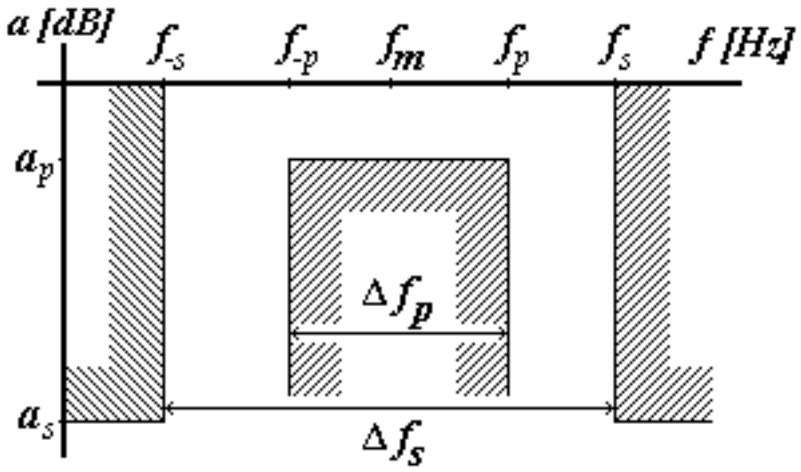
Zadání

Typ filtru:

Pásmová propust

Tolerancní schéma:

f_{-s} = 10.551MHz f_m = 10.7MHz
f_{-p} = 10.663MHz Δf_p = 75kHz
f_p = 10.738MHz Δf_s = 300kHz
f_s = 10.851MHz
a_p = 1dB
a_s = 40dB



Typ aproximace:

Chebyshev

Rád filtru:

3

Výsledky aproximacní úlohy

Prenosová funkce

$$H(p)= \frac{.5141337e17p^3}{(p^2 + 116042.0p + .4489383e16)(p^2 + 116830.4p + .4550592e16)}$$

$$\frac{1}{(p^2 + 232872.4p + .4519884e16)}$$

Tabulka s koeficienty prenosové funkce

Čitatel	Jmenovatel
b_0 = 0	a_0 = 9.233829E+46
b_1 = 0	a_1 = 9.514864E+36
b_2 = 0	a_2 = 6.12893E+31
b_3 = 5.141337E+16	a_3 = 4.210276E+21
	a_4 = 1.355993E+16
	a_5 = 465744.8
	a_6 = 1

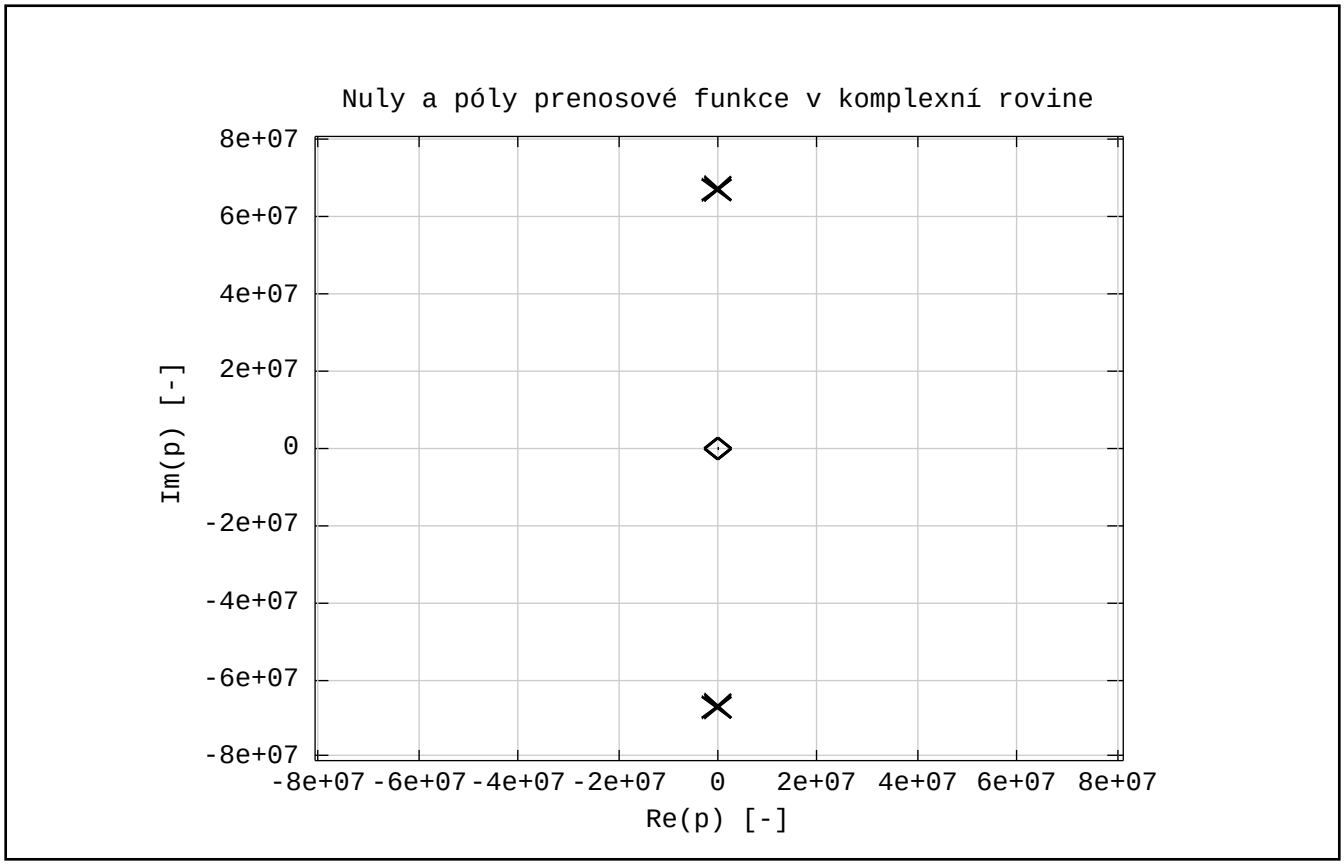
Nuly a póly prenosové funkce

Nuly	Póly
0.000000000+0.000000000j	-116436.205658025-67229981.958445405j
0.000000000+0.000000000j	-116436.205658025+67229981.958445405j
0.000000000+0.000000000j	-58415.199706305-67458050.939263490j
	-58415.199706305+67458050.939263490j
	-58021.005951721-67002834.788152288j
	-58021.005951721+67002834.788152288j

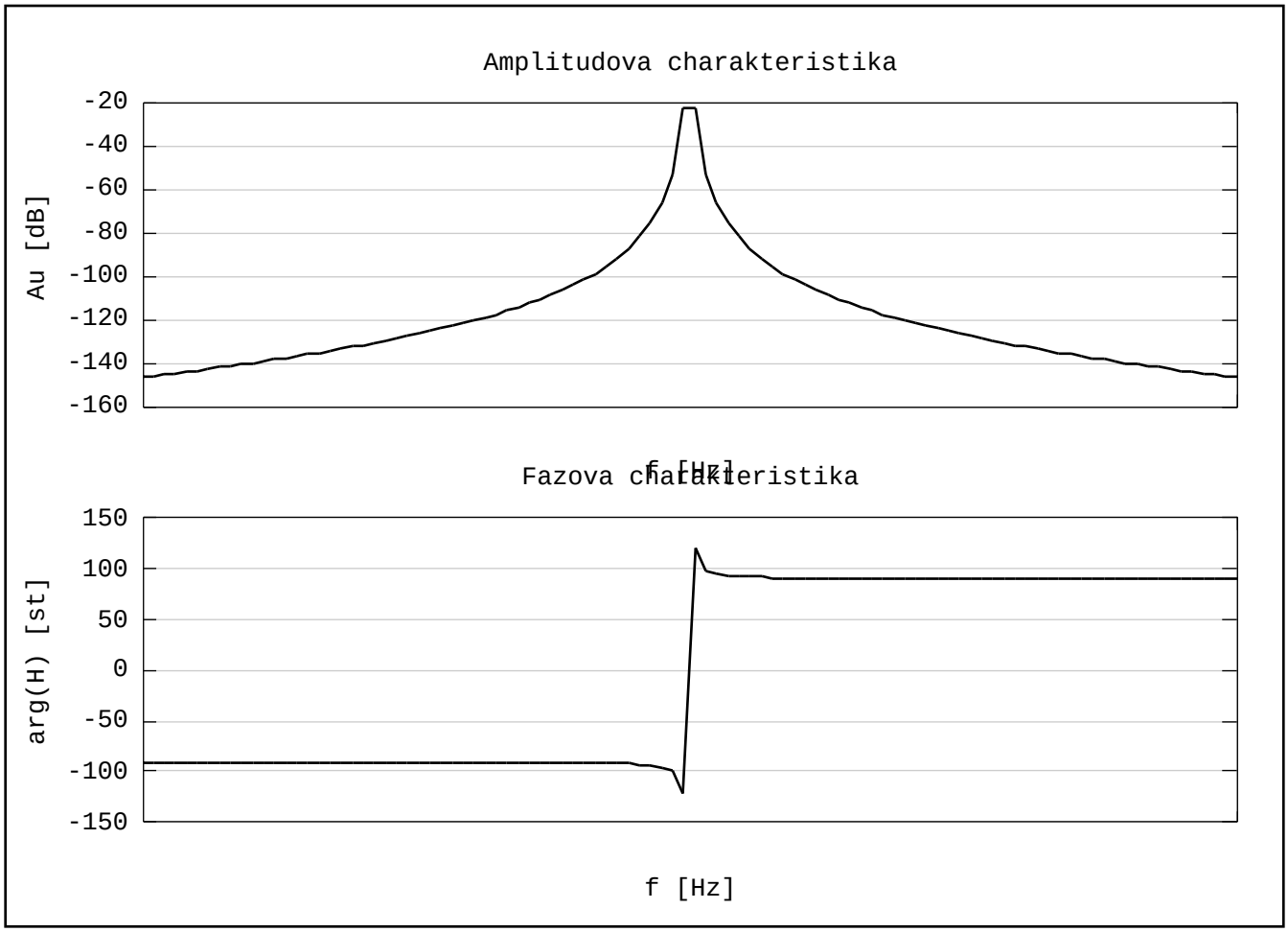
Q pólů prenosové funkce

Blok	k	Q	ω_0	ω_n
1	2.534714046484	577.40174278866	67002859.90975	
2	2.534714046484	577.40174278866	67458076.231537	
3	2.534714046484	288.69921690972	67230082.786822	

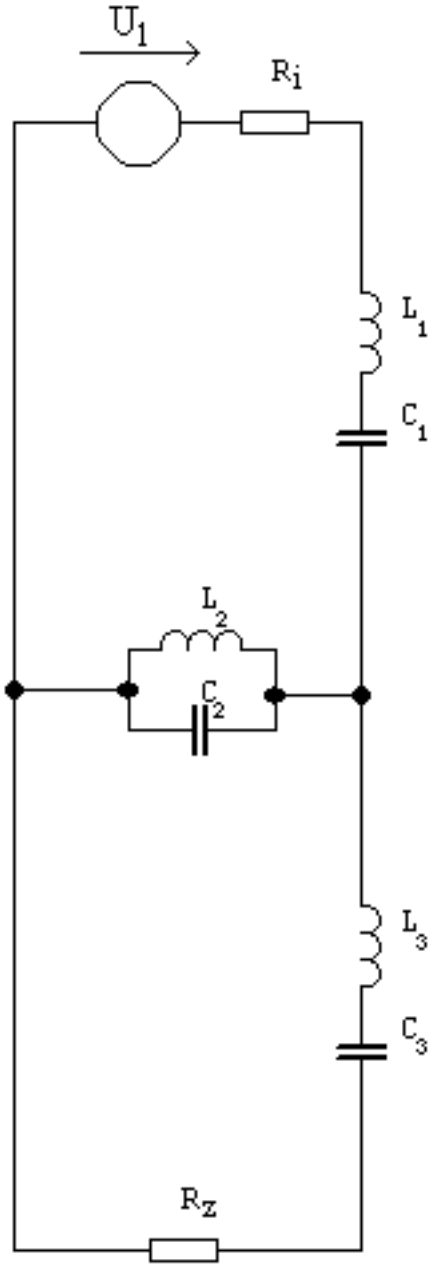
Nuly a póly prenosové funkce v komplexní rovine



Frekvencní charakteristiky prenosové funkce



LC prícková struktura



$R_i = 1\,\Omega$

$L_1 = 4.294uH$ $C_1 = 51.522pF$
$R_1 = 0\,\Omega$
$Q_1 = \infty$

$L_2 = 104.878pH$ $C_2 = 2.11uF$
$R_2 = 0\,\Omega$
$Q_2 = \infty$

$L_3 = 4.294uH$ $C_3 = 51.522pF$
$R_3 = 0\,\Omega$
$Q_3 = \infty$

$R_z = 1\,\Omega$