

....., .....

« »

) , ( , , .

, [1, 2] ,

[4, 5] [6] [7], [3], [8], [9], [10-12],

[13], [14] [15]

« » « » .

.....

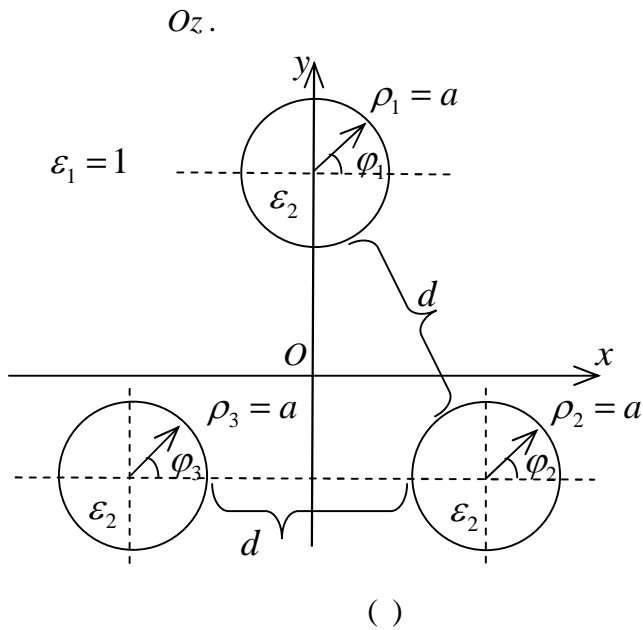
( ) ,

a, d ( .1 ( ) ( )).  $\varepsilon_1$ ,  $\varepsilon_2$ ,

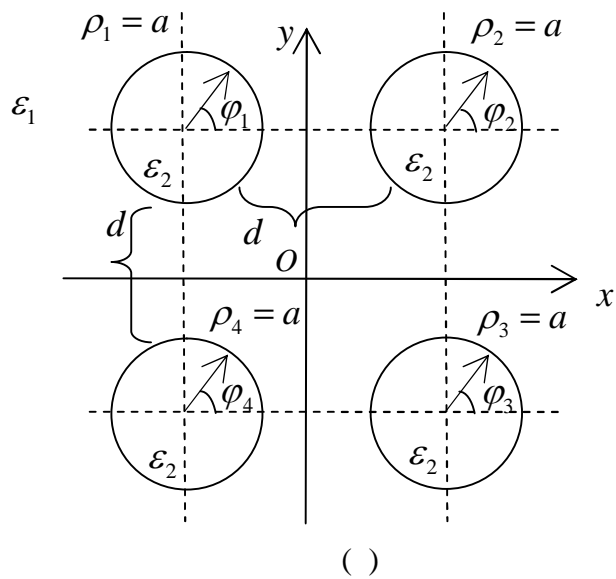
[16].

[17],

$(\rho_i, \varphi_i)$ ,  $i=1,2,3$   $i=1,2,3,4$ ,  $(\rho, \varphi)$  ,  $(x, y)$ ,



( . 1).



. 1.

$$H(\rho, \varphi) = \sum_{s=-\infty}^{\infty} (-i)^s J_s(n_1 k \rho) e^{is(\varphi - \alpha)} \quad (1)$$

$\alpha -$   
 $Ox.$

, ...

$$H = \sum_{i=1}^N \sum_{s=0}^{\infty} B_s^i H_s^{(2)}(n_1 k \rho_i) e^{is\varphi_i}, \quad (\rho_i > a), \quad (2)$$

$$H = \sum_{s=0}^{\infty} A_s^{(i)} J_s(n_2 k \rho_s) e^{is\varphi_i}, \quad (\rho_i < a), \quad (3)$$

$N -$

$(N=3 \quad N=4), k = \omega/c -$

$c -$

[18], « »

(3×3) (4×4)

[15].

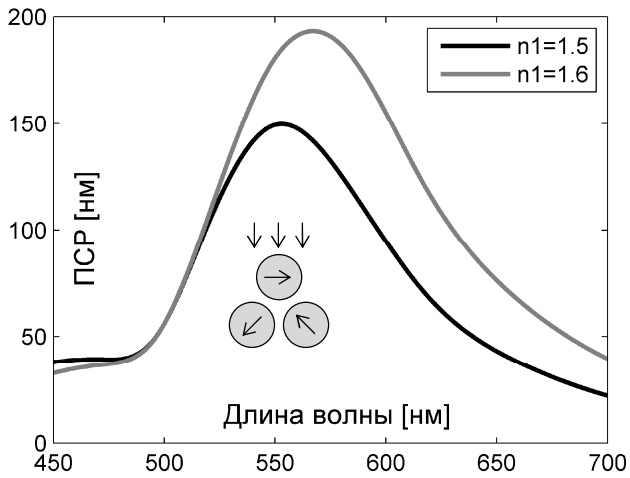
1.

( )

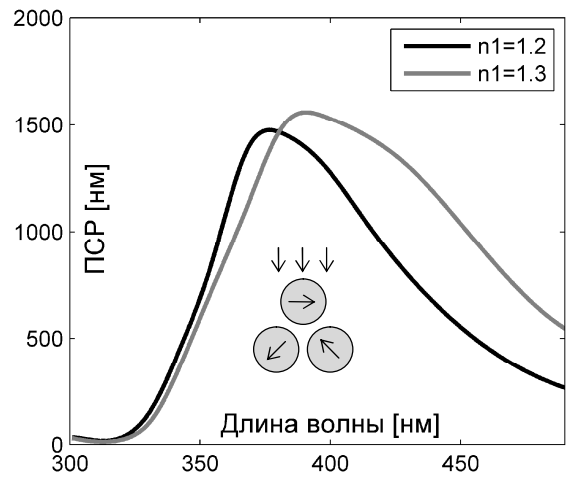
$a = 25$  ,

$d = 350$

$d = 520$

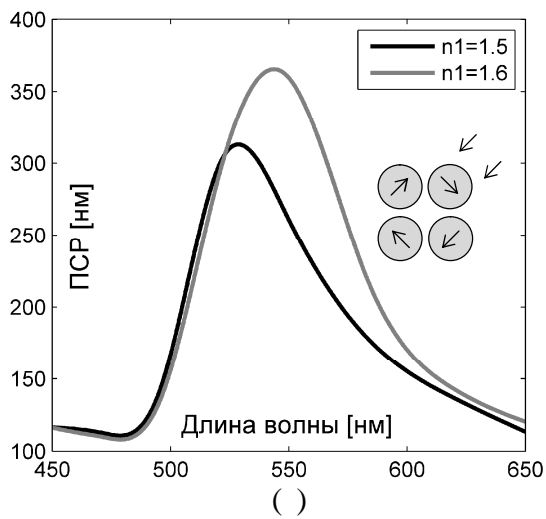


. 2. ( ) (  $d = 520$  ) ( )

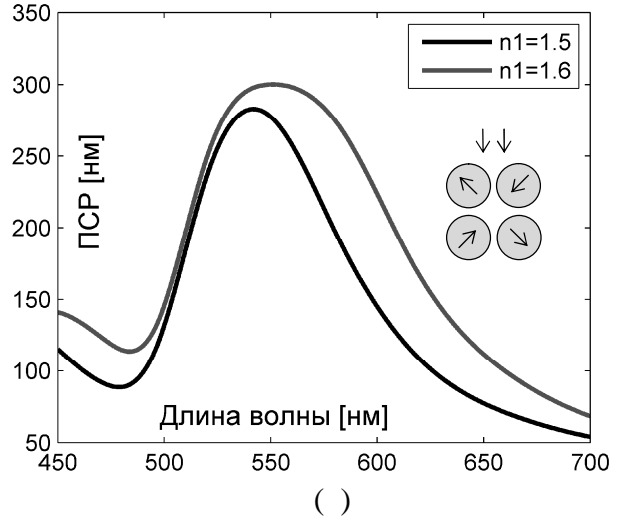


(  $d = 350$  ) ( ) ,

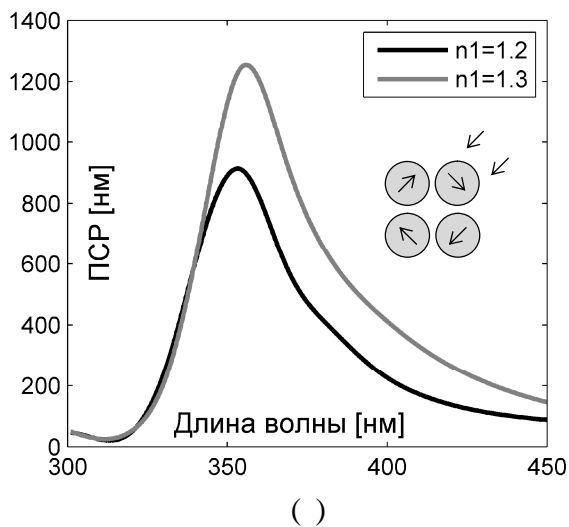
(  $a = 25$  ) .



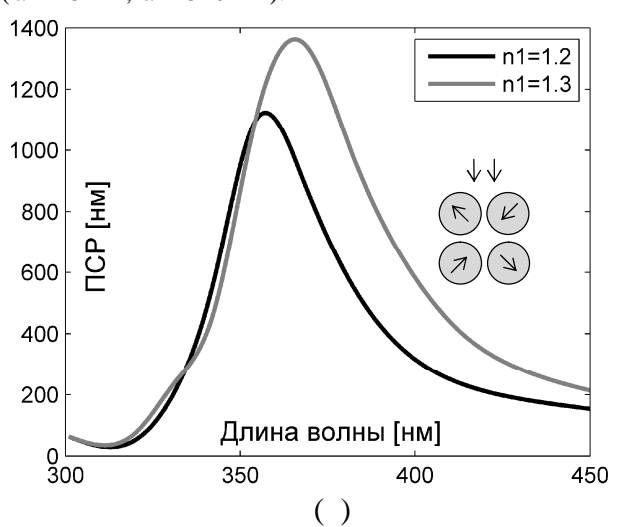
. 3.



(  $a = 25$  ,  $d = 520$  ) .



. 4.



(  $a = 25$  ,  $d = 350$  ) .

( . 4) .3-4 , ( .3)

, .4 ( ).  
 0,1 1,2 1,3 7  
 (  $\lambda = 359$   $\lambda = 366$  ).

. 2 ( ) ( ) ,

0,1 ( 1,2 1,3)  
 18 (  $\lambda = 373$   $\lambda = 391$  ).  
 1,5 1,6  
 11 (  $\lambda = 552$   $\lambda = 563$  ).

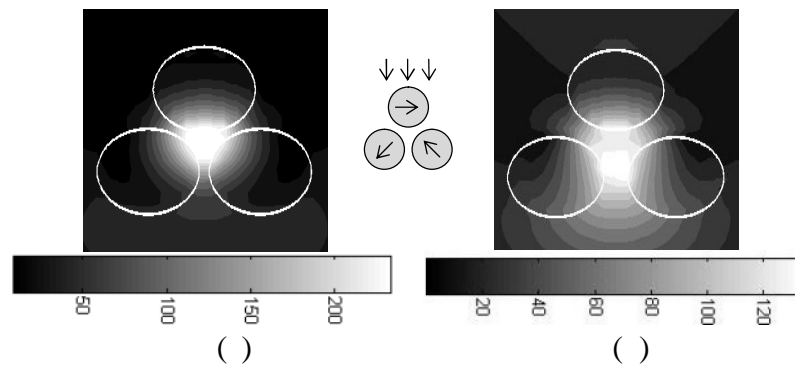
[ .19].

2.

. 5 z-

. 6

. 5 6 ,



.5. z- (  $n_1 = 1$  ):  
 ( )  $d = 5$  ,  $\lambda = 339$  , ( )  $d = 12,5$  ,  $\lambda = 365$  .



noble metals // *Physical Review B*. – 1972. – Vol. 6, No. 12. – Pp. 4370 – 4379. 17. *Stognii N.P. and Sakhnenko N.K.* Plasmon resonances and their quality factors in a finite linear chain of coupled metal wires // *IEEE Journal of Selected Topics in Quantum Electronics*. – 2013. – Vol. 19, N. 3. – Pp. 4602207. 18. . . . . // . . . . . – 1963. – . 1100. 19. *Stognii N.P. and Sakhnenko N.K.* Accurate investigation of coupled plasmonic resonances in a chain of silver nanowires // 16<sup>th</sup> International Conference on Mathematical Methods in Electromagnetic Theory (MMET-2016), Lviv, Ukraine. – July 5-7 2016. – Pp. 192-195.

621.385.6

« / »  
.00 — 00. // : . . . 2017. . 00.

« »

.0. .6. .: 19 .

621.385.6

« / »  
. . . // : . . . 2017. .00. .00 — 00. /

« »

.0. .6. .: 19 .

UDC 621.385.6

**"Bright" plasmons of triangle or square cluster of nanowires made of noble metals** / N.P. Stognii, N.K. Sakhnenko // Radiotekhnika: All-Urk. Sci. Interdep. Mag. 2017. N 00. P. 00—00.

In this paper plasmon resonances of the "bright" plasmons of triangle or square cluster of coupled nanowires made of noble metal are theoretically investigated. The influence of the spatial configuration of silver and gold nanowires to the sensitivity of the hybrid plasmons to changes in the properties of the external environment and the ability of the concentration of the near-field are studied.

0 tab. 6 fig. Ref.: 19 items.