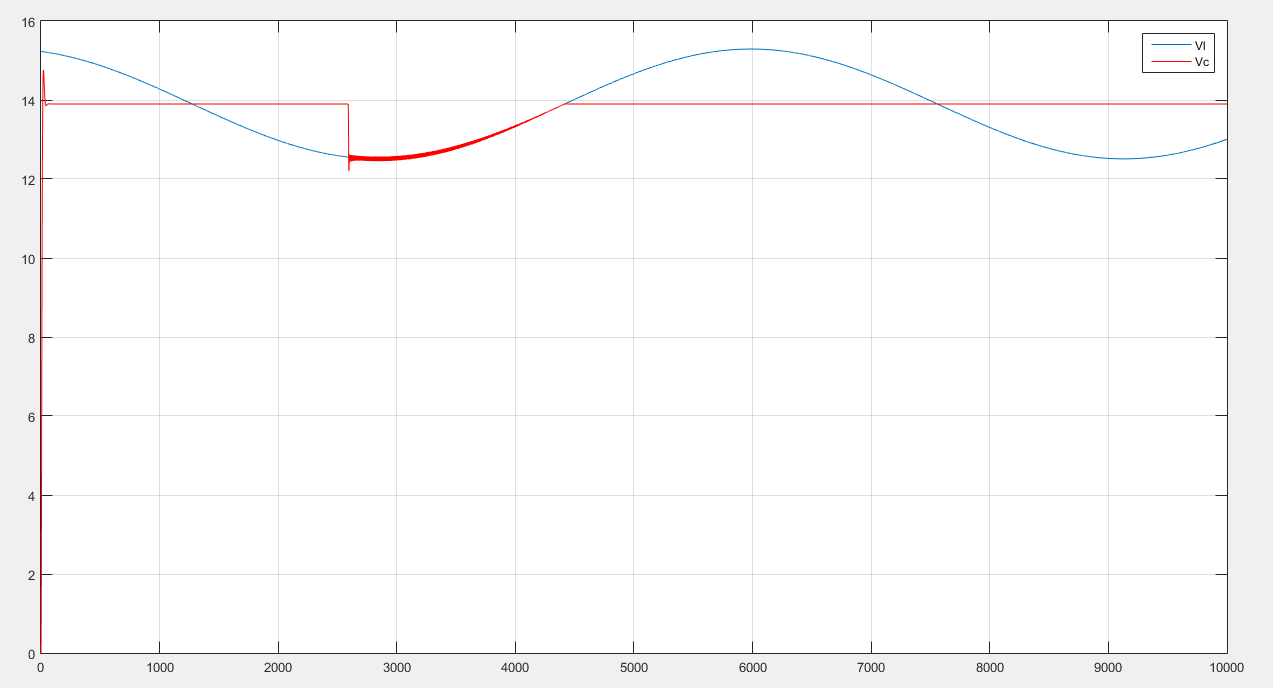
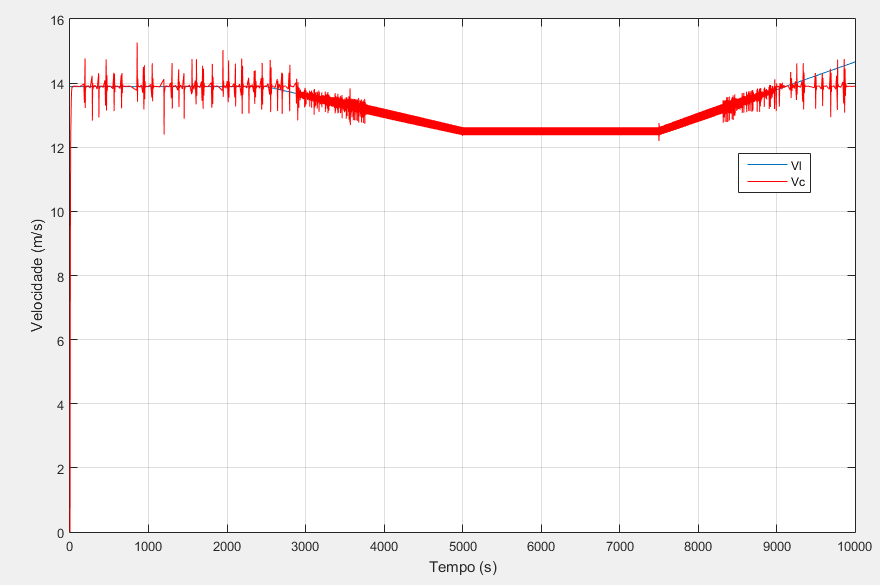
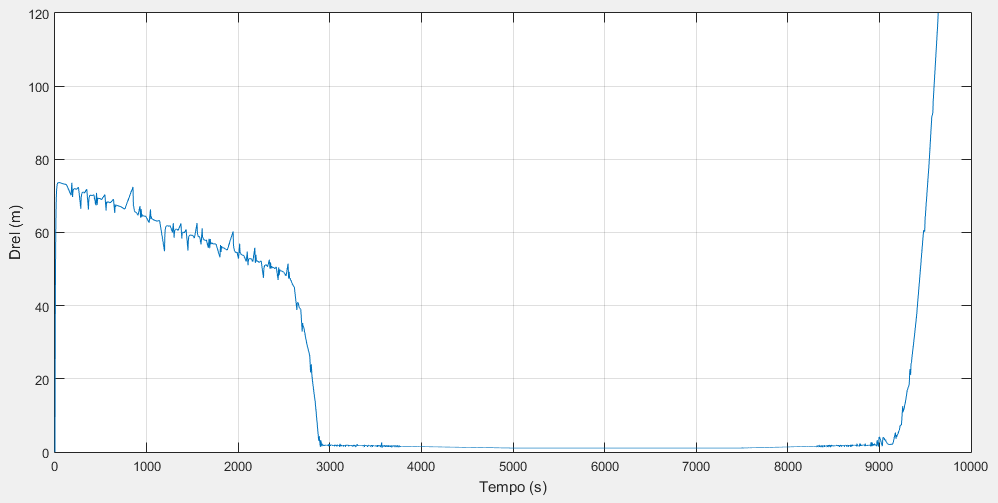
= G



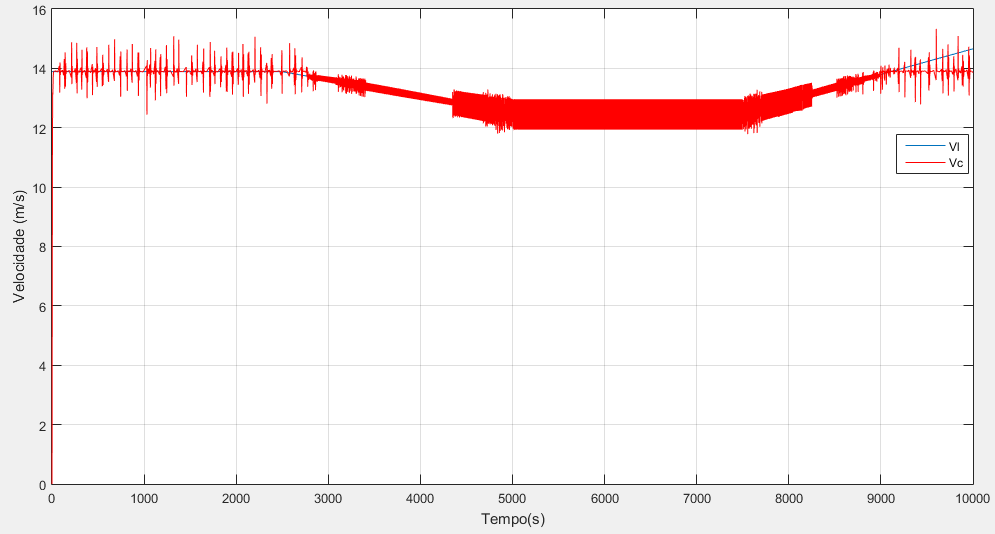
Controlando com um PI:

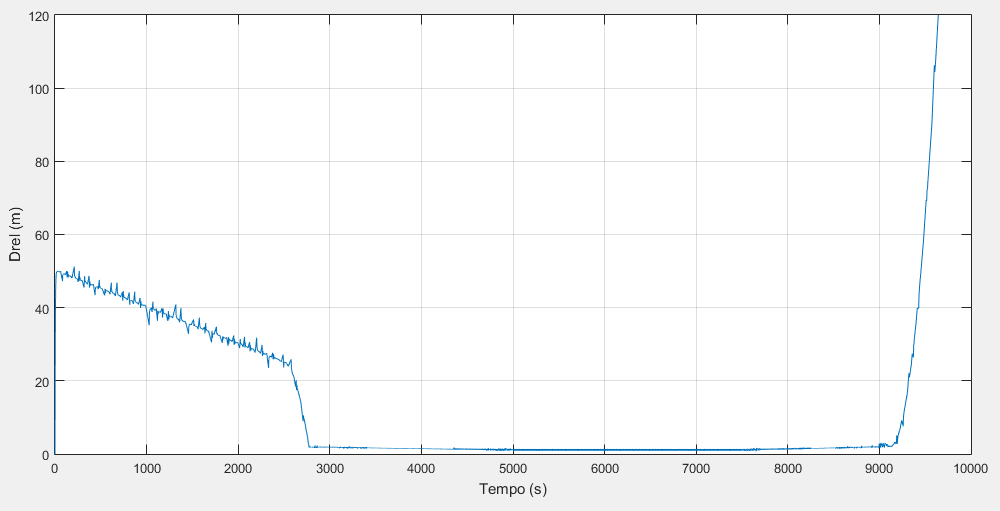
Tau novo = 1,01 tau



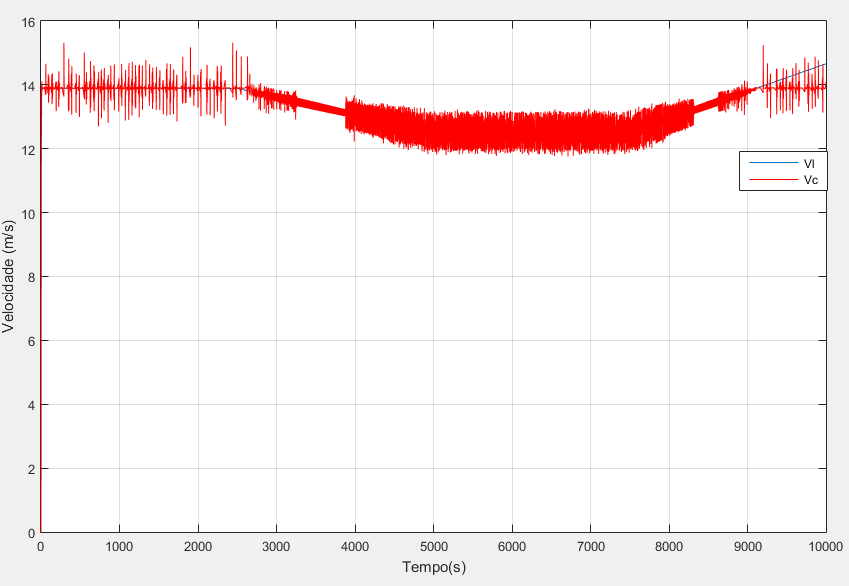


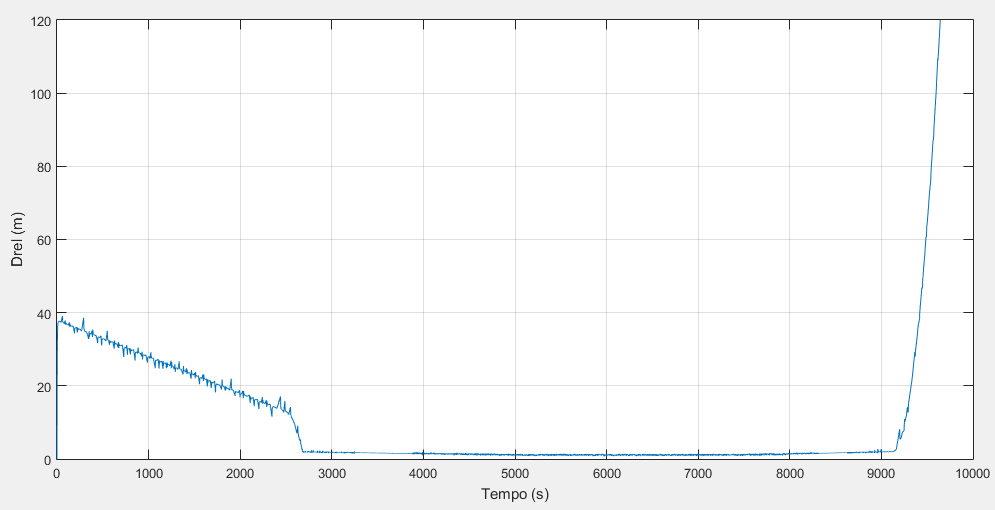
Tau novo = 1,05 tau



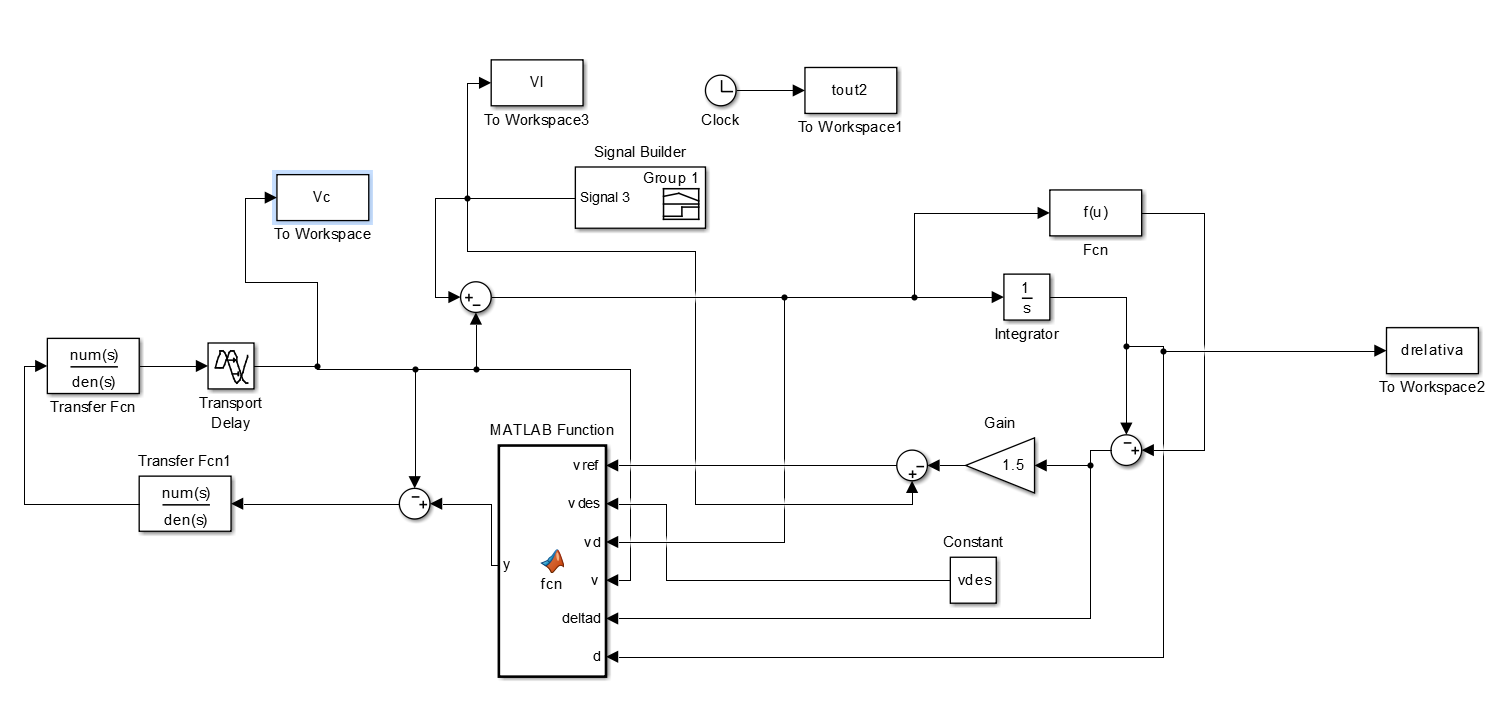


Tau novo = 2 tau

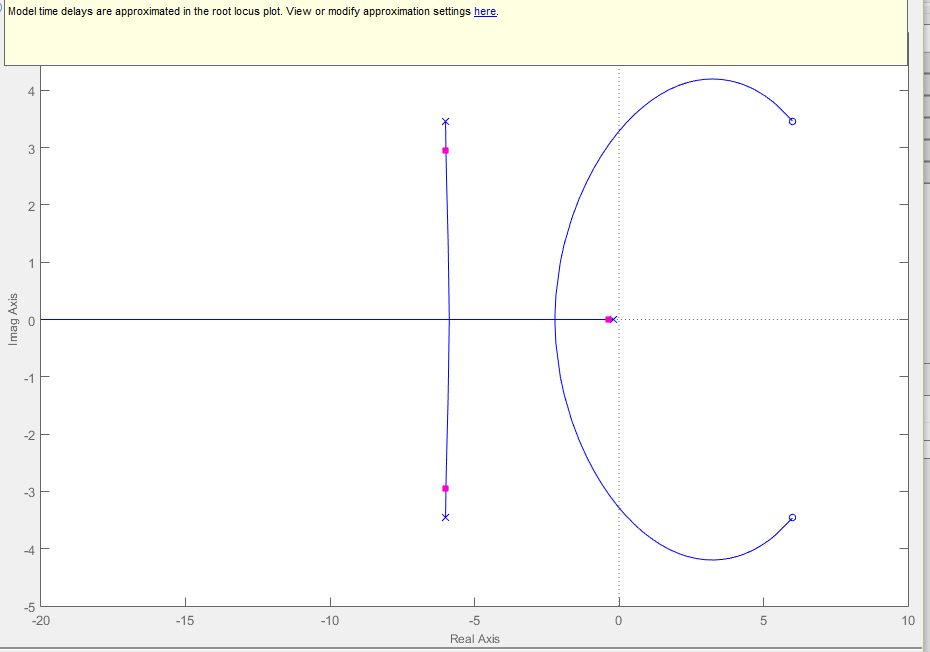




Simulink

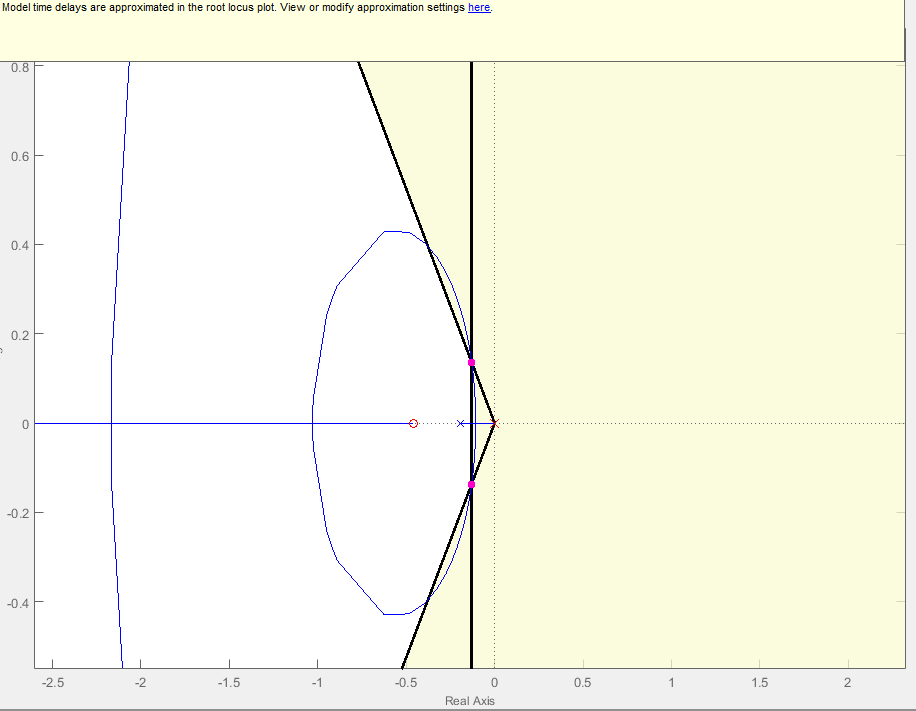


LGR Planta

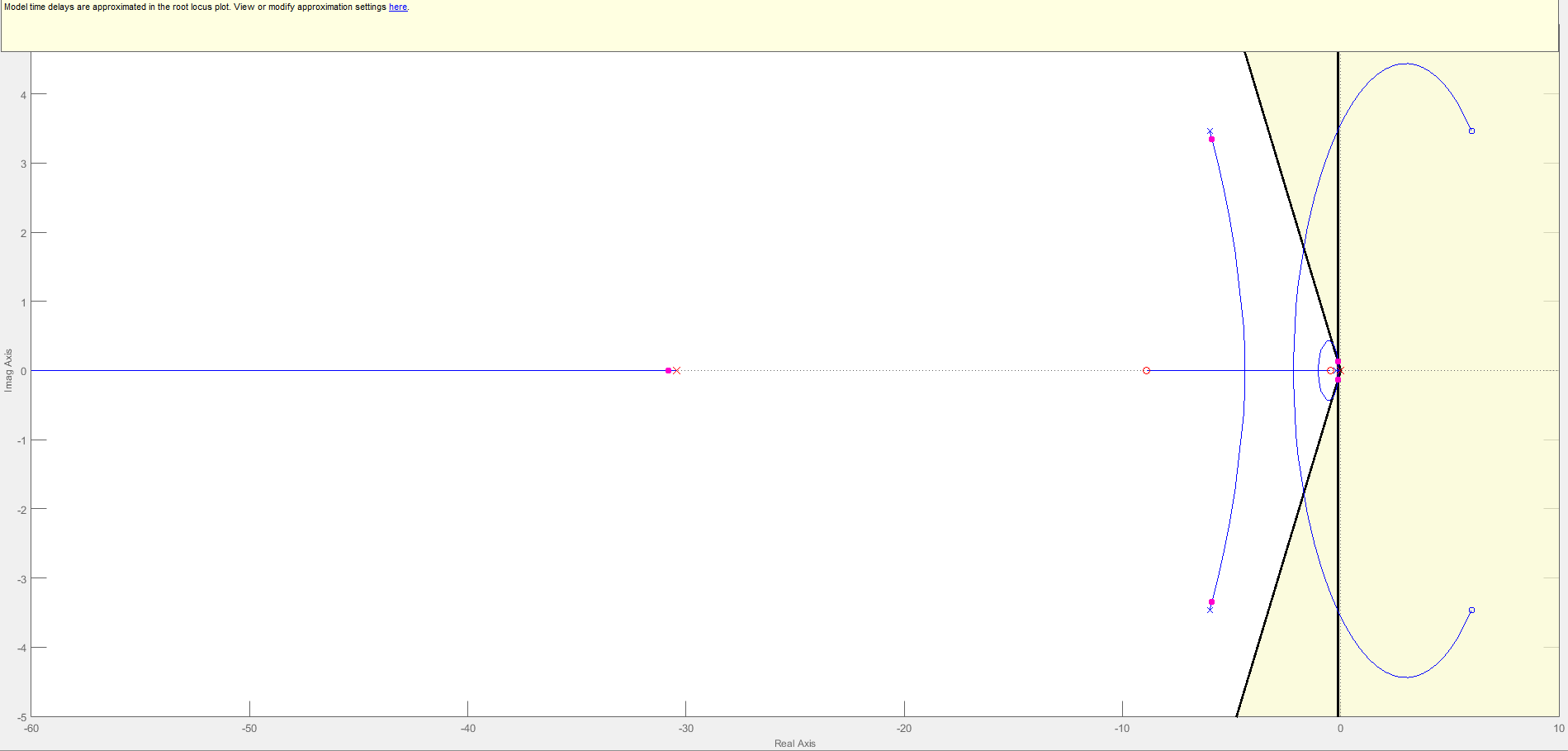


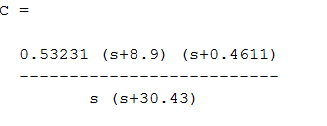
LGR com controlador

Com zoom:

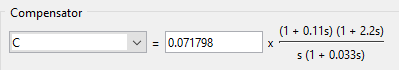


Sem zoom:

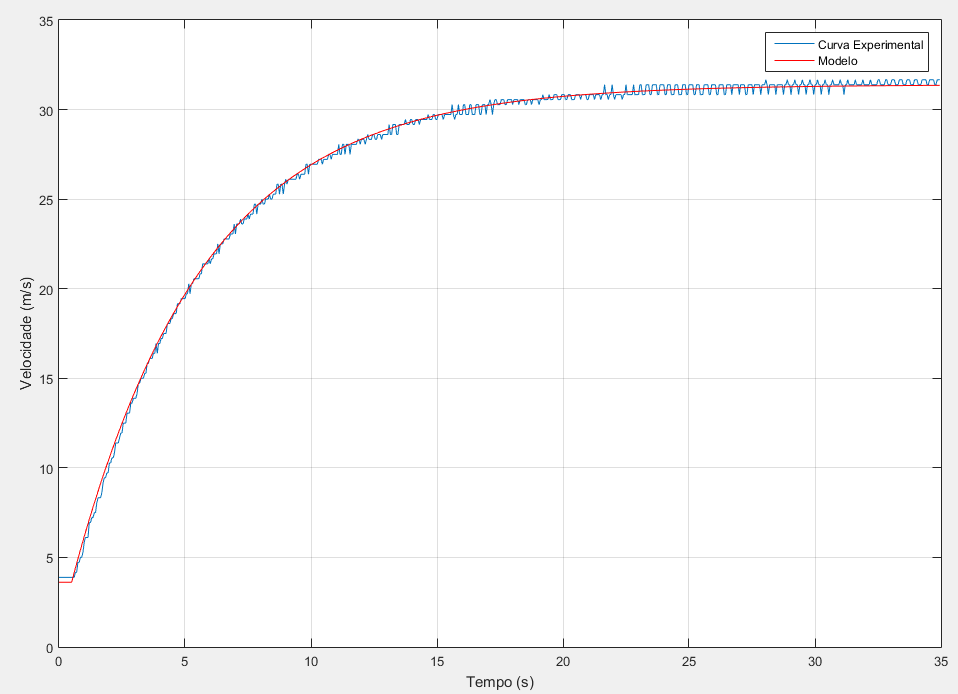




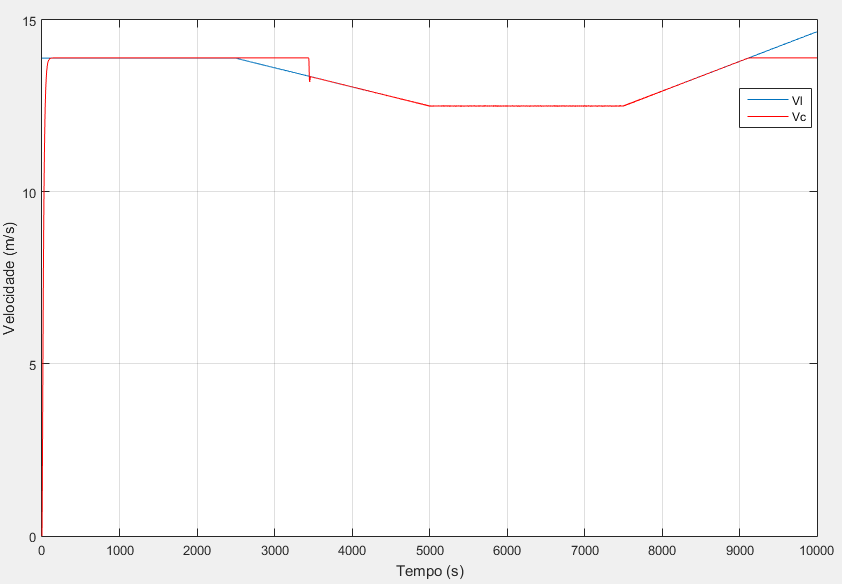
Q tbm pode ser representado assim:

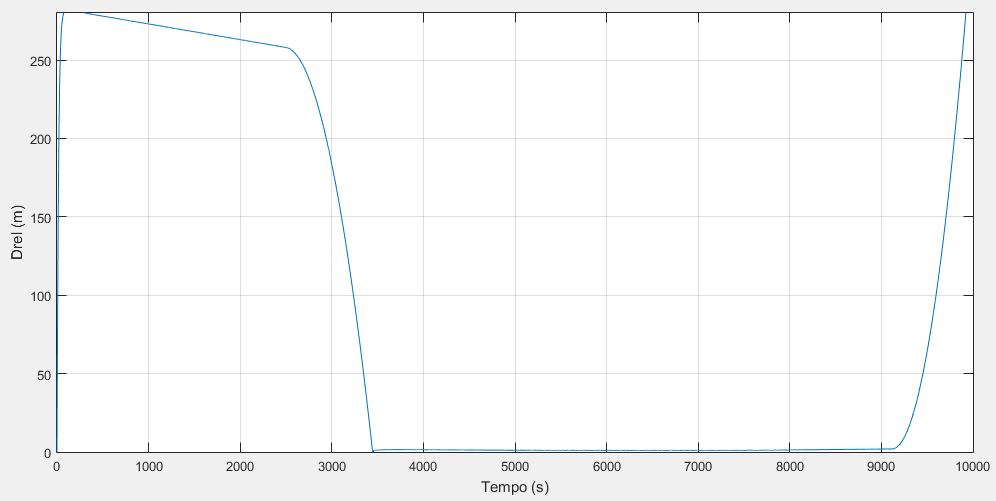


Comparação modelo e curva experimental



Saidas com PID





Codigo Principal : (Tem q tirar os comentários)

close all;

clear all;

clc;

Ta = 1/100;

Tsim = 10000;

t = 0:Ta:Tsim;

%vdes = zeros(1,length(t));

%vdes(t>0) = 50;

vdes=13.9;

% vl = zeros(1,length(t));

% dref = zeros(1, length(t));

% m = 1067;

% b = 50;

ident;

%calcula vl

% vl(t>2) = 50/3.6;

% for k = 400:1000

% vl(k) = vl(k-1) - .005;

% end

%

% for k = 1000:100000

% vl(k) = vl(k-1);

% end

% for k = 3000:4000

% vl(k) = vl(k-1) + .01;

% end

% for k = 4000:6000

% vl(k) = vl(k-1);

% end

% for k = 6000:7000

% vl(k) = vl(k-1) + .02;

% end

% for k = 7000:9000

% vl(k) = vl(k-1) - .02;

% end

% for k = 9000:10000

% vl(k) = vl(k-1);

% end

% plot(vl)

% taux=t';

% Vl.time = taux;

% Vl.signals.values = vl';

% Vl.signals.dimensions = 1;

s=tf('s');

% Ti = 5.2;

% Kp = 2/0.6944;

% Cpi = (Kp/(Ti\*s))\*(Ti\*s + 1);

sim('Curva\_vl');

figure (99);

plot(tout2,vl,tout2,vc, 'r');

grid

figure (101);

plot(tout2, drelativa);

grid

%figure (102);

%plot(tout2,dist, tout2, ent, 'r');

%grid

Codigo do bloco no simulink:

function y = fcn(vref, vdes, vd, v, deltad,d)

if(deltad<0)

y=vdes;

else

if(v<vref)

y=min(vdes, vref);

else

if(vd < 0)

y=min(vdes, vref);

else

y = vdes;

end

end

end

Codigo q calculou o modelo:

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u\_ = u(101:end);

vel\_ = vel(101:end);

tempo\_ = tempo(101:end) - tempo(101);

s = tf('s');

t\_ = (0:length(u\_)-1)\*0.05;

G = (1/3.6)\*2.5/(5.2\*s +1);

G.InputDelay = 0.5;

y = (1/3.6)\*13+lsim(G,u\_,t\_);

figure(100);

plot(tempo\_,vel\_,t\_,y,'r')