LAMPIRAN A

parameter.m

```matlab
%
%untuk membentuk plant dengan ketidakpastian
%
ms = 290; % kg
mus = 59; % kg
bs = 1000; % N/m/s
ks = 16182 ; % N/m
kt = 190000; % N/m
bt = 50; % N/m
pkt = 0.001;
pbt = 0.01;

A = [ 0 1 0 0;[-ks -bs ks bs]/ms;0 0 0 1;[ks bs -ks-kt -bs-
bt]/mus];
B1 = [ 0 0 0 0;0 0 0 0;0 0 0 0;[-pbt -pkt pbt pkt]/mus];
B2 = [ 0 0 0;bt*bs/mus 0 1/ms;bt/ms 0 0;(kt/mus)-
((bt*bt+bs*bt)/(mus*mus)) 0 -1/ms];
C1 = [0 0 0 bt;0 0 kt 0;0 0 0 0;0 0 0 0];
C2 = [ 1 0 0 0];
D11 = [0 0 0 0;0 0 0 0;0 0 0 0;0 0 0 0];
D12 = [bt*bt/mus 0 0;0 0 0;0 bt 0;kt 0 0];
D21 = [0 0 0 0];
D22 = [0 0 0];
G = pck(A,[B1,B2],[C1;C2],[D11 D12;D21 D22])
[Ga,Gb,Gc,Gd]=unpck(G)
```

pembobotan.m

```matlab
%
%untuk merancang nilai pembobotan untuk membatasi daerah kerja
plant
%
nuWp = [1 0.8 10];
dnWp = [1 8 0.01];
gainWp = 0.95;
Wp = nd2sys(nuWp,dnWp,gainWp);
nuWu = 1;
dnWu = 1;
gainWu = 10^(-2);
Wu = nd2sys(nuWu,dnWu,gainWu);

omega = logspace(-4,4,100);
Wp_g = frsp(Wp,omega);
Wpi_g = minv(Wp_g);
vplot('liv,lm',Wpi_g)
title('Invers Dari Performansi Fungsi Pembobotan')
xlabel('Frekuensi(rad/sec)')
ylabel('Magnituda')
grid
```

Interkoneksi.m

```
%
%untuk  membuat struktur sistem loop terbuka dengan adanya
pembobotan
%
systemnames = ' G Wp Wu ';
inputvar = '[ pert{4}; dist; control; r ; r1]';
outputvar = '[ G(1:4); Wp; -Wu; -G(5)-dist ]';
input_to_G = '[ pert; control; r ;r1]';
input_to_Wp = '[ G(5)+dist ]';
input_to_Wu = '[ control  ]';
sysoutname = 'sys_ic';
cleanupsysic = 'yes';
sysic
```

simmds.m

```
%
%untuk  membentuk sistem loop tertutup agar dapat mengatasi
gangguan
%
systemnames = ' G ';
inputvar = '[ pert{4}; ref; dist; control ; r ; r1]';
outputvar = '[ G(1:4); G(5)+dist; ref - G(5) - dist ]';
input_to_G = '[ pert; control; r ; r1]';
sysoutname = 'sim_ic';
cleanupsysic = 'yes';
sysic
```

pengontrol.m

```
%
%untuk mendapatkan pengontrol h infinity
%
nmeas = 1;
ncon = 1;
gmin = 100000;
gmax = 10^6;
tol = 1;
hin_ic = sel(sys_ic,2:7,5:7);
[K_hin,clp] = hinfsyn(hin_ic,nmeas,ncon,gmin,gmax,tol);

K=K_hin

%untuk mendapatkan respon system loop tertutup
clp=starp(sim_ic,K)
[clpa,clpb,clpc,clpd]=unpck(clp)
```

LAMPIRAN B

Respon_sistem_tanpa_damper

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Step1

x' = Ax+Bu
y = Cx+Du
Plant Referensi

x' = Ax+Bu
y = Cx+Du
Plant Dengan bt=0

Clock

t
To Workspace1

y
To Workspace

Scope4

Respon_sistem_dengan_damper

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Step1

x' = Ax+Bu
y = Cx+Du
Plant Referensi

x' = Ax+Bu
y = Cx+Du
Plant Dengan bt=50

Clock

t
To Workspace1

y
To Workspace

Scope4