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Various approaches to modeling spatial distributions of electromagnetic fields from many sources are considered. The most convenient method of modeling and visualization of magnetic fields distributions in working rooms is proposed.

Key words: source, electromagnetic safety, electromagnetic fields, modeling, spatial distribution.

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 , . , , [1–3].
 , , ,
 , ,

[4].

[5]

[6, 7].

[8],

[9, 10]

[11]

$$A^0 = x_0 \mu_0 I l G(rr'),$$

x_0 – ; G – ; μ_0 – ; l – ; I –

$$\mathbf{H}_x^1 = \frac{1}{\mu_0} \text{rot}_x \mathbf{A}^1.$$

[7].

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[7].

[7].

V

S ,

[10]

$$\text{rot } \mathbf{B} = 0, \quad \text{div } \mathbf{B} = 0$$

$$\mathbf{B}(\mathbf{r}) = \frac{\mu_0}{4\pi} \int_V \frac{[\mathbf{j}(\mathbf{r}')(\mathbf{r} - \mathbf{r}')]}{|\mathbf{r} - \mathbf{r}'|^3} dV,$$

$$\mathbf{r} = (r_x, r_y, r_z); \mathbf{j} =$$

$$\mathbf{r}' = (r'_x, r'_y, r'_z); \mu_0 =$$

$$r \gg r',$$

$$\mathbf{B} = \frac{\mu_0}{4} \frac{3(\mathbf{m}\mathbf{r})\mathbf{r} - \mathbf{m}r^2}{r^5} = \frac{\mu_0}{4} \frac{1}{r^5} \begin{pmatrix} 3r_x^2 - r^2 & 3r_x r_y & 3r_x r_z \\ 3r_x r_y & 3r_y^2 - r^2 & 3r_y r_z \\ 3r_x r_z & 3r_y r_z & 3r_z^2 - r^2 \end{pmatrix} \begin{pmatrix} m_x \\ m_y \\ m_z \end{pmatrix},$$

$\mathbf{m} =$

$\mathbf{r} =$

$$\left(\begin{matrix} m_x \\ m_y \\ m_z \end{matrix} \right)$$

[12],

$z =$

$$\left(\begin{matrix} m_x \\ m_y \\ m_z \end{matrix} \right)$$

$$\mathbf{B}_x = \frac{3m \cdot \sin^2 \theta}{r^3};$$

$$\mathbf{B}_y = 0;$$

$$\mathbf{B}_z = \frac{m \cdot (3 \cdot \cos^2 \theta - 1)}{r^3},$$

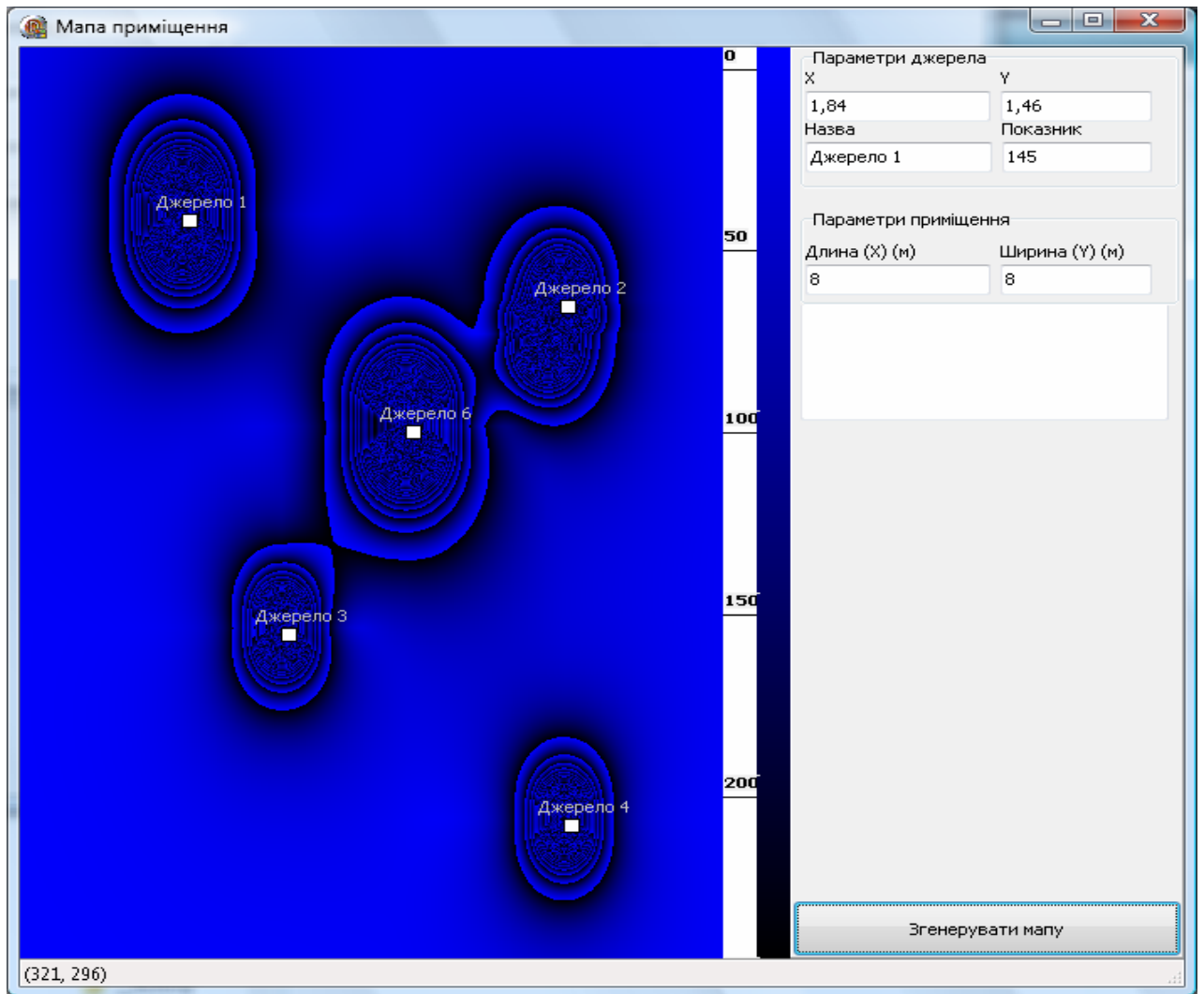
$m =$

$; r =$

$; \theta =$

delphi,

(. 1).



. 1.

$I -$; $S -$, $m = ISn$; $n -$

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