

D.A. CHERNOMORETS

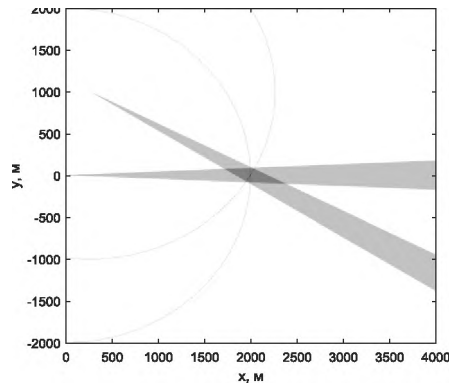
ON THE TRAJECTORY OF RADAR MOVEMENT WHEN SEARCHING THE OBJECTS

Radar tools are widely used to determine the search area of objects. In this work we solve the problem of constructing a search trajectory based on a sequential reduction of the search area using a single radar, which can determine the range of the object and its bearing.

Keywords: object searching, trajectory, sounding, radar measurements.

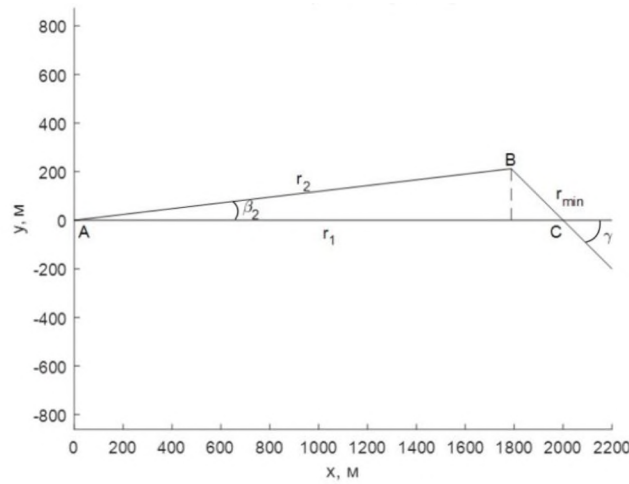
[1-3].

30° (1).



I -

1. ()
2. () $i = 0^\circ$. $5 \cdot 1$.



2. () α_2 (2), « - » , $\alpha = 30^\circ$:

$$P_i = a^{ctg} - r_1 - r_{min} \cos \gamma \quad (1)$$

$$r_2 = \frac{P_i}{\sin \beta_2} \quad (2)$$

$$= r_{min} \sin \gamma \quad (3)$$

3. r_2 () (P_i)
4. W_i W_i
5. S_2 () W_2 .

r^* ,

$$r^* = r_2 + r_{min}. \tag{4}$$

t^* (,)

:

$$t^* = r^*/V_q, \tag{5}$$

V_q -

().

$$r_{min} = 300 ,$$

$$Ar = 2 ,$$

$$= 5^\circ.$$

$$= 30^\circ,$$

$$- V_q = 50 / .$$

$$r^* = 10\,000 .$$

W ,

(

3),

(

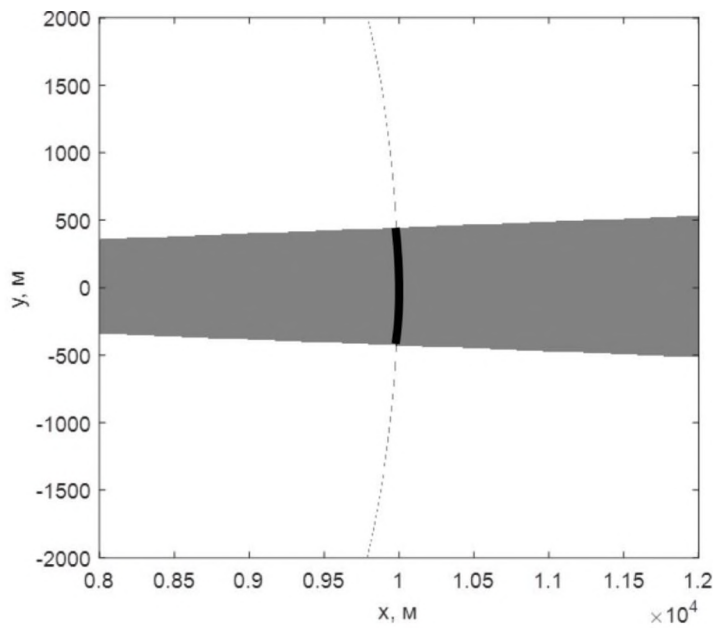
(

3), . .

$$2Ar$$

):

$$= 3699,8 \text{ }^2.$$



3 -

(1)-(3)

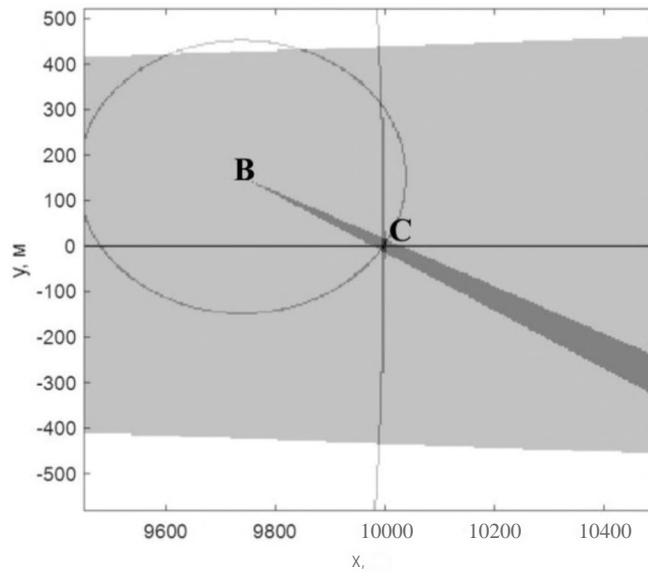
(2)

:

$$\alpha_2 = 0,88^\circ.$$

$$r_2 = 9741,3 .$$

(, 4):
 $S_2 = 61,15 \text{ }^2$.

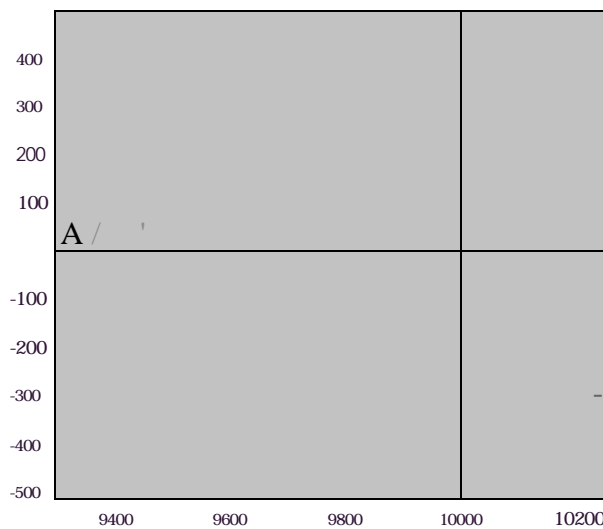


4 -

() :
 $t^* = 10041,3$.
 () :
 $t^* = 200,826$.

(), D $r_m^{\wedge} n$.

(5):
 : $S_2 = 122,3$,
 () : $t^* = 10\ 000$.
 () : $t^* = 200$.



5 -

() (4), 2,
 (4) (5), ,
 (5), (1,004) 2 ,

1. - . : . . . , 1977. - 334 .
2. // : , 2017. - 2 (187). -
- .185-197.
3. . . . // , 2004. - 4. - . 1.

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