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g ( ) , (

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[1-5]. ( ) , .

( ) , ( - ) , (Bell BGM-2 (6...10) (PIGA-16,25).

[3-5].

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" - ) " ( . ) . . . ; " " ( .

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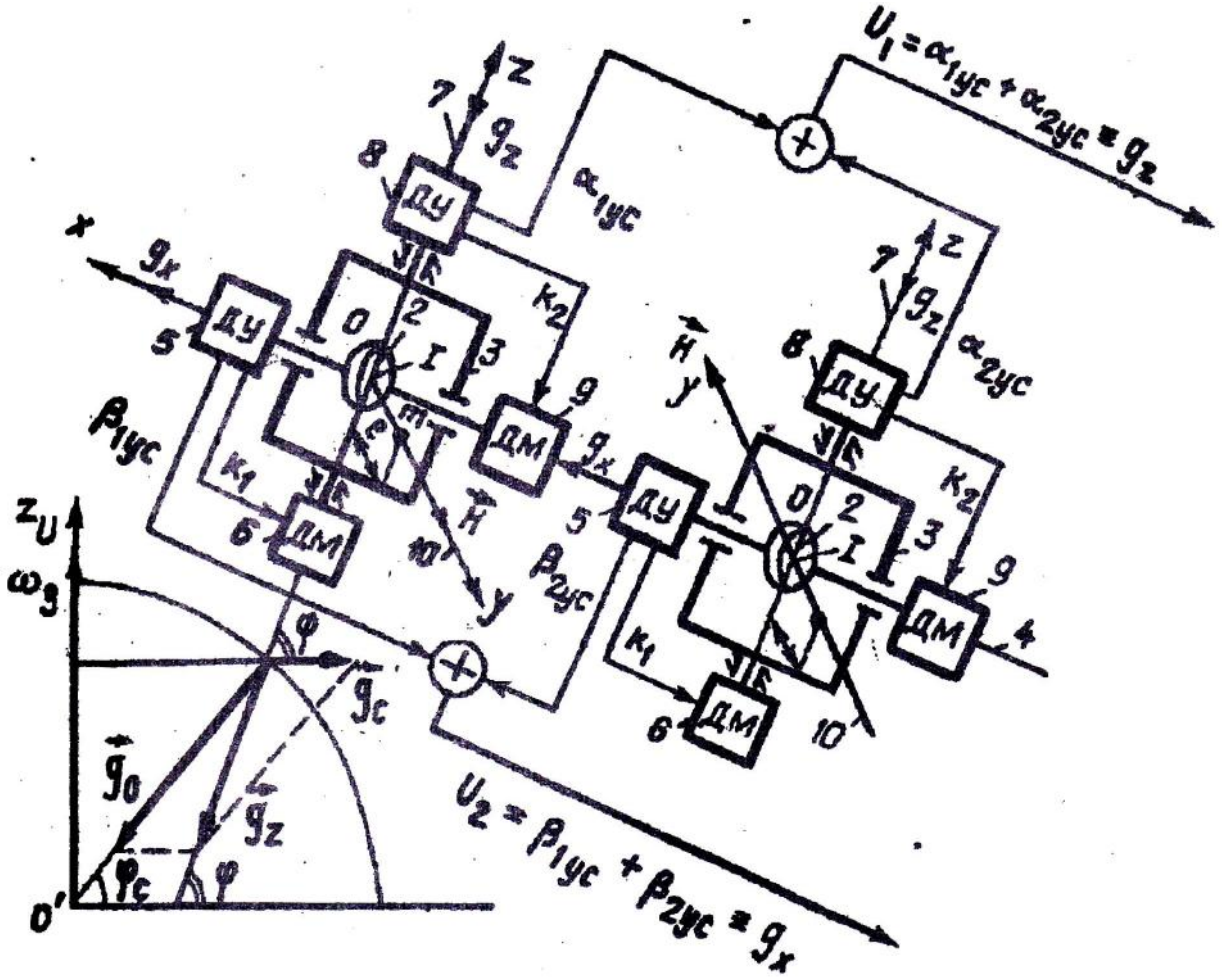
, - ( z

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); ( ; - ).

1, 2, 3, 4, 5, 6, 7, 8, 9, 10

[2].



.1.

- 1, 4 2 mg  
7 3. 5,  
4 2, 7 3.  
6 6, 7 mg l  
7 3. 7 mg<sub>z</sub>l  
4 g<sub>z</sub> 2 3. mg<sub>z</sub>l  
7 3. 8,  
2. 7 3, 4  
mg<sub>z</sub>l, 4 9 2 .

- [2].

$$\begin{aligned} H\dot{s} + k_1 s + n_1 \dot{r} &= m w_x l - m l g_x - H(\check{S}_x + \check{S}_y r) - A\check{S}_z - H\check{S}_3 \cos \{ ; \\ H\dot{r} + k_2 r + n_2 \dot{s} &= m w_z l - m l g_z - m l (w_x r - w_y) s - B(\check{S}_x + \check{S}_y r) - \\ &- H\check{S}_y s - H\check{S}_3 \sin \{ , \end{aligned} \quad (1)$$

$\alpha -$  ;  $S -$   
;  $n_1, n_2 -$   
, ;  $k_1, k_2 -$ ,  
;  $w_x, w_y, w_z -$   
;  $\check{S}_x, \check{S}_y, \check{S}_z -$ ,  
; - " ;  $g, g_z -$   
z,  $\check{S}_3 -$

(1)

$$\begin{aligned} M_1 &= m w_x l - H(\check{S}_x + \check{S}_y r) - A\check{S}_z - H\check{S}_3 \cos \{ ; \\ M_2 &= m w_z l - m l (w_x r - w_y) s - B(\check{S}_x + \check{S}_y r) - H\check{S}_y s - H\check{S}_3 \sin \{ , \end{aligned} \quad (2)$$

(1) (2)

$$\begin{aligned} H\dot{s} + k_1 s + n_1 \dot{r} &= M_1 - m l g_x ; \\ H\dot{r} + k_2 r + n_2 \dot{s} &= M_2 - m l g_z . \end{aligned} \quad (3)$$

(3).

$$\begin{aligned} r(p) &= \frac{n_2 p (M_1 - m l g_x) - (H p + k_1) \cdot (M_2 - m l g_z)}{n_1 n_2 p^2 - (H p + k_1) \cdot (H p + k_2)} ; \\ s(p) &= \frac{n_2 p (M_2 - m l g_z) - (H p + k_2) \cdot (M_1 - m l g_x)}{n_1 n_2 p^2 - (H p + k_1) \cdot (H p + k_2)} . \end{aligned} \quad (4)$$

(  $p = \frac{d}{dt} -$  ).

$$\begin{aligned}
 r &= \frac{mw_z l - ml(w_x r - w_y) s - B(\check{S}_x + \check{S}_y r) - H\check{S}_y s - H\check{S}_3 \sin \{ -m \lg_z \}}{k_2}; \\
 s &= \frac{mw_x l - H(\check{S}_x + \check{S}_y r) - A\check{S}_z - H\check{S}_3 \cos \{ -m \lg_x \}}{k_1}.
 \end{aligned} \tag{5}$$

$$\begin{aligned}
 r_1 &= k_2^{-1} [-m \lg_z + mw_z l - ml(w_x r - w_y) s - B(\check{S}_x + \check{S}_y r) - H\check{S}_y s - H\check{S}_3 \sin \{ \}; \\
 r_2 &= k_2^{-1} [-m \lg_z + mw_z l - ml(w_x r - w_y) s - B(\check{S}_x + \check{S}_y r) + H\check{S}_y s + H\check{S}_3 \sin \{ \}; \\
 s_1 &= k_1^{-1} [-m \lg_x + mw_x l - H(\check{S}_x + \check{S}_y r) - A\check{S}_z - H\check{S}_3 \cos \{ \}; \\
 s_2 &= k_1^{-1} [-m \lg_x + mw_x l + H(\check{S}_x + \check{S}_y r) - A\check{S}_z + H\check{S}_3 \cos \{ \}
 \end{aligned} \tag{6}$$

$$U_1 = r_1 + r_2 = k_2^{-1} [-2m \lg_z + 2mw_z l - 2ml(w_x r - w_y) s - 2B(\check{S}_x + \check{S}_y r)] \tag{7}$$

$$U_2 = s_1 + s_2 = k_1^{-1} [-2m \lg_x + 2mw_x l - 2A\check{S}_z] \tag{8}$$

(7) (8)

(-2m \lg\_z, -2m \lg\_x)

$$H\check{S}_3 \cos \{ , H\check{S}_y s , H(\check{S}_x + \check{S}_y r) , H\check{S}_3 \sin \{ , \tag{254}$$

$$u_2 = mlk_1^{-1} g_x ; u_1 = mlk_2^{-1} g_z ,$$

$$|g| = \sqrt{g_x^2 + g_z^2}; \tag{9}$$

$$\vec{g} = \vec{I}_{xn} g_x + \vec{I}_{zn} g_z ,$$

 $\vec{I}_{xn}, \vec{I}_{zn}$ 

, z .

$$[-2mw_z l - 2ml(w_x r - w_y) s - 2B(\check{S}_x + \check{S}_y r) + 2mw_x l - 2A\check{S}_3] - (-2mw_z l, -2mw_x l).$$

1. (10), ( ) ;
2. (7) (8));
3. ( [1] )
4.  $k_2$  [1]
- ); ( )
- ( )
1. / . . . , 2001.– 261 .
2. / . . . – : , 2007. – 604 .
3. Bezvesilnaya E.N. System for airborne gravimetry / E.N. Bezvesilnaya, .G. Tkachuk, K.S. Kozko // European Applied Sciences (Germany). – 2013. – 5(2). – P. 37–39.
4. Bezvesilnaya E.N. Gravimeter of aviation gravimetric system / E.N. Bezvesilnaya, .G. Tkachuk, K.S. Kozko // The advanced science journal (USA). – 2013. – 8. – P. 41–46.
5. / . . . // IX Mi dzynarodowej naukowi-praktycznej konferencji " Aktualne problemy Nowoczesnych nauk – 2013". – , 2013, . 36–38.