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Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_30616
Title of the Manuscript:	Structure Equations, Permitted Movement of Relativistic Continuum and Sagnac's, Erenfest's and Bell's paradoxes
Type of the Article	ORIGINAL RESEARCH ARTICLE

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PART 1: Review Comments

	Reviewer's comment	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	<ol style="list-style-type: none"> 1. The background of this article is not clearly stated; thus, it is difficult to understand the importance of this article. 2. Were there published studies similar to this article. The authors may provide a short literature review. 3. In presenting an equation, I suggest the authors list the meaning of each symbol. For example, in Eq. (1.2), the meanings of symbols V^u and V_0 are not explained. 	<p>1. In solving physical problems one often uses noninertial reference frames (NRF). However, in the modern theoretical physics general transition rules from inertial reference frames (IRF) to NRF do not exist.</p> <p>From the physical encyclopaedia [1], "reference frames (RF) are the collections of the coordinate and clock system connected with the body relatively to which the motion (or the equilibrium) of any other mass points or bodies is studied"... . So to investigate the motion (equilibrium) of other bodies an analytical specification of the body properties (the basis of RF itself) is needed. We select a continuum as a basis body</p> <p>For example, we want to calculate a field of a uniformly accelerated charge in the system connected with the charge. One has to pass into the NRF moving together with the charge. Let us connect the origin of coordinates with the charge. What would the NRF be in order to its structure exactly imagine the charge field structure outside of the charge? There is no such a problem for a charge being at rest in IRF, as the IRF space is uniform and isotropic. It is more complicated for NRF. Obviously, the NRF structure should be a rigid one and an acceleration of each NRF body particle should be equal to the charge acceleration.</p>



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		<p>That is physical conditions in the charge field observation point have to be similar to ones as in the charge location point. In this case, in the observation point, the charge field distortions from the reference frame properties are minimal.</p> <p>Such a system does not exist in the Minkowski space in the special relativity theory (SRT)!</p> <p>The Möller-Rindler system is a relativistic rigid one (in the Born sense), but it is not a global uniformly accelerated system as the particles of this system move with identical accelerations, but these accelerations are not equal each other and they are not equal to the charge acceleration except the medium particle at the origin of coordinates.</p> <p>However, in the theoretical physics most authors are mistaken and this system is considered as the relativistic uniformly accelerated one [5].</p> <p>The Logunov's system is an alternative to the Möller-Rindler system. The Logunov's system is a motion of a charged dust in a homogeneous constant electric field with zero initial velocities. However, neither the Möller-Rindler system [2] nor the Logunov's system [3] are both relativistic uniformly accelerated ones! The Logunov's system does not move in a Born rigid way and the particles in the system connected with the charged dust run off each other.</p> <p>Thus, The Möller-Rindler system is a relativistic rigid one, but it is not a global uniformly accelerated system. The Logunov's system is a global uniformly accelerated one, but it does not move in a Born rigid way!</p> <p>We got a paradox, which can't be solved in SRT that results in the Bell paradox considered in the article.</p>
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		<p>This paradox can't be solved in the general relativity theory (GRT)!</p> <p>We find a rigid system (in the Born sense) that simultaneously is both a relativistic rigid one and a globally uniformly accelerated one.</p> <p>One realizes this system in the pseudo-Riemannian space.</p> <p>The NRF curvature does not directly relate to the GRT curvature, but the structure equations obtained in the article affect possible solutions of the Einstein equations.</p> <p>2. Results of this article are original and, in practice, these ones haven't seen before somewhere. Work [6] is the pioneer article and after seven years these results were partially repeated in [10, 11].</p> <p>The structure equation is a basic to the theory. For the first time it was obtained in [6], where the relativistic rotational NRF both in the Riemannian space-time and in the metric connectivity space with torsion was determined. Definite applications of the theory were used in the authors' books [15-18] and in article [34].</p> <p>3. We agree with the reviewer. Necessary explanations were made in the text.</p>
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<u>Minor</u> REVISION comments	Revise the formats of reference list. Each reference should provide the similar information. For example, the reference [31] doesn't contain the article's title. Similar problems have been found in references [11-15].	We agree with the reviewer. Necessary explanations were made in the text. Acknowledgements. The authors would like to thank the reviewer for valuable comments.
<u>Optional/General</u> comments	NA	