Report Generated by Test Manager

Title: **Helicopter outer loop test**
Author: **bpotter**
Date: **11-May-2020 08:13:37**

Test Environment

Platform: PCWIN64
MATLAB: (R2019b)

Summary

Name	Outcome	Duration (Seconds)
HeliLoopTest	6	625.311
Helicopter Pitch Control Test	2	191.61
SmallPositiveStep		96.111
SmallNegativeStep		95.491
Helicopter Roll Control Test	2	226.588
SmallPositiveStep		99.637
SmallNegativeStep		126.941
Helicopter Yaw Control Test	2	207.054
SmallPositiveStep		101.658
SmallNegativeStep		105.389

HeliLoopTest

Test Result Information

Result Type:	Test File Result
Parent:	None
Start Time:	11-May-2020 08:03:11
End Time:	11-May-2020 08:13:37
Outcome:	Total: 6, Passed: 6

Test Suite Information

Name:	HeliLoopTest

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Helicopter Pitch Control Test

Test Result Information

Result Type:	Test Suite Result
Parent:	HeliLoopTest
Start Time:	11-May-2020 08:03:11
End Time:	11-May-2020 08:06:23
Outcome:	Total: 2, Passed: 2

Test Suite Information

Name:	Helicopter Pitch Control Test

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SmallPositiveStep

Test Result Information

Result Type:	Test Case Result
Parent:	Helicopter Pitch Control Test
Start Time:	11-May-2020 08:03:11
End Time:	11-May-2020 08:04:47
Outcome:	Passed
Description:	

Pitch step of +1 degree to determine tracking, overshoot and rise time.

Test Case Information

Name: SmallPositiveStep
Type: Simulation Test

Test Case Requirements

Description: SR_6 : Attitude Rate Tracking Performance (HelicopterSystemRequirements#10)
Document: HelicopterSystemRequirements.slreqx

Simulation

System Under Test Information

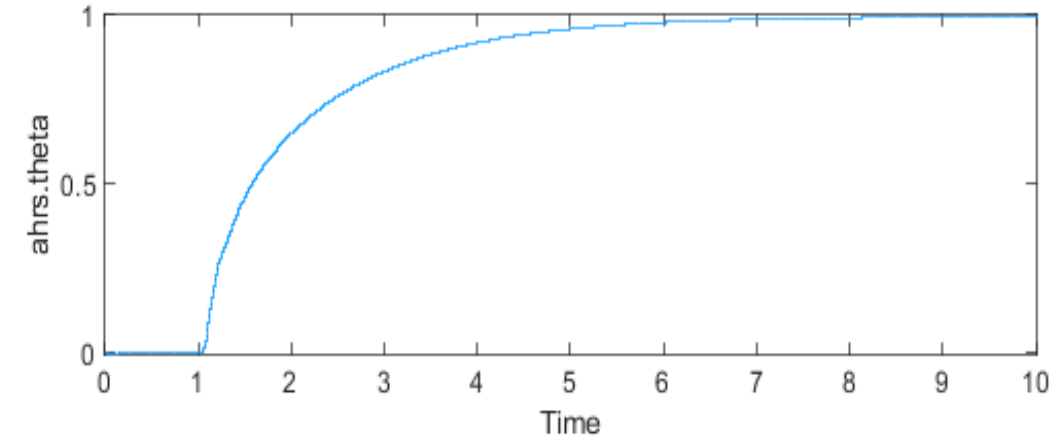
Model:	HelicopterSystem
Simulation Mode:	normal
Override SIL or PIL Mode:	0
Configuration Set:	Configuration
Start Time:	0
Stop Time:	10
Checksum:	3383442402 366368657 4220001915 2971470468
Simulink Version:	10.0
Model Version:	1.24
Model Author:	bpotter
Date:	Mon May 11 06:42:30 2020
User ID:	bpotter
Model Path:	C:\Users\bpotter\MATLAB\Projects\ARP_DO_Project\work\HelicopterSystem.slx
Machine Name:	AH-BPOTTER
Solver Name:	ode23t
Solver Type:	Variable-Step
Max Step Size:	0.001
Simulation Start Time:	2020-05-11 08:03:13
Simulation Stop Time:	2020-05-11 08:04:46
Platform:	PCWIN64

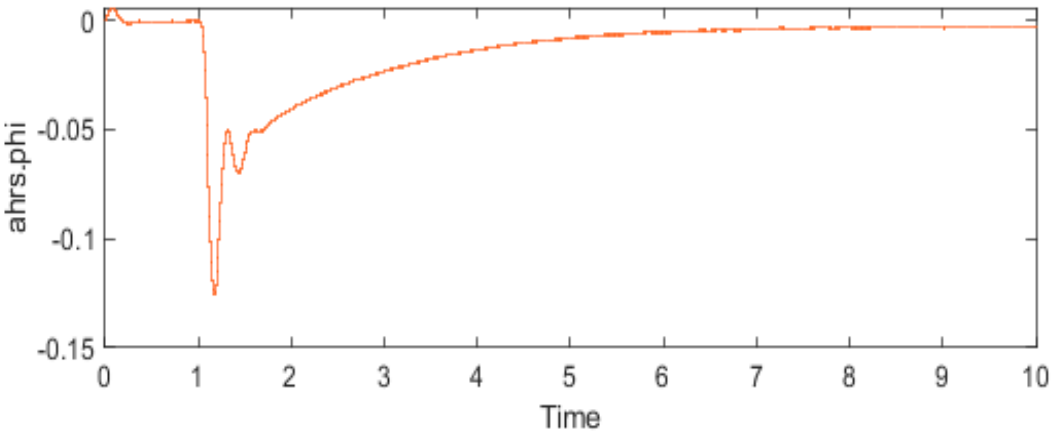
Simulation Output

Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
ahrs.theta	double	deg	0.01	zoh	union	Link
ahrs.phi	double	deg	0.01	zoh	union	Link
ahrs.psi	double	deg	0.01	zoh	union	Link

ahrs.q	double	deg/sec	0.01	zoh	union	Link
ahrs.p	double	deg/sec	0.01	zoh	union	Link
ahrs.r	double	deg/sec	0.01	zoh	union	Link
ahrs.valid	boolean		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.theta	double	deg	0.01	zoh	union
ahrs.phi	double	deg	0.01	zoh	union





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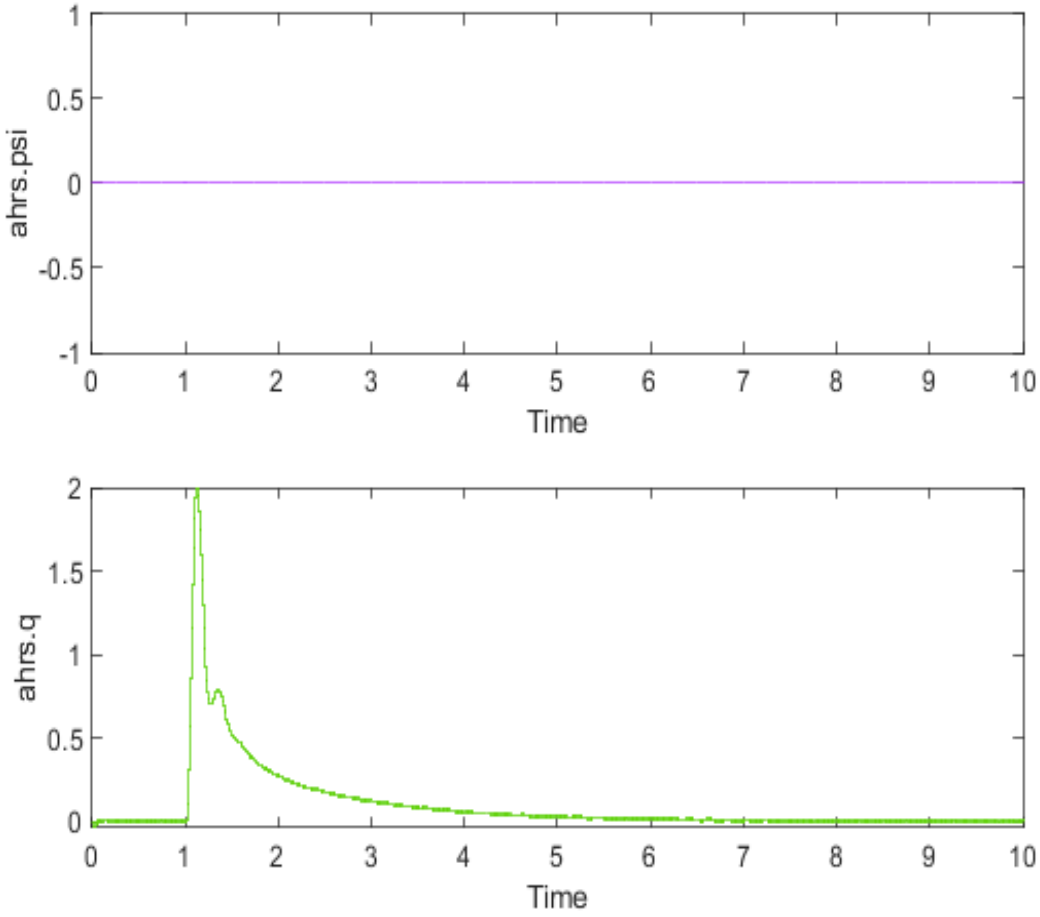
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.psi	double	deg	0.01	zoh	union
ahrs.q	double	deg/sec	0.01	zoh	union



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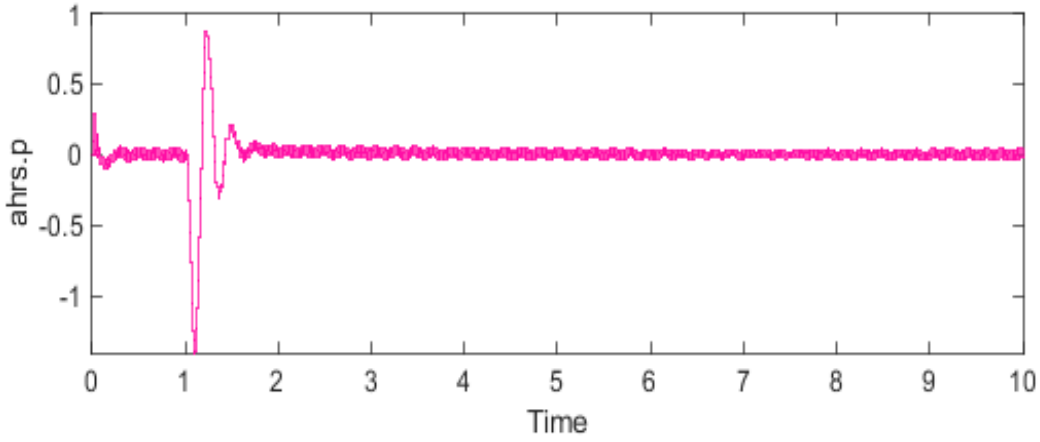
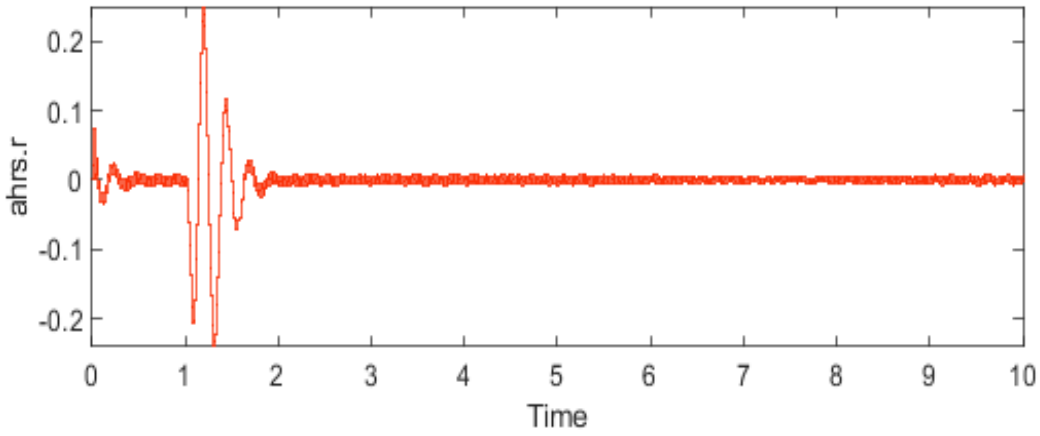
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union





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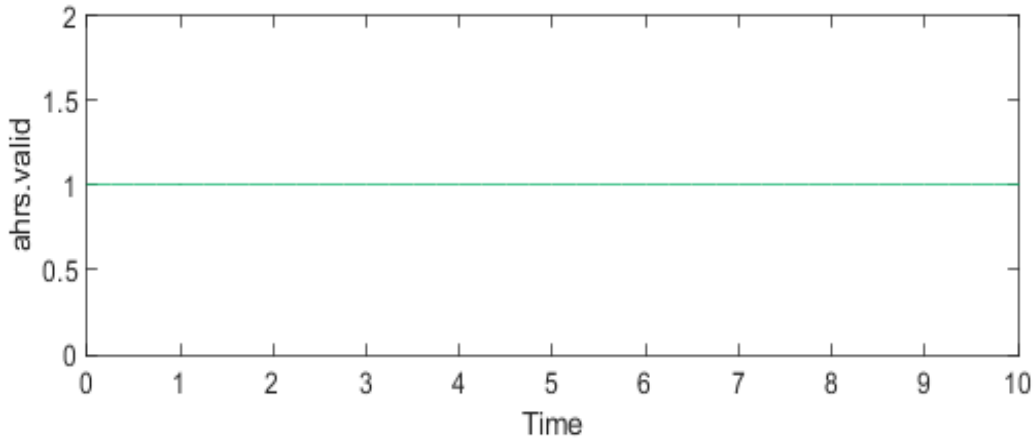
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.valid	boolean		0.01	zoh	union



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Simulation Logs:
Model 'ActuatorLoop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_inner_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'HeliLibrary' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_outer_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'AHRS_voter' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

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Custom Criteria Result Information

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
0.881806736396267
Minimum Value (Inclusive):
0.630000000000000

Diagnostic Record:
Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyLessThanOrEqual passed.

Actual Value:

0.992867301573914

Maximum Value (Inclusive):

1.100000000000000

Diagnostic Record:

Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:

0.985401195159140

Minimum Value (Inclusive):

0.950000000000000

Diagnostic Record:

Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:
---
verifyLessThanOrEqual passed.

Actual Value:
0.992867301573914
Maximum Value (Inclusive):
1.050000000000000

SmallNegativeStep

Test Result Information

Result Type:	Test Case Result
Parent:	Helicopter Pitch Control Test
Start Time:	11-May-2020 08:04:47
End Time:	11-May-2020 08:06:23
Outcome:	Passed
Description:	

Pitch step of -1 degree to determine tracking, overshoot and rise time.

Test Case Information

Name:	SmallNegativeStep
Type:	Simulation Test

Test Case Requirements

Description:	SR_6 : Attitude Rate Tracking Performance (HelicopterSystemRequirements#10)
Document:	HelicopterSystemRequirements.slreqx

Simulation

System Under Test Information

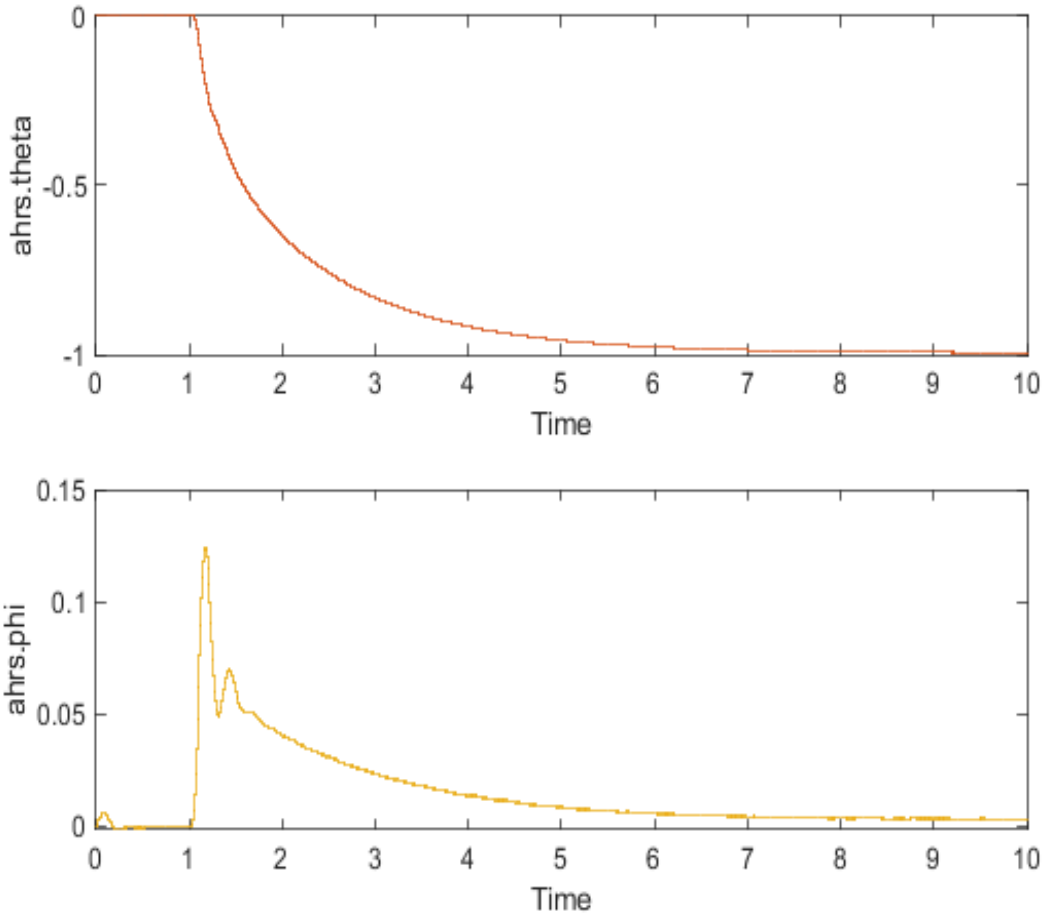
Model:	HelicopterSystem
Simulation Mode:	normal
Override SIL or PIL Mode:	0

Configuration Set:	Configuration
Start Time:	0
Stop Time:	10
Checksum:	3383442402 366368657 4220001915 2971470468
Simulink Version:	10.0
Model Version:	1.24
Model Author:	bpotter
Date:	Mon May 11 06:42:30 2020
User ID:	bpotter
Model Path:	C:\Users\bpotter\MATLAB\Projects\ARP_DO_Project\work\HelicopterSystem.slx
Machine Name:	AH-BPOTTER
Solver Name:	ode23t
Solver Type:	Variable-Step
Max Step Size:	0.001
Simulation Start Time:	2020-05-11 08:04:50
Simulation Stop Time:	2020-05-11 08:06:22
Platform:	PCWIN64

Simulation Output

Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
ahrs.theta	double	deg	0.01	zoh	union	Link
ahrs.phi	double	deg	0.01	zoh	union	Link
ahrs.psi	double	deg	0.01	zoh	union	Link
ahrs.q	double	deg/sec	0.01	zoh	union	Link
ahrs.p	double	deg/sec	0.01	zoh	union	Link
ahrs.r	double	deg/sec	0.01	zoh	union	Link
ahrs.valid	boolean		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.theta	double	deg	0.01	zoh	union
ahrs.phi	double	deg	0.01	zoh	union



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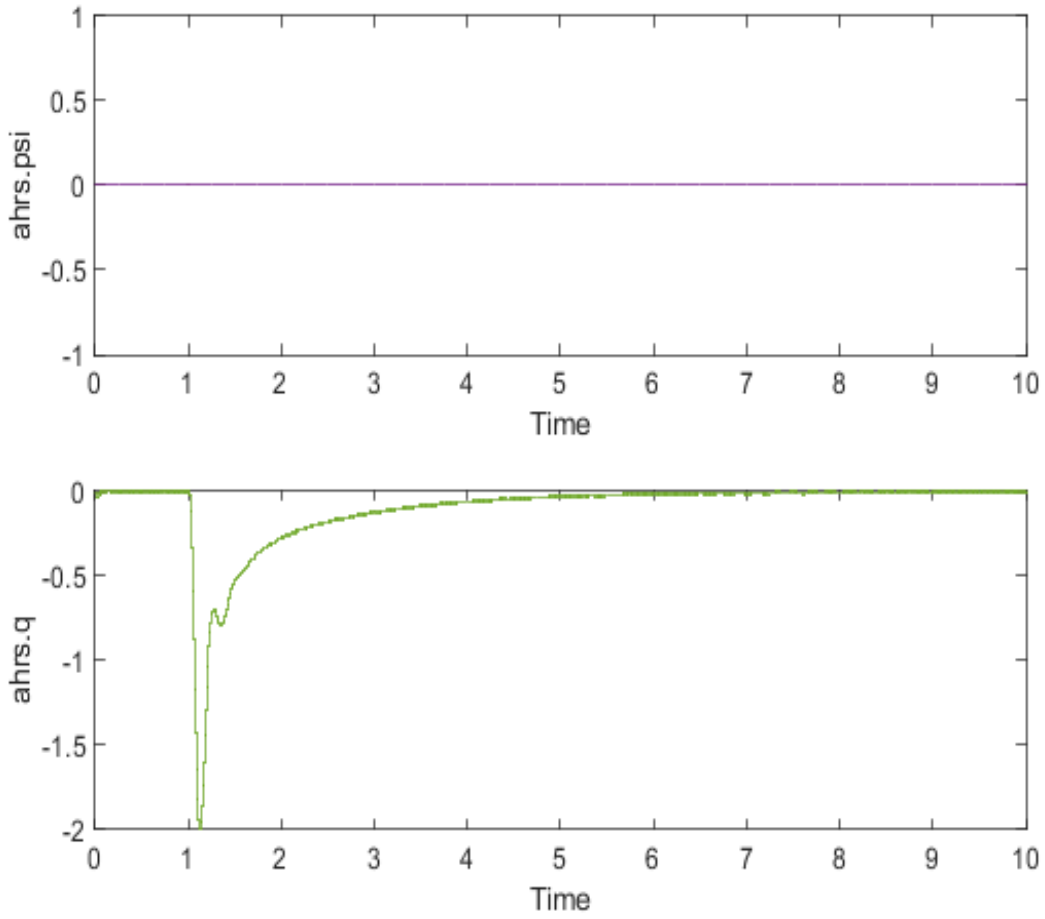
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.psi	double	deg	0.01	zoh	union
ahrs.q	double	deg/sec	0.01	zoh	union



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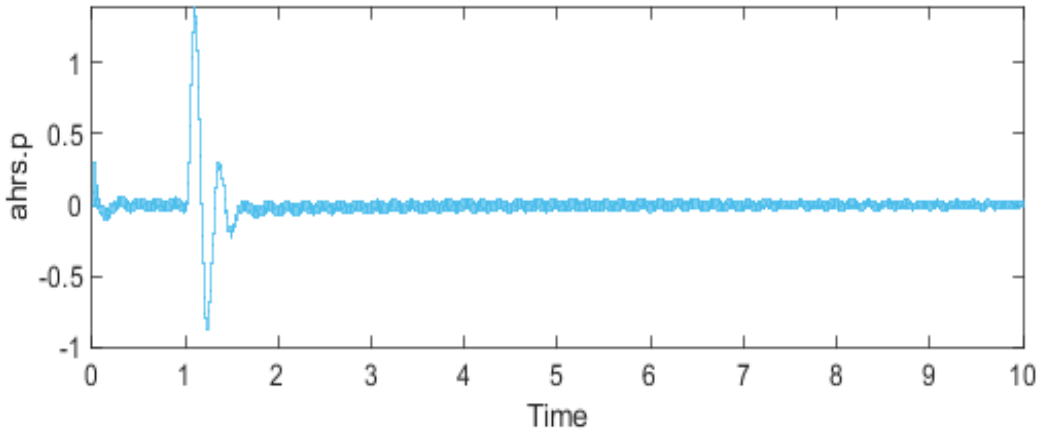
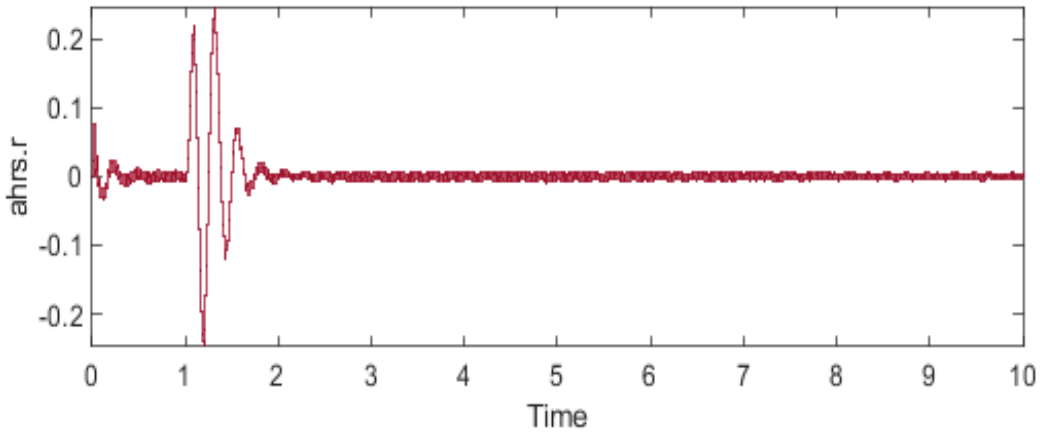
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union





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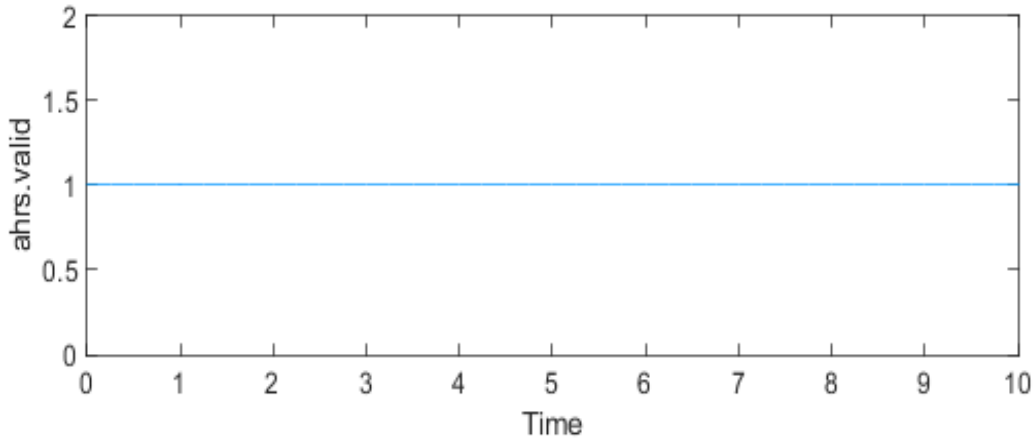
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.valid	boolean		0.01	zoh	union



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Simulation Logs:
Model 'ActuatorLoop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_inner_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'HeliLibrary' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_outer_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'AHRS_voter' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

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Custom Criteria Result Information

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyLessThanOrEqual passed.

Actual Value:
-0.882521629273300
Maximum Value (Inclusive):
-0.630000000000000

Diagnostic Record:
Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
-0.993757742802861
Minimum Value (Inclusive):
-1.100000000000000

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
-0.993757742802861
Minimum Value (Inclusive):
-1.050000000000000

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:
---
verifyLessThanOrEqual passed.

Actual Value:
-0.986261619680272
Maximum Value (Inclusive):
-0.950000000000000

Helicopter Roll Control Test

Test Result Information

Result Type:	Test Suite Result
Parent:	HeliLoopTest
Start Time:	11-May-2020 08:06:23
End Time:	11-May-2020 08:10:10
Outcome:	Total: 2, Passed: 2

Test Suite Information

Name:	Helicopter Roll Control Test

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SmallPositiveStep

Test Result Information

Result Type:	Test Case Result
Parent:	Helicopter Roll Control Test
Start Time:	11-May-2020 08:06:23
End Time:	11-May-2020 08:08:03
Outcome:	Passed
Description:	

Roll step of +1 degree to determine tracking, overshoot and rise time.

Test Case Information

Name:	SmallPositiveStep

Type: Simulation Test

Test Case Requirements

Description: SR_6 : Attitude Rate Tracking Performance (HelicopterSystemRequirements#10)

Document: HelicopterSystemRequirements.slreqx

Simulation

System Under Test Information

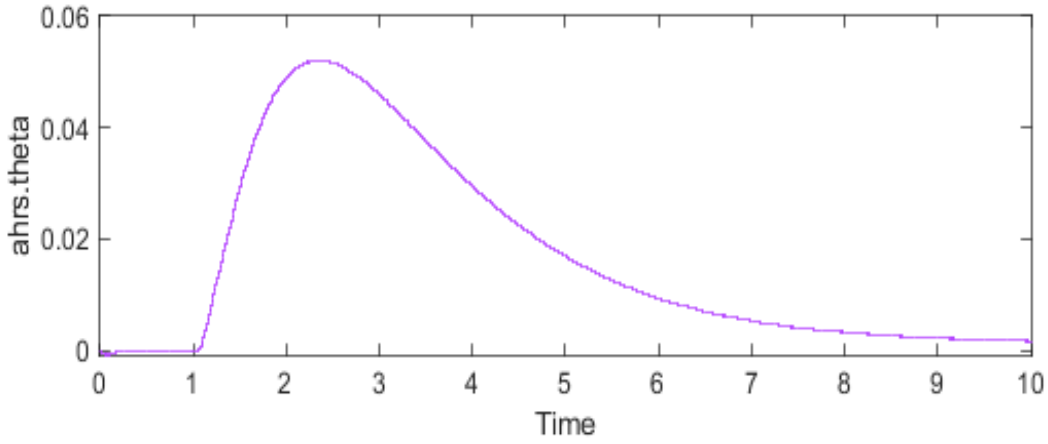
Model:	HelicopterSystem
Simulation Mode:	normal
Override SIL or PIL Mode:	0
Configuration Set:	Configuration
Start Time:	0
Stop Time:	10
Checksum:	3383442402 366368657 4220001915 2971470468
Simulink Version:	10.0
Model Version:	1.24
Model Author:	bpotter
Date:	Mon May 11 06:42:30 2020
User ID:	bpotter
Model Path:	C:\Users\bpotter\MATLAB\Projects\ARP_DO_Project\work\HelicopterSystem.slx
Machine Name:	AH-BPOTTER
Solver Name:	ode23t
Solver Type:	Variable-Step
Max Step Size:	0.001
Simulation Start Time:	2020-05-11 08:06:25
Simulation Stop Time:	2020-05-11 08:08:01
Platform:	PCWIN64

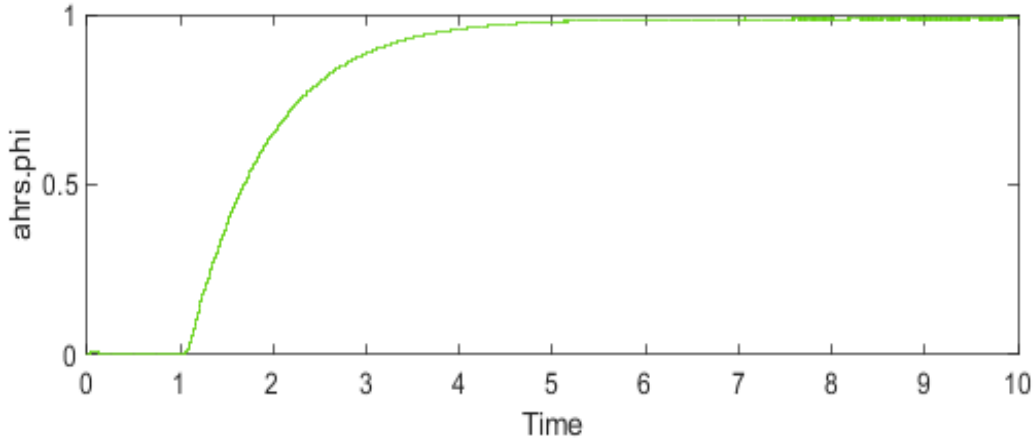
Simulation Output

Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
ahrs.theta	double	deg	0.01	zoh	union	Link
ahrs.phi	double	deg	0.01	zoh	union	Link
ahrs.psi	double	deg	0.01	zoh	union	Link
ahrs.q	double	deg/sec	0.01	zoh	union	Link

ahrs.p	double	deg/sec	0.01	zoh	union	Link
ahrs.r	double	deg/sec	0.01	zoh	union	Link
ahrs.valid	boolean		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.theta	double	deg	0.01	zoh	union
ahrs.phi	double	deg	0.01	zoh	union





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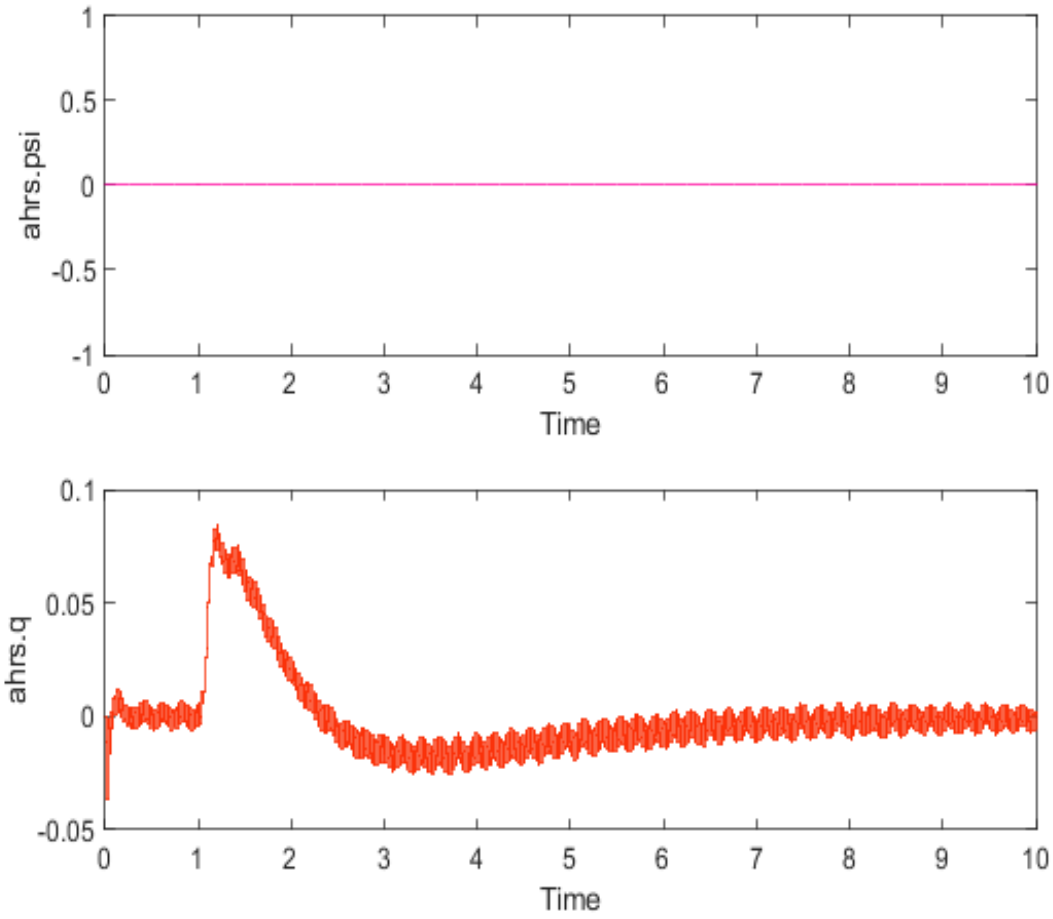
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.psi	double	deg	0.01	zoh	union
ahrs.q	double	deg/sec	0.01	zoh	union



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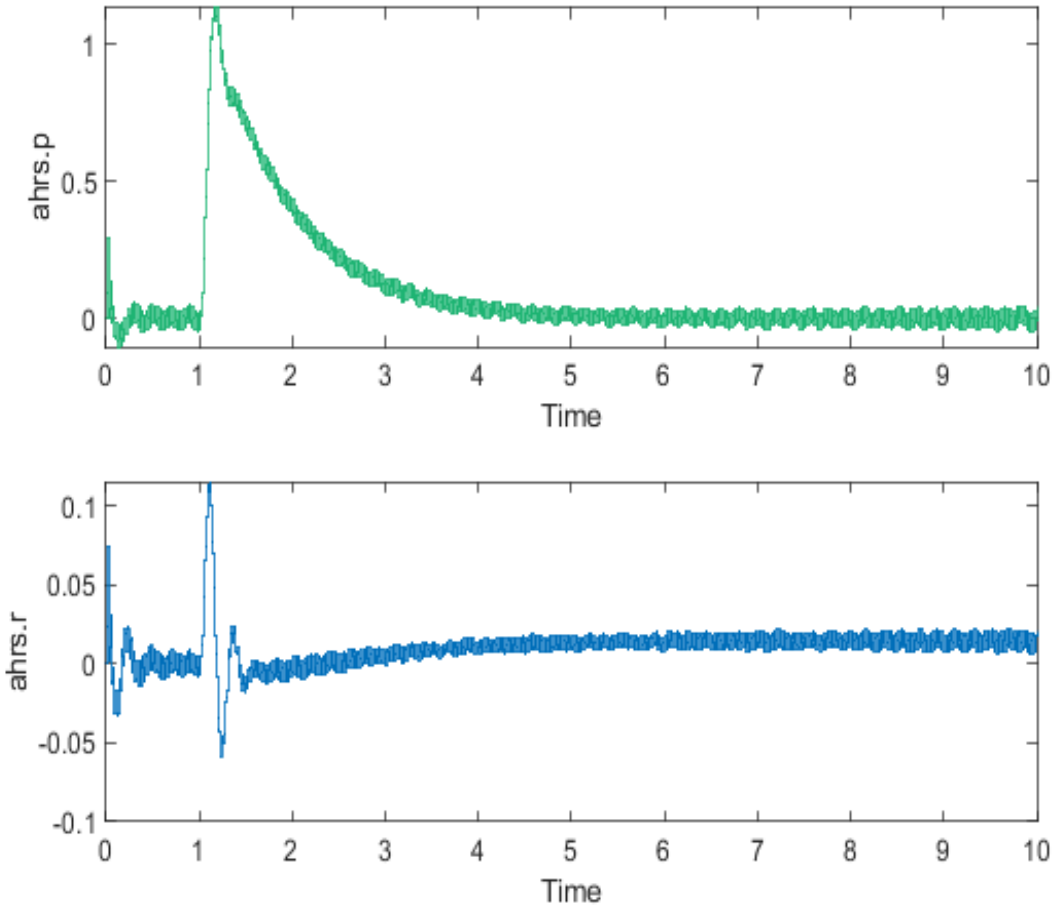
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union



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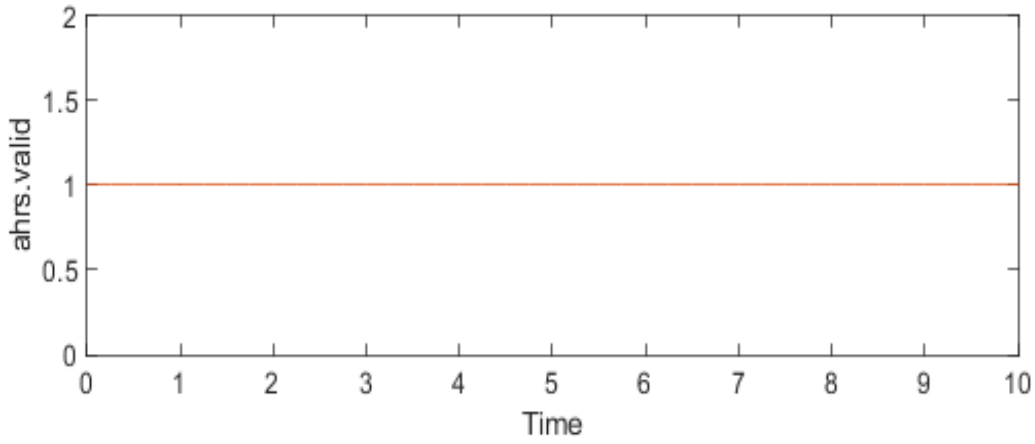
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.valid	boolean		0.01	zoh	union



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Simulation Logs:
Model 'ActuatorLoop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_inner_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'HeliLibrary' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_outer_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'AHRS_voter' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Back to Report Summary

Custom Criteria Result Information

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
0.933628343025303
Minimum Value (Inclusive):
0.630000000000000

Diagnostic Record:
Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyLessThanOrEqual passed.

Actual Value:

0.989066344717431

Maximum Value (Inclusive):

1.100000000000000

Diagnostic Record:

Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:

0.987707809474005

Minimum Value (Inclusive):

0.950000000000000

Diagnostic Record:

Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:
---
verifyLessThanOrEqual passed.

Actual Value:
0.989066344717431
Maximum Value (Inclusive):
1.050000000000000

SmallNegativeStep

Test Result Information

Result Type:	Test Case Result
Parent:	Helicopter Roll Control Test
Start Time:	11-May-2020 08:08:03
End Time:	11-May-2020 08:10:10
Outcome:	Passed
Description:	

Roll step of -1 degree to determine tracking, overshoot and rise time.

Test Case Information

Name:	SmallNegativeStep
Type:	Simulation Test

Test Case Requirements

Description:	SR_6 : Attitude Rate Tracking Performance (HelicopterSystemRequirements#10)
Document:	HelicopterSystemRequirements.slreqx

Simulation

System Under Test Information

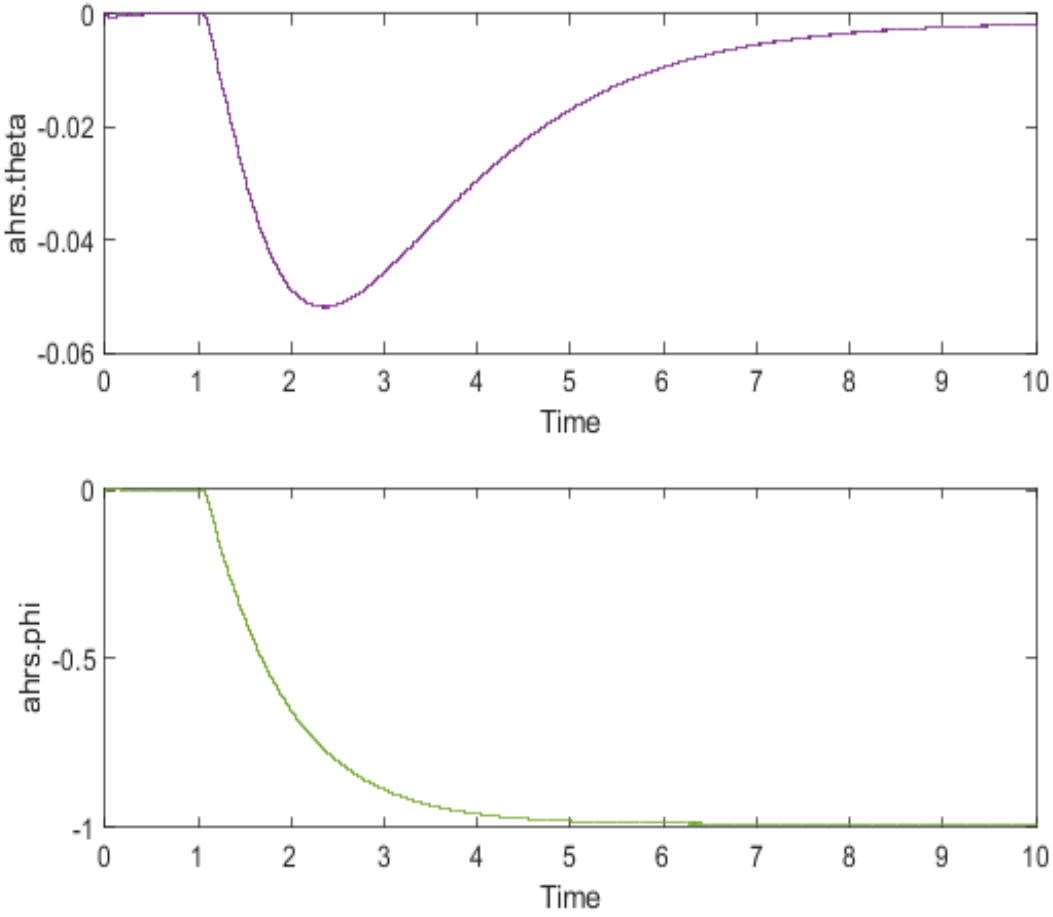
Model:	HelicopterSystem
Simulation Mode:	normal
Override SIL or PIL Mode:	0

Configuration Set:	Configuration
Start Time:	0
Stop Time:	10
Checksum:	3383442402 366368657 4220001915 2971470468
Simulink Version:	10.0
Model Version:	1.24
Model Author:	bpotter
Date:	Mon May 11 06:42:30 2020
User ID:	bpotter
Model Path:	C:\Users\bpotter\MATLAB\Projects\ARP_DO_Project\work\HelicopterSystem.slx
Machine Name:	AH-BPOTTER
Solver Name:	ode23t
Solver Type:	Variable-Step
Max Step Size:	0.001
Simulation Start Time:	2020-05-11 08:08:08
Simulation Stop Time:	2020-05-11 08:10:09
Platform:	PCWIN64

Simulation Output

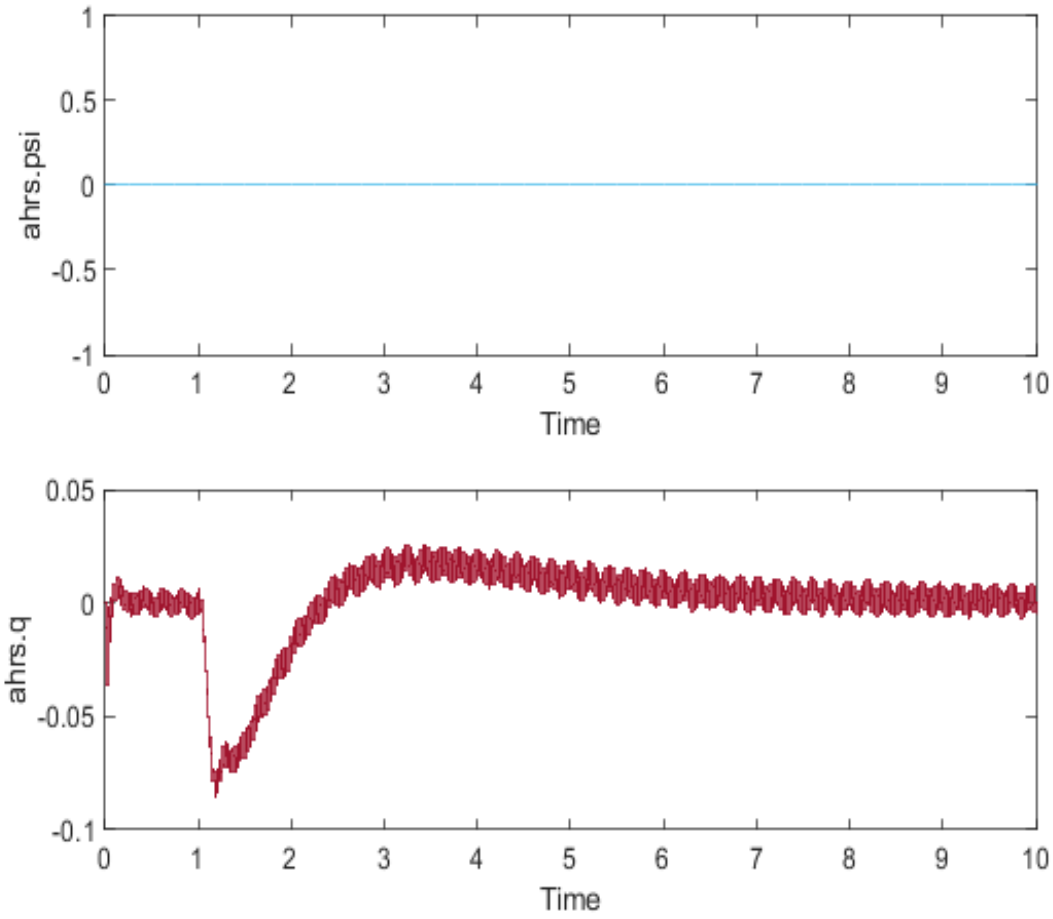
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
ahrs.theta	double	deg	0.01	zoh	union	Link
ahrs.phi	double	deg	0.01	zoh	union	Link
ahrs.psi	double	deg	0.01	zoh	union	Link
ahrs.q	double	deg/sec	0.01	zoh	union	Link
ahrs.p	double	deg/sec	0.01	zoh	union	Link
ahrs.r	double	deg/sec	0.01	zoh	union	Link
ahrs.valid	boolean		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.theta	double	deg	0.01	zoh	union
ahrs.phi	double	deg	0.01	zoh	union



Back to Report SummaryBack to Signal Summary

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.psi	double	deg	0.01	zoh	union
ahrs.q	double	deg/sec	0.01	zoh	union



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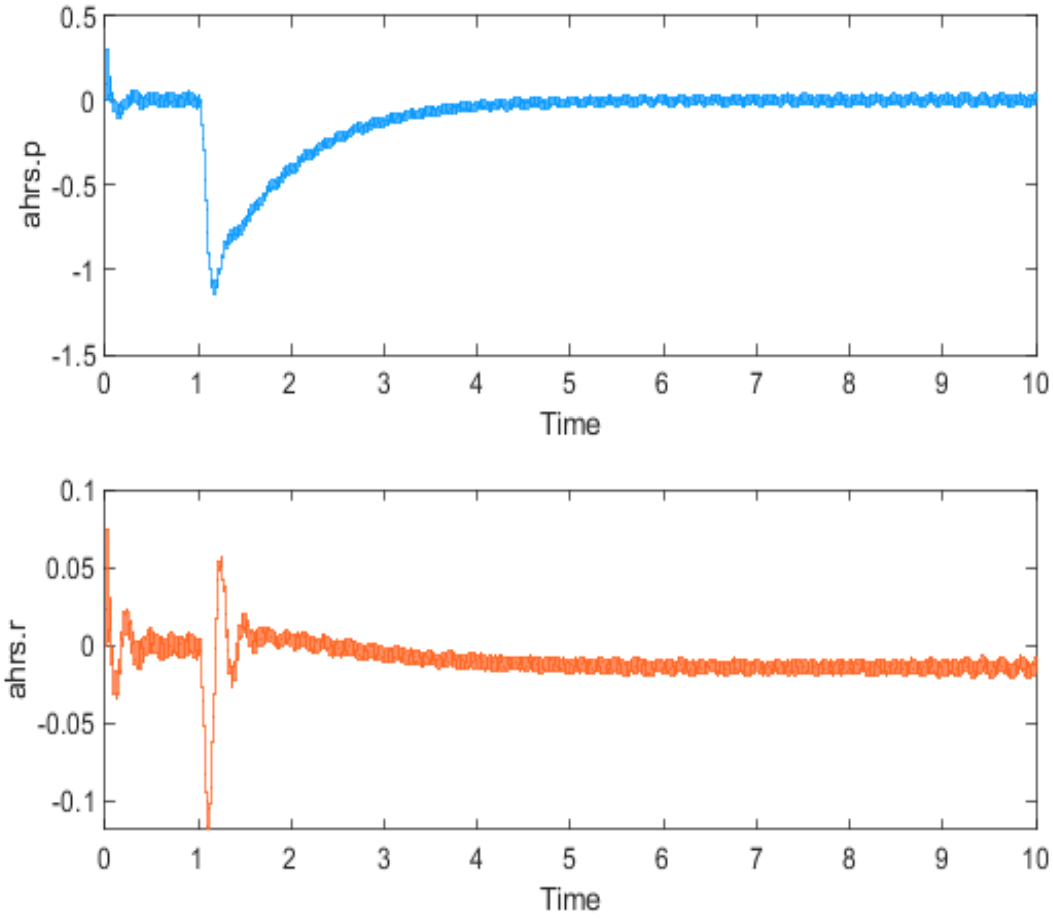
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union



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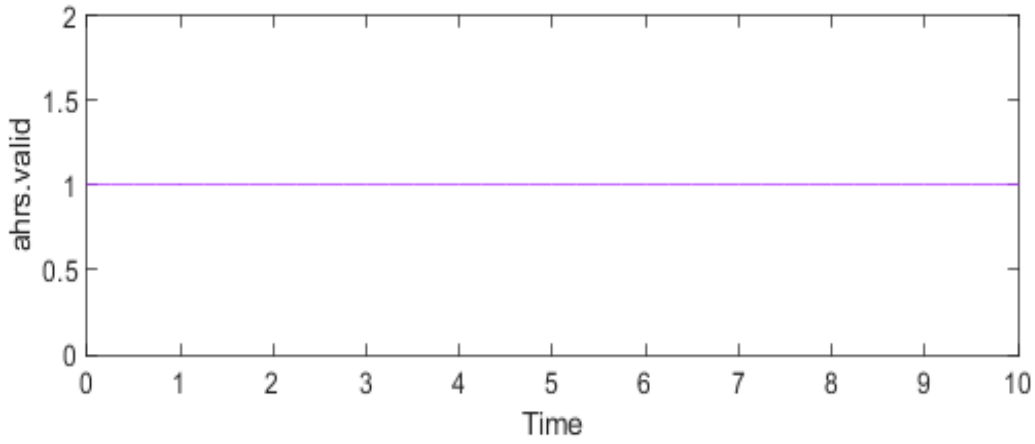
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.valid	boolean		0.01	zoh	union



Back to Report SummaryBack to Signal Summary

Simulation Logs:
Model 'ActuatorLoop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_inner_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'HeliLibrary' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_outer_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'AHRS_voter' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Back to Report Summary

Custom Criteria Result Information

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyLessThanOrEqual passed.

Actual Value:
-0.934539778757834
Maximum Value (Inclusive):
-0.630000000000000

Diagnostic Record:
Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
-0.989788113388627
Minimum Value (Inclusive):
-1.100000000000000

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
-0.989788113388627
Minimum Value (Inclusive):
-1.050000000000000

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:
---
verifyLessThanOrEqual passed.

Actual Value:
-0.988596189185296
Maximum Value (Inclusive):
-0.950000000000000

Helicopter Yaw Control Test

Test Result Information

Result Type:	Test Suite Result
Parent:	HeliLoopTest
Start Time:	11-May-2020 08:10:10
End Time:	11-May-2020 08:13:37
Outcome:	Total: 2, Passed: 2

Test Suite Information

Name:	Helicopter Yaw Control Test

Back to Report Summary

SmallPositiveStep

Test Result Information

Result Type:	Test Case Result
Parent:	Helicopter Yaw Control Test
Start Time:	11-May-2020 08:10:10
End Time:	11-May-2020 08:11:51
Outcome:	Passed
Description:	

Yaw step of +1 degree/sec to determine tracking, overshoot and rise time.

Test Case Information

Name:	SmallPositiveStep

Type: Simulation Test

Test Case Requirements

Description: SR_6 : Attitude Rate Tracking Performance (HelicopterSystemRequirements#10)

Document: HelicopterSystemRequirements.slreqx

Simulation

System Under Test Information

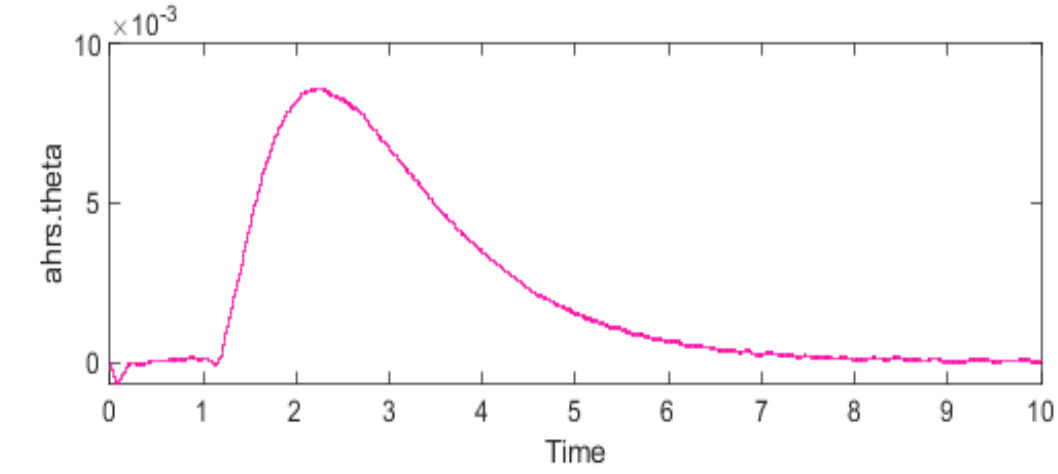
Model:	HelicopterSystem
Simulation Mode:	normal
Override SIL or PIL Mode:	0
Configuration Set:	Configuration
Start Time:	0
Stop Time:	10
Checksum:	3383442402 366368657 4220001915 2971470468
Simulink Version:	10.0
Model Version:	1.24
Model Author:	bpotter
Date:	Mon May 11 06:42:30 2020
User ID:	bpotter
Model Path:	C:\Users\bpotter\MATLAB\Projects\ARP_DO_Project\work\HelicopterSystem.slx
Machine Name:	AH-BPOTTER
Solver Name:	ode23t
Solver Type:	Variable-Step
Max Step Size:	0.001
Simulation Start Time:	2020-05-11 08:10:13
Simulation Stop Time:	2020-05-11 08:11:51
Platform:	PCWIN64

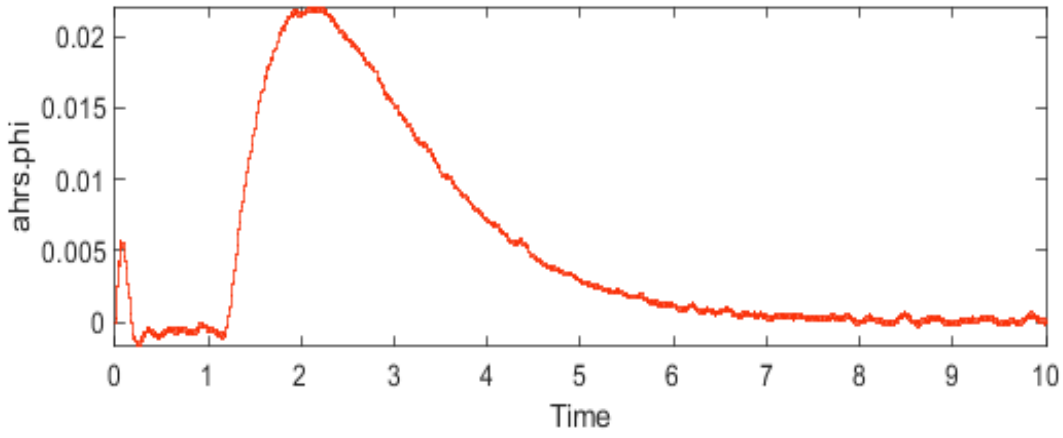
Simulation Output

Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
ahrs.theta	double	deg	0.01	zoh	union	Link
ahrs.phi	double	deg	0.01	zoh	union	Link
ahrs.psi	double	deg	0.01	zoh	union	Link
ahrs.q	double	deg/sec	0.01	zoh	union	Link

ahrs.p	double	deg/sec	0.01	zoh	union	Link
ahrs.r	double	deg/sec	0.01	zoh	union	Link
ahrs.valid	boolean		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.theta	double	deg	0.01	zoh	union
ahrs.phi	double	deg	0.01	zoh	union





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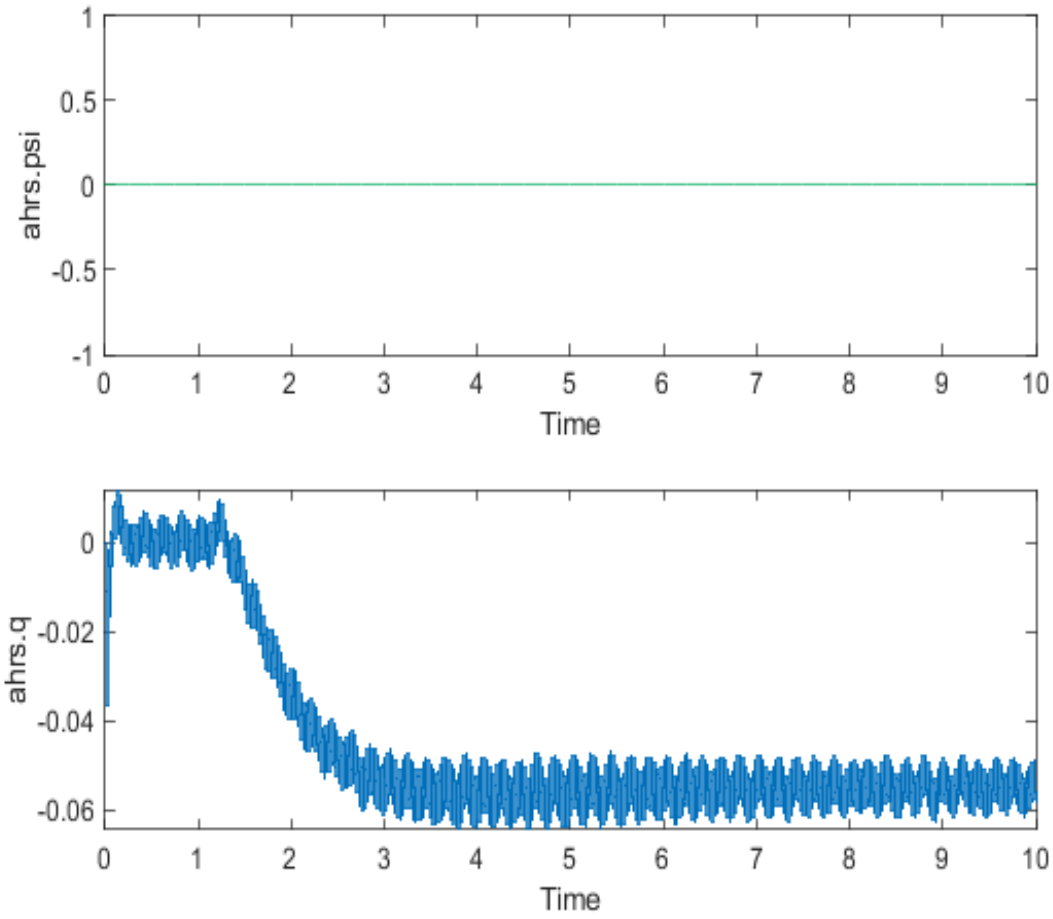
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.psi	double	deg	0.01	zoh	union
ahrs.q	double	deg/sec	0.01	zoh	union



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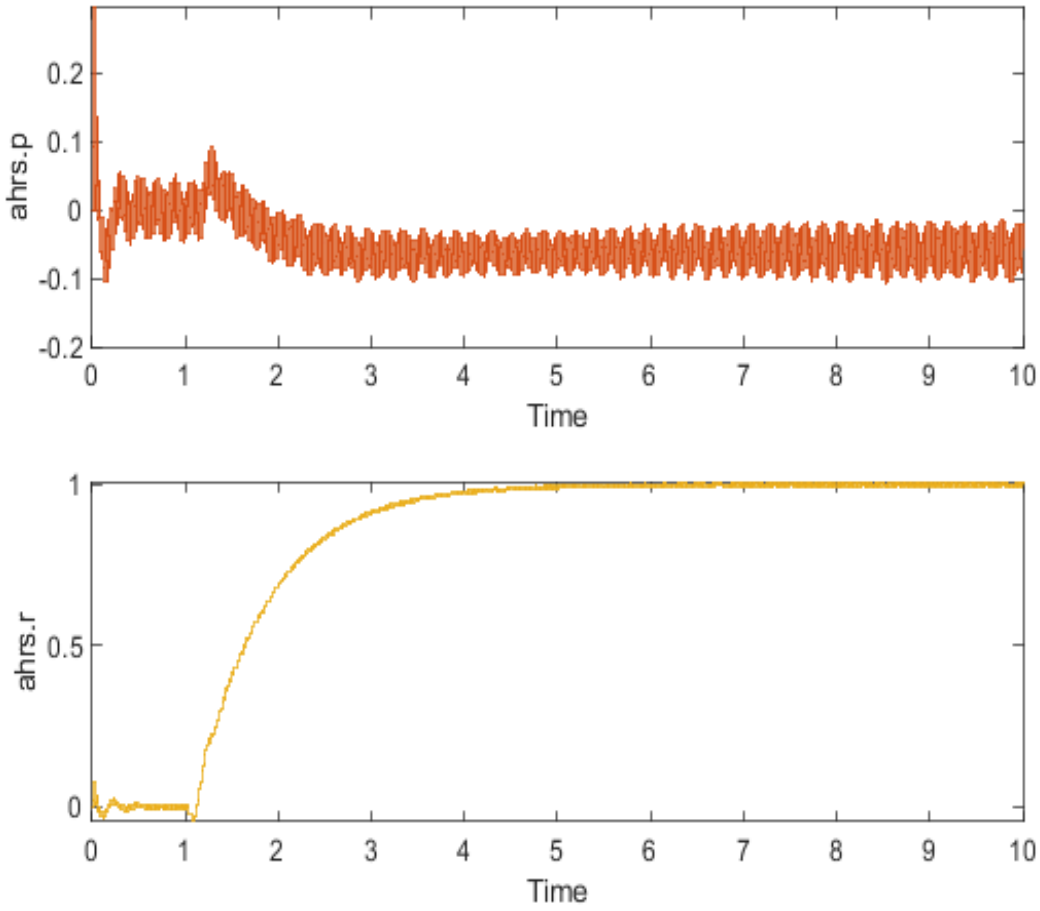
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union



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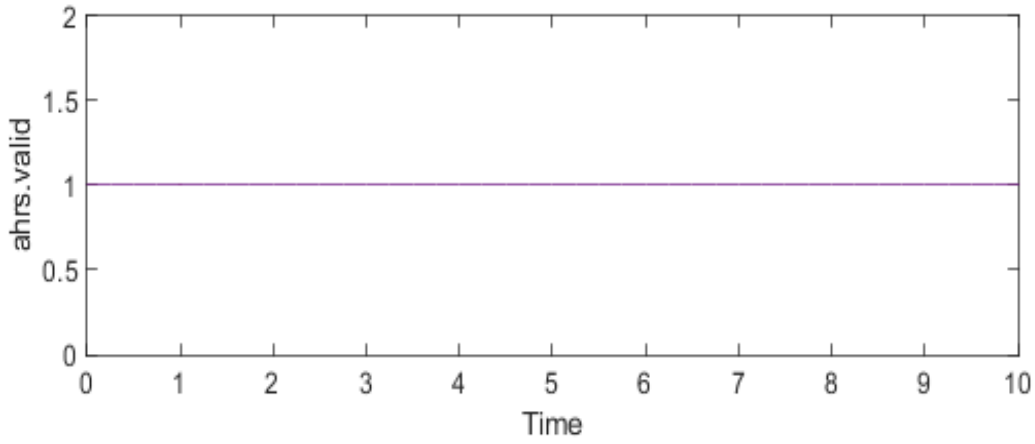
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.valid	boolean		0.01	zoh	union



Back to Report SummaryBack to Signal Summary

Simulation Logs:
Model 'ActuatorLoop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_inner_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'HeliLibrary' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_outer_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'AHRS_voter' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Back to Report Summary

Custom Criteria Result Information

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
0.952014944111883
Minimum Value (Inclusive):
0.630000000000000

Diagnostic Record:
Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyLessThanOrEqual passed.

Actual Value:

1.008413488220990

Maximum Value (Inclusive):

1.100000000000000

Diagnostic Record:

Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:

0.991509418234075

Minimum Value (Inclusive):

0.950000000000000

Diagnostic Record:

Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:
---
verifyLessThanOrEqual passed.

Actual Value:
1.008413488220990
Maximum Value (Inclusive):
1.050000000000000

SmallNegativeStep

Test Result Information

Result Type:	Test Case Result
Parent:	Helicopter Yaw Control Test
Start Time:	11-May-2020 08:11:51
End Time:	11-May-2020 08:13:37
Outcome:	Passed
Description:	

Yaw step of -1 degree/sec to determine tracking, overshoot and rise time.

Test Case Information

Name:	SmallNegativeStep
Type:	Simulation Test

Test Case Requirements

Description:	SR_6 : Attitude Rate Tracking Performance (HelicopterSystemRequirements#10)
Document:	HelicopterSystemRequirements.slreqx

Simulation

System Under Test Information

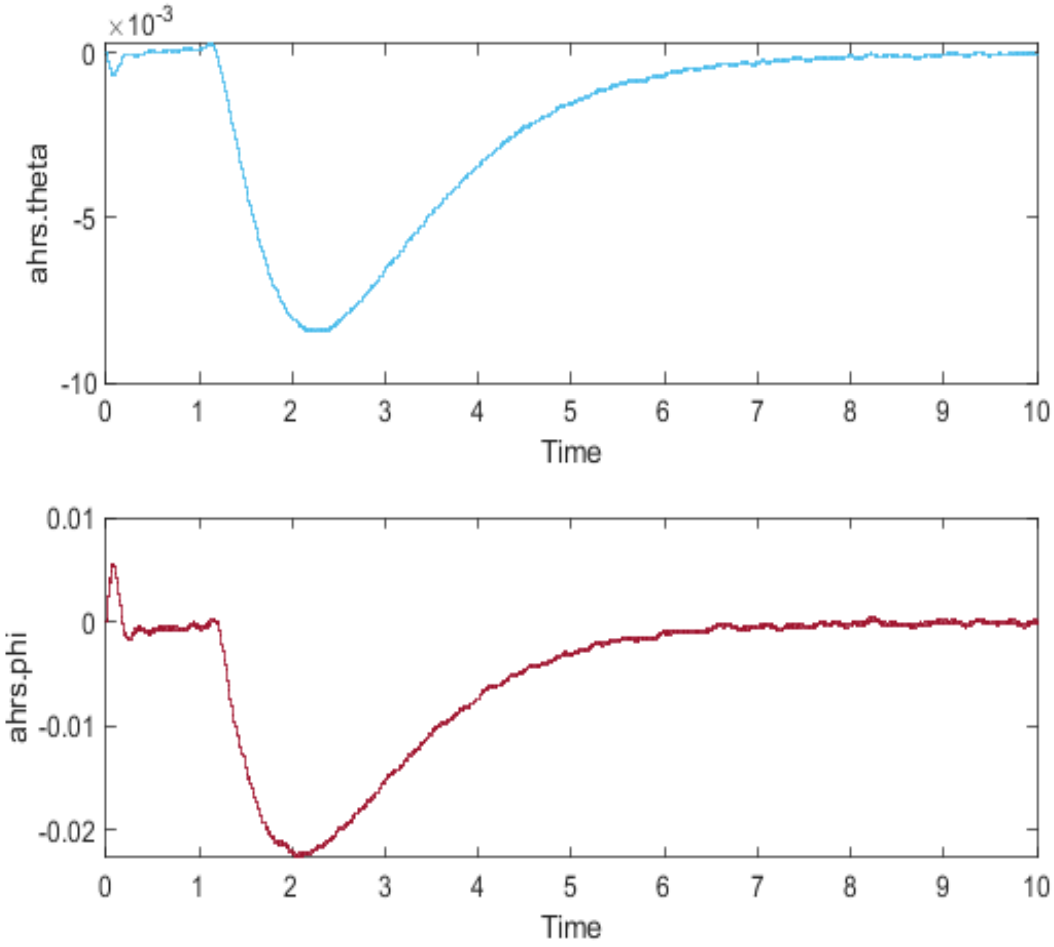
Model:	HelicopterSystem
Simulation Mode:	normal
Override SIL or PIL Mode:	0

Configuration Set:	Configuration
Start Time:	0
Stop Time:	10
Checksum:	3383442402 366368657 4220001915 2971470468
Simulink Version:	10.0
Model Version:	1.24
Model Author:	bpotter
Date:	Mon May 11 06:42:30 2020
User ID:	bpotter
Model Path:	C:\Users\bpotter\MATLAB\Projects\ARP_DO_Project\work\HelicopterSystem.slx
Machine Name:	AH-BPOTTER
Solver Name:	ode23t
Solver Type:	Variable-Step
Max Step Size:	0.001
Simulation Start Time:	2020-05-11 08:11:54
Simulation Stop Time:	2020-05-11 08:13:36
Platform:	PCWIN64

Simulation Output

Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
ahrs.theta	double	deg	0.01	zoh	union	Link
ahrs.phi	double	deg	0.01	zoh	union	Link
ahrs.psi	double	deg	0.01	zoh	union	Link
ahrs.q	double	deg/sec	0.01	zoh	union	Link
ahrs.p	double	deg/sec	0.01	zoh	union	Link
ahrs.r	double	deg/sec	0.01	zoh	union	Link
ahrs.valid	boolean		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.theta	double	deg	0.01	zoh	union
ahrs.phi	double	deg	0.01	zoh	union



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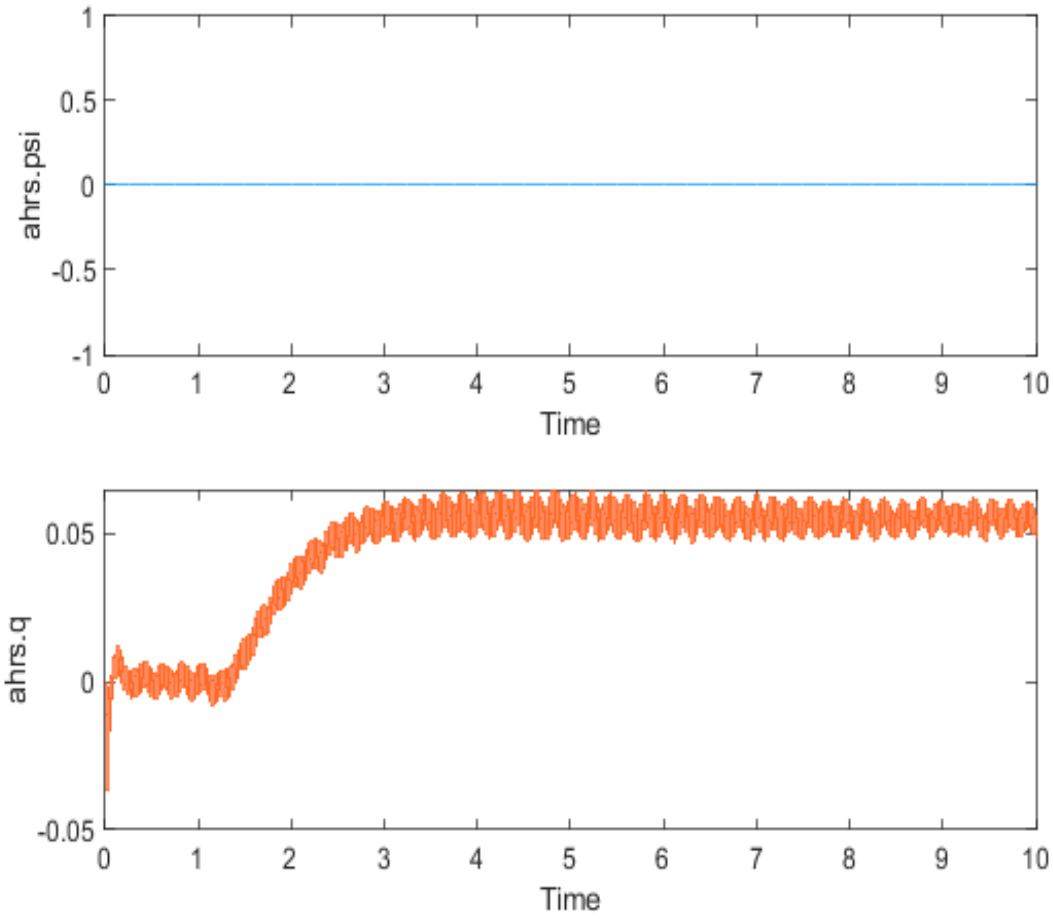
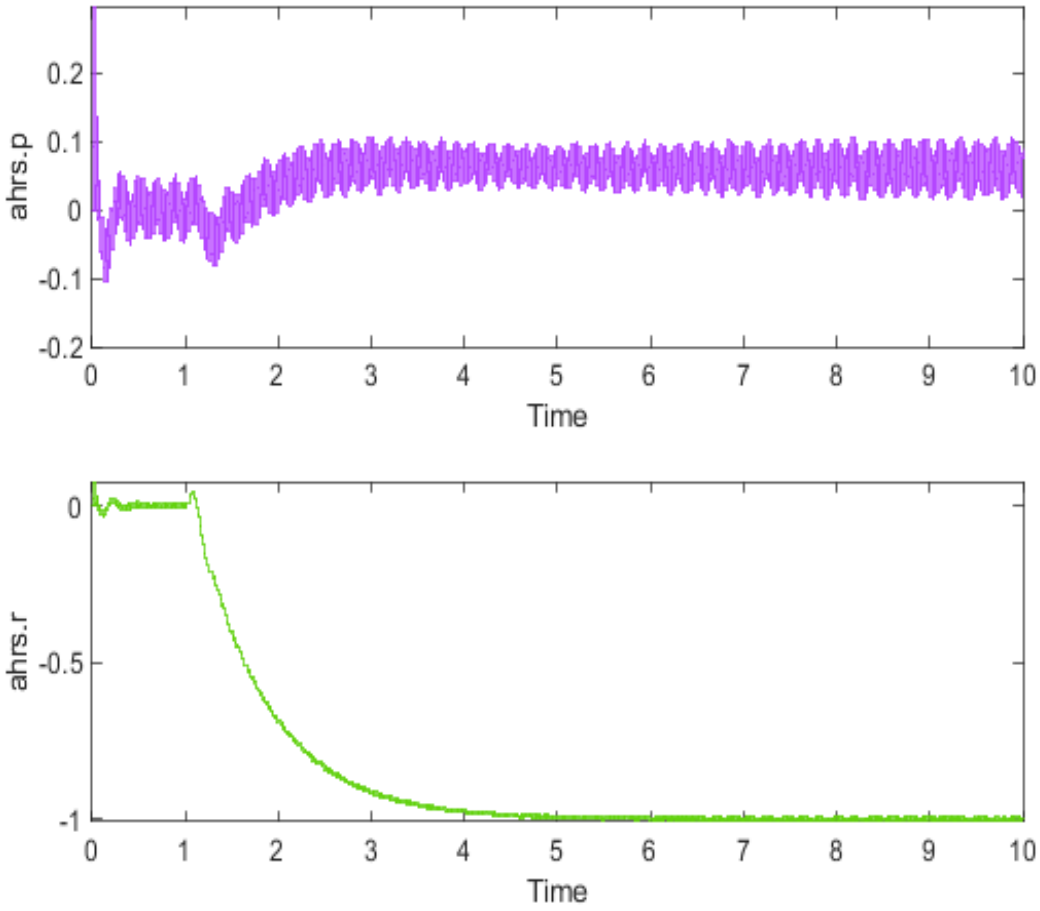
Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.psi	double	deg	0.01	zoh	union
ahrs.q	double	deg/sec	0.01	zoh	union



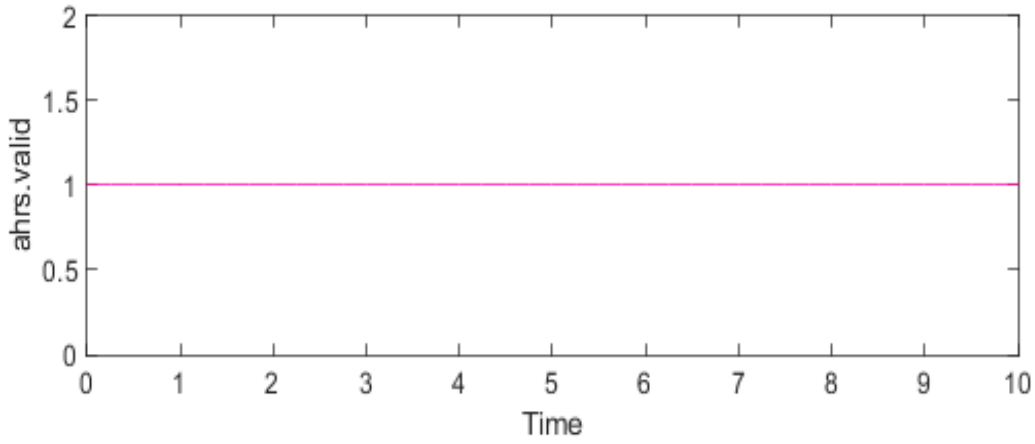
Back to Report SummaryBack to Signal Summary

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union



Back to Report SummaryBack to Signal Summary

Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.valid	boolean		0.01	zoh	union



Back to Report SummaryBack to Signal Summary

Simulation Logs:
Model 'ActuatorLoop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_inner_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'HeliLibrary' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'Heli_outer_loop' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Model 'AHRS_voter' was last saved using an old version (9.3, R2019a) of Simulink. For advice on upgrading this model to the current version of Simulink, see the Upgrade Advisor.

Back to Report Summary

Custom Criteria Result Information

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyLessThanOrEqual passed.

Actual Value:
-0.951928510017004
Maximum Value (Inclusive):
-0.630000000000000

Diagnostic Record:
Outcome: Passed

Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
-1.007925771450630
Minimum Value (Inclusive):
-1.100000000000000

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:

---

verifyGreaterThanOrEqual passed.

Actual Value:
-1.007925771450630
Minimum Value (Inclusive):
-1.050000000000000

Diagnostic Record:
Outcome: Passed
Event: VerificationPassed

VerificationPassed in custom criteria of sltest.testmanager.TestCase.

Framework Diagnostic:
---
verifyLessThanOrEqual passed.

Actual Value:
-0.991871691970436
Maximum Value (Inclusive):
-0.950000000000000
