

Report Generated by Test Manager

Title: AHRS_voter REQ-Based Tests

Author:






Date: 22-Oct-2018 11:14:32

Test Environment

Platform: PCWIN64

MATLAB: (R2018b)


Summary

Name	Outcome	Duration (Seconds)
Results: 2018-Oct-22 11:14:10	3✔	19
 AHRS_voter_REQ_Based_Test	3✔	19
 AHRS Voting Test Suite	3✔	19
 Mid Value Voting Test Case	✔	11
 Average Value Voting Test Case	✔	4
 Single Value Voting Test Case	✔	4

Results: 2018-Oct-22 11:14:10

Result Type: Result Set
Parent: None
Start Time: 2018-Oct-22 11:14:10
End Time: 2018-Oct-22 11:14:29
Outcome: Total: 3, **Passed: 3**

Aggregated Coverage Results

Analyzed Model	Sim Mode	Complexity	Decision	Execution
 AHRS voter	Normal	38	97%	100%

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AHRS_voter_REQ_Based_Test

Test Result Information

Result Type: Test File Result
Parent: [Results: 2018-Oct-22 11:14:10](#)
Start Time: 2018-Oct-22 11:14:10
End Time: 2018-Oct-22 11:14:29
Outcome: Total: 3, **Passed: 3**
Description:

Checksum when compiled as referenced model: 2716152477 526183559
2261934035 2997422368

Checksum when compiled as top model: 968028779 1381078259 3069098703
3541850780

Test Suite Information

Name: AHRS_voter_REQ_Based_Test

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AHRS Voting Test Suite

Test Result Information

Result Type: Test Suite Result
Parent: [AHRS_voter_REQ_Based_Test](#)
Start Time: 2018-Oct-22 11:14:10
End Time: 2018-Oct-22 11:14:29

Outcome: Total: 3, **Passed: 3**

Test Suite Information

Name: AHRS Voting Test Suite

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Mid Value Voting Test Case

Test Result Information

Result Type: Test Case Result
Parent: [AHRS Voting Test Suite](#)
Start Time: 2018-Oct-22 11:14:10
End Time: 2018-Oct-22 11:14:21
Outcome: **Passed**
Description:

Test the mid value voting algorithm with three valid AHRS.

Test Case Information

Name: Mid Value Voting Test Case
Type: Simulation Test

Test Case Requirements

Description: HLR_11: AHRS Voting for Triple Sensors (HelicopterSoftwareRequirements#15)
Document: [HelicopterSoftwareRequirements.slreqx](#)
Description: HLR_9 : AHRS Validity Check (HelicopterSoftwareRequirements#13)
Document: [HelicopterSoftwareRequirements.slreqx](#)

Verify Result

Name
✓ Test Sequence/step_2:verify(abs(voted_fb(1))<Tol)
✓ Test Sequence/step_2:verify(abs(voted_fb(2))<Tol)
✓ Test Sequence/step_2:verify(abs(voted_fb(3))<Tol)
✓ Test Sequence/step_2:verify(abs(voted_fb(4))<Tol)
✓ Test Sequence/step_2:verify(abs(voted_fb(5))<Tol)
✓ Test Sequence/step_4:verify((voted_fb(1)-AHRs1(1))<Tol)
✓ Test Sequence/step_4:verify((voted_fb(2)-AHRs2(2))<Tol)
✓ Test Sequence/step_4:verify((voted_fb(3)-AHRs3(3))<Tol)
✓ Test Sequence/step_4:verify((voted_fb(4)-AHRs3(4))<Tol)
✓ Test Sequence/step_4:verify((voted_fb(5)-AHRs1(5))<Tol)
✓ Test Sequence/step_6:verify((voted_fb(1)-AHRs2(1))<Tol)
✓ Test Sequence/step_6:verify((voted_fb(2)-AHRs1(2))<Tol)
✓ Test Sequence/step_6:verify((voted_fb(3)-AHRs2(3))<Tol)
✓ Test Sequence/step_6:verify((voted_fb(4)-AHRs2(4))<Tol)
✓ Test Sequence/step_6:verify((voted_fb(5)-AHRs3(5))<Tol)
✓ Test Sequence/step_8:verify((voted_fb(1)-AHRs3(1))<Tol)
✓ Test Sequence/step_8:verify((voted_fb(2)-AHRs3(2))<Tol)
✓ Test Sequence/step_8:verify((voted_fb(3)-AHRs1(3))<Tol)
✓ Test Sequence/step_8:verify((voted_fb(4)-AHRs1(4))<Tol)
✓ Test Sequence/step_8:verify((voted_fb(5)-AHRs2(5))<Tol)

Simulation

System Under Test Information

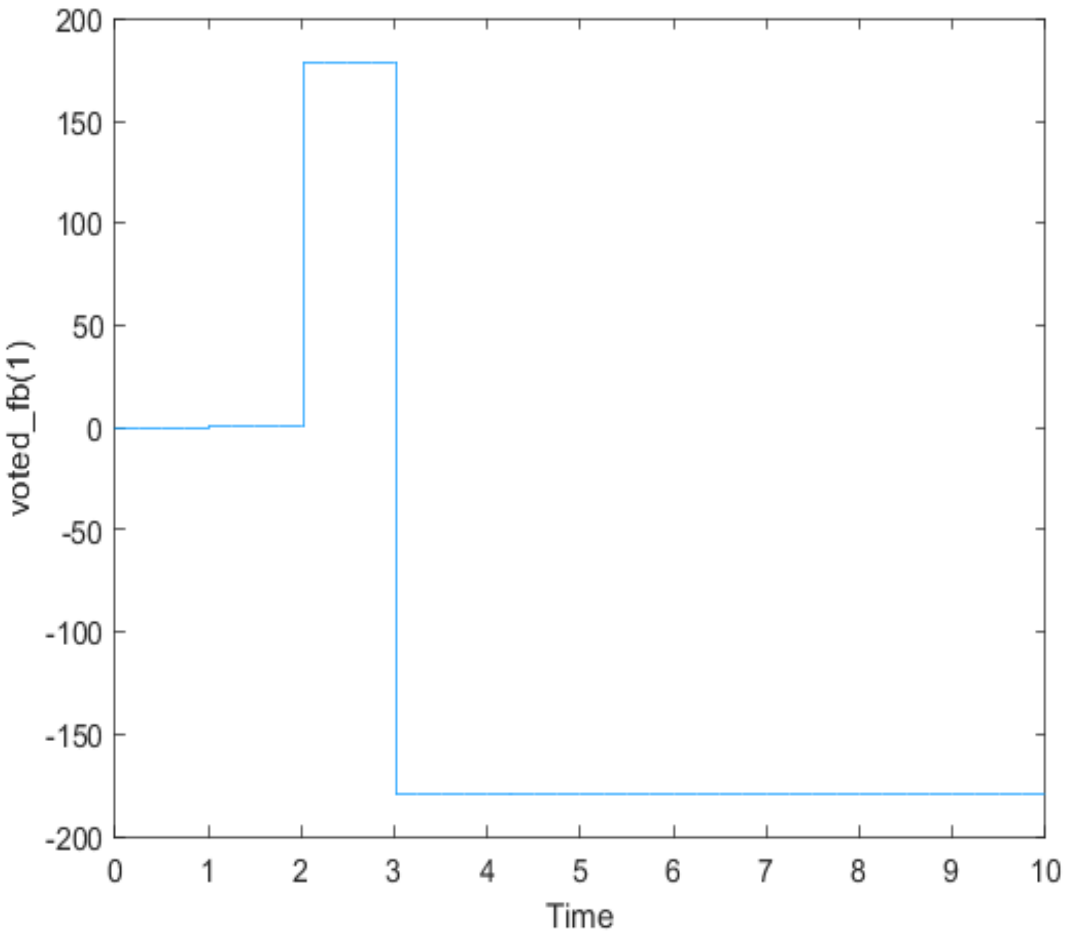
Model: AHRS_voter
Harness: AHRS_voter_Harness3
Harness Owner: AHRS_voter
Simulation Mode: normal
Configuration Set: Configuration1
Start Time: 0
Stop Time: 10
Checksum: 1026681856 4121999313 4204803151 4216007444
Simulink Version: 9.2
Model Version: 1.14
Model Author: bpotter
Date: Mon May 21 10:35:45 2018

User ID: bpotter
 Model Path: C:\Users\bpotter\OneDrive - MathWorks\DO_Project_18b\DO_03_Design\AHRS_voter\specification\AHRS_voter_Harness3.slx
 Machine Name: AH-BPOTTER
 Solver Name: FixedStepDiscrete
 Solver Type: Fixed-Step
 Fixed Step Size: 0.01
 Simulation Start Time: 2018-10-22 11:14:12
 Simulation Stop Time: 2018-10-22 11:14:19
 Platform: PCWIN64

Simulation Output

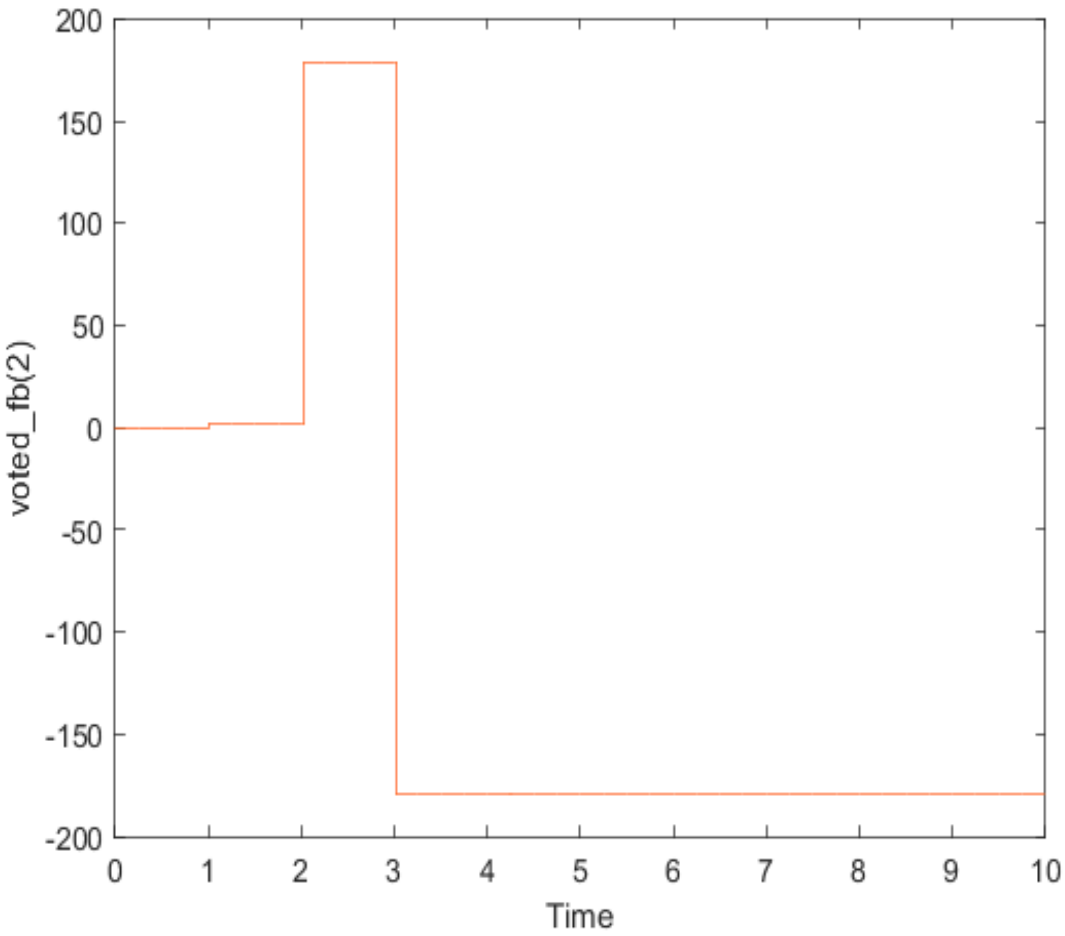
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
voted_fb(1)	double		0.01	zoh	union	Link
voted_fb(2)	double		0.01	zoh	union	Link
voted_fb(3)	double		0.01	zoh	union	Link
voted_fb(4)	double		0.01	zoh	union	Link
voted_fb(5)	double		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(1)	double		0.01	zoh	union



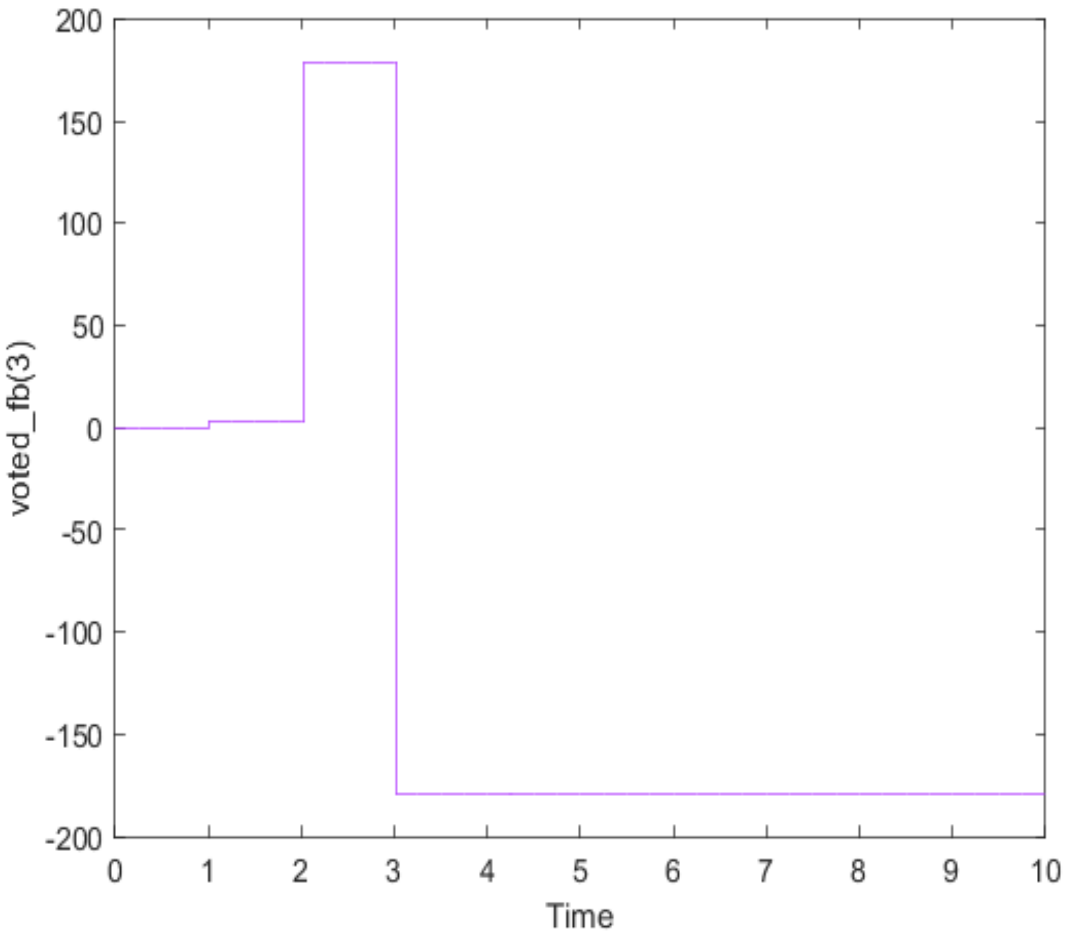
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(2)	double		0.01	zoh	union



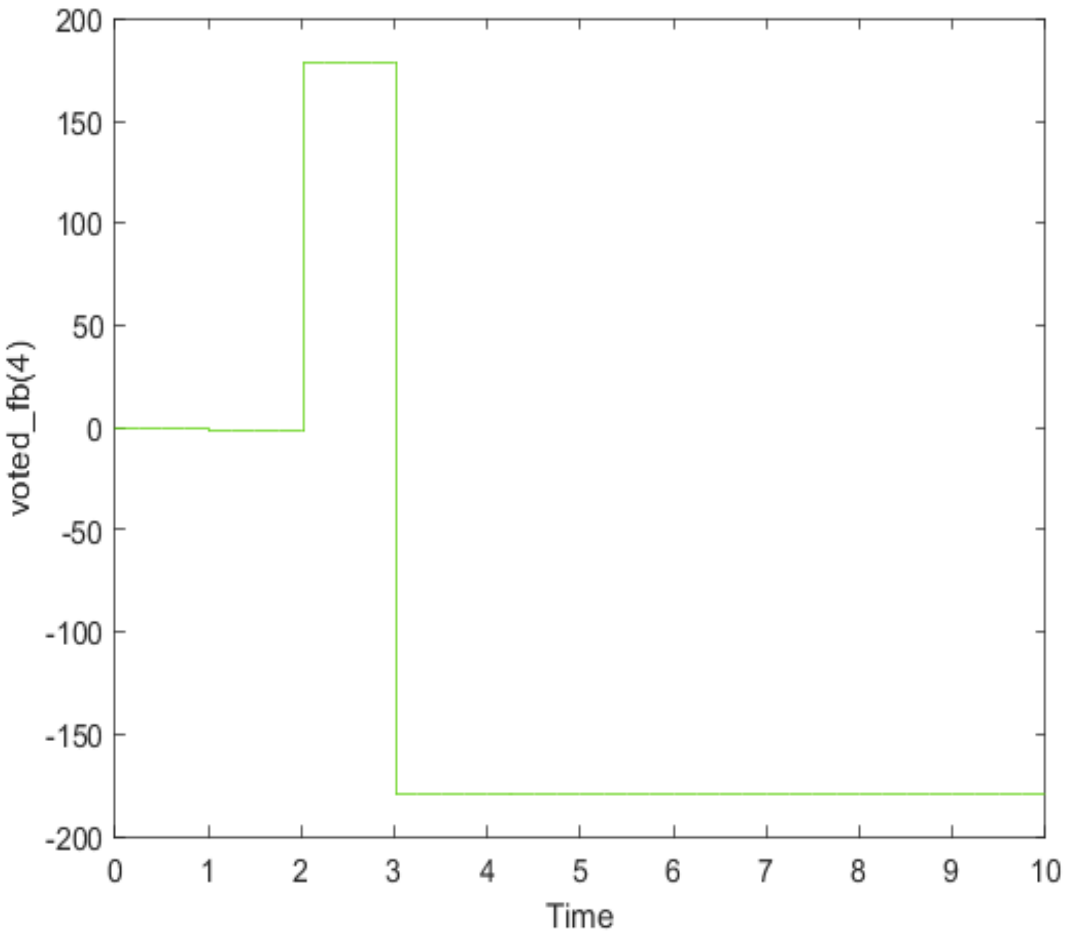
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(3)	double		0.01	zoh	union



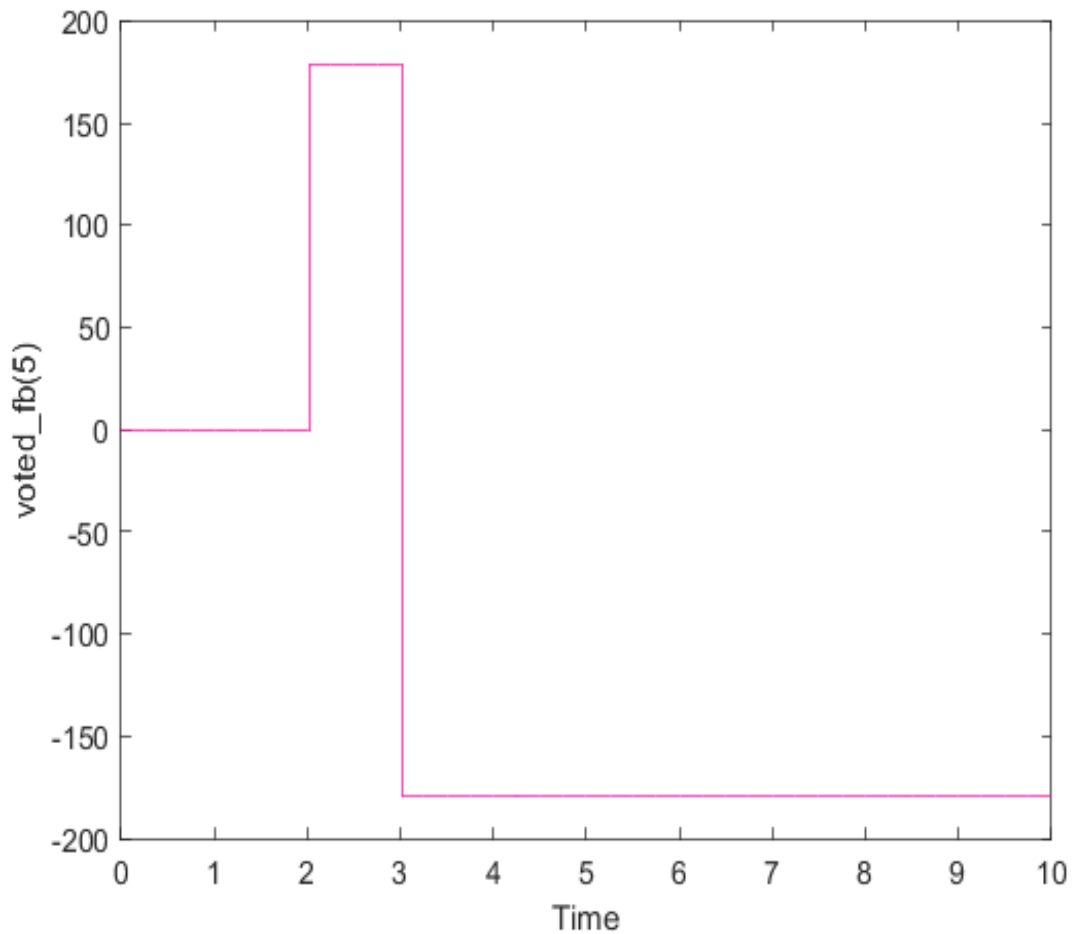
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(4)	double		0.01	zoh	union



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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(5)	double		0.01	zoh	union



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Average Value Voting Test Case

Test Result Information

Result Type: Test Case Result
 Parent: [AHRS Voting Test Suite](#)
 Start Time: 2018-Oct-22 11:14:21
 End Time: 2018-Oct-22 11:14:25

Outcome: **Passed**

Description:

Test the average value voting algorithm with two valid AHRS.

Test Case Information

Name: Average Value Voting Test Case

Type: Simulation Test

Test Case Requirements

Description: HLR_12: AHRS Voting for Dual Sensors (HelicopterSoftwareRequirements#16)

Document: [HelicopterSoftwareRequirements.slreqx](#)

Description: HLR_9 : AHRS Validity Check (HelicopterSoftwareRequirements#13)

Document: [HelicopterSoftwareRequirements.slreqx](#)

Verify Result

Name	
✓	Test Sequence/step_2.verify(abs(voted_fb(1)-expected(1))<Tol)
✓	Test Sequence/step_2.verify(abs(voted_fb(2)-expected(2))<Tol)
✓	Test Sequence/step_2.verify(abs(voted_fb(3)-expected(3))<Tol)
✓	Test Sequence/step_2.verify(abs(voted_fb(4)-expected(4))<Tol)
✓	Test Sequence/step_2.verify(abs(voted_fb(5)-expected(5))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(1)-expected(1))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(2)-expected(2))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(3)-expected(3))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(4)-expected(4))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(5)-expected(5))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(1)-expected(1))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(2)-expected(2))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(3)-expected(3))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(4)-expected(4))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(5)-expected(5))<Tol)

Simulation

System Under Test Information

Model: AHRS_voter

Harness: AHRS_voter_Harness2

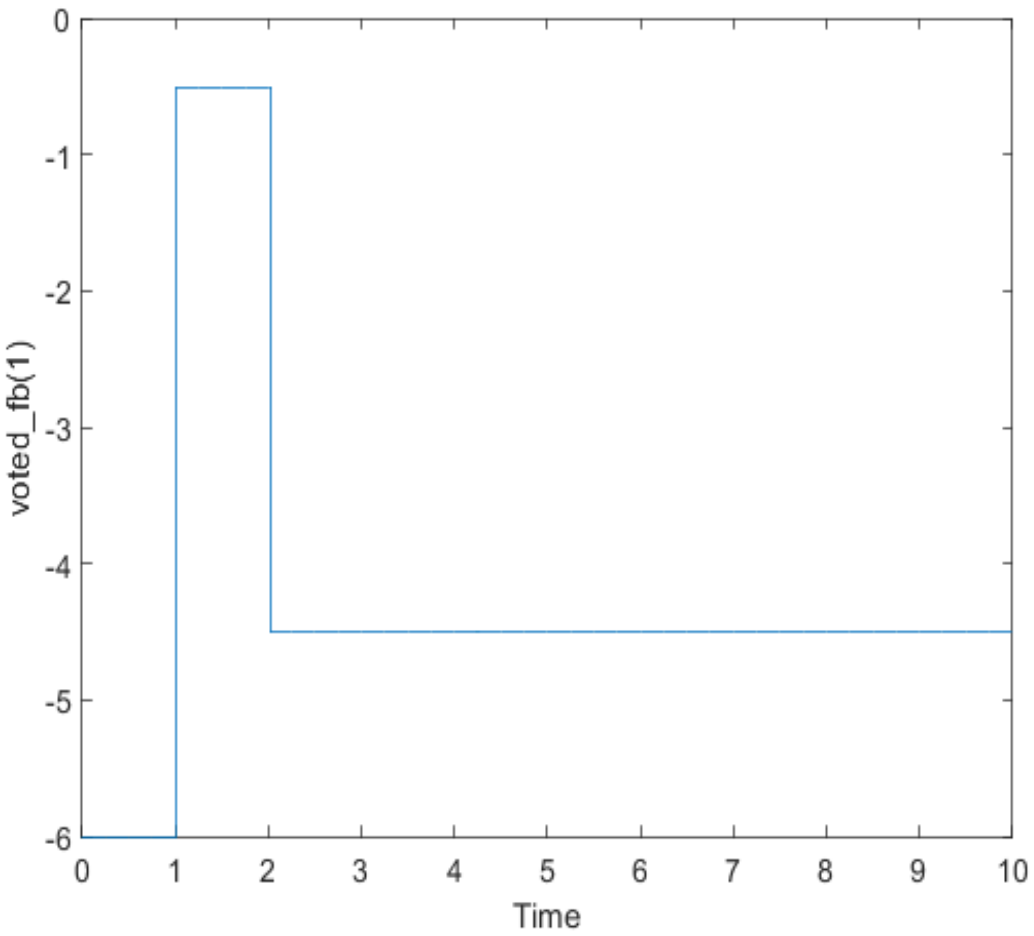
Harness Owner: AHRS_voter
 Simulation Mode: normal
 Configuration Set: Configuration1
 Start Time: 0
 Stop Time: 10
 Checksum: 4276509913 2290760534 980715570 240252849
 Simulink Version: 9.2
 Model Version: 1.13
 Model Author: bpotter
 Date: Mon May 21 10:35:45 2018
 User ID: bpotter
 Model Path: C:\Users\bpotter\OneDrive - MathWorks\DO_Project_18b\DO_03_Design\AHRS_voter\specification\AHRS_voter_Harness2.slx

 Machine Name: AH-BPOTTER
 Solver Name: FixedStepDiscrete
 Solver Type: Fixed-Step
 Fixed Step Size: 0.01
 Simulation Start Time: 2018-10-22 11:14:22
 Simulation Stop Time: 2018-10-22 11:14:25
 Platform: PCWIN64

Simulation Output

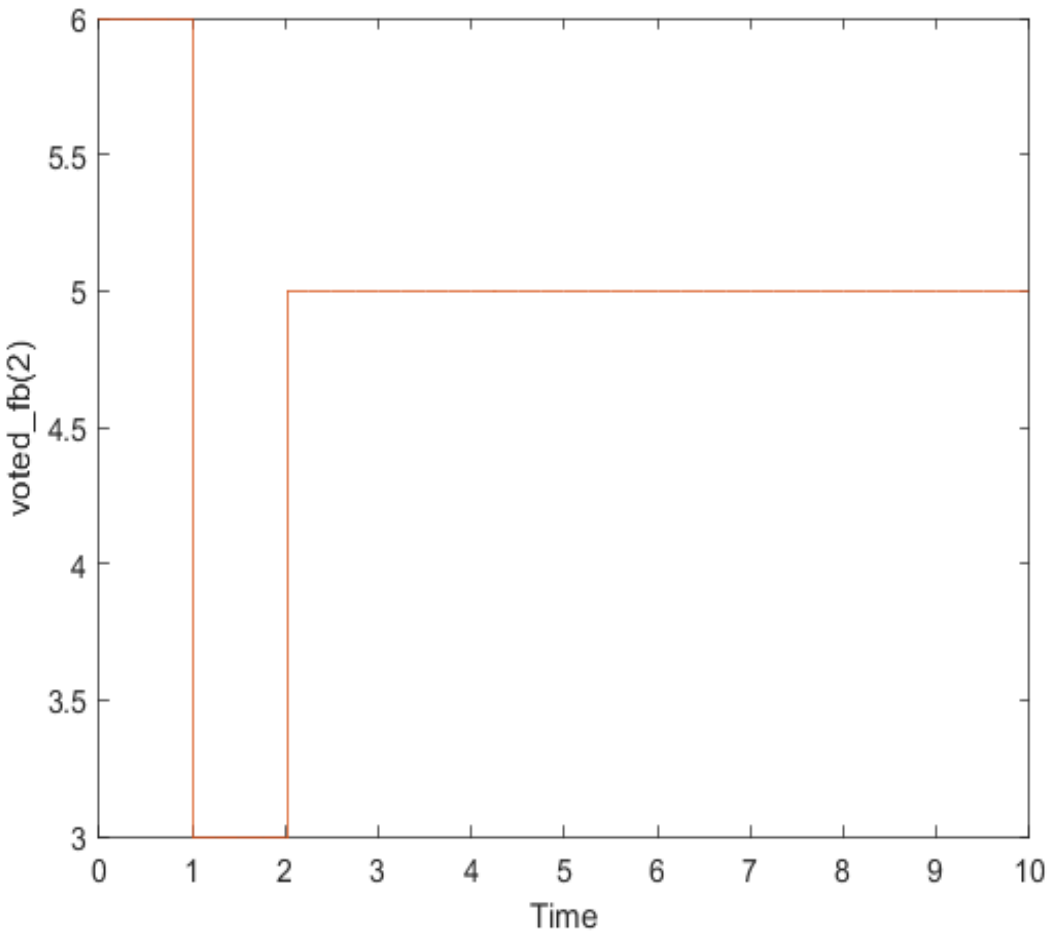
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
voted_fb(1)	double		0.01	zoh	union	Link
voted_fb(2)	double		0.01	zoh	union	Link
voted_fb(3)	double		0.01	zoh	union	Link
voted_fb(4)	double		0.01	zoh	union	Link
voted_fb(5)	double		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(1)	double		0.01	zoh	union



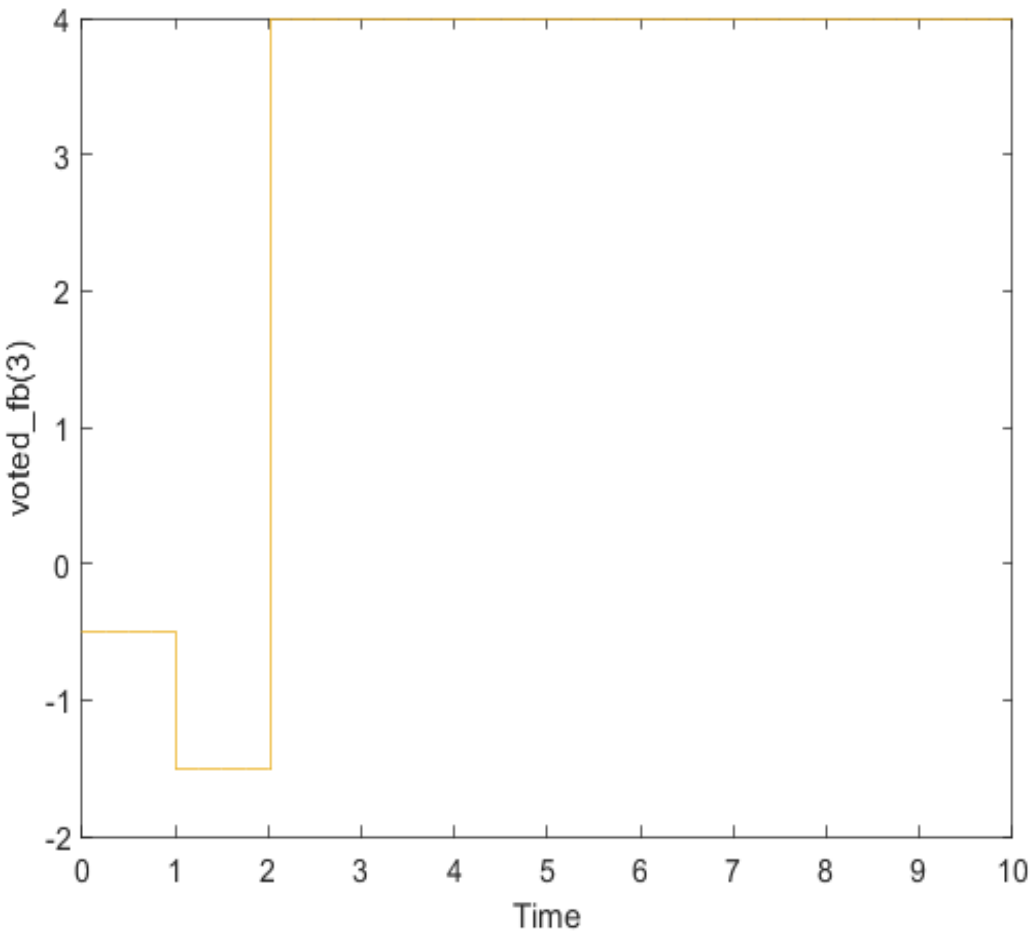
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(2)	double		0.01	zoh	union



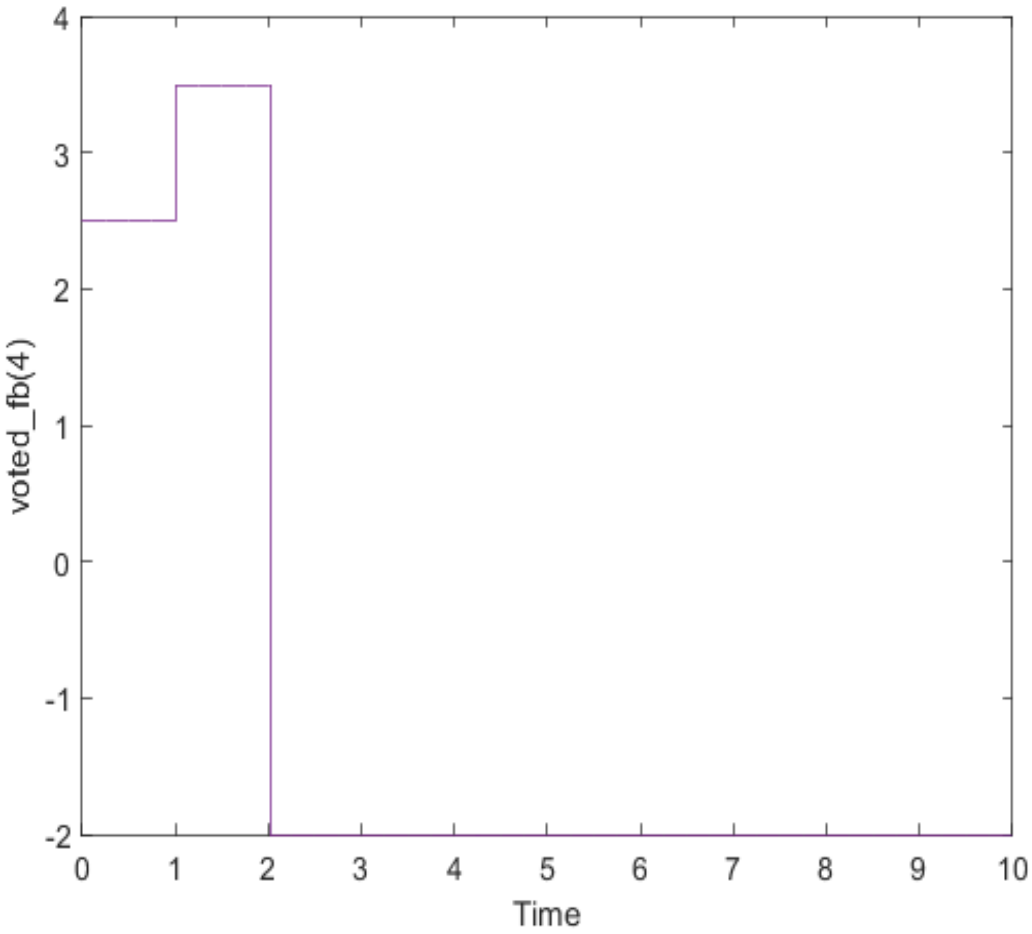
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(3)	double		0.01	zoh	union



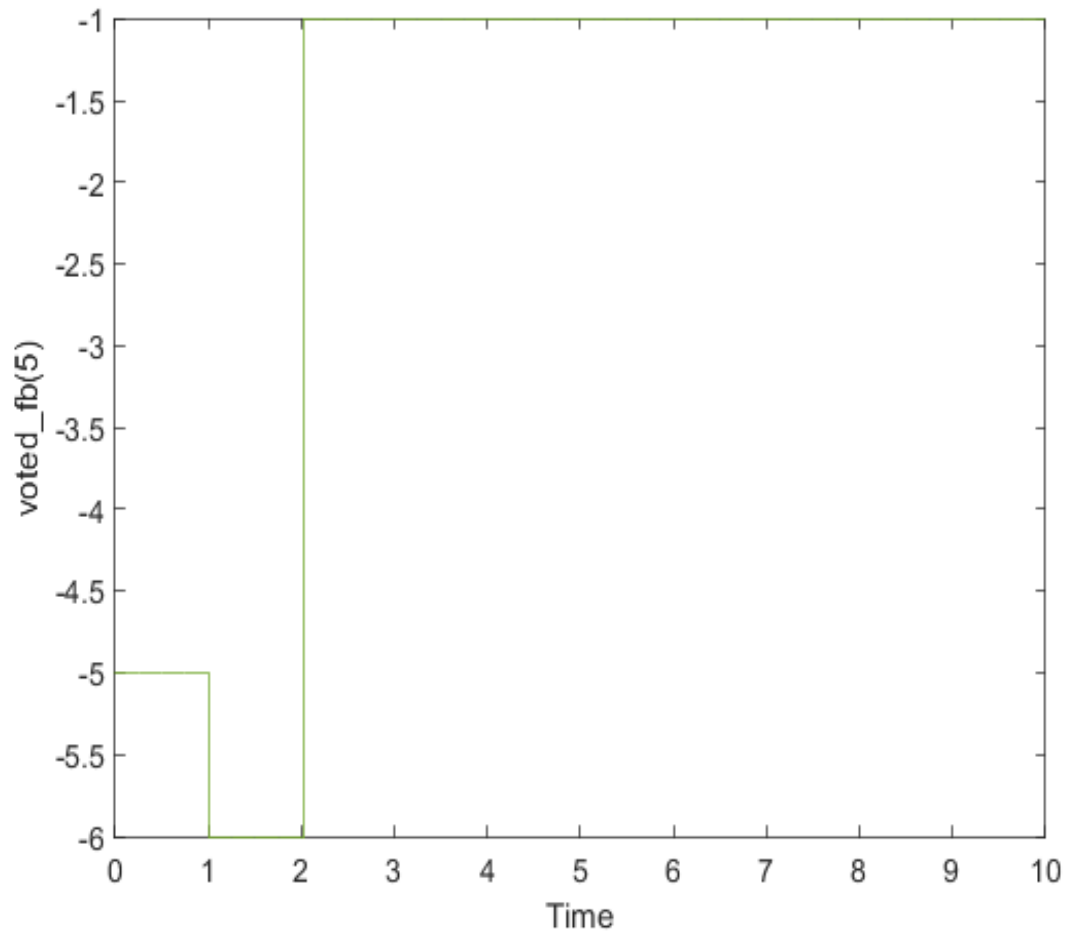
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(4)	double		0.01	zoh	union



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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(5)	double		0.01	zoh	union



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Single Value Voting Test Case

Test Result Information

Result Type: Test Case Result
 Parent: [AHRS Voting Test Suite](#)
 Start Time: 2018-Oct-22 11:14:25
 End Time: 2018-Oct-22 11:14:29

Outcome: **Passed**

Description:

Test the single value voting algorithm with one valid AHRS.

Test Case Information

Name: Single Value Voting Test Case

Type: Simulation Test

Test Case Requirements

Description: HLR_13: AHRS Usage of Single Sensor (HelicopterSoftwareRequirements#17)

Document: [HelicopterSoftwareRequirements.slreqx](#)

Description: HLR_9 : AHRS Validity Check (HelicopterSoftwareRequirements#13)

Document: [HelicopterSoftwareRequirements.slreqx](#)

Verify Result

Name	
✓	Test Sequence/step_2.verify(abs(voted_fb(1)-AHRS1(1))<Tol)
✓	Test Sequence/step_2.verify(abs(voted_fb(2)-AHRS1(2))<Tol)
✓	Test Sequence/step_2.verify(abs(voted_fb(3)-AHRS1(3))<Tol)
✓	Test Sequence/step_2.verify(abs(voted_fb(4)-AHRS1(4))<Tol)
✓	Test Sequence/step_2.verify(abs(voted_fb(5)-AHRS1(5))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(1)-AHRS2(1))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(2)-AHRS2(2))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(3)-AHRS2(3))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(4)-AHRS2(4))<Tol)
✓	Test Sequence/step_4.verify(abs(voted_fb(5)-AHRS2(5))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(1)-AHRS3(1))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(2)-AHRS3(2))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(3)-AHRS3(3))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(4)-AHRS3(4))<Tol)
✓	Test Sequence/step_6.verify(abs(voted_fb(5)-AHRS3(5))<Tol)

Simulation

System Under Test Information

Model: AHRS_voter

Harness: AHRS_voter_Harness1

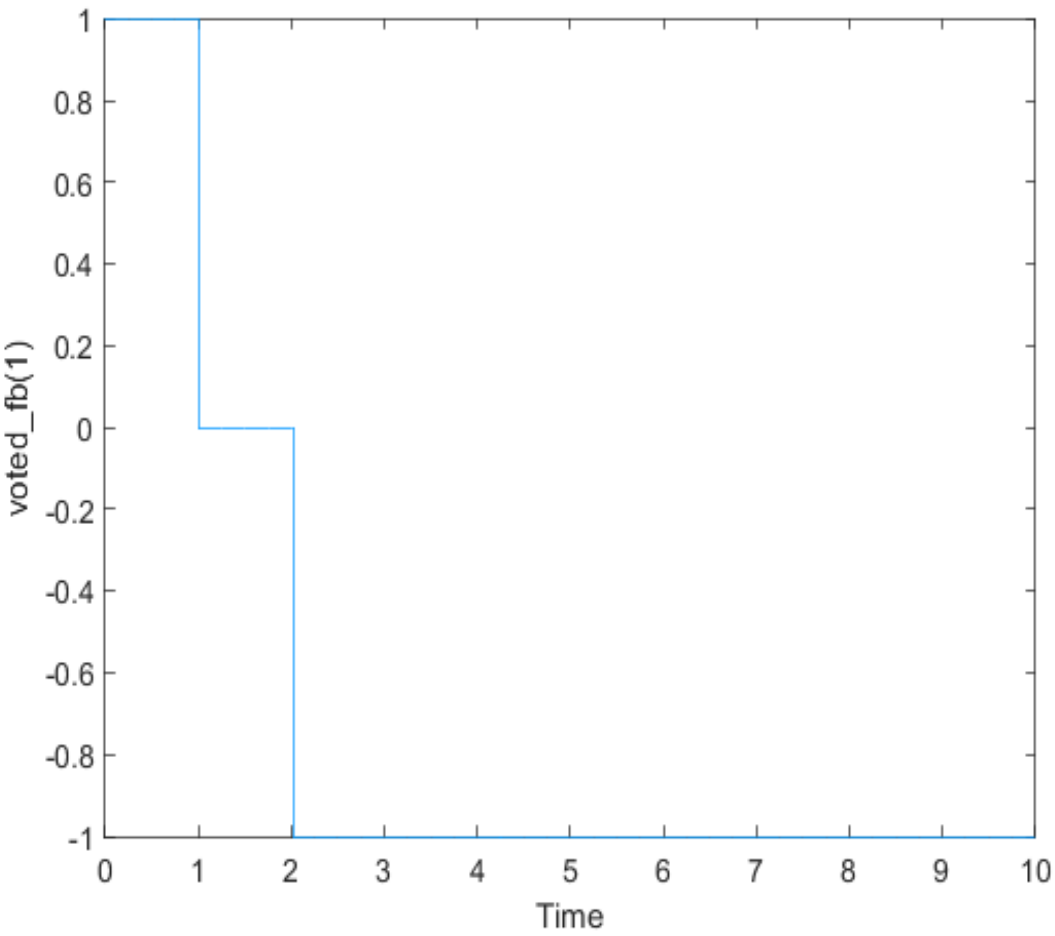
Harness Owner: AHRS_voter
 Simulation Mode: normal
 Configuration Set: Configuration1
 Start Time: 0
 Stop Time: 10
 Checksum: 2147410352 3562191523 2059805610 3305768504
 Simulink Version: 9.2
 Model Version: 1.15
 Model Author: bpotter
 Date: Mon May 21 10:35:45 2018
 User ID: bpotter
 Model Path: C:\Users\bpotter\OneDrive - MathWorks\DO_Project_18b\DO_03_Design\AHRS_voter\specification\AHRS_voter_Harness1.slx

 Machine Name: AH-BPOTTER
 Solver Name: FixedStepDiscrete
 Solver Type: Fixed-Step
 Fixed Step Size: 0.01
 Simulation Start Time: 2018-10-22 11:14:26
 Simulation Stop Time: 2018-10-22 11:14:28
 Platform: PCWIN64

Simulation Output

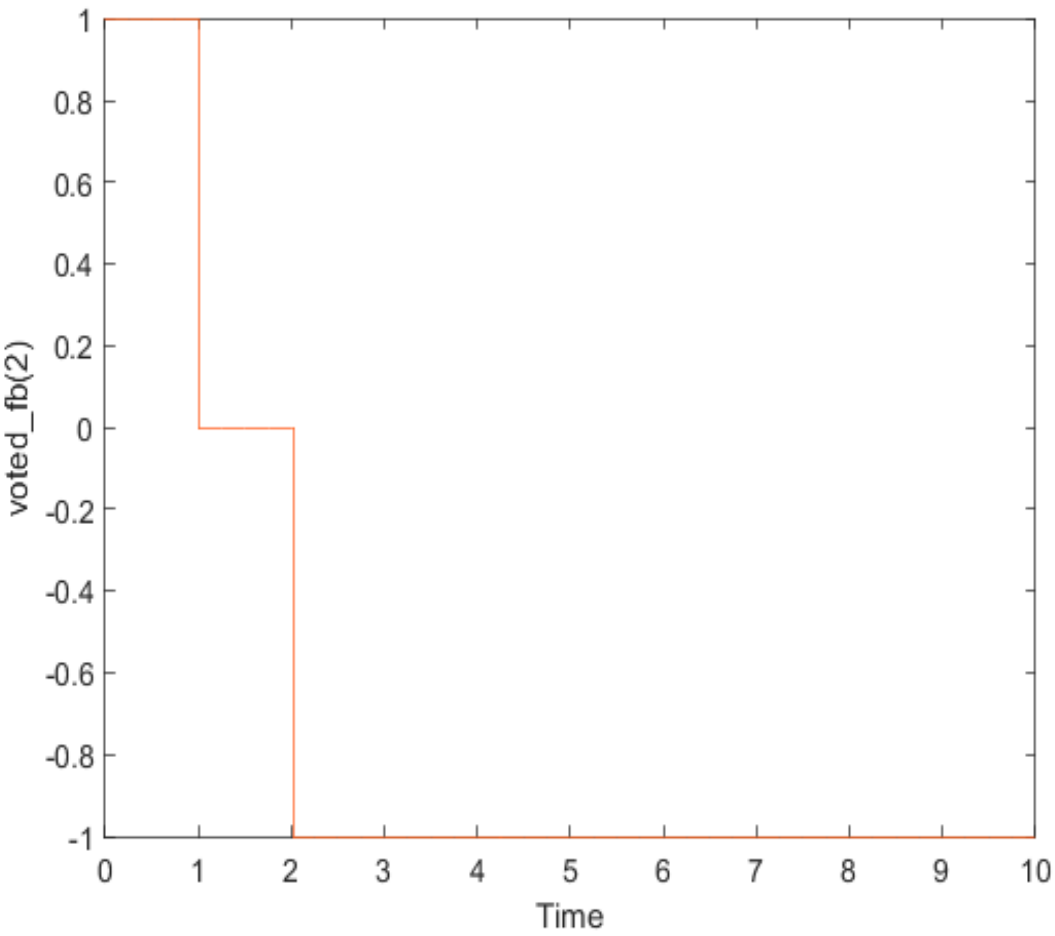
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
voted_fb(1)	double		0.01	zoh	union	Link
voted_fb(2)	double		0.01	zoh	union	Link
voted_fb(3)	double		0.01	zoh	union	Link
voted_fb(4)	double		0.01	zoh	union	Link
voted_fb(5)	double		0.01	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(1)	double		0.01	zoh	union



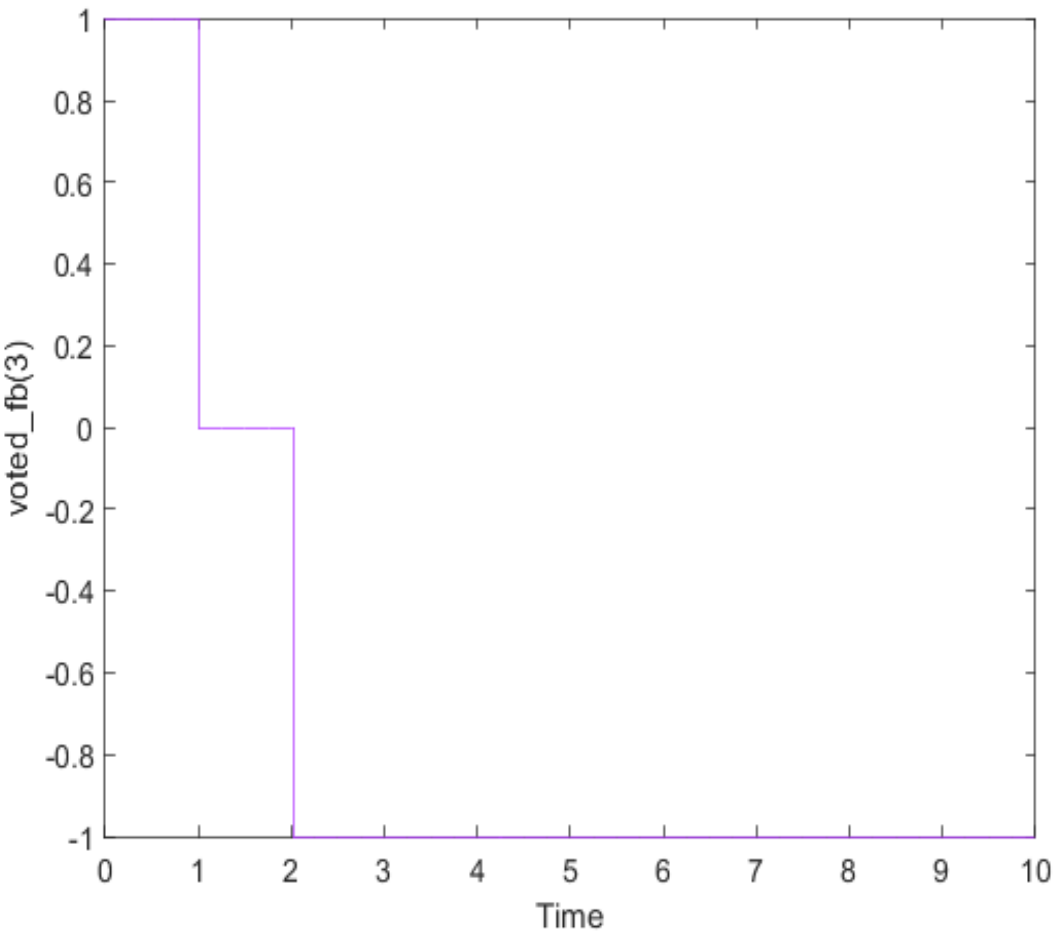
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(2)	double		0.01	zoh	union



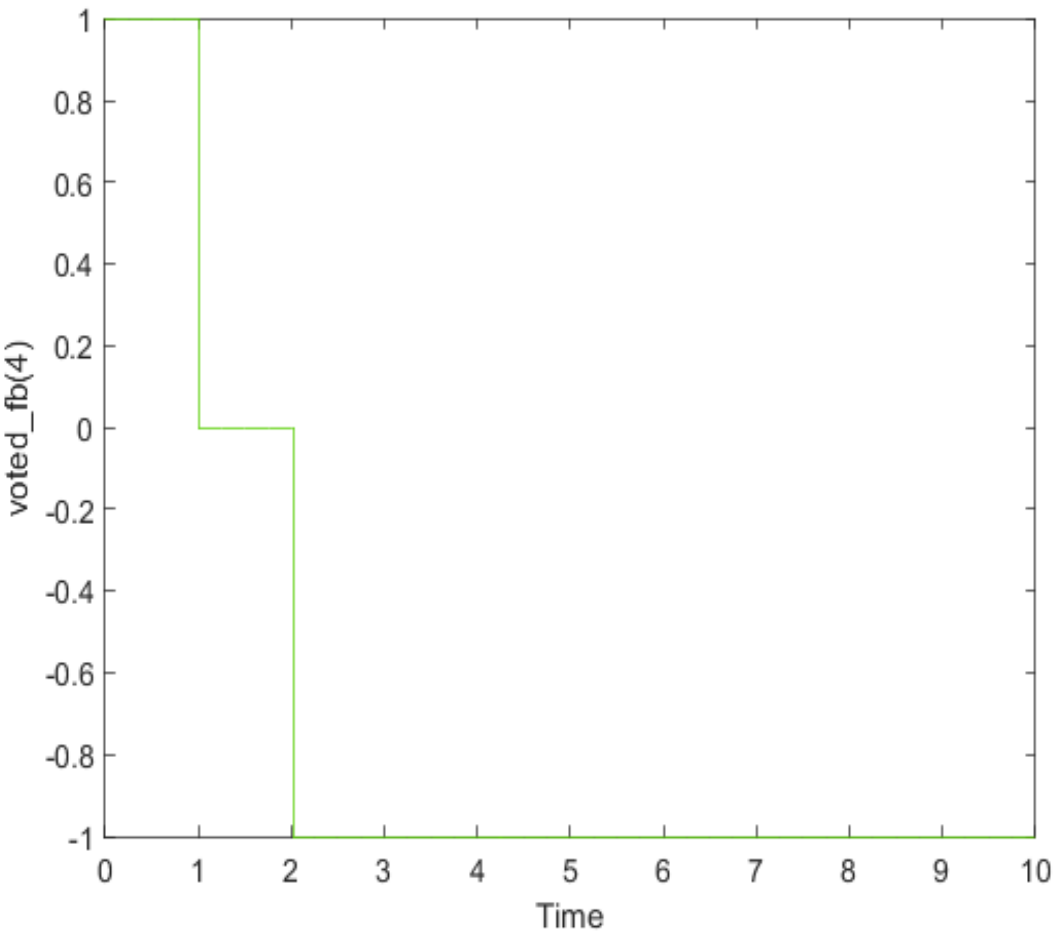
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(3)	double		0.01	zoh	union



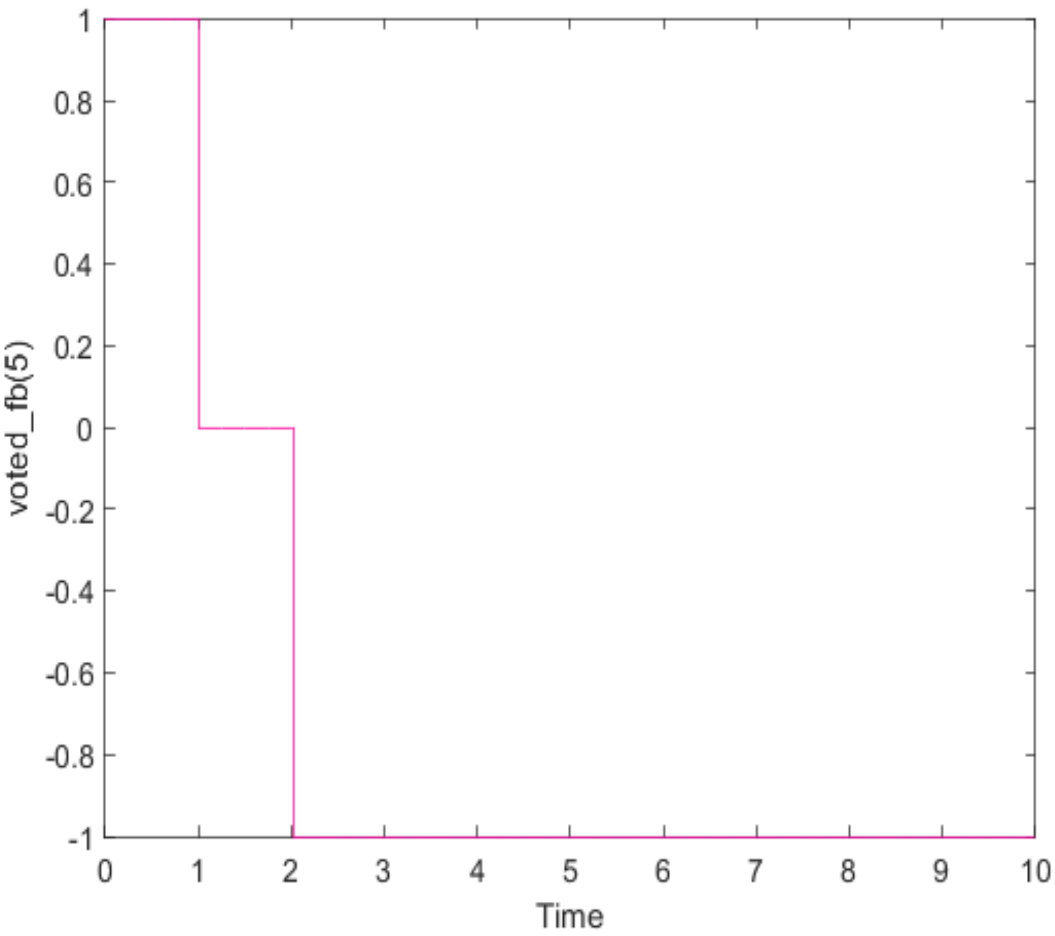
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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(4)	double		0.01	zoh	union



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Name	Data Type	Units	Sample Time	Interp	Sync
voted_fb(5)	double		0.01	zoh	union



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