Review of: "A Mathematical Contradiction in the Special Theory of Relativity"

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The author has deduced correct conclusions regarding special relativity theory. These same conclusions have been presented in numerous other articles published from 1963 to 2023, but the authors here analyzed the light speed measurements done by Roemer to reach the conclusions. This has similarities to the 1714 description by Isaac Newton of the Roemer work. Newton wrote first about relativity and stated that the true time for any event is absolute, while all measurements of time are relative and subject to error. Such errors can be perceptual, as shown here and with the Einstein 1905 gedanken 'experiment', or methodologic, as with the use of clocks that can be affected by environmental and operational conditions.

Note that in the 1905 paper, Einstein also described two computations for the time for a light ray to pass a rod of length L receding from the light with velocity v. One time was L/c (wrongly computed by the moving observer), and the other was L/(c + v). These are the same expressions discussed in the present manuscript. The problematic blunder made in 1905 was the assumption that these two times were due to motion of the observer who assumed the distance light travels is the length of the rod only. This, of course, is simply false since the rod moves while light passes it, regardless of whether an observer shuts his eyes, turns around, moves with the rod, or is stationary. So 'time dilation due to motion' is not a change in the true time for the event (which is absolute) but instead has always been simply the amount of error in computing time that one makes if the distance light actually travels is not obtained correctly.

The constancy of the intrinsic speed that light must have, in order to exist, was proven early by James Maxwell and has been confirmed experimentally with numerous methods, including 1) by Hertz, who used c = fl for generated microwaves of known frequency, and 2) by Michelson, using c = d/t for a 44-mile round trip of travel in Southern CA, and 3) by inserting measured values for e and u in the Maxwell formula for light speed, c = 1/(eu)^(½) in vacuum. All these measurements agree to high 6-digit accuracy for light speed c in any particular environment. The Maxwell derivation did not include, nor had any need to, the velocity of the source that produced the light. This is because indeed light speed c represents the speed at which it propagates from its own instantaneous position in space, wherever that may be. Sadly, what is usually misinterpreted is that the relative velocity between a light front and a moving detector with velocity v would somehow magically still remain c. It is not. It is c + v, all while light itself, of course, retains its fixed intrinsic speed c.

There are several misspelled words in the manuscript.

It may be of interest for the author to examine some of the recent studies on the issue such as:

Optik 168:1-13 (2018).*Characteristic of light: velocity, massless energy and special relativity.*

Physics Essays 27(1):116-125 (2014) *On the nature of light and relativity.*

Optik Volume 268 (2022), *Photon propagation during source/target shifts falsifies special theory time dilation*

Otis, A., **Light Velocity and Relativity**, Christian Burckel, Yonkers on Hudson, NY (1963).

among several others.