

Analyzing Evidences of God's Existence in Quantum Mechanics

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Abstract

The purpose of the proposal is to find out what time actually is! And to understand the natural phenomenon of the behavior of time and light corresponding to motion of the bodies at relatively high speeds. The upmost concern of the paper is to deal with the possible demerits in the equations of relativity, thereby providing some valuable extensions in those equations and concepts. The idea used develops the most basic conception of the relative motion of the body with respect to the space and real understanding of time and the variation of energy of the body in different frames of references. The results show the development of a completely new understanding of time, relative motion and energy, along with some extensions in the equations of special relativity most importantly the time dilation and the mass-energy relationship that will explain all frames of a body, all in one go. The proposal also raises serious questions on the validity of the "Principle of Equivalence" on which the General Relativity is based, most importantly a serious case of the bending light that eventually goes against its own governing concepts of space-time being proposed in the theory. The results also predict the existence of a completely new field that explains the fact just how and why bodies acquire energy in space time. This field explains the production of the gravitational waves based on time. *All in all, this proposal challenges the formulas and conceptions of Special and General Relativity, respectively.*

Keywords— *Time, Relative motion, Energy, Speed, Frame of reference, Photon, Curvature, Space-time, Time –differentials, Energy unbalance, acceleration, Riemannian and Semi Riemannian manifolds, Geometry, Geodesic, Possessed relative kinetic energy, Possessed relative potential energy, Omer's field.*

I. INTRODUCTION

There is a famous principle of space-time that we all know for it provides us with the basis to understand and cope up with the vastness of this colossal universe, and that principle is stated as;

***"The faster you move through the space,
The Slower you move through the time."***

A well-known law; it is (H.stein, 1970) [1]. However, what if someone says that this principle is not universal? What if our perception of time is wrong? We have to know what time is, and for this purpose, let us dig in some brief explanation of this law relating to the effect of relative motion on time.

1.1 TIME EXPERIMENT (case 1):

We will consider one of the experiments which Einstein performed in his imagination to understand the behavior of time on the surrounding.

Consider that you are on a train watching a clock tower in front of you. Time will flow at a regular rate. Now consider yourself in the same train watching the same clock tower, but this time you are moving away from that clock tower at a certain speed " v ". Since we all know that light travels at a constant speed " c " and forms the image in our eye. However, as we are moving away from the clock tower at speed ' v '; therefore, the time taken by the light to make the same image in our eye will be greater than when we were at rest. Now consider you are moving away from the same clock tower, but this time at a speed equal to the speed of light.

What will happen now? At the instant we started to move away from the clock tower, we are not giving any chance to the photon of the next moment to cast the image of that moment in our eye. Therefore, according to us the time simply seems to be stopped i.e. the needles of the clock tower will be slowed down by a factor of the velocity with which we are moving away from the clock. Therefore we can conclude that; "Time is effected by the velocity of the body and this effect is more prominent when moving at high speeds. And therefore the more faster we move through the space, the more the time will be slowed." (Galli & Amiri, 2012) (Peter, 2011)[2]

This phenomenon is merely due to universally constant speed of light in every frame of reference. So when a body moves faster, either the velocity of light or time must be effected. And since the speed of light is a universal constant "c", therefore to keep the speed of light a constant factor time gives off to compensate for the effect of the speed of the body. And therefore no one can exceed the universal speed of light (Special Relativity., 2003) (S.Chaturvedi, 2006)(currently permitted by science).

The effect of the high relative speed of the body on the time is diagrammatically demonstrated by the FIGURE1.1 as follows:

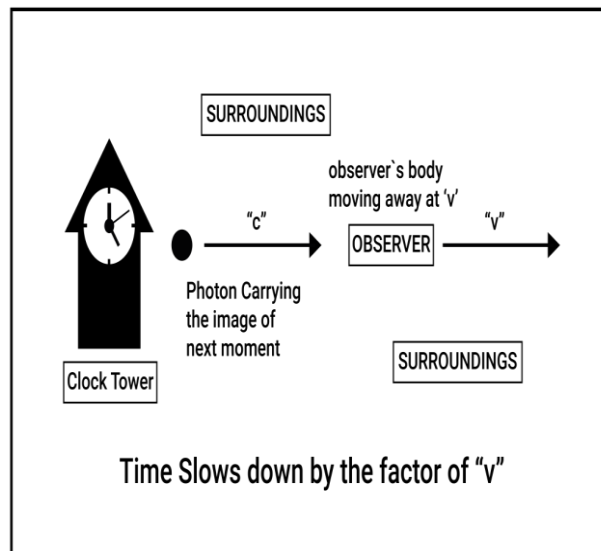


Fig. 1. Effect of the high relative speed of the body on the time

This effect is explained by one of the formulae which Einstein put forward, and the formula is known as TIME DILATION. Demonstrated as;

$$t = t_0 \div \sqrt{1 - \frac{v^2}{c^2}} \dots \dots \dots (1)$$

This equation successfully explains the behavior of time with the increase of speed of the body relative to its surroundings. (Einstein, 1905)

1.2 CASE: 2

Now consider the same case as described above. The body is moving away from the clock tower, and we say it the clock tower 1. As explained above, the body is moving away from clock tower 1, and the time will be slowed down by the factor by which the body is moving away from that clock.

Now consider another clock tower, say clock tower2; just behind the body that is moving away from clock

tower 1. At this instant, the body is simultaneously moving away from clock tower1 and is moving towards clock tower2 just behind it. According to the principle, we all know; that states that the faster you move through space, time will be slowed down. Now, if we consider our case, the body is moving faster relative to its surroundings in both cases, i.e., clock 1 and clock2. Therefore, time must be slowed down in both cases, but that is not the case. Consider what will happen when you, traveling away from clock 1 and toward clock 2, turn to see the needles of clock tower 2? You will see that the needles of the clock tower 2 will be moving faster and thereby indicating that the time in this frame is flowing faster. It is because that, as you are moving towards the photon from clock tower 2, it will require less time to form the same image as compared to the time required by it when the body is at rest.

This condition contradicts the principle we all know; “the faster you move through the space, the slower you move through the time.”

- Now either this principle is applicable only to one frame of reference.
- Alternatively, our perception about time is leading us to the wrong path!
- Or it can also be both things, that both our perception about time is wrong and our principle of space-time needs to be improved.

THE DIAGRAMMATICAL DEMONSTRATION OF THE ABOVE EXPERIMENT IS REPRESENTED AS:

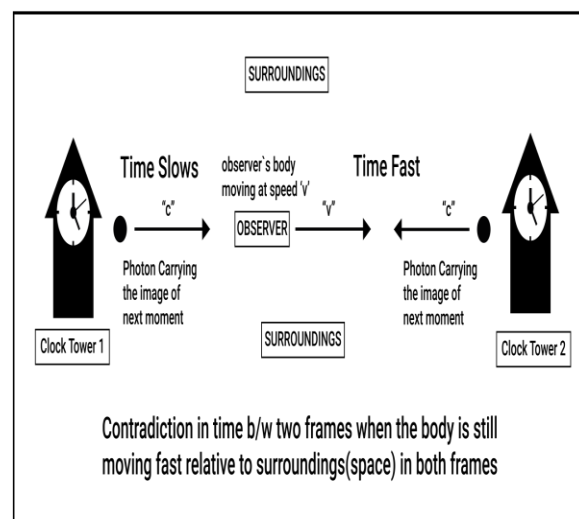


Fig. 1.2_The faster you move through the space, the slower you move through the time

2.0 WHAT ACTUALLY IS TIME?

To understand the time and its behavior in different frames of reference, we must develop some basic but actual understanding of time, an understanding of time that predicts its behavior in all frames successfully. Einstein tried to explain the effect of time due to relativistic speeds, but had he known what time is to explain its behavior for different frames of reference?

2.1 ACTUAL UNDERSTANDING OF TIME:

If we develop a conception that explains the behavior of time in all frames correctly, then that conception will be correct.

For this purpose, we have to start from the basic level, understanding why time slows down and flows fast when moving away and towards the clock tower, respectively. Time slows down because when we are moving away from the photon at speed

"v", it will require a greater time to cast the image of the next moment in our eye, compared to the time required when we are at rest. And on the other hand, when moving towards the photon at a speed "v", time doesn't slow down but flows at a fast rate because when we are towards the photon, less time is required by the photon to cast the same image as compared to the time it required when were at rest.

We consider an experiment for the understanding of time. Consider two persons standing at a point in space-time, and a bomb is placed exactly 2light meters from the. When the bomb blasts, both of them will observe the event of the blasting of the bomb after 2 seconds, of the instant when the bomb blasted, as both of them are 2 light meters apart from the bomb. Now consider what will happen when one person begins to move towards the bomb, at the speed of light "c", at the instant it blasts. And the other one begins to move away from the bomb, at the speed of light "c", when it blasts [3]

For the person moving towards the bomb at "c", the time taken by the photon to cast the event of blasting the bomb will become half, and the body will observe the event after 1 second of the instant when the bomb blasted. For the person moving away from the bomb at the speed of light, the time will appear to be stopped for the person and will never experience the event of bomb blast since he has given no chance for the photon to cast the image of the next moment in his eye.

From the above 2 experiments, we came to know that the conception we currently have about time is right but also wrong at the same time, right in the sense that yes, time is affected by the relative speed of the body. And wrong in the sense that it is not dependent on the relative speed of the body with respect to its surroundings but is dependent on the relative motion of the body with respect to the photon in the frame of reference that is being considered.

Therefore, we conclude that:

"Time is dependent on the relative motion with respect to photon in a certain frame of reference, and not on the relative motion with respect to the surroundings"

3.0 MODIFICATION IN THE PRINCIPLE OF SPACE-TIME:

3.1 TIME WHEN BODY IS AT REST:

First, we will consider a body at rest. At rest, all of the rays of light coming from every frame of reference will possess a relative motion of $1c$, no matter which frame is being considered, the relative motion between the body and the photon always be " $1c$ ".therefore even when the body is at rest relative to its surroundings " $v_{\text{sr}}=0$ ", but the actual relative motion of the body will be " $v_{\text{act}}=1c$ " since every photon approaching the body is traveling at " c " in every frame of reference since the relative motion of the body at rest with respect to the photon of every frame of reference is the same, i.e., $1c$, therefore the flows at the same rate in every frame of reference.

SO WHEN RELATIVE MOTION IS " $1c$ ", THEN:

$$t = t_0$$

3.2 TIME WHEN BODY IS MOVING TOWARDS THE PHOTON IN A CERTAIN FRAME:

Now consider a body moving toward the clock tower, as demonstrated in figure 1.2. Since the body is moving towards the photon in the frame, the relative motion between the body and the photon in that frame will be increased than relative motion when the body is at rest. If the body is moving with " v " speed towards the photon in the frame considered, then the increased relative motion is $(c + v)$, where " c " is the speed of photon and " v " is the speed of the body. Therefore, the increase in the relative motion will be correspondingly followed by the fast-flowing of time in that case, which happens also.

SO WHEN RELATIVE MOTION IS " $>1c$ ", THEN:

$t < t_0$

3.3 TIME WHEN BODY IS MOVING AWAY FROM PHOTON IN A CERTAIN FRAME:

Now consider a body moving away from the clock tower, as demonstrated in figure 1.2. Since the body is moving away from the photon containing the image of the next moment, there will be a decrease in the relative motion between the body and the relative motion in the frame being considered. If the body is moving away from the photon with a speed of " v "; then the decrease in the relative motion is $(c - v)$, where " c " is the speed of the photon, and ' v ' is the speed of the body. Therefore, the decrease in the relative motion is correspondingly followed by the time being slowed down in the frame being considered. SO WHEN THE RELATIVE MOTION IS " $<1c$ ", THEN:

$t > t_0$

Therefore the principle that we all know must not be the way it is! There is a modification in the principle of space-time. Since time slows down when there is a decrease in the relative motion between the body and the photon and time starts to flow fast when there is an increase in the relative motion between the body and the photon in a certain frame of reference. Therefore the actual law must be in the form of :

"THE FASTER WE MOVE THROUGH THE SPACE (RELATIVE TO PHOTON), THE FASTER WE MOVE THROUGH THE TIME, AND VICE VERSA."[4]

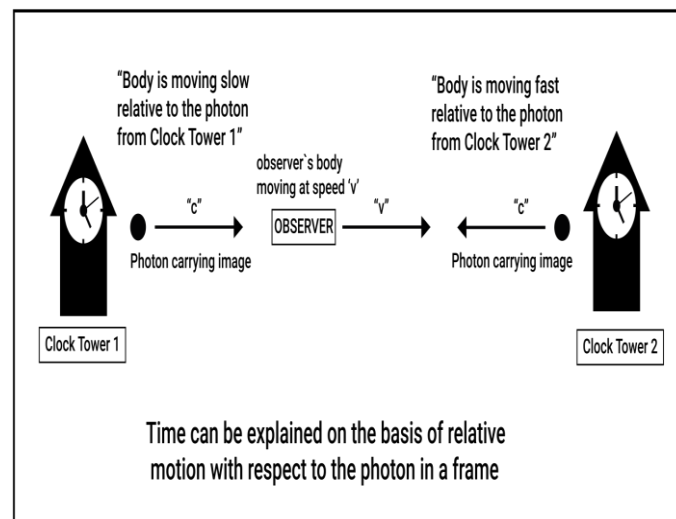


Fig. 1.3 In the frame of clock tower 1 the body moves relatively slow (with respect to photon in that frame), and in the frame of clock tower 2 body moves relatively faster (with respect to photon in that frame).

4.0 IMPROVEMENT IN THE TIME DILATION FORMULA:

Now hopefully, we are in better condition to understand what time is! Relying on the observations which are discussed above, we can give a new shape to the time dilation formula, which will explain the behavior of time in all frames.

For this purpose, there is a dire need to interpret the angles as a function of some trigonometric identity; so that only one formula will explain all the frames. For this purpose, we will use the Cosine ratio in the time dilation formula, and this addition will complete the actual formula from which we can also derive Einstein's formula.

TWO ADDITIONS ARE MADE TO THE FORMULA AS FOLLOWS:

- First is the concept of RELATIVE MOTION WITH RESPECT TO PHOTON.
- Second is the introduction of the COSINE RATIO for the angles.

SO THE NEW FORMULA APPEARS TO TAKE THE FORM REPRESENTED AS FOLLOWS:

$$t = t_0 \div \sqrt{\frac{c^2 - v^2 \cos \theta}{c^2}} \dots \dots \dots (2)$$

This successfully explains the behavior of time in a different frame of reference as:

- When the body is moving away from the clock, the angle between the motion of the body and photon is 0 so $\cos 0 = 1$, this will not change the equation, and we will get the time dilation equation put forward by Einstein, which is applicable only when the body is moving away from the photon.
- When the body is moving towards the photon in the frame of reference being considered; the angle between the motion of the body and the photon will be 180 degrees and $\cos 180 = -1$; the expression will take the form of $(c^2 + v^2)$; and therefore proves that there is an increase in the relative motion and so this formula proves successful in explaining the reality of fast-flowing of time in this frame (when the body is moving towards the photon).
- In case when the angle between the motion of the body and the photon is 90 degrees or 270 degrees, the relative motion between the body and the photon will be "1c" because in both cases, you can only consider the motion of photon since the velocity component of the body can't be added. And also, $\cos 90$ and $\cos 270$ both equal 0.
- Therefore, it successfully explains the behavior of the time in all frames that can be tested mathematically.
- Since the formula explains all frames in one go, the formula is universal, and it also satisfies and proves the actual behavior of time!

5.0 MODIFICATION IN THE MASS-ENERGY RELATIONSHIP:

Taking in account all the above mentioned results and observations we will give a new shape to the famous mass-energy relationship. This will explain the energy of the body in all of the possible frames of reference of the body being explained by the angles represented by θ .

The greater the relative motion of the body the greater will be the energy of the body in that frame of the body. The mother equation for the mass-energy relationship is written as follows;

$$E = mc^2 - mv^2 \cos \theta \dots \dots \dots (3)$$

- The equation explains that if there is any increase in the relative motion then there will also be a corresponding decrease in the relative motion in the exact opposite frame because of the phase shift
- If we consider the condition for which Einstein derived the relationship he considered the body at rest in a single inertial frame and which emits two photons of equal energy in opposite direction, and then taking in account the principles of momentum conservation he resulted in having the mass-energy equivalence, but only for a single frame that comes out to be mc^2 . If we use the mother equation and put the values in it we will get

$$E = mc^2 - m(0)^2 \cos \theta \dots \dots \dots (4)$$

$$\therefore E = mc^2$$

This is the same equation that Einstein came up with for the single frame of reference with the body being considered at rest[5]

The relative motion values of the body with respect to different photons in the different frames of reference in the whole 360-degree space are given in FIGURE 2.2

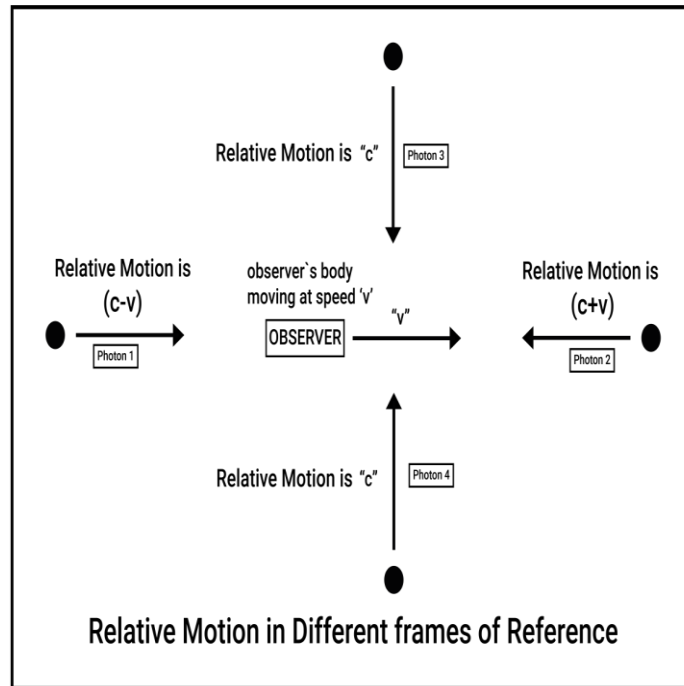


Fig. 2.2 Relative Motion in Different Frames

The graphical orientation of the angular position of the body relative to the photons of different frames is represented as;

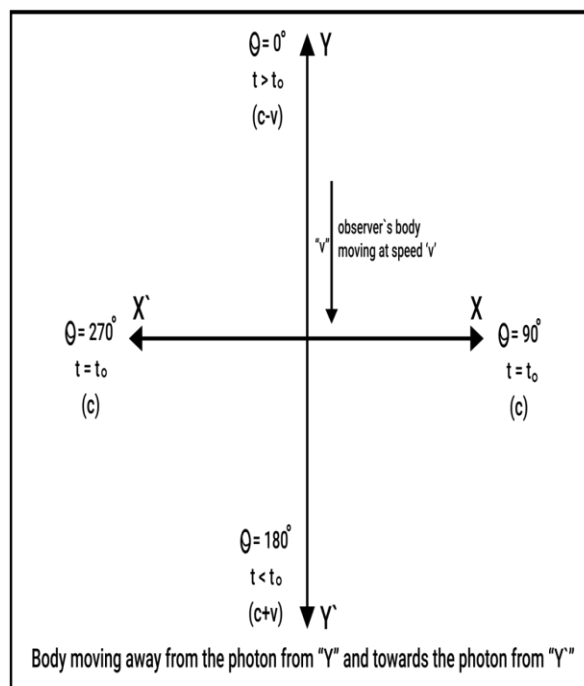


Fig. 2.3_Angular position of the body relative to the photons of different frames

6.0 EFFECT OF THE BEND OF SPACE-TIME ON TIME WHEN MOVING AT HIGH RELATIVE SPEEDS:

In his General revolutionary theory of relativity (RM.Wald, 2010), we all know that Einstein told us that massive objects produce a considerable bend in the fabric of space-time. Therefore, for light to pass through this curvature of space-time, the shortest path for the light between two points is a curved path (H.Andreka, 2007). Due to this curved path, light travels a greater distance between the two points, and to travel it at the same time, as it was in the region of flat space-time, either the speed of light must be increased or time must slow down. Since speed light is a universal constant, therefore time slows down in the region where there is a bend in space-time (R.Ferraro, 2007).

As we all know, having small masses produce a very negligible bend in space-time compared to the massive masses of stars and the planets. But one thing is to be noted and considered. When moving at high relativistic speeds, the total energy content in space-time increases. And when approaching a speed very close to the speed of light, our total energy content has become so high that it is powerful enough to produce a considerable bend in the fabric of space-time. And since time is affected by the bend of space-time, the effect of the bend of space-time must be considered when moving at high relative speeds. It must not be ignored!

As described above, when moving relatively faster in the frame of reference towards the photon. In this frame, the bend of space-time produced by our body will be greater. Therefore, the light has to travel a little bit extra distance in that frame to cast the image in our eye. And to compensate for this error, time slows down, and the actual value of time is increased than the expected value. In the frame where our relative motion, with respect to the photon, is less than normal, the bend of space-time produced will also be less than the normal (rest) condition. And in this frame, the expected value of time will be much less than what was expected.

7.0 ENERGY IN DIFFERENT FRAMES AND THE LAW OF CONSERVATION OF ENERGY IN SPACE-TIME:

As described in FIGURE 2.2 and FIGURE 2.3, we will consider the body moving at a relative speed of "v"; the figure in all quadrennial frames already explains the relative values of the body.

7.1 WHEN BODY IS AT REST:

When the body is at rest, the relative motion with respect to the photon is "1c" (F.Selleri, 1997); therefore, the rest energy of the body in every frame will be $E = mc^2$. We will consider two frames that, i.e. when $\theta = 0^\circ$ and when $\theta = 180^\circ$ as shown by FIGURE 3.1.

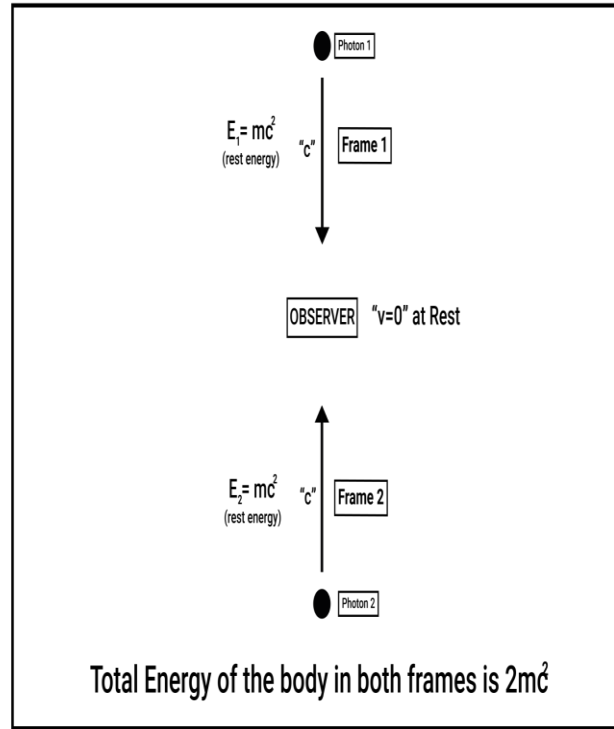


Fig 3.1. Relative motion with respect to the photon

The total energy of both frames will be calculated as follows

$$E_1 = mc^2 \quad E_2 = mc^2$$

Where E_1 is the energy of the body in frame 1, and E_2 is the energy of the body in frame 2.

$$E_{total} = E_1 + E_2$$

$$E_{total} = mc^2 + mc^2$$

$$E_{total} = 2mc^2$$

So the total energy of the body in both frames at rest is $2mc^2$.

7.2 WHEN MOVING WITH A SPEED OF "v", TOWARDS ONE PHOTON:

Now consider the same body, the same two frames as described above, but this time body is moving towards the photon of the second frame with speed "v". The relative motion is also included in the Einstein's mass-energy equation that interprets the relative for the frame of angle " θ ". The need arises because we know that at rest the relative motion with respect to photon in every frame is "1c" so that the mass-energy equation have the form $E = mc^2$; but in the case when the body is moving at a speed at a speed "v" in a certain frame making an angle " θ " with the photon the mass-energy equation takes the form as follows:

$$E = mc^2 - mv^2 \cos \theta$$

Utilizing the equation above mentioned we are going to calculate the total energy of the body in the same two frames, when the body is moving with a speed "v" towards frame 2.

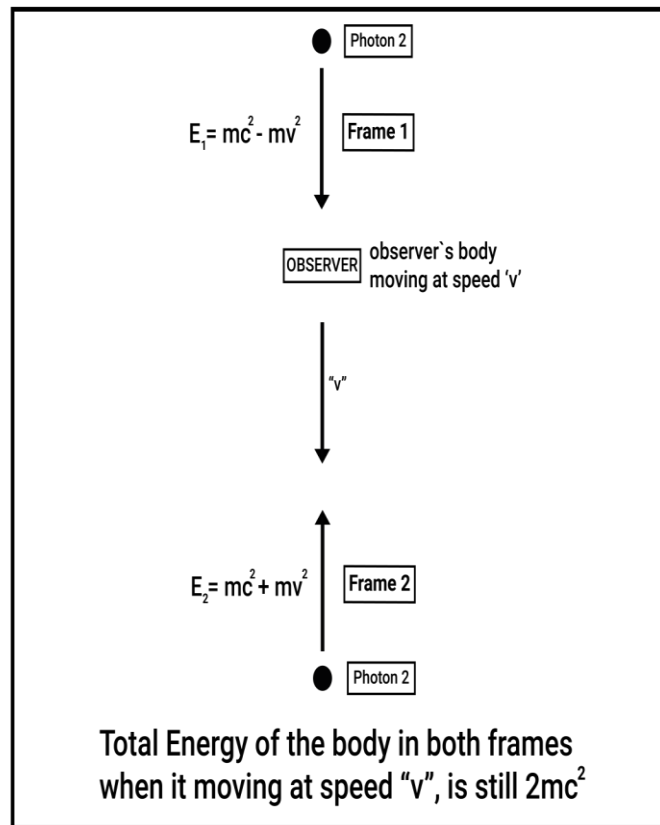


Fig 3.2. Total energy of the body in the same two frames, when the body is moving with a speed "v"

The total energy of the body in both frames is calculated as follows:

$$\begin{array}{ll} \text{Frame 1} & , \quad \text{Frame 2} \\ E_1 = mc^2 - mv^2 \cos \theta & , \quad E_2 = mc^2 - mv^2 \cos \theta \\ \theta = 0^\circ & , \quad \theta = 180^\circ \\ E_1 = mc^2 - mv^2 & , \quad E_2 = mc^2 + mv^2 \end{array}$$

And the total energy in both frames can be calculated by summing E_1 and E_2 as follows;

$$\begin{aligned} E_{total} &= E_1 + E_2 \\ E_{total} &= (mc^2 - mv^2) + (mc^2 + mv^2) \\ E_{total} &= mc^2 - \cancel{mv^2} + mc^2 + \cancel{mv^2} \\ E_{total} &= mc^2 + mc^2 \end{aligned}$$

$$\therefore E_{total} = 2mc^2 \dots \dots \dots (5)$$

The body's total energy in both frames is still $2mc^2$, even when moving at "v" in one frame. This proves that the total energy of a system, whether it is moving or not, is always conserved. And that energy always equals the rest energy of the body.

- This principle states that:
"The amount of energy a system gains in one frame is simultaneously subtracted from the energy of the frame which is exactly opposite to it. thereby conserving the energy and maintaining the equilibrium of space-time; in such a way that nobody can distort the equilibrium of space-time"
- It is also concluded that:

"The increase of bend in the space-time introduced due to the increase of energy of the body due to high relativistic speed, is simultaneously subtracted from the bend of the space-time in the frame that is just opposite to the frame in which bend is added"

- It is also concluded that: "The energy of a system is dependent on the relative motion of the body with respect to the photon in the frame of reference that is being considered"
- One more thing is added as follows:

"The sum of energies of all the frames of reference of the body at rest will be equal to:

$E_{total} = 360mc^2$. If we divide the whole surroundings of the body into 360 parts since the standard discrete unit for the angle is 1° . And when the body is moving with a speed "v", still the total energy will come out to be.

$$E_{total} = 360mc^2 \dots \dots (6)."$$

8.0 TIME, ENERGY, AND THEIR DEPENDENCE ON RELATIVE MOTION:

From all of the above discussion, we are now in a condition to conclude that:

- Time is dependent on the relative motion, and so the energy of the body is also dependent on the relative motion with respect to the upcoming photon of light in that particular frame of reference
- According to Einstein, Energy and matter are related to each other and are two names of the same thing. Both are interchangeable. Einstein is right, and he is right but only for his explanation about mass and energy.
- The main thing is that energy; on the upper level depends on the time. If the body's relative motion is increased then the energy of the body in that particular will also be increased than its rest energy, and consequently the frame in which the energy is increased, there will be a consequent decrease of the Time (Time will flow fast). Here the mathematical values of Time and Energy are considered:

$$E \propto \frac{1}{t}$$

If we consider it conceptually, there will be an increase of flow of time (decrease in numerical value) in the frame where there is an increase in the relative motion than its energy in the rest state.

- Energy is dependent on time or vice versa (when considered the only frame energy). But time on the upper level is chiefly the relative motion of the body with respect to the photon in the frame which is being considered.
- ***There will be a difference in the flow of time when there is a net difference between the energies of a body in any of the two frames being considered at the same instant [6]***
- To conclude, we can say that the relative motion of the body determines the flow rate of time, which on the other hand also determines the energy of the body in the frame being considered.
"Relative motion is the fundamental property of this universe, on which every law of physics is based, either directly or indirectly." [7]

In the beginnings of this paper we first predicted and then derived what was called the mother equation of the Einstein's mass-energy relationship, which came out to be:

$$E = mc^2 - mv^2 \cos \theta \dots \dots (7)$$

The specs of this equation have already been studied in the earlier section of this proposal. Here we are concerned with the consequences of the results that this equation predicts on the principle of equivalence of Einstein upon which the entire revolutionary Theory of General Relativity is based.

In this section we will first have a quick glimpse of the mass-energy relationship $E = mc^2$, then we will examine the Mother equation under two conditions that are:

- ❖ Examination under the state of constant "v" (non-accelerated state).
- ❖ Examination under accelerated conditions.

10.1 $E = mc^2$:

The most important point as presented by the equation is that, both the mass and energy are the different names of same things. Einstein proposed both of them to be interchangeable.

$$E = mc^2$$

Taking c to be a universal constant, the equation gives us;

$$E \propto m$$

Now this provides us with the conclusion that mass and energy are proportional to each other. Any change in the energy will also cause a change in the mass of the object.

10.2 The Mother Equation:

The mother equation of this relationship was discussed earlier in this paper which comes out be;

$$E = m(c^2 - v^2 \cos \theta)$$

Rearranging the equation as follows:

$$\frac{E}{(c^2 - v^2 \cos \theta)} = m \dots \dots \dots (9).$$

Now that we have equation no 1 we can dig into some deep understanding of what actually is going on here.

10.2.1 Non-accelerated Condition:

In this case we will consider the body to be at rest or moving at a constant speed. That is, the factor representing the relative motion in equation no 1 will remain a constant value. Here the value of v can be 0 or 567 or 299792400 or any other numeral value but still is a constant. So considering the equation no 1 we will see that we are still in a condition to derive the same result as did by Einstein that mass is proportional to energy.

$(c^2 - v^2 \cos \theta)$ is a constant when body is moving with a constant speed.

so the equation no 1 will take the form

$$E \propto m.$$

We are still within the limits of the known phenomenon, that energy is proportional to the mass.

10.2.2 Accelerated Condition:

In this we're gonna consider what will happen when there is no constant speed but there is acceleration i.e. body is accelerating.

When we take in account this situation we come to know that the factor of relative motion will no longer remain constant. Think of it in your imagination, disturbing the body from its state of constant motion in one frame will eventually introduce acceleration in all the frames of body. The acceleration may be positive or negative depending upon the frame that is being considered with respect to the frame in which the acceleration is primarily introduced. Now the factor $(c^2 - v^2 \cos \theta)$ will no longer remain constant. Now we will consider the consequences of this event:

$$\frac{E}{(c^2 - v^2 \cos \theta)} = m \dots \dots (8)$$

Now let say that there is a positive acceleration in the frame that is being considered. And since the factor of relative motion i.e. $(c^2 - v^2 \cos \theta)$ will no longer remain constant because $\frac{dv}{dt} \neq 0$. So the factor will remain under a continuous variation. Therefore, we can't account for such a similar condition in which energy is simply proportional to m. here we will have to consider the consequences of the change in the relative motion too.

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