

TRIVIAL PROOF, EINSTEIN'S SPECIAL RELATIVITY WRONG

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ABSTRACT. This paper will show two trivial inconsistencies in special relativity: 1) speed of light is not a universal constant; 2) time dilation is logically inconsistent. Since its early days, there have been controversies regarding the validity of Einstein's theory of special relativity; the debates have been continuing unabated. There is not a need for any elaborate debates as the proof that special relativity is invalid is actually rather trivial. The reason why a hundred years of debates have not resolve the controversies surrounding the validity of the theory is that the supporters of the theory deliberately avoids the rather trivial logical inconsistencies of the theory; instead they direct the debates away from these trivial logical flaws and prefers to debate on other elaborate issues through making the theory more complicated than it actually is. They introduce abstruse mathematical constructs and ideas like Minkowski's spacetime, relativity of simultaneity, etc. to obfuscate the true issues so that the ordinary students have their minds clouded with confusion. They are then told that that is what special relativity is really about - difficult for the ordinary mind to grasp.

1. INTRODUCTION

[Version 2] This paper will show two trivial inconsistencies in special relativity:

- (1) Speed of light is not a universal constant.
- (2) Time dilation is logically inconsistent.

Since its early days, there have been controversies regarding the validity of Einstein's theory of special relativity; the debates have been continuing unabated. There is not a need for any elaborate debates as the proofs that special relativity is invalid are actually rather trivial. The reason why a hundred years of debates have not resolve the controversies surrounding the validity of the theory is that the relativists deliberately avoid the rather trivial logical inconsistencies of the theory; instead they direct the debates away from these trivial logical flaws and prefers to debate on other elaborate issues through making the theory more complicated than it actually is. They introduce abstruse mathematical constructs and ideas like Minkowski's spacetime, relativity of simultaneity, etc. to obfuscate the true issues so that the ordinary students have their minds clouded with confusion. They are

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then told that that is what special relativity is really about - difficult for the ordinary mind to grasp.

2. SPEED IS ALWAYS RELATIVE

Students learn in school the elementary formula: $speed = distance/time$. At the pre-college levels, there is not much discussion concerning speed as a fundamental concept in mechanics relating to concepts in space and time. Speed is just about our intuitive understanding of motion in our everyday experience. As a fundamental concept in mechanics, speed is always relative. There is no absolute motion in the universe. Everything in the universe is in motion relative to some other point of reference or object; that other reference point is assumed to be the fixed reference for motion. Formally, we say we can only measure motion relative to a frame of reference. Students in school learn to draw the common rectangular Cartesian coordinates with three perpendicular axes, the usual x-axis, y-axis and the z-axis.

Let's take a simple example of two cars A and B approaching one another along a straight highway; the speed of A is 100 km/hr and that of B is 80 km/hr. How fast is the car A approaching car B? Answer : $100+80 = 180$ km/hr. This speed of 180 km/hr is what we learn in school physics to be the idea of relative speed. When we talk of speed in everyday life, it usually is speed relative to the ground; put in another way, it is speed relative to the fixed earth assuming that the earth is stationary; e.g. the speed of sound in still air is about 1200 km/hr. Speed relative to the ground is usually represented in the usual manner with an x-axis fixed to the ground. When it is relative speed that we want to measure, the x-axis is fixed to an observer or reference point(which may be "moving"). Thus we have what may be called a "*moving*" axis or reference frame. For the measurement of the speed of car A relative to car B, the x-axis for measuring distance is fixed to the car B. This is the idea of relative speed and motion.

The concept of speed is independent of the thing or entity whose speed we wish to measure. It is just a value found by dividing measurements of a distance covered over the time duration of motion; the speed would not be dependent on whether the thing moving is that of a car, an electron or light.

The concept of speed is independent of the entity type whose motion we wish to measure.

3. THE SECOND POSTULATE OF SPECIAL RELATIVITY INVALID

The theory of special relativity is founded on two postulates. If either postulate is wrong, the whole theory is repudiated. The second postulate is:

The speed of light in empty space is a universal constant.

This postulate has the meaning that any observer, whether stationary relative to the light source or moving relative to the light source, will find the speed of light to be always the same. This universal constant speed of light is customarily indicated by the symbol c . A postulate in physics is introduced only if there is full confidence that it represents something that will be found to be true as an empirical fact. So what special relativity states

in the second postulate is that any observer, whether stationary or moving with respect to a light source, when physically measuring the speed of light would always come up with the same value of c .

It is trivial to show that the second postulate cannot be logical. As we have noted, the concept of speed is independent of the entity whose speed we wish to measure. Let's say the speed of light from a source fixed to the ground is measured relative to the ground and its measured value is represented by c . If there is an observer moving towards the source with a speed of w relative to the ground, a little mental calculation would show that the speed of light relative to this moving observer is $v = c + w$ - the same rule of velocity addition would apply for light as with approaching cars. It is customary to use the term "relative speed" when we are measuring speed where the observer himself is moving with respect to the ground. What we get as $c + w$ is actually the speed of light as measured in the reference frame of the observer, i.e. the x-axis is attached fixed to the observer. The speed of light as measured by our observer is $c + w$, not a universal constant value of c independent of the observer as postulated by special relativity.

Some may question the validity of our argument as we are measuring the source of light by a moving observer which already has a speed of w . But we have to note that motion is relative; the figure w is not something inherent to our observer. Our observer has many different relative speed as measured with respect to the various stars in the universe. What is relevant is that the speed of light is always measured through a coordinate system that is fixed to an observer. Conceptually, such an actual experimental measurement could be done; if actually measured by the observer, the speed would be $c + w$, not the universal constant value of c .

The relativists explains the constancy of the speed of light through introducing the idea of spacetime. Spacetime is not just space and time where space and time are independent physical dimensions; space and time should not be viewed as separate and independent. In fact, their idea of spacetime is that space and time are interdependent of each other. For measuring the speed of light, one cannot use a ruler to measure distance, a clock to measure time and then to calculate speed with : $speed = distance/time$; when done in this manner, the speed would not result in a universal constant speed of c , but would be the $c + w$. So special relativity introduces a different principle of kinematics where the rule of relative speed addition need not be obeyed. Only through rewriting the rules of kinematics is special relativity able to have the speed of light to be a universal constant.

Special relativity, by postulating a universal constant speed of light, creates its own new world of reality that is not compatible with our classical world (our commonsense world) of physical reality. There is no rational argument that says the new reality is correct and the old classical reality is incorrect - that the old reality should now be abandoned. In fact, physical units of measure cannot be used for a postulated speed of light. The concept of speed is that it should be a value that may come only from two real measurements, one for a distance and one for a time duration and dividing the distance with time. A postulated constant is an absolute value and therefore even independent of distance and time. So how can the speed 299792458 be

in meter/second where the constant has no association whatever with the length unit nor the time unit. So a postulated constant cannot be a quantity that may take on the dimension of speed.

The universal constant speed of light in the second postulate of special relativity is an absolute scalar unrelated to any real physical dimensions of length or time.

The above arguments show the basis of the second postulate of Einstein's special theory of relativity to be unacceptable. The postulate is repudiated thereby invalidating the theory itself.

4. TIME DILATION IS LOGICALLY INCONSISTENT

Special relativity could also be trivially repudiated through its time dilation prediction. Special relativity predicts directly that a moving clock runs slower than one that is stationary.

A moving clock runs slow.

Here, what causes the invalidity of time dilation is again that motion is always relative. Lets say we are holding two clocks in our hands, clock A in our left hand and clock B in the right hand. The clocks are apart. We then slowly bring the two clocks together. Special relative says that clock A is running slower than clock B (A moves relative to B, thus running slower). But as motion is always relative, clock B is, at the same time, running slower than clock A (B moves relative to A, thus running slower). Thus we have for clock rates:

rate clock A < clock B; and, at the same time, rate clock B < clock A.

This shows trivially that time dilation of special relativity is logically inconsistent. It is usually explained away that the reality of special relativity is "counter-intuitive", an euphemism as a substitute for a logical failure. The supporters of special relativity usually avoid directly addressing this inconsistency of time dilation.

5. CONCLUSION

Einstein's theory of special relativity today is regarded by the mainstream physics community to be a cornerstone of modern physics. In reality, it is trivially invalid at the foundation. Its total acceptance is due only to the success in its promotion as a belief system, not as a theory founded on the scientific method. Its supporters have been highly successful in diverting attention away from the fundamental logical inconsistencies of the theory.

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