



SDI Review Form 1.6

Journal Name:	Physical Science International Journal
Manuscript Number:	2014_PSIJ_10647
Title of the Manuscript:	Basic Laws of EM Theory
Type of the Article	Original Research Article

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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SDI Review Form 1.6

PART 1: Review Comments

	Review Comments	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>Maxwell's general theory of electromagnetic field in which electromagnetians like Lorentz constantly have in view of the state of matter or medium by which the field is occupied. Internal stresses existing in the medium surrounding an electrified body or a magnet as they think of electricity as of some substance or fluid free to move in a conductor and bound to position of equilibrium in a dielectric. They conceive the magnetic field as the seat of some invisible motion, rotation for example around the line of force.</p> <p>After the advent of the special relativity theory for which Lorentz could be considered as one of the corroborators, this physical understanding of the electromagnetic phenomena has been banished . Instead, some sacred real</p>	<p>I mainly agree with these statements.</p> <p>Some historians of physics say that Lorentz never fully accepted special relativity. The transformations of the two 4D coordinates allegedly belong to Larmor. In any case, Lorentz accepted at least the principle of relativity for EM induction. However, the generality of this principle is denied in may article. On the other hand, the original Lorentz' results, as mass function and ellipsoidal field deformation, are here</p>



SDI Review Form 1.6

	<p>mathematical transformation laws have been used and for static electricity, too, the existence of any medium has been denied.</p> <p>The author has followed the path of Maxwell. Instead of electricity, he starts from potential as some “energetic fluid – manifest by medium structure strain” . . In this outlook, he has interpreted all the classical electrodynamic formulations already derived by the followers of Maxwell.</p> <p>After the advent of the special relativity theory for which Lorentz could be considered as one of the corroborators, this physical understanding of the electromagnetic phenomena has been banished. Instead, some sacred real mathematical transformation laws have been used and for static electricity, too, the existence of any medium has been denied. The author has followed the path of Maxwell. Instead of electricity, he starts from potential as some “energetic fluid – manifest by medium structure strain” . In</p>	<p>consistently derived and physically interpreted.</p> <p>These statements are also OK.</p> <p>1. This question is treated in my following paper: ‘Medium of Natural Phenomena’. In present article, it is introduced as the <i>higher reality with respect to material particles</i>. Three hypothetical medium features – dielectric, non-resistive & reactive – are emphasised in the corrected abstract, and also are and were mentioned in respective sections of the body text.</p>
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SDI Review Form 1.6

	<p>this outlook, he has interpreted all the classical electrodynamic formulations already derived by the followers of Maxwell long time ago.</p> <p>1. However, the first question on this article arises: whether this medium is generated by the charge or this is of independent existence. From the study of the present times, we could conclude that such an independent medium is highly improbable. Therefore, is it so that the medium originates from the charge itself? However, the author has not given much attention to this basic question.</p> <p>2. One of the conclusions of the author is: The principle of relativity and the assumption of elementary mass are convincingly called into question. But the article hardly elucidates this point.</p> <p>3. The equations 7(a) and 7(b) are not intelligible. Clarify whether the first equation is the outcome of the classical equation $U/q = -\mathbf{v} \cdot \mathbf{A}$ derived from Lorentz force law and Maxwell equations. Clarify too the significance of the Eq. 7(b).</p> <p>4. Kindly show the eq. (8) stepwise using</p>	<p>2. The principle of relativity is her convincingly restricted to the plains of magnetic field lines, and inertial mass is derived as the reactive manifestation of the medium around electric charges. The wider discussion is made in the reference [3].</p> <p>3. (7a) is here introduced on the analogy with hydro-dynamics, as the attraction of two parallel flows. (7b) is its equivalent, just derived in succession, from (9). It relates the carriers, instead potentials.</p> <p>4. This is explained in the following paragraphs of the article and this text.</p> <p>5. <i>Grad A</i> is the 2×2 tensor, and its scalar product with a new vector (\mathbf{v}) gives the vector known as the <i>derivative of the former, in direction of latter vectors</i>. The usual parentheses are excessive.</p> <p>6. This is just explained above.</p> <p>7. This is also the same case.</p> <p>8. This is also the same formalizm, $\mathbf{v} \cdot \nabla = -\partial/\partial t$, but here expressed in the scalar form. Namely, the <i>convective derivative</i> (in the speed direction) is opposite to the moving field gradient.</p>
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SDI Review Form 1.6

	<p>product rules.</p> <p>5. What is grad A when A is a vector? How could it be equal to Curl A? Kindly clarify.</p> <p>6. The second equal equation of Eq. (11) is a scalar. How could it be equal to a vector?</p> <p>7. The first term of the second equal equation of the Eq. (12) is a scalar. How could it be a contributory part of a vector quantity?</p> <p>8. Kindly check whether there is any signature error of the second equal equation of the Equation (24)?</p> <p>9. In Maxwell electrodynamics for a steadily moving charge $m_0 = q^2 / (6\pi\epsilon_0 c^2 R)$ But in your equation it will be $m_0 = q^2 / (4\epsilon_0 c^2 R)$ Kindly explain this anomaly. Subject to the compliance of the above points, I suggest for the publication of the article.</p>	<p>9. In the initial considerations, the kinetic energy of a moving charge were ascribed to magnetic field, or as that of the electric field ellipsoidally deformed. I derived it from the central electric field. The ‘classical’ electron radius is nowadays just calculated from the latter equation.</p> <p>Thank you for your questions. They enable the explanations of some conventions already accepted in my former works.</p>
Minor REVISION comments		
Optional/General comments		