% First Order High Pass Filter with gain 20dB

% Born June 22 -> f\_crit = 6.22 Hz @ -3dB

f\_crit = 6220; j = sqrt(-1); K = 10;

C = 0.0000001; Rb = 3000; Ra = 27000;

R = 1/(2\*pi\*f\_crit\*C);

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

step = (f\_stop - f\_start)/1024;

freq = f\_start:step:f\_stop;

Tf = K.\*((j.\*freq./f\_crit)./(1.+j.\*freq./f\_crit));

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

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

semilogx(freq,Ms),grid

figure

semilogx(freq,Ps),grid

