

Lab 5 (Basic Matlab introduction)

Plotting in 3D

Example 9

```
load lab4;

figure(1);
surf(T);
shading flat;
grid on;
```

Example 10

```
load lab4;

[X,TAU]=meshgrid(x,t);

figure(1);
surf(X,TAU,T);
xlabel('x, -');
ylabel('Fo, -');
zlabel('T, -');
grid on;
```

Example 11

```
load lab4;

[X,TAU]=meshgrid(x,t);

figure(1);
contour(X,TAU,T,10);
xlabel('x, -');
ylabel('Fo, -');
zlabel('T, -');
colorbar;
grid on;
```

Example 12

```
load lab4;

tnow=datestr(now,30);

[X,TAU]=meshgrid(x,t);

h1=figure(1);
contour(X,TAU,T,10);
xlabel('x, -');
ylabel('Fo, -');
zlabel('T, -');
colorbar;
grid on;

print('-dmeta',[ tnow '_temp_contour']);
saveas(h1,[ tnow '_temp_contour.fig']);
```

Problem2 upgrade

```
clear all; close all; clc;

tnow=datestr(now,30);

x=linspace(0,1,41);
t=linspace(0.2,2,19); t=t';
CS=1;
Bi=1;
[T]=problem2_heatcond_fcn(x,t,CS,Bi);

[X,TAU]=meshgrid(x,t);

h1=figure(1);
mesh(X,TAU,T);
xlabel('x, -');
ylabel('Fo, -');
zlabel('T, -');
colorbar;
grid on;

p2upgrade.IN.x=x;
p2upgrade.IN.t=t;
p2upgrade.IN.CS=CS;
p2upgrade.IN.Bi=Bi;

p2upgrade.OUT.T=T;

print('-dmeta',[ tnow '_temperature_problem2']);
saveas(h1,[ tnow '_temperature_problem2.fig']);
save([tnow '_problem2upgrade' ],'p2upgrade');
```