

621.396(45)

. . . ,

In the article the method of synthesis of impulsive descriptions of filters is considered with similar frequency descriptions by the pair of operations interpolation/of decimaciya and a program interface specification is executed in the software environment of Matlab for the synthesis of such filters.

Keywords: digital filter, impulsive descriptions with the displaced counting out, filter-prototype, interpolation/of decimaciya.

... [1] ... [2] ... [3] - [4] - ... « » ... (...) ...

1.

2.

$$y(t) \dots (\dots) \dots y(t), \dots$$

$$h(n) = y(n - t_1) \quad (1)$$

$$n = 1, 2, 3, \dots (\dots - 1), \dots, t_1$$

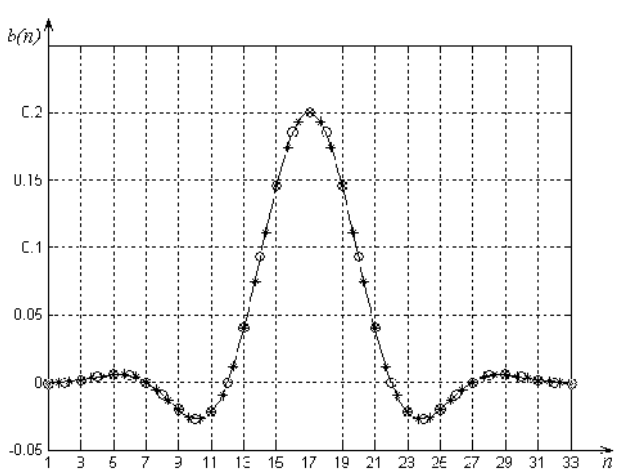
$y(t)$
 (\dots) ,
 t_1 ,
 $y(t)$
 (\dots) ,
 $y(t)$

$$\Delta t_2 = k \Delta t_1 \tag{2}$$

$k -$
 k
 $: 1, 2, 3, \dots$
 k
 k

$$k = \frac{M}{L} \tag{3}$$

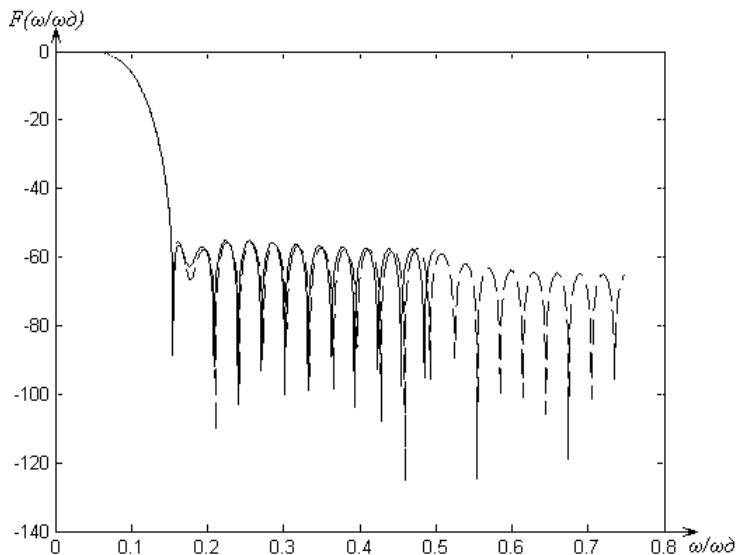
$L -$, $M -$
 [5], $\text{sinc}(x)$



.1. (\dots) , $k = t_2 / t_1 = 1,5$

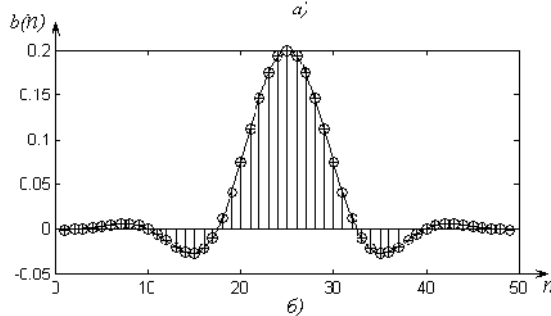
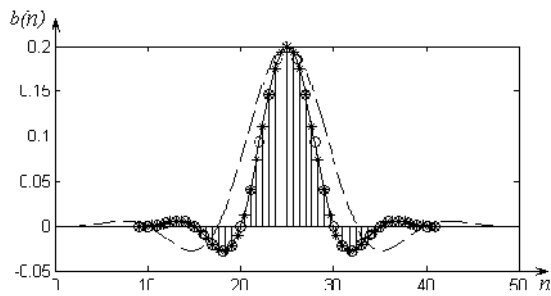
$$(f_s = 1/t)$$

$y(t)$, f_s , $y(t)$, $k = 1,5$ (.3 3).

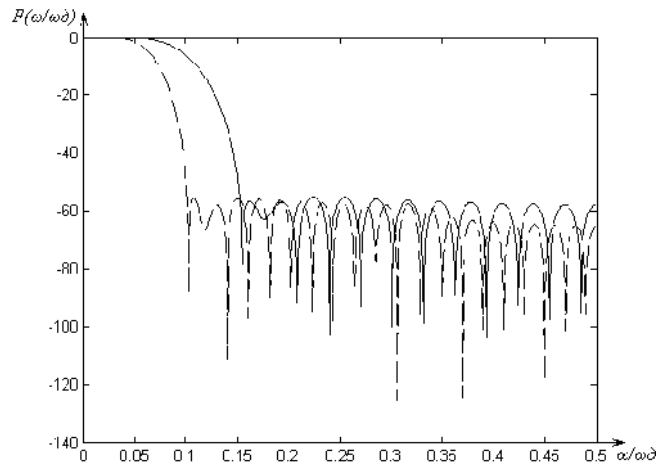


.2. $k = 1,5$ ()

.3 , ()



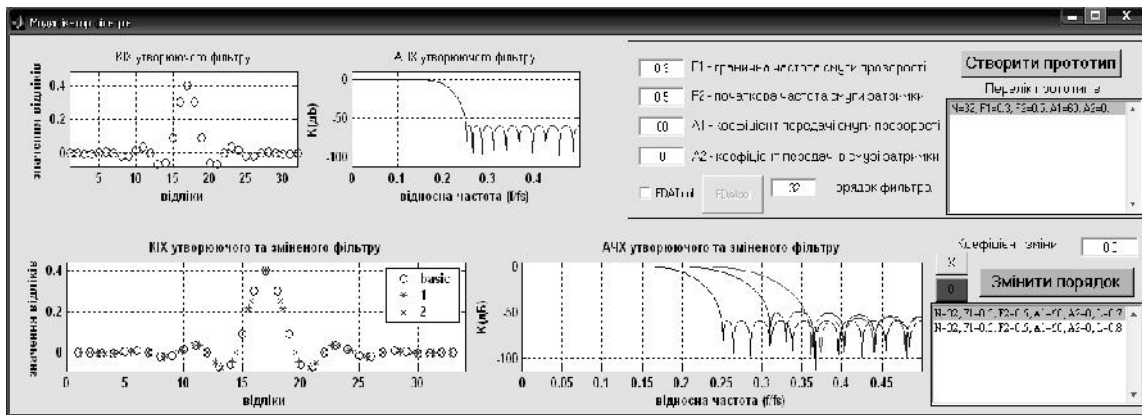
.3.) $y(t)$ (); f_s (); $k = 1,5$ ()
 $y(t)$ (); $1,5$ ()
 $y(t)$ (); $k = 1,5$ ()
 $y(t)$ () $k = 1,5$ ()



4. ()

4,

Matlab (5)



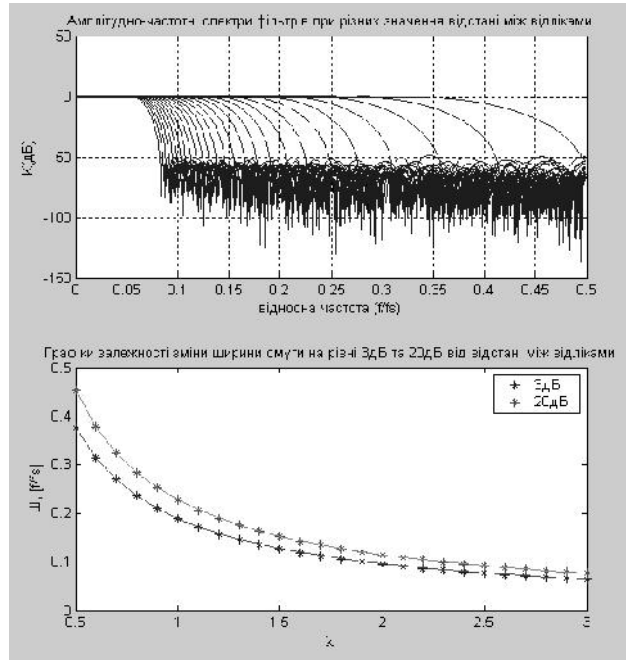
5. Matlab

remez () [6]

FDATool.

6 (), 32, 0,15, 0,25 ()

0, - 60 . k 0,5 3 0,1.
 , 6,
 k 3 20 . k
 , k
 3 20 ,



.6. 3 20 k ()

[7]:

$$s(xt) \leftrightarrow \frac{1}{X} \check{S}(\check{S}/X) \tag{4}$$

X - ; s(t) - ;

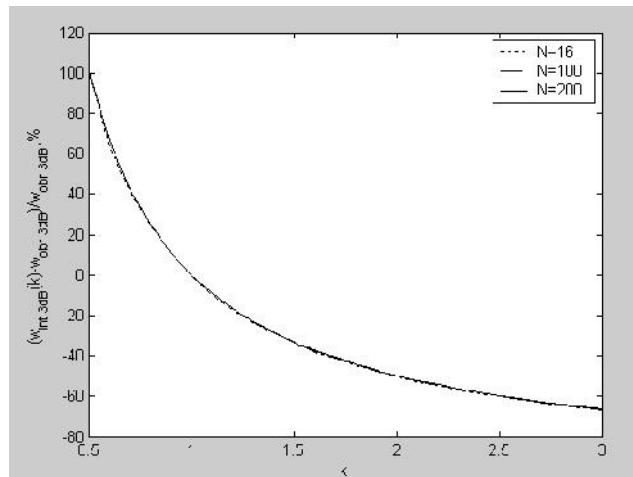
$\check{S}(\check{S})$ - (. 6).

- (. 7), :

$$\bar{\check{S}}(k) = \frac{\check{S}_{int3}(k) - \check{S}_{init3}}{\check{S}_{init3}} \cdot 100\% \tag{5}$$

$\check{S}_{int3}(k)$ - 3
 k, \check{S}_{init3} -

3 k 0,5 3 0,1,
 - : 16, 100 200.



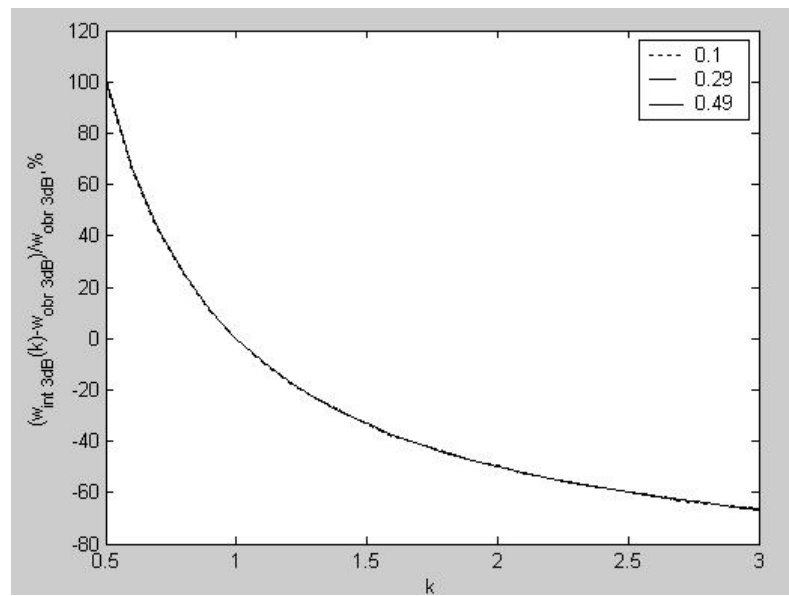
.7.

3
16, 100 200

k

3 ()

k



.8.

k

100

3

()

8,

1. « », 1976. – 220 .
2. / . . // . – 2010. – 2 (22), . 1 – . 319-323.
3. / . . // . – 2010. – 4. – . 29-32.
4. / . . // . – 2011. – . 115, 2. – . 88-92.
5. : 2 . / . . – . : « », 2007. – 1104 .
6. , . . Matlab 7 / . . , . . – . : - , 2005. – 1104 .
7. : (. . c.) / . . , . . . – . : , 2003. – 455 .

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