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**Аналіз останніх досліджень і публікацій.**

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[1, 2, 6, 7].

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[1, 2, 3, 6]

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1.

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2.

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[3, 6].

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$$f(x) = z_0 \cdot \cos(x) \quad x = 0 \quad =$$

$$[1, 2, 3, 4] \quad 10^{-1} \quad x = \pi/2 \quad = 10^{-11}.$$

$$S = \frac{C}{P}, \quad (1) \quad y = 10 \cdot \lg \gamma, \quad x = \log(n \cdot p_{i\hat{i}\hat{i}}) \quad n = 108,$$

$$z_0 = 11 \quad x = 0, \quad z_0 = 11 \quad ( \cdot 1,$$

$$[5]; \quad 1 - \quad ; \quad 2 -$$

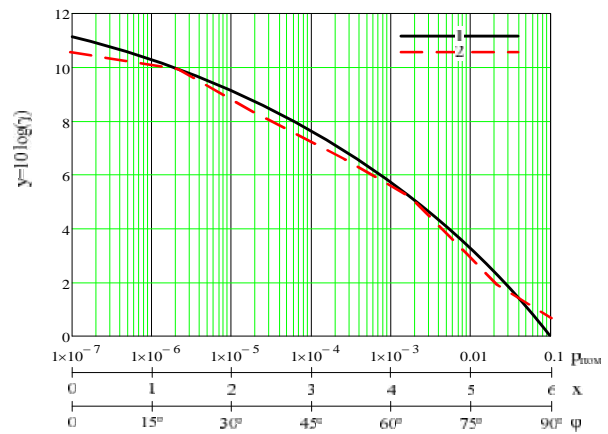
$$).$$

$$\gamma = 10^{0.1y}, \quad (4)$$

$$y = z(M) \cdot \cos x, \quad (5)$$

$$\tilde{N} = \Delta f \cdot \log M, \quad (2)$$

z (M) –



. 1. ( ) BPSK

$$(4) \quad (5),$$

$$\gamma = 10^{0.1 \cdot z(M) \cdot \cos[0.26 \cdot \lg(\delta_{i\hat{i}\hat{i}} \cdot n)]}. \quad (6)$$

$$. 2 \quad z(M), \quad 1 -$$

$$; \quad 2$$

$$P = \frac{16 \cdot \pi^2 \cdot D^\mu \cdot k \cdot T \cdot \Delta f \cdot \gamma \cdot L}{D_0^{\mu-2} \cdot \lambda^2 \cdot G_1 \cdot G_2 \cdot \rho}, \quad (3)$$

G1, G2 –

; –

; D –

; k –

, k = 1.38 · 10<sup>-23</sup> / . ; f –

; L –

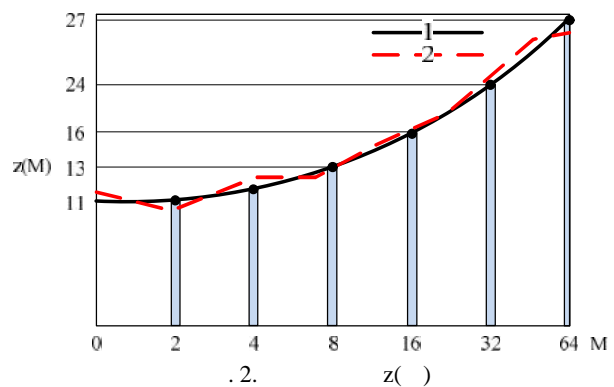
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$$. 2 \quad (2)$$

$$z(M) = 8.4 \cdot M^{0.27}. \quad (7)$$

$$(6) \quad (7)$$

$$\gamma = 10^{0.84 \cdot i - 0.27 \cdot \cos[0.26 \cdot \lg(\delta_{i11} \cdot 10^8)]} \quad (8)$$

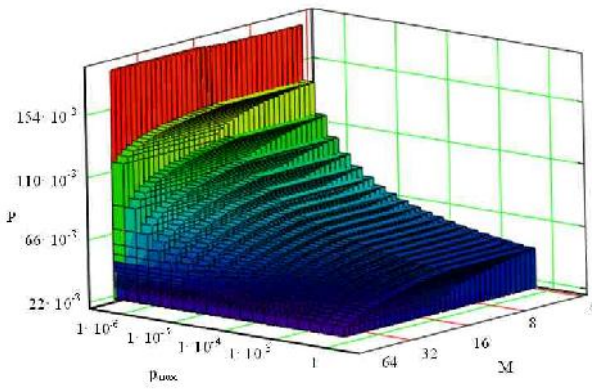
$$S = \frac{\lambda^2 \cdot G_1 \cdot G_2 \cdot \rho \cdot \log M \cdot D_0^{\mu-2}}{16 \cdot \pi^2 \cdot D^\mu \cdot k \cdot T \cdot L \cdot \gamma} \quad (11)$$

$$P = \frac{16 \cdot \pi^2 \cdot D^\mu \cdot k \cdot T \cdot \Delta f \cdot L \cdot \gamma}{\lambda^2 \cdot G_1 \cdot G_2 \cdot \rho \cdot D_0^{\mu-2}} \quad (9)$$

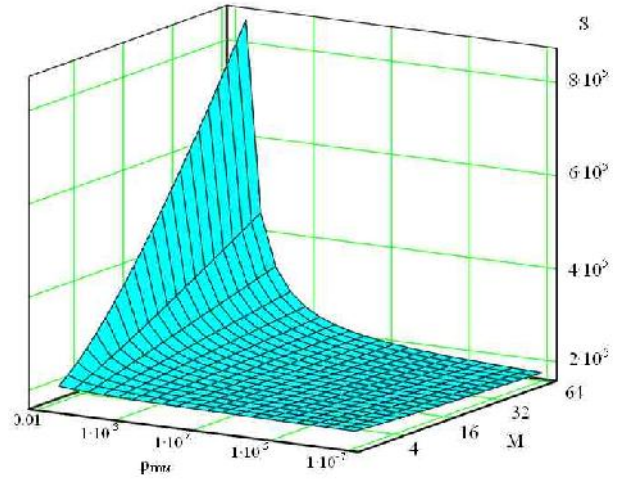
WiMAX,

MPSK

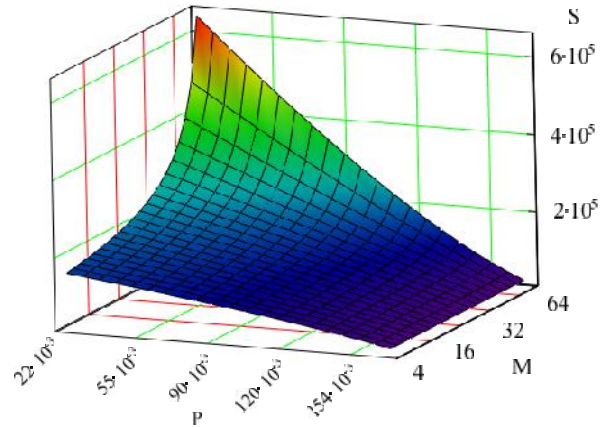
(9)



P, D, M



S, D, M



S, P, M

(9).

$$S = \frac{\lambda^2 \cdot G_1 \cdot G_2 \cdot \rho \cdot D_0^{\mu-2}}{16 \cdot \pi^2 \cdot D^\mu \cdot T \cdot \Delta f \cdot k \cdot \gamma \cdot L} \quad (10)$$

(10),

(1), (6), (9) (10),

MPSK

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**MATHEMATICAL MODEL OF THE DEFINITION OF INFORMATION AND ENERGY CRITERION**

G. Grynkevych

*In the paper the mathematical model of a wireless telecommunication system with the definition of information and energy efficiency criterion . Certain mutual dependence of informatively-power criterion is with probability of error of reception of signal and amount of positions of signal.*

**Keywords:** efficiency system, error probability, modulation, approximation, 3D-format.