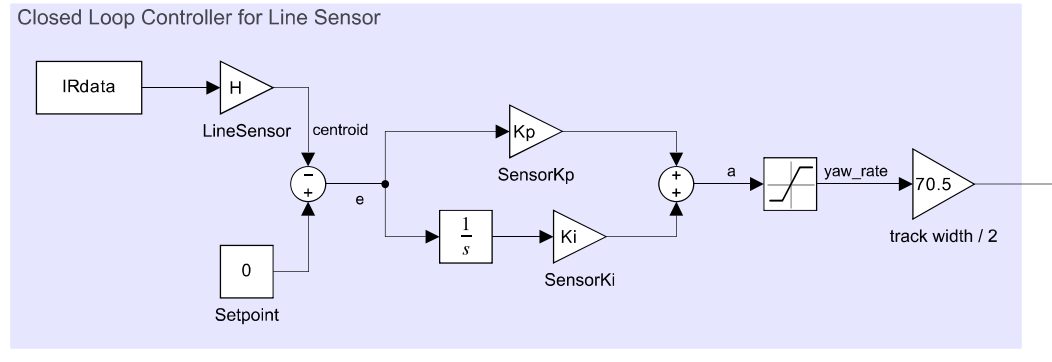
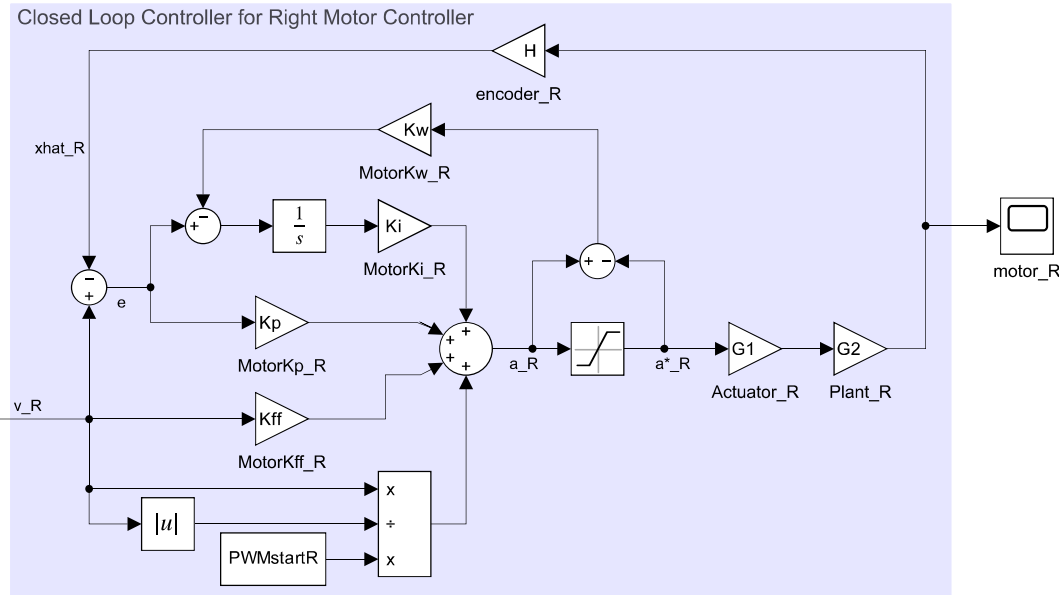


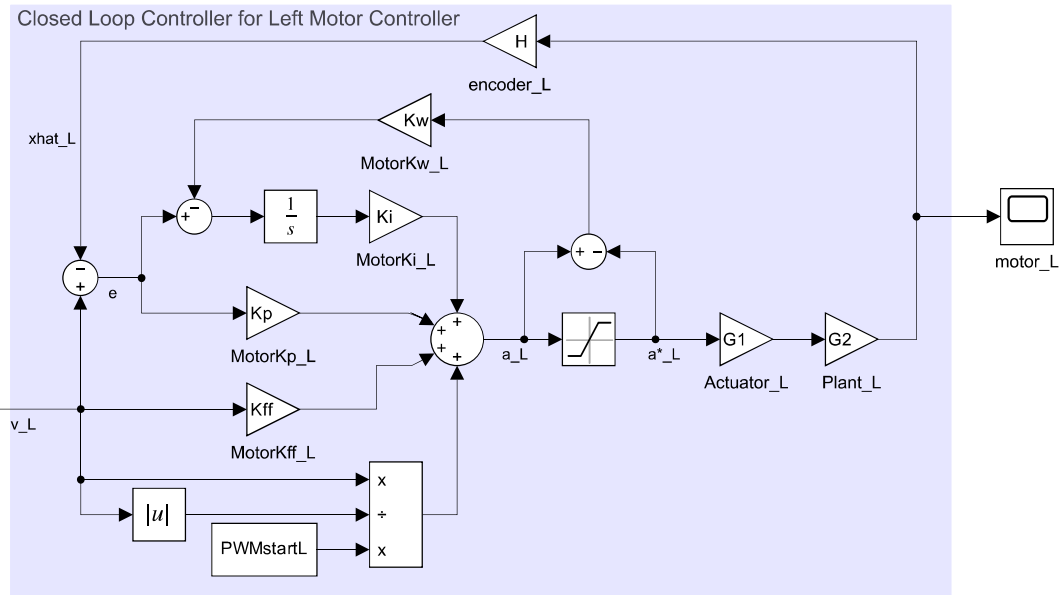
Closed Loop Controller for Line Sensor



Closed Loop Controller for Right Motor Controller



Closed Loop Controller for Left Motor Controller



vadjust

vref

v_R

v_L

v_L

xhat_R

v_R

xhat_L

v_L

LineSensor

Setpoint

centroid

e

$\frac{1}{s}$

SensorKi

SensorKp

a

yaw_rate

track width / 2

xhat_R

e

Kp

Ki

Kff

$|u|$

PWMstartR

a_R

a*_R

G1

G2

encoder_R

Kw

MotorKw_R

MotorKi_R

MotorKp_R

MotorKff_R

Actuator_R

Plant_R

motor_R

encoder_L

Kw

MotorKw_L

MotorKi_L

MotorKp_L

MotorKff_L

a_L

a*_L

G1

G2

Actuator_L

Plant_L

motor_L