% Wein Bridge Oscillator

f0 = 6220; %Hz

j = sqrt(-1);

C = 1e-9; %F

R = 1/(2\*pi\*C\*f0); % Ohms

R3 = 20000; R4 = 10000;

K = 1 + (R3/R4);

f\_start = 100; f\_stop = 100000;

step = (f\_stop - f\_start)/4096; freq = f\_start:step:f\_stop;

Ts = K.\*(j.\*2.\*pi.\*freq.\*R.\*C)./((j.\*2.\*pi.\*freq.\*R.\*C).^2 + K.\*(j.\*2.\*pi.\*freq.\*R.\*C) + 1);

Ms = 20\*log10(abs(Ts));

Ps = (180/pi)\*angle(Ts);

semilogx(freq,Ms),grid

figure

semilogx(freq,Ps),grid

