ECE 2409

Fall 2020

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Homework 0

```
clear; close all; clc
c=datetime;
fprintf('Last run %s\n',c)
```

```
Last run 20-Aug-2020 16:53:15
```

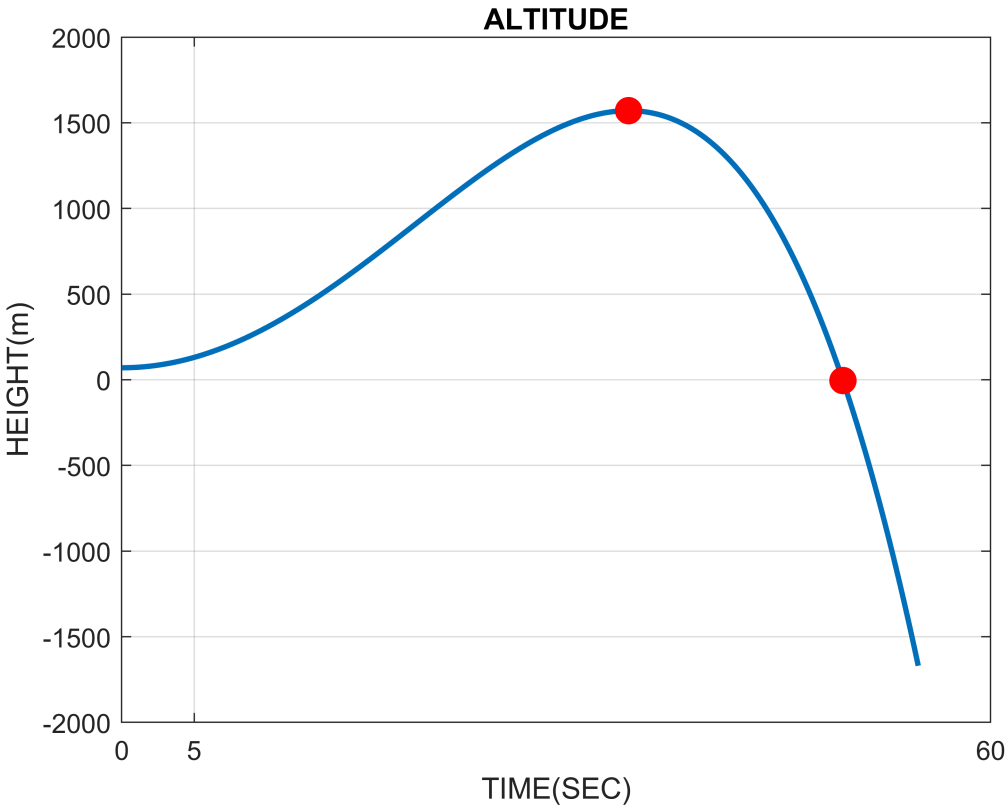
HEIGHT

$h(t) = 70 + 2.54t^2 - 0.001t^4$

```
t=0:.1:55;
h=70+2.45*t.^2-0.001*t.^4;
plot(t,h,'linewidth',2);grid
set(gca,'xtick',[0;5;60])
title('ALTITUDE')
xlabel('TIME(SEC)')
ylabel('HEIGHT(m)')
[hmax,i]=max(h);
hold
```

```
Current plot held
```

```
plot(t(i),h(i),'r.','markersize',35)
i=find(h<0);
plot(t(i(1)),h(i(1)),'r.','markersize',35)
```




```
figure;
```

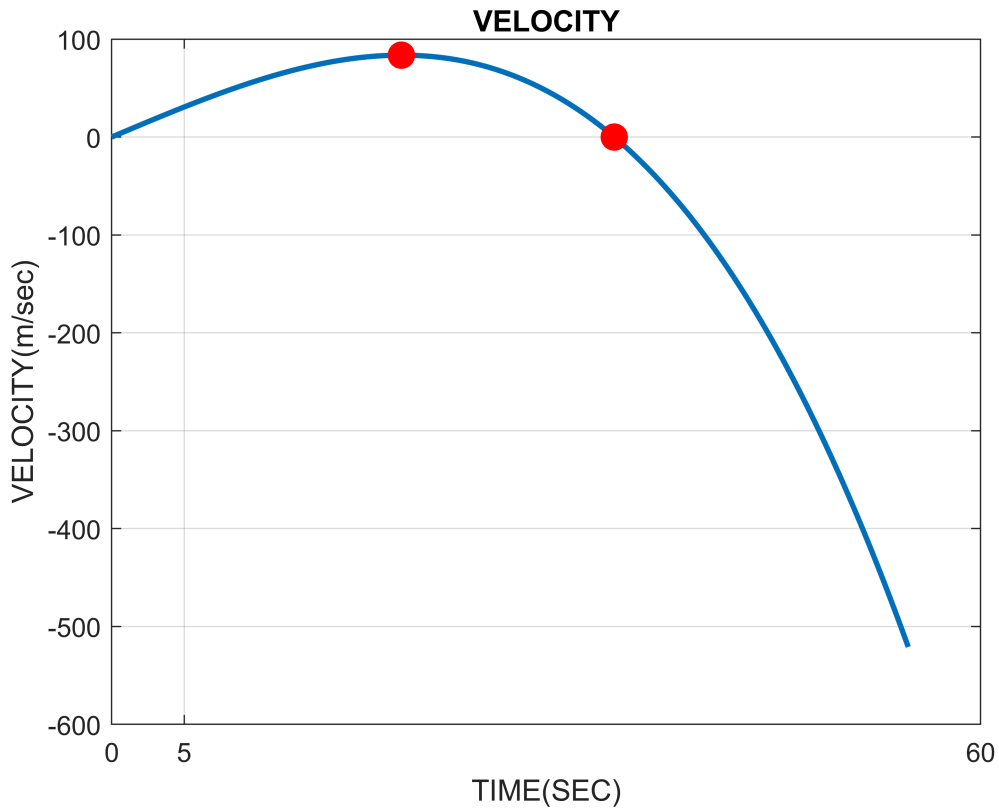
VELOCITY

$v(t) = 6.26t - 0.0052t^3$

```
t=0:.1:55;
v=6.26*t-0.0052*t.^3;
plot(t,v,'LineWidth',2);grid
set(gca,'xtick',[0;5;60])
title('VELOCITY')
xlabel('TIME(SEC)')
ylabel('VELOCITY(m/sec)')
[vmax,j]=max(v);
hold
```

```
Current plot held
```

```
plot(t(j),v(j),'r.','markersize',35)
j=find(v<0);
plot(t(j(1)),v(j(1)),'r.','markersize',35)
```




```
figure;
```

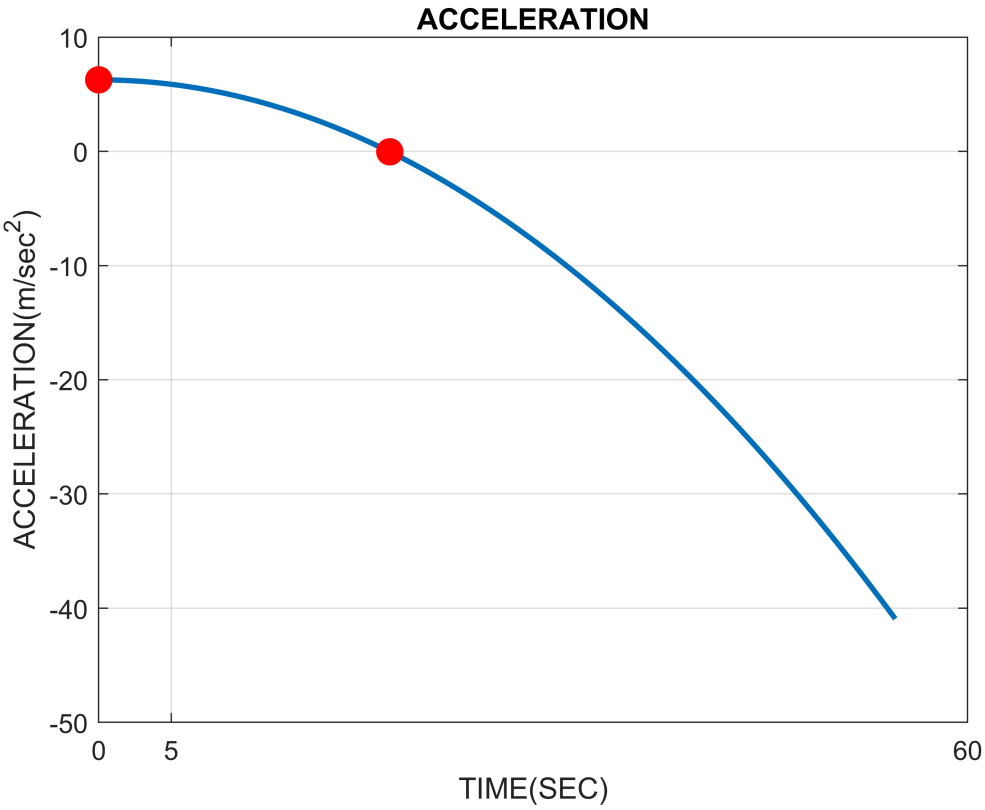
ACCELERATION

$a(t) = 6.26 - 0.0156t^2$

```
t=0:.1:55;
a=6.26-0.0156*t.^2;
plot(t,a,'LineWidth',2);grid
set(gca,'xtick',[0;5;60])
title('ACCELERATION')
xlabel('TIME(SEC)')
ylabel('ACCELERATION(m/sec^2)')
[amax,k]=max(a);
hold
```

```
Current plot held
```

```
plot(t(k),a(k),'r.','markersize',35)
k=find(a<0);
plot(t(k(1)),a(k(1)),'r.','markersize',35)
```


ACCELERATION
10
0
-10
-20
-30
-40
-50
ACCELERATION(m/sec2)
0
5
60
TIME(SEC)

```
figure;
```