

```

clear all;
close all;
f2 = 5.34;
f3 = 4*f2;
N = 256;
Te = 2/N;
Fe = 1/Te;
t = (0:N-1)*Te;
x3 = 2*cos(2*pi*f2*t+pi/3) + 0.0001*cos(2*pi*f3*t);
df = 1/(N*Te);
freq = 0:df:Fe-df;
fx3 = fft(x3,N)*Te;
DSP3 = conj(fx3).*fx3/(N*Te);

figure(1);
semilogy(freq(1:N/2),DSP3(1:N/2),'o-k');
hold on;

xlabel('Fréquence (Hz)');
ylabel('DSP (V^2/hz)');

x3Hann = x3.*hanning(N)';
fx3Hann = fft(x3Hann,N)*Te;
DSP3Hann = conj(fx3Hann).*fx3Hann/(N*Te);
semilogy(freq(1:N/2),DSP3Hann(1:N/2),'o-r');

x3Black = x3.*blackman(N)';
fx3Black = fft(x3Black,N)*Te;
DSP3Black = conj(fx3Black).*fx3Black/(N*Te)*3.28;
semilogy(freq(1:N/2),DSP3Black(1:N/2),'o-b');

legend('Rect','Hanning','Blackman');
title(sprintf('Influence de la fenetre d\'apodisation'));
hold off;

```

