

Report Generated by Test Manager

Title: MPC-L - Test 0.02
Author: Gianvincenzo Daddabbo, Gaetano Gallo, Alberto Ruggeri, Martina Tedesco, Alessandro Toschi
Date: 22-Jun-2021 21:33:45

Test Environment

Platform: PCWIN64
MATLAB: (R2019b)

Summary

Name	Outcome	Duration (Seconds)
 MPC_L_Setup2		91.832
 Iteration5		91.831

MPC_L Setup2

Test Result Information

Result Type: Test Case Result
Parent: None
Start Time: 22-Jun-2021 21:31:18
End Time: 22-Jun-2021 21:32:50
Outcome: **Passed**
Description:

This test is aimed to try to find a feasible and stable configuration for the MPC when it comes to slow speed scenarios

Test Case Information

Name: MPC_L Setup2
Type: Baseline Test

Iteration5

Test Result Information

Result Type: Test Iteration Result
Parent: [MPC_L Setup2](#)
Start Time: 22-Jun-2021 21:31:18
End Time: 22-Jun-2021 21:32:50
Outcome: **Passed**

Test Case Information

Name: Iteration5
Type: Baseline Test

Iteration Settings

Test Overrides

Parameter Name	Value
ParameterSet	Parameter Set 5

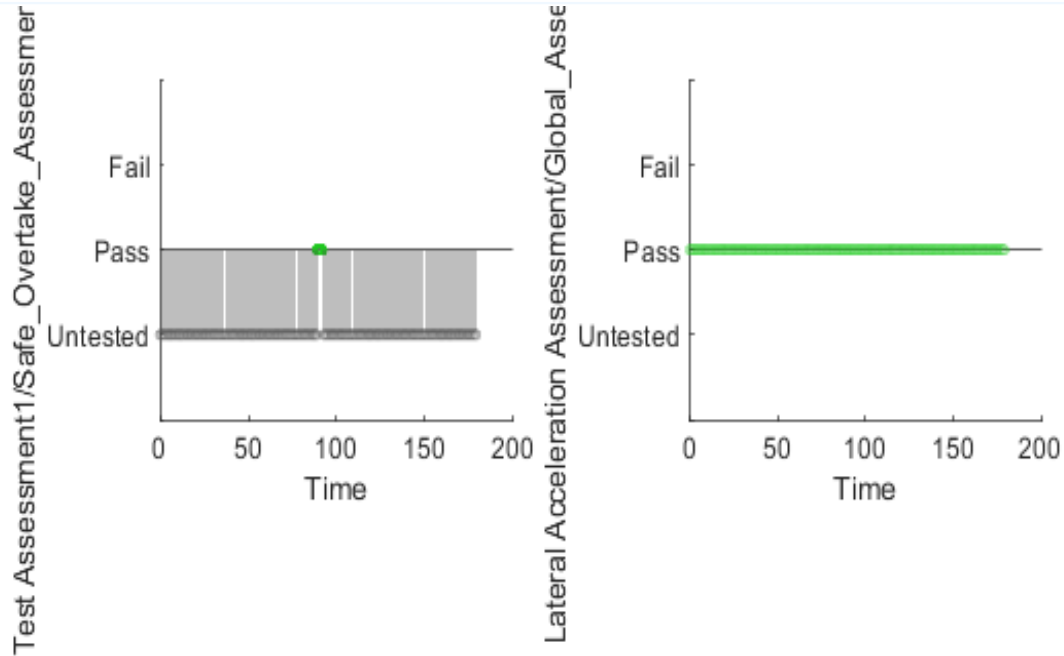
Verify Result

Name	Link to Plot
 Test Assessment1/Safe_Overtake_Assessment:verify(duration(lateral_dev > 5 && lateral_dev < 3,sec)<1)	Link

✔ Lateral Acceleration Assessment/Global_Assessment:verify(duration(Lateral_acceleration>=2,sec)<=0.5)

[Link](#)

Name	
✔	Test Assessment1/Safe_Overtake_Assessment:verify(duration(lateral_dev > 5 && lateral_dev < 3,sec)<1)
✔	Lateral Acceleration Assessment/Global_Assessment:verify(duration(Lateral_acceleration>=2,sec)<=0.5)



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Simulation

System Under Test Information

Model: Dynamic_obstacle_avoidance_L
Simulation Mode: normal

Override SIL or PIL Mod 0

e:

Configuration Set: Configuration
Start Time: 0
Stop Time: 180
Checksum: 968750949 2028377306 3680518677 3158360090
Simulink Version: 10.0
Model Version: 1.7
Model Author: alber
Date: Tue Jun 22 20:37:50 2021
User ID: alber
Model Path: D:\Documenti\GitHub\dynamic-obstacle-avoidance\Code\MPC_L\Dynamic_obstacle_avoidance_L.slx

Machine Name: LAPTOP-OGD8JCHC
Solver Name: ode45
Solver Type: Variable-Step
Max Step Size: 0.001
Simulation Start Time: 2021-06-22 21:31:29
Simulation Stop Time: 2021-06-22 21:32:48
Platform: PCWIN64

Parameter Overrides

Workspace Variable	Value	Source	Model Element
Parameter Set 5			
Ts	0.02	base workspace	Dynamic_obstacle_avoidance_L/Subsystem/ , Dynamic_obstacle_avoidance_L/Subsystem/Calculating deviation from reference/MATLAB Function, Dynamic_obstacle_avoidance_L/Subsystem/Calculating deviation from reference/Sampling/Counter Free-Running1, Dynamic_obstacle_avoidance_L/Subsystem/Calculating deviation from reference/To Workspace2, Dynamic_obstacle_avoi

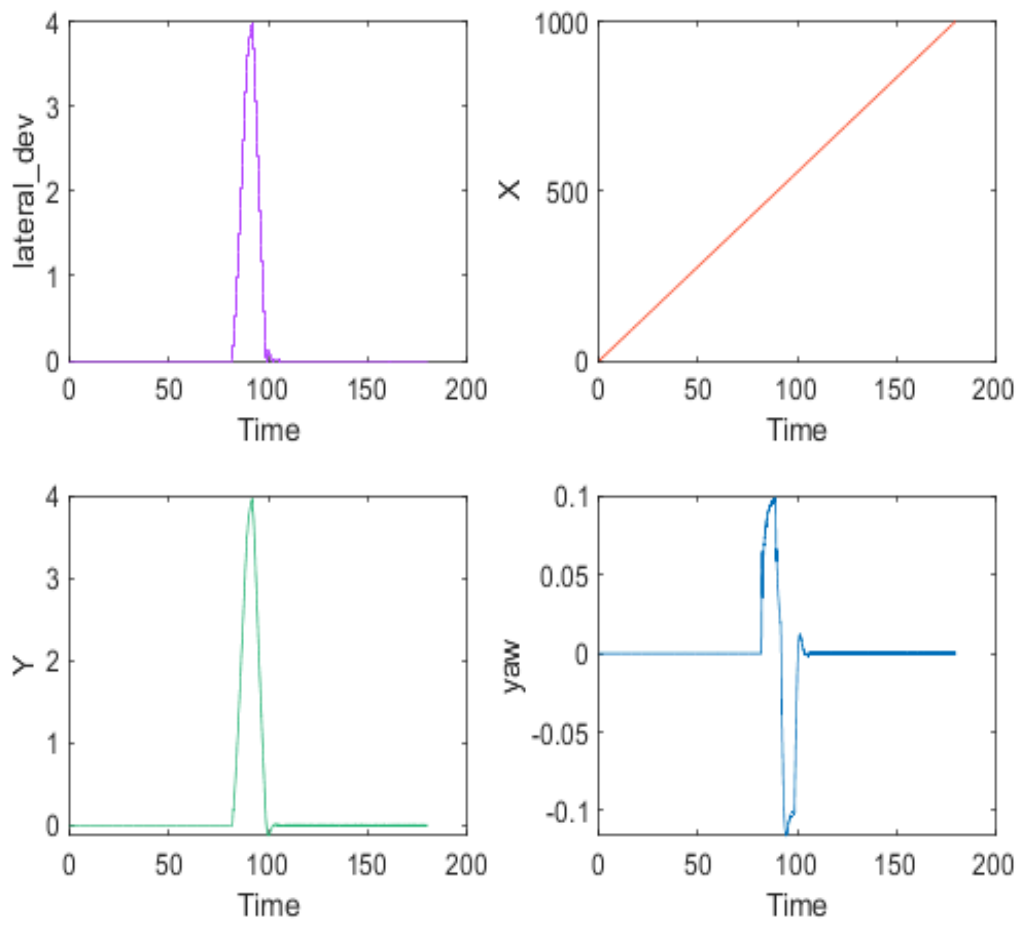
			dance_L/Subsystem/Data to Workspace/To Workspace, Dynamic_obstacle_avoidance_L/Subsystem/Data to Workspace/To Workspace1, Dynamic_obstacle_avoidance_L/Subsystem/Data to Workspace/To Workspace4, Dynamic_obstacle_avoidance_L/Subsystem/Data to Workspace/To Workspace5, Dynamic_obstacle_avoidance_L/Subsystem/Dynamic Model/C_r, Dynamic_obstacle_avoidance_L/Subsystem/Obstacle detector/Constant5, Dynamic_obstacle_avoidance_L/Subsystem/Obstacle detector/MATLAB Function1, Dynamic_obstacle_avoidance_L/Subsystem/Obstacle detector/To Workspace, Dynamic_obstacle_avoidance_L/Subsystem/Plant generator/ , Dynamic_obstacle_avoidance_L/Subsystem/Plant generator/Plant Model Generator, Dynamic_obstacle_avoidance_L/Subsystem/Sample map/Counter Free-Running, Dynamic_obstacle_avoidance_L/Subsystem/Subsystem/MATLAB Function
WOV	[30 30 8 30]	base workspace	Dynamic_obstacle_avoidance_L/Subsystem/Subsystem/Adaptive MPC Controller/Constant
p	10	base workspace	Dynamic_obstacle_avoidance_L/Subsystem/Sample ma

			p/Selector, Dynamic_obstacle_avoidance_L/Subsystem/Subsystem/Adaptive MPC Controller/Constant1
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Simulation Output

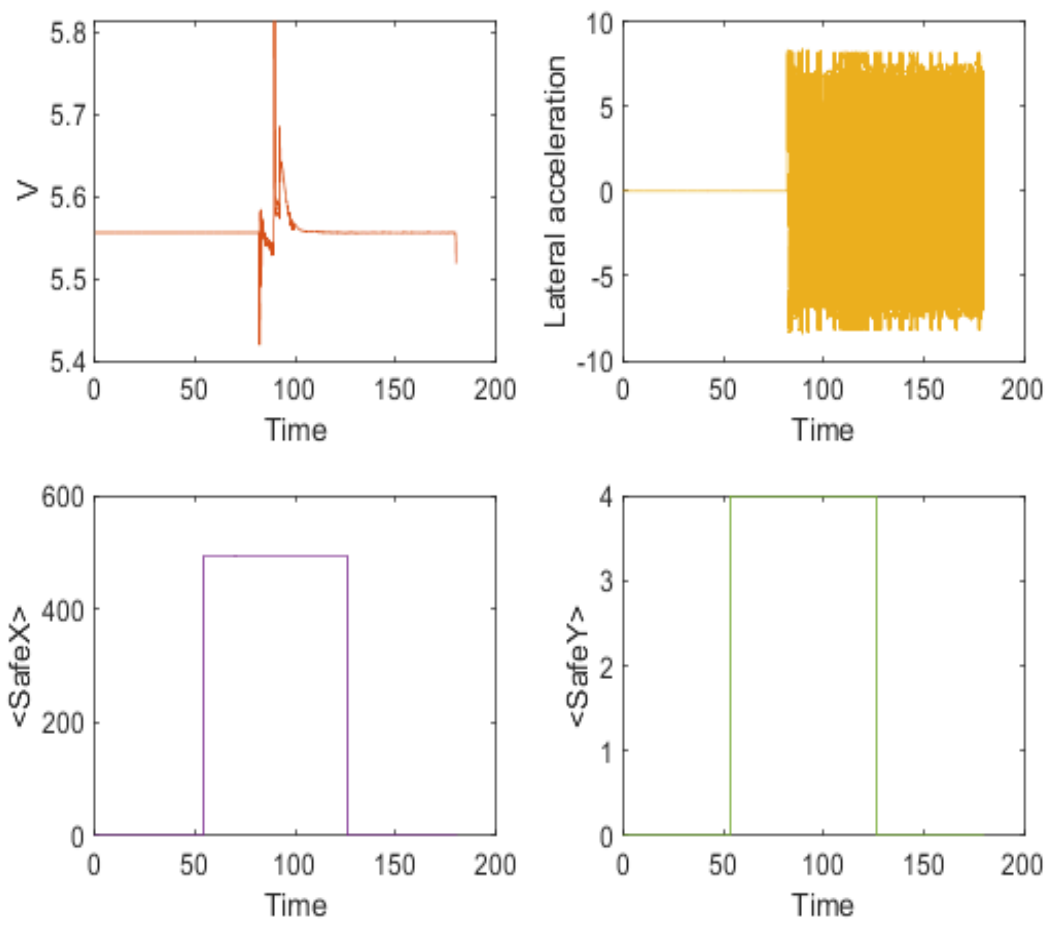
Name	Data Type	Units	Sample Time	Interp	Sync	Link to Plot
lateral_dev	double		0.02	zoh	union	Link
X	double		Continuous	linear	union	Link
Y	double		Continuous	linear	union	Link
yaw	double		Continuous	linear	union	Link
V	double		Continuous	linear	union	Link
Lateral acceleration	double		Continuous	linear	union	Link
<SafeX>	double		0.02	zoh	union	Link
<SafeY>	double		0.02	zoh	union	Link
<EndX>	double		0.02	zoh	union	Link
<EndY>	double		0.02	zoh	union	Link
<DetPoint>(1,1)	double		0.02	zoh	union	Link
<EntryPoint>(1,1)	double		0.02	zoh	union	Link
<DetPoint>(1,2)	double		0.02	zoh	union	Link
<DetPoint>(1,3)	double		0.02	zoh	union	Link
<DetPoint>(1,4)	double		0.02	zoh	union	Link
<EntryPoint>(1,2)	double		0.02	zoh	union	Link
<EntryPoint>(1,3)	double		0.02	zoh	union	Link
<EntryPoint>(1,4)	double		0.02	zoh	union	Link

Name	Data Type	Units	Sample Time	Interp	Sync
lateral_dev	double		0.02	zoh	union
X	double		Continuous	linear	union
Y	double		Continuous	linear	union
yaw	double		Continuous	linear	union



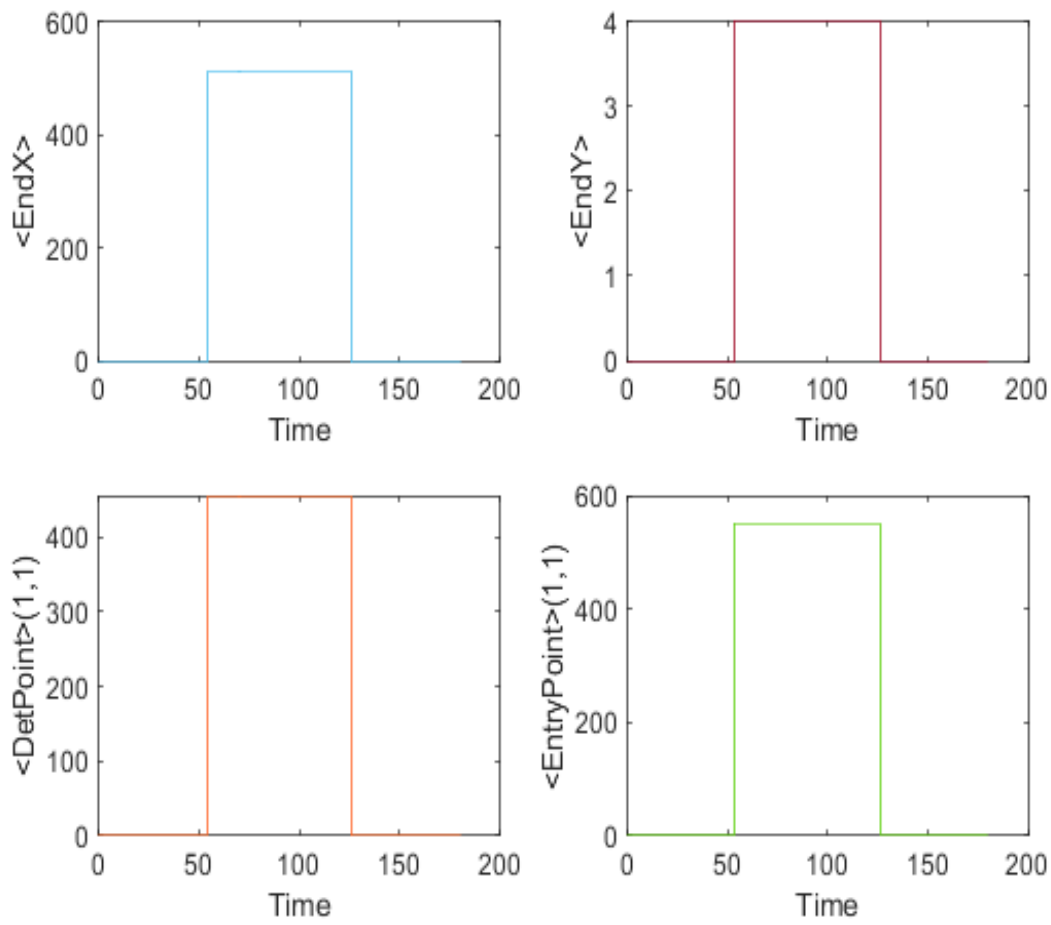
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Name	Data Type	Units	Sample Time	Interp	Sync
V	double		Continuous	linear	union
Lateral acceleration	double		Continuous	linear	union
<SafeX>	double		0.02	zoh	union
<SafeY>	double		0.02	zoh	union



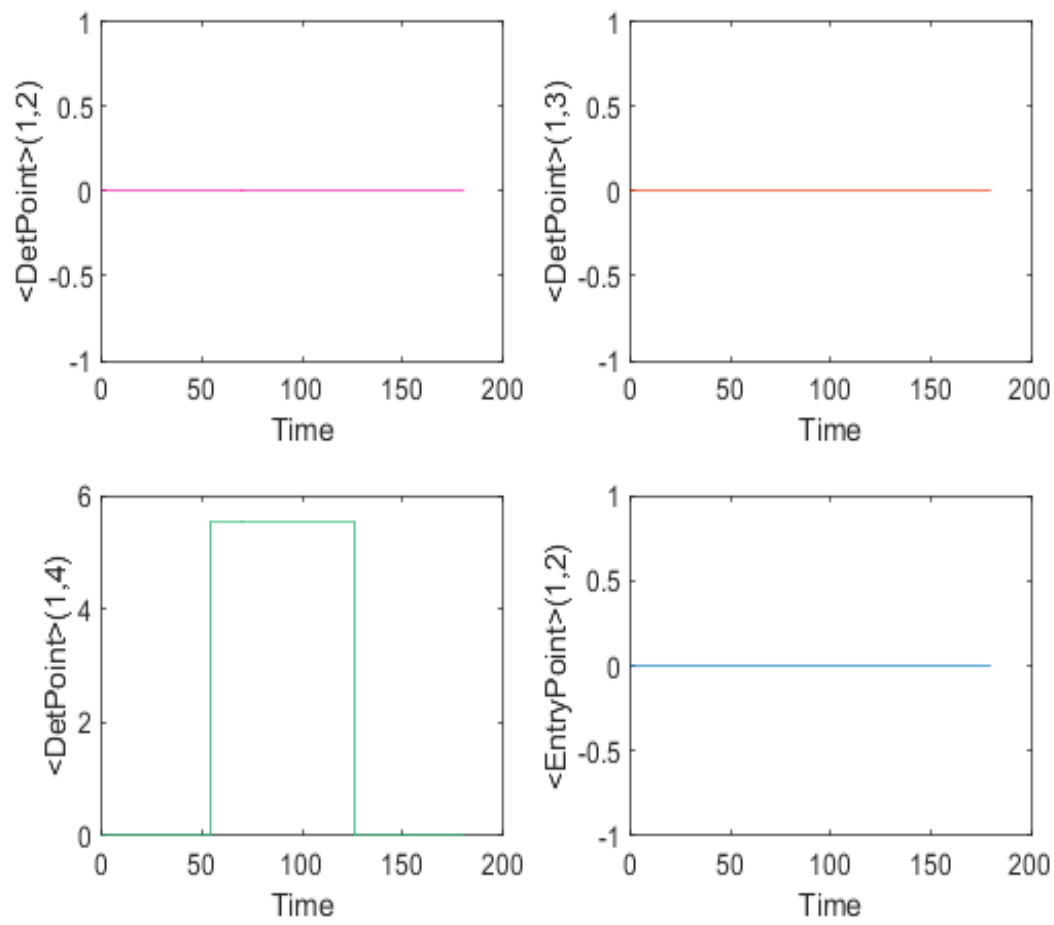
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Name	Data Type	Units	Sample Time	Interp	Sync
<EndX>	double		0.02	zoh	union
<EndY>	double		0.02	zoh	union
<DetPoint>(1,1)	double		0.02	zoh	union
<EntryPoint>(1,1)	double		0.02	zoh	union



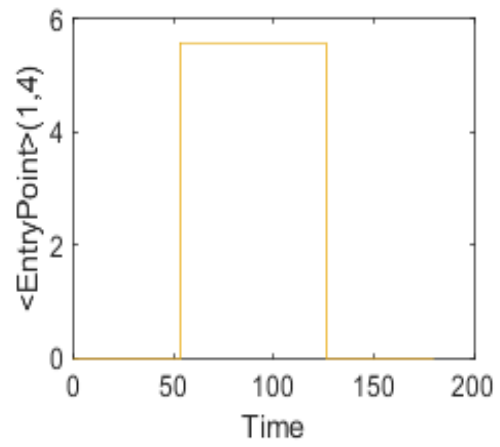
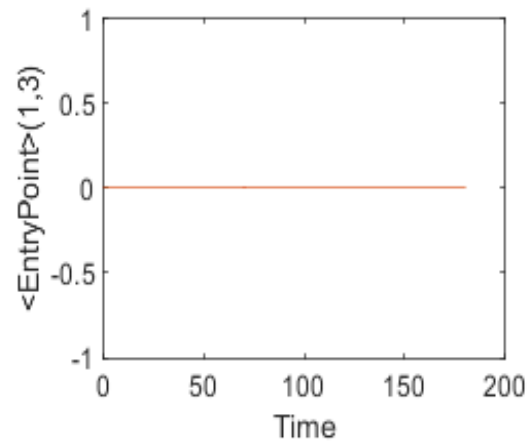
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Name	Data Type	Units	Sample Time	Interp	Sync
<DetPoint>(1,2)	double		0.02	zoh	union
<DetPoint>(1,3)	double		0.02	zoh	union
<DetPoint>(1,4)	double		0.02	zoh	union
<EntryPoint>(1,2)	double		0.02	zoh	union



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Name	Data Type	Units	Sample Time	Interp	Sync
<EntryPoint>(1,3)	double		0.02	zoh	union
<EntryPoint>(1,4)	double		0.02	zoh	union



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