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Discussions on the Special and General Theory of Relativity

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ABSTRACT In this study, the Michelson–Morley experiment and the result of this experiment (the speed of light appears to be the same in all directions) were explored. Although Lorentz gave a mathematical explanation (Lorentz transformations) for this, he did not explain the decreasing momentum with the internal motion of systems. In relation to this decreasing momentum, Einstein solved the problem mathematically by proposing that the mass of the systems increases with the movement of systems (moving mass). We will study this process in a chronological order below. Our primary purpose in this study is to open a platform for discussion by asking questions about the changes in moving systems, as suggested by Lorentz and Einstein (length contraction and mass increase of the object), and to propose a different relativity model by presenting our suggestions and opinions in relation to these discussions.

KEYWORDS
Michelson–Morley experiment
Special and general relativity
Lorentz transformations
Moving mass

INTRODUCTION

We will define our interpretation of the narratives on special and general relativity theory and the (Einstein 1905) Michelson–Morley experiment in chronological order (Michelson and Morley 1881, 1887). It can be stated that the term "relativity" is most often used after the Michelson–Morley experiment in physics. The Michelson–Morley experiment concluded that the speed of light appears to be the same in all directions. Lorentz interpreted the result using a mathematical model and proposed that the length of systems contract in the direction of motion and time also contracts similar to length contraction (Lorentz 1937).

This mathematical model is known as the "Lorentz transformations." Although Lorentz solved the problem here mathematically, he did not explain the decrease in momentum with the internal motion of a moving system. Einstein solved this problem mathematically by proposing that the mass of the system increases with its motion (general relativity). Einstein proposed that objects in motion have more mass than when at rest. This gain in mass is known as "moving mass" (Lorentz 1937).

Here, we introduce a discussion platform with questions about these propositions of Lorentz and Einstein, and then through these discussions, we define the relativity model using a different mathematical model (Dervisoglu 2019).

The principle of relativity, which forms the basis of the special relativity model, and the invariance of the speed of light forms the basis of our proposed relativity model (Einstein 1923; Einstein *et al.* 2014). However, based on these assumptions, results obtained from the principle of relativity will be different. In the proposed relativity model, we propose that the mass (m), length (x, y, z), internal velocity (v), momentum (p), and energy (E) of the moving systems will decrease at an equal rate. That is, when an object or a system (atom) is in motion, it will have reduced mass, length, and internal velocity than those at rest.

Herein, we will examine a case where we will suggest an unchanging time irrespective of the system's acceleration and a changing time on exposure to acceleration or gravity (Dervisoglu 2019).

THE THEORY OF RELATIVITY THAT BEGAN WITH THE MICHELSON–MORLEY EXPERIMENT

Michelson–Morley Experiment and Special Relativity Model

This section examines the special and general relativity model, which started with the Michelson–Morley experiment, in chronological order, through our interpretation of classical thought experiments. Since the Michelson–Morley experiment is a familiar topic, we will examine it here without going into in detail.

Michelson–Morley Experiment: Michelson and Morley conducted an experiment to prove the existence of ether experimentally. However, they did not observe the expected shift even after conducting several experiments over one year (1880–1881). Although this experiment concluded that ether does not exist, these two scientists still believed in the existence of ether (Gautreau and W 1999).

This experiment concluded that the speed of light is the same in all directions. However, this observation did not agree with Maxwell's

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equations (Maxwell 1873). In Maxwell's equations, when Galileo transformations (Lorentz 1937; Relativity 2021b) are used for moving from one inertial system to another, the speed of light changes (1):

$$x' = x - vt, \quad y' = y, \quad z' = z, \quad t' = t \tag{1}$$

Since Michelson and Morley did not doubt the Earth's rotation around the Sun, the problem here seemed to lie in the Galileo transformations (Gautreau and W 1999). Meanwhile, in 1887, Lorentz thought that the result of the Michelson–Morley experiment did not prove the ether's absence but substantiate its existence. To verify it, he made a proposition that this invariance in the speed of light causes the length of the system to contract in the direction of motion and that there is time dilation and length contraction (Lorentz 1937; Michelson and Morley 1881).

Lorentz addressed the problem of time dilation mathematically similarly to the length contraction (Fig. 1) and proposed that the obtained mathematical expression is compatible with Maxwell's equations, i.e., (Maxwell 1873) the speed of light does not change in inertial moving systems. According to this mathematical model, the schematic of the Michelson–Morley experiment is shown in Fig. 1 (Gautreau and W 1999; Einstein 1935).

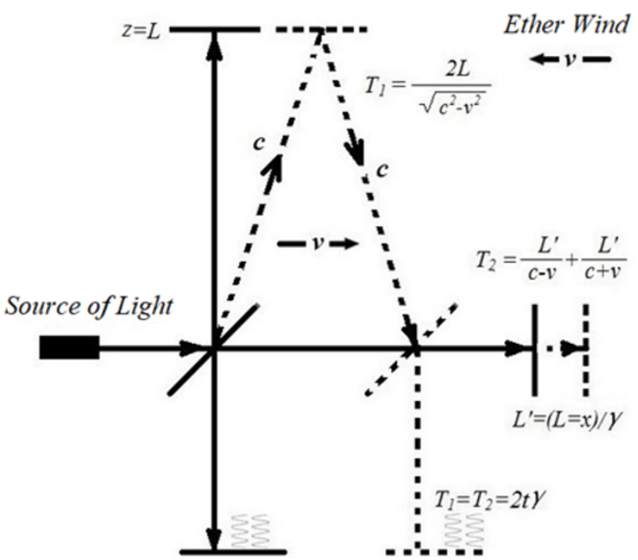

Figure 1 Schematic of the Michelson–Morley experiment. Visual and mathematical description of the speed of light appears the same in all directions based on Lorentz's proposition.

Transformation equations from a stationary system K to another moving system K' (Fig. 2): Basically, the transformation equations from equations (2) to (5) are "Lorentz transformations" (Lorentz 1937, 1895).

$$\gamma = \sqrt{1/1 - v^2/c^2} \tag{2}$$

$$x' = \gamma(x - \mathrm{vt}), y' = y \tag{3}$$

$$t' = \gamma(t - \tfrac{vx}{c^2}) \tag{4}$$

Here, it will be seen that the measured speed of light does not change regardless of the unaccelerated speed of the system K (Lorentz 1937, 1895) (5).

$$x'^2 + y'^2 + z'^2 = c'^2 t'^2 \tag{5}$$

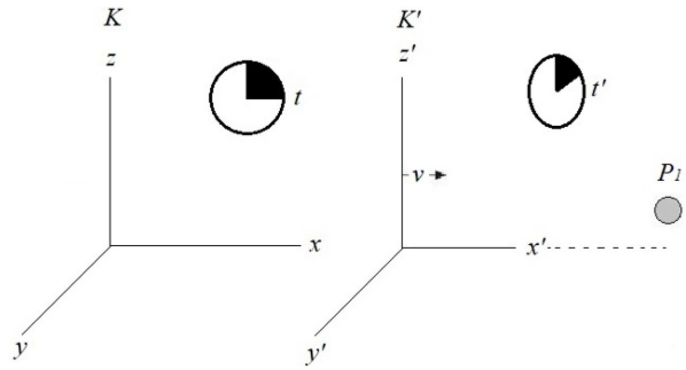

Figure 2 Inertial system K and noninertial system K' moving with velocity v in x'-direction.

However, Lorentz could not provide a physical explanation for the decreasing momentum, which is proportional to the length contraction in moving systems. Further expanding upon the Lorentz transformations, Einstein published a paper in 1905 regarding the "*principle of relativity*" and "*the speed of light being invariant*" under the theory of special relativity (Einstein 1935; Cahill 2004b).

In summary, special relativity states that the speed of light is constant. Therefore, the mass, length, energy, and time, which we think are constant in systems traveling at a constant speed, vary but transform into invariance within the invariance of the speed of light. In other words, the laws of physics are the same for all observers moving at constant speed, but their consequences in time will be different. Einstein knew, like Lorentz, that the most important problem facing special relativity was the changing momentum, which needs to be explained (Cahill 2004b,a).

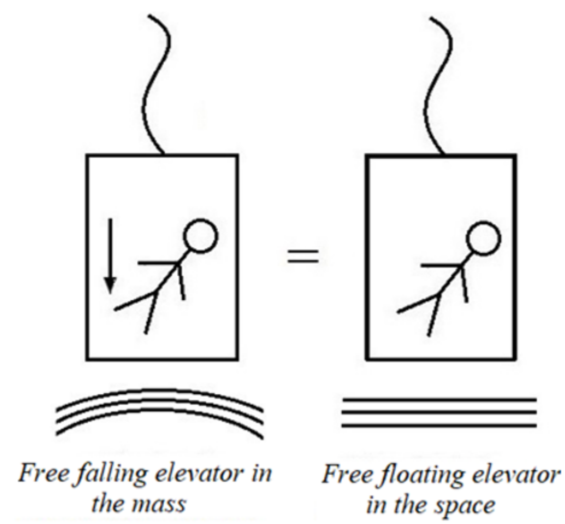

Figure 3 An observer in a free-falling elevator in a gravitational field (left) and a free-floating elevator in a space environment (right). Irrespective of the environment, the results are the same.

General Relativity Model

The "geometric model of gravity" or "general theory of relativity" describes the mass in modern physics in its most simple and plain definition. We are familiar with Einstein's imaginary elevator experiment, which reflects the idea underlying the general theory of relativity.

If we look at Einstein's conclusion from this experiment without going into detail, he showed that an observer in a free-falling elevator in a gravitational field or a free-floating elevator in a space environment would give the same result (Fig. 3).

In other words, experiments carried out by an observer in an elevator suspended in a gravitational field or an elevator moving with a constant acceleration in space will give the same result (Fig. 4) (Wheeler and Ohanian 1991; Norton 1985; Wald 2006).

However, with his experiments inside the elevator, the observer could differentiate due to his/her approach to the center of mass, even if it is very small. By analyzing this difference, the observer can differentiate between the gravitational field and the accelerating elevator. Nevertheless, this is not what the thought experiment wants to describe.

Einstein thought that there is a more general physical law that encompasses all these and proposed the equality of gravity and acceleration locally as the "equivalence principle" (Wheeler and Ohanian 1991; Norton 1985; Miller 1981). Based on this principle, he suggested that gravity does not exist, instead, objects bend the space in their sphere (Fig. 5) and the objects travel along the bent path giving the illusion of gravity.

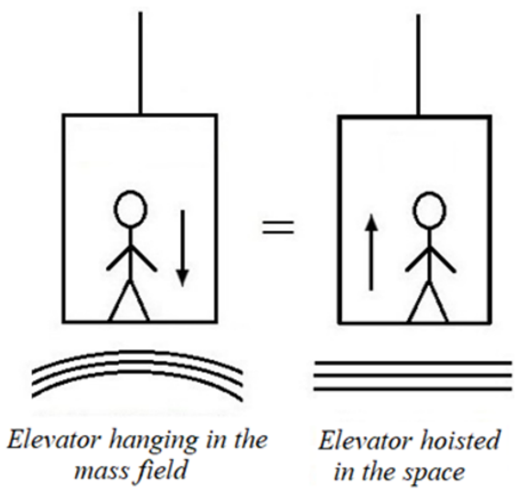

Figure 4 An observer in an elevator suspended in a gravitational field (left) and an elevator moving with a constant acceleration in space (right).

Einstein defined this bending of mass on ether, space, or fabric. Einstein suggested that this mass would increase due to the motion of the objects, i.e., the moving objects would have more mass. This mass, which increases due to motion, is known as the "moving mass" (Einstein 1917). Let us examine the mechanism underlying moving mass.

Moving Mass

Einstein relates the physical effect that causes the slowdown of velocity (momentum) of the moving systems to the increase in mass ($m\gamma$) because of the motion of the system. Thus, he suggested that when a system (body/particle) moves, it has more mass than rest. However, it does not mean that this increase in mass is accompanied by an increase in the amount of particles or the physical dimensions of the particle.

Let us try to understand this proposed increase in mass over a thought experiment. For instance, assume an accelerating system (a, as shown in Fig. 6) with zero friction around a shaft. When this system starts to move (a', as shown in Fig. 6), it is suggested that the centripetal force of the moving weight in the system (deviation coefficient) will increase in proportion to the mass of the system ($m\gamma$). This increase will decrease the velocity to allow the moving weight to maintain its momentum in a straight-line.

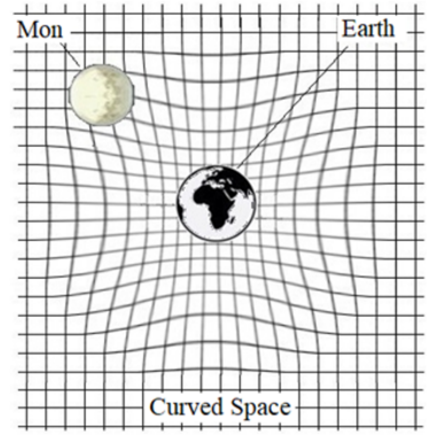

Figure 5 Mass bending space (curved space).

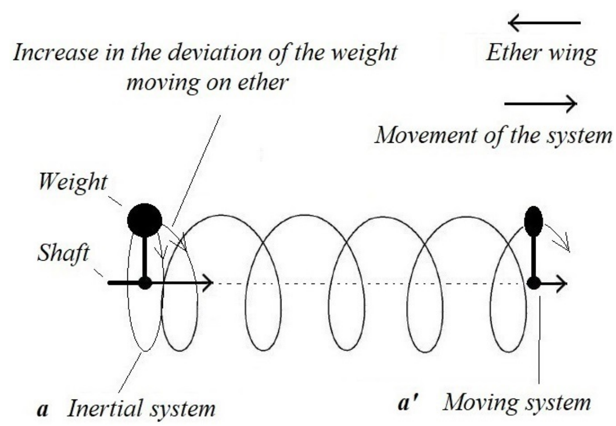

Figure 6 A visual illustration of the moving mass suggested by the general relativity.

General relativity suggests that not only will the mass of moving systems increase but that for the systems entering or leaving the gravitational field, the mass will change just like the moving mass above (Relativity 2021a).

DISCUSSIONS ON SPECIAL AND GENERAL RELATIVITY MODELS

Question 1: The relationship between the contraction of an object along the direction of motion and its volume and area: Why should the force exerted on an object change proportionally to the volume of the object and not its area? So, what is the changing area here? Is this change (force–volume) not in contradiction to the definition of quantum mechanics? Interestingly, when the v of the object approaches c, it changes from three dimensions to two dimensions (Fig. 9) (Dervisoglu 2019).

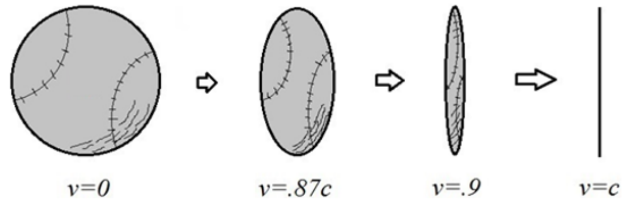

Figure 7 Tensile depiction of what goes with the movement of the ball, not the surface area due to its movement.

Question 2: What could be the physical effect that shrinks (shortens) the moving system (body) to only the direction of motion? Let us assume that we are teleporting an object into space. According to the definition of mass in general relativity, (Lorentz 1937) for the teleported object to create a mass in space, it has to bend the space fabric (Fig. 5) outward. Since the object cannot bend space (speed of gravitational effect) to be different from the speed of light propagating in the same direction, (6–7) the following questions come to mind:

$$F' = c' = \sqrt{1 - v^2/c^2} \tag{6}$$

Vertical to the direction of travel

$$F'' = c'' = 1 - v^2/c^2 \tag{7}$$

Parallel to the direction of travel

Why should the force acting on the object (namely the object's acceleration) cause the electrons moving around the nucleus to shrink only in the direction of movement? While the accuracy of the equations (6–7) we suggested above is very clear, what could be the physical effects that force the atoms of the object to contract only in the direction of motion?

Question 3: Even if there is a strong suggestion (Fig. 6) that the centripetal force of the (Wald 2006) weight γ (F_{mk}) will increase with an increase in the deviation or deflection coefficient of the moving weight in space arising from the movement of the system, why should the linear momentum; thus, the mass ($m\gamma$) of the system increases in proportion to such increase? With this expected mass increase, it is suggested that the density of the space (captive area) will increase by stacking the space (a in Fig. 10) that objects bend space in proportion to their mass in front of the object (a' in Fig. 10). This mass increase can only be realized from the "Wave" model. Then this proposed mass will not be the "geometric model of gravity".

Question 4: Starting again from the proposition that the object will bend the space proportional to its mass in front of it, how is it possible that the speed of light traveling through the curved space in front of the object and the speed of light traveling in uncontracted space outside the object have the same speed in the same direction? Is the light having a velocity independent of its source relative to the space fabric, or space? Therefore, for the speed of light in the inner space of the object to be at the same speed as that in the outer space in the same direction, should not the texture in the outer space of the object and the texture in the inner space of the object preserve the same property (Dervisoglu 2019)?

Question 5: At the zero point of the length of an object accelerating to the speed of light, the general relativity model

$$0 = x\sqrt{1 - (c^2/c^2)} \tag{8}$$

-suggests that the mass of the object

$$\infty = m\frac{1}{\sqrt{1 - (c^2/c^2)}} \tag{9}$$

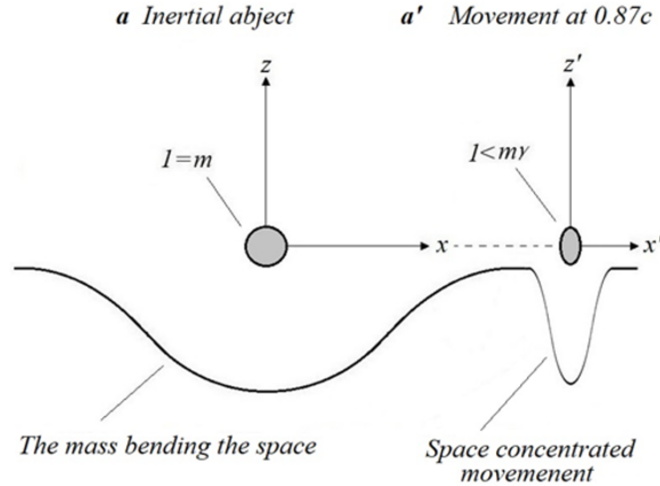

Figure 8 Representative drawing shows the increase in mass of the object proportional to the contraction of space in the object's direction of motion.

will also be infinite. Thus, how can the mass of an object whose length is at the zero point (8), i.e., an object that disappears physically, be infinite (Equation (9))? Although I do not agree with the proposition that the mass will increase due to motion, it is clear that the problem here is not in the Lorentz's length contraction in the direction of the motion of the system or the Einstein's mass increase explanation, (Einstein 1916) but in the laws of physics (Dervisoglu 2019) itself. We will examine this proposition below.

Question 6: Does the gravitational force between objects change due to motion? For example, we can define the gravitational force between the Sun and a system passing close to the Sun having a low velocity (v) as $F = (Mm)/R^2$ (Newton 1686) (A in Fig. 9). If the system had passed near the Sun in the same way as the speed of light (0.87c) (A' in Fig. 9), it would be very wrong to suggest that the gravitational pull applied by the system would decrease (A' in Fig. 9) since **the displacement speed** of the bending (mass) would not exceed the communication speed of the light moving in the system, while the system was carrying the curved space, i.e., its mass (Fig. 9-A and formula 6 and 7).

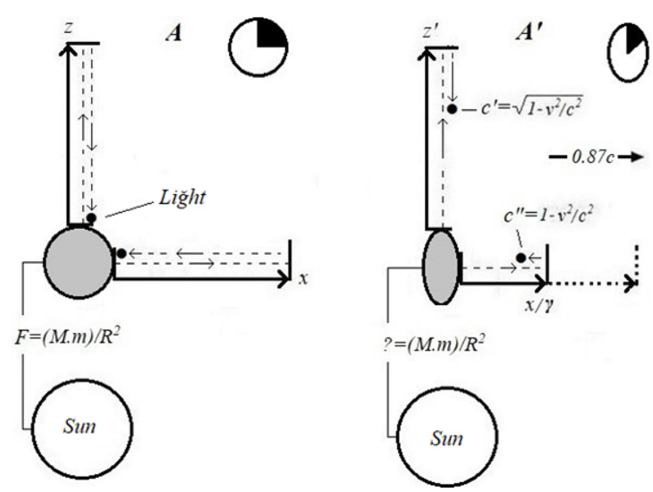

Figure 9 Representative thought experiment showing the relationship between force and motion.

A DIFFERENT INTERPRETATION OF THE MICHELSON–MORLEY EXPERIMENT

Above in Section 2 we first examined the special and general relativity model in summary with well-known classical definitions, and then in Section 3 we drew attention to the controversial issues by asking questions to the special and general relativity model. Section 4 describes a new theory of relativity by proposing a different mathematical model to the Michelson–Morley experiment result.

The Ultimate Unreachable Velocity of The Universe "$c + v_g$"

According to the general relativity model, how does an object traveling at the speed of light have an infinite mass (Equation (9)) when its length is at the zero (Equation (8)) point. In fact, it is clear that this anomaly can neither be found in Lorentz's length contraction nor in Einstein's mass increase, but in the laws of physics.

Einstein's view that the ultimate speed of the universe is the speed of light and that objects and particles cannot move at speeds higher than this speed, and that the speed of light is a law is a very valid opinion. The problem here is that the universe has no ultimate **unattainable** speed.

Ultimate *Unattainable* Velocity of the Universe: We strongly suggest that the entire constituting space is covered with ether (captive space). In addition, we suggest that this ether will collapse on its surface with a velocity proportional to the masses of the objects and that this collapse (mass) will be inversely proportional to the velocity of the object. Thus, here it becomes "mass is a different form of motion". *Of course, the mechanism in the mass definition we propose is a subject of separate discussion*.

For example, when we stand still on its surface, we are **physically** traveling on the surface at a speed (Equation (10)) proportional to the mass of the Earth. For example, at this moment, ether wind blows over me at speed proportional to the mass of the Earth, and its direction is toward the center of the Earth. In addition, we do not mind saying ether wind here, this velocity is at a very low rate, as seen in the Equation (10) below:

$$v_g = \frac{2g}{c^2} = 0.000000000000002\, m/s \tag{10}$$

*Here, **g** is the acceleration due to gravity (9.8 m/s), and **v_g** is the rate of collapse of the ether to the surface proportional to the mass of the Earth.*

If this speed of ether was to be measured, the ether would sink or travel to the Earth's surface at only 6 m in approximately 100 million years. Therefore, it would not be wrong to say that the mass of the moving celestial bodies only changes the resistance of this space (ether). This suggested speed (Equation (10)) will be different for objects larger or smaller than Earth.

Therefore, our reference mass in this suggested ether wind speed is not the Earth, but the mass of the place (body) where the event takes place. This speed is given by the following equation (Dervisoglu 2019):

$$v_g = \frac{2Gm}{c^2} \tag{11}$$

*Here, **v_g** is the rate of collapse of the ether to the surface proportional to the mass of the object, **G** is the gravitational constant, **c** is the final velocity of the universe, and **m** is the mass of the object.*

This velocity (v_g) we suggested above becomes a **physical** velocity originating from the mass. The sum of v_g and the speed of light (c), given in Equation (12), gives us the final speed of the ether:

$$c + v_g \tag{12}$$

We define it as "the ultimate unattainable speed of the universe". **Visually**, nothing can reach this speed that we have defined. Thus, with the speed that we have proposed, we are proposing a new physical law in the definition of events.

Basic Assumptions of Our Suggested Relativity Model

The "*principle of relativity*" and "*invariance of the speed of light,*" which form the basis of the general relativity model, also form the basis of our proposed theory of relativity. However, from these assumptions, the definition and the results of the principle of relativity would be different. The basic assumptions of the theory of relativity, which is our proposition, are as follows:

The Principle of Relativity Einstein proposes that the laws of physics will be the same for all observation frames that move steadily without acceleration and which do not rotate around their own axis, but the results will be different (Relativity 2021b).

The difference between Einstein's proposition and our proposed principle of relativity is that the proposed relativity model tells us that **no matter what the unaccelerated steady motion of** a system is, the laws of physics and **temporal** results will be the same in all observation frames, i.e., the time of the system **will not change**. However, it suggests that the time of systems subjected to **acceleration** or **gravitation will change** (Dervisoglu 2019).

Invariance of The Speed of Light Einstein proposes that the speed of light will be the same for every observer, regardless of the non-accelerated motions of the observers. This principle also holds in our proposed theory of relativity.

The Proposed Relativity Model

Let us define the proposed relativity model on a system: For example, the light thrown from a stationary system in the (x, y, z) directions at "t = 0" time will spread in the following way (Fig. 12).

$$0 = r - ct_{öz}, \tag{13}$$

$$0 = x^2 + y^2 + z^2 - c^2 t_{öz}^2. \tag{14}$$

In addition, we know that when we do this experiment again, it will give the same result. It is strongly suggested here that the particles move (float) within the ether.

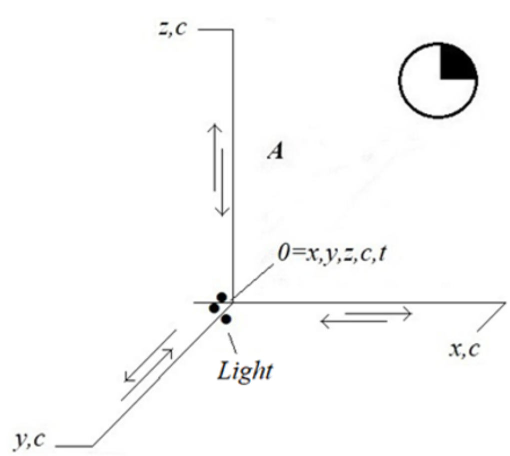

Figure 10 Inert system.

We are suggesting that when this system moves in the "x" direction with half the speed of light ($0.5c$), the mass of the system (m), the lengths (x, y, z) and the communication speed of light at those lengths (c) or the speed of the rotating clock wheel will decrease equally (Fig. 13).). That is, when the system moves, it has less mass, length, and internal movement velocity than at rest:

$$x' = m' = c' = 1 - v^2/(c + v_g)^2 \tag{15}$$

$$y' = m' = c' = \sqrt{1 - v^2/(c + v_g)^2} \tag{16}$$

$$z' = m' = c' = \sqrt{1 - v^2/(c + v_g)^2} \tag{17}$$

Although the internal movement speed of the system (c or the speed of the clock wheel and the speed of the clock) decreases here, the system is moving with the internal rotational speed. The time of the system preserves itself toward invariance within an equal change in lengths, i.e., it does not change:

$$0 = x' - c' = y' - c' = z' - c' \tag{18}$$

$$1 = t'_{\text{öz}} = \frac{x'}{c'} = \frac{y'}{c'} = \frac{z'}{c'} \tag{19}$$

Therefore, regardless of the unaccelerated speed of the system, its time (amount of movement) does not change. When we look at the propagation of light with the changes, estimated from equations (15, 16, 18, and 19), we propose in mobile systems; it will spread following the Equation (20):

$$0 = x'^2 + y'^2 + z'^2 - c'^2 t_{\text{öz}}^2 \tag{20}$$

For Equation (20) to be a result of Equation (14), Equation (21) must be satisfied:

$$x^2 + y^2 + z^2 - c^2 t_{\text{öz}}^2 = x'^2 + y'^2 + z'^2 - c'^2 t_{\text{öz}}^2 \tag{21}$$

If we look at the force balance in the ratio of mass to length within these changes, we propose in the system: gravity also preserves itself toward invariance within the equal variation of the lengths (x', y', z'):

$$1 = F = \frac{m'^2}{x'^2} = \frac{m'^2}{y'^2} = \frac{m'^2}{z'^2} \tag{22}$$

In the mathematical model suggested above, we can naturally fall into the perception that the movement (time) in the system traveling at the speed of light will stop. However, as per the conversion equations we suggested above (15–16-17), there is movement everywhere that there is a mass, and time flow everywhere there is a movement, since the mass of the system traveling at the speed of light is not at the zero point.

For example, when the speed "v" of the system in Fig. 13 is "c," the observer measures "v_g" speed of light as the "c" speed. In other words, even if the system is close to the zero point, it carries all the physical values that will show that it is there. These transformation or change equations (15–16-17) that we propose in moving systems become the mathematical theory of relativity.

Note: The effect that causes this change in mobile systems is the resistance of the object to the change in velocity (Dervisoglu 2019). However, the content of this resistance is not the subject of this article.

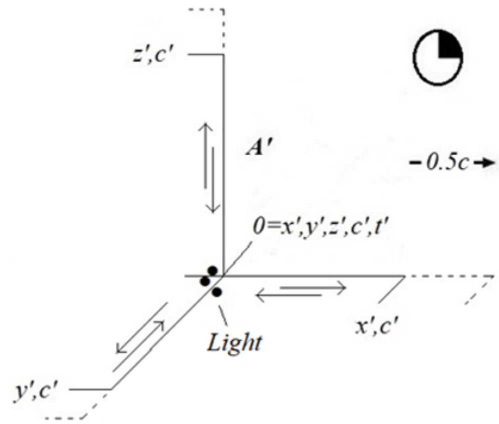

Figure 11 When the system travels at 0.5c speed of light.

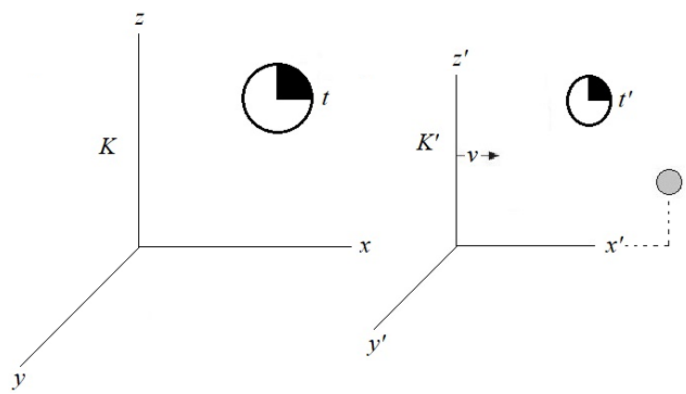

Figure 12 When switching from one inert system to another mobile system.

Conversion Formulas

When moving from an inert K system to another mobile K' system, we propose transition formulas in which time (1=substance) does not change within the invariance of the laws of physics, instead of the Lorentz transformation formulas (2-3-4-5-6) (23-24-25).

$$x' = \frac{x - vt}{1 - v^2/(c+v_g)^2} \tag{23}$$

$$y' = z' = \frac{y = z}{\sqrt{1 - v^2/(c+v_g)^2}} \tag{24}$$

$$t' = t - \frac{vx}{c^2} \tag{25}$$

The transformation formulas we suggested above can be valid for measuring the distance of K from the point P when moving from the stationary system K to the mobile system K. The stationary system is not valid for the speed of light traveling from K to P (Dervisoglu 2019).

Mathematical Description of the Michelson–Morley Experiment

In the framework of the proposed mathematical model, the Michelson–Morley experiment visual and mathematical test results are presented in Fig. 13. It can be seen that the proposed mathematical model is compatible with Maxwell's equations (Maxwell 1873) (the speed of light appears to be the same in all directions in unaccelerated motion systems).

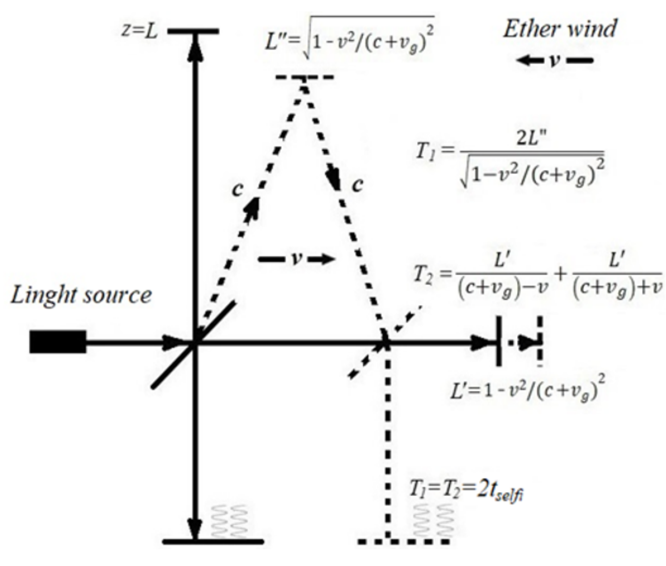

Figure 13 The equation we propose in the Michelson-Morley experiment.

Fixed Multiplier (İ)

We define the closed (non-directional) form of the proposed mathematical model on moving systems as the constant multiplier (Đ):

$$Đ = \frac{\left(1 - \frac{v^2}{(c+v_g)^2}\right) + \left(\sqrt{1 - \frac{v^2}{(c+v_g)^2}}\right) + \left(\sqrt{1 - \frac{v^2}{(c+v_g)^2}}\right)}{3} \tag{26}$$

***L' = ĐL*:** (x, y, z) lengths of the system,
***m' = Đm*:** Mass of the system,
***c' = Đc*:** Speed of the inner system communicating at a speed of light,
***v' = Đv*:** Internal speed of the system,
***E' = ĐE*:** Internal energy of the system.

For Equation (26) to be a result of Equation (20), Equation (27) must be true.

$$x'^2 + y'^2 + z'^2 - c'^2 t_{öz}^2 = ĐL^2 - Đc^2 t_{öz}^2 \tag{27}$$

Notice that there is no time (t) in the transformations suggested in Equation (27). The lack of time, as we said above, is that the time of the system (1 = t_{core}) will not change (universal) regardless of the unaccelerated speed of the system. However, we are suggesting a **changing** time in systems entering or existing in a gravitation field or in systems **accelerating** in the framework of equality of gravity and acceleration. Nevertheless, the definition of this universal and relative time that we propose is not the subject of this article (Dervisoglu 2019).

CONCLUSIONS AND RECOMMENDATIONS

In this study, we proposed **a relativity model**. The proposed mathematical model is a summary of the theory of relativity in our book "The Great Formation" universe model. We can briefly explain our book as following: Although "the Great Formation" is a different universe model, we are proposing a new gravity model under the name "general model of gravity." The gravity that we propose is described in the quantum-scale mechanism within the standard model. The "general model of gravity" also introduces a different theory of relativity that we have summarized above.

Here we propose the ultimate unattainable speed "$c + v_g$" of the universe, which we suggested in the description of events above, as a new physical law. Although this speed ($v_g = 2.10^{-16} = 0.0000000000000002 m/s$), which we suggest as a plus (+) to the speed of light, seems like a very small speed, we can describe all events in the universe with this velocity. Thus, with this ($c + v_g$) speed, we propose a different dimension and a different meaning to the definition of events. Some of these are as follows:

- The further away we observe in space, the more we observe the spectrum of light shifting toward red. This observed redshift is a measure of the amount of matter in that observed radius.
- The farther away the electron (photon) reaches from us, the more it is absorbed, i.e., it loses energy (momentum).
- The universe keeps its entropy in balance by cooling the radiated energy. That is, the entropy of the universe does not change.
- In the inverse proportion that we propose between mass and motion, mass becomes a different form of motion.
- Regardless of the steady motion of a system without **acceleration**, its time will preserve itself toward invariance within the invariance of the laws of physics, i.e., it **will not change**.
- The time of systems entering or exiting a gravitational field or systems accelerating within the framework of the gravitational acceleration equation **will change**.
- In the framework of the final velocity "$c + v_g$" (law) of the universe that we proposed, the result of an event "x" may be "$0 < x$" close to zero or "$\infty > x$" close to infinity, but it cannot be zero "$0 = x$" or infinity "$\infty = x$".
- The mass (m) of the moving systems, the (x, y, z) lengths and the communication speed of light (c) will decrease equally and when the speed "v" of the object is "c," this decrease will be close to the zero point, but it will not be at the zero point. The fact that it is not at the zero point is a result of the final velocity "$c + v_g$" (law) of the universe we proposed.

We have many propositions that we cannot list here yet. In addition, the content of our propositions here has much broader explanations and equations but it is the subject of our book "The Great Formation" universe model, the 3^{rd} edition of which has not been published yet.

Conflicts of interest

The author declares that there is no conflict of interest regarding the publication of this paper.

Availability of data and material

Not applicable.

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