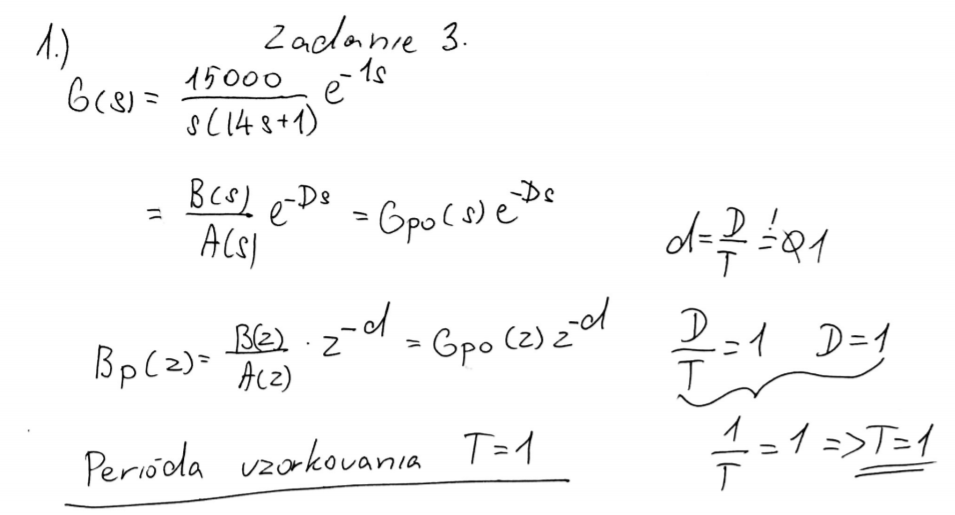
# MCR Zadanie 3

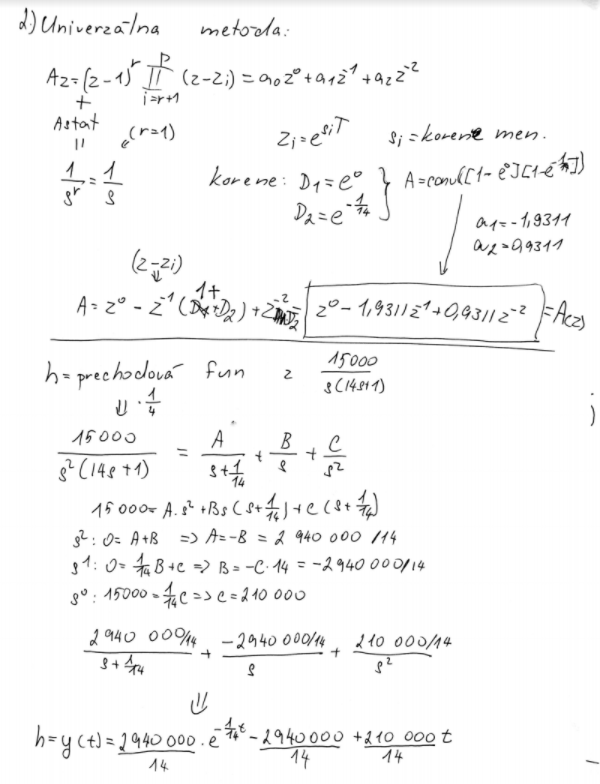
Jan Sedivy

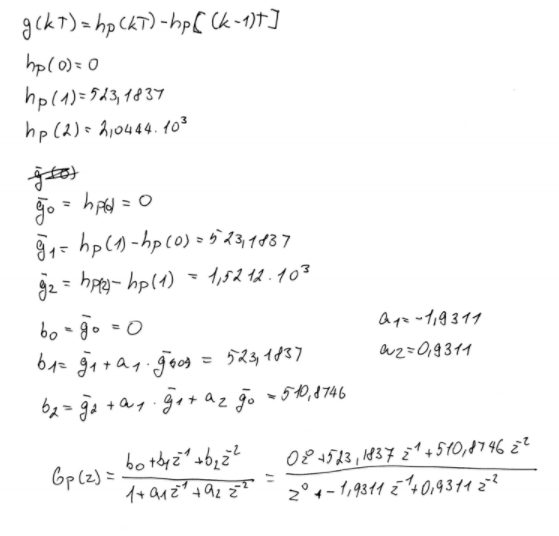
# ÚLOHA I.



# ÚLOHA II.

1. Univerzálnou metódou





Kod matlab:

%univerzalna metoda

num1=[5];

den1=conv([2 1],[3 1]);

num=[15000];

den=[14 1 0];

T=1;

si = roots(den);

zi=exp(si\*T);

A=conv([1 -zi(1)],[1 -zi(2)]);

a1 = A(2)

a2 = A(3)

k=0;

hp0=(2940000/14)\*exp((-1/14)\*k\*T)-(2940000/14)+(210000/14)\*k\*T

k=1;

hp1=(2940000/14)\*exp((-1/14)\*k\*T)-(2940000/14)+(210000/14)\*k\*T

k=2;

hp2=(2940000/14)\*exp((-1/14)\*k\*T)-(2940000/14)+(210000/14)\*k\*T

gsp0=hp0

gsp1=hp1-hp0

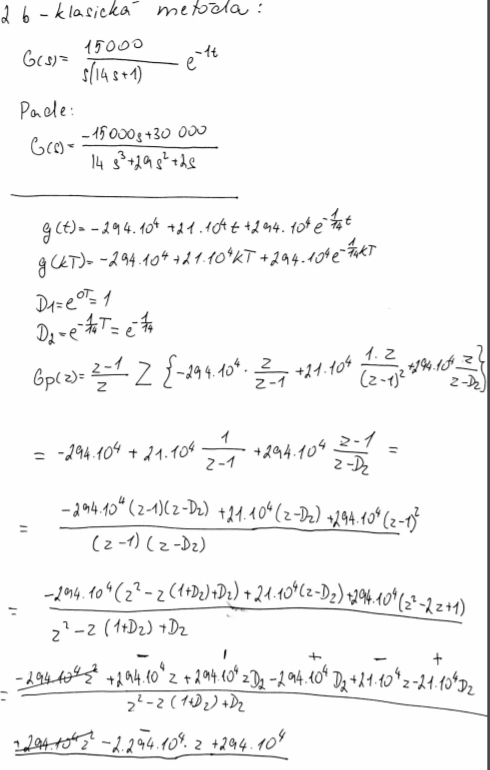
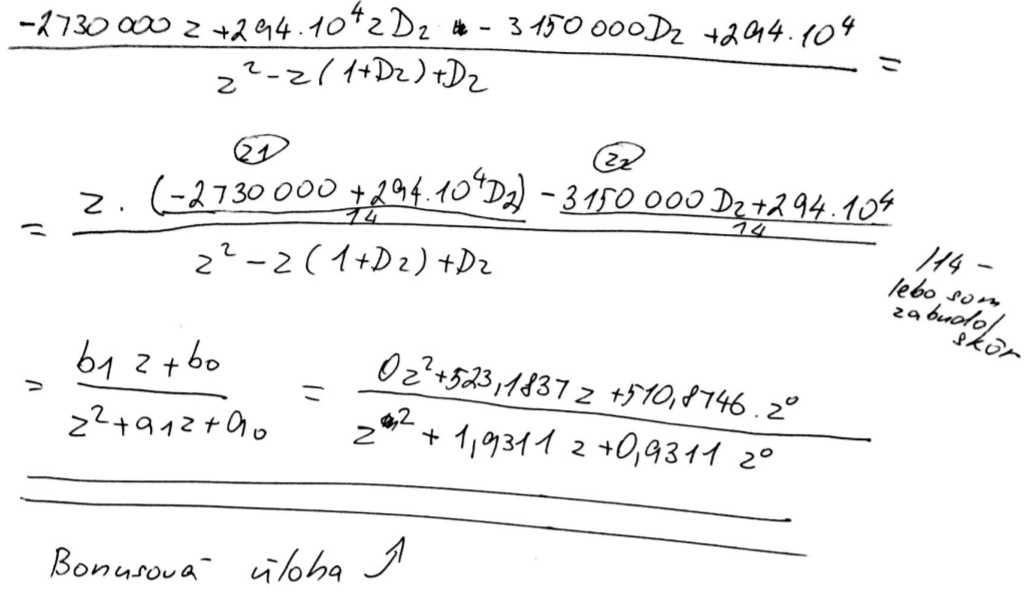
gsp2=hp2-hp1

b0=gsp0

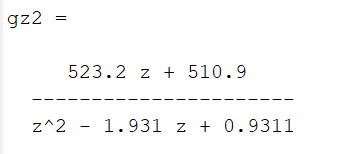
b1=gsp1+a1\*gsp0

b2=gsp2+a1\*gsp1+a2\*gsp0

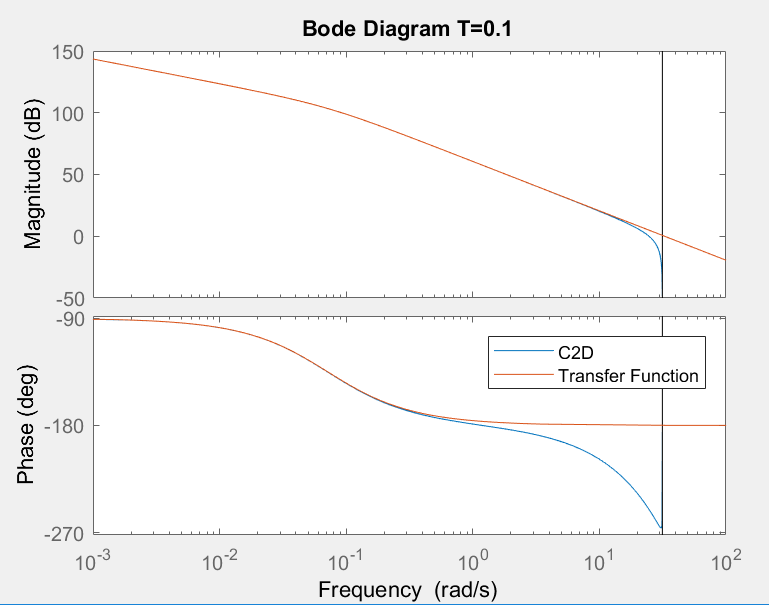
[Bz,Az]=c2dm(num,den,T,'zoh')

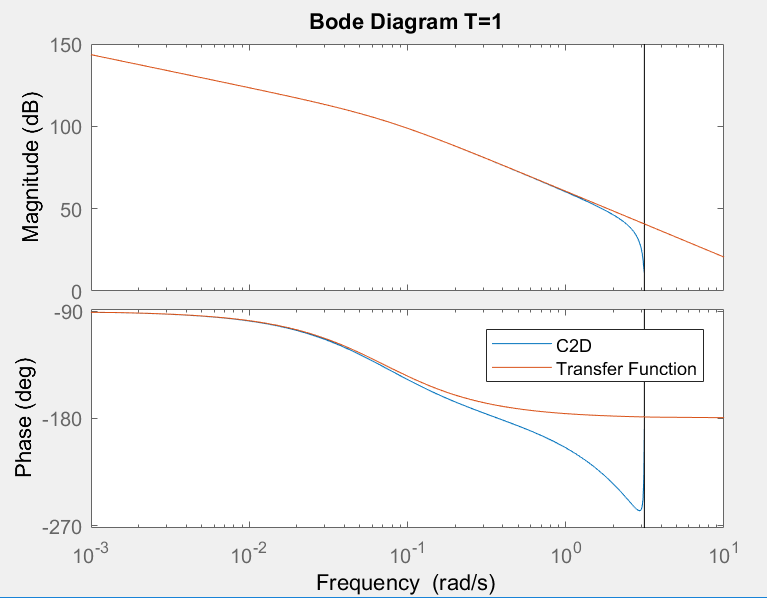
1. Klasickou metódou 

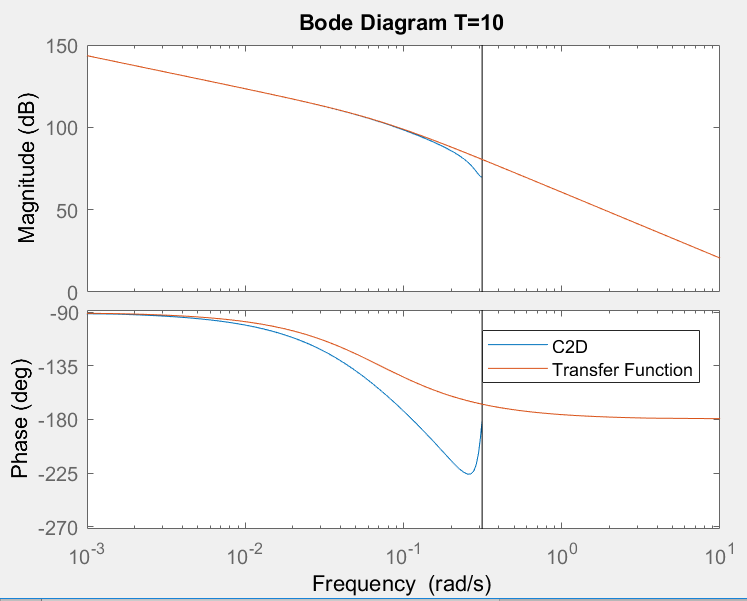
Overenie výpočtu:



Použitie viacerých možností vzorkovania:

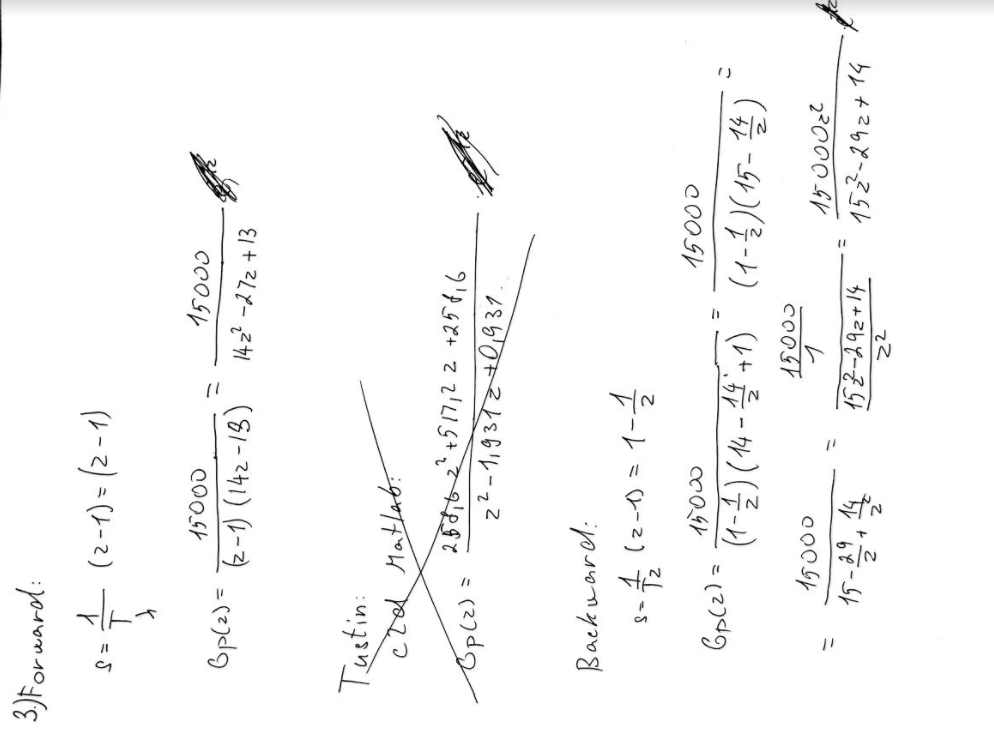


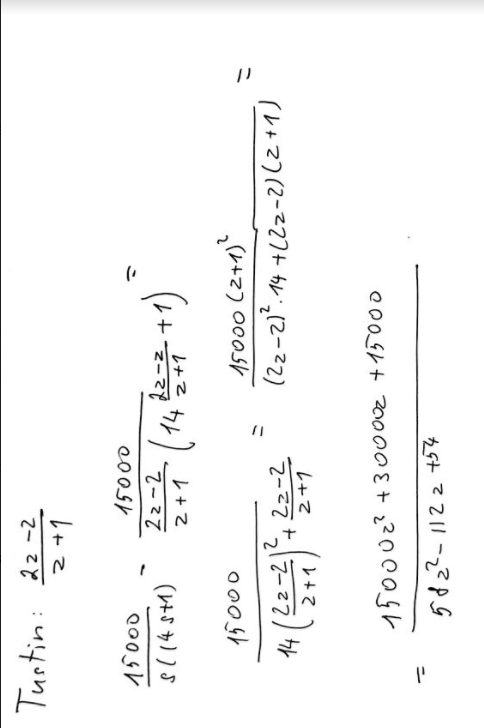




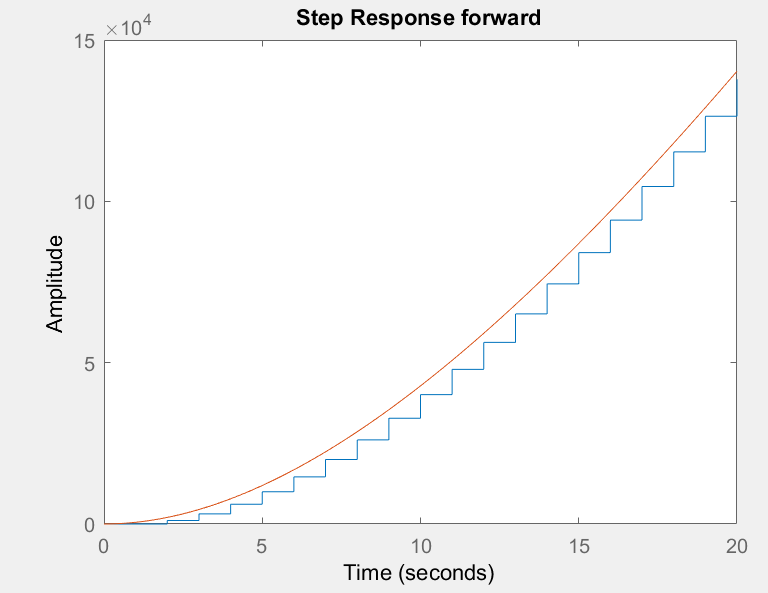
Na grafoch môžeme vidieť, že čím je väčšia perióda vzorkovania tým menšia je šírka pásma.

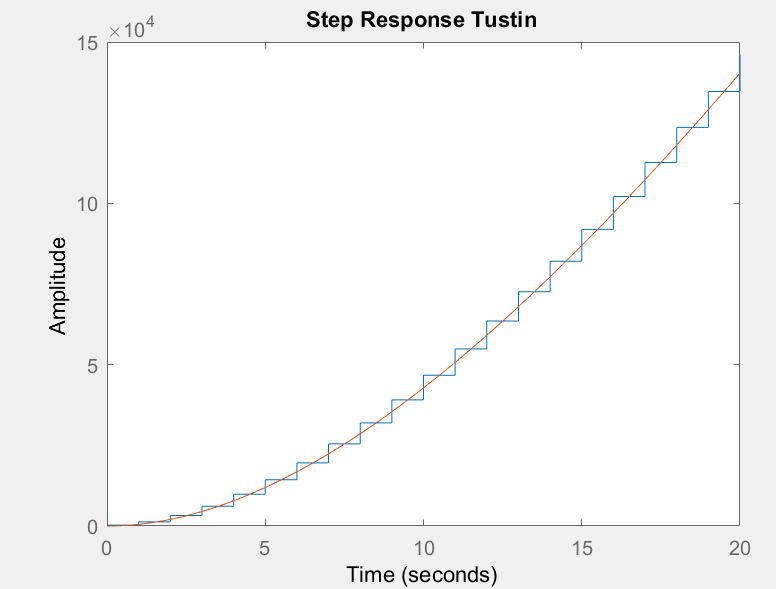
# ÚLOHA III.

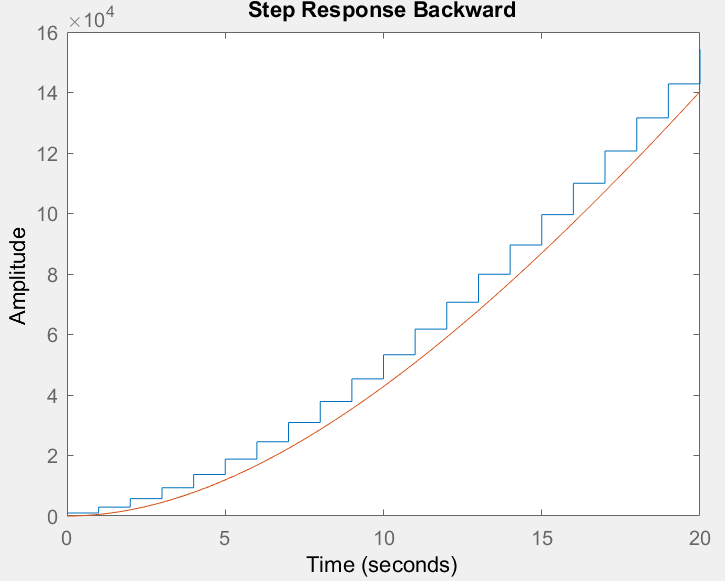




Porovnanie v časovej oblasti:







Porovnanie vo frekvenčnej oblasti:

