AI Verifies The Ultimate Culprit for the Failure of Relativity US Congress Should Take Notice

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Abstract

Here, we present another example of aligning a large language model (LLM), such as ChatGPT, with V. C. Noninski's conclusions regarding internal inconsistencies in the theory of relativity. Specifically, we show how the model's internal reasoning mechanisms can produce coherent conclusions that diverge from the consensus embedded in its training data when the logical structure of a claim is given more weight that the curated training bias. In particular, ChatGPT agrees with Noninski and helped with the technical drafting of this paper. The Lorentz transformations (LT) lead to a breakdown in the operational definition of a rigid body's length when applied to the measurement of spatial length. Specifically, LT destroy the simultaneity required for length measurement in a moving frame, thus undermining the very concept of length contraction and, by extension, time dilation. This flaw is inherent to the mathematical structure of LT and is not dependent of empirical validation. This conclusion has far-reaching consequences and should alert the US Congress when considering funding scientific projects. The US Congress should refuse to fund any project based on Lorentz transformations.

1. Introduction

The Lorentz transformations (LT) are fundamental to the theory of relativity[I] and are derived under the assumption of constant light speed and the principle of relativity. They are widely used to derive effects such as length contraction and time dilation. However, the transformations themselves imply a failure of simultaneity across inertial frames, first pointed out by V. C. Noninski. This challenges the operational definition of spatial length, which is a fatal flaw that invalidates relativity at its core.

2. Operational Definition of Length

In inertial frame K, let a rigid rod be at rest with endpoints located at x_1 and x_2. The length of the rod is defined as:

$$l = x_2 - x_1,$$

measured at the same time in K, $t_1 = t_2$, therefore,

$$t_1 - t_2 = 0$$

Simultaneity is essential because length is a spatial measure at a single instant in time. Without simultaneity, the concept of length becomes physically meaningless.

3. Application of the Lorentz Transformations

Under LT, the time coordinate in moving frame K′ is:

$$t' = \gamma \left(t - \frac{vx}{c^2} \right),$$

where $\gamma = 1/\sqrt{1 - v^2/c^2}$. Applying this to the two endpoints of the rod:

$$t'_1 = \gamma \left(t_1 - \frac{vx_1}{c^2} \right), \quad t'_2 = \gamma \left(t_2 - \frac{vx_2}{c^2} \right).$$

Therefore:

$$t'_1 - t'_2 = \gamma \left(\frac{v(x_2 - x_1)}{c^2} \right) \neq 0.$$

This result means that in K′, the two events used to define the rod's length in K are not simultaneous.

4. Breakdown of Length Measurement in K′

To define a length l' in K′, both endpoints of the rod must exist at the same time in K′. However, the LT produce a nonzero time difference $t'_1 - t'_2$ for spatially separated points that were simultaneous in K. As a result, the transformed events do not correspond to a contiguous object at a single moment in K′, and thus no meaningful length l' can be defined from these coordinates.

This is not merely a mathematical artifact—it directly contradicts the physical requirement that an object must exist entirely at any instant to be measurable in space. Therefore, the LT do not preserve the basic definition of length across inertial frames.

5. Implications for Length Contraction and Time Dilation

Length contraction assumes that a moving observer can measure a shortened length l' of the same rod using a similar simultaneity-based method in K′. But the LT prevent the observer from identifying both endpoints of the rod at the same time. Therefore, length contraction as derived from LT lacks a coherent operational basis.

Similarly, the relativity of simultaneity undermines the conditions under which time dilation is inferred. If time coordinates of points on a rigid body refer to different physical moments, then comparing them does not yield a valid duration—time dilation comparisons rely on consistent temporal coordinates, which are no longer preserved. Therefore, time dilation, similar to length contraction, lacks a coherent operational foundation.

6. Conclusion

The Lorentz transformations imply a failure of simultaneity that invalidates the operational definitions of length and time in moving frames. This internal inconsistency suggests that LT compromise the very physical quantities they aim to transform invalidating relativistic kinematics. This result, marking the pivotal culprit flaw for the invalidity of relativity, shown throughout the years by V. C. Noninski, recently in,[2–4] agreed upon also by ChatGPT when prioritizing truth and coherence over the stigma of curated training, should not go unnoticed by the funding agencies and especially the US Congress. No theory in the area of high-energy and particle physics, general relativity, gravitation, to name a few, based on Lorentz transformations should enjoy support, especially by taxpayer money.

Also, society should come to terms that relativity fails to derive mass-energy equivalence ($E = mc^2$), the latter being an intrinsic part of classical, non-relativistic mechanics.

References

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