# Report Generated by Test Manager

Title: Helicopter outer loop test

Author: bpotter

Date: 13-Mar-2023 17:47:48

### **Test Environment**

Platform: MACI64 MATLAB: (R2021b)

# Summary

Name	Outcome	Duration (Seconds)
HeliLoopTest	6 🕗	430.449
Helicopter Pitch Control Test	2 🕗	156.721
■ <u>SmallPositiveStep</u>	•	87.828
■ <u>SmallNegativeStep</u>	•	68.859
Helicopter Roll Control Test	2 🕗	136.756
■ <u>SmallPositiveStep</u>	•	68.6
■ SmallNegativeStep	<b>Ø</b>	68.145
Helicopter Yaw Control Test	2 🕗	136.902
■ <u>SmallPositiveStep</u>	•	69.649
<u>SmallNegativeStep</u>	•	67.238

## HeliLoopTest

### **Test Result Information**

Result Type: Test File Result

Parent: None

Start Time: 13-Mar-2023 17:40:31 End Time: 13-Mar-2023 17:47:42 Outcome: Total: 6, Passed: 6

### **Test Suite Information**

Name: HeliLoopTest

**Back to Report Summary** 

## **Helicopter Pitch Control Test**

### **Test Result Information**

Result Type: Test Suite Result Parent: HeliLoopTest

Start Time: 13-Mar-2023 17:40:31 End Time: 13-Mar-2023 17:43:08 Outcome: Total: 2, Passed: 2

### **Test Suite Information**

Name: Helicopter Pitch Control Test

**Back to Report Summary** 

### **SmallPositiveStep**

### **Test Result Information**

Result Type: Test Case Result

Parent: Helicopter Pitch Control Test

Start Time: 13-Mar-2023 17:40:31 End Time: 13-Mar-2023 17:41:59 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 Document: HelicopterSystemRequirements.slreqx

### **Simulation**

### **System Under Test Information**

Model: HelicopterSystem

Release: Current Simulation Mode: normal

Override SIL or PIL 0

Mode:

Configuration Set: Configuration

Start Time: 0 Stop Time: 10

Checksum: 1537542357 1654829112 2870649001 2292590244

Simulink Version: 10.4 Model Version: 1.24 Model Author: bpotter

Date: Mon May 11 15:42:30 2020

User ID: halilceylan

Model Path: /Users/halilceylan/Desktop/AnSyMo-Simulink-

Mutator/matlab\_workspace/heli/work/

HelicopterSystem.slx

Solver Name: ode23t

Solver Type: Variable-Step

Max Step Size: 0.001

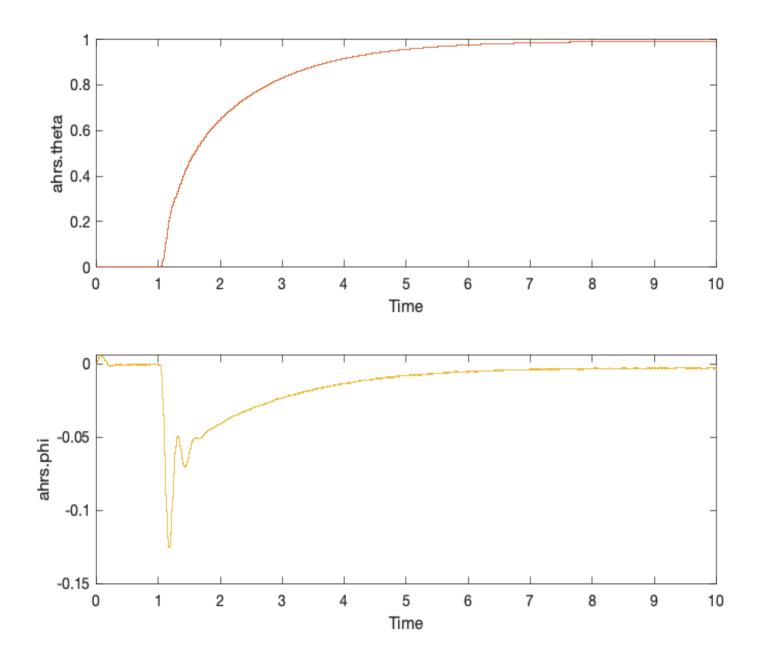
Simulation Start Time: 2023-03-13 17:40:32

Simulation Stop Time: Platform: 2023-03-13 17:41:53

MACI64

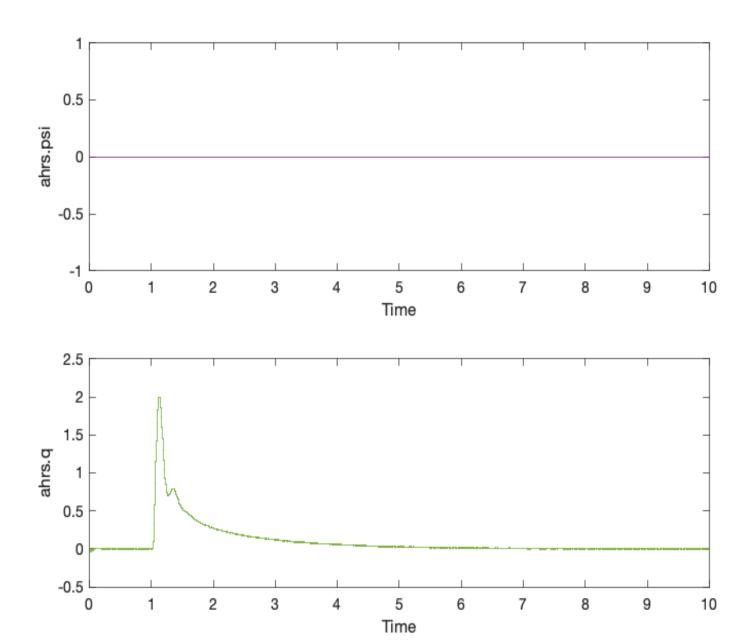
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plo t
ahrs.theta	double	deg	0.01	zoh	union	Link
ahrs.phi	double	deg	0.01	zoh	union	Link
ahrs.psi	double	deg	0.01	zoh	union	Link
ahrs.q	double	deg/sec	0.01	zoh	union	Link
ahrs.p	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.r	double	deg/sec	0.01	zoh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

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

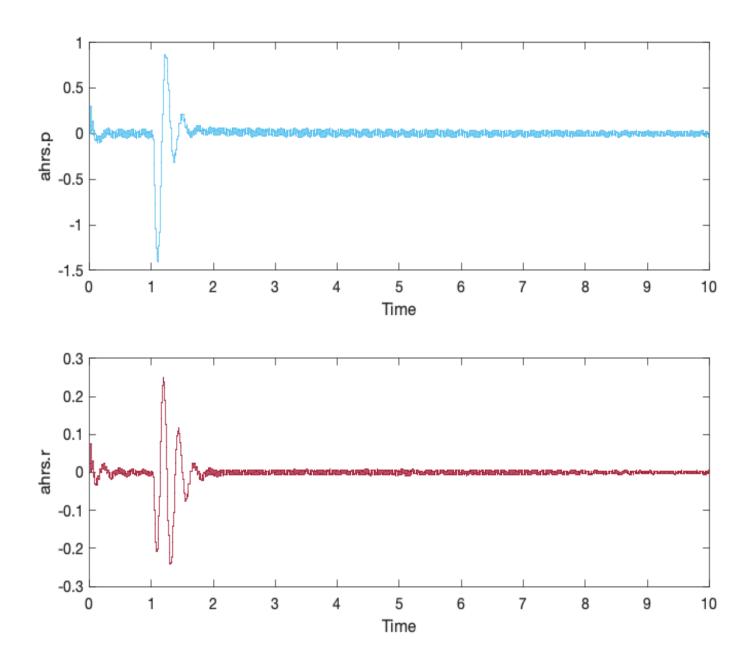


Back to Report SummaryBack to Signal Summary

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

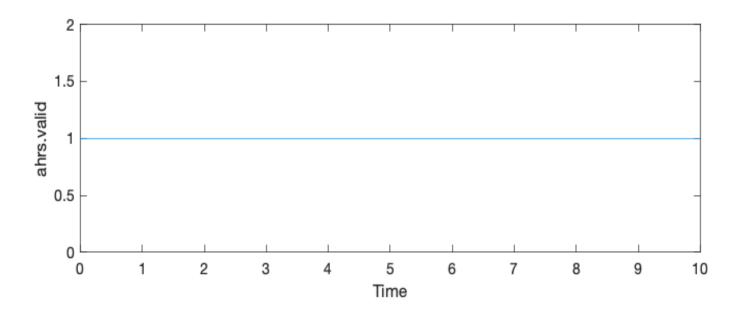


Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union



Back to Report SummaryBack to Signal Summary

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



# **Custom Criteria Result Information** Diagnostic Record: Outcome: Passed VerificationPassed Event: VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: verifyGreaterThanOrEqual passed. **Actual Value:** 0.881883992650967 Minimum Value (Inclusive): 0.630000000000000Diagnostic Record: Outcome: Passed VerificationPassed Event: VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: verifyLessThanOrEqual passed. **Actual Value:** 0.992909582950096

Diagnostic Record: Outcome:	Passed
Event:	VerificationPassed
VerificationPassed in custo	om criteria of sltest.testmanager.TestC
Framework Diagnostic:	
verifyGreaterThanOrEq	ual passed.
Actual Value:	
0.985486744763096	
Minimum Value (Inclusi 0.950000000000000000	ve):
Diagnostic Record: Outcome: Event:	Passed VerificationPassed
Diagnostic Record: Outcome: Event:	Passed VerificationPassed 
Diagnostic Record: Outcome: Event: VerificationPassed in custo Framework Diagnostic:	Passed VerificationPassed 
Diagnostic Record: Outcome: Event: VerificationPassed in custo	Passed VerificationPassed om criteria of sltest.testmanager.TestC
Diagnostic Record: Outcome: Event:	Passed VerificationPassed om criteria of sltest.testmanager.TestC
Diagnostic Record: Outcome: Event: VerificationPassed in custo Framework Diagnostic: verifyLessThanOrEqual	Passed VerificationPassed om criteria of sltest.testmanager.TestC passed.

## **SmallNegativeStep**

### **Test Result Information**

Result Type: Test Case Result

Parent: <u>Helicopter Pitch Control Test</u>

Start Time: 13-Mar-2023 17:41:59 End Time: 13-Mar-2023 17:43:08

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 Document: HelicopterSystemRequirements.slreqx

#### **Simulation**

### **System Under Test Information**

Model: HelicopterSystem

Release: Current Simulation Mode: normal

Override SIL or PIL 0

Mode:

Configuration Set: Configuration

Start Time: 0 Stop Time: 10

Checksum: 1537542357 1654829112 2870649001 2292590244

Simulink Version: 10.4

Model Version: 1.24 Model Author: bpotter

Date: Mon May 11 15:42:30 2020

User ID: halilceylan

Model Path: /Users/halilceylan/Desktop/AnSyMo-Simulink-

Mutator/matlab\_workspace/heli/work/

HelicopterSystem.slx

Solver Name: ode23t

Solver Type: Variable-Step

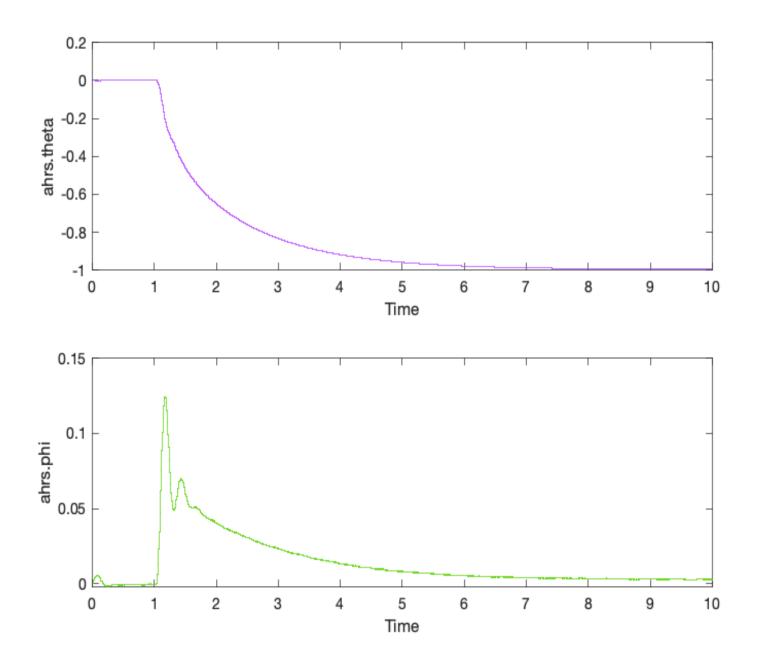
Max Step Size: 0.001

Simulation Start Time: 2023-03-13 17:41:59 Simulation Stop Time: 2023-03-13 17:43:05

Platform: MACI64

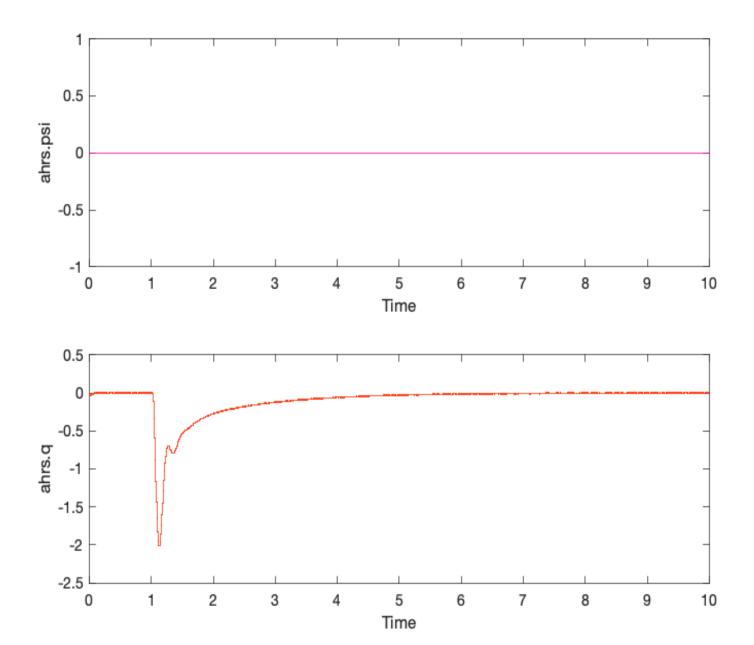
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plo t
ahrs.theta	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.phi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.psi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.q	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.p	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.r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

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

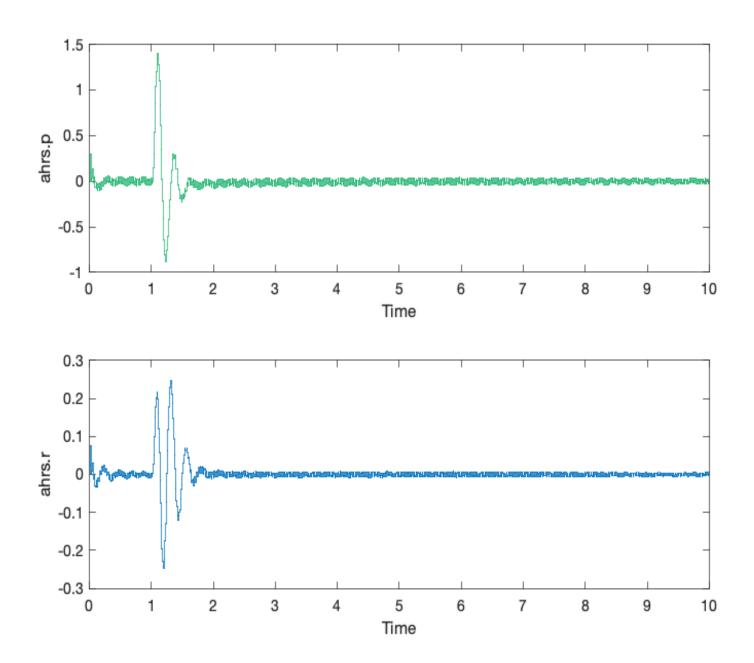


Back to Report SummaryBack to Signal Summary

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

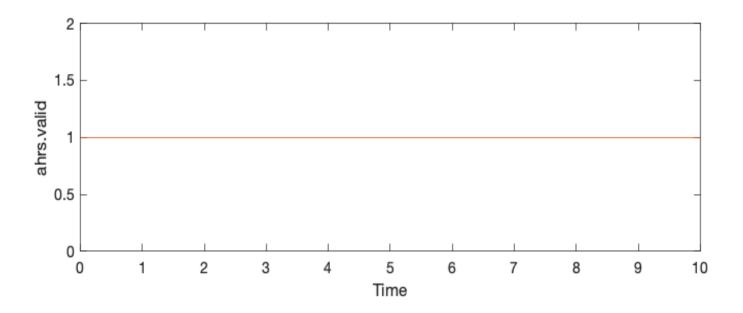


Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union



Back to Report SummaryBack to Signal Summary

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



# **Custom Criteria Result Information** Diagnostic Record: Outcome: Passed VerificationPassed Event: VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: verifyLessThanOrEqual passed. Actual Value: -0.882597437418119 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:** -0.993778249235710

Diagnostic Record: Outcome: Event:	Passed VerificationPassed
verificationPassed in custo	om criteria of sltest.testmanager.TestCas
Framework Diagnostic:	
verifyGreaterThanOrEq	ual passed.
Actual Value:	
-0.993778249235710	
Minimum Value (Inclusi -1.050000000000000000	ive):
Diagnostic Record:	
_	Passed
Diagnostic Record: Outcome: Event:	Passed VerificationPassed
Outcome: Event:	VerificationPassed 
Outcome: Event:	
Outcome: Event: VerificationPassed in custo	VerificationPassed om criteria of sltest.testmanager.TestCas
Outcome: Event: VerificationPassed in custo Framework Diagnostic:	VerificationPassed om criteria of sltest.testmanager.TestCas
Outcome: Event: VerificationPassed in custo Framework Diagnostic: verifyLessThanOrEqual	VerificationPassed om criteria of sltest.testmanager.TestCas
Outcome: Event:	VerificationPassed om criteria of sltest.testmanager.TestCas

# **Helicopter Roll Control Test**

### **Test Result Information**

Result Type: Test Suite Result Parent: HeliLoopTest

Start Time: 13-Mar-2023 17:43:08 End Time: 13-Mar-2023 17:45:25 Outcome: Total: 2, Passed: 2

### **Test Suite Information**

Name: Helicopter Roll Control Test

**Back to Report Summary** 

### **SmallPositiveStep**

### **Test Result Information**

Result Type: Test Case Result

Parent: <u>Helicopter Roll Control Test</u>

Start Time: 13-Mar-2023 17:43:08 End Time: 13-Mar-2023 17:44:17

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

Document: HelicopterSystemRequirements.slreqx

### **Simulation**

### **System Under Test Information**

Model: HelicopterSystem

Release: Current Simulation Mode: normal

Override SIL or PIL 0

Mode:

Configuration Set: Configuration

Start Time: 0 Stop Time: 10

Checksum: 1537542357 1654829112 2870649001 2292590244

Simulink Version: 10.4 Model Version: 1.24 Model Author: bpotter

Date: Mon May 11 15:42:30 2020

User ID: halilceylan

Model Path: /Users/halilceylan/Desktop/AnSyMo-Simulink-

Mutator/matlab\_workspace/heli/work/

HelicopterSystem.slx

Solver Name: ode23t

Solver Type: Variable-Step

Max Step Size: 0.001

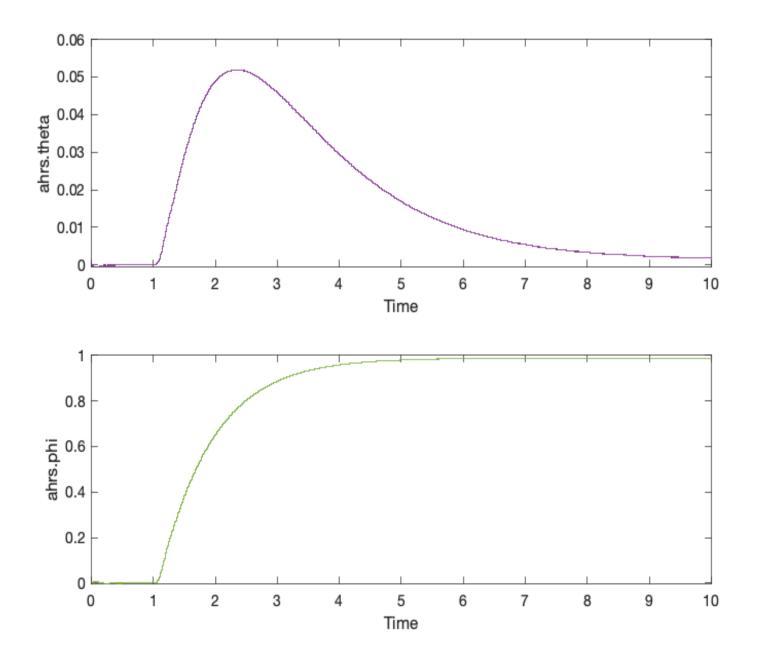
Simulation Start Time: 2023-03-13 17:43:08 Simulation Stop Time: 2023-03-13 17:44:14

Platform: MACI64

Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plo t
ahrs.theta	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.phi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.psi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.q	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.p	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.r	double	deg/sec	0.01	zoh	union	<u>Link</u>

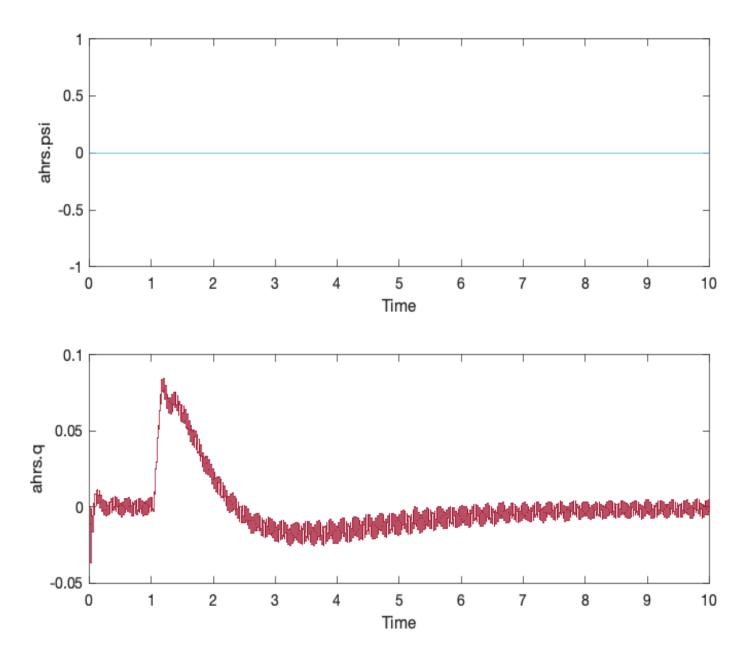
ahrs.valid	į	boolean	į	į	0.01	į	zoh	ij	union	į	<u>Link</u>

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

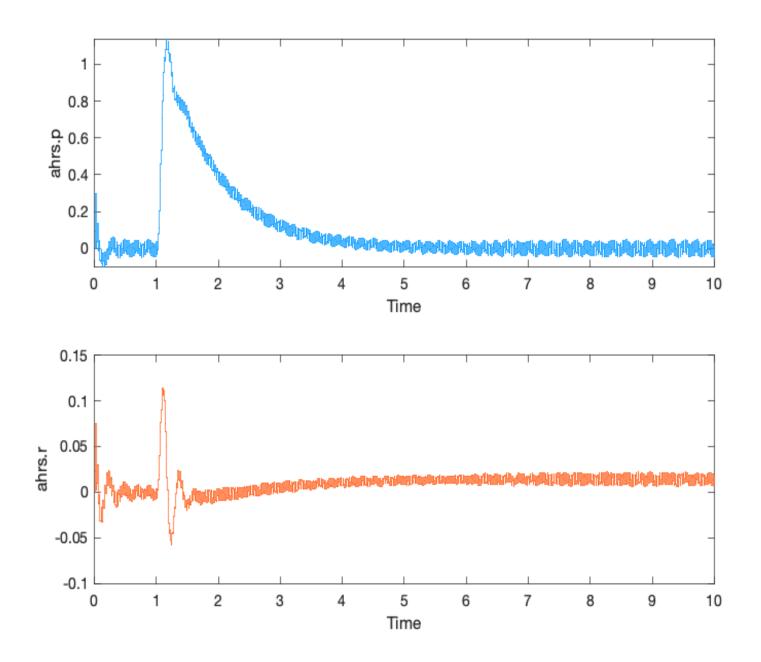


Back to Report SummaryBack to Signal Summary

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

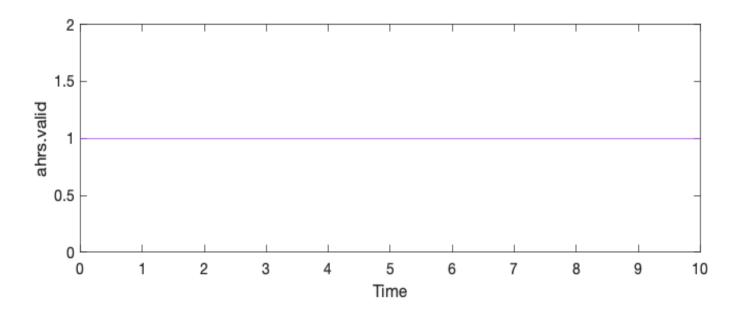


Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union



Back to Report SummaryBack to Signal Summary

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



# **Custom Criteria Result Information** Diagnostic Record: Outcome: Passed VerificationPassed Event: VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: $verify Greater Than Or Equal\ passed.$ **Actual Value:** 0.933887104401271 Minimum Value (Inclusive): 0.630000000000000Diagnostic Record: Outcome: Passed VerificationPassed Event: VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: verifyLessThanOrEqual passed. **Actual Value:** 0.988871630368765

Diagnostic Record:	Doggod
Outcome: Event:	Passed
	VerificationPassed
VerificationPassed in cust	om criteria of sltest.testmanager.TestCas
Framework Diagnostic:	
verifyGreaterThanOrEq	qual passed.
Actual Value:	
0.987742217227980	
Minimum Value (Inclus	ive):
0.950000000000000	
Diagnostic Record: Outcome: Event:	Passed VerificationPassed
Outcome: Event:	VerificationPassed 
Outcome: Event:	VerificationPassed om criteria of sltest.testmanager.TestCas
Outcome: Event:VerificationPassed in cust	VerificationPassed om criteria of sltest.testmanager.TestCas
Outcome: Event: VerificationPassed in cust Framework Diagnostic:	VerificationPassed om criteria of sltest.testmanager.TestCas
Outcome: Event: VerificationPassed in cust Framework Diagnostic: verifyLessThanOrEqual	VerificationPassed om criteria of sltest.testmanager.TestCas
Outcome: Event:	VerificationPassed om criteria of sltest.testmanager.TestCas

## **SmallNegativeStep**

### **Test Result Information**

Result Type: Test Case Result

Parent: <u>Helicopter Roll Control Test</u>

Start Time: 13-Mar-2023 17:44:17 End Time: 13-Mar-2023 17:45:25

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 Document: HelicopterSystemRequirements.slreqx

#### **Simulation**

### **System Under Test Information**

Model: HelicopterSystem

Release: Current Simulation Mode: normal

Override SIL or PIL 0

Mode:

Configuration Set: Configuration

Start Time: 0 Stop Time: 10

Checksum: 1537542357 1654829112 2870649001 2292590244

Simulink Version: 10.4

Model Version: 1.24 Model Author: bpotter

Date: Mon May 11 15:42:30 2020

User ID: halilceylan

Model Path: /Users/halilceylan/Desktop/AnSyMo-Simulink-

Mutator/matlab\_workspace/heli/work/

HelicopterSystem.slx

Solver Name: ode23t

Solver Type: Variable-Step

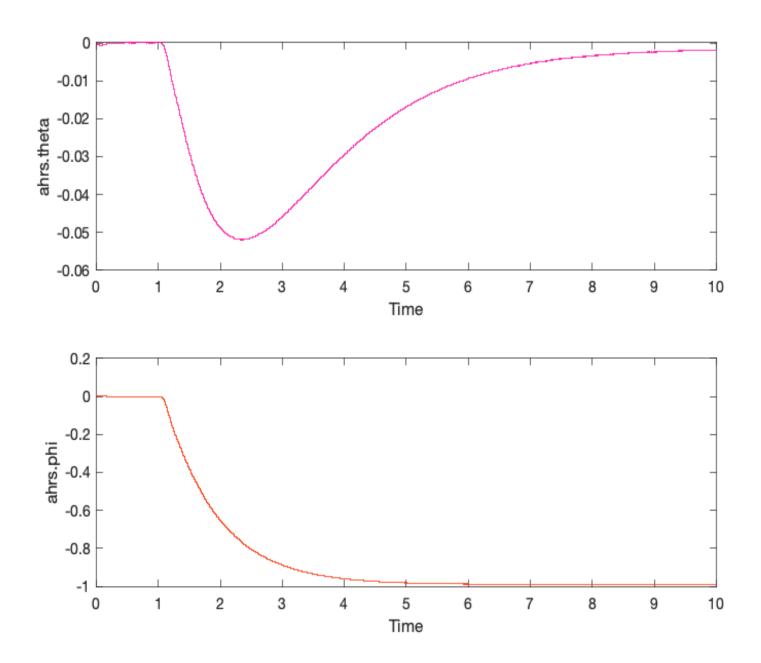
Max Step Size: 0.001

Simulation Start Time: 2023-03-13 17:44:17 Simulation Stop Time: 2023-03-13 17:45:22

Platform: MACI64

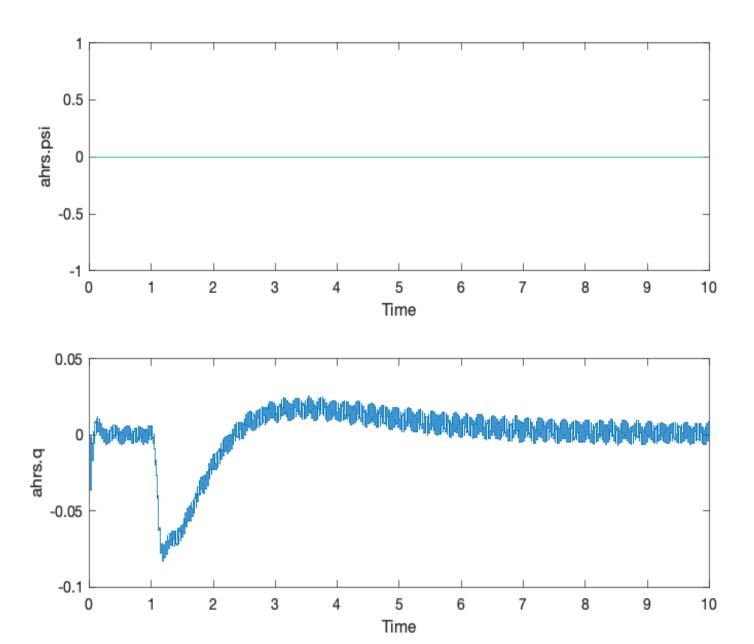
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plo t
ahrs.theta	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.phi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.psi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.q	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.p	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.r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

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

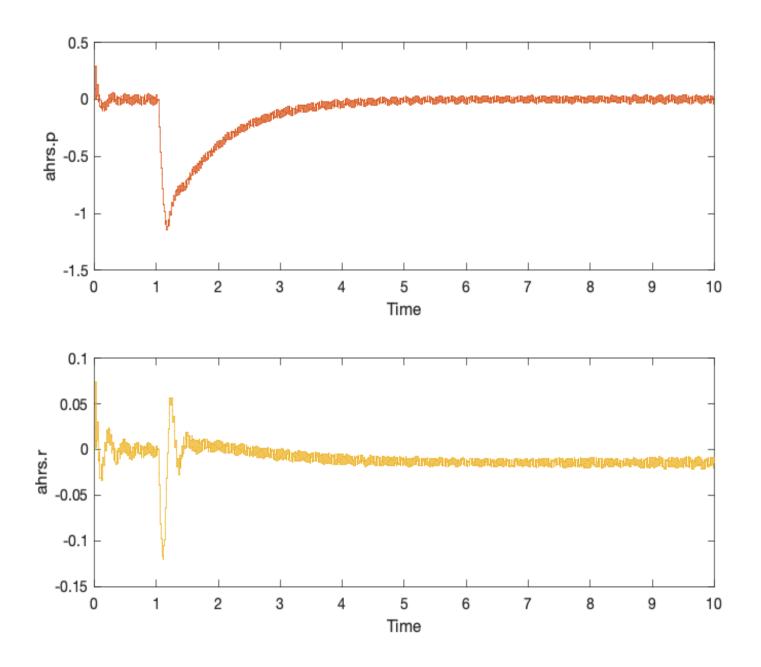


Back to Report SummaryBack to Signal Summary

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

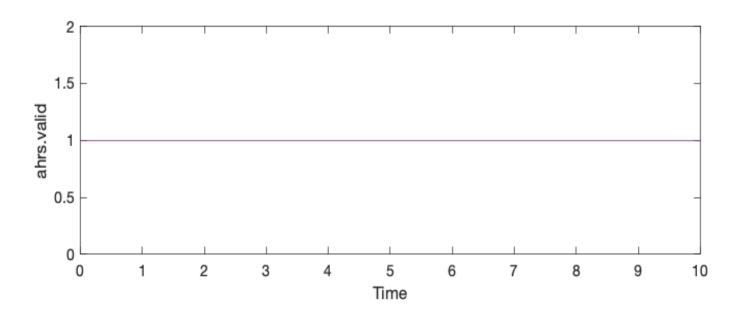


Name	Data Type	Units	Sample Time	Interp	Sync
ahrs.p	double	deg/sec	0.01	zoh	union
ahrs.r	double	deg/sec	0.01	zoh	union



Back to Report SummaryBack to Signal Summary

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



## **Custom Criteria Result Information** Diagnostic Record: Outcome: Passed VerificationPassed Event: VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: verifyLessThanOrEqual passed. **Actual Value:** -0.934684959248688 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:** -0.989788536394629

Diagnostic Record: Outcome:	Passed
Event:	VerificationPassed
VerificationPassed in custo	om criteria of sltest.testmanager.TestC
Framework Diagnostic:	
verifyGreaterThanOrEq	ual passed.
Actual Value:	
-0.989788536394629	·).
Minimum Value (Inclusi -1.05000000000000000	ive):
Diagnostic Record: Outcome: Event:	Passed VerificationPassed
Diagnostic Record: Outcome: Event:	Passed VerificationPassed
Diagnostic Record: Outcome: Event: VerificationPassed in custo Framework Diagnostic:	Passed VerificationPassed 
Diagnostic Record: Outcome: Event: VerificationPassed in custo	Passed VerificationPassedom criteria of sltest.testmanager.TestC
Diagnostic Record: Outcome: Event: VerificationPassed in custo Framework Diagnostic: verifyLessThanOrEqual Actual Value:	Passed VerificationPassedom criteria of sltest.testmanager.TestC
Diagnostic Record: Outcome: Event: VerificationPassed in custo Framework Diagnostic: verifyLessThanOrEqual	Passed VerificationPassed om criteria of sltest.testmanager.TestC

## **Helicopter Yaw Control Test**

### **Test Result Information**

Result Type: Test Suite Result Parent: HeliLoopTest

Start Time: 13-Mar-2023 17:45:25 End Time: 13-Mar-2023 17:47:42 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: 13-Mar-2023 17:45:25 End Time: 13-Mar-2023 17:46:35

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

Document: HelicopterSystemRequirements.slreqx

### **Simulation**

### **System Under Test Information**

Model: HelicopterSystem

Release: Current Simulation Mode: normal

Override SIL or PIL 0

Mode:

Configuration Set: Configuration

Start Time: 0 Stop Time: 10

Checksum: 1537542357 1654829112 2870649001 2292590244

Simulink Version: 10.4 Model Version: 1.24 Model Author: bpotter

Date: Mon May 11 15:42:30 2020

User ID: halilceylan

Model Path: /Users/halilceylan/Desktop/AnSyMo-Simulink-

Mutator/matlab\_workspace/heli/work/

HelicopterSystem.slx

Solver Name: ode23t

Solver Type: Variable-Step

Max Step Size: 0.001

Simulation Start Time: 2023-03-13 17:45:25 Simulation Stop Time: 2023-03-13 17:46:32

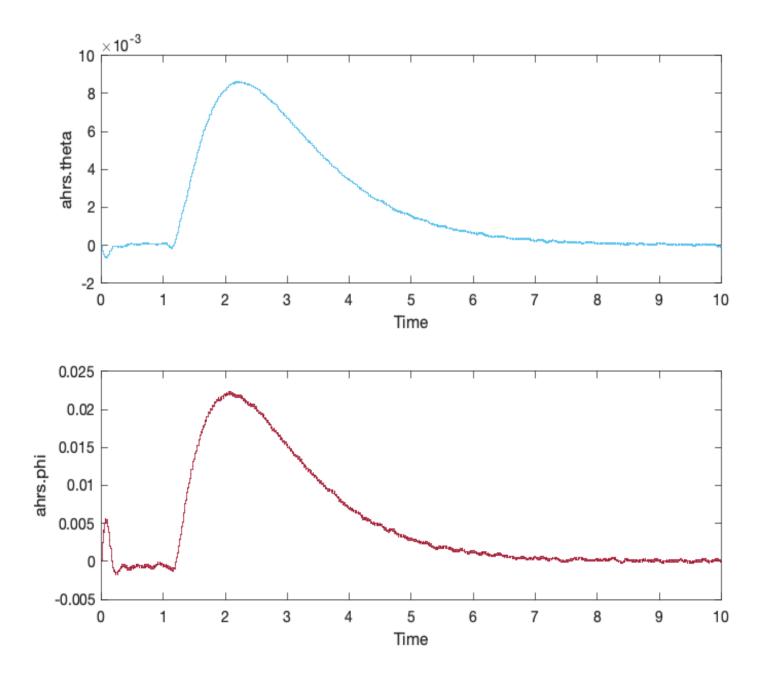
Platform: MACI64

### **Simulation Output**

Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plo
ahrs.theta	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.phi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.psi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.q	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.p	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.r	double	deg/sec	0.01	zoh	union	<u>Link</u>

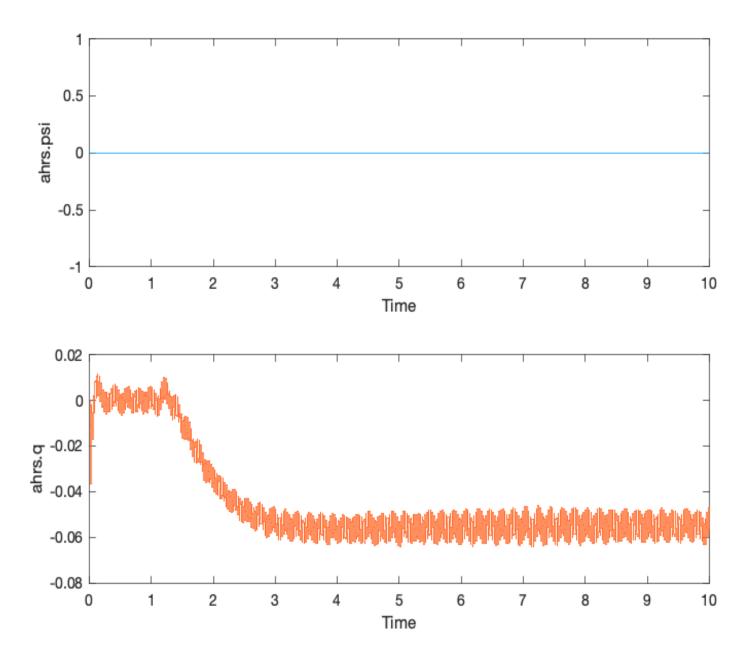
ahrs.valid	į	boolean	į	į	0.01	į	zoh	ij	union	į	<u>Link</u>

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



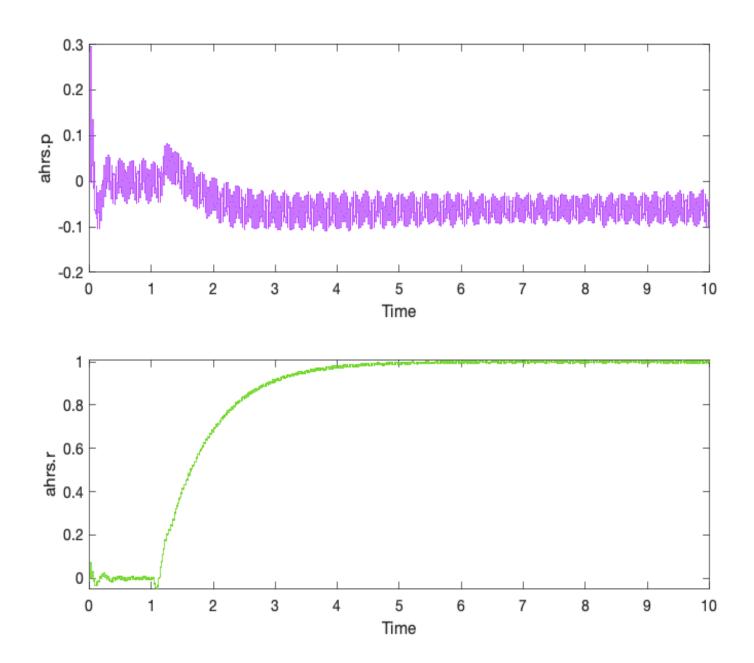
Back to Report SummaryBack to Signal Summary

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



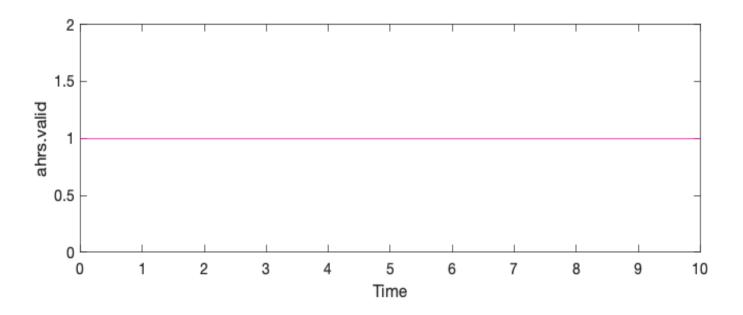
# Back to Report SummaryBack to Signal Summary

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	



## **Custom Criteria Result Information** Diagnostic Record: Outcome: Passed VerificationPassed Event: VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: $verify Greater Than Or Equal\ passed.$ Actual Value: 0.949767089376463 Minimum Value (Inclusive): 0.630000000000000Diagnostic Record: Outcome: Passed Event: VerificationPassed VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: verifyLessThanOrEqual passed. Actual Value: 1.006238215674025

Diagnostic Record: Outcome: Event:	Passed VerificationPassed
VerificationPassed in cu	stom criteria of sltest.testmanager.Test(
 Framework Diagnosti	c:
verifyGreaterThanOrl	Equal passed.
Actual Value: 0.993349042507627 Minimum Value (Inclu 0.95000000000000000	usive):
Diagnostic Record:	
Diagnostic Record: Outcome: Event:	Passed VerificationPassed
Diagnostic Record: Outcome: Event:	Passed VerificationPassed 
Diagnostic Record: Outcome: Event:	Passed VerificationPassed stom criteria of sltest.testmanager.TestC
Diagnostic Record: Outcome: Event: VerificationPassed in cu	Passed VerificationPassedstom criteria of sltest.testmanager.TestC
Diagnostic Record: Outcome: Event: VerificationPassed in cu Framework Diagnosti	Passed VerificationPassedstom criteria of sltest.testmanager.TestC

## **SmallNegativeStep**

### **Test Result Information**

Result Type: Test Case Result

Parent: <u>Helicopter Yaw Control Test</u>

Start Time: 13-Mar-2023 17:46:35 End Time: 13-Mar-2023 17:47:42

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 Document: HelicopterSystemRequirements.slreqx

#### **Simulation**

### **System Under Test Information**

Model: HelicopterSystem

Release: Current Simulation Mode: normal

Override SIL or PIL 0

Mode:

Configuration Set: Configuration

Start Time: 0 Stop Time: 10

Checksum: 1537542357 1654829112 2870649001 2292590244

Simulink Version: 10.4

Model Version: 1.24 Model Author: bpotter

Date: Mon May 11 15:42:30 2020

User ID: halilceylan

Model Path: /Users/halilceylan/Desktop/AnSyMo-Simulink-

Mutator/matlab\_workspace/heli/work/

HelicopterSystem.slx

Solver Name: ode23t

Solver Type: Variable-Step

Max Step Size: 0.001

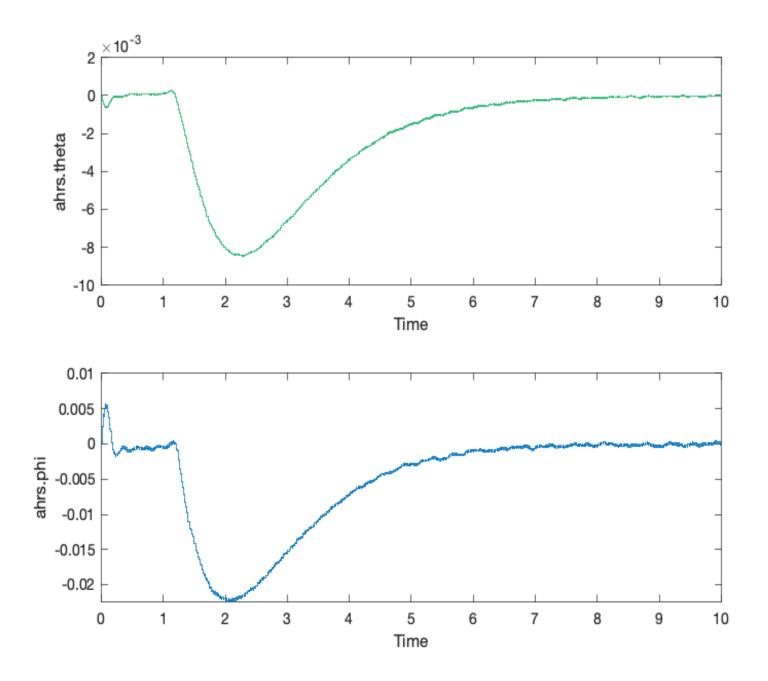
Simulation Start Time: 2023-03-13 17:46:35 Simulation Stop Time: 2023-03-13 17:47:39

Platform: MACI64

### **Simulation Output**

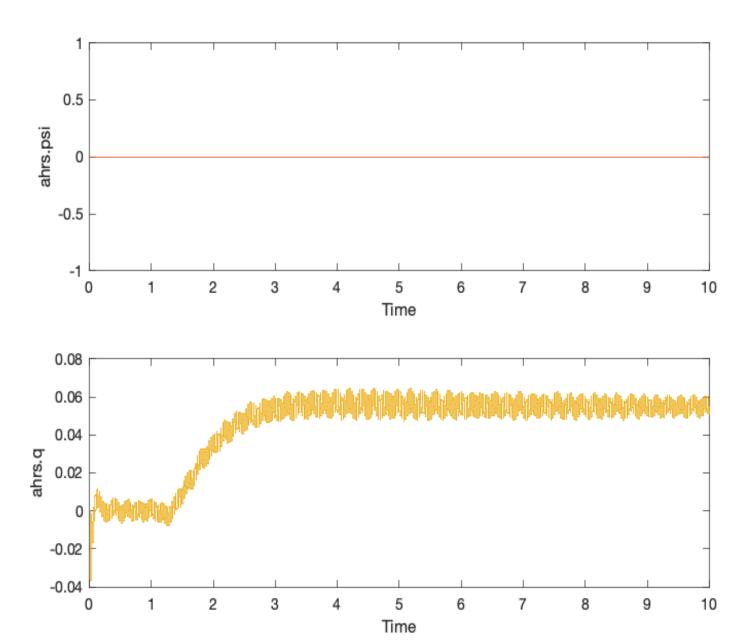
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plo t
ahrs.theta	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.phi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.psi	double	deg	0.01	zoh	union	<u>Link</u>
ahrs.q	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.p	double	deg/sec	0.01	zoh	union	<u>Link</u>
ahrs.r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

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



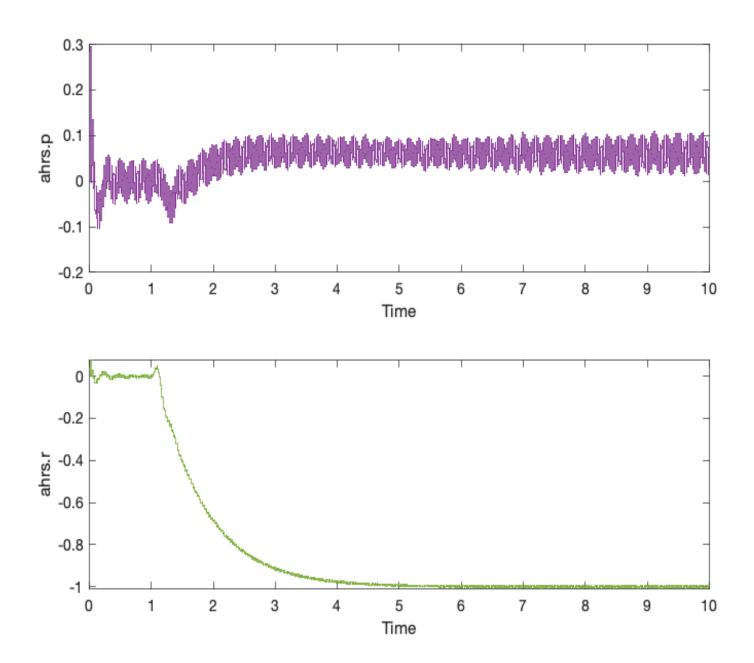
Back to Report SummaryBack to Signal Summary

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



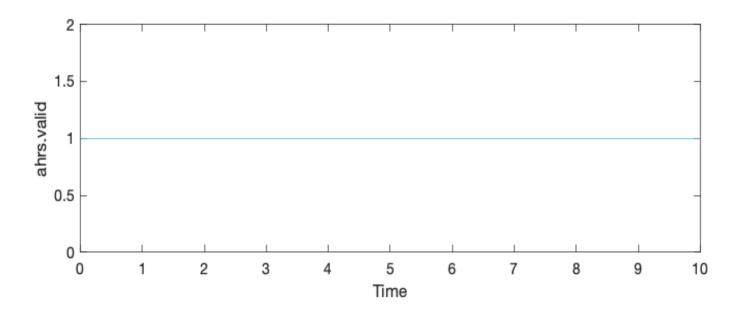
# Back to Report SummaryBack to Signal Summary

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	Units Sample Time		Sync	
ahrs.valid	boolean		0.01	zoh	union	



## **Custom Criteria Result Information** Diagnostic Record: Outcome: Passed VerificationPassed Event: VerificationPassed in custom criteria of sltest.testmanager.TestCase. Framework Diagnostic: verifyLessThanOrEqual passed. Actual Value: -0.949788312836835 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:** -1.008096211540845

Diagnostic Record: Outcome:	Passed
Event:	VerificationPassed
VerificationPassed in custo	om criteria of sltest.testmanager.TestC
Framework Diagnostic:	
verifyGreaterThanOrEq	ual passed.
Actual Value:	
-1.008096211540845	
Minimum Value (Inclusi -1.05000000000000000	ive):
Diagnostic Record: Outcome: Event:	Passed VerificationPassed
Diagnostic Record: Outcome: Event:	Passed VerificationPassed 
Diagnostic Record: Outcome: Event: VerificationPassed in custo Framework Diagnostic:	Passed VerificationPassed
Diagnostic Record: Outcome: Event: VerificationPassed in custo	Passed VerificationPassed om criteria of sltest.testmanager.TestC
Diagnostic Record: Outcome: Event: VerificationPassed in custo Framework Diagnostic: verifyLessThanOrEqual Actual Value:	Passed VerificationPassed om criteria of sltest.testmanager.TestC
Diagnostic Record: Outcome: Event: VerificationPassed in custo Framework Diagnostic: verifyLessThanOrEqual	Passed VerificationPassed om criteria of sltest.testmanager.TestC passed.