

Peer Review

Review of: "E=mc² Is Not a Relativistic Formula"

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In the Commentary, the author is wondering if the basic formula of $E=mc^2$ is a relativistic one or is the result of classical physics. The author states that the relation may be obtained by using two basic relations in classical physics – and this opinion is repeated a few times in the article. Einstein's "relativistic" derivation (1905 and 1946) using two reference frames is more suited to examine the relationship between the values of the same variable measured in two frames with a relative velocity.

The author states that in the relativistic derivation, mass and energy are measured in different reference frames, whereas the mass-energy equivalence should be for mass and energy measured in the same reference frame. Einstein's result is an approximation and is valid only at low velocity, whereas the term relativistic usually means "also correct at high velocity." In addition, the author points out that the relativistic formula that Einstein should have derived from his thought experiments is derived by Laue and Klein and corresponds to the relativistic mass-velocity equation derived by Lorentz.

The paper needs to be rewritten in a more concise form and to highlight the most important facts. It is not necessary to repeat some facts and derivations more than once. The most important equations need to be numbered.

Declarations

Potential competing interests: No potential competing interests to declare.