
EED364 : Graph Signal Processing [Lab-7]

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Objective:

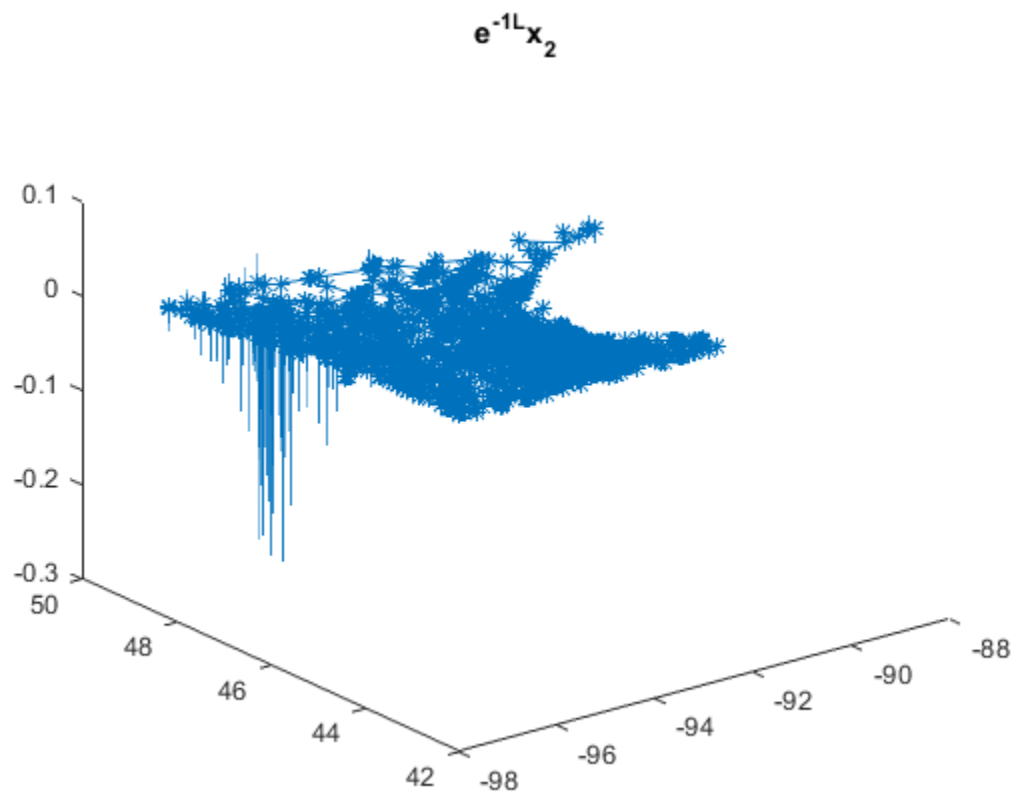
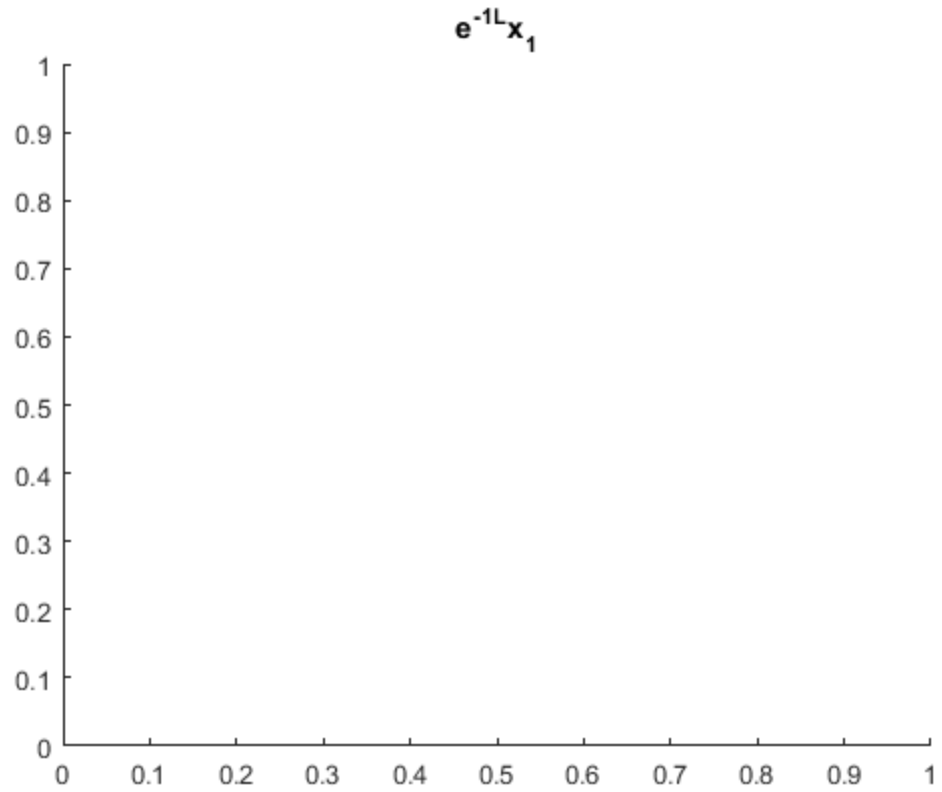
Eigen spectrum with respect to Adjacency matrix of a Graph

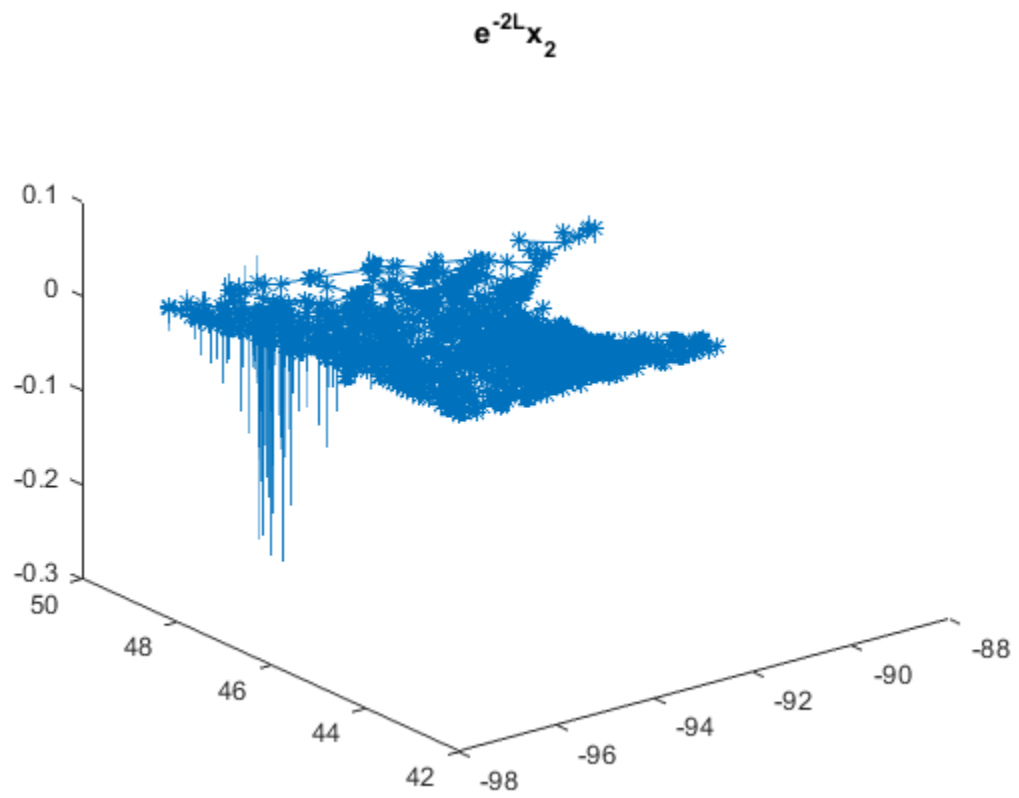
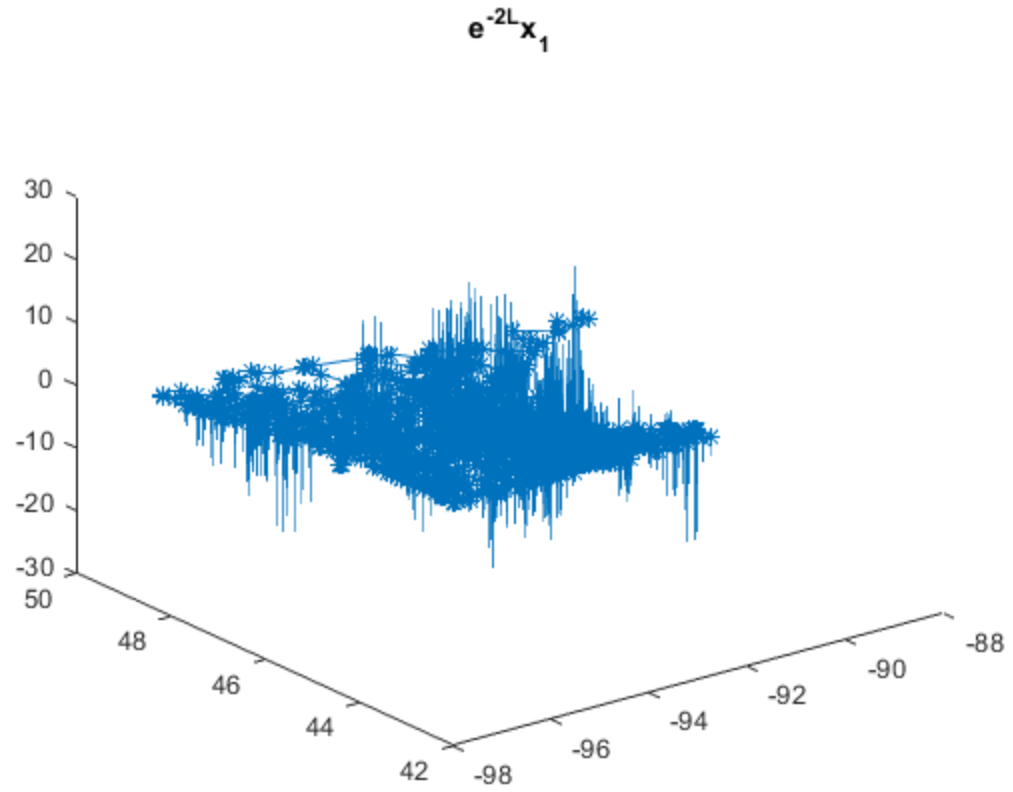
Program:

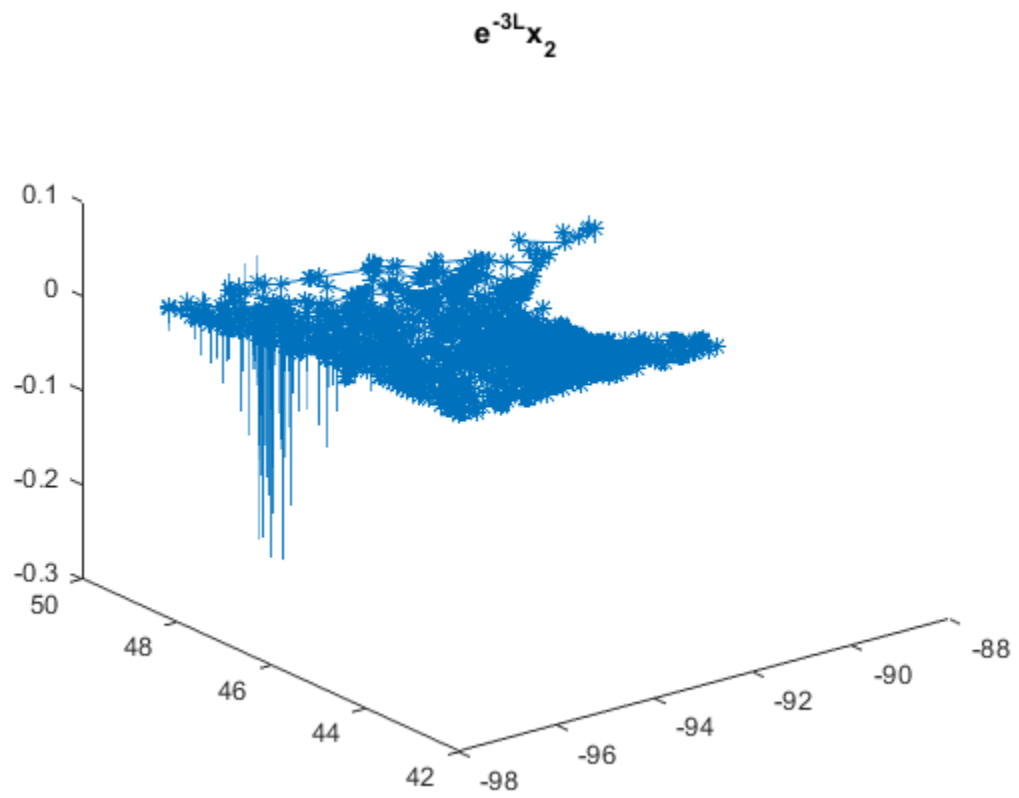
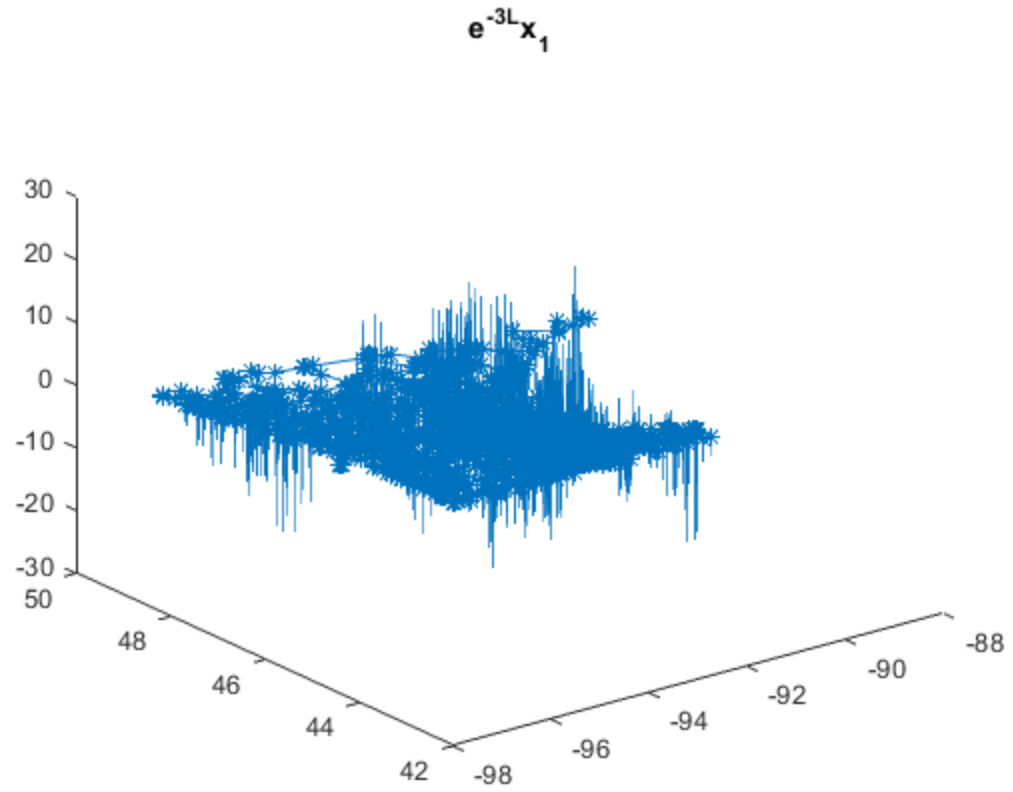
```
clc;
clear all;
close all;
```

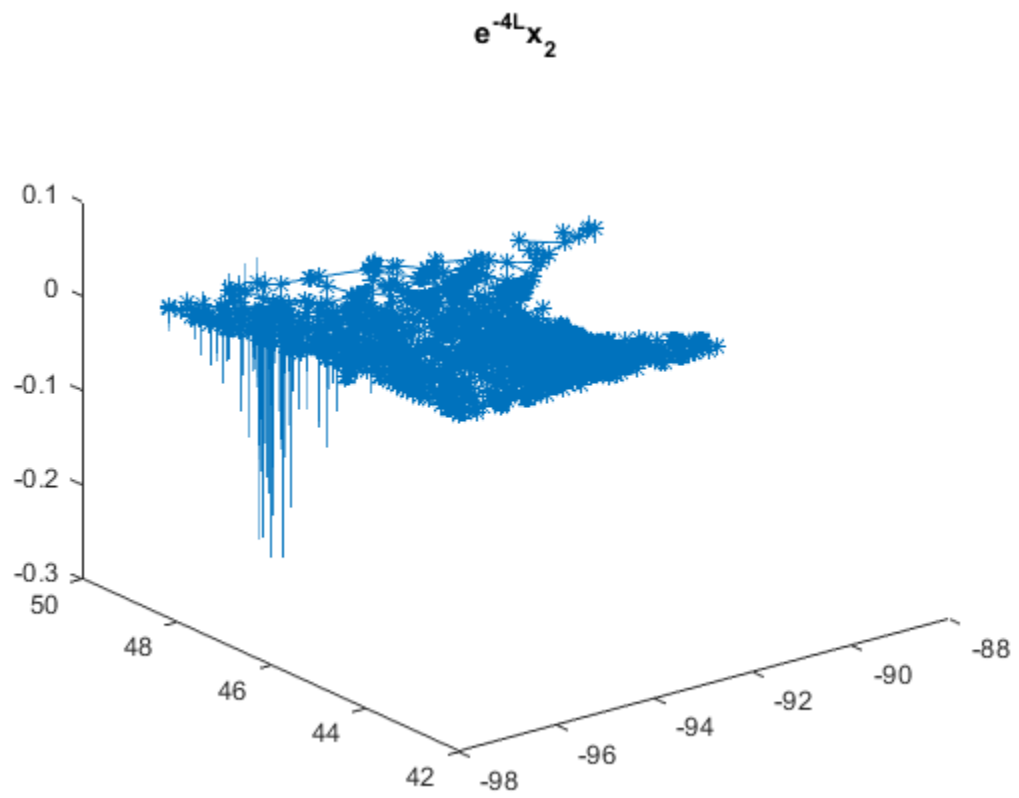
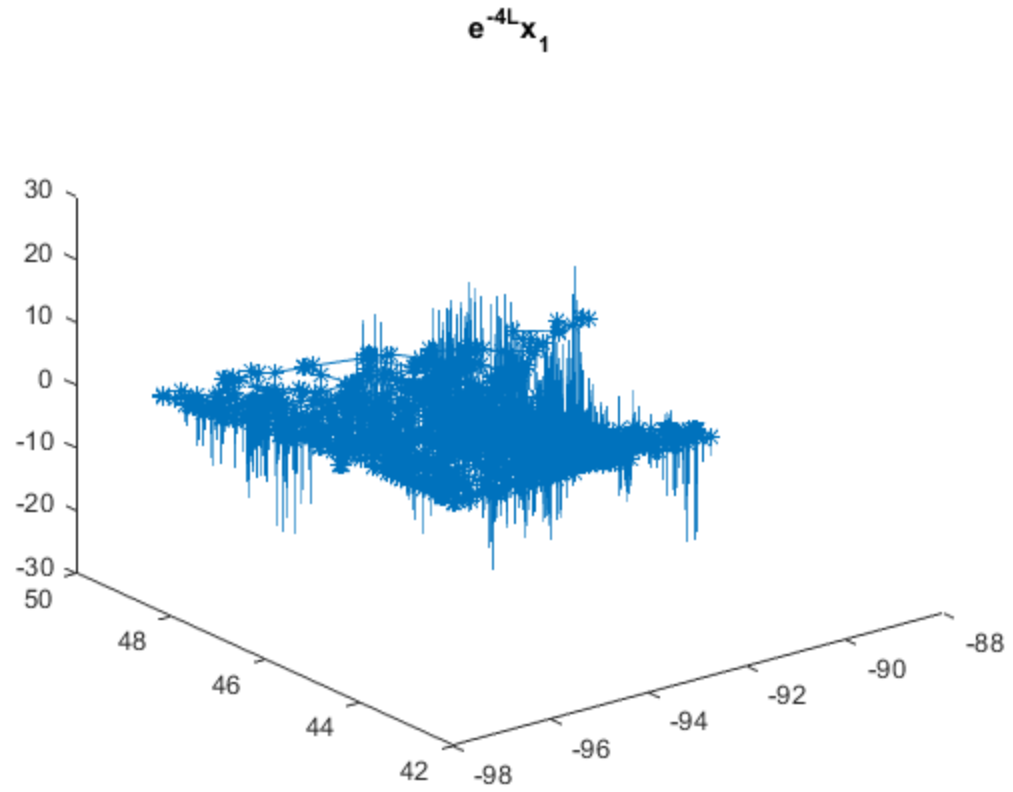
1

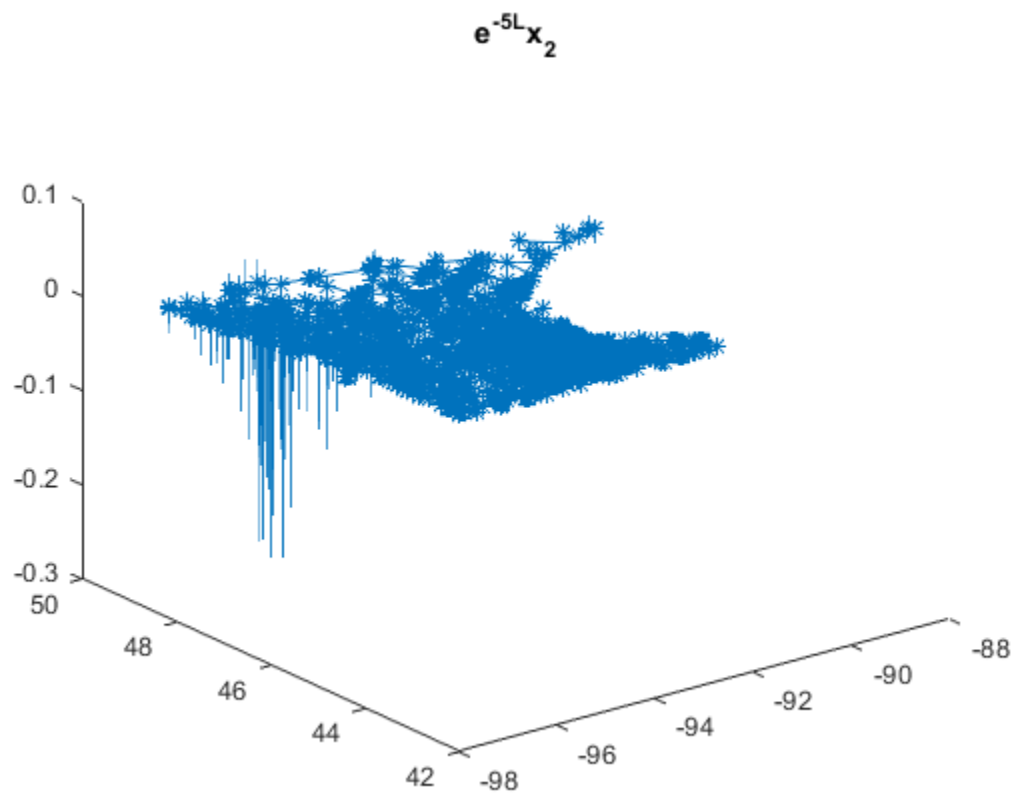
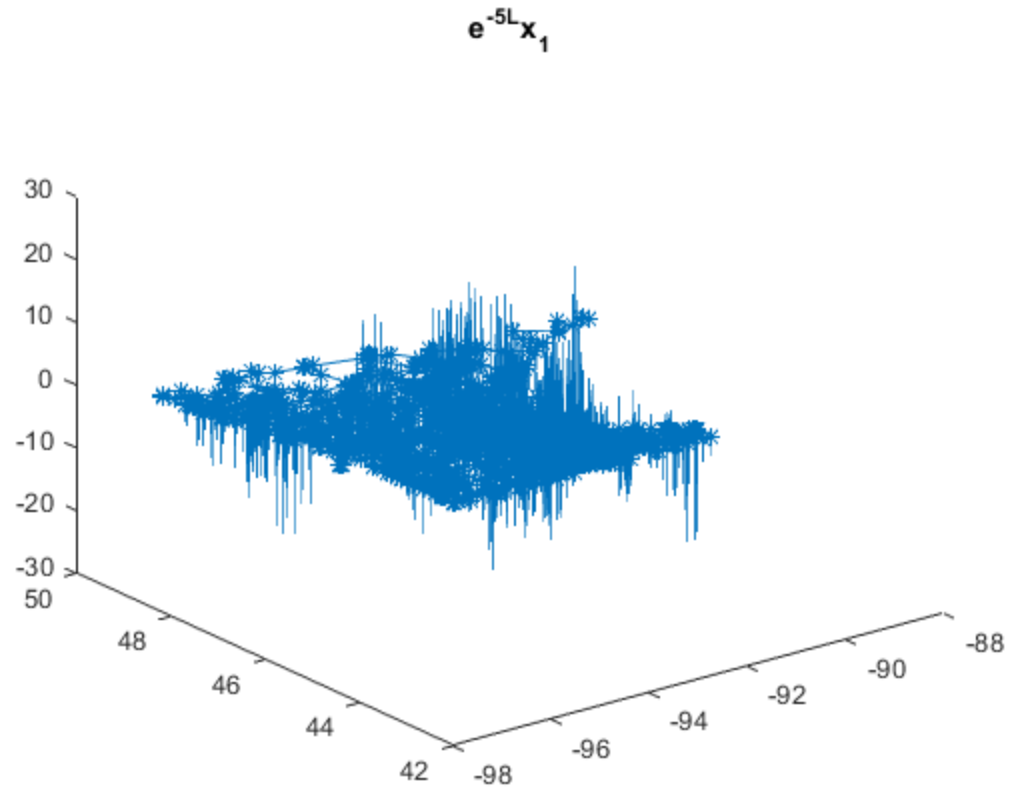
```
load('Lab3_minnesota.mat','Problem');
zerosap=zeros(1,length(Problem.aux.coord));
Minco=[Problem.aux.coord zerosap];
[U D]=eig(full(Problem.A));
I=diag(U);
j(:,1)=1:length(I);
R=zeros(length(I),7);
for L=1:7
    R(j,L)=exp(-I(j,1)*L);
end
x1=zeros(length(I),1);
x1(100,1)=1;
x2(j,1)=1;
for i=1:7
    title(sprintf('e^{-%dL}x_1',i));
    y1(:,i)=conv(x1,R(:,i),U);
    title(sprintf('e^{-%dL}x_2',i));
    y2(:,i)=conv(x2,R(:,i),U);
end
```

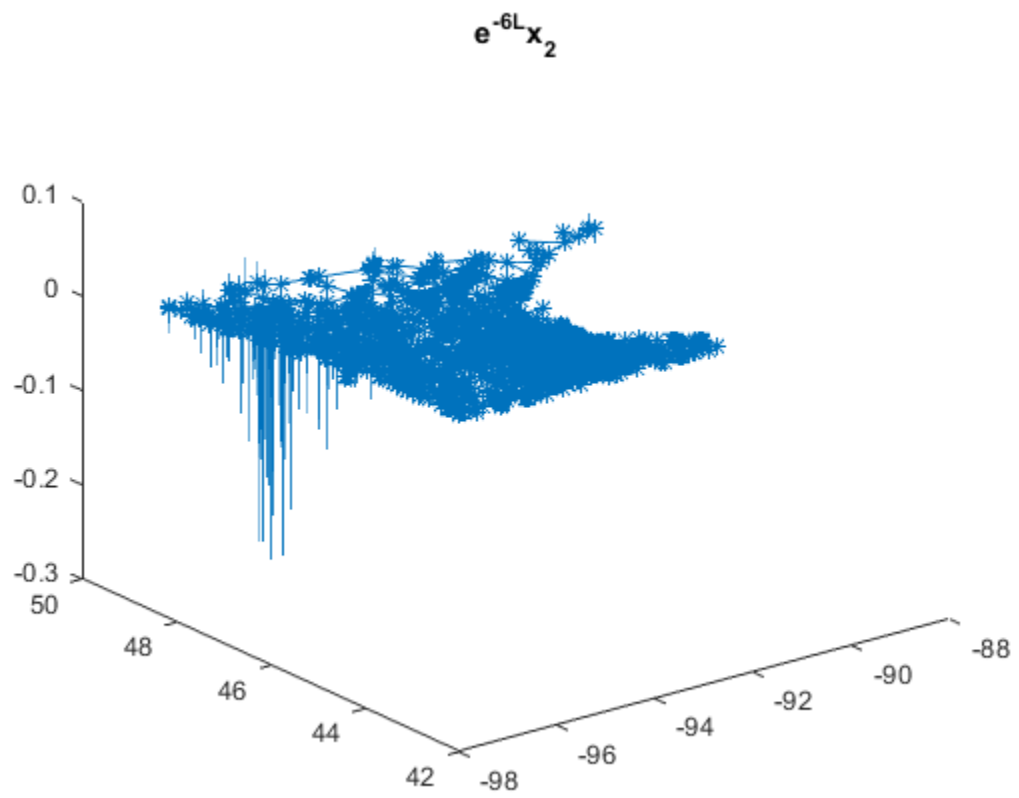
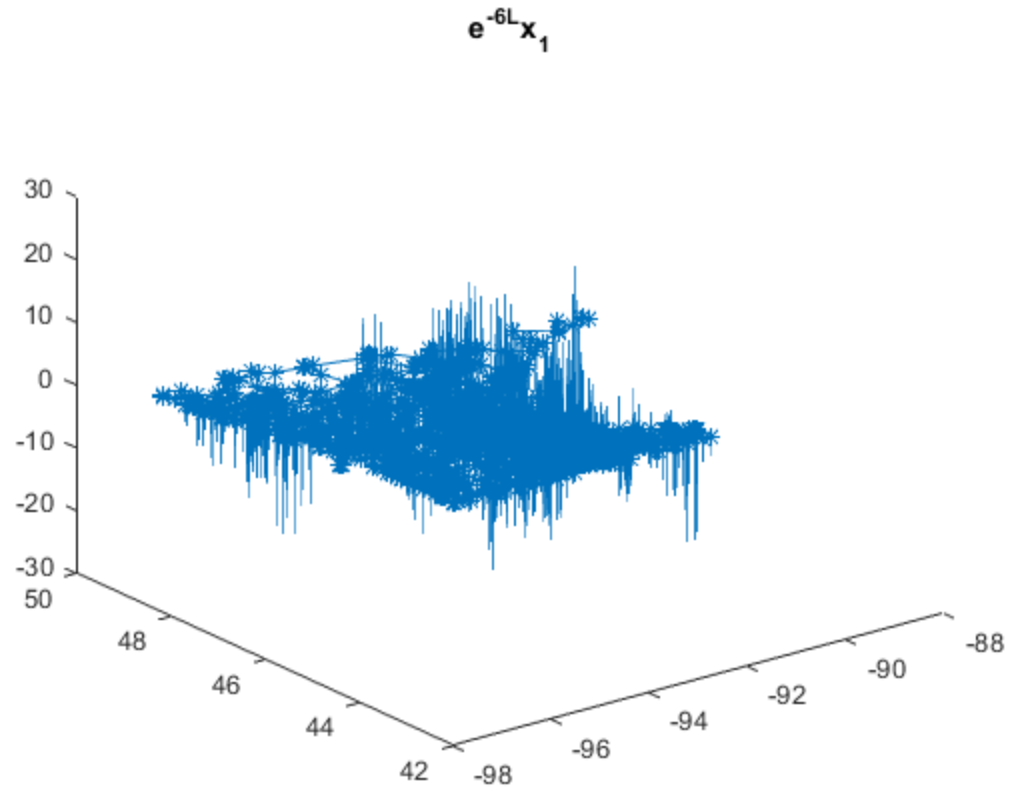


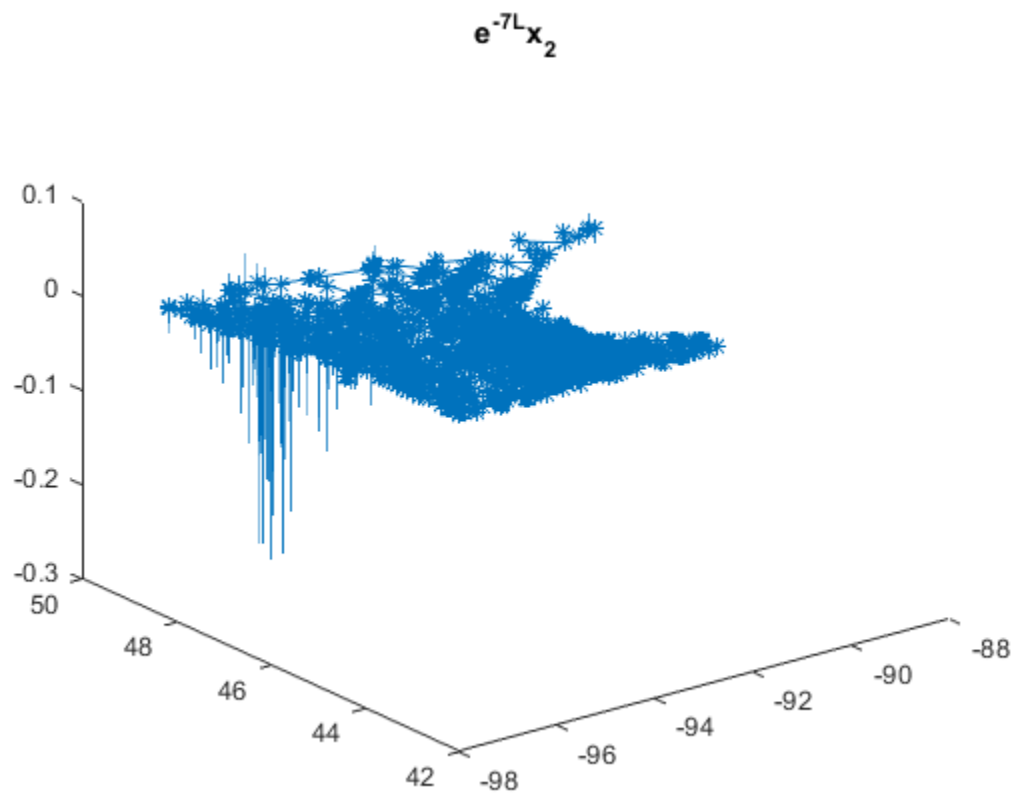
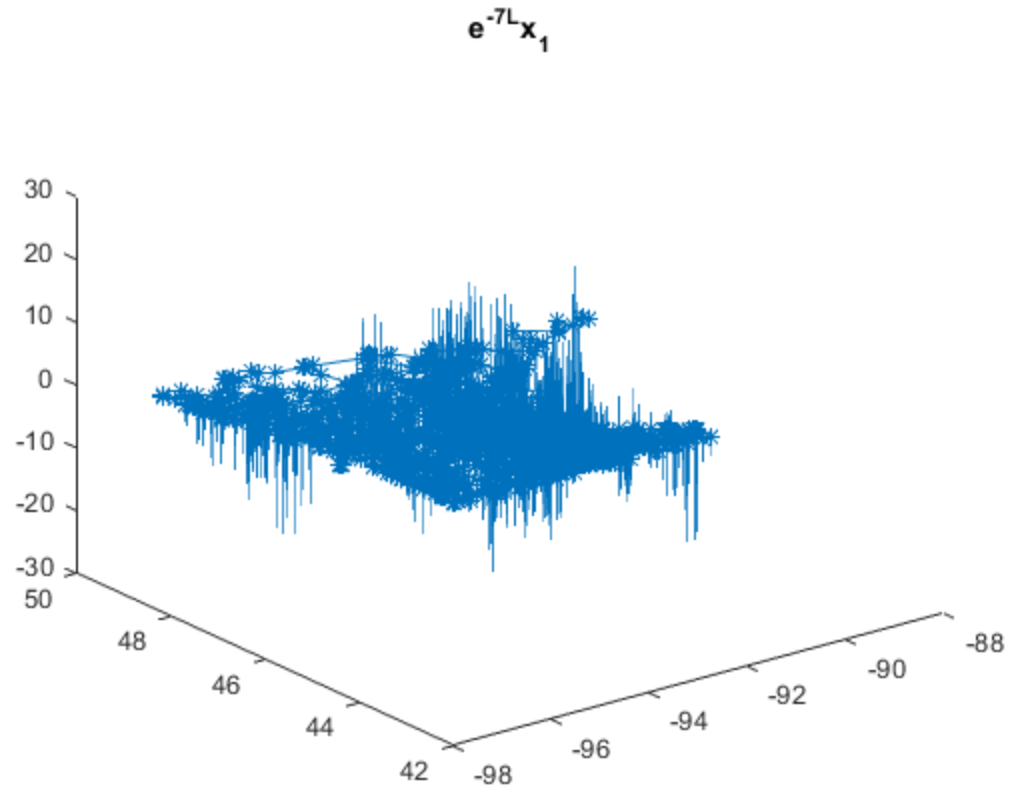


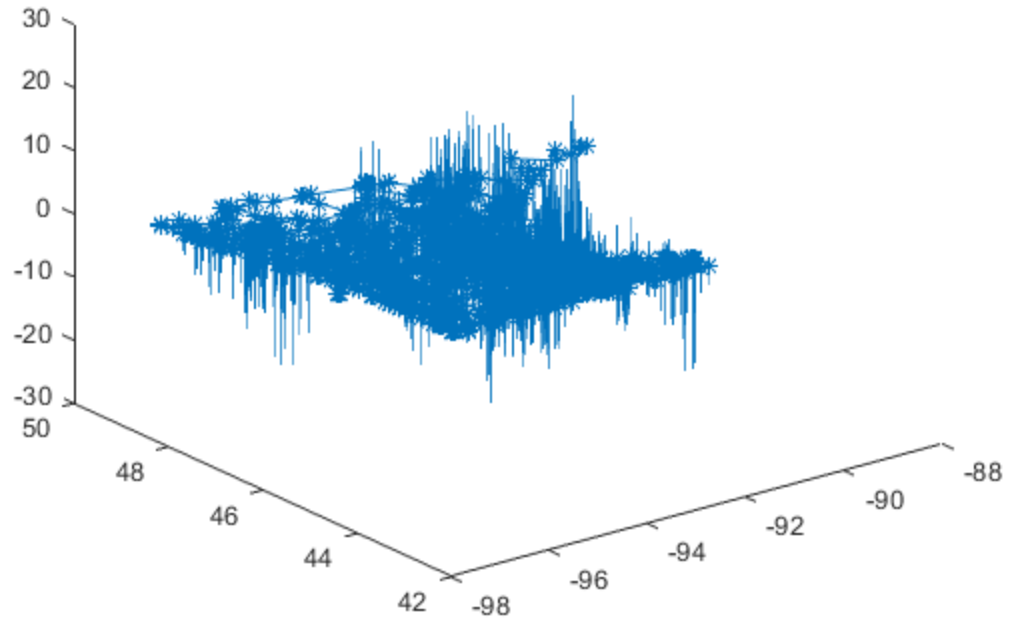






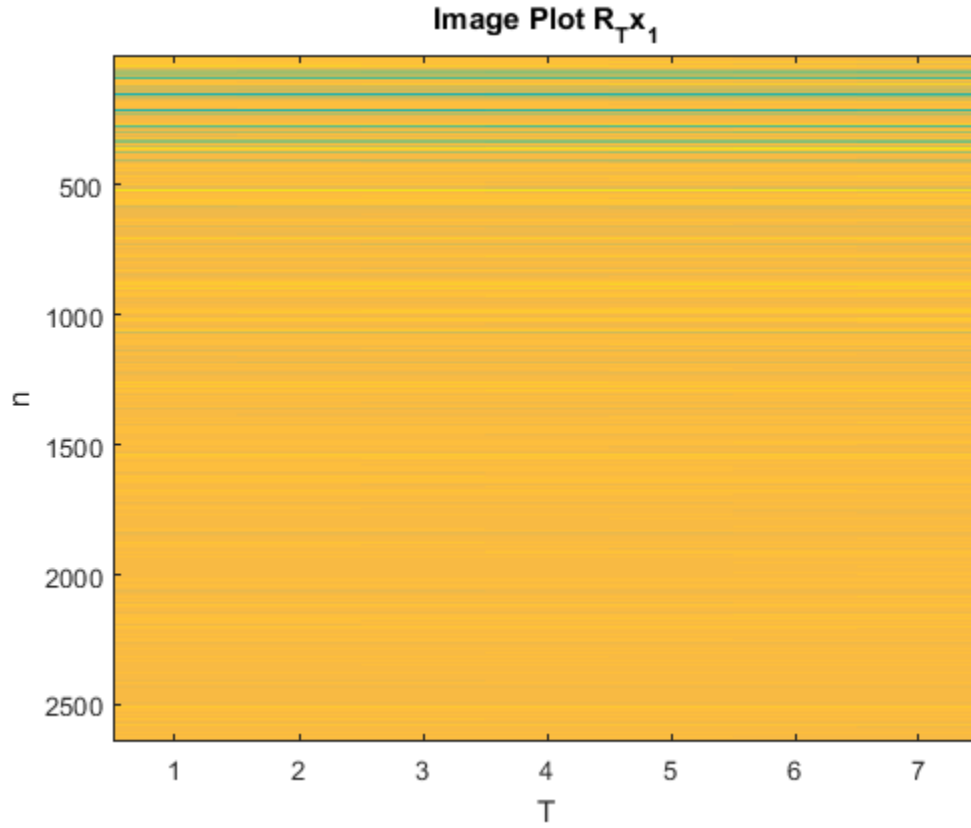
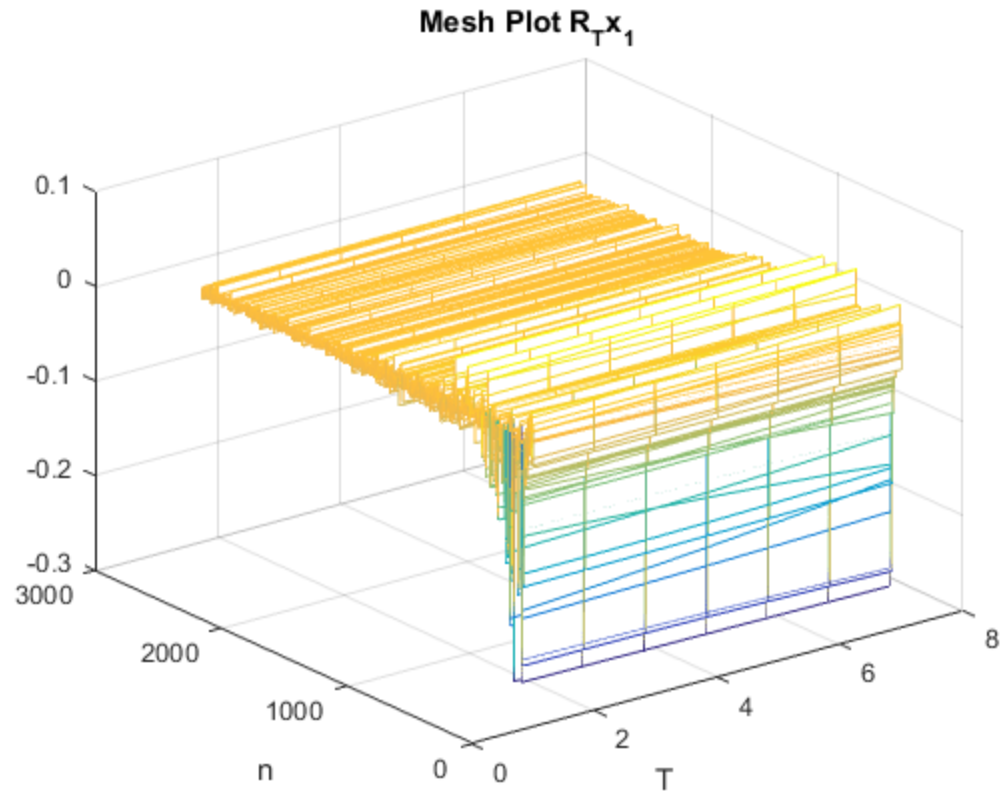


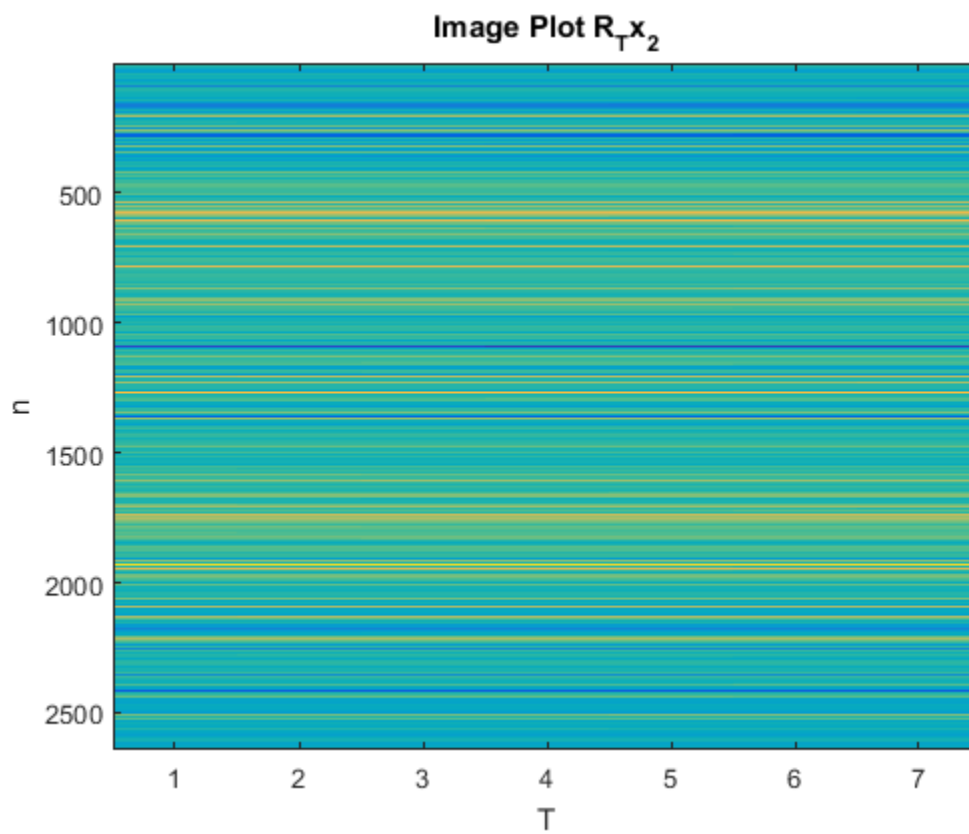
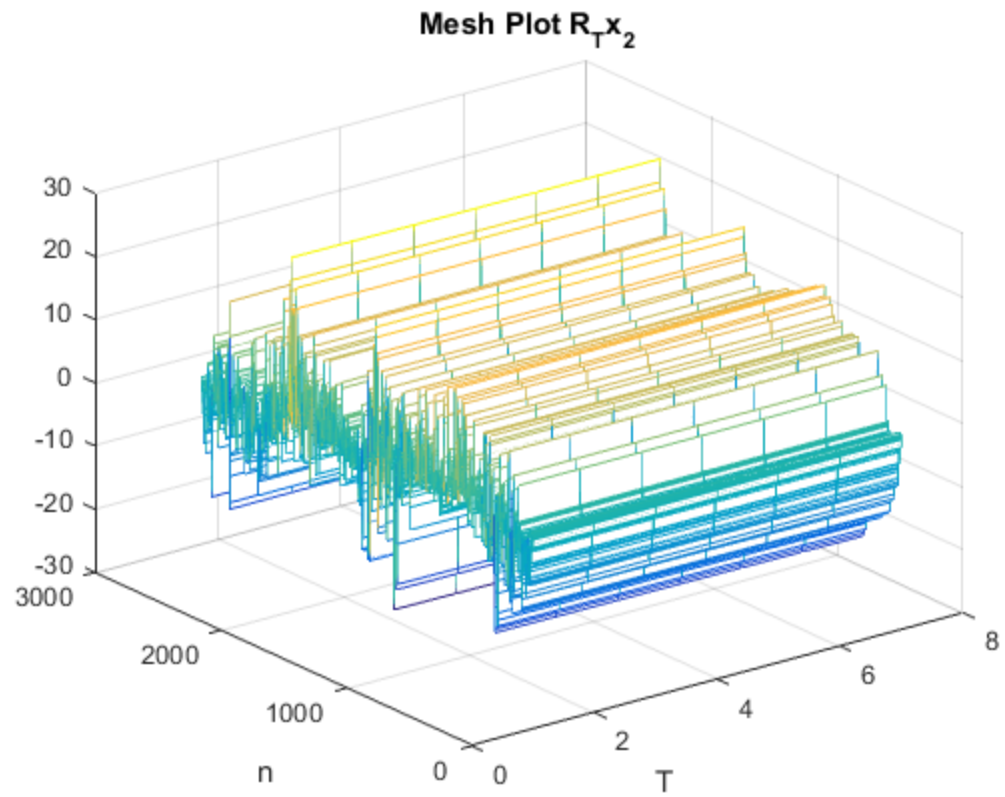




2

```
figure;  
mesh(y1);  
xlabel('T');  
ylabel('n');  
title('Mesh Plot R_Tx_1');  
figure;  
imagesc(y1);  
xlabel('T');  
ylabel('n');  
title('Image Plot R_Tx_1');  
figure;  
mesh(y2);  
xlabel('T');  
ylabel('n');  
title('Mesh Plot R_Tx_2');  
figure;  
imagesc(y2);  
xlabel('T');  
ylabel('n');  
title('Image Plot R_Tx_2');
```





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