TFW-HW1

R04943133 林岳徵

(ii)Code:

function y =recSTFT(x,t,f,B)%r04943133 implement by fft based

t\_l = length(t);

f\_l = length(f);

dt = (max(t) - min(t)) / (t\_l - 1);

df = (max(f) - min(f)) / (f\_l - 1);

n0 = min(t)/dt;

n1 = max(t)/dt;

n = n0:1:n1;

m0 = min(f)/df;

m1 = max(f)/df;

m = m0:1:m1;

N = 1/(dt\*df);

Q = round(B/dt);

Q1 = B/dt;

x\_tmp = [ zeros(1,Q),x,zeros(1,Q)];

n\_var = n(1);

q = 0:1:2\*Q;

m\_tmp = round(mod(m,N))+1;

X\_1 = zeros(t\_l,N+1);

X\_2 = zeros(t\_l,f\_l);

y = zeros(t\_l,f\_l);

tmp=1-n0;

k=[1:1:2\*Q+1];

for i = n0:1:n1

j = i + tmp;

x\_1(j,k) = x\_tmp(i + k - (t(1) / dt));

X\_1(j,:) = fft(x\_1(i + tmp,:),N + 1);

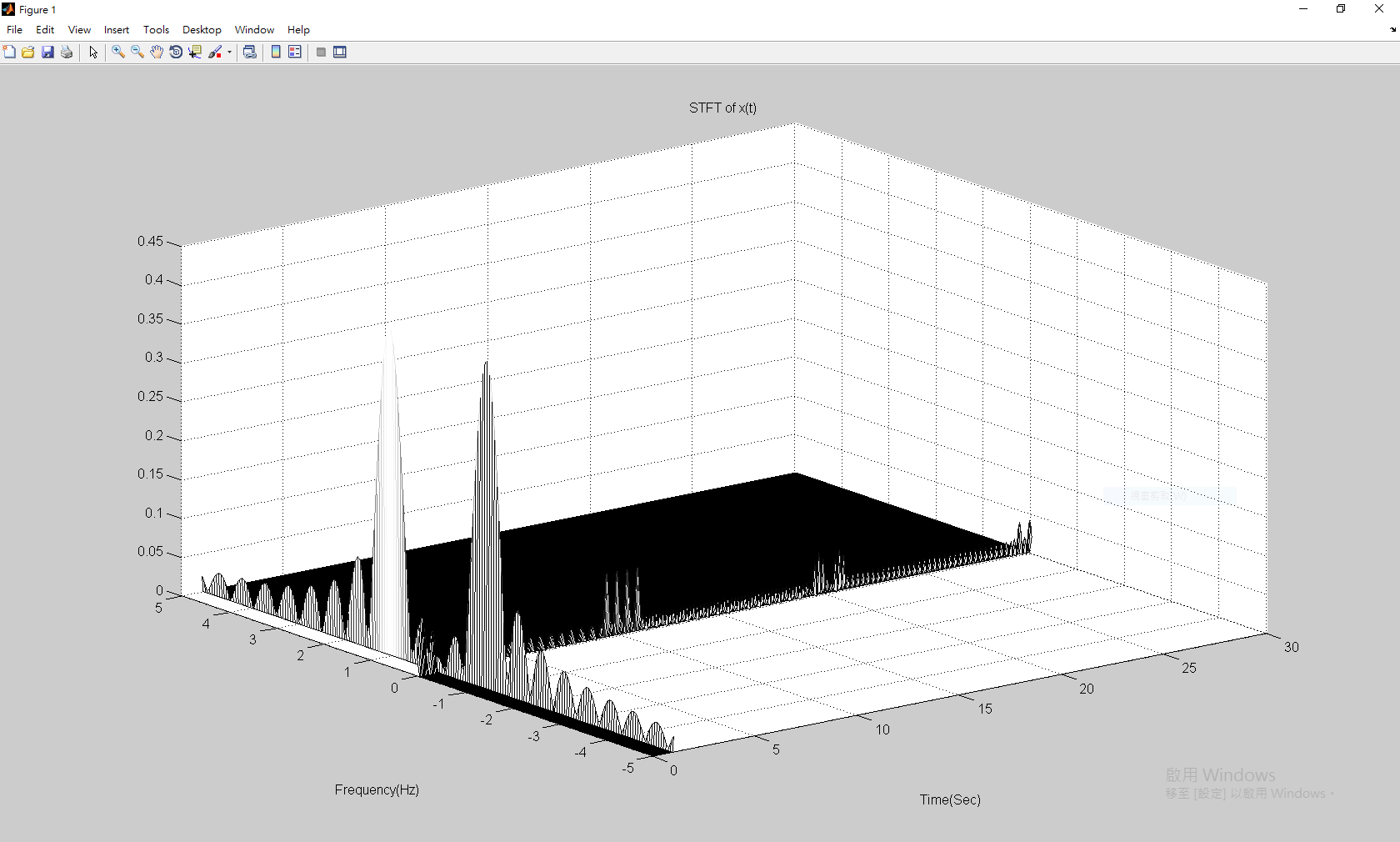
X\_2(j,:) = X\_1(i + tmp,m\_tmp);

end

X\_2 = X\_2';

s = m'\*(Q-n);

y = 0.02\*exp(j\*2\*pi\*s).\*X\_2;

(iii) 

(iv)

Running time:

0.177124 sec.