Quantization of general relativity is impossible if space has slope

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Abstract

Several attempts to develop a quantum theory of gravity based on Einstein's theory of general relativity have been made. This study shows that the quantization of general relativity is impossible if space is sloped. The slope of space creates a new kind of energy that causes objects, such as bodies, particles, and gravitational waves, to slide backward during their forward motion (similar to sliding during hill climbing). This energy causes gravitational waves, bodies, particles, and light to experience slight resistance while spreading or progressing forward in space and time. I find that if absolute space supposed by Newton is sloped space, many phenomena will be created such as time dilation, space & time reversal, emergence of space-time, constancy of speed of light and gravity reversal. The conclusions drawn in this study refer to the "gravity is non quantum if space has slope, where the reversed time between two moving particles is more than or equal to the time interval between these two particles, or the reversed space between two moving particles is more than or equal to the space interval between these two particles." This work does not aims to prove existence or absence of gravity at the smallest scale; rather it aims to show that there is a new property related to space that if it exists, quantum theory of gravity becomes unnecessary, therefore testing of this property must be included in the interests of applied physicists in the next days.

Keywords

Classical mechanics, special relativity, general relativity, quantum gravity

Introduction

Modern physics has two fundamental areas: general relativity and quantum mechanics. Each area describes the universe at different scales. General relativity[1,2] is a theoretical framework that focuses only on gravity to describe the universe at a large scale, such as the orbits of planets and spacecraft in the solar system. Quantum mechanics is a theoretical framework that focuses only on three non-gravitational forces (i.e., weak, strong, and electromagnetic forces) to understand the universe at the scale of atoms and subatomic particles (small scale)[3-5].One of the most critical unresolved problems in theoretical physics is the incompatibility between Einstein's classical theory of general relativity and quantum mechanics. Both theories are well developed and have been tested[6,7]. However, each theory fails when applied in the domain of the other[8].Thus, the two theories have a limited ability to describe the universe. One must unify these theories and make them compatible, which leads to the quantum theory of gravity. In addition to the fact that our description of nature is incomplete with the current theories, physicists search for a theory of quantum gravity because of the incompatibility between the two areas of physics. A quantum theory of gravity, or quantum gravity[9], is a field of theoretical physics that seeks to describe gravity according to the principles of quantum mechanics. Formulating a theory of quantum gravity has been one of the most difficult problems in modern physics. Over several years, there have been multiple failed attempts to incorporate gravity into the quantum framework[10-12] as if it were just another force like electromagnetism or nuclear forces. Such models provide unphysical results (physical quantities predicted as having infinite values) and have no predictive power. In addition, these models fail to provide an acceptable explanation of how the universe (that is described by general relativity) can be created from such a quantum foundation. Thus, until now, the question of how a proper quantum theory of gravity should look has not been given a complete answer[13,14]. The present study shows that the difficulties in reconciling quantum mechanics and gravity into a form of quantum gravity may be result from the non-existence of gravity at the scale of atoms and subatomic particles. Thus, the theory of quantum gravity does not exist in nature. This conclusion arises from the two following postulates considered herein:

- Space and time are absolute in nature as Newton suppose.
- Space is sloped.

This study introduces the space–time continuum as an emerging phenomenon based on the absolute nature of space and time and the slope of space. To prevent confusion, this study provides a new analysis on the constancy of the speed of light, special relativity, absolute Newtonian space and time, Lorentz transformation, Minkowski space–time, dimensions of the universe and gravity. A new theory on all these concepts is also established without interfering with previous experimental work[15,16]. According to the two mentioned postulates, new dimensions are created, these dimensions are referred to as reverse space–time, which is similar to the motion of cars along a hill in races, where cars suffer from resistance to move forward or slid backward during their motion to forward. The distance that the cars regress and the time that the cars delay to move forward consider the dimensions within which the cars exist. This study has the following idea: the absolute space is a hill, and moving bodies suffer from resistance to move forward in absolute space and time; hence, they reverse slightly backward in space and time.

Results

Re-calculation of the distance that light travels between two moving systems if time is absolute

This section describes the calculation of the difference, Δx , between the distances that light travels in frames S' and S (frames in a uniform relative motion) according to the presence of a universal time between the two frames. In the next section, I will show and explain where light travels along this distance, Δx and explain the physical meaning or the physical name of Δx . Suppose that a vertical light beam is emitted in the x' direction in frame S'. Our first postulate states that time is absolute. Thus, x', which represents the distance that the light beam travels in frame S', can be given in the presence of absolute time, t_{ab} ,as follows:

$$t_{ab} = \frac{x'}{c}, \qquad (1)$$

$$x' = c.t_{ab}. \qquad (2)$$

The transformed distance, x , which refers to the distance that light travels in frame S', from the perspective of the observers in frame S can be given as follows in the presence of a universal time:

$$(c.t_{ab})^2 = (x)^2 + (v.t_{ab})^2, \qquad (3)$$

$$c^2 = \left(\frac{x}{t_{ab}}\right)^2 + v^2,$$

$$\sqrt{c^2 - v^2} = \frac{x}{t_{ab}},$$

$$t_{ab} = \frac{x}{\sqrt{c^2 - v^2}},$$

$$t_{ab} = \frac{x}{\sqrt{c^2\left(1 - \frac{v^2}{c^2}\right)}},$$

$$t_{ab} = \frac{x}{c\sqrt{1 - \frac{v^2}{c^2}}},$$

$$x = c.t_{ab}\sqrt{1 - \frac{v^2}{c^2}}. \qquad (4)$$

The difference between the distances (Δx) that light travels between frames S' and S is given as follows according to Eqs. (2)–(4):

$$\Delta x = x' - x, \qquad (5)$$

$$\Delta x = c.t_{ab} - c.t_{ab}\left(\sqrt{1 - \frac{v^2}{c^2}}\right),$$

$$\Delta x = c.t_{ab}\left(1 - \sqrt{1 - \frac{v^2}{c^2}}\right). \qquad (6)$$

We obtain the three following important equations based on the mathematics in this section:

$$x' = c.t_{ab},$$

$$x = c.t_{ab}\sqrt{1-\frac{v^2}{c^2}},$$

$$\Delta x = c.t_{ab}\left(1-\sqrt{1-\frac{v^2}{c^2}}\right). \qquad (7)$$

Space of moving bodies is reversed with respect to the stationary frame of reference

According to the first postulate, "space is absolute." If this is valid, it should be determined why light travels a shorter distance (x) in frame S compared to that (x') in frame S' and where light travels along the distance Δx determined in the previous section. According to the second postulate, which states that "space is sloped," the moving frame S' slightly slides backward with respect to the observers of the stationary frame S .This divides or classifies the distance that the light travels in frame S', from the perspective of the observers in frame S into two kinds with two different directions: the distance that the light travels or progresses to forward (x_f) (with forward motion of the moving frame) and the distance that the light travels or regresses to backward during sliding of the moving frame (with backward motion of the moving frame) (x_b).The sum of the two distances that the light travels to backward and forward in frame S', from the perspective of the observers in frame S is equal to the distance (x') that the light travels in frame S' from the perspective of the observers in the same frame S'. By this explanation, the distance that the light travels is the same for all the frames of reference (Fig. 1):

$$x' = x, \qquad (8)$$

$$x' = x_f + x_b, \qquad (9)$$

where,

$$x_f = c.t_{ab}\sqrt{1-\frac{v^2}{c^2}}, \qquad (10)$$

$$x_f = \frac{x'}{\gamma}, \qquad (11)$$

$$x_b = c.t_{ab}\left(1-\sqrt{1-\frac{v^2}{c^2}}\right), \qquad (12)$$

$$x_b = x'\left(1-\frac{1}{\gamma}\right), \qquad (13)$$

where γ is the Lorentz factor. This phenomenon is named herein as "space reversal," which refers to the reversal of the space of moving bodies with respect to a stationary frame of reference because of the slope of space.

Time of moving bodies is reversed with respect to the stationary frame of reference

As mentioned in the previous section, the moving frame S' slightly slides backward because of the slope of space, thereby leading to the reversal of the time of frame S' with respect to the observers in frame S .The reversed time (t_b) of frame S' as measured in frame S can be derived using the following equations if the backward distance that light reverses in frame S' as measured in frame S is x_b:

$$(c.t_b)^2 = (x_b)^2 + (v.t_b)^2, \qquad (14)$$

$$(c.t_b)^2 = \left(c.t_{ab}\left(1-\sqrt{1-\frac{v^2}{c^2}}\right)\right)^2 + (v.t_b)^2,$$

$$c^2 = \left(\frac{c.t_{ab}}{t_b}\left(1-\sqrt{1-\frac{v^2}{c^2}}\right)\right)^2 + v^2,$$

$$c^2 - v^2 = \left(\frac{c.t_{ab}}{t_b}\right)^2\left(1-\sqrt{1-\frac{v^2}{c^2}}\right)^2,$$

$$\frac{c^2 - v^2}{c^2} = \left(\frac{t_{ab}}{t_b}\right)^2\left(1-\sqrt{1-\frac{v^2}{c^2}}\right)^2,$$

$$1-\frac{v^2}{c^2} = \left(\frac{t_{ab}}{t_b}\right)^2\left(1-\sqrt{1-\frac{v^2}{c^2}}\right)^2,$$

$$\sqrt{1-\frac{v^2}{c^2}} = \frac{t_{ab}}{t_b}.\left(1-\sqrt{1-\frac{v^2}{c^2}}\right),$$

$$1 = \frac{t_{ab}}{t_b}.\left(\frac{1}{\sqrt{1-\frac{v^2}{c^2}}}-1\right),$$

$$t_b = t_{ab}\cdot\left(\frac{1}{\sqrt{1-\frac{v^2}{c^2}}}-1\right),$$

$$t_b = t_{ab}.(\gamma - 1). \qquad (15)$$

The reversed time of the moving frame S' with respect to the observers in frame S is determined using Eq. (15).This phenomenon is named here as “time reversal” (Fig.2), which refers to the reversal of the time of moving bodies with respect to a stationary frame of reference because of the slope of space. According to Eq. (15), the reversed time (t_b) of the moving bodies is relative depending on the velocity of the moving bodies from the perspective of the stationary observer. This finding is different from the nature of time or progressing time (t_{ab}) that is absolute for everyone everywhere (independent of the motion of the bodies). Therefore, “time moves forward absolutely (as Newton suppose) and backward relatively.”

Calculation of the elapsed time in the moving frames with respect to the stationary frame of reference "time dilation"

Like a car that moves slowly because it is climbing a hill, the time of the moving bodies moves slowly because of the slope of space. The total elapsed time (t) in the moving frame with respect to the stationary frame of reference can be calculated as follows:

$$t = t_{ab} + t_b, \qquad (16)$$

$$t = t_{ab} + \left[t_{ab}\left(\gamma - 1\right)\right],$$

$$t = t_{ab} + \left(\gamma t_{ab} - t_{ab}\right),$$

$$t = t_{ab} + \gamma t_{ab} - t_{ab},$$

$$t = \gamma t_{ab}. \qquad (17)$$

According to Eq. (17), the elapsed time t in frame S' with respect to the observers in frame S becomes higher than the elapsed time t_{ab} in frame S' with respect to the observers in the same frame. This phenomenon is known as "time dilation" and it is the most important result of special relativity. This section shows how the result of "time dilation" can be obtained according to the "reversal of time" phenomenon. "Time in moving frames moves forward absolutely (as Newton suppose) and backward relatively, where the final result refers to the dilation of the elapsed time in the moving frames with respect to the stationary frame of reference depending on the velocities of the moving frames as measured in the stationary frame of reference (as Einstein suppose)".

Dimensions of the universe

We describe the classification of the dimensions of the universe in this section.
First, according to the previous sections, the progressing time (forward) in frames S' and S is absolute, while the distance that light travels forward is relative between the two frames:

$$t_f = t'$$

$$x_f = \frac{x'}{\gamma}. \qquad (18)$$

Thus, three relative space dimensions are acquired while the time dimension is full absolute. It cannot be considered as a fourth dimension as it moves (progresses) regularly for everyone everywhere. The three relative dimensions of space are called the "relative space", and the relative space is considered a separated universe called the "relative universe."
Second, according to the previous sections, the space and time of frame S' are reversed with respect to observers in frame S (depending on the relative velocity of frame S'). The reversed space and time in frame S are measured as follows:

$$t_b = (\gamma - 1)t',$$

$$x_b = \left(1 - \frac{1}{\gamma}\right)x'. \qquad (19)$$

Thus, three dimensions of the relative reversed space and one dimension of the relative reversed time are obtained. The four dimensions of space and time are called "reversed space-time" and considered as a separated universe called the "reversed universe."
Third, if we unify "relative universe" and "reversed universe," we find that the elapsed time t in frame S' with respect to the observers in frame S becomes more than the elapsed time t' in frame S':

$$t = t_f + t_b,$$
$$t = \gamma t'. \qquad (20)$$

The distance that light travels backward in frame S (x_b) and the distance that light travels forward in frame S (x_f) are equal to the distance that light travels in frame S' (x'). Thus, space is absolute, where the distance that light travels is the same for all the frames of reference:

$$x = x_f + x_b,$$
$$x = x'. \qquad (21)$$

We obtain six dimensions of space (i.e., three dimensions of the "relative space" and three dimensions of the "reverse space"). The final result of motion in these six dimensions is the absoluteness of space, where the distance that light travels is the same for everyone anywhere (light travels the same distance in the Abdelwhab space). The seventh dimension is the "reverse time." Hence, three dimensions of the "relative space" and four dimensions of the "reverse space-time" are obtained. The seven dimensions are called the "Abdelwhab universe." Within these dimensions, space is absolute, while time is relative between frames. The Abdelwhab universe can be considered as a unified universe that combines the two previous universes (i.e., "relative universe" and "reverse universe"), as shown by the following equation:

$$7D \ Abdelwhab \ space\text{–}time = 3D \ relative \ space + 4D \ reverse \ space\text{–}time. \qquad (22)$$

The Abdelwhab universe consists of two different universes. Each universe has a certain number of dimensions and its own coordinates (Fig.3), which leads to the possibility of the moving bodies travelling within the two universes from one to another and their appearance in one universe and disappearance from another. This point is explained further in Section 2.8.

Abdelwhab transformations between two coordinate systems

The Lorentz transformations are coordinate transformations between two coordinate frames that move at a constant velocity relative to each other[20,21]. Consider that a "stationary" observer in frame S defines the events using coordinates (t, x, y, z), while another frame S' moves with a velocity v relative to S. An observer in this "moving" frame defines the events using coordinates (t', x', y', z'). If an observer in S records an event with coordinates (t, x, y, z), an observer in S' records the same event with the coordinates obtained using the following equations:

$$t' = \gamma\left(t - \frac{vx}{c^2}\right),$$
$$x' = \gamma\left(x - vt\right),$$
$$y' = y,$$
$$z' = z. \qquad (23)$$

In addition, if an observer in S' records an event with coordinates (t', x', y', z'), an observer in S notes the same event with the coordinates obtained using the following equations:

$$t = \gamma\left(t' + \frac{vx'}{c^2}\right),$$
$$x = \gamma\left(x' + vt'\right),$$
$$y = y',$$
$$z = z'. \qquad (24)$$

According to the equations in the previous sections, the coordinate transformations between two coordinate frames that move at a constant velocity relative to each other in the Abdelwhab space–time will have different equations from the Lorentz's equations. If an observer in S' records an event with coordinates (t', x', y', z'), an observer in S records the same event with the coordinates (t) obtained using the following equations:

$$t_f = t' + \frac{vx'}{c^2},$$
$$t_b = (\gamma - 1)\left(t' + \frac{vx'}{c^2}\right),$$
$$t = t_f + t_b = \gamma\left(t' + \frac{vx'}{c^2}\right). \qquad (25)$$

And with the coordinates (x) obtained using the following equations:

$$x_f = \gamma\left(x' + vt'\right),$$
$$x_b = (1 - \gamma)\left(x' + vt'\right),$$
$$x = x_f + x_b = x' + vt'. \qquad (26)$$

Thus we can consider Eqs. (25) and (26) to get the coordinates (t, x, y, z) that the observer in S records by it the same event using the following equation,

$$t = \gamma\left(t' + \frac{vx'}{c^2}\right),$$
$$x = x' + vt',$$
$$y_f = y',$$
$$z_f = z',$$
$$y_b = y',$$
$$z_b = z'. \qquad (27)$$

In addition, if an observer in S' records an event with coordinates (t', x', y', z'), an observer in S notes the same event with the coordinates obtained using the following equations:

$$t' = \gamma\left(t - \frac{vx}{c^2}\right),$$
$$x' = x - vt,$$
$$y' = y_f = y_b,$$
$$z' = z_f = z_b. \qquad (28)$$

Regarding to the velocity, the velocities of the objects in different reference frames are determined using Einstein addition formula. For example, the speed of light equals c in a moving frame S'

$$v = \frac{forward \;\; in \;\; space}{required \;\; time}$$

$$v = \frac{x_f}{t}. \quad (29)$$

thus

$$v = \frac{\gamma(x' + vt')}{\gamma\left(t' + \frac{vx'}{c^2}\right)}, \quad (30)$$

where the velocity of frame S' is v , as measured in frame S . The speed of light u in frame S is given as follows using Eq. (6):
By this method, the velocities of the objects in different reference frames are determined using Einstein addition formula.
Therefore, the speed of light is constant for all observers independent of the light source motion. This result represents the postulate of special relativity known as "the principle of invariant light speed"[19].

Light in the Abdelwhab universe (seven-dimensional universe)

In the previous sections, we discussed the results related to the transformation between two coordinate frames that move at a constant velocity relative to each other. In this section and the next, we discuss the results related to the distance that the light travels from a frame toward another frame within the Abdelwhab universe. The motion of light can be described as follows within the "Abdelwhab space–time":

$$Light \;\; travels \;\; through \rightarrow \;\; Dimensions \;\; of \;\; the \, Abdelwhab \; universe. \qquad (31)$$

ΔX_{Abd} represents the distance that the light travels through the Abdelwhab universe. ΔX stands for the distance that the light travels through the relative universe. Meanwhile, ΔX_b represents the distance that the light travels through the reversed universe (Fig. 4). We can now obtain ΔX_{Abd} using the following equation:

$$(\Delta X_{Abd})^2 = (\Delta X)^2 + (\Delta X_b)^2, \qquad (32)$$

$$\Delta X_{Abd} = \sqrt{(\Delta X)^2 + (\Delta X_b)^2},$$

and as:

$$\Delta X_b = \Delta X\left(1 - \frac{1}{\gamma}\right). \qquad (33)$$

We then find the following equations:

$$\Delta X_{Abd} = \sqrt{(\Delta X)^2 + \left(\Delta X\left(1 - \frac{1}{\gamma}\right)\right)^2},$$

$$\Delta X_{Abd} = \sqrt{(\Delta X)^2\left(1 + \left(1 - \frac{1}{\gamma}\right)^2\right)},$$

$$\Delta X_{Abd} = \Delta X\sqrt{1 + \left(1 - \frac{1}{\gamma}\right)^2}.$$

We acquire the following from Eq. (33):

$$\Delta X_{Abd} = \Delta X\sqrt{1 + \left(\frac{\Delta x_b}{\Delta x}\right)^2},$$

and as:

$$S = \frac{verticale\ \ change}{horizontal\ \ change} = \frac{(x_b)_1 - (x_b)_2}{(x)_1 - (x)_2}, \qquad (34)$$

$$S = \frac{\Delta x_b}{\Delta x}, \qquad (35)$$

where S refers to the slope of space between two moving bodies.

$$\Delta X_{Abd} = \Delta x\sqrt{1+S^2}. \qquad (36)$$

The distance that the light travels between the moving bodies through the Abdelwhab universe is calculated using Eq. (32). Eq. (36) is divided by (c) to determine the time required for light to travel through the Abdelwhab universe:

$$\Delta t_{Abd} = \Delta t\sqrt{1+S^2}. \qquad (37)$$

The angle of slope between two moving bodies is determined as follows:

$$Angle\ \ of\ \ \ Slope = \tan^{-1}(S), \qquad (38)$$

$$Angle\ \ of\ \ \ Slope = \tan^{-1}\left(\frac{\Delta x_b}{\Delta x}\right). \qquad (39)$$

According to Eq. (36), the distance that the light travels in the Abdelwhab universe ΔX_{Abd} is more than the distance that the light travels in the relative universe ΔX . This phenomenon is currently known as the expansion of the universe. In this section, I clarify that this phenomenon does not refer to the expansion of the universe, but to the motion of light through two different universes (i.e., reversed universe and relative universe). By this method, light travels a longer distance and takes more time to reach the observer compared to when it travels through a single universe only.

Actions in the Abdelwhab universe (seven-dimensional universe)

The actions of the moving bodies on the surrounding space and time can be described as follows within the dimensions of the "Abdelwhab space–time":

$$Actions\ \ \rightarrow Dimensions\ \ of\ \ the\ Abdelwhab\ \ universe. \qquad (40)$$

We obtain the following formula using Eq. (32):

$$x_{Abd} = \sqrt{x^2 + x_b{}^2}, \qquad (41)$$

$$t_{Abd} = \sqrt{t^2 + t_b{}^2}. \qquad (42)$$

The reversal of the space and time of moving bodies with respect to the stationary frames of reference affects the actions of these moving bodies on the surrounding space and time. An action cannot progress forward in time if the time required for it is less than or equal to the reversed time of the acting body (that creates the action) with respect to the stationary frame of reference. Thus, it exists only in the "reverse space–time", and not in the "relative space." Meanwhile, an action can progress forward in time if the time required for it is more than the reversed time of the acting body with respect to the stationary frame of reference. Hence, it exists in both the "reverse space–time" and the "relative space." In other words, it exists in the "Abdelwhab space–time" as follows:

$$\Delta t = zero\ \ \text{"Reverse Universe"},\ \ if\ \ \ (t_{Abd})_{action} \le (t_b)_{acting\ body},$$

$$\Delta t \rangle zero,\ \ \text{"Abdelwhab Universe"}\ if\ \ \ (t_{Abd})_{action} \rangle (t_b)_{acting\ body}. \qquad (43)$$

An action cannot progress forward in space if the distance traveled by the action is less than or equal to the reversed space of the acting body (that creates the action) with respect to the stationary frame of reference. Thus, it exists only in the “reverse space–time,” but not in the “relative space.” An action can progress forward in space if the distance it traveled is more than the reversed space of the acting body with respect to the stationary frame of reference. In other words, it exists in both the “reverse space–time” and the “relative space.” It also exists in the “Abdelwhab space–time” as follows:

$$\Delta x = zero \;\; \text{"Reverse Universe"}, \;\; if \;\; (x_{Abd})_{action} \le (x_b)_{acting\ body} \,,$$
$$\Delta x \rangle zero, \;\; \text{"Abdelwhab Universe"} \;\; if \;\; (x_{Abd})_{action} \rangle (x_b)_{acting\ body} \,. \qquad (44)$$

Reversal of gravity

According to Section 2.5, the Abdelwhab universe consists of two different universes, namely the “relative space universe” and the “reverse space–time.” Therefore, the question is: what about gravity in these universes? Newton's law of universal gravitation is given here as follows:

$$F = G\,\frac{m_1.m_2}{(r)^2}. \qquad (45)$$

We can apply the same formula for the two universes as follows:

$$F = G\,\frac{m_1.m_2}{(r_{Relative\ universe})^2}, \qquad (46)$$
$$F_b = G\,\frac{m_1.m_2}{(r_{Reverse\ universe})^2}, \qquad (47)$$

where F is the gravity in the relative universe called “relative gravity”, and F_b is the gravity in the reverse universe called “reversed gravity” (Fig. 5). The total value of gravity in the Abdelwhab universe F_{Abd} is obtained as follows by knowing the relative gravity F and the reversed gravity F_b:

$$F_{Abd} = F - F_b. \qquad (48)$$

Mathematics of gravity in the relative universe and the reversed universe
As a reaction to the slope of space, some of the gravitational waves are reversed and act on the same body that creates them (push the same body that creates them backward). These gravitational waves are referred to as “reversed gravity.” The rest of the gravitational waves created by that body acts on the surrounding bodies. These waves are referred to as “gravity.”

The reversed gravity (F_b) always exists, but gravity (F) does not (its value is equal to zero) if the distance that the gravitational waves travel in the Abdelwhab space–time is equal to or less than the reversed distance of the acting body that creates these gravitational waves.

$$F = G\,\frac{m_1.m_2}{(\Delta X)^2}, \qquad (49)$$

and as,

$$\left(\Delta X\right)^2 = \left(\Delta X_{Abd}\right)^2 - \left(\Delta X_b\right)^2 . \qquad (50)$$

We acquire Eq. (50) as follows:

$$F = G\,\frac{m_1 . m_2}{(\Delta X_{Abd})^2 - (\Delta x_b)^2} . \qquad (51)$$

Meanwhile,

$$F_b = G\,\frac{m_1 . m_2}{(x_b)^2} . \qquad (52)$$

We obtain the following using Eq. (50):

$$F_b = G\,\frac{m_1 . m_2}{(\Delta X_{Abd})^2 - (\Delta x)^2} . \qquad (53)$$

Calculation of the universal gravitation law in the Abdelwhab universe

The following formula is obtained using Eq. (36):

$$\Delta X = \frac{\Delta X_{Abd}}{\sqrt{1+S^2}} .$$

The universal gravitation law in the relative universe is given as:

$$F = G\,\frac{m_1 . m_2}{\left(\frac{X_{Abd}}{\sqrt{1+S^2}}\right)^2} , \qquad (54)$$

$$F = G\,\frac{m_1 . m_2\left(1+S^2\right)}{(\Delta X_{Abd})^2} . \qquad (55)$$

Meanwhile, the universal gravitation law in the reversed universe can be derived as follows according to Eq. (32):

$$\Delta X_{Abd} = \sqrt{(\Delta X)^2 + (\Delta X_b)^2} , \qquad (56)$$

$$\Delta X_{Abd} = \sqrt{\left(\frac{\Delta X_b}{1-\frac{1}{\gamma}}\right)^2 + (\Delta X_b)^2} ,$$

$$\Delta X_{Abd} = \sqrt{(\Delta X_b)^2\left(\left(\frac{1}{1-\frac{1}{\gamma}}\right)^2 + 1\right)} ,$$

$$\Delta X_{Abd} = \Delta X_b \sqrt{\left(\left(\frac{1}{1-\frac{1}{\gamma}}\right)^2 + 1\right)} ,$$

$$\Delta X_b = \frac{\Delta X_{Abd}}{\sqrt{\left(\frac{1}{S}\right)^2 + 1}} . \qquad (57)$$

We find the following equation using Eqs. (52) and (57):

$$F_b = G\frac{m_1.m_2\left(\left(\frac{1}{S}\right)^2+1\right)}{(\Delta X_{Abd})^2}. \qquad (58)$$

Therefore, we have two important equations presented as follows:

$$F = G\frac{m_1.m_2\left(1+S^2\right)}{(\Delta X_{Abd})^2},$$

$$F_b = G\frac{m_1.m_2\left(1+\left(\frac{1}{S}\right)^2\right)}{(\Delta X_{Abd})^2}, \qquad (59)$$

and as,

$$F_{Abd} = F - F_b.$$

We obtain the following equations:

$$F_{Abd} = \left(\frac{G.m_1.m_2\left(1+S^2\right)}{(\Delta X_{Abd})^2}\right) - \left(\frac{G.m_1.m_2\left(1+\left(\frac{1}{S}\right)^2\right)}{(\Delta X_{Abd})^2}\right), \qquad (60)$$

$$F_{Abd} = \frac{\left(G.m_1.m_2\left(1+S^2\right)\right)-\left(G.m_1.m_2\left(1+\left(\frac{1}{S}\right)^2\right)\right)}{(\Delta X_{Abd})^2},$$

$$F_{Abd} = \frac{(G.m_1.m_2)\left(\left(1+S^2\right)-\left(1+\left(\frac{1}{S}\right)^2\right)\right)}{(\Delta X_{Abd})^2},$$

$$F_{Abd} = G\frac{m_1.m_2\left(1+S^2-1-\left(\frac{1}{S}\right)^2\right)}{(\Delta X_{Abd})^2}.$$

$$F_{Abd} = G\frac{m_1.m_2\left(S^2-\left(\frac{1}{S}\right)^2\right)}{(\Delta X_{Abd})^2}. \qquad (61)$$

Eq. (61) shows the universal gravitation law in the Abdelwhab universe.

Calculation of the relative gravity and the reverse gravity according to each other

$$F = G\frac{m_1.m_2\left(1+S^2\right)}{(\Delta X_{Abd})^2},$$

$$\left(\Delta X_{Abd}\right)^2 = G.\frac{m_1.m_2\left(1+S^2\right)}{F}, \qquad (62)$$

$$F_b = G\frac{m_1.m_2\left(\left(\frac{1}{S}\right)^2+1\right)}{(\Delta X_{Abd})^2},$$

We obtain the following using Eq. (62):

$$F_b = G\frac{m_1.m_2\left(\left(\frac{1}{S}\right)^2+1\right)}{\left(G.\frac{m_1.m_2\left(1+S^2\right)}{F}\right)},$$

$$F_b = \left(G.m_1.m_2\left(\left(\frac{1}{S}\right)^2+1\right)\right).\left(\frac{F}{G.m_1.m_2\left(1+S^2\right)}\right),$$

$$F_b = \left(\left(\frac{1}{S}\right)^2+1\right).\left(\frac{F}{\left(1+S^2\right)}\right),$$

$$F_b = F\frac{1+\left(\frac{1}{S}\right)^2}{1+S^2}, \qquad (63)$$

$$F = F_b\frac{1+S^2}{1+\left(\frac{1}{S}\right)^2}. \qquad (64)$$

Discussion

For several years, multiple attempts have been made to find a theory of quantum gravity, which is a field of theoretical physics that seeks to describe gravity according to the principles of quantum mechanics. Until now, no certain theory of quantum gravity has been created; there is a total lack of evidence of any quantum nature of gravity. This study originated from the following simple question: If gravity is non-quantized, what are the possible reasons causing that? We know how gravity acts over large distances. What are the reasons or factors that can make it exist at large distances and not at the inter-atomic range? I find this question is very important as if we find convincing answer; we can test it and by this method we can prove directly that gravity is non-quantized or prove indirectly that gravity is quantized.

I find that question may be answered if we understand the reason behind the constancy of the speed of light. Thus, the primary question that must be asked is: Why is the speed of light constant? This study started from this point. This question has not been answered until now, I find there is a simple explanation for that, if space is inclined like hill, the physical velocity in this condition will refer to the distance that the body progresses to forward per unit of time that will moves slowly as a result of space climbing where the body experience slight resistance while moving in space, by this method our current background of physical velocity (velocity is the distance that the body moves per unit of time) become invalid where the distance the body regresses or slides during space climbing (motion) is rule out from the equation of velocity. According to special relativity, and the nature of space, which is contracted according to special relativity. We attempt to treat the (background) nature of space and time as an emerged nature, not a fundamental nature, postulating that the speed of light is the same because light travels the same distance in all frames of reference in the presence of a universal time. Based on this postulate, I explain why the speed of light is constant. However, if this postulate is valid, why does time dilation exist? Why is there space–time? Why does length contraction occur? I use a second postulate to obtain the same results as those for special relativity, such as the length contraction, time dilation, and space–

time continuum. This postulate states that “space has slope-like inclined surfaces.” Using these two postulates, I found that space and time are reversed. Moreover, time dilation and its mechanism can now be explained based on this new result. The study explains time dilation as follows: the time in moving frames experiences resistance while progressing forward because of the slope of space; thus, time slides slightly backward during its forward motion, leading to a delay in moving clocks with respect to stationary clocks, where the second in a stationary frame of reference precedes the second in the moving frames. Referring to this phenomenon as time dilation is not accurate because time runs regularly everywhere. Therefore, it is better to refer to it as time delay. This study obtains a new theory that explains why the speed of light is constant and provides a better explanation about time dilation, how length contraction exists in the presence of absolute space, and how space–time works in the presence of absolute space and time. To answer the first posed questions about gravity, note that the reversal of space and time plays a key role in determining whether gravity exists or not. According to the reversal of space and time, the gravitational waves experience resistance while moving forward in space and time. They (i.e., the action) cannot progress forward in time if the time required for them is less than or equal to the reversed time of the acting body (that creates these gravitational waves) with respect to a stationary observer. In addition, the gravitational waves (i.e., the action) cannot progress forward in space if the space they travel is less than or equal to the reversed space of the acting body (that creates these gravitational waves) with respect to a stationary observer. Therefore, gravity can be non-existent if the space or time between the moving bodies is sufficiently small. Based on the reversed space and time, gravity can exist in large spaces and times, but not in small spaces and times. Hence, for the first time, this study obtains a scientific theory on the non-existence of gravity in atoms. This theory, which follows another method, differs from the methods of other theories of quantum gravity, such as the string theory, loop quantum gravity, and those that describe the quantum properties of gravity. This theory is considered distinct from the string theory and that type of philosophical theories because it can be tested. I think that a scientific theory is defined as a theory that predicts something that can be tested experimentally and, by this method, the theory can be accepted or rejected. Meanwhile, the philosophical theory is defined as a theory that predicts something that cannot be experimentally tested, and by this method, the theory cannot be accepted or rejected, but classified as a philosophical topic that has not yet reached the level of sciences. The new theory introduced by this study predicts many phenomena (e.g., existence of reverse gravity). This study also predicts and explains the phenomenon of expansion of the universe and formulates equations that determine this phenomenon. Moreover, the study predicts and formulates equations related to time dilation, length contraction, slope of space, gravity, reversed gravity (anti-gravity), and Abdelwhab gravity (the total gravity).Therefore, I think that testing the new theory is possible, but would require efforts by applied physicists.

Methods

The theoretical analysis of the non-existence of gravity in atoms was performed in accordance with the constancy of the speed of light, regardless of the light source motion.

Data Availability

All data generated or analysed during this study are included in this published article (and its Supplementary Information files).

Conclusions

I conclude that it is impossible to quantize general relativity to achieve the smallest units of space and time to arrive at underlying theory of gravity if space is sloped (Fig. 6) as the spaces and times between the moving particles are smaller than the reversed space–time created as a result of the slope of space and therefore the gravitational waves are reversed (collapsed).

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Conflict of Interest

There are no conflicts of interest to declare.

Author contributions

I was responsible for all the sections in this paper. I designed the study, discussed the results, derived the equations, and wrote the manuscript.

Figure Legends

Figure 1Light climbs space (similar to hill climbing)
The light ina moving frame is reversed with respect to the stationary frame of reference as a reaction to the slope of space.

Figure 2Time of moving bodies is reversed with respect to the stationary frame of reference
The universal time of two different moving frames (t_{ab}) is reversed with respect to an observer at rest by different values (t_b) depending on the velocity of the moving frames, where $t_b = t_{ab} \cdot (\gamma - 1)$.

Figure 3Coordinates of the three universes
Comparison of the coordinates of the 3D "relative space", 4D "reverse space–time," and 7D "Abdelwhabspace–time."

Figure 4Expansion of space between moving bodies
The slope of space causes the light source to slide backward. As a result, light travels a much longer distance than the space without a slope.

Figure 5Reversal of gravity
As a reaction to the slope of space, some of the gravitational waves are reversed and act on the same body that createsthem (push the same body that creates them backward). These gravitational waves are related to"reversed gravity" and referred to as F_b. The rest of the gravitational waves created by that body acts on the surrounding bodies and are related to "gravity". These waves can be referred to as F.

Figure 6Slope of space
The imaginary figureclears the idea of this study by showing Earth while it moves and meetsan alert or a traffic sign about the slope of the road (space).