

528.4

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GPS

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[1, 2]:

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• ;
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 , -

GPS

(~ 5 GPS).
GPS ,
GPS,

GPS-

Y,

GPS-

Y,

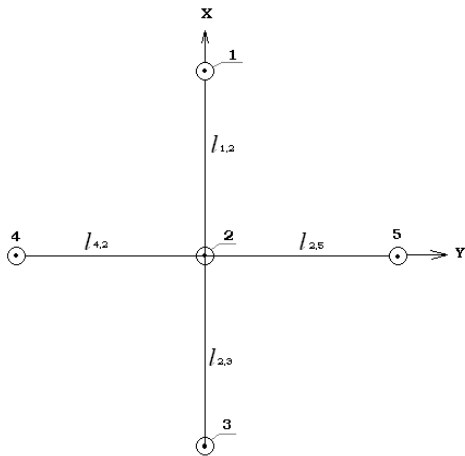
Y

x_i

Y

90°

GPS



.1.

. 1

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1, 2, 3 – GPS

;

4, 2, 5 – GPS

Y;

$l_{1,2} \quad l_{2,5} \quad l_{2,3} \quad l_{4,2}$ –

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1

3,

1-3

1 2,

GPS-

1-2.

1, 2, 3

Y,

1-2 4-5

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$$\bar{x}_i = \frac{x_i + (x_{i+1} + l_{i,i+1}) + (x_{i+2} + l_{i,i+2}) + \dots + (x_n + l_{i,n})}{n} \quad (1)$$

$l_{i,i+m}$ – $x_i \quad x_{i+m}$;

$m = n - 1, i = \overline{1; n}$;

n – ;

\bar{x}_i – , ;

$$\begin{array}{r}
 X_2^G - \text{GPS, } X_2 = X_1^G - l_{1,2} \\
 X_3 = X_1^G + l_{3-} \\
 X_2 - \text{GPS.} \\
 \vdots
 \end{array}$$

$$\bar{X}_2 = \frac{X_2^G + X_1^G - l_{1,2} + X_3^G - l_{1,3}}{3} \quad (2)$$

$$m_{\bar{X}_2}^2 = \frac{1}{9} \left(m_{X_2^G}^2 + m_{X_1^G}^2 + m_{l_{1,2}}^2 + m_{X_3^G}^2 + m_{l_{1,3}}^2 \right) \quad (3)$$

$$m_{X_2^G}^2, m_{X_1^G}^2, m_{X_3^G}^2 -$$

1, 2, 3

GPS;

$$m_{l_{1,2}}^2, m_{l_{1,3}}^2 -$$

1 2, 1 3,

GPS

$$m_{X_2^G}^2 = m_{X_1^G}^2 = m_{X_3^G}^2 = m_{X^G}^2, m_{l_{1,2}}^2 = m_{l_{1,3}}^2 = m_l^2.$$

$$m_{X_2^G}^2 = \frac{1}{9} \left(3m_{X^G}^2 + 2m_l^2 \right) \quad (4)$$

$$m_l^2 \ll m_G^2,$$

2

$$m_{\bar{X}_2} = \frac{1}{3} \sqrt{3m_G^2 + 2m_l^2} = \frac{m_G}{3} \sqrt{3 \frac{m_l^2}{m_G^2} + 2 \frac{m_l^2}{m_G^2}} \approx \frac{m_G}{\sqrt{3}} \quad (5)$$

$$m_{\bar{Y}_2} = \frac{m_G}{\sqrt{3}}, \quad (6)$$

GPS -
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l_i

$l_i = 100$

$\Delta = 0,1$,

$l_i - l'_i = 0,00005 = 0,05$

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GPS-

1. (-
) / . . . ,
2. . . . - ∴ , 1979. - 303 .
 [] / . . . " . . . " , 2007. -
 508 .
3. . . . :
 - /
 - ∴ , 1981. -
 438 .
4. . . . / . . . -
 . . . - ∴ , 1962. -
 623 .
5. / [. . .

 . . .] . - ∴ , 1978.