in [11] and [12]; in particular, coordinate indices of four-dimensional vectors and tensors are denoted by latin letters and have values from 0 to 3; a metrics is considered to be defined with diagonal metric tensor: $g^{ik} = 0$ at $i \neq k$, $g^{00} = 1$, $g^{11} = g^{22} = g^{33} = -1$; the same upper and lower coordinate indices of four-dimensional tensors always imply summation; if some indices are not coordinate tensor indices, the summation symbol is explicitly shown, if necessary; the four-dimensional coordinate is $x^i = (ct, \boldsymbol{r})$, $x_i = (ct, -\boldsymbol{r})$, $x^i x_i = c^2t^2 - \boldsymbol{r}^2$, where c is the light speed constant, t is time, $\boldsymbol{r}$ is three-dimensional radius-vector.

II. MAGNETIC MONOPOLE IN CLASSIC FIELD THEORY

It would appear reasonable that the properties of magnetic charges and the electromagnetic field generated by them would be similar to the properties of electrical charges and the electromagnetic field generated by them: in particular, the force lines of the magnetic field, generated by magnetic charges, start from/end in the magnetic charges, while the force lines of the electrical field generated by currents of magnetic charges are closed, i.e. the existence of magnetic charges, in a sense, restores *symmetry* between the magnetic and electrical fields. Apparently, the equations describing the electromagnetic field generated by magnetic charges (currents) should be similar to the equations describing the electromagnetic field generated by electrical charges (currents). At the same time, in view of the topological difference between the electromagnetic field generated by magnetic charges and the one generated by electrical charges they should be described *separately* in equations.

The electromagnetic field, generated by the current density of electrical charges $\{e_a\}$ – j_e,– can be described using the antisymmetric four-dimensional tensor of the second rank F_{A_e}, which can be represented via the four-dimensional vector potential, $A^i_e \stackrel{\text{def}}{=} (\varphi_e, \boldsymbol{A}_e)$ in the following form:

$$F^{ik}_{A_e} \stackrel{\text{def}}{=} \frac{\partial A^k_e}{\partial x_i} - \frac{\partial A^i_e}{\partial x_k} = \partial^i A^k_e - \partial^k A^i_e. \tag{1}$$

The relation between components of tensor F_{A_e} and components of (three-dimensional) vectors of electrical field $\boldsymbol{E}$ and magnetic field $\boldsymbol{H}$ is described as

$$E^\alpha_e = -F^{0\alpha}_{A_e} \quad (\alpha = 1, 2, 3)\,; \quad H^1_e = -F^{23}_{A_e}, \quad H^2_e = -F^{31}_{A_e}, \quad H^3_e = -F^{12}_{A_e} \tag{2}$$