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%title : FIR filter response using Hanning.

clear all;

wc = 0.25;

l = 50;

p = hann(l);

subplot(3,1,1);

plot(p);

grid on;

title('Hanning window in time domain');

xlabel('samples');

ylabel('Amplitude');

r = freqz(p);

q = 20\*log10(abs(r));

subplot(3,1,2);

plot(q);

grid on;

title('Hanning window in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

w = fir1(l-1, wc, p);

z = freqz(w);

y = 20\*log10(abs(z));

subplot(3,1,3);

plot(y);

grid on;

title('FIR in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

%title : FIR filter response using Hamming.

clear all;

wc = 0.25;

l = 50;

p = hamming(l);

subplot(3,1,1);

plot(p);

grid on;

title('Hamming window in time domain');

xlabel('samples');

ylabel('Amplitude');

r = freqz(p);

q = 20\*log10(abs(r));

subplot(3,1,2);

plot(q);

grid on;

title('Hamming window in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

w = fir1(l-1, wc, p);

z = freqz(w);

y = 20\*log10(abs(z));

subplot(3,1,3);

plot(y);

grid on;

title('FIR in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

%title : FIR filter response using Blackman.

clear all;

wc = 0.25;

l = 50;

p = blackman(l);

subplot(3,1,1);

plot(p);

grid on;

title('Blackman window in time domain');

xlabel('samples');

ylabel('Amplitude');

r = freqz(p);

q = 20\*log10(abs(r));

subplot(3,1,2);

plot(q);

grid on;

title('Blackman window in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

w = fir1(l-1, wc, p);

z = freqz(w);

y = 20\*log10(abs(z));

subplot(3,1,3);

plot(y);

grid on;

title('FIR in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

%title : FIR filter response using Bartlett.

clear all;

wc = 0.25;

l = 50;

p = bartlett(l);

subplot(3,1,1);

plot(p);

grid on;

title('Bartlett window in time domain');

xlabel('samples');

ylabel('Amplitude');

r = freqz(p);

q = 20\*log10(abs(r));

subplot(3,1,2);

plot(q);

grid on;

title('Bartlett window in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

w = fir1(l-1, wc, p);

z = freqz(w);

y = 20\*log10(abs(z));

subplot(3,1,3);

plot(y);

grid on;

title('FIR in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

%title : FIR filter response using Rectwin.

clear all;

wc = 0.25;

l = 50;

p = rectwin(l);

subplot(3,1,1);

plot(p);

grid on;

title('Rectwin window in time domain');

xlabel('samples');

ylabel('Amplitude');

r = freqz(p);

q = 20\*log10(abs(r));

subplot(3,1,2);

plot(q);

grid on;

title('Rectwin in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

w = fir1(l-1, wc, p);

z = freqz(w);

y = 20\*log10(abs(z));

subplot(3,1,3);

plot(y);

grid on;

title('FIR in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

%title : FIR filter response using Kaiser.

clear all;

wc = 0.25;

l = 50;

b = 0.5;

p = kaiser(l, b);

subplot(3,1,1);

plot(p);

grid on;

title('Kaiser window in time domain');

xlabel('samples');

ylabel('Amplitude');

r = freqz(p);

q = 20\*log10(abs(r));

subplot(3,1,2);

plot(q);

grid on;

title('Kaiser window in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');

w = fir1(l-1, wc, p);

z = freqz(w);

y = 20\*log10(abs(z));

subplot(3,1,3);

plot(y);

grid on;

title('FIR in frequency domain');

xlabel('normalized frequency');

ylabel('Magnitude in db');