

Review of: "Thomas Precession Using the Selleri Transformations"

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Potential competing interests: No potential competing interests to declare.

Reviewer's comments about the paper entitled:

Thomas Precession Using the Selleri Transformations

I read this manuscript and obtained that the manuscript is not written as expertly and does not have enough scientific sound to publish, and it should be cooked more. If I want to say my criticisms, which I exhibited by studying the manuscript, I can collect them as follows:

1) In the introduction section, it is pointed out that ``Therefore any object moving along a curvilinear trajectory has to rotate, even if no torque is directly applied. This geometrical effect is called Thomas precession.'' It is obvious that to describe the Thomas precession, we have two different ways such that: (a) the Newtonian approach, where the (angular) acceleration of a circularly moving object is made from torque, and (b) the general relativity approach, in which the geometry of space-time (the curvilinear orbits or geodesics), which is a geometrical effect, is originated from a gravitational source (the gravity side in the Einstein metric equation), and by according to the weak equivalence principle of Einstein's GR theory (the gravitational acceleration is equal to the inertial acceleration of an observer for which the lateral force to the center (or centrifugal force) plays as a gravitational-like source for curved space-time in the GR theory (Geometrisation of gravity)). However, by according to these comments, the above-mentioned sentence in the manuscript must be changed correctly. Because a moving object will never rotate without an external effect (acceleration from a Newtonian perspective or curved geodesics from a GR approach). Furthermore, when we use two different directed Lorentz transformations to describe the Thomas precession, in fact, we used an accelerated frame which differs from the Lorentz transformation with constant velocity. If we can explain a physical phenomenon with a comprehensible model based on the principles of theoretical physics (based on the statements of Albert Einstein, see his book `Physics and Reality`) that is in agreement with experience, what is the need to induce complex concepts in dealing with that model to provide a new model? In relation to the latter sentence, I say that these motivations are like keeping the model of the central earth in front of the central sun, which dominated public opinion in the times before Galileo, but later it turned out that with the authority of the central sun, With minimal formulas and basic principles, a wide range of questions about the movement of planets and systems are answered.

2) In the manuscript, a sentence is pointed as: `` Selleri referred to the set contained in (1)-(4) as the "Equivalent" transformations since all members of the set (including the Lorentz transformations) are "equivalent" in the sense that

they differ only by the clock synchronization parameter ϵ_1 in the time component of the transformations and make the same predictions for many (but not all) phenomena.`` I have a problem with this because the Lorentz transformation is not equivalent to the Selleri transformation from a philosophical point of view, and so the above sentence must be corrected: In the Lorentz transformation, we have a symmetry (equivalency between spatial and time directions) between time and space coordinates, but it does not appear in the Sagnac or Selleri transformations.

3) I have a criticism of the title of the paper, which is inconsistent with calculations inside the manuscript, as pointed out by another reviewer too. This mistake is repeated again in the conclusion section. In fact, the author tries to generate the Thomas precession via a generalized Selleri transformation, not with the original Selleri one.

4) In the conclusion of the article, the author must clearly indicate which theory he means by relativity. If he means Einstein's theory of relativity, which is naturally different from Sagnac's or Galileo's or Selleri's relativity, although they are all theories of relativity, but with different principles, he should make that explicit.

Sincerely yours,

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