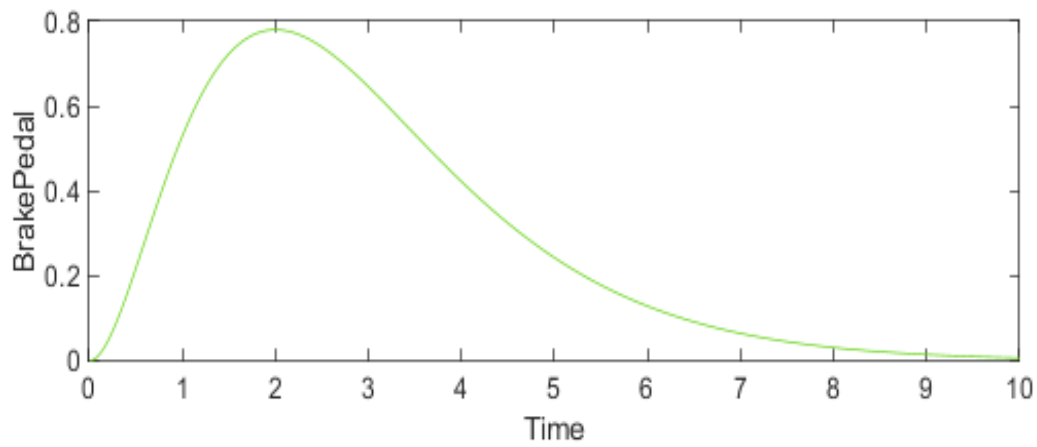
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

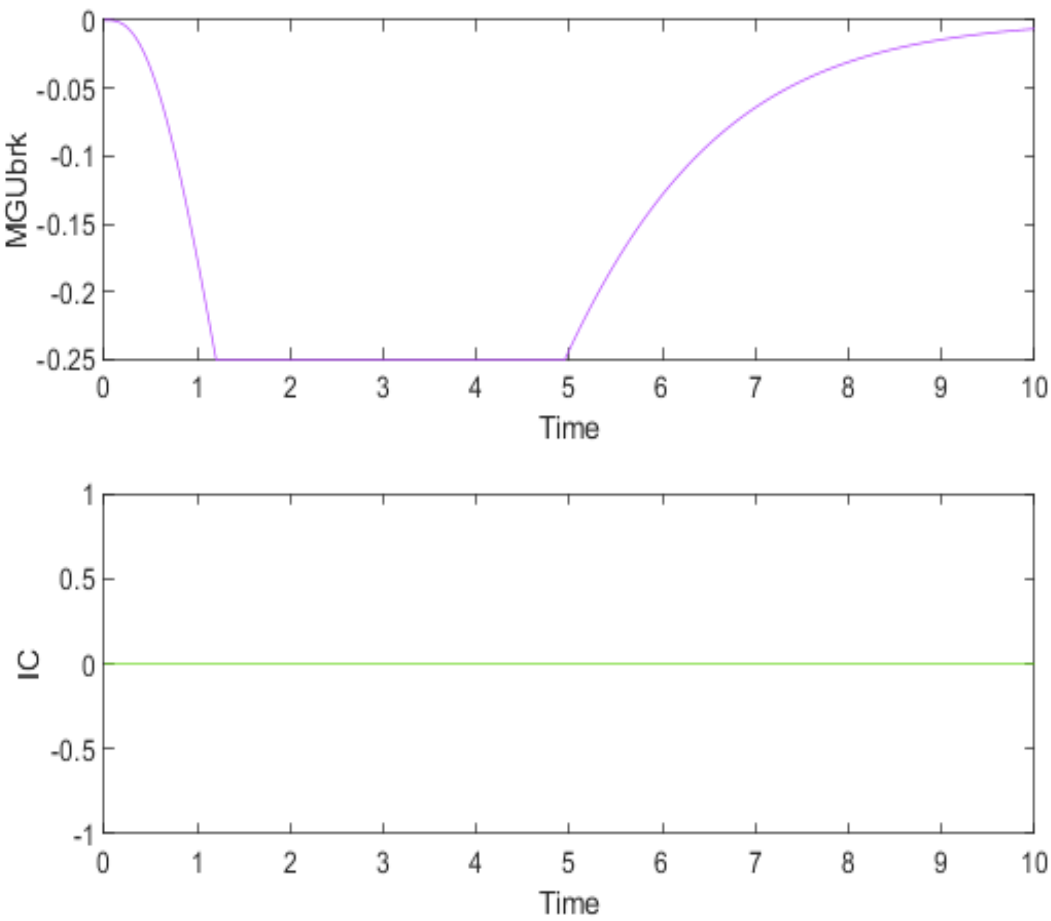
| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

Configuration Set: Configuration
 External Input Name: controllerInputs8.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs8.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 838192833 3751127671 4267247710 2037611767
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:18
 Simulation Stop Time: 2021-02-13 10:21:20
 Platform: PCWIN64

Simulation Output

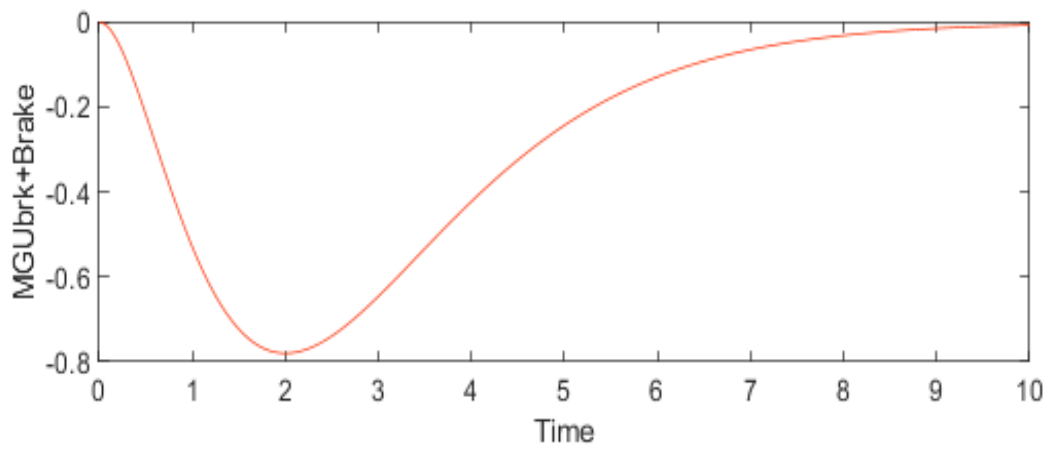
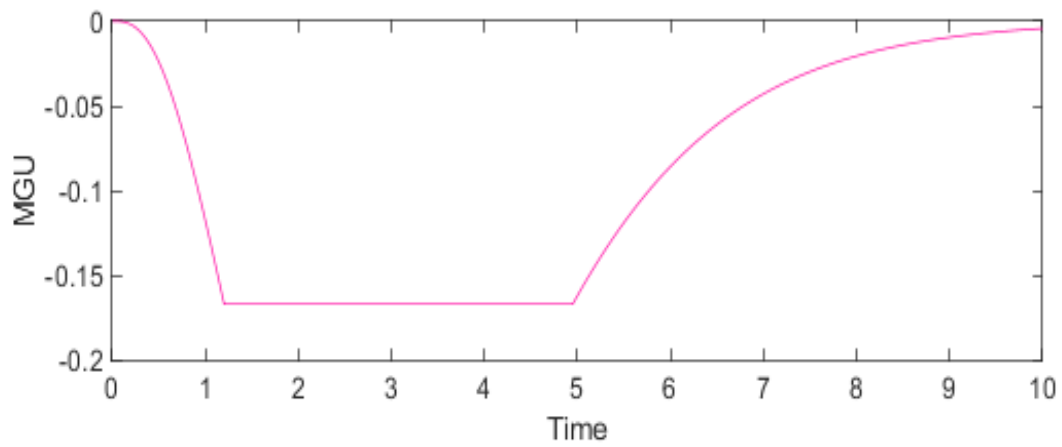
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



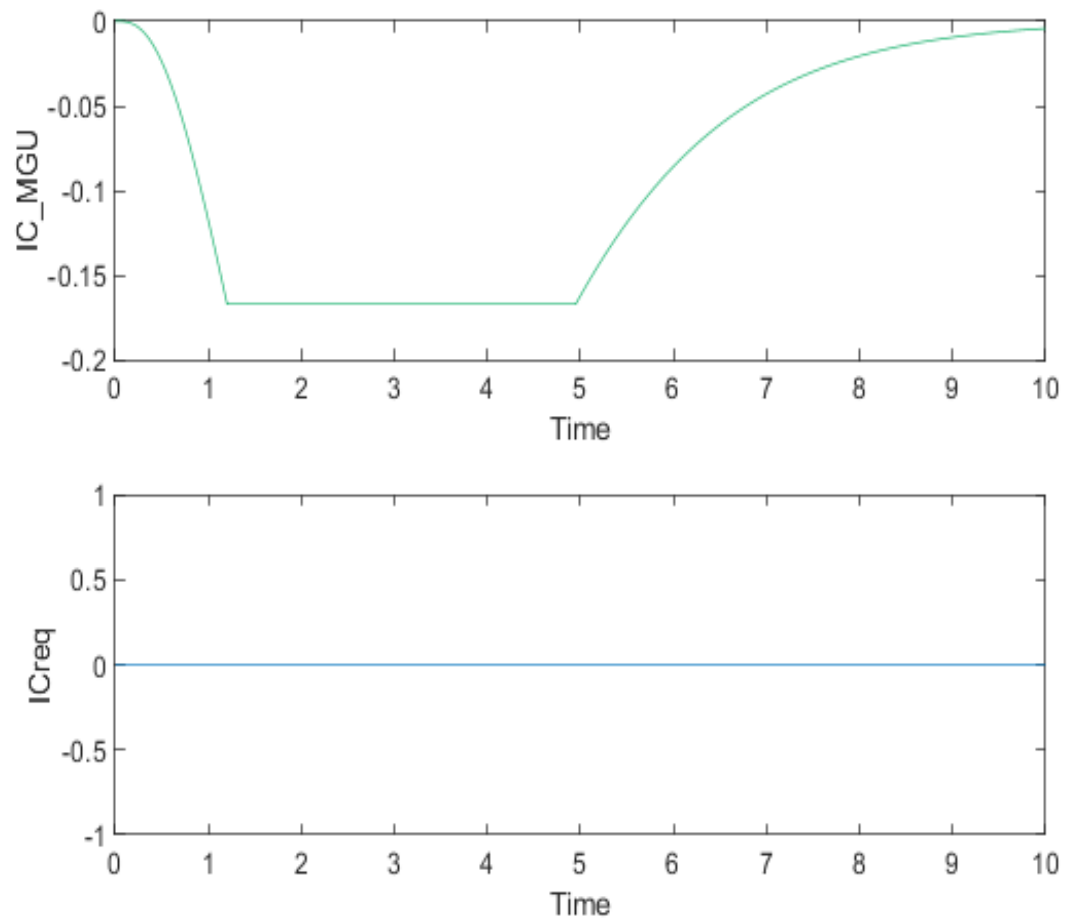
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



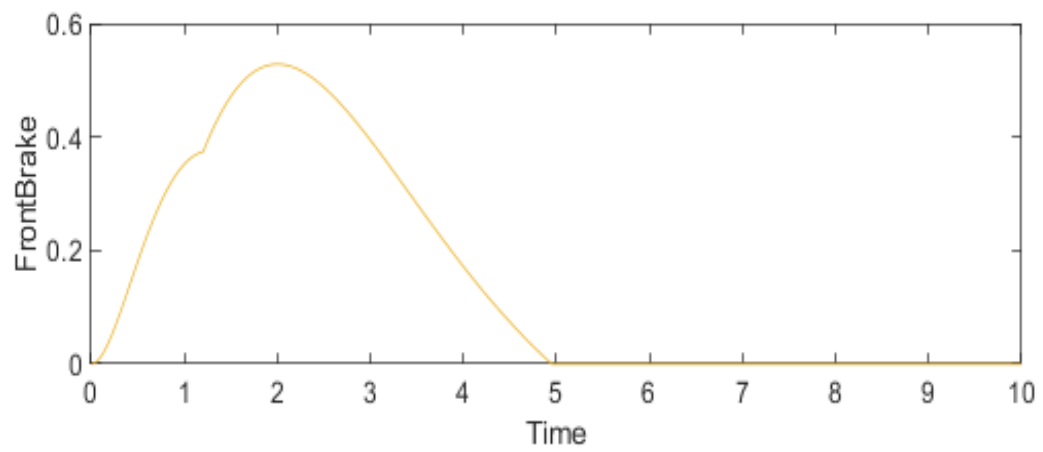
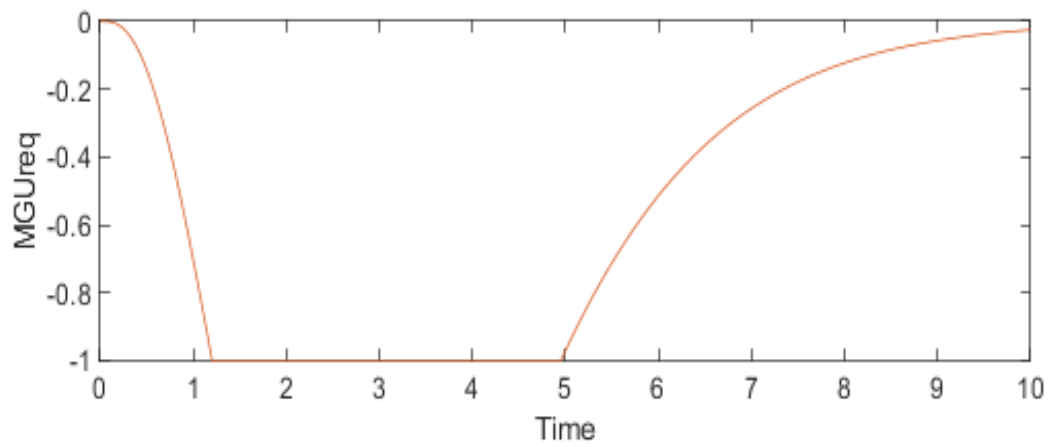
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



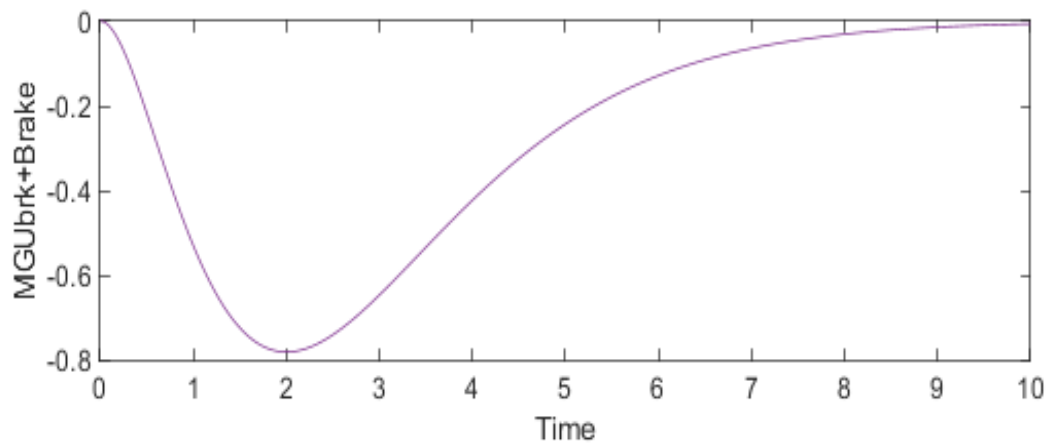
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGUbrk+Brake | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Electrical Drive

Test Result Information

Result Type: Test Suite Result
Parent: [controllerTest](#)
Start Time: 13-Feb-2021 10:21:21
End Time: 13-Feb-2021 10:21:23
Outcome: Total: 1, **Passed: 1**
Description:

Electrical Drive case suite of tests

Test Suite Information

Name: Electrical Drive

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Scenario11

Test Result Information

Result Type: Test Case Result
Parent: [Electrical Drive](#)
Start Time: 13-Feb-2021 10:21:21
End Time: 13-Feb-2021 10:21:23
Outcome: **Passed**
Description:

Scenario 11:

state = electrical drive

AccPedal = exponential growth and decay


BrakePedal = 0

SOC = from 70% to 15%

Test Case Information

Name: Scenario11
Type: Baseline Test

Logical and Temporal Assessments

| Name | Assessment |
|---|---|
|  Assessment1 | At any point of time, (((SOC >= 15) & (BrakePedal == 0)) & ((MGUreq <= AccPedal) (MGUreq <= 1))) must be true |

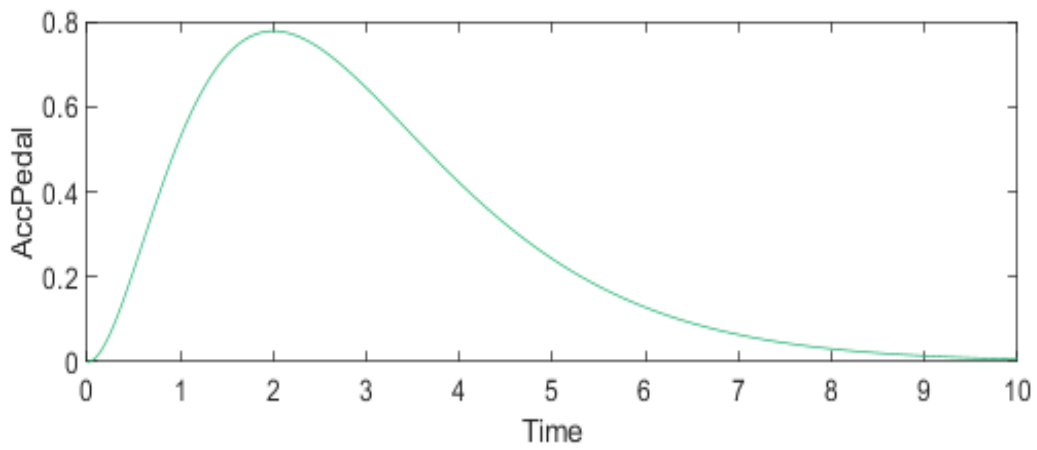
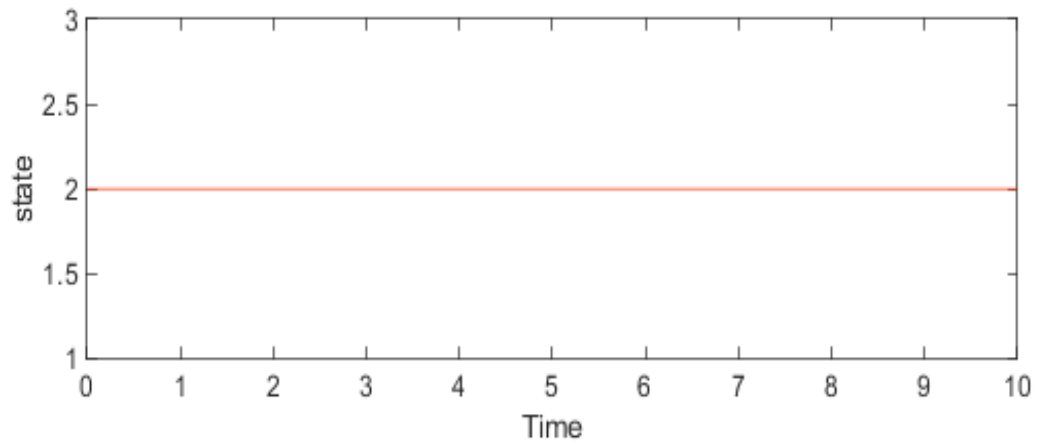
Input Data

Input Information

External Input Name: controllerInputs11.mat
External Input File: C:\Users\mordi\Desktop\Materiale
Università\Compliance\hybrid-controller\Hybrid-controller\Test\ControllerTest\testScenarios\controllerInputs11.mat

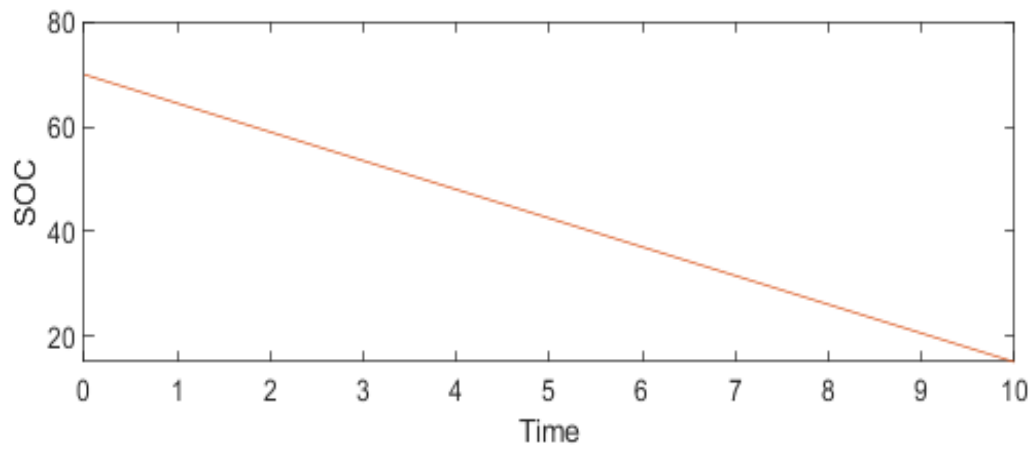
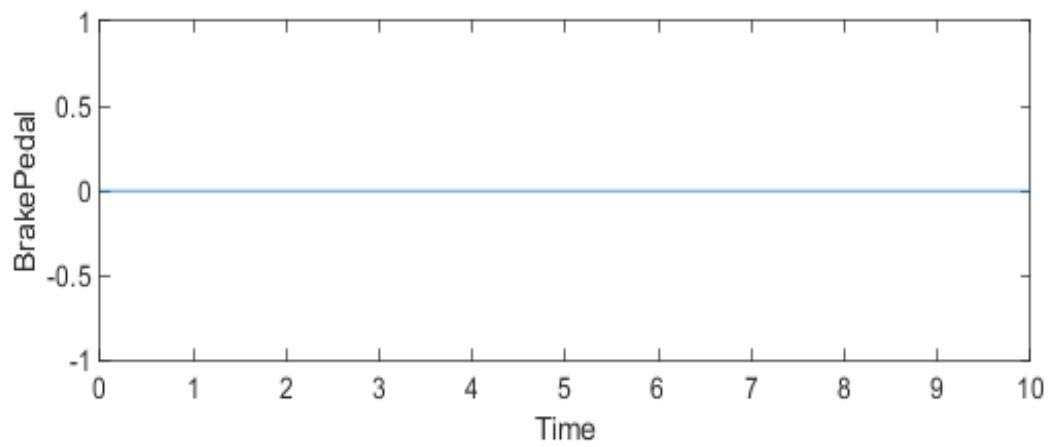
| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|------------|-----------|-------|-------------|--------|-------|----------------------|
| state | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |
| SOC | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|----------|-----------|-------|-------------|--------|-------|
| state | double | | Continuous | linear | union |
| AccPedal | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| BrakePedal | double | | Continuous | linear | union |
| SOC | double | | Continuous | linear | union |



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Simulation

System Under Test Information

| | |
|---------------------|-----------------|
| Model: | controllerModel |
| Release: | Current |
| Simulation Mode: | normal |
| Override SIL or PIL | 0 |
| Mode: | |

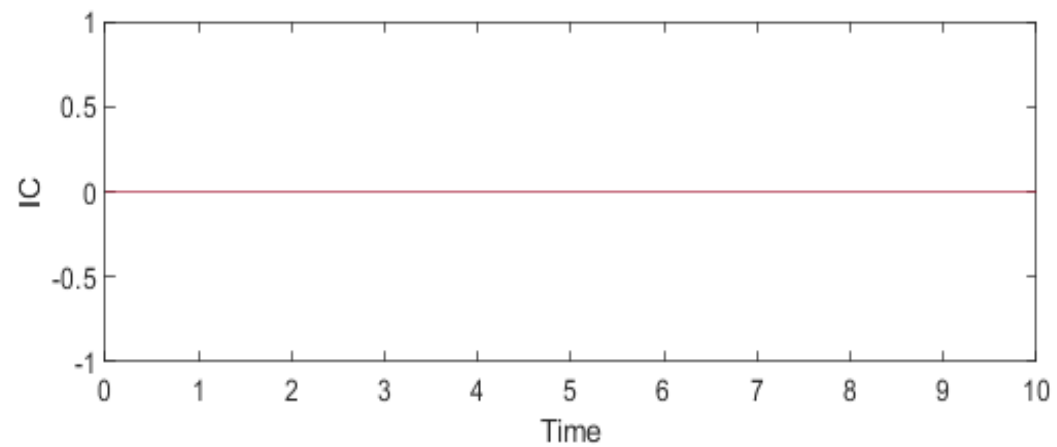
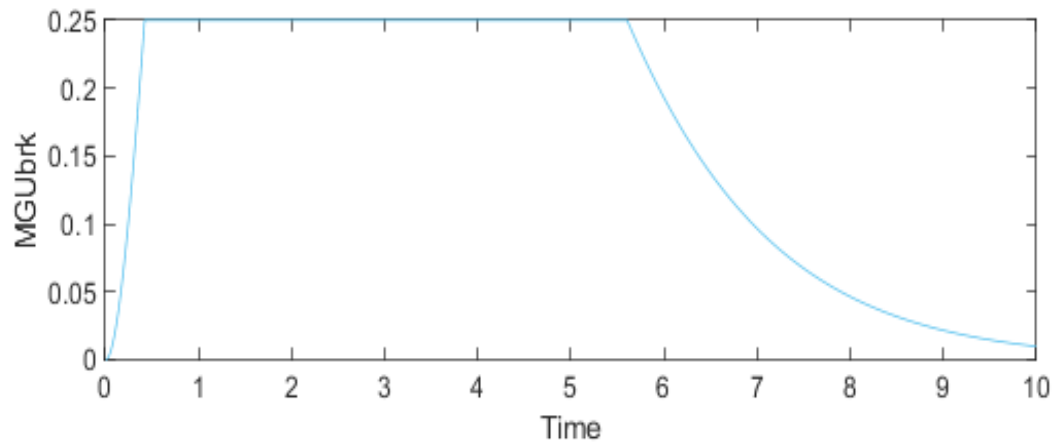
Configuration Set: Configuration
 External Input Name: controllerInputs11.mat
 External Input File: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\testScenarios\contr
 ollerInputs11.mat
 Start Time: 0
 Stop Time: 10
 Checksum: 2665756964 2540176594 24359503 183443390
 Simulink Version: 10.2
 Model Version: 1.16
 Model Author: mordi
 Date: Sat Feb 13 10:19:41 2021
 User ID: mordi
 Model Path: C:\Users\mordi\Desktop\Materiale
 Università\Compliance\hybrid-controller\Hybrid-
 controller\Test\ControllerTest\controllerModel.slx
 Machine Name: DESKTOP-PM6NB79
 Solver Name: VariableStepDiscrete
 Solver Type: Variable-Step
 Max Step Size: 0.001
 Simulation Start Time: 2021-02-13 10:21:21
 Simulation Stop Time: 2021-02-13 10:21:22
 Platform: PCWIN64

Simulation Output

| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|--------------|-----------|-------|-------------|--------|-------|----------------------|
| MGUbrk | double | | Continuous | linear | union | Link |
| IC | double | | Continuous | linear | union | Link |
| MGU | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| IC_MGU | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |
| FrontBrake | double | | Continuous | linear | union | Link |
| AccPedal | double | | Continuous | linear | union | Link |
| BrakePedal | double | | Continuous | linear | union | Link |

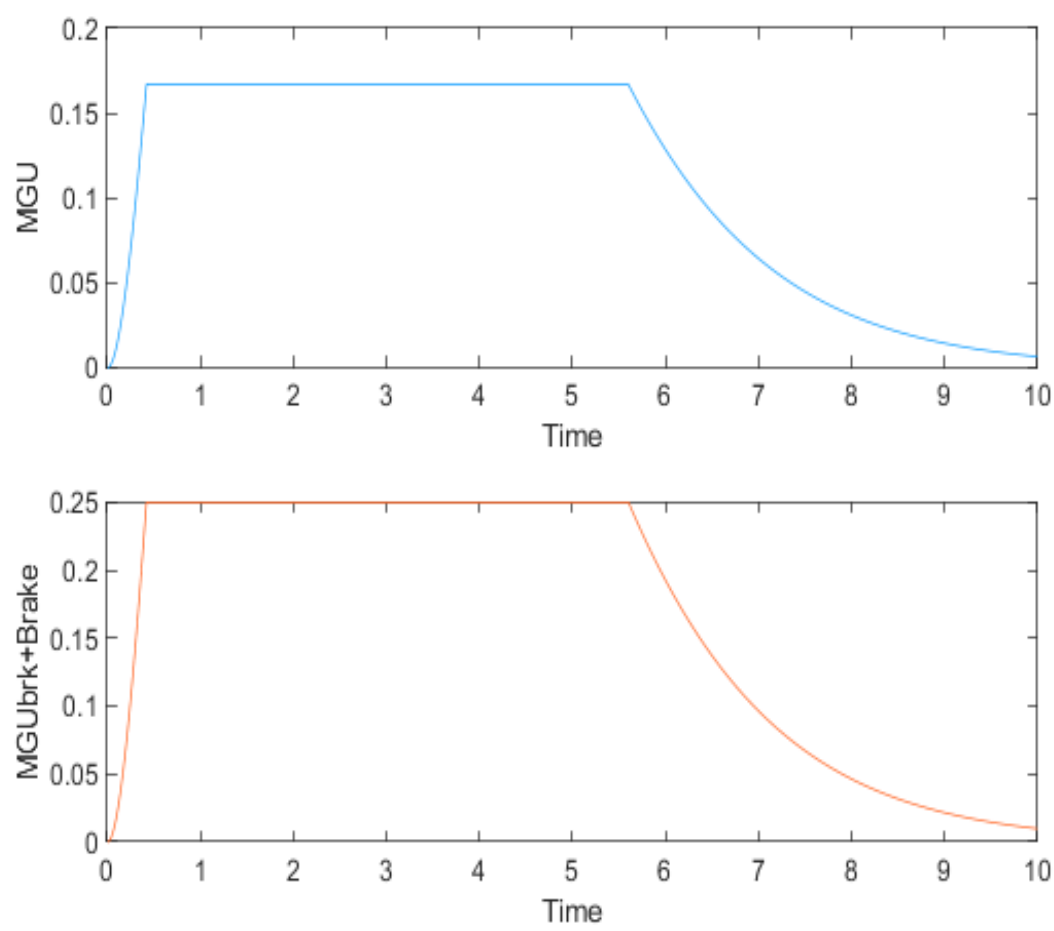
| | | | | | | |
|--------------|--------|--|------------|--------|-------|----------------------|
| SOC | double | | Continuous | linear | union | Link |
| MGUbrk+Brake | double | | Continuous | linear | union | Link |
| ICreq | double | | Continuous | linear | union | Link |
| MGUreq | double | | Continuous | linear | union | Link |

| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| MGUbrk | double | | Continuous | linear | union |
| IC | double | | Continuous | linear | union |



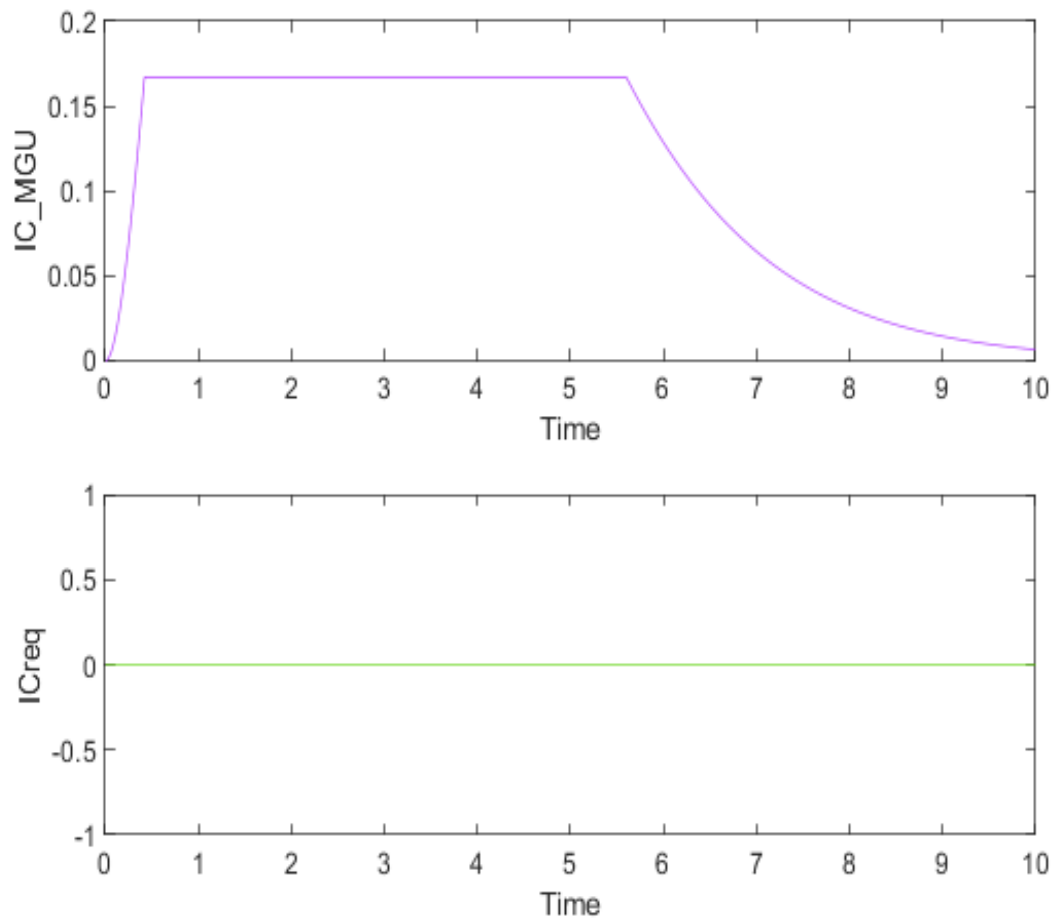
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| MGU | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



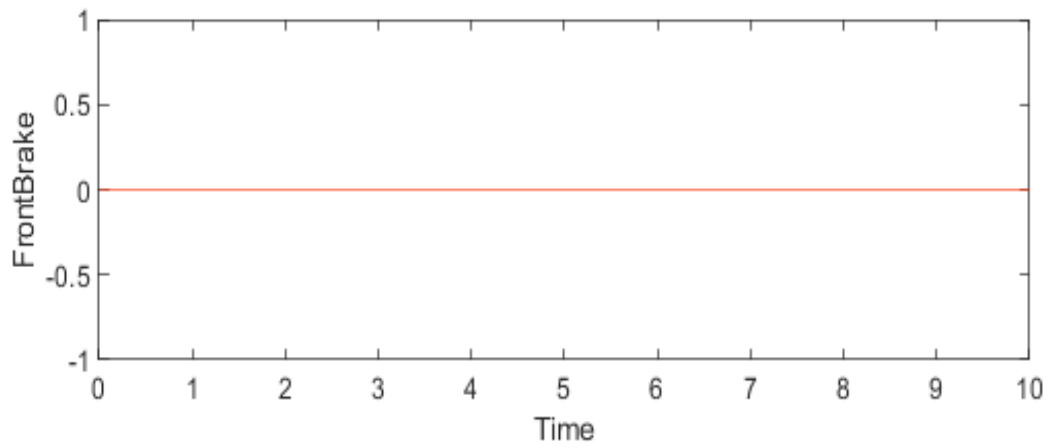
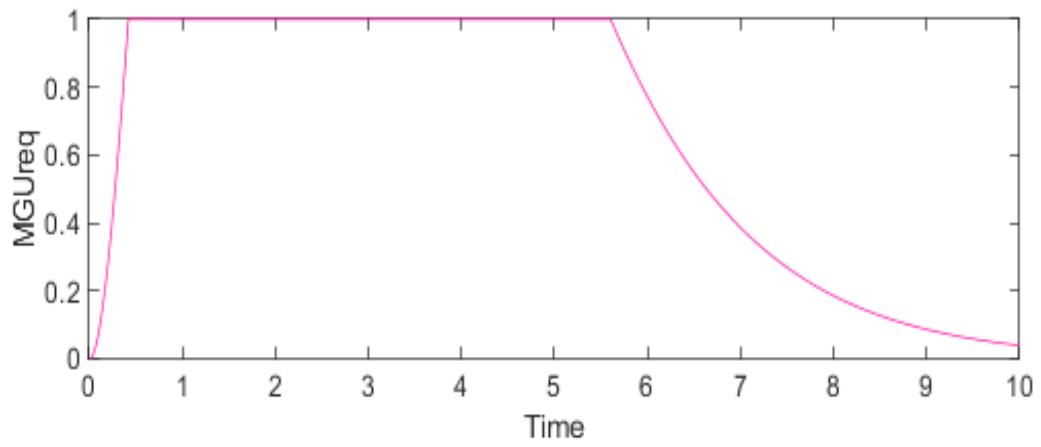
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| IC_MGU | double | | Continuous | linear | union |
| ICreq | double | | Continuous | linear | union |



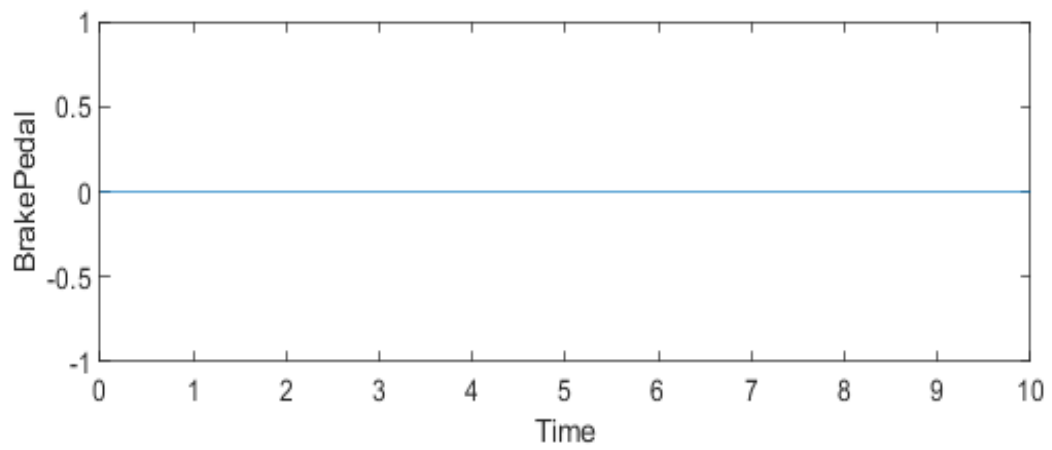
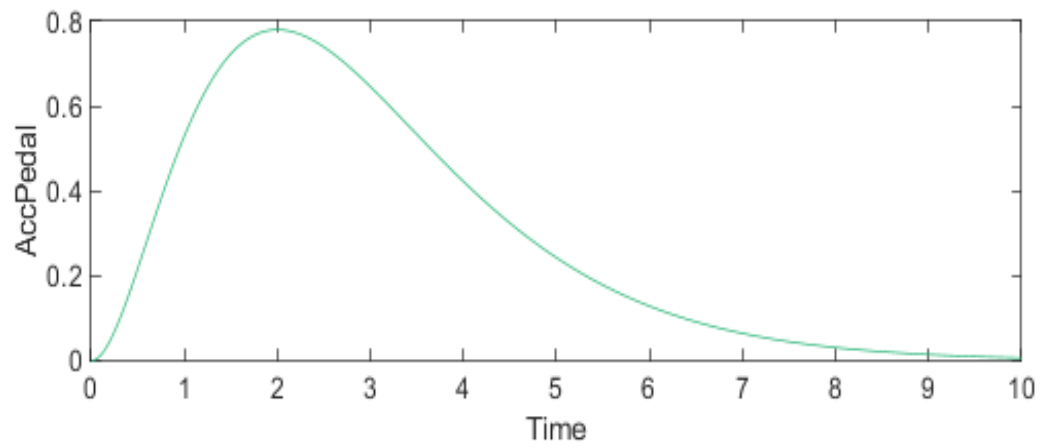
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| MGUreq | double | | Continuous | linear | union |
| FrontBrake | double | | Continuous | linear | union |



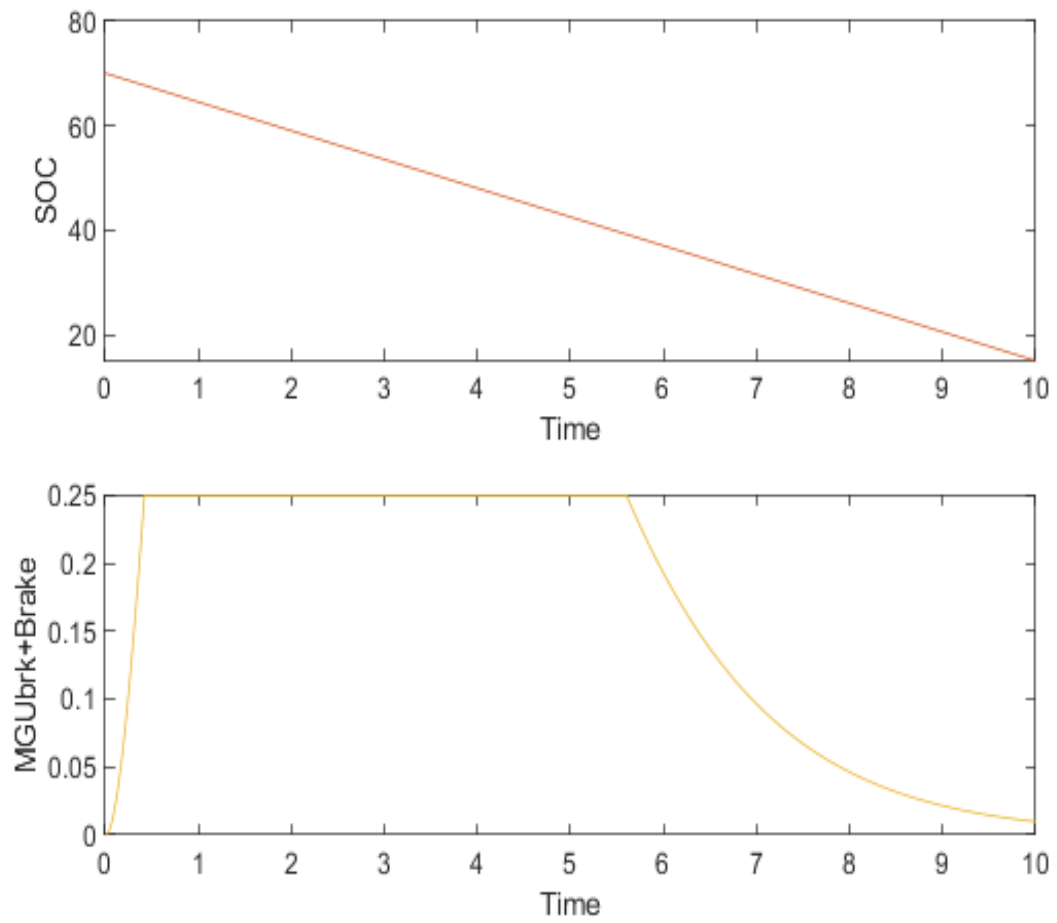
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|------------|-----------|-------|-------------|--------|-------|
| AccPedal | double | | Continuous | linear | union |
| BrakePedal | double | | Continuous | linear | union |



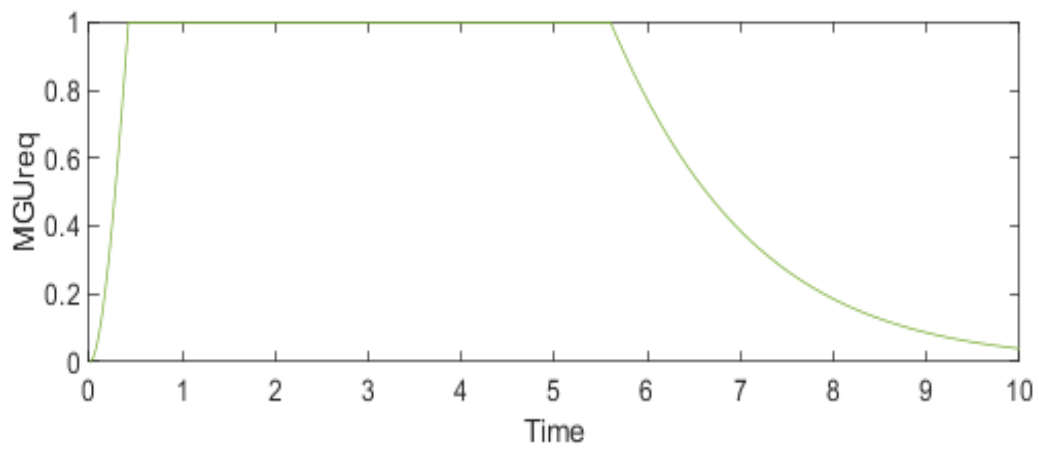
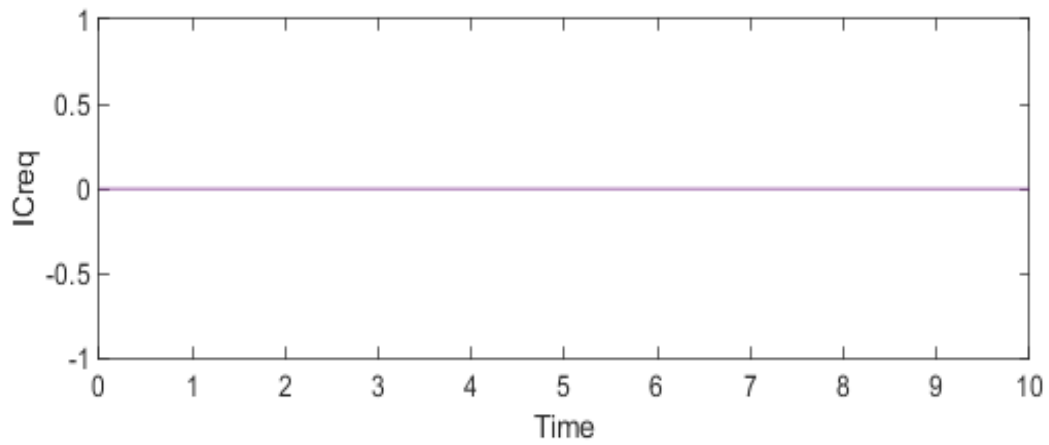
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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------------|-----------|-------|-------------|--------|-------|
| SOC | double | | Continuous | linear | union |
| MGUbrk+Brake | double | | Continuous | linear | union |



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| Name | Data Type | Units | Sample Time | Interp | Sync |
|--------|-----------|-------|-------------|--------|-------|
| ICreq | double | | Continuous | linear | union |
| MGUreq | double | | Continuous | linear | union |



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Simulation Logs:

Simulation stopped at '10' because there is no input data after this time point.

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Test Logs:

No baseline criteria evaluation performed as no baseline data is available for this test.

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