

Review of: "Comment on "On the linearity of the generalized Lorentz transformation""

Matheus Lobo

Potential competing interests: No potential competing interests to declare.

Lambare discusses the unease that some physicists have expressed regarding the centrality of the speed of light in special relativity. He suggests that the speed of light could be more appropriately considered a particular case of a universal speed limit for all interactions. This is an interesting shift in perspective that could streamline the theory and its teaching, rendering it less "electromagnetic-centric."

Lambare considers the possibility of instantaneous interactions and shows that they would necessarily bring us back to Newton's concept of absolute time, thereby failing to be compatible with special relativity. This is a crucial point in favor of finite interaction speeds, which could serve as an additional argument for a universal speed limit that is finite.

Overall, this paper seems to be a valuable addition to the literature, and it provides a more rounded understanding of the Lorentz transformations and the principles of relativity. The focus on the mathematical details, such as the wave equation and the issue of determinants, adds an extra layer of rigor to the discussion.