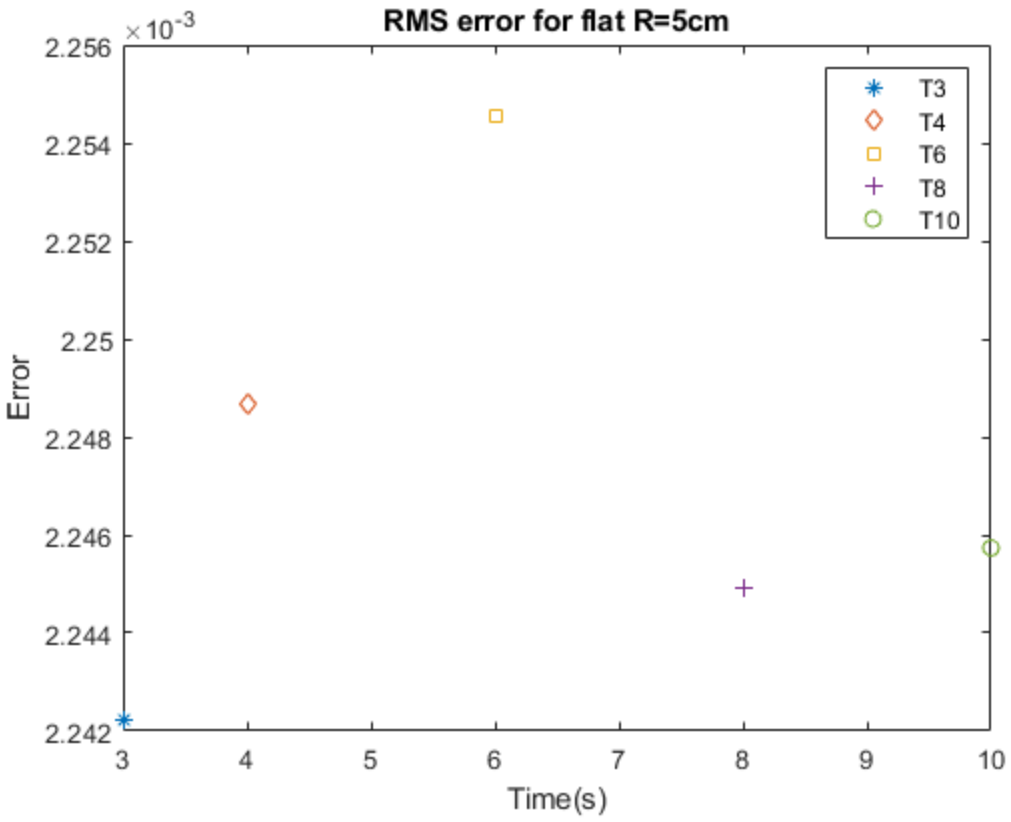
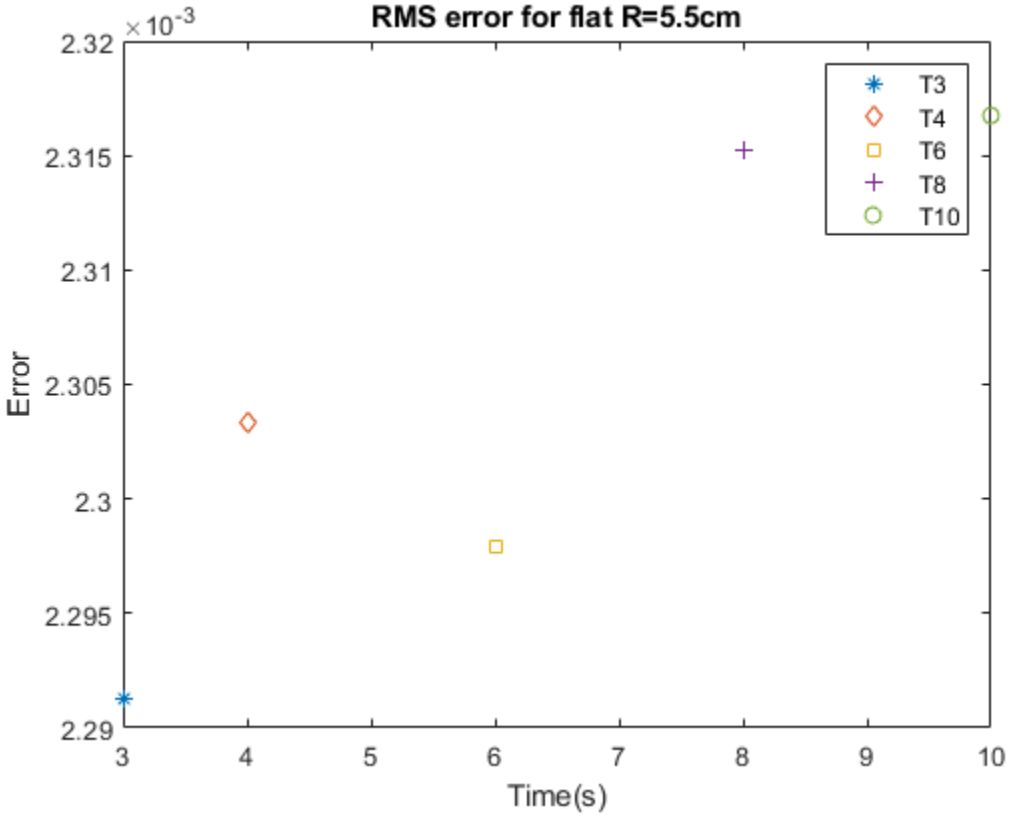
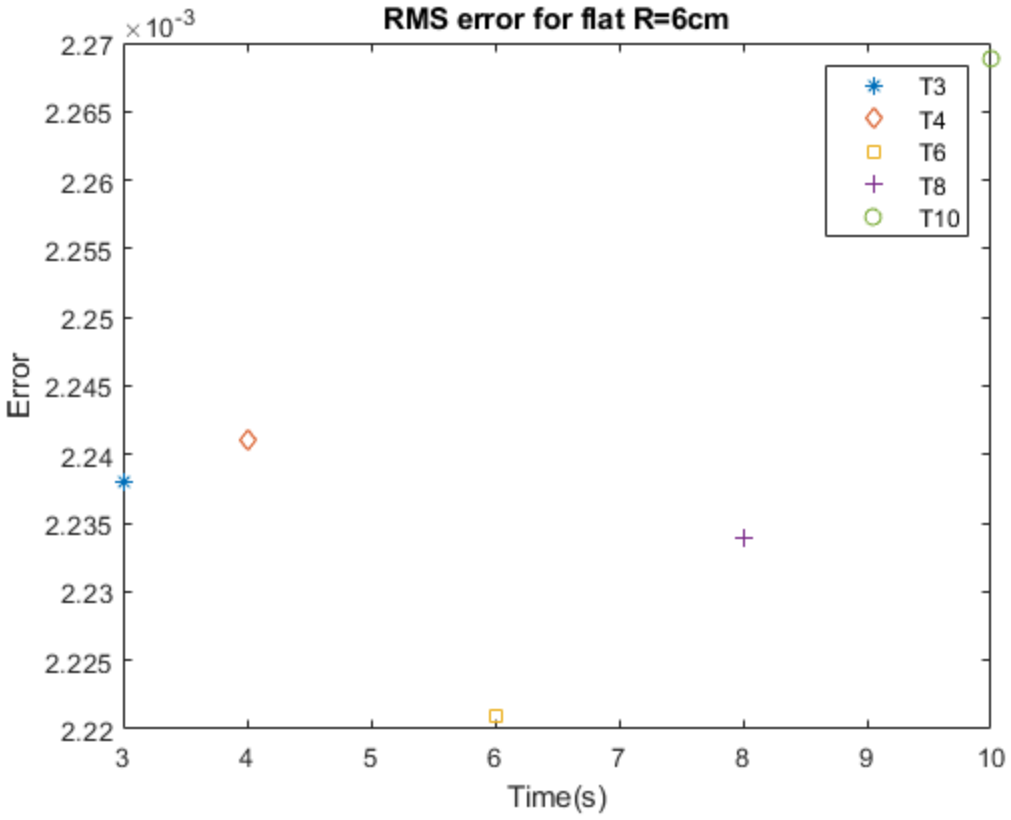
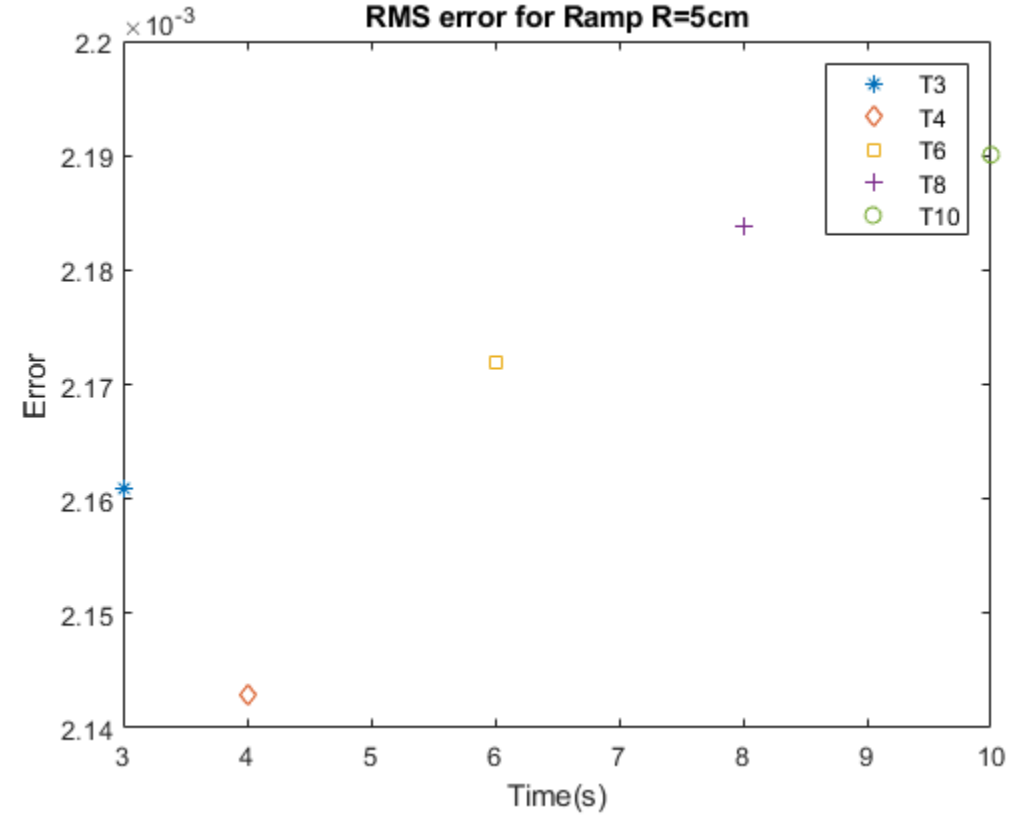
```
% figure(1)
% hold on; grid on;
%
%
% plot(data.FC50.T3.xAct(:,3), data.FC50.T3.xAct(:,3))
% plot(data.FC50.T4.xAct(:,3), data.FC50.T4.xAct(:,3))
% plot(data.FC50.T6.xAct(:,3), data.FC50.T6.xAct(:,3))
% plot(data.FC50.T8.xAct(:,3), data.FC50.T8.xAct(:,3))
% plot(data.FC50.T10.xAct(:,3), data.FC50.T10.xAct(:,3))
%
% legend('Desired','T3','T4','T6','T8','T10')
% %RMS error for velocity
figure(2)
T3 = rmse(data.FC50.T3.xDes(:,3),data.FC50.T3.xAct(:,3));
T4 = rmse(data.FC50.T4.xDes(:,3),data.FC50.T4.xAct(:,3));
T6 = rmse(data.FC50.T6.xDes(:,3),data.FC50.T6.xAct(:,3));
T8 = rmse(data.FC50.T8.xDes(:,3),data.FC50.T8.xAct(:,3));
T10 = rmse(data.FC50.T10.xDes(:,3),data.FC50.T10.xAct(:,3));
plot(3,T3,'*',4,T4,'d',6,T6,'s',8,T8,'+',10,T10,'o')
legend('T3','T4','T6','T8','T10')
xlabel('Time(s)')
ylabel('Error')
title('RMS error for flat R=5cm')


figure(3)
T3 = rmse(data.FC55.T3.xDes(:,3),data.FC55.T3.xAct(:,3));
T4 = rmse(data.FC55.T4.xDes(:,3),data.FC55.T4.xAct(:,3));
T6 = rmse(data.FC55.T6.xDes(:,3),data.FC55.T6.xAct(:,3));
T8 = rmse(data.FC55.T8.xDes(:,3),data.FC55.T8.xAct(:,3));
T10 = rmse(data.FC55.T10.xDes(:,3),data.FC55.T10.xAct(:,3));
plot(3,T3,'*',4,T4,'d',6,T6,'s',8,T8,'+',10,T10,'o')
legend('T3','T4','T6','T8','T10')
xlabel('Time(s)')
ylabel('Error')
title('RMS error for flat R=5.5cm')

figure(4)
T3 = rmse(data.FC60.T3.xDes(:,3),data.FC60.T3.xAct(:,3));
T4 = rmse(data.FC60.T4.xDes(:,3),data.FC60.T4.xAct(:,3));
T6 = rmse(data.FC60.T6.xDes(:,3),data.FC60.T6.xAct(:,3));
T8 = rmse(data.FC60.T8.xDes(:,3),data.FC60.T8.xAct(:,3));
T10 = rmse(data.FC60.T10.xDes(:,3),data.FC60.T10.xAct(:,3));
plot(3,T3,'*',4,T4,'d',6,T6,'s',8,T8,'+',10,T10,'o')
legend('T3','T4','T6','T8','T10')
xlabel('Time(s)')
ylabel('Error')
title('RMS error for flat R=6cm')


figure(5)
T3 = rmse(data.RC50.T3.xDes(:,3),data.RC50.T3.xAct(:,3));
```

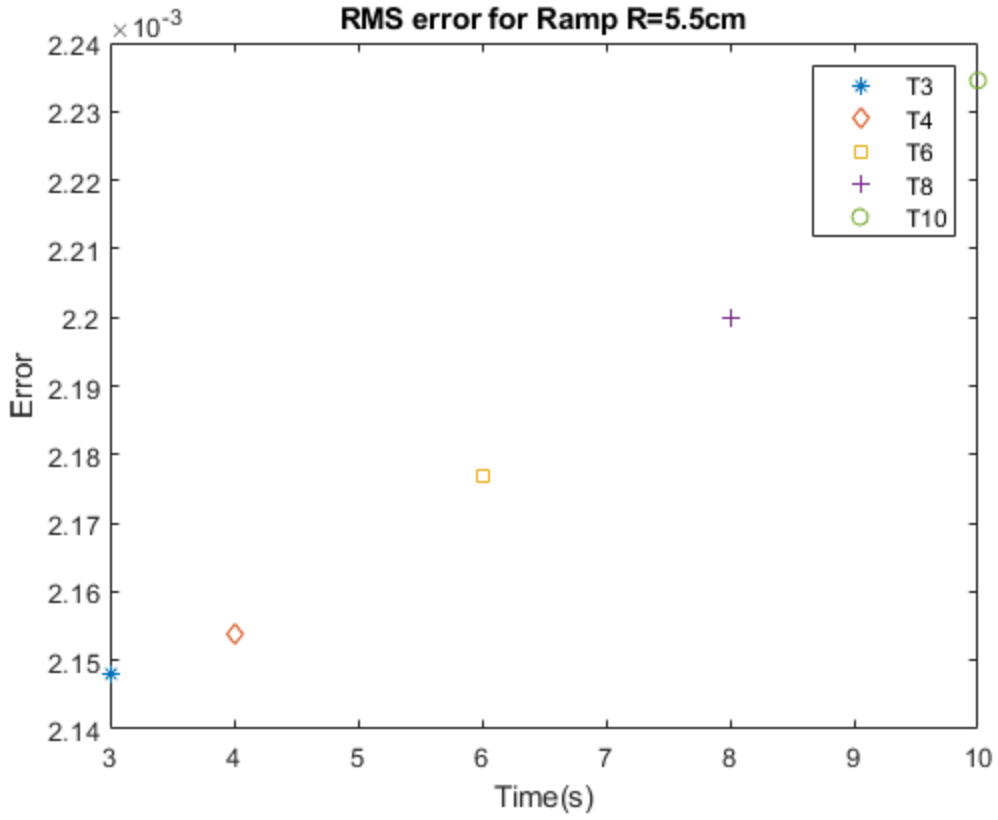
```
T4 = rmse(data.RC50.T4.xDes(:,3),data.RC50.T4.xAct(:,3));
T6 = rmse(data.RC50.T6.xDes(:,3),data.RC50.T6.xAct(:,3));
T8 = rmse(data.RC50.T8.xDes(:,3),data.RC50.T8.xAct(:,3));
T10 = rmse(data.RC50.T10.xDes(:,3),data.RC50.T10.xAct(:,3));
plot(3,T3,'*',4,T4,'d',6,T6,'s',8,T8,'+',10,T10,'o')
legend('T3','T4','T6','T8','T10')
xlabel('Time(s)')
ylabel('Error')
title('RMS error for Ramp R=5cm')
% figure(3)

figure(6)
T3 = rmse(data.RC55.T3.xDes(:,3),data.RC55.T3.xAct(:,3));
T4 = rmse(data.RC55.T4.xDes(:,3),data.RC55.T4.xAct(:,3));
T6 = rmse(data.RC55.T6.xDes(:,3),data.RC55.T6.xAct(:,3));
T8 = rmse(data.RC55.T8.xDes(:,3),data.RC55.T8.xAct(:,3));
T10 = rmse(data.RC55.T10.xDes(:,3),data.RC55.T10.xAct(:,3));
plot(3,T3,'*',4,T4,'d',6,T6,'s',8,T8,'+',10,T10,'o')
legend('T3','T4','T6','T8','T10')
xlabel('Time(s)')
ylabel('Error')
title('RMS error for Ramp R=5.5cm')

figure(7)
T3 = rmse(data.RC60.T3.xDes(:,3),data.RC60.T3.xAct(:,3));
T4 = rmse(data.RC60.T4.xDes(:,3),data.RC60.T4.xAct(:,3));
T6 = rmse(data.RC60.T6.xDes(:,3),data.RC60.T6.xAct(:,3));
T8 = rmse(data.RC60.T8.xDes(:,3),data.RC60.T8.xAct(:,3));
T10 = rmse(data.RC60.T10.xDes(:,3),data.RC60.T10.xAct(:,3));
plot(3,T3,'*',4,T4,'d',6,T6,'s',8,T8,'+',10,T10,'o')
legend('T3','T4','T6','T8','T10')
xlabel('Time(s)')
ylabel('Error')
title('RMS error for Ramp R=6cm')
```

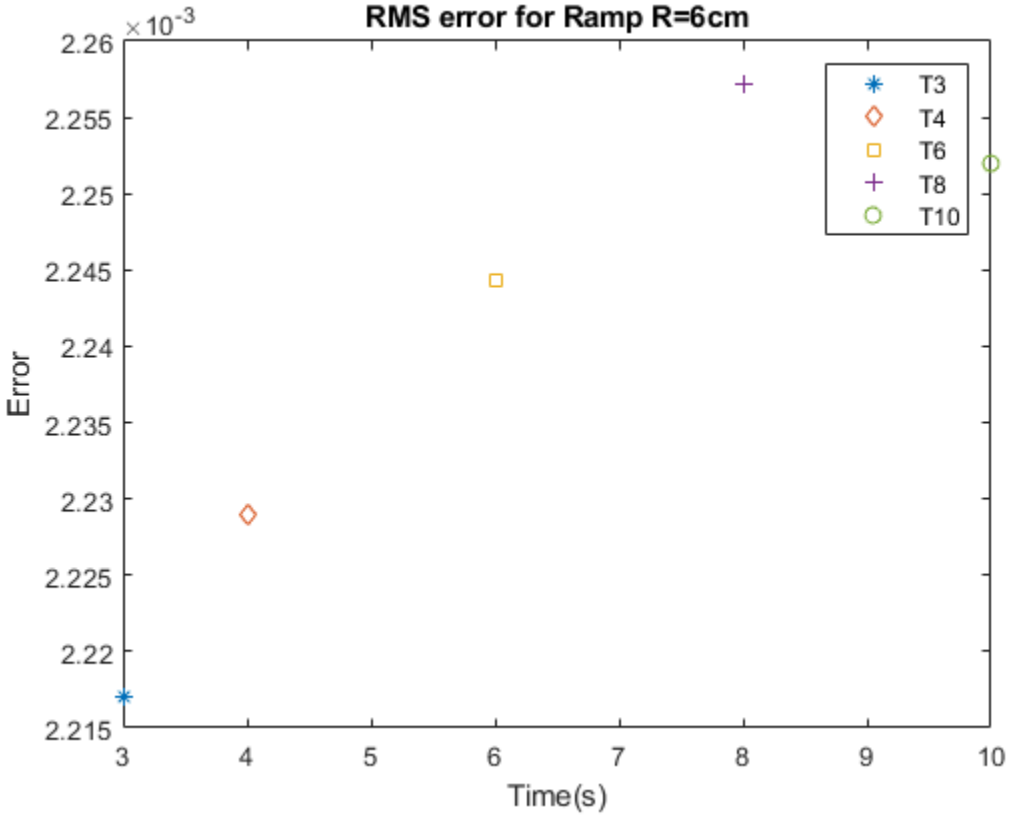

RMS error for flat R=5cm
×10^-3
2.256
2.254
2.252
2.25
2.248
2.246
2.244
2.242
Error
3
4
5
6
7
8
9
10
Time(s)
T3
T4
T6
T8
T10


RMS error for flat R=5.5cm
×10^-3
2.32
2.315
2.31
2.305
2.3
2.295
2.29
Error
3
4
5
6
7
8
9
10
Time(s)
T3
T4
T6
T8
T10


RMS error for flat R=6cm
×10^-3
2.27
2.265
2.26
2.255
2.25
2.245
2.24
2.235
2.23
2.225
2.22
Error
3
4
5
6
7
8
9
10
Time(s)
T3
T4
T6
T8
T10


RMS error for Ramp R=5cm
×10^-3
2.2
2.19
2.18
2.17
2.16
2.15
2.14
Error
3
4
5
6
7
8
9
10
Time(s)
T3
T4
T6
T8
T10


RMS error for Ramp R=5.5cm
×10^-3
2.24
2.23
2.22
2.21
2.2
2.19
2.18
2.17
2.16
2.15
2.14
Error
3
4
5
6
7
8
9
10
Time(s)
T3
T4
T6
T8
T10


RMS error for Ramp R=6cm
×10^-3
2.26
2.255
2.25
2.245
2.24
2.235
2.23
2.225
2.22
2.215
Error
3
4
5
6
7
8
9
10
Time(s)
T3
T4
T6
T8
T10

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