

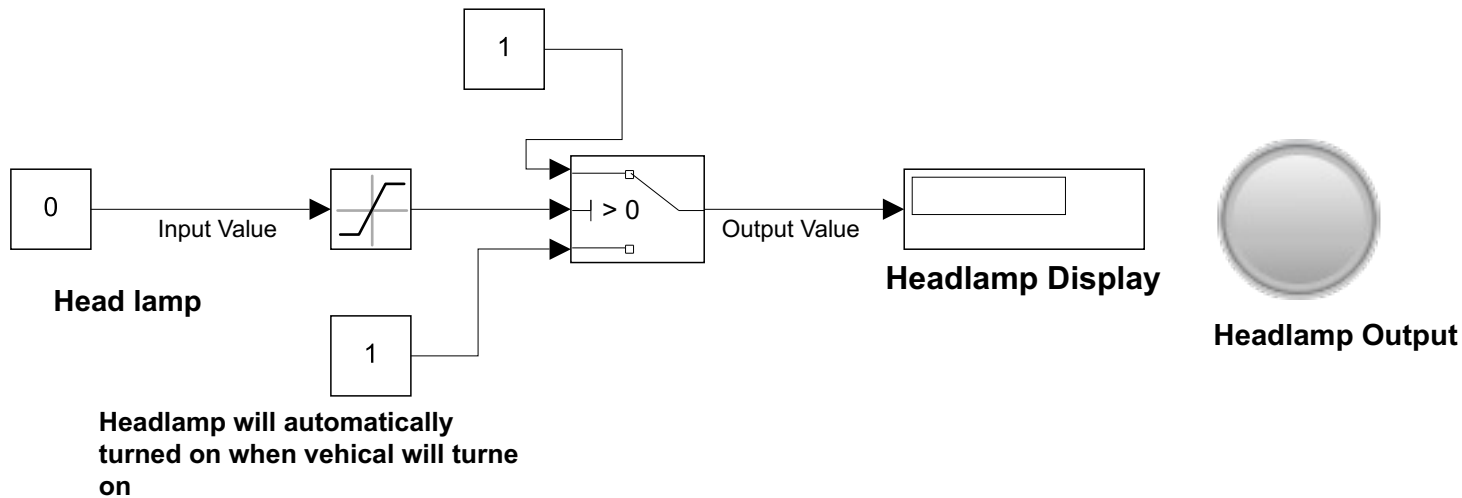
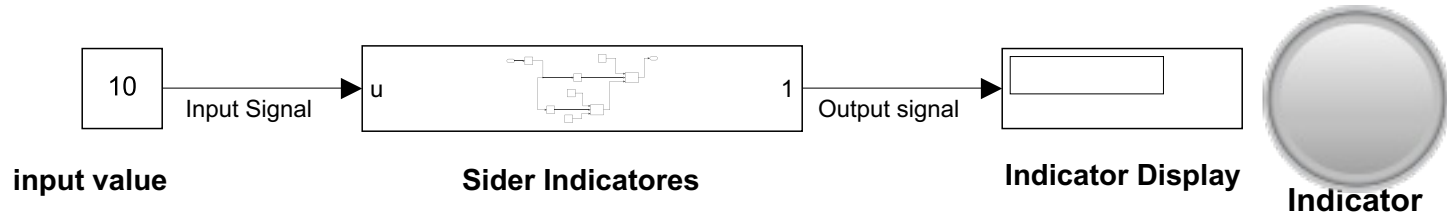
SELF-BALANCING EV

Self balancig vehicle Light Indication System

Version 2

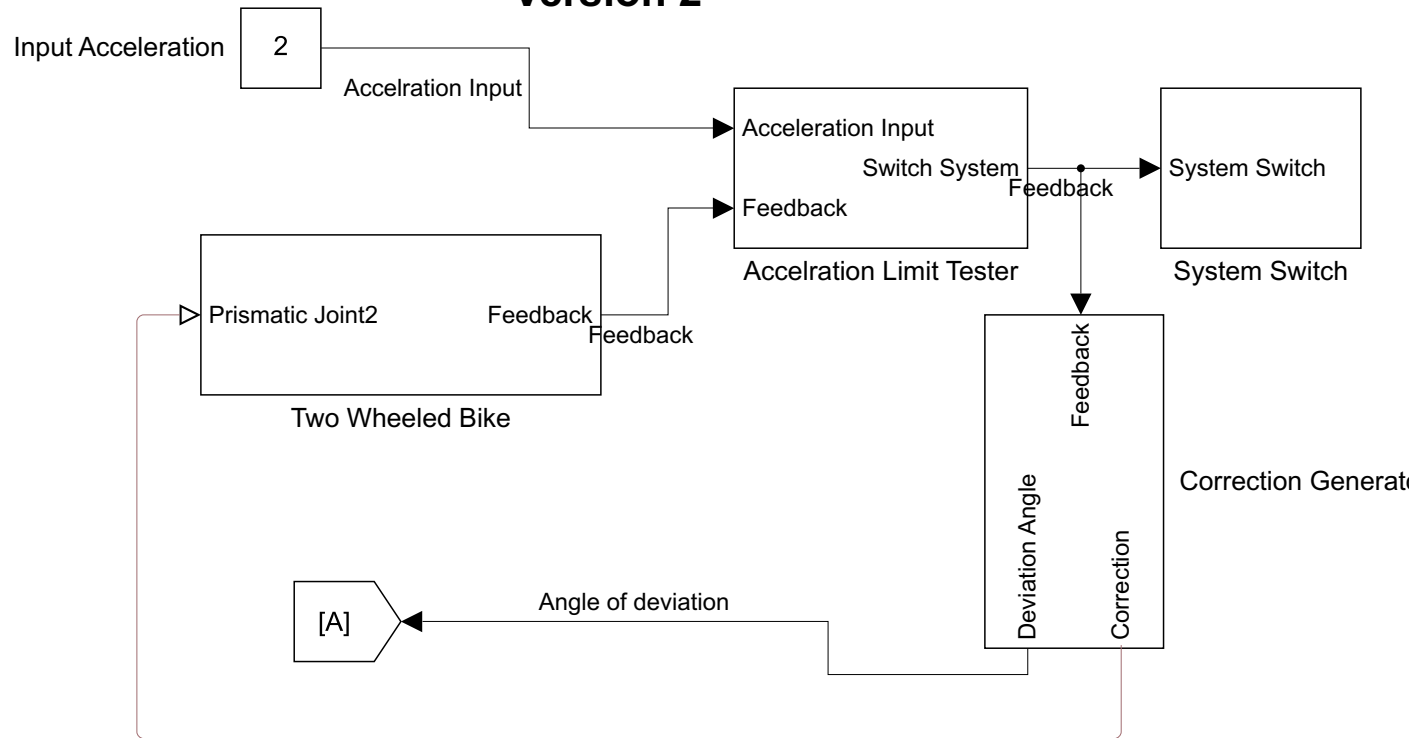
Input - INDICATOR BUTTONS

Enter 10 - For Right
Indicator Button
Enter 20 - For Left Lamp



Self-Balancing System

Version 2



Requirements:

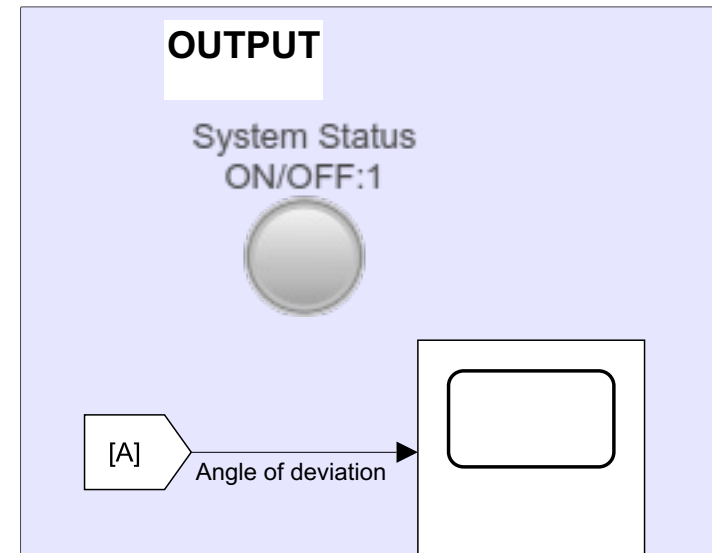
- 1 Self - Balancing system should get activated when the speed is low
- 2 Self - balancing system should balance the motorcycle
- 3 Self - balancing system should get deactivated when the speed is high

Input:

Acceleration
Angular Deviation

Output:

1 System ON/OFF notification using lamp



or

ANTI-LOCK BRAKING SYSTEM

Version 2

INPUT PARAMETERS :

Mass of vehicle (m) = 120lbs

Gravity (g) = 9.81

Moment of inertia (I) = 5 ft^4

Radius of wheel (R) = 2 ft

Initial Velocity (v0)=100 ft/s

Sheet1

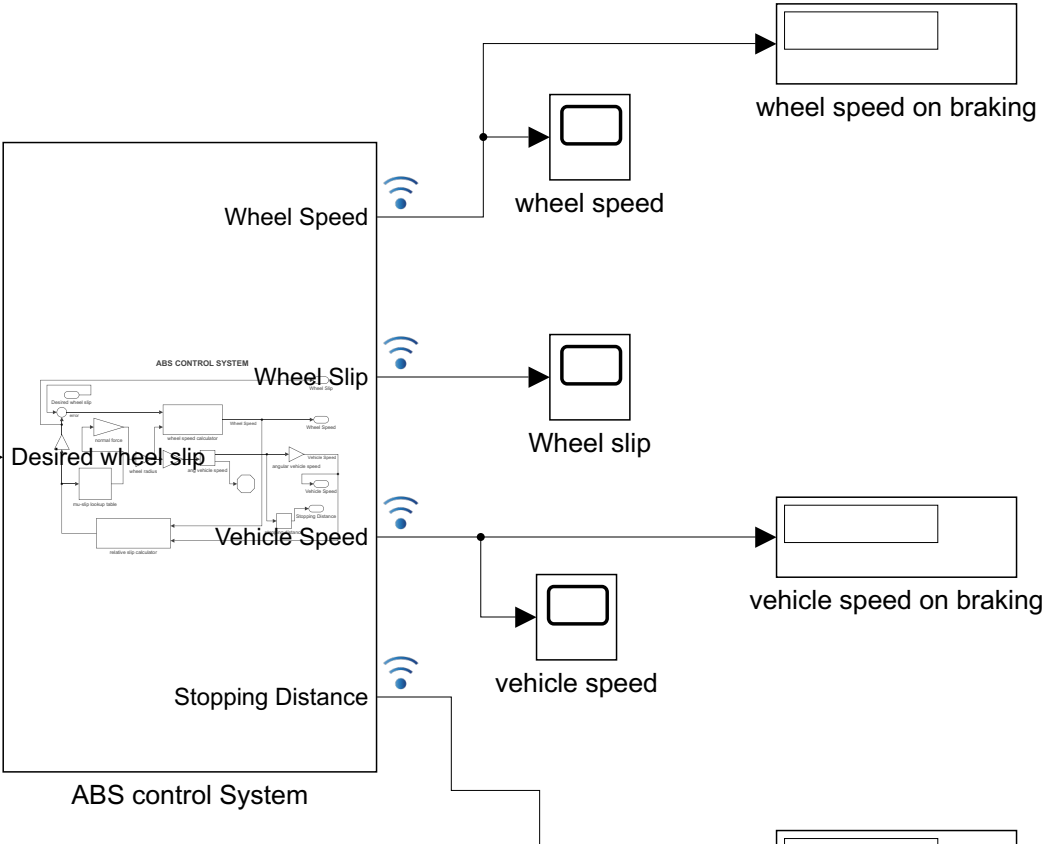
wheel slip

Requirements:

-The system should read the speed sensor value on braking and control the braking action.

-The system should reduce the wheel slip and stopping distance.

Input:

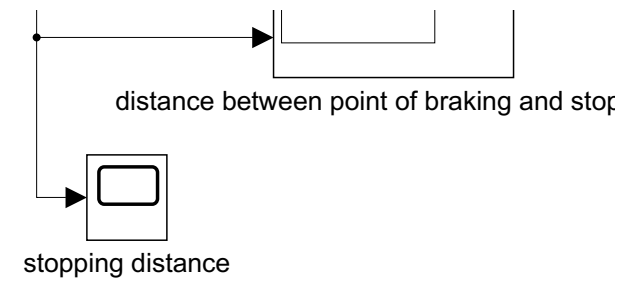


Input:

-Desired wheel slip (0.1 to 0.55) from signal builder

Output:

-Wheel speed on braking (Graphical output)
-Vehicle speed on braking (Graphical output)
-Distance between point of braking and stopping (Graphical output)



Battery Management System

Requirements:

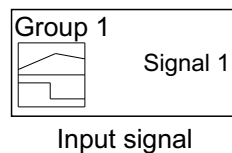
Estimate the state of charge
monitor the current
monitor the voltage

input:

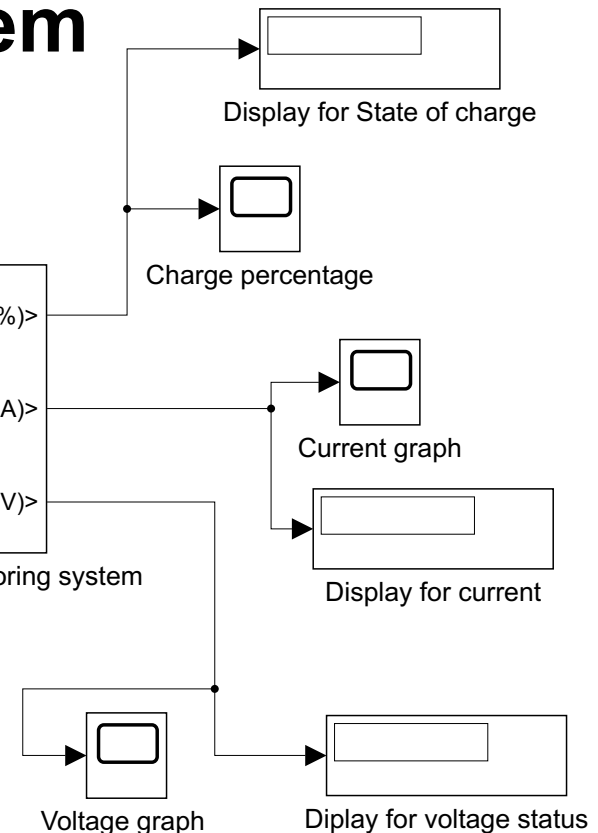
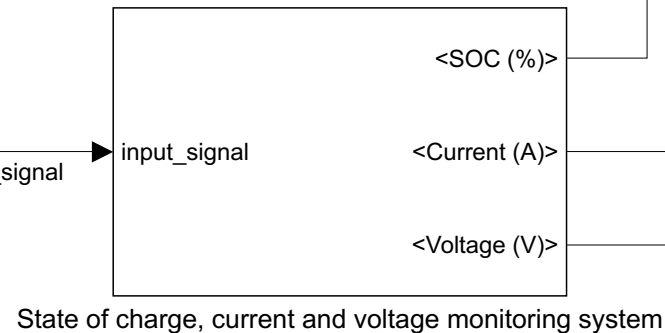
1 voltage

output:

1 SoC%
2 Current(A)
3 Voltage(V)



Version 2



Requirements:

-The system should monitor the temperature
-The system should prevent battery from overheating

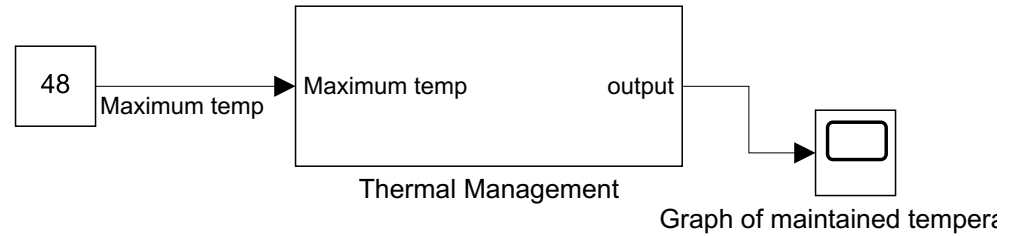
-The system should maintain constant temperature if increases

Input:

-Temperature from sensor

Output:

-Constant temperature(48)



Speed Modes Control

Version 2

Bike_Speed_Modes

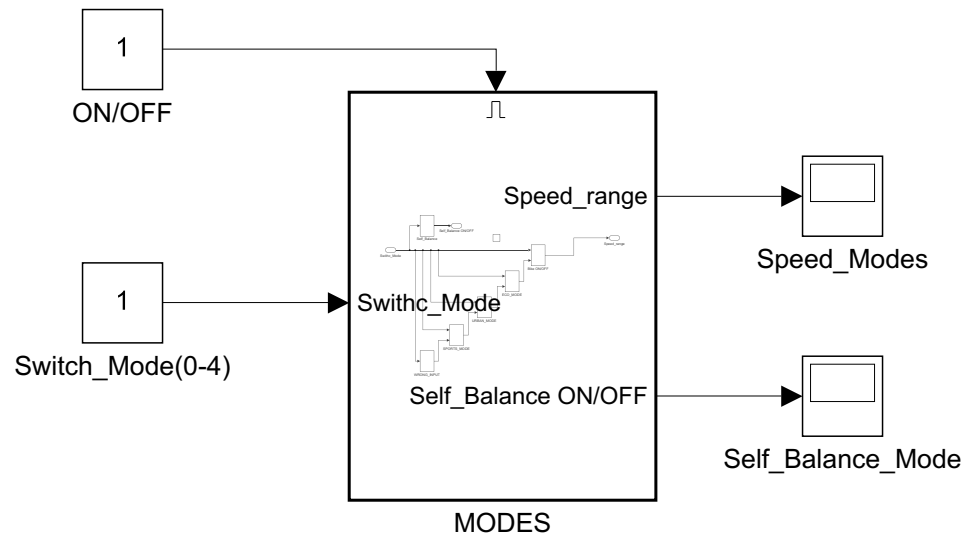
The model is designed based on four speed modes self-balance, eco, urban & sports mode.

2 Inputs

- Switch ON/OFF
 - 0 - OFF
 - 1 - ON
- Speed Mode
 - 1. Self-Balance
 - 2. Eco
 - 3. Urban
 - 4. Sports

2 Outputs

- Self-Balance Mode ON/OFF

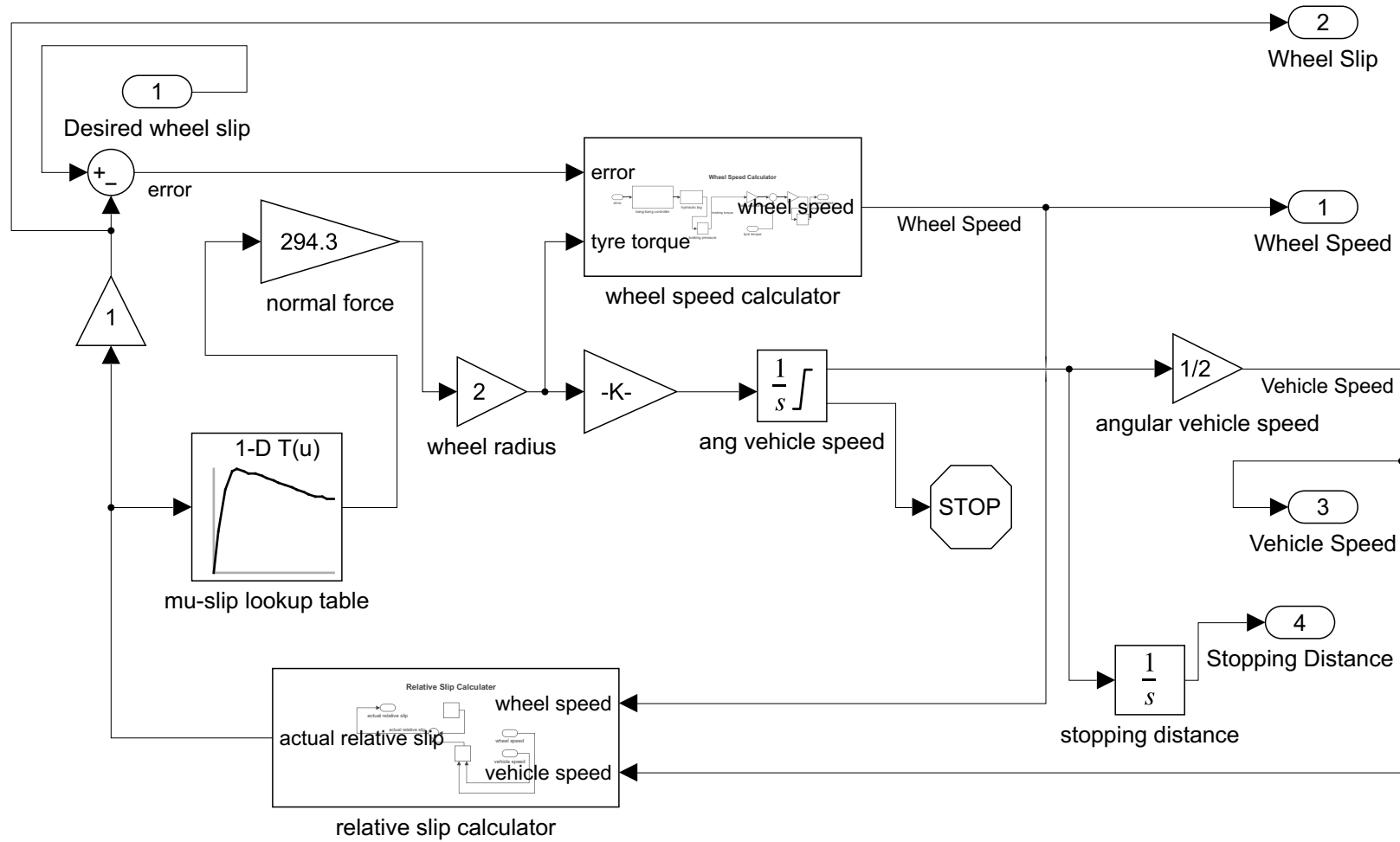


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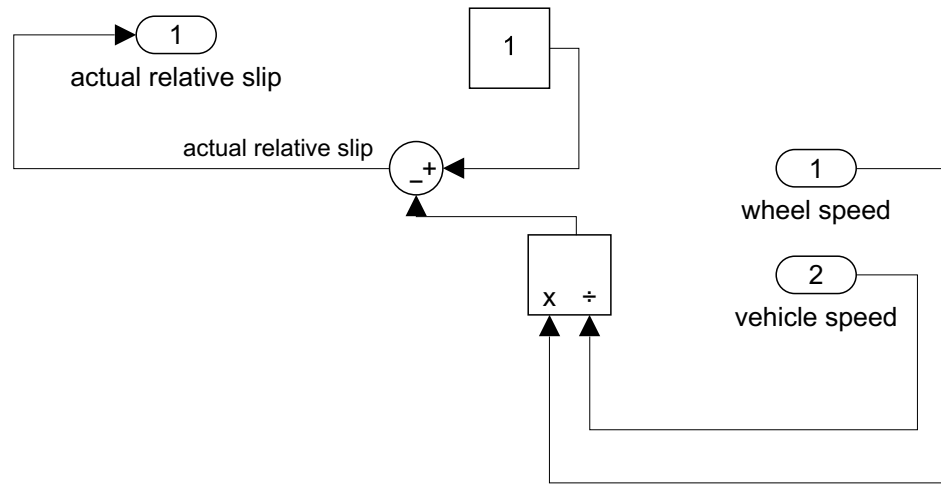
Self-Balance Mode ON/Off

- Speed Range

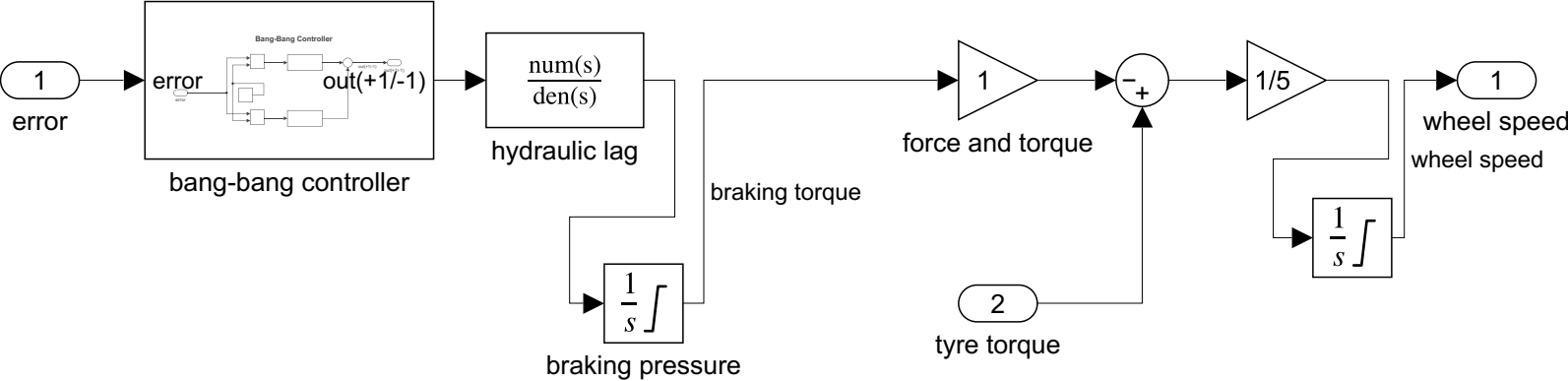
ABS CONTROL SYSTEM



Relative Slip Calculator



Wheel Speed Calculator



Bang-Bang Controller

