
Table of Contents

.....	1
Falling Problem	1
Rod with Radiation	1
Blasius Flat Plate	2

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Falling Problem

```
[t1,x1] =ode45(@falling,[0 12],[0 0]);
xL1 = x1(end,1)
[t2,x2] =ode45(@falling,[0 12],[0 10]);
xL2 = x2(end,1)
za = 0+(10-0)/(xL2-xL1)*(500-xL1)
[t3,x3]=ode45(@falling,[0 12],[0 za]);
xL3 = x3(end,1)

xL1 =
    387.6827
xL2 =
    437.1128
za =
    22.7224
xL3 =
    500.0000
```

Rod with Radiation

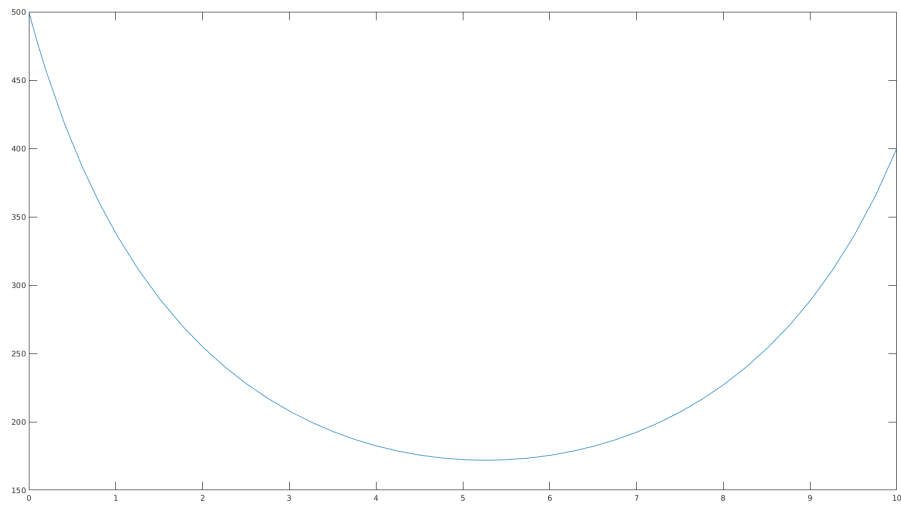
```
[x1,T1]=ode45(@radiation,[0 10],[500 0]);
TL1 = T1(end,1)
[x2,T2]=ode45(@radiation,[0 10],[500 -100]);
TL2 = T2(end,1)
za = 0 + (-100-0)/(TL2-TL1)*(400-TL1)
[x3,T3]=ode45(@radiation,[0 12],[500 za]);
TL3 = T3(end,1)
za = fzero(@res1,-60)
[x4,T4]=ode45(@radiation,[0 10],[500 za]);
TL4 = T4(end,1)
plot(x4,T4(:,1))

TL1 =
    1.2477e+12
TL2 =
    1.5771e+12
za =
    378.7182
TL3 =
    2.3097e+12
za =
```

```

-237.8843
TL4 =
400.0000

```



Blasius Flat Plate

```

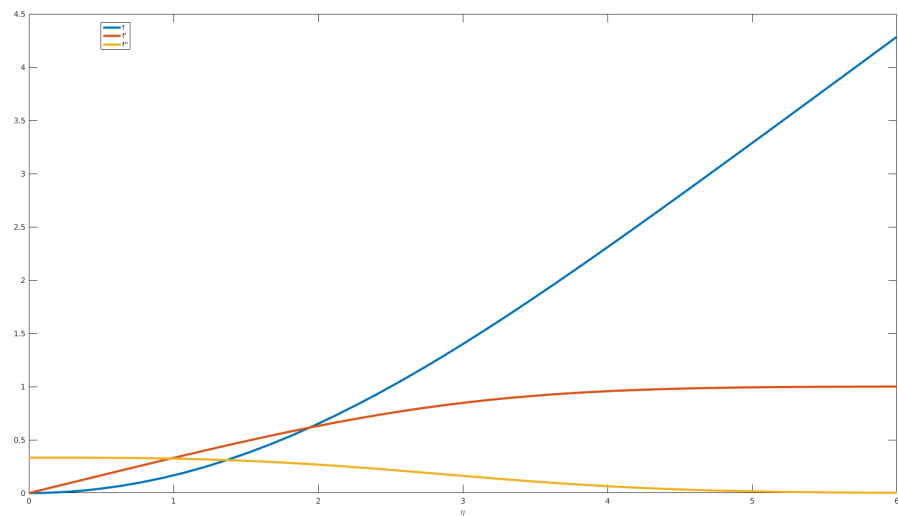
za = fzero(@res2,1)
[n,f] = ode45(@Blasius, [0 6], [0 0 za]);
plot(n,f,'LineWidth',3)
legend('f','f''','f''''','Location','Best')
xlabel('\eta')

```

```

za =
0.3326

```



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