

Ukeoppgaver

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1

Matlab kode:

```
%% Oppgave 1
```

```
r = [0 0.25, 0.5, 0.75, 1.0];  
L = 128;
```

```
t1 = tukeywin(L,r(1));  
t2 = tukeywin(L,r(2));  
t3 = tukeywin(L,r(3));  
t4 = tukeywin(L,r(4));  
t5 = tukeywin(L,r(5));
```

```
wvtool(t1)  
wvtool(t2)  
wvtool(t3)  
wvtool(t4)  
wvtool(t5)
```

```
%% Oppgave 2
```

```
F_l=40;  
F_h=60;  
K=10;
```

```
t=linspace(-100,100,500);  
k=1:K;  
F_k=F_l+(k-1)*(F_h-F_l)/(K-1);  
x_c=0;  
for i=F_k  
    x_c=x_c+cos(2*pi*i*t);
```

```
end  
%plot(t,fft(x_c))
```

```
w_c=tukeywin(L,r(1));  
xhat_c=0;  
for i=F_k  
    xhat_c=xhat_c+w_c*cos(2*pi*i*t);  
end
```

```

plot(t,fft(xhat_c))

%% Oppgave 3

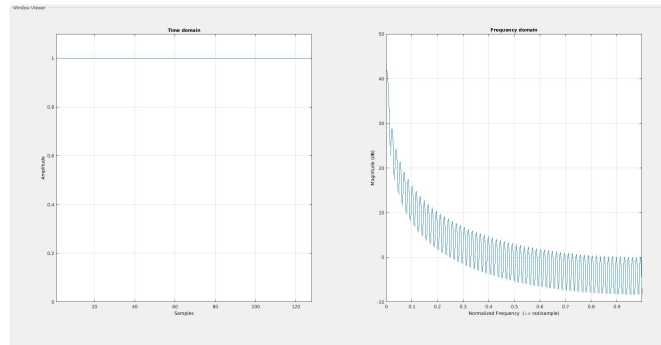
non_d=linspace(1,2,10000);
F_s=20;

A=1;
T=1;
for n=1:10
    h_c(n)=A*(exp(-A*non_d(n*1000)))^n;
end
h_C=A*(exp(-A*non_d)).^non_d;

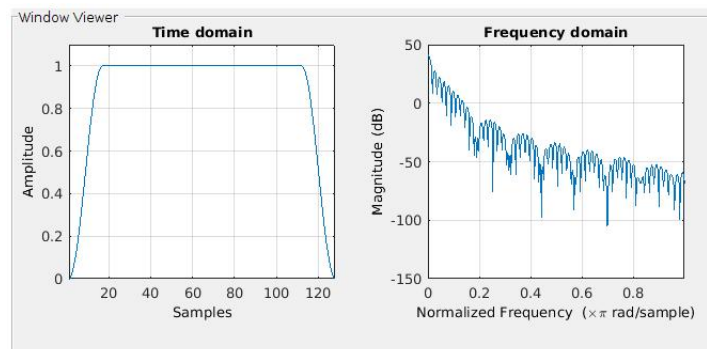
figure(1)
stem(h_c)
ax1 = gca; % current axes
ax1.XColor = 'r';
ax1.YColor = 'r';
ax1_pos = get(ax1,'Position');
ax2 = axes('Position',ax1_pos,...
    'XAxisLocation','top',...
    'YAxisLocation','right',...
    'Color','none');
ax1_pos = ax1.Position; % position of first axes
plot(h_C,'Parent',ax2,'Color','k')

```

1.1 assignment 1



Figur 1: plot1



Figur 2: plot2

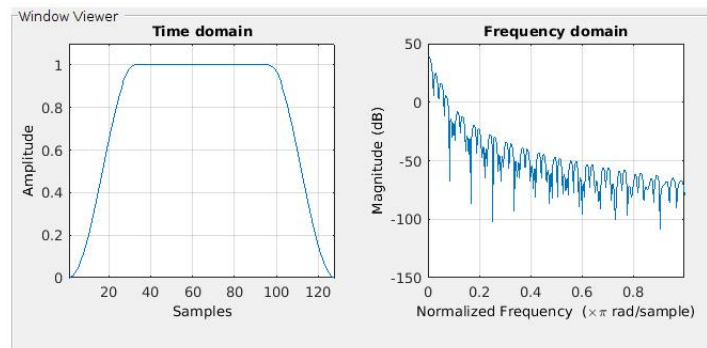
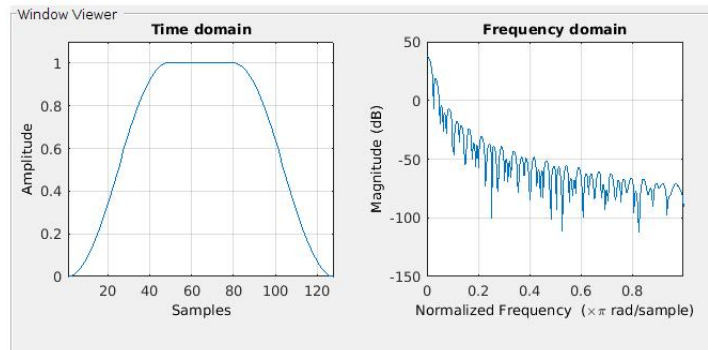
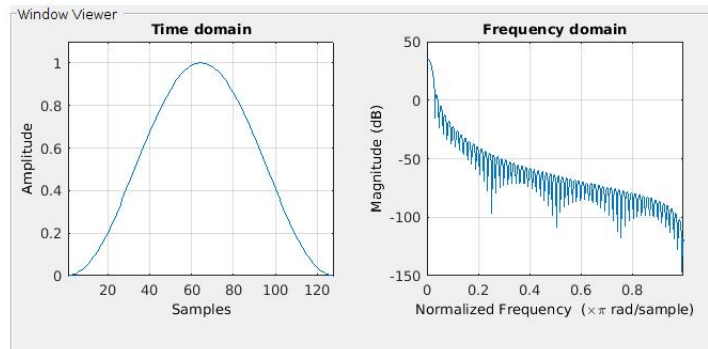


Figure 3: plot3

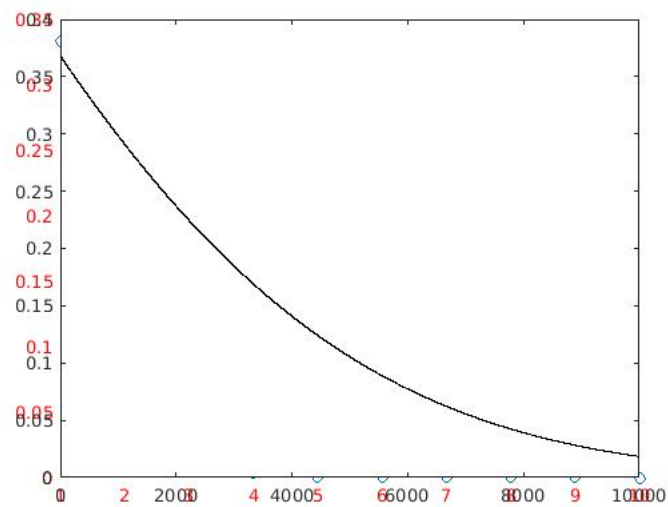


Figur 4: plot3



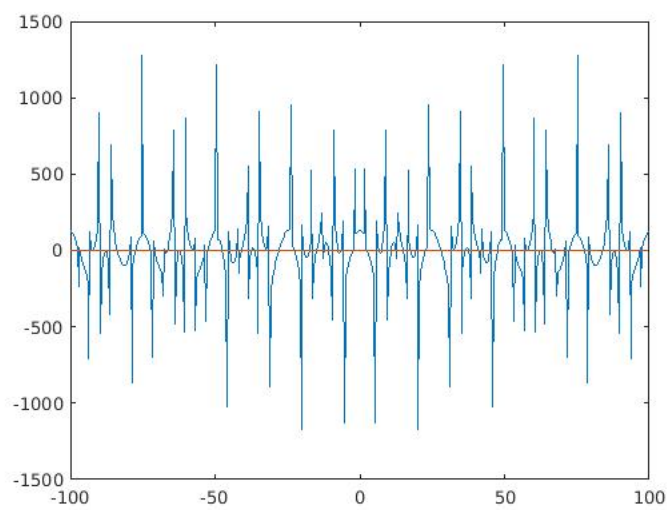
Figur 5: plot3

1..2 assignment 2



Figur 6: plot3

1..3 assignment 3



Figur 7: plot3