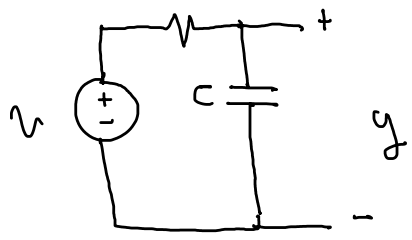
Ramírez Cotonreto Luis Fernando
2CM18

"Tarea 2.7: Filtro pasa bajas y pasa altas de 1er orden"

Frec. de corte $f_c = \frac{1}{2\pi RC}$



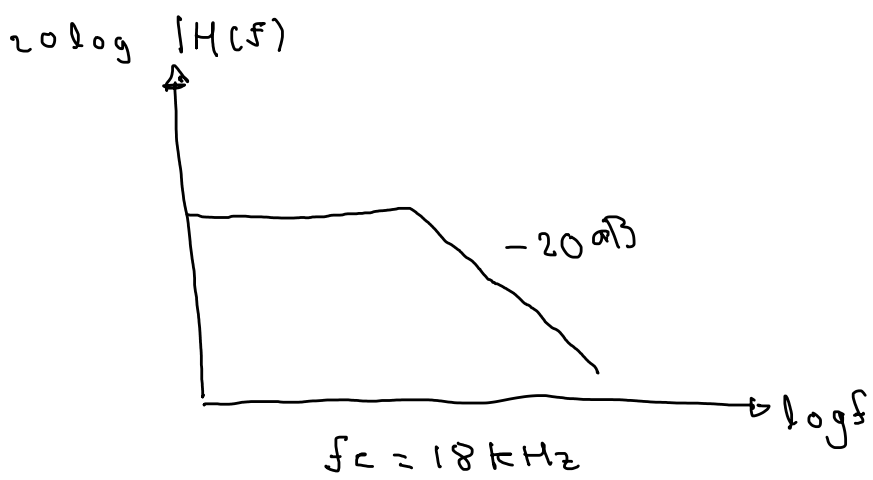
1- $f_c = 18\,KHz$

Escogemos $[R = 100\Omega]$

$$18\times10^{3} = \frac{1}{2\pi \times 100 \times C}$$

$$C = 88.419 \times 10^{-9}\ F$$

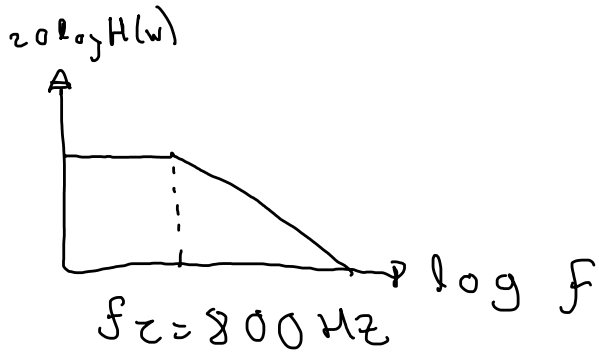
$$\boxed{C = 88.419\ nF}$$



2. $f_c = 800\ Hz$

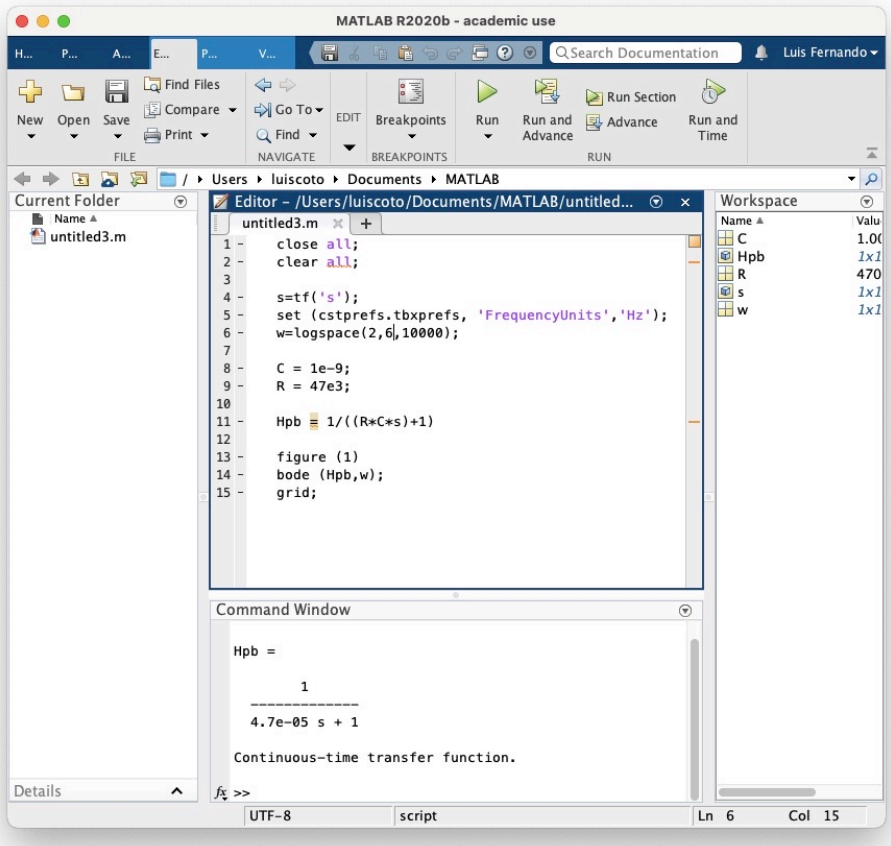
Escoge-os $R = 10$

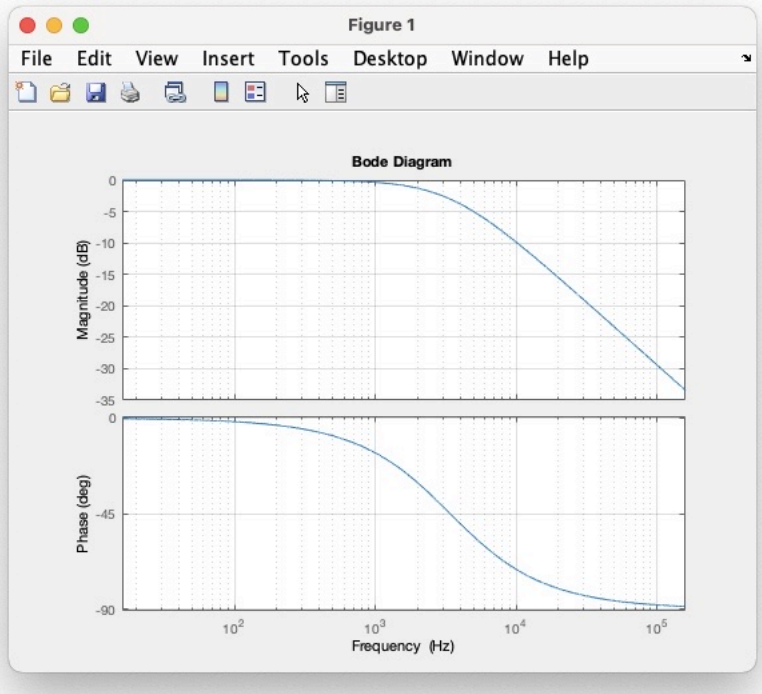
$$C = \frac{1}{2\pi \times 10 \times 800} = 19.894\ nF$$



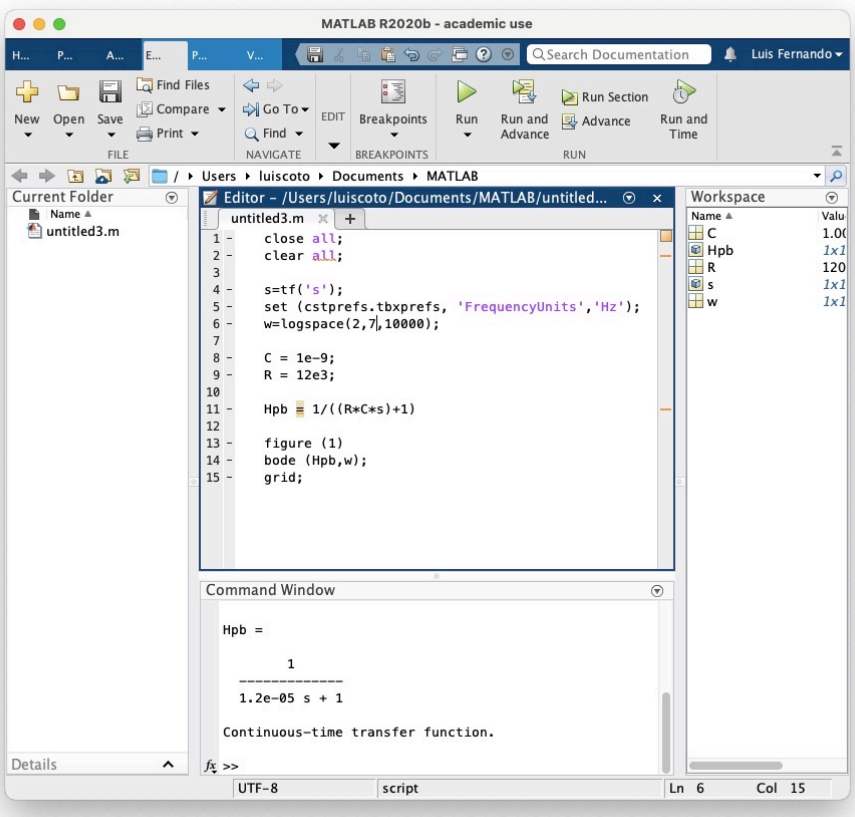
Simulaciones en Matlab

FPB1





FPA1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RUN
/ Users luiscoto Documents MATLAB
Current Folder
Name
untitled3.m
Editor - /Users/luiscoto/Documents/MATLAB/untitled...
untitled3.m
1 - close all;
2 - clear all;
3
4 - s=tf('s');
5 - set (cstprefs.tbxprefs, 'FrequencyUnits','Hz');
6 - w=logspace(2,7,10000);
7
8 - C = 1e-9;
9 - R = 12e3;
10
11 - Hpb = 1/((R*C*s)+1)
12
13 - figure (1)
14 - bode (Hpb,w);
15 - grid;
Workspace
Name
Valu
C 1.0(
Hpb 1x1
R 120
s 1x1
w 1x1
Command Window
Hpb =
1
1.2e-05 s + 1
Continuous-time transfer function.
>>
Details
UTF-8
script
Ln 6
Col 15

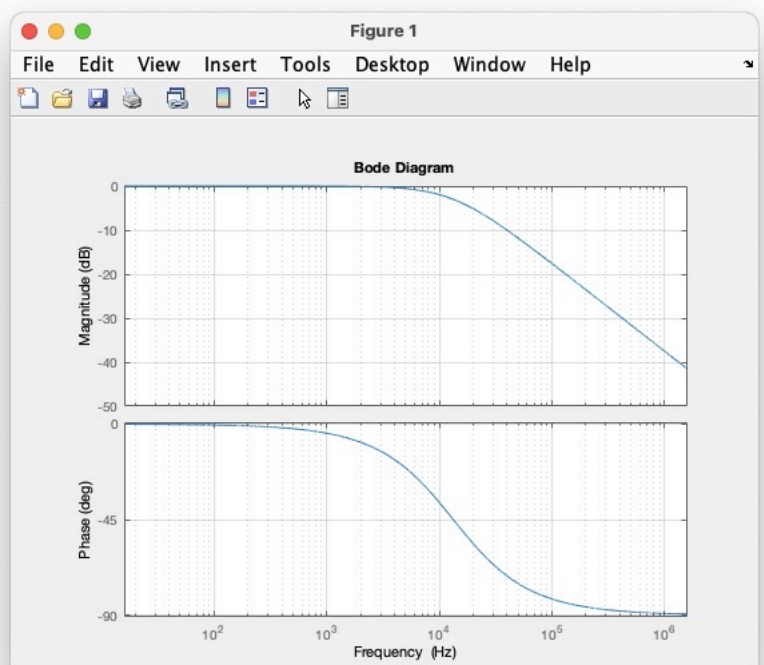
Figure 1
File Edit View Insert Tools Desktop Window Help
Bode Diagram
Magnitude (dB)
0
-10
-20
-30
-40
-50
Phase (deg)
0
-45
-90
10^2
10^3
10^4
10^5
10^6
Frequency (Hz)