

Velocity .....	1
Acceleration .....	4

```

clear all
close all
clc

[data, txt, raw] = xlsread('DATA.xlsx'); %Data for Run 1
Time1 = data(1:6520,1);                %Time
velX1 = data(1:6520,5);                %X Velocity
velY1 = data(1:6520,6);                %Y Velocity
velZ1 = data(1:6520,7);                %Z Velocity
AccX1 = data(1:6520,11);               %X Acceleration
AccY1 = data(1:6520,12);               %Y Acceleration
AccZ1 = data(1:6520,13);               %Z Acceleration

[data, txt, raw] = xlsread('DATA2.xlsx'); %Data for Run 2
Time2 = data(1:5970,1);                %Time
velX2 = data(1:5970,5);                %X Velocity
velY2 = data(1:5970,6);                %Y Velocity
velZ2 = data(1:5970,7);                %Z Velocity
AccX2 = data(1:5970,11);               %X Acceleration
AccY2 = data(1:5970,12);               %Y Acceleration
AccZ2 = data(1:5970,13);               %Z Acceleration

[data, txt, raw] = xlsread('DATA3.xlsx'); %Data for Run 3
Time3 = data(1:5810,1);                %Time
velX3 = data(1:5810,5);                %X Velocity
velY3 = data(1:5810,6);                %Y Velocity
velZ3 = data(1:5810,7);                %Z Velocity
AccX3 = data(1:5810,11);               %X Acceleration
AccY3 = data(1:5810,12);               %Y Acceleration
AccZ3 = data(1:5810,13);               %Z Acceleration

```

## Velocity

```

%X velocity for all 3 runs plotted together
figure(1)
plot(Time1,velX1,Time2,velX2,Time3,velX3)
title('X velocity')
xlim([12 16])
xlabel('Time (s)')
ylabel('velocity (m/s)')
legend('Run 1','Run 2','Run 3','Location','NorthEast')

%Y velocity for all 3 runs plotted together
figure(2)
subplot(2,1,1), plot(Time1,velY1,Time2,velY2,Time3,velY3)
title('Y velocity')
xlim([12 16])
ylim([-1.7 -1.1])
xlabel('Time (s)')

```

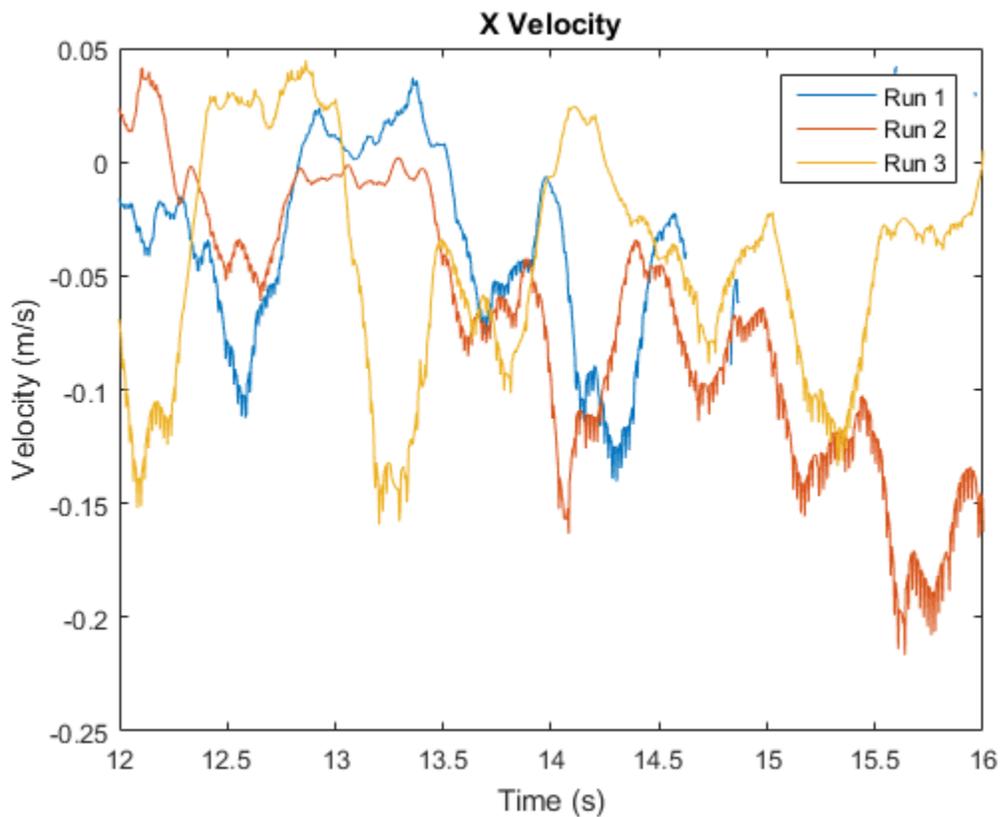
```

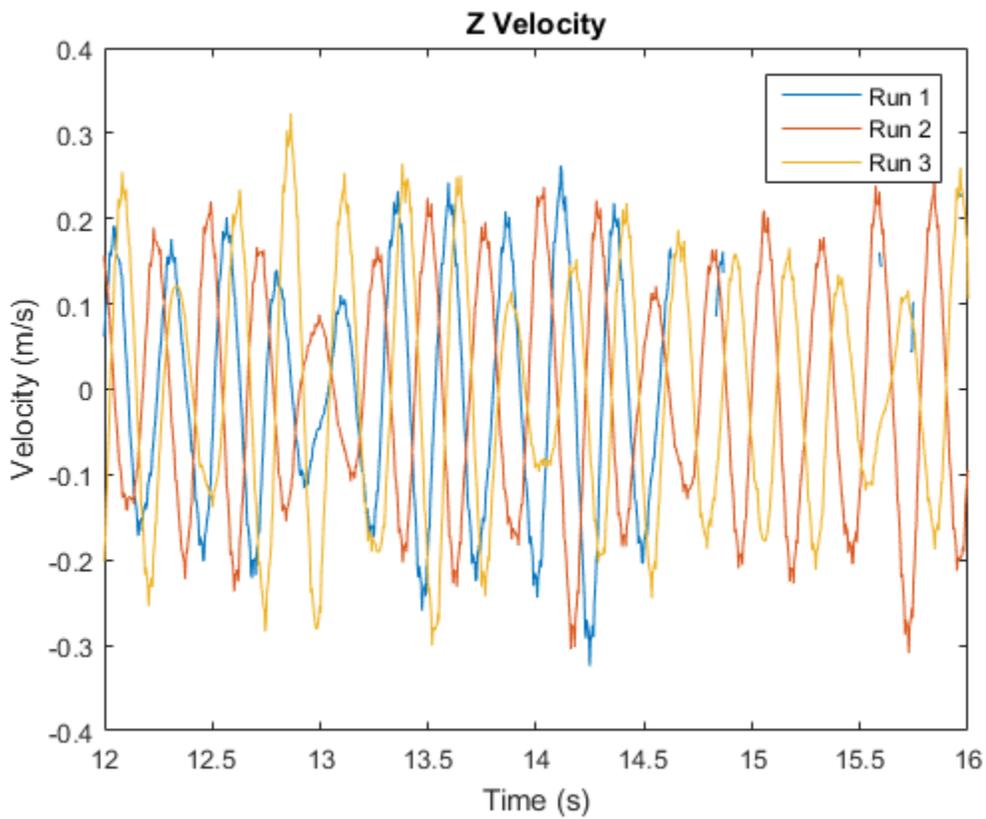
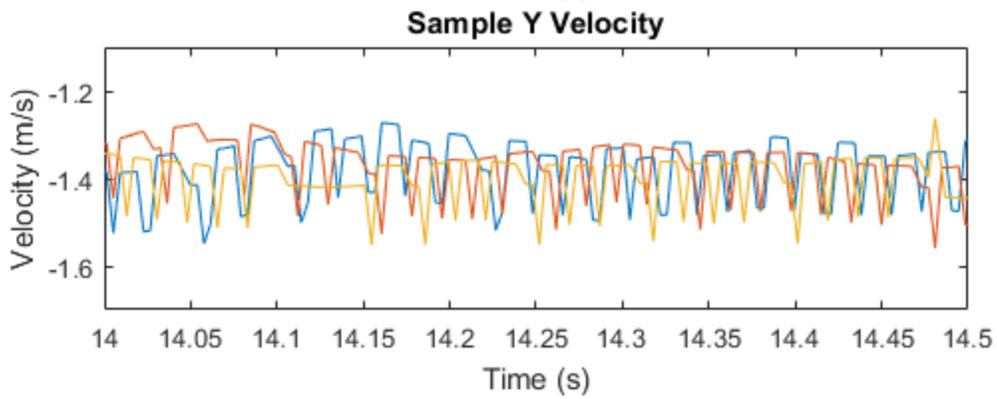
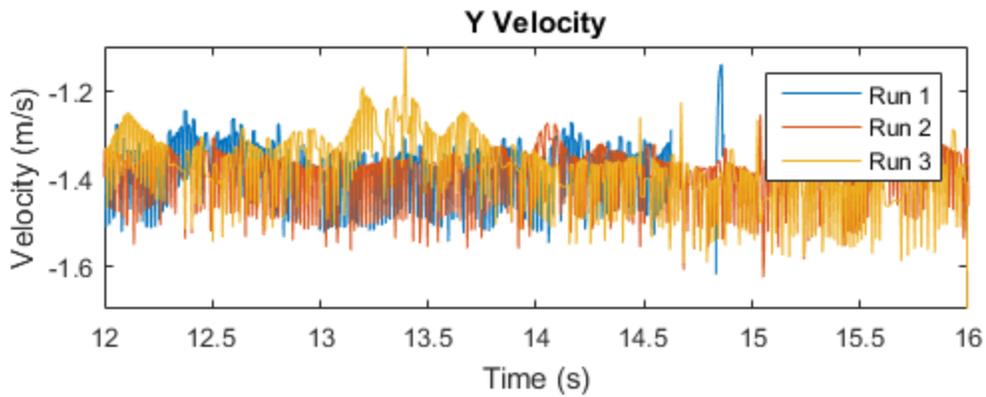
ylabel('velocity (m/s)')
legend('Run 1','Run 2','Run 3','Location','NorthEast')

subplot(2,1,2), plot(Time1,velY1,Time2,velY2,Time3,velY3)
title('Sample Y Velocity')
xlim([14 14.5])
ylim([-1.7 -1.1])
xlabel('Time (s)')
ylabel('velocity (m/s)')

%Z velocity for all 3 runs plotted together
figure(3)
plot(Time1,velZ1,Time2,velZ2,Time3,velZ3)
title('Z Velocity')
xlim([12 16])
xlabel('Time (s)')
ylabel('velocity (m/s)')
legend('Run 1','Run 2','Run 3','Location','NorthEast')

```





## Acceleration

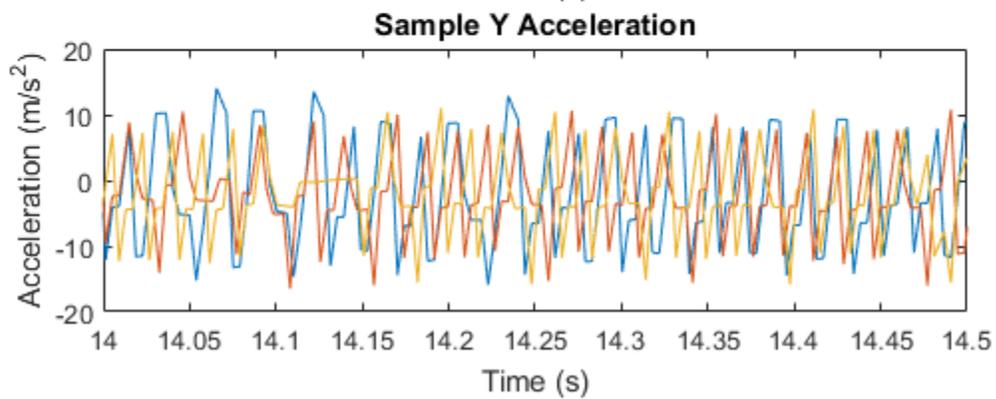
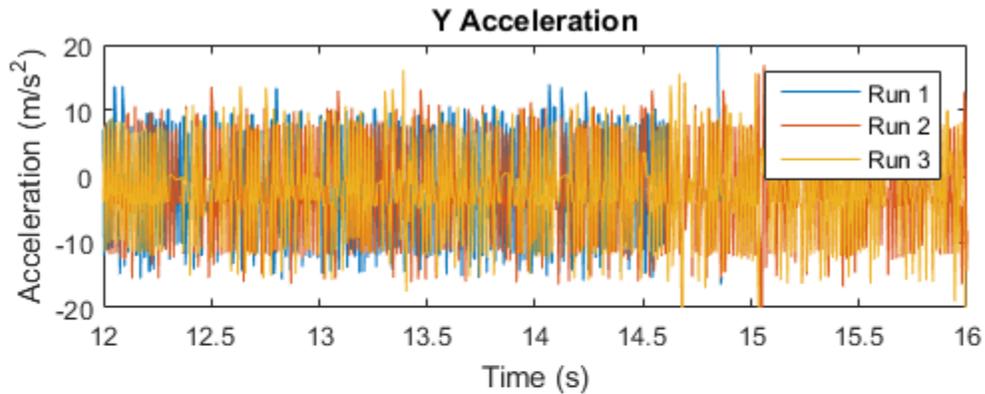
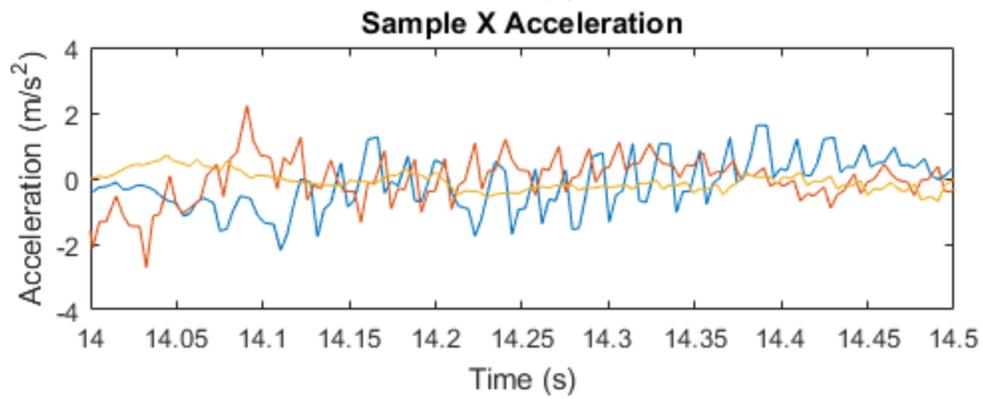
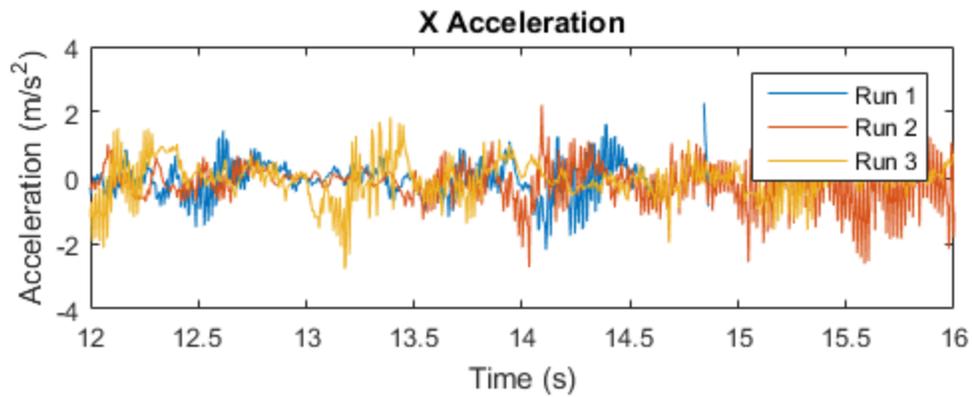
```
%X acceleration for all 3 runs plotted together
figure(4)
subplot(2,1,1), plot(Time1,AccX1,Time2,AccX2,Time3,AccX3)
title('X Acceleration')
xlim([12 16])
xlabel('Time (s)')
ylabel('Acceleration (m/s^2)')
legend('Run 1','Run 2','Run 3','Location','NorthEast')

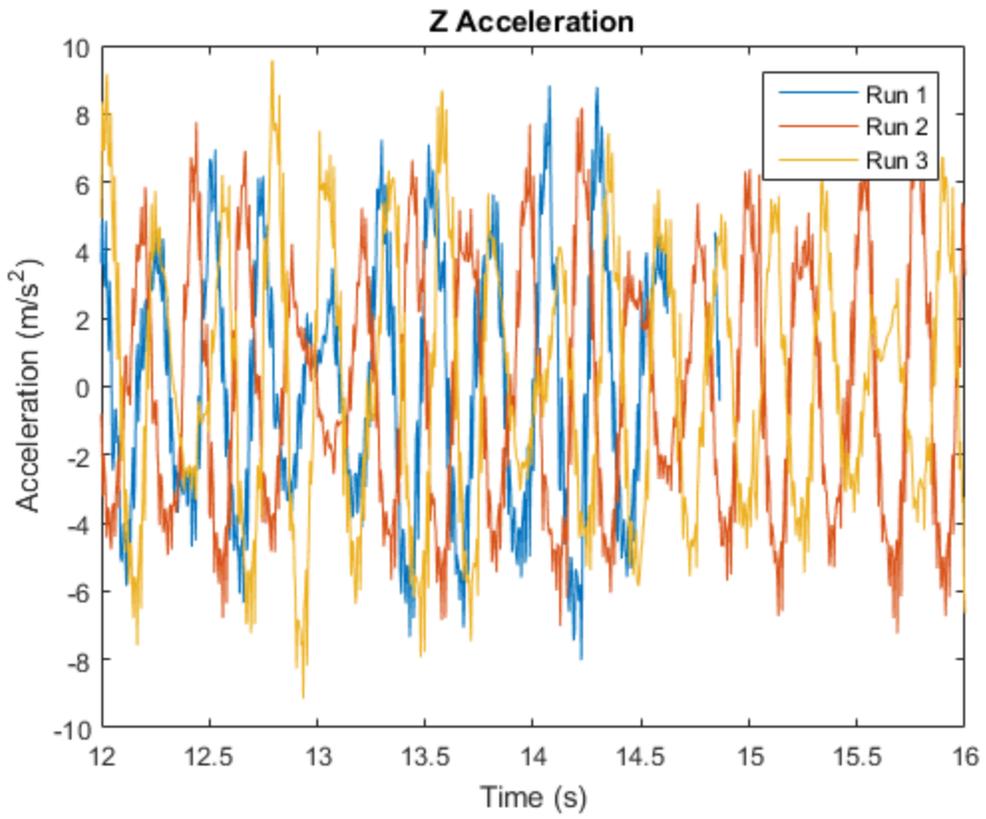
subplot(2,1,2), plot(Time1,AccX1,Time2,AccX2,Time3,AccX3)
title('Sample X Acceleration')
xlim([14 14.5])
xlabel('Time (s)')
ylabel('Acceleration (m/s^2)')

%Y acceleration for all 3 runs plotted together
figure(5)
subplot(2,1,1), plot(Time1,AccY1,Time2,AccY2,Time3,AccY3)
title('Y Acceleration')
xlim([12 16])
ylim([-20 20])
xlabel('Time (s)')
ylabel('Acceleration (m/s^2)')
legend('Run 1','Run 2','Run 3','Location','NorthEast')

subplot(2,1,2), plot(Time1,AccY1,Time2,AccY2,Time3,AccY3)
title('Sample Y Acceleration')
xlim([14 14.5])
ylim([-20 20])
xlabel('Time (s)')
ylabel('Acceleration (m/s^2)')

%Z acceleration for all 3 runs plotted together
figure(6)
plot(Time1,AccZ1,Time2,AccZ2,Time3,AccZ3)
title('Z Acceleration')
xlim([12 16])
xlabel('Time (s)')
ylabel('Acceleration (m/s^2)')
legend('Run 1','Run 2','Run 3','Location','NorthEast')
```





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