close all;

clear all;

nBlocks = 10000;

r = 4;

t = 4;

L = 10;

SNRdB = 0.0:2.0:10.0;

SNR = 10.^(SNRdB/10);

No = 1;

MSE\_LS = zeros(1,length(SNRdB));

MSE\_LMMSE = zeros(1,length(SNRdB));

MSE\_LSt = zeros(1,length(SNRdB));

MSE\_LMMSEt = zeros(1,length(SNRdB));

for blk = 1:nBlocks

H = (randn(r,t)+1j\*randn(r,t))/sqrt(2);

noise = sqrt(No/2)\*(randn(r,L)+1j\*randn(r,L));

DFTmat = dftmtx(L);

for k = 1:length(SNRdB)

Xp = sqrt(SNR(k))\*DFTmat(1:t,:);

Yp = H\*Xp + noise;

end

end