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Peer Review

Review of: "The One-Way Light Speed Is Measurable: Nonequivalence of the Lorentz Transformations and the Transformations Preserving Simultaneity and Spacetime Continuity"

Arunava Bhadra[1]

1. University of North Bengal, India

The paper explores an intriguing topic regarding the isotropy of space. Based on their analysis, the authors argue that the one-way speed of light can be measured experimentally. A similar conclusion was recently reached from a different perspective in another study (Phys. Scr. 98 (2023) 125024).

We agree with the authors that the Lorentz transformation (LT) and the ST are not generally physically equivalent. However, the interpretation of the GPS equation for clock synchronization is not addressed properly. Equation 2 is correct only in the lab frame. In the rotating frame, the angular velocity (ω) must be set to zero. The origin of the Sagnac delay arises from the asymmetric positioning of the observer relative to the light paths (Eur. Phys. J. C 82 (2022) 649), not from any violation of the LT. To date, the LT has passed all experimental tests.

Declarations

Potential competing interests: No potential competing interests to declare.

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