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By Prince Jessii

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*Strictly as per the compliance and regulations of:*



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[La serie Física del Universo surge del descubrimiento de la Teoría de la Gran Unificación (Teoría del Todo). Comienza desde (1) y sigue contando. La última revolución de la física comienza a partir de este artículo (1). Consulte la Introducción para obtener más detalles.]

[La série Physique de l'Univers émerge de la découverte de la Théorie de la Grande Unification (Théorie du Tout). Il commence à partir de (1) et compte. La dernière révolution de la physique commence à partir de cet article (1). Voir Introduction pour plus de détails.]

[Die Reihe "Physik des Universums" geht aus der Entdeckung der Theorie der großen Vereinigung (Theorie von allem) hervor. Es beginnt bei (1) und zählt. Die letzte Revolution der Physik beginnt mit dieser Arbeit (1). Weitere Informationen finden Sie in der Einführung.]

[Universets fysikserie framgår av upptäckten av Grand Unification Theory (Theory of Everything). Det börjar från (1) och räknar. Den sista fysikrevolutionen börjar från denna uppsats (1). Se Introduktion för mer information.]

[宇宙物理學系列是從大統一理論（萬物理論）的發現中產生的。它從（1）開始計數。物理學的最後一場革命從本文開始（1）。有關更多詳細信息，請參見簡介]

**Keywords:** universe; space-time; dark energy; energy; matter; physics.

## 1. INTRODUCTION

Imagine a scenario where a guide or handbook of this Universe was given as the first human was born into the world, or before the subject "Physics" existed; it would have changed the way physics was/is being studied or presented. That Scenario didn't happen, instead humans had to figure things out and studied physics from one discovery to another without initially knowing anything about the Universe.

Now, we've come this far and the major pillars of physics are unified to give us an understanding of our universe but the job hasn't yet been completed. It's true that brilliant minds in physics existed and they presented theories backed up with experiments and observations. However, there is need to go back to the root of physics and move through once again to this present point but

this time we do it while having the handbook of this universe in our hands, the result will be a very unique and different physics that'll also involve the dark dimension. This is the last revolution of physics and I'll take the responsibility of doing that, contributions from other scientists/physicists are very welcomed. I begin from this chapter (1) – Physics of the Universe.

Note; if you're reading this paper and you've not read and understood the "Theory of Everything"[3], this paper might appear strange to you. Go to [princejessii.academia.edu](http://princejessii.academia.edu) to download any of my papers free.

I proceed. The result of the Grand Unification Theory [3] is generally represented with an equation;

The Universe  $(P_o) = Sc^2h/k$

The equation  $Sc^2h/k$  has several meanings. I presented the first meaning in my previous paper and this is the general meaning;

Do you know that; there is an original version of the universe where the dark entities (dark energy and dark matter) would be visible to our eyes. If that happens, the equation  $Sc^2h/k$  will completely change, that's what  $P_o$  represent. For the sake of your understanding, I'll bring back its derivation from [3].

a) *Equation Derivation for Unification*  
First Equation Derivation;

$$(Superior\ Light)/(Inferior\ Light) = P_o \dots\dots\dots(1)$$

$$(Dark\ Energy)/(Energy) = P_o \dots\dots\dots(2)$$

$$(S \times c)/(k/hc) = P_o \dots\dots\dots(3)$$

$$(S \times c^2 \times h)/(k) = P_o \dots\dots\dots(4)$$

$$Sc^2h/k = P_o \dots\dots\dots(5)$$

The above equation (5) will have a duplicate which will represent the merging of both light dimensions. Merging means that energy will become the form/value of dark energy i.e. energy photons will change to dark energy photons.

Second Equation Derivation (Energy becomes Dark Energy);

$$(Superior\ Light)/(Inferior\ Light \times 100) = P_o \dots\dots\dots(6)$$

$$(Dark\ Energy)/(Energy \times 100) = P_o \dots\dots\dots(7)$$

$$(S \times c)/(k/hc \times 100) = P_o \dots\dots\dots(8)$$

$$(S \times c^2 \times h)/(k \times 100) = P_o \dots\dots\dots(9)$$

$$Sc^2h/k \times 100 = P_o \dots\dots\dots(10)$$

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b) *Mathematical Test*

We have two equations;

$$1.) Sc^2h/k = P_c$$

$$2.) Sc^2h/(k \times 100) = P_o$$

Test with the first equation;

$$Sc^2h/k = P_c$$

Inserting Parameters

$$[(1.50 \times 10^{10}) \times (3 \times 10^8)^2 \times (6.6 \times 10^{-16})] / (8.9 \times 10^9) = P_c$$

$$P_c = 100.$$

Test with the second equation;

$$Sc^2h/(k \times 100) = P_o$$

Inserting Parameters

$$[1.50 \times 10^{10} \times (3 \times 10^8)^2 \times (6.6 \times 10^{-16})] / [(8.9 \times 10^9) \times (100)] = P_o$$

$$P_o = 1.$$

From the test, it is seen that  $P_o$  and  $P_c$  are constants as 1 and 100 respectively. When both light dimensions merge, they become one as the value (1) -  $P_o$  which is the original value of the universe signifying unity but presently, both light dimensions are not merged and differ by 100 as  $P_c$  (current value)

The dark entities (dark energy and dark matter) are superior to energy and matter. Dark energy and dark matter cannot become (merge) energy and matter, rather it's the other way; energy and matter can become dark energy and dark matter. The original version of the Universe is with the dark entities (dark energy and dark matter) visible, this means that energy and matter will exist (merge) as the form of dark energy and dark matter. However, the present version of the Universe is with energy and matter visible and the dark entities invisible. This whole explanation implies that; the dark entities are superior and are supposed to be the only entities existing as the inferior entities will take its form.

From the above calculation; although  $P_o$  as 1 from the second derivation implies that energy and matter are now merged with the dark entities, when this happens, the equation will flip its form/face representing the fact that energy and matter will no more exist. Its flipped face will be;

$$P_o = Sc / (M_d \times c^2) \dots \dots \dots (11)$$

Inserting parameters;

$$1.50 \times 10^{10} \times (3 \times 10^8) / (50 \times [3 \times 10^8]^2) = 1$$

$$P_o = 1$$

Can you see the difference as explained? With equation 10 and 11,  $P_o$  first face is the mathematical merging of energy and matter with the dark entities but when energy and matter becomes the form of the dark entities, energy and matter will no longer exist, they'll

exist as dark energy and dark matter. Therefore, equation (10) as  $P_o$  will flip its face to equation (11). If you check, you can't get matter and energy from the breakdown of equation (11), but you can get dark energy and dark matter from the breakdown of equation 10. I hope you understand. Thus, there are two versions of this universe;

*Stable Universe:* Dark energy and Dark Matter are visible i.e. all matter and energy are merged with the existing dark energy and dark matter.

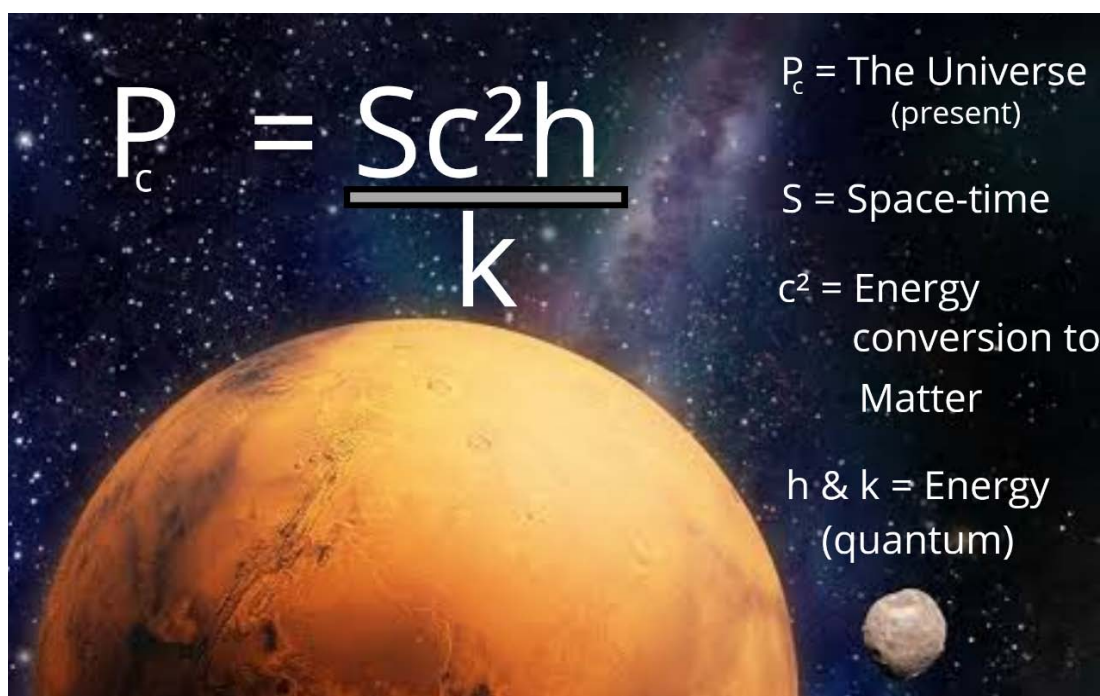
$$P_o = Sc / (M_d c^2)$$

*Unstable universe:* Energy and Matter are visible, dark energy and dark matter are invisible. Both light dimensions not merged.

$$P_c = Sc^2h/k$$

See section V for more explanation.

The major discovery that led to the Unification is all about space-time, It has has different natures, It is originally a very thick entity but can change as a reduction of its thickness.



$$P_c = \frac{Sc^2h}{k}$$

$P_c$  = The Universe (present)  
 $S$  = Space-time  
 $c^2$  = Energy conversion to Matter  
 $h$  &  $k$  = Energy (quantum)

Figure 1

Now, the general meaning of the equation  $P_c = Sc^2h/k$  is; When studying Physics which is the science of the interactions of matter/energy in space-time (figure 1), we should study the universe (physics) with the different natures of space-time and acknowledge the importance of space-time ( $S$ ) in the Universe because space-time was being neglected and regarded as nothing at the early stage of physics, whereas it is the most important entity in the Universe.

Studying the interactions of matter/energy in different natures of space-time and acknowledging the importance of space-time is exactly what the series – Physics of the Universe is all about.

In the physics of the Universe, I move through physics (from the root) while identifying the different natures of space-time and to check for new developments that might arise due to the discovery of the Grand Unification Theory.

## II. FOUNDATION

How the universe was formed is now an old story [3] and [5] (Figure 2 and 3). Once again, presenting the entities that formed the universe.

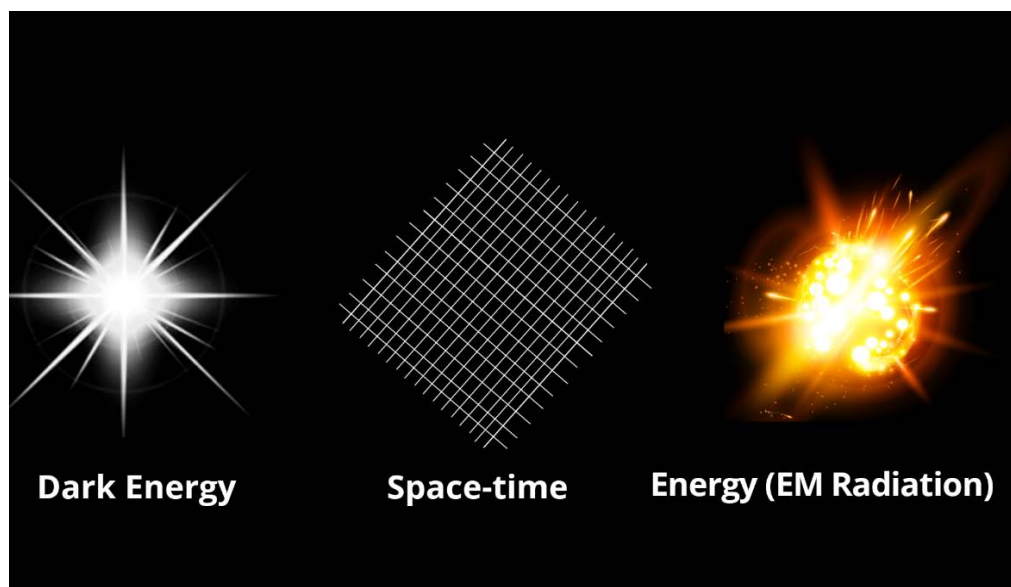


Figure 2



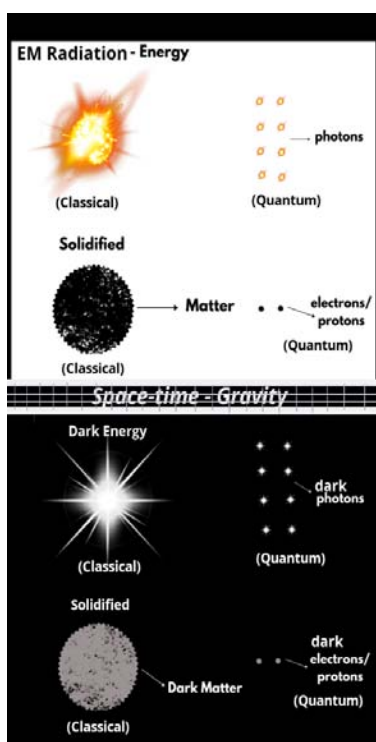


Figure 3

In this revolution, there's only one entity that's of great interest and that's space-time. The equation  $P_c = Sc^2h/k$  simply defines physics as the science of matter and energy, its motion/interaction and behavior through space-time.

This new development/revolution is straight and simple. Nothing is changing, rather there are additional developments. All our lives, we studied physics without emphasis on the nature of space-time as to which a certain matter interacts in.



Figure 4

If you're reading this paper, you might have watched some videos of astronauts on the International Space Station (ISS). When you watch videos of ISS, you see how objects move and you also notice that their movements is not the same as being on earth. Yes, the previous understanding before the discovery of the Grand Unification Theory is that; it is due to low gravity/gravitational effect in that area. However, I made it clear that the extent of gravity/gravitational effect in an

area will determine the nature of space-time in that area. Thus, if there is no gravity in an area, expect the nature of space-time in that area to be thick, objects will float. If there's little gravity/gravitational effect in an area, expect the space-time of that area to be still thick but not as thick as where there is no gravitational effect. The reduction of the thickness of space-time is by the increase in gravitational effect. Now, in a place like earth where there is a high gravitational effect, the nature of

space-time will be free, and so on. In my previous paper [3], I presented how the different natures of space-time are formed. See section VI for more info.

Now, imagine a scenario where you migrate from earth to ISS and you kick a ball on ISS, in your mind you intend to apply much force to enable the ball to go far but this is the result; The force will be applied to the ball through the leg to kick the ball. A restriction comes in due to the thickness of space-time around you resulting into not kicking the ball with the force you intend to apply. Now, the force is eventually applied to the ball but once again the restriction comes in this time on the ball and the mass (ball) doesn't move far as required. If you take the mass of the ball and its acceleration, you'll get the force that was applied on the ball, but do you know?

"If you apply that same force on the same ball with the same mass on earth, the ball will accelerate fast and cover more distance than on ISS".

This is part of the new development/revolution that the Physics of the Universe presents. The fact that

we have values that represent a space-time in an area means that we can calculate how matter interacts in a different environment of space-time, using earth as a reference point.

### III. UNITS AND MEASUREMENTS

Measurement is a very vital aspect of Physics and other sciences. No fact or theory in science is accepted unless it can be exactly measured and quantified. There's a new development which I'll present.

The three most important basic quantities in physics are length, mass and time and these are their definition.

Length is defined as the extent of distance in space-time.

Mass is defined as a quantity of matter resting on space-time.

Time is the indefinite continued and irreversible progress of events that occur in space, now known as space-time.

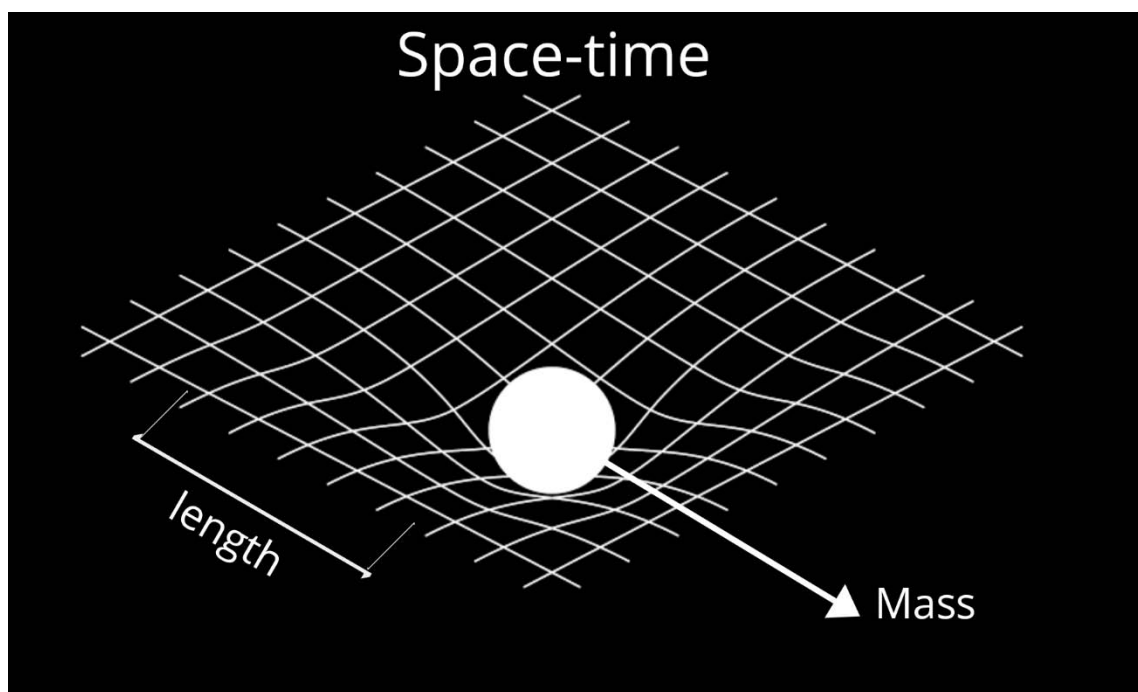


Figure 5

Look closely, there's something common between these three basic quantities and that's space-time (Figure 5).

[New Development]

Space-time is an ultimate entity, it has a light attached to it (dark-energy), its light can also be solidified (dark-matter), and space-time is where gravity emerges from.

Now, from my previous paper, I said that the constants (S, G, c,  $E_d$ ,  $M_d$ ) are ultimate constants, I take that back because of a clear fact; accessing  $Sc^2h/k$  and

$Sc/M_d c^2$ . It is seen that S and c are present in both equations of the Universe. This implies that S and c are the Ultimate constants while (G,  $E_d$ ,  $M_d$ ) are sub-ultimate constants. This is the reason;

**Ultimate Constants:** These are constants that represent in both versions of the Universe (S,c)

**Sub-Ultimate Constants:** These are constants that can be gotten directly from one ultimate constant or the combination of both.

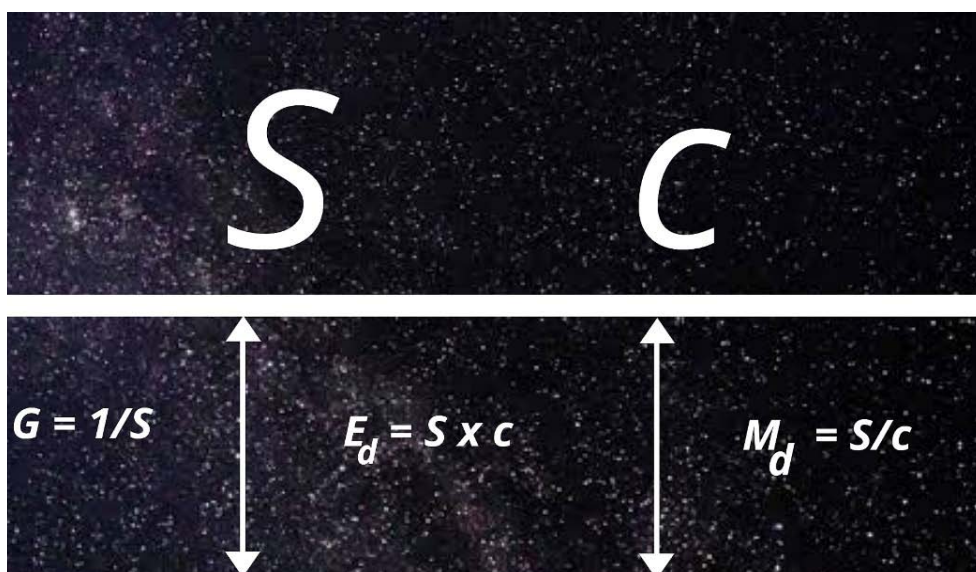


Figure 6

From figure 6, we can see clearly how the sub-ultimate constants are gotten. However, not the constants this time, when describing an ultimate entity, we say that space-time is an ultimate entity and light in

general (energy or dark energy) represented by its speed ( $c$ ) is also an ultimate entity. Therefore;

	Ultimate Entity	Ultimate Constant
1	Space-time	$S$
2	Light	$c$
	Sub-Ultimate Entity	Sub-Ultimate constant
1	Gravity	$G$
2	Dark- Energy	$E_d$
3	Dark-Matter	$M_d$

The reason why I had to split into ultimate and Sub-Ultimate is to help in a better understanding of the new developments throughout this journey.

As you know, the fundamental and derived quantities/units remains the same alongside the fundamental constants (figure 7 and 8).

Fundamental Quantities		
No.	Quantities	unit
1.	Length	meter [m]
2.	Mass	kilogram [kg]
3.	Time	second [s]
4.	Electric current	ampere [A]
5.	Temperature	kelvin [K]
6.	Amount of substance	mole [mol]
7.	Luminous intensity	candela { cd }

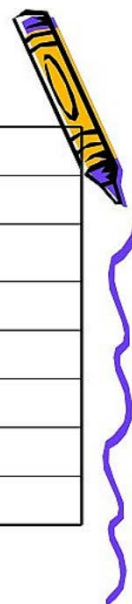


Figure 7

Derived quantity	Symbol	Formula	Derived Unit
Area	$A$	$length \times length$	$m^2$
Volume	$V$	$length \times length \times length$	$m^3$
Density	$\rho$	$\frac{mass}{volume}$	$kgm^{-3}$
Speed	$v$	$\frac{length}{time}$	$ms^{-1}$
Acceleration	$a$	$acceleration = \frac{change\ in\ velocity}{time\ taken}$	$ms^{-2}$
Force	$F$	$Force = mass \times acceleration$	$kgms^{-2}$ or newton (N)
Pressure	$P$	$pressure = \frac{force}{area}$	$Nm^{-2}$ or Pascal (Pa)
Work	$W$	$work = force \times displacement$	Nm or joule (J)
Power	$P$	$power = \frac{work}{time}$	$Js^{-1}$ or watt (W)
Electric charge	$Q$	$charge = current \times time$	Coulomb (C)
Voltage	$V$	$voltage = \frac{work}{charge}$	Volt (V)
Capacitance	$C$	$capacitance = \frac{charge}{volt}$	Farad (F)

Figure 8

Among the fundamental and derived quantities, the quantity that is of great interest is time, due to its direct involvement with space.

[New Development]

Time is an important quantity in this new revolution. In fact, time is the major reason I had to go back to the root of Physics. Time is the indefinite continued and irreversible progress (seconds to seconds) that occur in space, now known as space-time. There are differences between natures of space-time which causes differences in time between these different natures of space-time.

Using the explanation of kicking a ball on ISS, some might think that the nature of space-time directly affects the interaction by the person or the ball but this is the explanation;

I'll split space and time just for this explanation.

Space directly affects time, this is why physics combine both as space-time. Therefore, the slightly thick nature of space on ISS which produces the restriction to cause the ball to not move as required, doesn't directly affect the ball. This is what happens; the thick nature of the space on ISS offers a restriction, its aim is to reduce the time it'll take for the ball to interact than in other free natures of space-time. As an attempt to reduce the time, it affects the motion of the ball which involves its acceleration, velocity etc. Same with the leg

which applies the force, the thick space aim is to reduce the time it'll take for the leg to interact with the ball. As an attempt to reduce the time, it affects the motion of the leg which will lead to a lower force applied.

Thus, space directly affects time (space-time) and indirectly affects "what time affects". Time affects the condition of matter and the interactions (motion). This is why I had to present the fundamental and derived quantity table; when I say "what time affects", I mean this way;

You can know what time affects i.e. what space indirectly affects by the derived quantities. Any derived quantity that includes time in its expression/formula is "what time affects". For example;

Velocity is displacement/time. Check, time affects velocity.

Now, momentum is mass x velocity. Check, since time affects velocity, it also affects momentum because we can break it down to momentum = mass x displacement/time.

There are many more that time affects, I'm just showing how to know.

Don't forget, I separated space and time. Now, since space directly affects time and indirectly affects "what time affects", it means that the combine word as "space-time" directly affects "what time affects". Therefore, the nature of space-time in an area will determine the velocity, acceleration, momentum, force,



pressure, impulse etc. of an object, insert when you discover more.

Here comes the reason why I had to present space-time and light as both ultimate entities, which the equations of the universe also gave as a clue. When I say "light" as an ultimate entity, I mean the general way, I'm not specifically referring to electromagnetic radiation or dark energy, I'm referring generally to anything that moves with the speed of light ( $c$ ). It is the constant " $c$ " as the speed that resulted into categorizing the entity (light) as an ultimate entity and this is the reason;

The nature of space-time in an area will determine how the motion (interaction) of matter will be. A space-time that gives a restriction (a space-time that appears to show some thickness) like the one on ISS will make an object to move slowly and space-time will be like;

*Space-time*: "It's not really my fault, you don't move with the speed of my fellow colleague ( $c$ ), so I have to restrict you"

The above statement is to say that if a matter magically moves with the speed of light, the thickest space-time cannot restrict it and this is the reason why a photon will move with the speed of light in any nature of space-time, even in a thick space-time. Once the speed of an object reaches the speed of light ( $c$ ), it is above the law. Any speed less than that, the nature of space-time in that area will be responsible for the object's motion.

Now, this is a proof that  $S$  and  $c$  are ultimate constants. Mathematics doesn't lie.

Back to the main point and I proceed. I've put emphasis on the fact that time is not based on the rotation and revolution of a planet around the sun, this is the confusion;

As we know, the distance between the sun and a planet in our solar system will determine how long it'll take for that planet to complete 1rev around the sun. Planets far away from the sun than earth will take a longer time to complete 1rev than earth.

For example; Mercury completes 1rev around the sun in 87.97 earth days. Earth is 365.26 earth days and Jupiter is 4,332.82 earth days.

Now, people do think that the fact that it takes Jupiter a longer time to complete 1rev than earth means that time is slow on Jupiter, without knowing that the space-time on Jupiter is freer than on earth.

The only issue we have is when people say that time is ahead in one country than the other and how people say that a person is older in another planet far away from the sun than earth. No

To stop all the confusion and give the main fact, I'll have to present time as it is.

To make this simple, the bottom line is; regardless of the sunrise in a place and sunset in another place, even in another planet, anywhere you are, time moves this way in its unit;

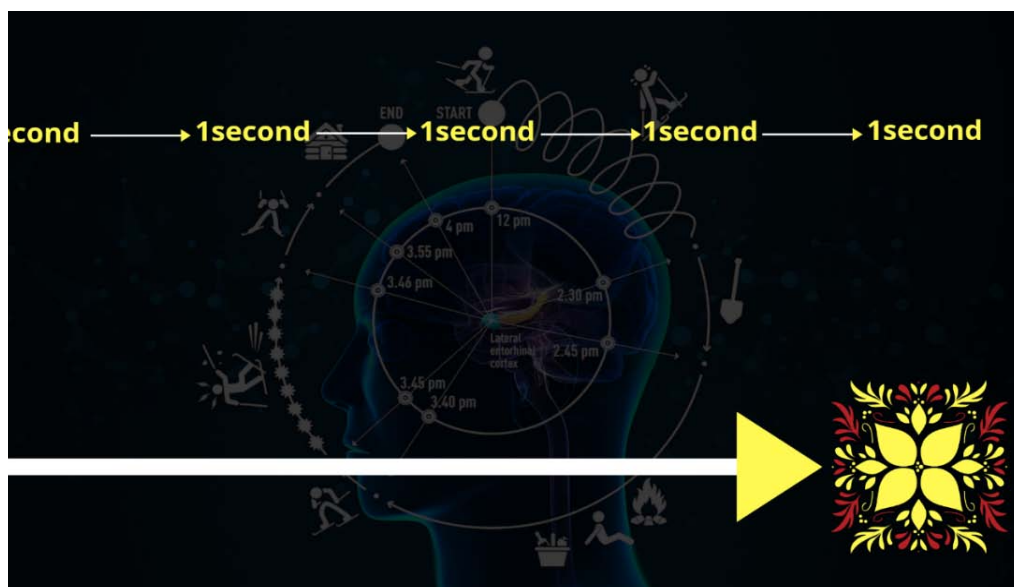


Figure 9

1s -1s -1s -1s -1s -1s -1s -1s -1s -1s (Figure 9)

Time passes from one second to another. It's day time in China (6am) and night in Nigeria (11pm), the time in china is ahead. No, that's not time, it's the sun's effect, that's all. Time passes from 1s to another, put that on your mind.

Also, do not confuse yourself in the fact that what we know as "It takes Venus 224.70 days to complete 1rev is in earth days", we do this because no one has been to all these other planets in our solar system.

However, let's say humans migrate to Venus, we would have to form a Venusian calendar living in Venus; we take a clock and measure a full day, (sunrise) to the start of another day and then group it in hours and in minutes and in seconds, once Venus completes one rev around the sun; we check the total days recorded and group them equally to form the months. Also, since earth is the default planet, we would have to make contact, once it's Christmas on earth, we record the date on Venus and use that as our Christmas, same with other important holidays. Now, we have our time in Venus, time moves from 1s to 1s still. There's no problem because we are just in our business in Venus and what happens in another planet is not our concern. How long a year is in a planet and how short is not what determines the differences, it doesn't matter being in a planet with a longer year because time moves from seconds to seconds but here comes the real deal I've been talking about; the differences.

The explanation of space directly affects time and time affects motion (interaction), is the key. From my understanding, using an analog clock is the only way to effectively measure differences in time because an analog clock involves motion (interaction with space-time) via the short, long and longer hand. Any other

device or form of time measurement are all computations and programming, these other devices won't interact with space-time to display the time.

#### [Experimental Test]

On Earth, we provide two analog clocks set properly. To ensure accuracy; we set both clocks at 12:00pm and ensure that both gets to 1:00pm together. Put off both clocks, keep one on earth and take the other to the moon. Start both clocks at the same time. The clock on earth will get to 2:00pm faster than the clock on moon.

Now, time is time but the differences between the natures of space is the real deal. When you'll know that time is different is when you try to get involved with another planet. If not, you wouldn't notice.

The nature of the space-time on the moon will restrict the hands of the clock to move as required. Thus, if the clock on earth gets to 2:00pm, the clock on the moon will be at;

#### [Mathematical Test]

Before calculations, I present the table from my previous paper which I formed for calculating differences in time between different natures of space-time below;

Table 1

Body	$S_{\text{stretched}}$ for planets	$P_E = \frac{S_{\text{stretched}}(\text{planet})}{S_{\text{stretched}}(\text{Earth})}$
Sun	0.00365	0.035805
Mercury	0.27855	2.732489
Venus	0.11274	1.105944
Earth	0.10194	1
Moon	0.61728	6.055327
Mars	0.26525	2.602021
Jupiter	0.03854	0.378066
Saturn	0.09025	0.885325
Uranus	0.09372	0.919364
Neptune	0.07107	0.697175

Table 2

Body	$P_E$	Time(t) $[t/P_E]$
Sun	0.035805	$t/0.035805$
Mercury	2.732489	$t/2.732489$
Venus	1.105944	$t/1.105944$
Earth	1	$t/1$
Moon	6.055327	$t/6.055327$
Mars	2.602021	$t/2.602021$
Jupiter	0.378066	$t/0.378066$
Saturn	0.885325	$t/0.885325$
Uranus	0.919364	$t/0.919364$
Neptune	0.697175	$t/0.697175$

Calculations;

From 1:00pm to 2:00pm is 1hr. 1hr is 3600sec on earth,

From table 2, for moon we have  $t/6.055327$ .

$$3600/6.055327 = 594.52\text{sec}$$

$$594.52/60 = 10\text{min}$$

Therefore, the clock on moon will be on 1:10pm.

Now we have a new experiment to try by the next mission to the moon (Clock Experiment). I should have tried it with ISS but I'll need to determine the value. However, let's try the same situation on Venus and Mars.

From 1:00pm to 2:00pm is 1hr. 1hr is 3600sec on earth

From table 2, for Venus we have  $t/1.105944$ .

$$3600/1.105944 = 3255.14\text{sec}$$

$$3255.14/60 = 54\text{min}$$

Therefore, the clock on Venus will be on 1:54pm.

For Mars,

From 1:00pm to 2:00pm is 1hr. 1hr is 3600sec on earth

From table 2, for mars we have  $t/2.602021$ .

$$3600/2.602021 = 1383.54\text{sec}$$

$$1383.54/60 = 23\text{min}$$

Therefore, the clock on mars will display 1:23pm.

One more to prove my Jupiter statement;

For Jupiter,

From 1:00pm to 2:00pm is 1hr. 1hr is 3600sec on earth

From table 2, for Jupiter we have  $t/0.378066$ .

$$3600/0.378066 = 9522.14\text{sec}$$

$$9522.17/60 = 159\text{min}$$

Therefore, the clock on Jupiter will display 3:39pm, while the clock on earth will display 2:00pm.

The Clock experiment is up for grabs by any astronaut. This should be included in the next mission to a planet. When the clock on earth gets to 2:00pm from 1:00pm, the other clocks in other mentioned planet will be at; See Figure 10

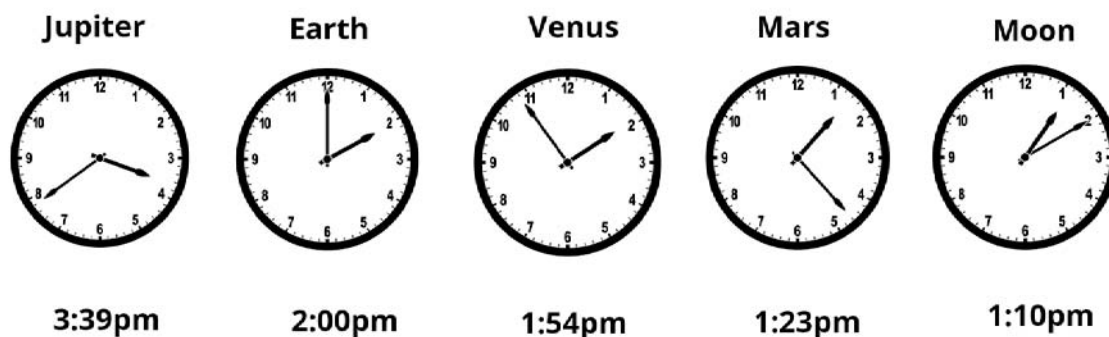


Figure 10

## IV. MOTION



Figure 11

Motion involves a change of position of a body with time. Time affects the motion of matter. Don't be confused, when I say time it means space-time.

We have the types of motion; random, translational, rotational, vibratory motion.

All you know about motion in basic physics remains the same but I'm using earth as a reference point to show the world how the motion of matter will be in other natures of space-time.

Note; The laws/theories/formulas of motion remains the same. In any nature of space-time, the formulas can be used while recording the event in that same nature.

[New development]

This is recording an event that happened in a different nature of space-time while being in an

environment of another different nature i.e. recording an event of motion on Venus from Earth. This is how to know the interaction of matter in other natures of space-time by calculation with the different values representing different natures of space-time.

Read my previous papers ([princejessii.academia.edu](http://princejessii.academia.edu)) if you don't know how to use table 1 and table 2. I proceed immediately with the calculations to show how matter interacts using four natures of space-time which will be Jupiter, Earth, Venus, Moon respectively arranged in the order of increase in thickness of space-time nature (Figure 12).

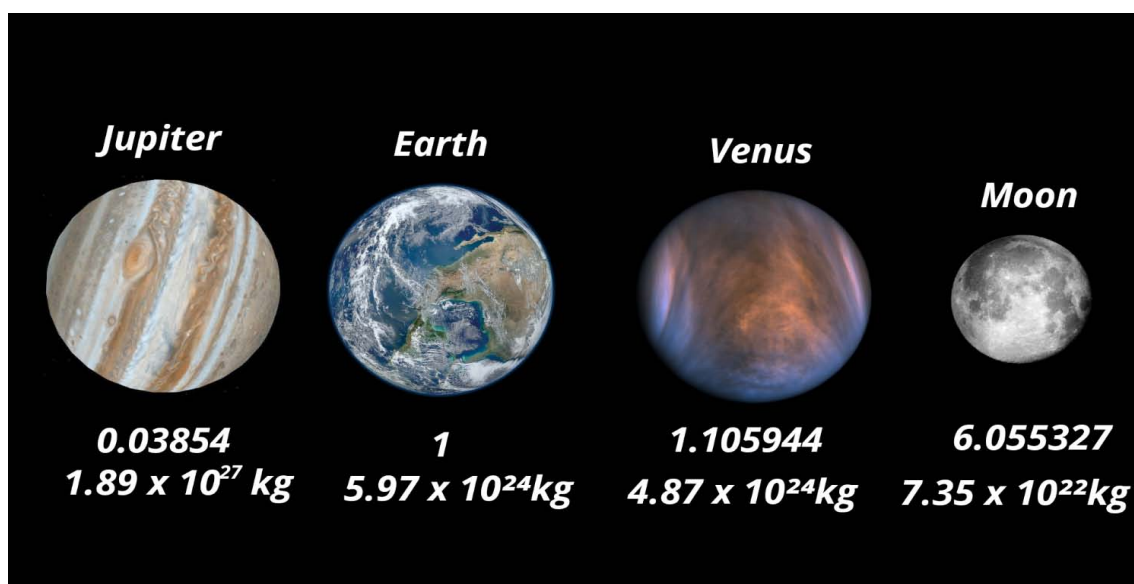


Figure 12

Calculations; Using values of the mentioned planets under  $t/P_E$  in table 2



a) *Distance*

A car travels at a constant speed of  $100\text{m/s}^{-1}$ . What distance does it cover in 5seconds?

- 1) Event on Earth, recorded on Earth; speed = distance/time, distance = speed x time  
 $100 \times 5/1 = 500\text{m}$
- 2) Event on Venus, recorded on Earth; speed = distance/time, distance = speed x time  
 $100 \times 5/1.105944 = 452\text{m}$
- 3) Event on Moon, recorded on Earth; speed = distance/time, distance = speed x time  
 $100 \times 5/6.055327 = 82.57\text{m}$
- 4) Event on Jupiter, recorded on Earth; speed = distance/time, distance = speed x time  
 $100 \times 5/0.378066 = 1322\text{m}$

*Conclusion:* Comparing the four calculations, it is seen that “the freer a nature of space-time is, the more distance an object is likely to cover with the same speed in the same time.”

Arranging the four planets in the order of increase in the thickness of space-time;

[Jupiter – Earth – Venus – Moon]

[1322m- 500m – 452m – 82.57m]

I hope you understand.

b) *Speed*

A bus covers a distance of 1000m in 60sec, at what speed does the bus moves with?

- a) Event on Earth, recorded on Earth; Speed = distance/time  
 $1000/ (60/1) = 16.67\text{ms}^{-1}$
- b) Event on Venus, recorded on Earth; Speed = distance/time  
 $1000/ (60/1.105944) = 18.43\text{ms}^{-1}$
- c) Event on Moon, recorded on Earth; Speed = distance/time  
 $1000/ (60/6.055327) = 100.92\text{ms}^{-1}$
- d) Event on Jupiter, recorded on Earth; Speed = distance/time  
 $1000/ (60/0.378066) = 6.30\text{ms}^{-1}$

*Conclusion:* In this situation where the speed is unknown and a distance is given with time, it is seen that in a free space-time, an object can use a slight amount of speed to cover a distance than in a thick space-time.

Arranging the four planets in the order of increase in the thickness of space-time;

[Jupiter – Earth – Venus – Moon]

[6.30 – 16.67 – 18.43 – 100.92] in  $\text{ms}^{-1}$

c) *Force*

A force of 10N is applied to a ball with a mass of 10kg, the ball is displaced in a certain direction. What distance does the ball cover in 10sec?

- 1) Event on Earth, recorded on Earth; Force = mass x acceleration, acceleration = velocity/time, velocity = distance/time. Distance = Force x time<sup>2</sup> / mass  
 $10 \times 10^2 / 10 \times 1 = 100\text{m}$
- 2) Event on Venus, recorded on Earth; Force = mass x acceleration, acceleration = velocity/time, velocity = distance/time. Distance = Force x time<sup>2</sup> / mass  
 $10 \times 10^2 / 10 \times 1.105944 = 90.42\text{m}$
- 3) Event on Moon, recorded on Earth; Force = mass x acceleration, acceleration = velocity/time, velocity = distance/time. Distance = Force x time<sup>2</sup> / mass  
 $10 \times 10^2 / 10 \times 6.055327 = 16.51\text{m}$
- 4) Event on Jupiter, recorded on Earth; Force = mass x acceleration, acceleration = velocity/time, velocity = distance/time. Distance = Force x time<sup>2</sup> / mass  
 $10 \times 10^2 / 10 \times 0.378066 = 264.50\text{m}$

*Conclusion:* These calculations are the mathematical prove of what I explained about the situation of kicking a ball on ISS. With the same force on the same mass of an object, the object will cover more distance in a free nature of space-time than a thick one.

Arranging the four planets in the order of increase in the thickness of space-time;

[Jupiter – Earth – Venus – Moon]

[264.50m – 100m – 90.42m – 16.51m]

*General Conclusion:* This is the theoretical/mathematical way of showing how matter moves in other areas of space-time. It is simply staying on earth and recording an object's movement on another planet with a clock in your hands, if you record for a certain period (time) and compare all your recordings for the different planets, you'll observe that the object's movement is different in all recordings. However, you can continue with the calculations with other quantities that space-time can affect by using table 2.

#### Instructions

- 1) The values under  $t/P_E$  in Table 2 is only applied with time (t). Do not use it with any other quantity apart from time. If time cannot be gotten from the breakdown of a formula, it means that the differences in the nature of space-time doesn't affect that quantity. For example; Volume =  $l \times b \times h$ . Time is not present in the formula/expression. Therefore, volume of an object cannot be affected in a different nature of space-time. Remember, the aim of any space-time nature is to affect the time related to any interaction of an object.
- 2) Do not use values under  $t/P_E$  in table 2 for a quantity that represents an entity moving with the speed of light (c)

#### d) Condition of Matter

What I mean by "Condition of Matter" is simply based on the inferior nature of matter.

Like you know, a house built yesterday will not be in the same condition in 100years to come. Yes you can paint it to deceive the eyes but deep down the condition of the house is far from fresh. Same with other matter. A man/woman is fresh and young but in 80years to come, its condition changes, close to fading. This is the nature of matter, if it moves from day to day or it stays stable and still for many years, its condition must change. This is the issue that comes with matter, it's inferior. This is what I mean by "Condition of Matter."

If an object is manufactured and split into four, the first part stays on earth, the second is taken to the Jupiter, the third is on Venus and the fourth is on Moon. After 80years on earth, the part on earth is definitely 80years old and its condition is very bad, its appearance is worn off.

To check the condition of the other three which are in a different nature of space-time, we use table 2 also.

- 1)  $80/0.378066 = 211\text{years}$  (the object's condition on earth at 211years)
- 2)  $80/1.105944 = 72\text{years}$  (the object's condition on earth at 72years)
- 3)  $80/6.055327 = 13\text{years}$  (the object's condition on earth at 13years)

Perhaps, if the condition of the first part that stayed on earth was being detected and recorded at 13years, 72years and 211years; that will be the condition of the other three parts once the part on earth reaches 80years. All these is what I mean by "Condition of Matter." (Figure 13)



Figure 13

## V. DARK ENERGY AND DARK MATTER THEORY

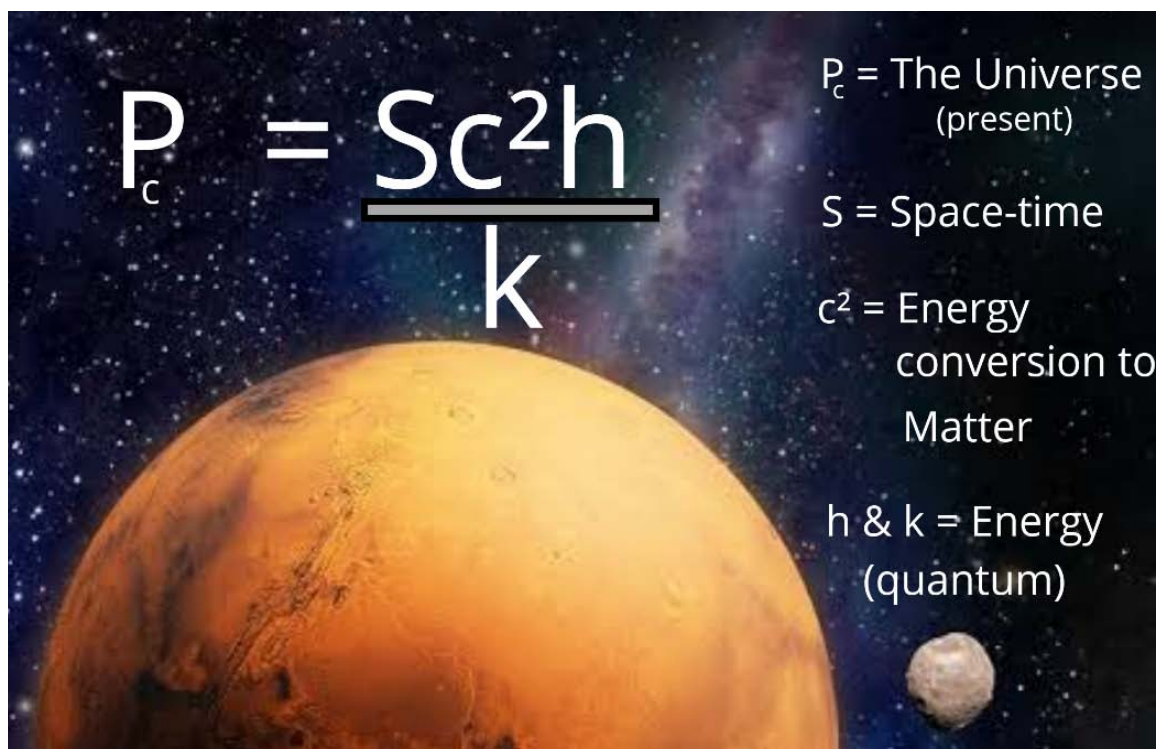


Figure 14

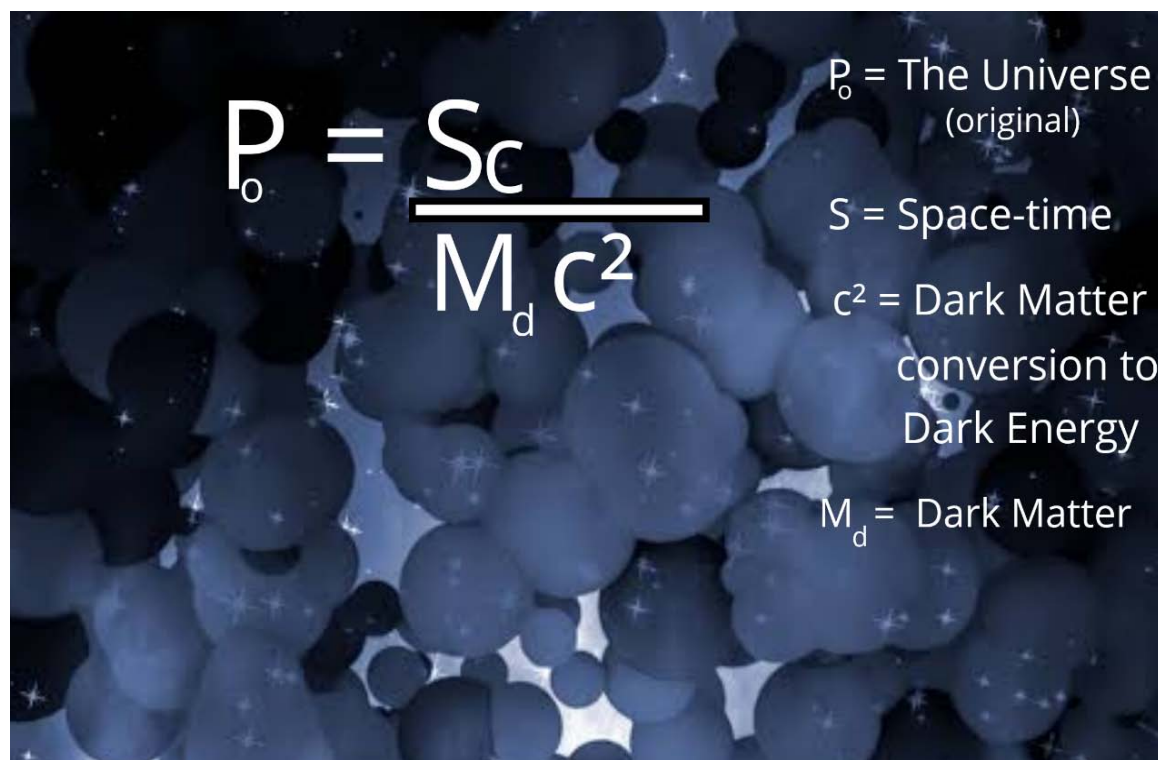


Figure 15

*Physics:* The natural science that studies matter and energy, its motion/interaction and behavior through space-time.  $P_c = Sc^2h/k$  (Figure 14)

*Dark-Physics:* The natural science that studies dark matter and dark energy, its motion/interaction and behavior through space-time.  $P_o = Sc / M_d c^2$  (Figure 15)

I present the name “Dark Physics” as the physics of the dark dimension and this is the reason; the interactions and behavior of the dark entities is completely different. In fact, it’ll render the laws of physics invalid. If the four entities (Dark energy, Dark matter, Matter, Energy) are joined as one subject as “Physics” and in future; scientists fully realize how the dark dimension fully works, all the theories backed up by experiments in physics will seem like an error/failure in the eyes of our coming generations.

Presently, there are situations that defies the laws of physics but we don’t see what happens on the other side; if shown to a physicists, he/she will be speechless and have nothing correct to offer.

“Matter behaves entirely different when combined with dark-matter”

For example; if a dark-matter is present in your room but you don’t see it, and it eventually interacts/reacts with a matter in the room like a table, let’s say it causes the table to levitate, you see that the table is levitating but don’t know why and you get scared without knowing that a dark-matter piece has reacted with it. Now, with your eyes you can’t explain what you just saw and you might probably not live in that house again. A physicist will have nothing to say about that.

For future sake, let physics be physics and let the physics of the dark-dimension be “dark physics”. If the dark entities are understood properly in future by observations, the physics of the dark entities can be presented as dark physics according to the equation derivation (equation 11). The reason is to avoid going back to the root of physics again because of the fact that things would change. I’m not saying this as a prediction but by getting two formulas/expressions that defines two versions of physics.

I’ll just give an introduction to dark physics until a good observational/experimental discovery relating to the dark entities has been presented then I can continue. To bring that discovery to reality, I have to give a clue.

From my mathematical presentation of the Universe [3], the default dark matter is represented by a unique value “50” as a constant. The value of the mass of dark matter as (50) depends on the default space-time. This means that its mass must have deviated from 50 presently. From my understanding; at the opposite dimension, it was the mass of matter but wasn’t constant. Therefore, the resulting description of this value is;

“All single dark-matter in the Universe will have the same (equal) mass/weight in space-time at all positions”

Cosmologists/astronomers should use this as a clue for quick discovery of the mass of dark-matter and

should be put at the frontline of attempts. If there’s a mission to know more about dark matter, its mass should be the first finding. There’s another clue after the statement below;

The theoretical aspect of physics is meant to see things through so as help cosmologists/astronomers know what they are dealing with, but some physicists in the past and nowadays physicists write their theories from experiments/observations that had already been done. What makes me wonder is that; yes, a clear observation/experiment has been done about a particular situation, some physicists will ignorantly use unknown variables/constants to form their theories, in some cases it might require using calculus and matrices to solve, in extreme cases some might proceed to use programs and compute just to prove an idea. In most cases, physicists will try to predict and predict just in case one of their predictions happen to be correct when proven by an experiment/observation in future and all credit goes to them. Yes, there’s an idea which results into predictions, the prediction is then proven by an experiment/observation but if the theoretical aspect with calculations is not presented reasonably, what happens; their theories will deceive other generations to come just because of the fact that the corresponding prediction was observed. Deceit is what caused the delay in discovering a unification theory. It’s not a physicist’s intention to deceive but that is what a wrong theoretical presentation does because of the fact that people will always refer to a theory for answers to problems that are associated to that particular theory. They forget that all aspects of physics are linked, if a part is not presented well, it might affect another. Thanks to the few physicists that did things the right way.

What am I saying; entities have a constant/parameter/value that represents them (e.g. matter- electron –  $1.60 \times 10^{-19}$ ) either by measurement or calculation. Entities in this universe are linked to one another, one way or the other. Any situation that can be proven observationally/experimentally can be also proven theoretically. Proving the situation theoretically means that one must prove it mathematically else it’s a prediction and it means that; it is what the physicist thinks, that’s what he/she publishes in the paper and not what the math says. Math doesn’t tell lies, math I mean using the values/constants that represent entities for a general representation. Math I mean a reasonable math that can prove a situation. The reason I’m saying this is the fact that I want physics researchers and coming generations to follow the technique I use in my theories which is linking entities from their default states to get answers in any part of physics, you’ll surely find that answer.



Here's another dark matter clue.

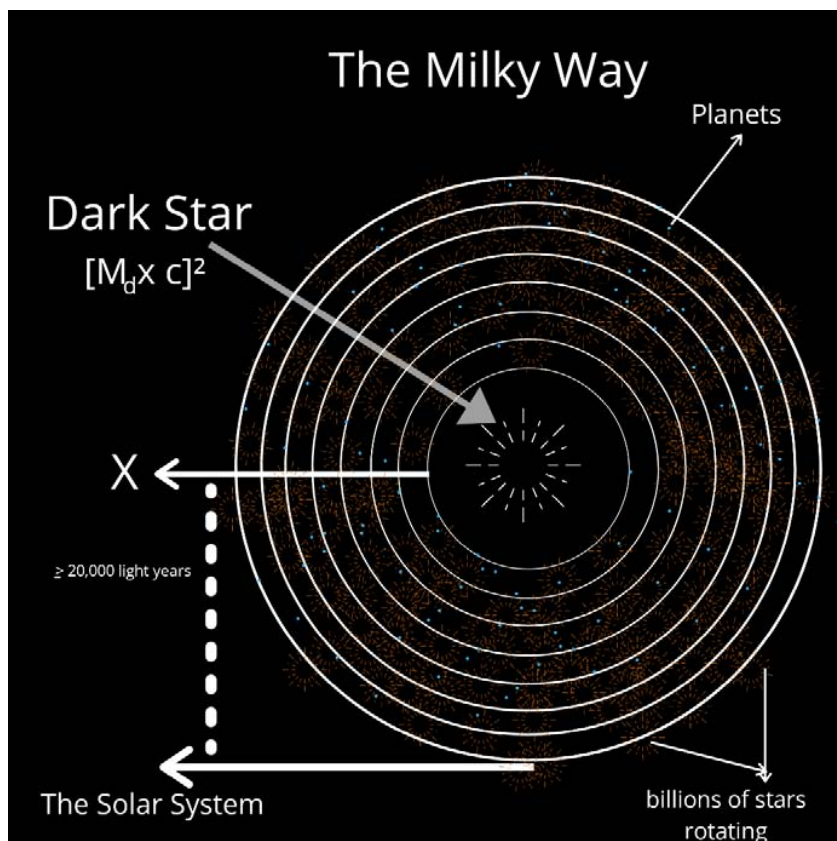


Figure Y

From my mathematical presentation of the universe; gravity as the constant (G) is directly gotten as  $1/S$ .

$$1/S = 1/1.50 \times 10^{10} = 6.66 \times 10^{-11}$$

The formula  $(1/S)$  is simply saying that gravity is the Alta-ego of space-time, whenever a mass applies pressure on space-time to cause a curvature, gravity (G) arises from space-time (S) or we can say that space-time releases its alternate form (gravity). However, this is another expression that leads to (G);

$$S/(M_d \times c)^2 = G$$

Remember, S is space-time, c is the speed of light and  $M_d$  is dark matter

Inserting Parameters;

$$1.50 \times 10^{10} / (50 \times 3 \times 10^8)^2 = 6.66 \times 10^{-11} (G)$$

That is the gravitational constant and the expression is simply saying that;

"Dark matter which is on space-time will cause a very strong gravitational effect regardless of the fact that it would distort space-time", but the dark matter that causes this strong gravitational effect is no ordinary dark-matter. A planet is matter, a star is also matter but unlike planets, they possess electromagnetic radiation i.e. they possess energy. This kind of dark matter that causes a strong gravitational effect is similar to a star, it is a star in the dark dimension, I want you to imagine a star that you can't see but this time the star is not matter possessing energy, rather this star is dark matter possessing dark energy (Dark Star - father of all stars) [figure Y]. Planets rotate around their star but what will the stars in a galaxy be attracted to? (See section VI).

Check back at my mathematical illustration of the universe in [3] to see the expression I gave as a star in the dark dimension.

Dark matter causes a gravitational effect, astronomers/cosmologists should note this clue. However, any point at the outer space where a strong gravitational effect is present but a planet is not present, the point seems to not be occupied by anything matter or energy but a strong (very high) gravitational effect is present from a point, just know that a dark matter is present in that point, it is a unique dark matter that possess its own light (dark energy) - a dark star which is not visible (See section VI for more info)

If I go deep into dark physics, it'll blow your mind. Remember, this is just an intro.

**Dark-Physics:** The natural science that studies dark matter and dark energy, its motion/interaction and behavior through space-time.  $P_o = Sc / (M_d c^2)$

The answer to the nature of dark energy and dark matter should no more be an unsolved problem in physics. The GUT got us covered.

Again, I don't predict rather I do the math which brings out the reality.

### The multiple components that compose our universe

Current composition (as the fractions evolve with time)

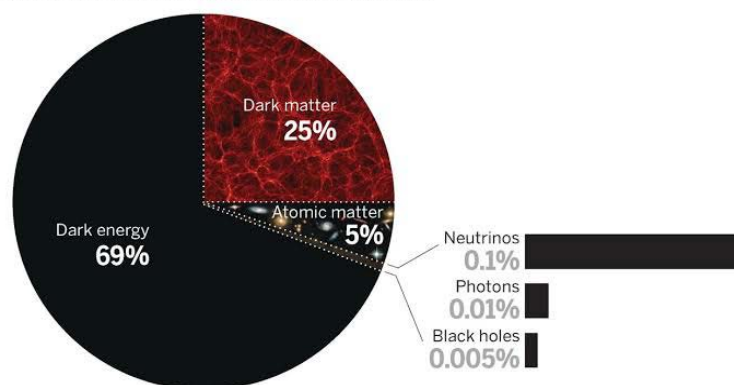


Figure 16

From figure 16, the universe is composed of 69% of dark energy (changes with time). It exists as the light attached to space-time. Space-time is everywhere, dark-energy is everywhere. It is said that dark energy doesn't interact with light (electromagnetic radiation), simply saying that it's invisible. However, dark energy is another light on its own. Dark energy is the reason for the expansion of space-time at the outer space, these are the major findings about dark energy.

From figure 16, the universe is composed of 25% of dark matter (changes with time). It is said that dark matter neither absorbs or emits light also, just like dark energy, dark matter cannot be seen directly (invisible). However, dark matter is another form of matter on its own.

To have the understanding that I have about the role of dark energy and dark matter in this unstable universe, think of this simple game.

The game is a 16<sup>th</sup> century game of lighting up a dark large room with candles i.e. to make the room bright and visible with candles. The more lit candles you put in the room, the brighter the room becomes. Also, the only way to light the candles is by putting them in a fire outside the room. So the game is simply fetch and put. Just think of this game and get any meaning you can get from it, it's just to prepare your mind.

Now, like I've always said in my previous papers; the dark entities (dark energy and dark matter) are superior to energy and matter. I've always emphasized on the fact that energy and matter are inferior. In fact, the presence of space-time hides 50% of the reality of matter and energy being inferior. Even with the presence of space-time, energy and matter still

display their inferior nature. Inferior I mean they are capable of fading. Just like the saying "Energy can neither be created nor destroyed", that's the deceit that space-time brings. Energy can very well be destroyed if you imagine a universe where there is no space-time. Once again, one of the major properties of the dark entities is "indestructible", they are here to stay and they are invisible for a reason.

Do you think that the uncountable planets and stars we have in our universe is a decoration? Do you think that our creator wants humans to be born today and fade the next day? Think.

Einstein made it clear that energy and matter are two forms of the same thing meaning matter is the solidified form of energy (pack-photon forming into an electron). Same with the dark entities, dark energy and dark matter are two forms of the same thing. Dark matter is the solidified form of dark energy.

Now, I've always said that matter can become dark matter and energy can become dark energy. Why, it's an offer that allows matter/energy to change to its indestructible mode by the same space-time that tries to hide its inferior nature. The only way to change to that mode is by merging with the existing dark entity which is the reason for the existence of black-holes. (section VI)

The universe is of two versions;

**Stable Universe:** Dark energy and Dark Matter are visible i.e. all matter and energy are merged with the existing dark energy and dark matter.  $P_o = Sc / (M_d c^2)$

**Unstable universe:** Energy and Matter are visible, dark energy and dark matter are invisible.  $P_c = Sc^2 h/k$

## VI. BLACK HOLE THEORY

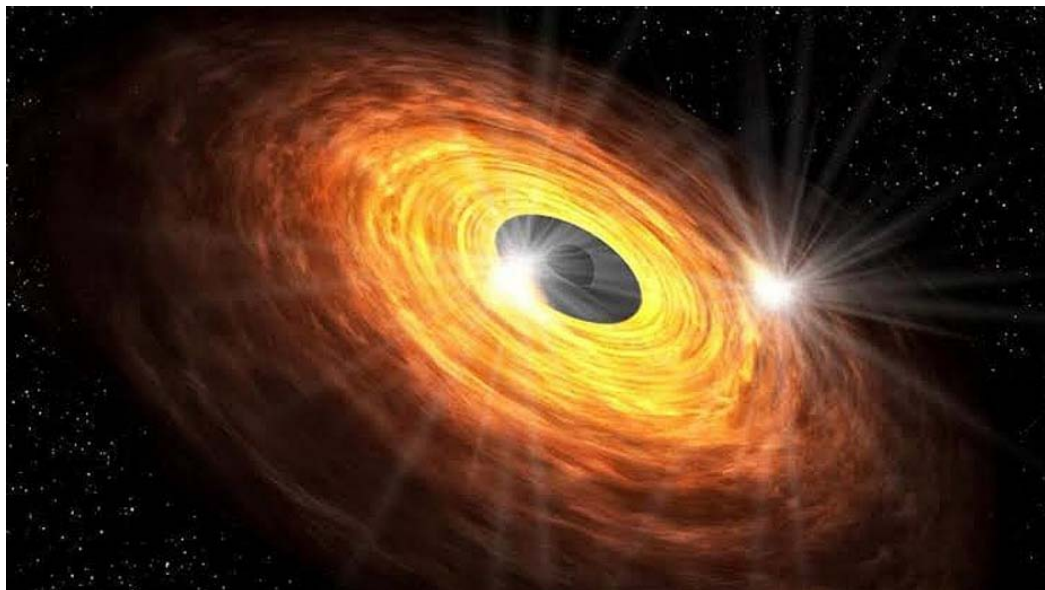


Figure 17

A black hole is a region of space-time where gravity is so strong that nothing, no particles or even electromagnetic radiation can escape from it (Figure 17). Black holes can absorb to gain mass from its surroundings.

If you understand the “GUT”, you’ll understand the existence of black holes.

Also, if you know the real definition of gravity, you’ll understand the existence of black holes.

Therefore, the existence of black holes should not be a surprise. This is the real definition of gravity;

Gravity is an effect that arises from a mass applying pressure/stress on space-time (curvature), once the pressure/stress is applied, this effect (gravity) stretches the space-time at the line of pressure.

I presented the calculations showing the effect of gravity to form a new space-time nature in my previous paper [3]. Again, using figures I designed for a better understanding, a detailed explanation of the link between (space-time, dark-energy, gravity, black-holes and the inferior entities) is as follows;

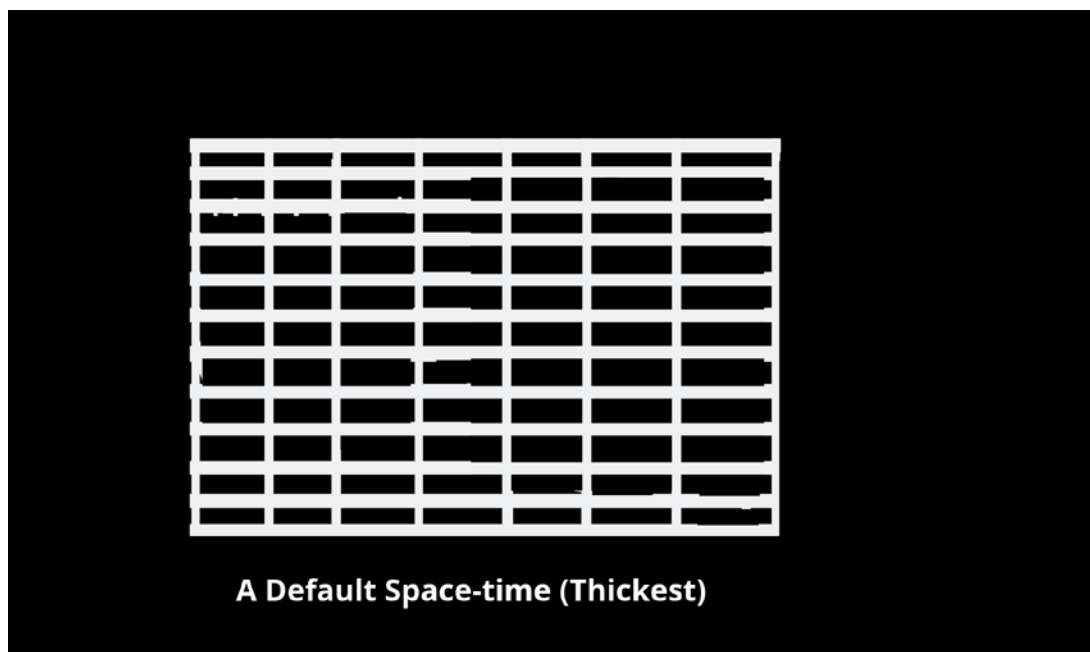


Figure 18

First, the formation of a new space-time nature is based on the default space-time ( $1.50 \times 10^{10}$ ). All planets/planetary bodies that apply pressure on space-time where all formed at creation. At creation, this default space-time which is the thickest was everywhere (Figure 18), it also existed with an energy (dark-energy)

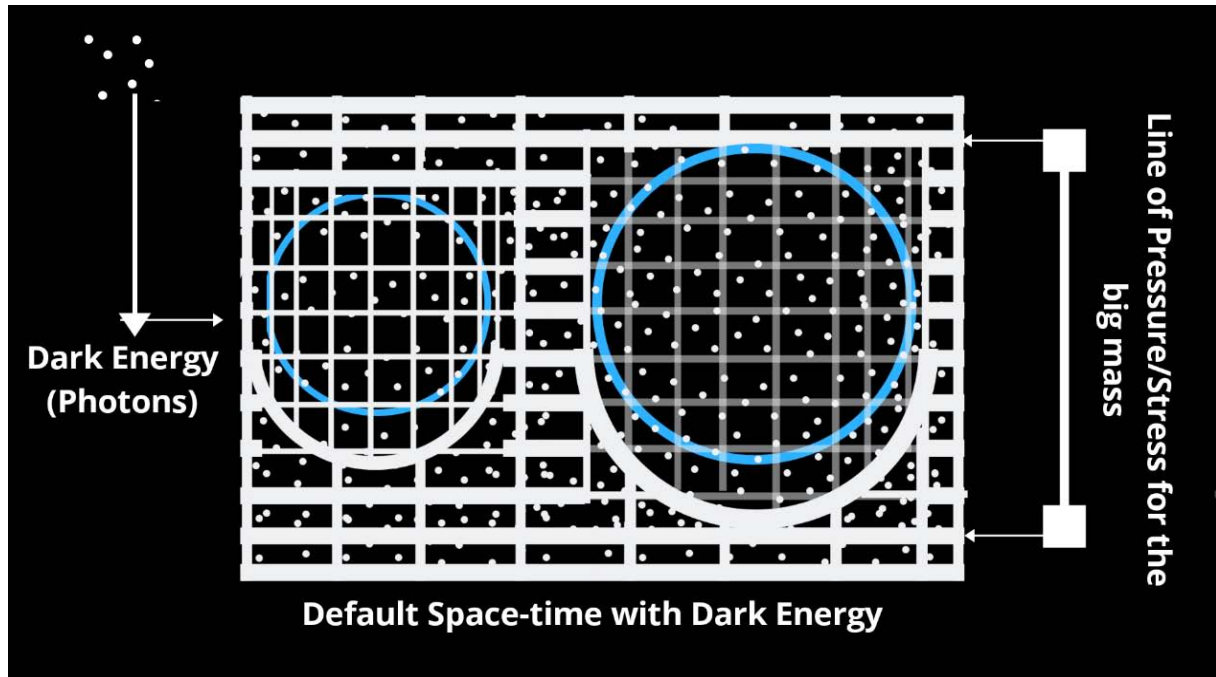


Figure 19

Secondly; once a planet/planetary body was formed at creation, they immediately applied pressure on this default space-time. The pressure/stress causes a curvature resulting to gravity. The gravitational effect stretches/reduces the thickness of the default space-time at the line of pressure to result into a new space-time nature.

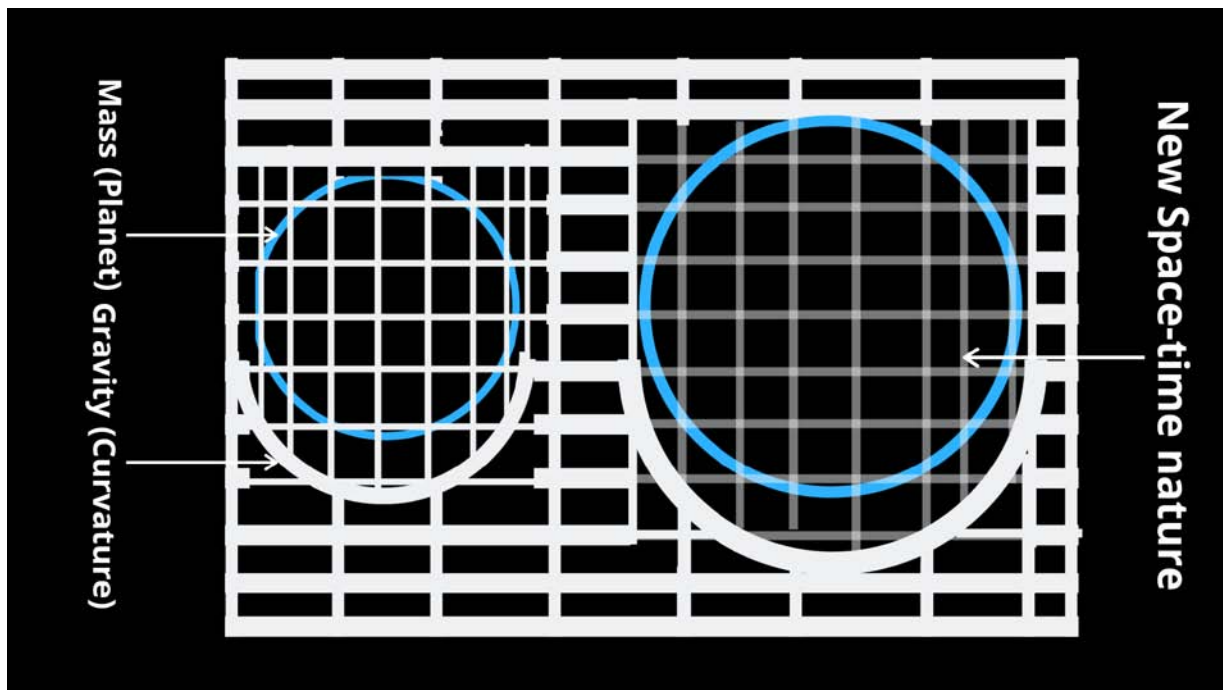


Figure 20



Next; from figure 20, it is seen that a new space-time nature is formed at the line of pressure. This line of pressure starts from the point of curvature area upwards to the top of the planet. A bigger mass will apply a bigger pressure, a smaller mass will apply a smaller pressure. The more pressure/stress applied by a mass, the more the default space-time at the line of pressure is stretched by gravity, the more free the new nature will be. From figure 20, it is seen that the thick lines around the line of pressure which represent the default space-time are now thin lines representing a new nature. Between the small and big mass, the lines of the bigger mass is not as thick as the lines of the smaller mass. However, these planets rotate around which means they apply pressure at different points in space-time but the main fact is that; once a new nature is formed inside a planet/planetary body, the new nature cannot be reversed back to its original nature (a contained space-time) unless a curvature is not present, also it cannot be stretched/reduced further unless a particular situation happens which I'll explain later. Thus, leaving the new nature permanent inside the planet. This is to say that; each planet/planetary body at the outer space contains a different nature of space-time based on the explanation from figure 20, unless two planets had the same mass at creation, they can both have similar nature of space-time. The function of gravity to stretch and reduce the space-time at the line of pressure happens when a mass applies pressure on space-time but if that mass has a new nature already other than the nature of space-time as to which it applies pressure, gravity won't stretch it rather it'll will protect it. Example, using earth;

- 1) Earth was formed long ago at creation when the default space-time ( $1.50 \times 10^{10}$ ) was everywhere,

a) *Quantum Gravity Theory*

once earth was formed on the default space-time, it applied pressure on the same space-time to cause (gravity-curvature).

- 2) The gravitational effect from the default space-time stretched the same nature at the line of pressure which includes inside the planet. A new nature is formed and contained inside earth.
- 3) Presently, billions of years has passed. The nature of space-time at the outer space is not the default nature as it used to be at creation. Therefore, as earth applies pressure as it rotates at different points, gravity will always arise, it'll only stretch at the line of pressure but this time, excluding inside the planet. This is why an object close to the surface of a planet is attracted by falling with a certain speed but once it enters the planet, it falls with a faster speed. Detailed explanation goes this way;

Gravity is Gravity, but the function of the gravitational effect that arises from a space-time of  $1.50 \times 10^{10}$  is different from the gravitational effect that would arise from a lesser space-time. The gravitational effect that arises from a space-time of  $1.50 \times 10^{10}$  will only stretch/reduce the same space-time of  $1.50 \times 10^{10}$  at the line of pressure, any other nature apart from that won't be stretch by it, rather the gravitational effect will protect and maintain the new nature in the planet as it keeps rotating in different points. A gravitational effect from a lesser space-time can only stretch the same lesser space-time.

Can this irreversible nature of space-time inside a planet still be reduced further to a newer nature? The answer is yes and it is near impossible but it's the understanding of "Quantum Gravity"

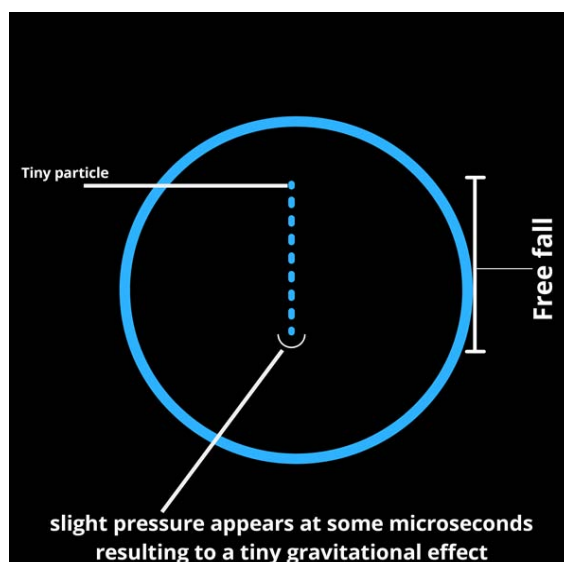


Figure 21

The new nature can very well be reduced. Just like the planets applied pressure on the default space-time at creation to cause gravity which will then reduce the thickness of the default space-time to give a new nature, this time the new nature inside the planet does not have enough thickness to keep objects floating to apply pressure rather the new space-time offers free fall. Therefore, objects won't be able to apply pressure but do you know that; in a new space-time nature like on earth, an object in free fall seems like it can't apply pressure due to the free nature, this is where the quantum realm comes in play. A tiny particle in free fall can have the mass that can match the free space-time

nature to produce an applied pressure for some microseconds or nanoseconds depending on the nature, to cause a quantum curvature resulting to a very tiny gravitational effect(Figure 21). All these happens in less than a second and disappears. However, it means that a newly formed space-time inside a planet can be reduced further but it will take billions x billions of tiny particles for billions x billions of years to create a new nature all round inside the planet. There can be new creation of a new nature of space-time But reversal can only happen if planets are not suspended under gravity anymore, otherwise no reversal.

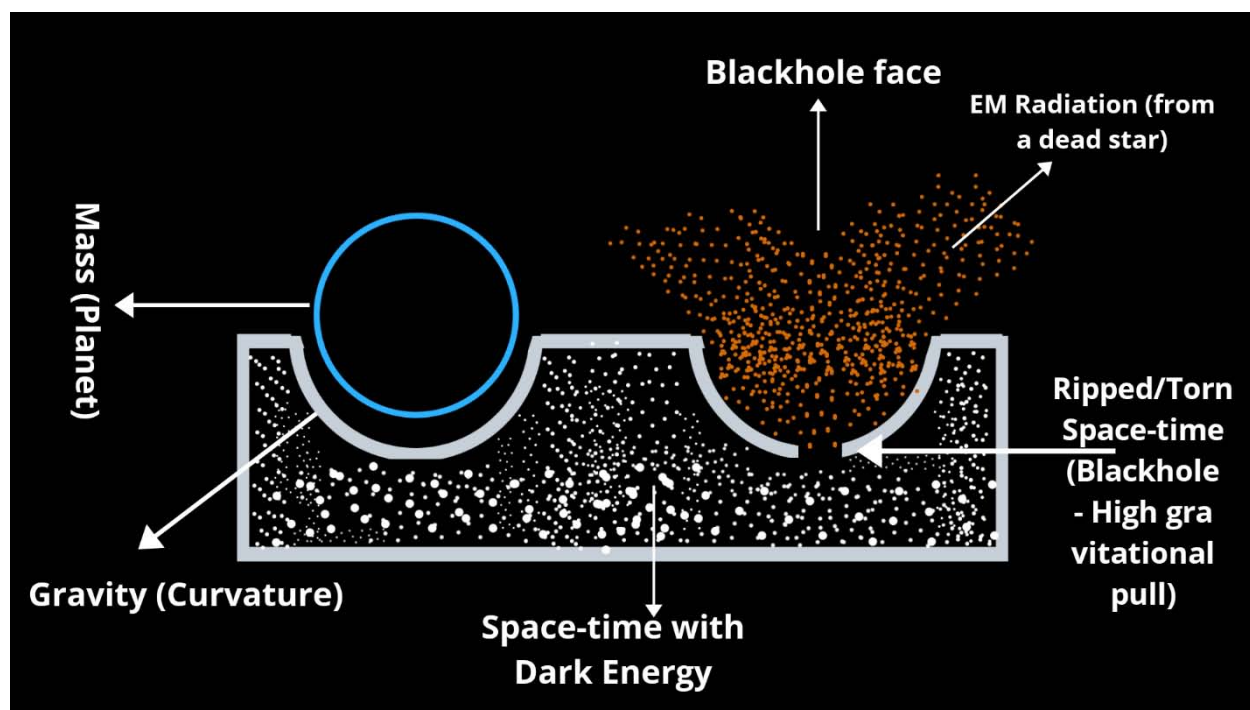
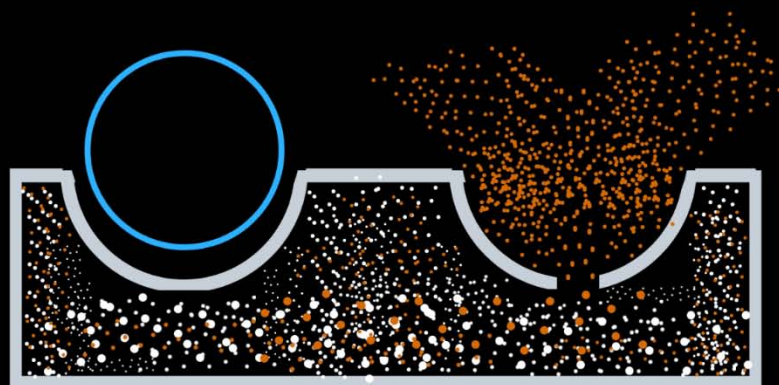


Figure 22

Next; Figure 22 is a view from a different angle to show space-time. Figure 22 is the difference between a mass applying pressure on space-time and energy (EM Radiation) applying pressure on space-time. The difference is; mass applies pressure/stress to curve space-time and energy applies pressure to tear/rip space-time.

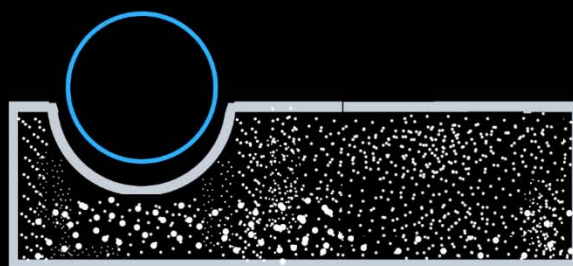


### EM Radiation from the dead star merging with Dark Energy gradually

Figure 23

A torn space-time is a pull from gravity. It's like a situation where you puncture a small hole in a balloon, the air gets expelled gradually and if you create a big hole, the air comes out at quickly. However, the reason why energy is allowed to tear space-time and not matter (mass) is solely because of dark-energy. A black-hole is

an event on space-time that allows energy to change to its indestructible mode (dark energy) by merging with the photons of dark energy, the spinning of the radiations by gravity is what results into the transformation to dark energy photons. This you don't see.



***After a period, all EM radiation photons become dark energy photons, the blackhole evaporates and the spacetime where it happened, repairs itself***

Figure 24

After a certain long time, we just observe a radiation that suddenly disappears and we wonder where they went. Remember, we can't see or observe dark energy, why should we see the merging of energy photons with dark energy photons.

After some time, the black-hole evaporates after all energy photons have changed to dark-energy photons, the space-time where the black-hole occurred repairs itself like nothing happened there (Figure 24).

Matter can be reversed back to energy, this means that; as a matter can apply pressure/stress on space-time, energy can equally apply pressure/stress on space-time. There are planets and there are stars, the difference is that unlike ordinary planets, stars possess energy (electromagnetic magnetic radiation). Stars are still matter that possess energy but when they die and collapse at the end of their life-span, all their matter part becomes radiation. I want you to think this through.

There are two things involved in black hole theory/calculation

- 1) The Energy (radiation) from a black hole
- 2) The Gravitational effect (pull) from the black hole

Straight up from the "Theory of Everything", the energy from a black-hole is the energy of a dead star. When a star dies, its matter part is transformed into energy (radiation).

This is why I presented the total energy of a star as  $E_{\text{star}} = [M \times c]^2$

Therefore, the energy from a black-hole is given as  $E_{\text{blackhole}} = [M \times c]^2$

If a star with a present mass of  $1.99 \times 10^{30}$  reaches its lifespan and collapses to cause a black-hole on space-time, the energy from that black-hole will be;

$$E_{\text{blackhole}} = [M \times c]^2 = [1.99 \times 10^{30} \times (3 \times 10^8)]^2$$

$$E_{\text{blackhole}} = 3.56 \times 10^{77} \text{J}$$

*Note:* This energy value is for a newly formed black-hole. As time passes, the energy from a black-hole changes.

However, this energy value of this black-hole will play a role in determining its gravitational pull.

Before presenting its gravitational pull, let me quickly discuss the meaning of the gravitational constant (G).

As you know, G is the inverse of S. I've said that; the main function of gravity is to reduce the thickness of space-time at the line of pressure whenever a mass applies pressure on space-time, and also as an attractive force/effect. G is the constant that represents that function. Gravity is weak, G is  $6.67 \times 10^{-11}$ . Now, this time; an energy is applying pressure to rip space-time. G has given us a hint that the value that'll represent the gravitational pull of a black-hole will be  $10^x$  to show the nature of gravity. However, once space-time is torn/ripped, G becomes  $G_{\text{black-hole}}$  to show its strong gravitational pull.

It's straight, the formula used for determining the value of a stretched space-time by the effect of gravity is;

$$(S_{\text{default}} \times r^2) / M = s_{\text{stretched}}$$

Also, I want you to think through as far as you can else you won't understand the existence of black-holes.

Energy is the default state of matter i.e. there was nothing like matter at the creation of this universe, energy is what solidified to form matter. Now, matter (mass) is not allowed to tear/rip space-time until it becomes energy totally. If it becomes energy, it can now tear/rip space-time. This is another view; there's an energy (dark energy) that exists with space-time and this is the reason why energy is allowed to tear space-time. Energy (radiation) tears space-time to form a black-hole for the sole purpose of merging with dark energy that you don't see i.e. energy is changing to its indestructible form (dark energy), it's a slow process. When the energy from a black-hole evaporates suddenly after some time, we ask; "where does the radiation go". You know the answer. Think this through, I wish I could transfer my understanding automatically to you.

Remember, it is energy applying pressure not mass (matter). Also, the pressure by energy caused space-time to tear/rip.

Therefore,  $S_{\text{stretched}}$  will change to  $G_{\text{black-hole}}$  and M and  $r^2$  will be replaced by the energy from the dead star ( $E_{\text{black-hole}}$ ).

The gravitational pull from a black-hole is given as  $S_{\text{default}} / E_{\text{blackhole}}$

With S as  $1.50 \times 10^{10}$  and  $E_{\text{blackhole}}$  as  $3.56 \times 10^{77} \text{J}$  from the example,

The gravitational pull of the black-hole formed is;

$$1.50 \times 10^{10} / 3.56 \times 10^{77} = 4.21 \times 10^{-68}$$

Also, I've made emphasis on the fact that the value  $1.50 \times 10^{10}$  represents the default space-time that was present at the big bang. Dark energy has been stretching the space-time (Expansion of the Universe) at the outer-space, this means that the nature of space-time present at the outer-space is not as thick as it used to be long ago at the creation of this universe.

Therefore, the value representing that space-time is no more  $1.50 \times 10^{10}$ , its value should be lesser but not too far from  $1.50 \times 10^{10}$ . So when calculating for



the gravitational pull from a black-hole, have in mind that the value is not accurate due to the expansion of the universe that resulted into the stretching of  $S_{\text{default}}$ . If the formula is used for a black-hole that was formed at a period where the universe was <100years old, then it's accurate. I hope you understand.

From the black hole calculation above, a black-hole formula/expression is generally as  $S/[M \times c]^2 = G_{\text{blackhole}}$

Equation (12)	Equation (13)
$S/[M_d \times c]^2 = G$ <p>S = Space-time, <math>M_d</math> = Mass of dark matter c = speed of light, G = Gravitational constant</p>	$S/[M \times c]^2 = G_{\text{blackhole}}$ <p>S = Space-time, M = Mass of matter c = speed of light, <math>G_{\text{blackhole}}</math> = Gravitational constant as a pull from a black hole</p>

When I say "default states", I mean their states/values at the Big Bang of the Universe, some will change and some will not but I presented their default states as ultimate and sub-ultimate constants to aid more linkage and further calculations to solve problems of this universe.

Accessing equation (12) and Equation (13) above; you can see that they are both similar. A statement can be this way; "If equation (13) is a black-hole equation, then equation (12) is also a black-hole equation."

If a statement should be that way, I'll agree with it, it's as simple as "they are both black-hole equations". Perhaps having the ability to read the puzzles of the universe was how I discovered the GUT/TOE and I'll give an answer to you from the comparison of both equations. Linking entities for equation (12) will definitely result to G because the default constants are involved, you'll expect the result to be a constant also, and you don't expect the result to be  $G_{\text{blackhole}}$  to show that its gravitational pull is actually as strong as a black-hole. Therefore, there's a meaning.

The dark entities are indestructible, this is how the universe is meant to be – with the dark entities only.

#### a) Fate of the Universe

Now, linking entities from their default states is key to linking the puzzle of the universe, how do you want to know more about what you can't see and observe except this way?

Back on the dark star explanation, this should be taken seriously for a quick observational discovery.

Also, all energy stars could be attracted to a dark star, this is to say that a dark star will be at the center of a galaxy (Figure Y). Now, the explanation;

The meaning of equation (12) and (13) by their comparison is; the death of a star (energy star) in the visible dimension will result to a black-hole and at the dark dimension, the presence of a dark star will result to a black-hole. Can you see the difference?

Thus, a star in the dark dimension (dark star) resting on space-time will cause a black-hole on space-time and a dead energy star in the visible dimension resting on space-time will cause a black hole on space-time. So, either way it's a star, dead or not dead, it must be a star resulting to a black hole. Dead for energy stars, not dead (active) for a dark star.

That's the story that equation (12) and (13) is telling. So yes, if a statement goes that way, I'll agree 100%. All these means that a black hole should be expected at the center of each galaxy and a dark star might not be observed because of its invisibility but it is present also at the black hole point.

Hence, the discovery of a dark star and detection of a gravitational effect by dark matter awaits.



Figure 25

The situation I just explained about the default nature of space-time at the outer-space being stretched by dark energy explains the fate of this universe. Space-time is a very thick entity represented by the value ( $1.50 \times 10^{10}$ ), its thickness is responsible for holding the planetary bodies floating. Although the nature of space-time at the outer-space is still thick enough to hold the planets floating but the present thickness is not as thick as it used to be. In Figure 26, (a) is the default nature during creation, its present nature could be b, c, d or

even less than d but I know for sure that it's still thick to keep the planets floating. The fact that is still thick enough to keep the planets floating is the reason we don't notice the reduction of its thickness observationally. As dark energy stretches the space-time, it results into an increase in area of the universe (space-time) and also a decrease in thickness of space-time. Not concerned about the area but thickness this time.

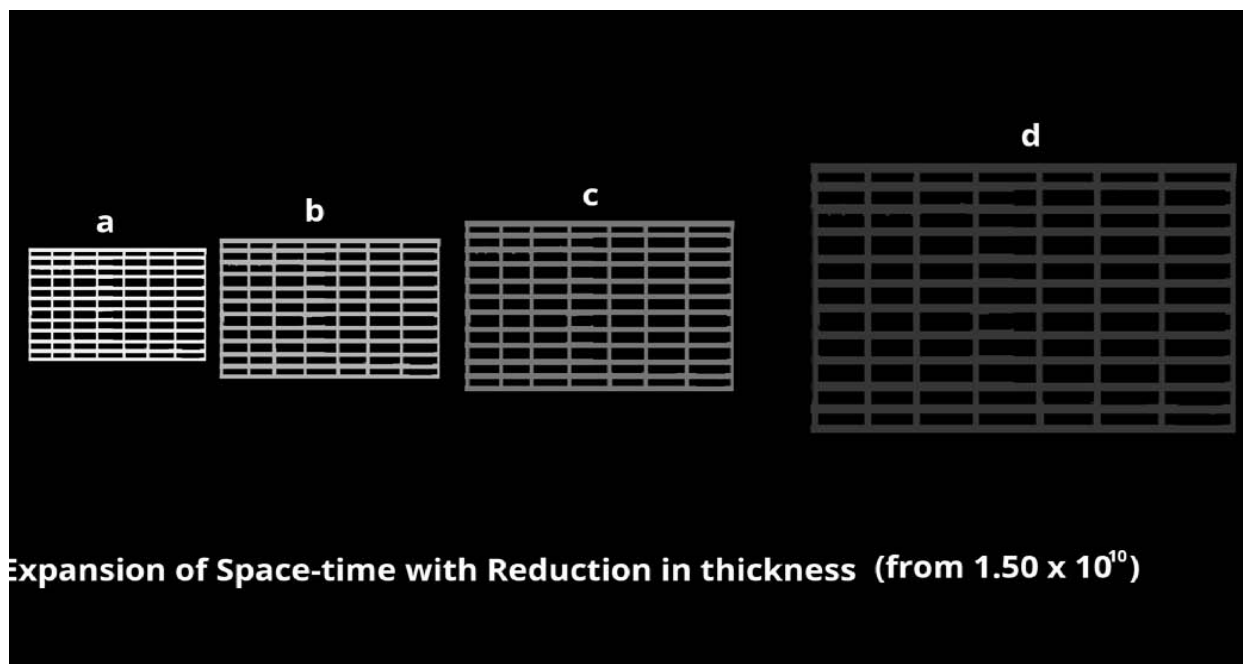


Figure 26

We can observe that it's still thick but it was thicker some centuries back. This is the situation/problem of the Universe; it's not only dark energy that stretches space-time, the same effect is observed from gravity; it stretches/reduces the thickness of space-time at the line of pressure due to pressure by mass on space-time. An example of the new (stretched/reduced space-time) by gravity is the nature on earth, we can see that the nature of space-time on earth is very free, not showing sign of thickness.

Although, gravity stretches space-time at a fast rate and dark energy does it at a slow rate compared to gravity, this whole situation means that the present thickness of space-time at the outer-space will eventually reduce/stretch to a very free space by dark energy. Let's do a swap between the present nature of space-time at the outer-space and the nature of space-time on earth. This is what happens; you can observe that on earth, objects don't float rather they fall to the ground; this is the fate of the universe.

All planets at the outer-space will fall and crash on another, imagine crashing with a star, the energy from a star can consume several planets. Note, the nature of space-time at the outer-space won't be like the

nature on earth before planets start crashing, at a certain thickness that can't keep them floating, they will start crashing on one another. The situation of a black-hole gaining mass from its nearby environment will be the case that time. The energy (radiation) from the stars will keep gaining mass as they consume planets. At last, all planets (matter) in this universe will become radiation and proceed to merge with dark energy just like they united at the big bang. Hence, this visible part of universe will be destroyed completely but do you know? If that happens, our creator won't lose a single strand of particle of the entities he used to create the universe. The exact quantity of the entities that formed this universe is the exact that will be present at its demise. Hence, he'll just create another universe with the same "Omni".

Note; Dark energy causes the expansion of the universe i.e. stretches the space-time at the outer space. The more energy photons that become dark energy photons, the more the universe keeps expanding, the more the thickness of the space-time at the outer-space keeps reducing/stretching. This is to say that; "The more black-holes formed by energy stars, the faster the rate at which the universe keeps

expanding, the closer we get to the demise of the Universe”.

At the early years of the universe, energy stars won't die because they are still fresh, the universe will expand at a slow rate. As time goes on, centuries keep passing, stars will start collapsing/dying, black-holes will keep forming, energy photons will keep becoming dark energy photons to increase the amount of dark energy in the universe. As dark energy keeps increasing in amount, the rate of expansion of the universe increases. Wow, “black-holes”.

Note; The constants  $S$  (space-time),  $M_d$  (dark matter)  $E_d$  (dark energy) are all the default states of the entities at the creation of this universe. I presented their default states as constants but the entities as time passed are not constants. Space-time will expand and reduce in value, dark energy will increase in amount and value, all from their default states. Presenting the default values of the entities as constants and checking the link between them, is the only way to theoretically get correct answers to unsolved problems in our universe.

$S$  is the default space-time by its magnitude of thickness, its default state is presented as a constant ( $1.50 \times 10^{10}$ ) but can be stretched/expanded/reduced to a lower value indicating a reduction in thickness.  $S$  – by Prince Jessii

$E_d$  is the default dark energy by its amount of energy associated with the default space-time of ( $1.50 \times 10^{10}$ ), its default state is presented as a constant ( $4.5 \times 10^{18}$ ) but can be increased to a higher value indicating an increase in amount, this increase is done as energy photons changes to dark energy photons through a black-hole, it stretches space-time and spread smoothly as it increases.  $E_d$ – by Prince Jessii

$M_d$  is the default dark matter by its mass value as a constant (50) which is based on the default space-time, as the default space-time expands/reduces in thickness, this mass of dark matter increases.  $M_d$ – by Prince Jessii

$G$  is the gravitational constant by its effect associated with space-time, it relates gravity to masses applying pressure on space-time and separation of particles, and these masses applying pressure were formed at creation where the default space-time was present.  $G$  – by Sir Isaac Newton

$c$  is the speed of light as a constant, the minimum speed an object must move with to avoid differences in interactions at different natures of space-time (above the law).  $c$  – by Ole Roemer, Albert Einstein

Summary; the universe is unstable, this is the reason why dark energy stretches space-time. Why would dark energy stretch its attachment [space-time ( $S \times c$ )] for no reason at all? The reason why it does that is the fact that the universe is in an “incorrect state”, the dark entities are meant to be visible and be the only entities existing, rather the inferior entities are the ones

visible. Why is the universe 69% composed of an invisible energy that we can't observe/see? At this time, it's 69%, isn't that fact alone making any sense? The equations of this universe speaks for itself. If I say that;  $Sc/M_d c^2$  is the equation of the universe, will you believe me? I don't think so, because you can't get the inferior entities from the breakdown or the surface of the equation. Perhaps, if I say that  $Sc^2h/k$  is the equation of the universe, you would believe me because all observable entities that makes up this universe generally can be found at the surface, the breakdown of the equation presents the dark entities.

The dark entities can be gotten from the breakdown of the equation but they are not at the surface, meaning they are indeed hidden, but if we mathematically convert energy photons to dark energy photons because of the fact that EM radiations (energy) were also used to create this universe and were merged with dark energy at creation but both entities later separated to form two major dimensions, we see that the equation  $Sc^2h/k$  changes to  $Sc/M_d c^2$  indicating that the inferior entities are not supposed to exist on their own, they are meant to be in the form of the dark entities. This implies that; as far as space-time has not been stretched to the limit which it can't hold planets anymore, it means that there's still time for the universe to be stable again. Once dark energy and dark matter becomes visible to our eyes, just know that the universe is stable again,  $Sc^2h/k$  which is the present form of the universe will change to  $Sc/M_d c^2$ , dark energy won't stretch space-time, and the inferior entities will change to their indestructible form.

Whose job is it to make the universe stable again? How can that be done? (See Section VII)

## VII. CONCLUSION

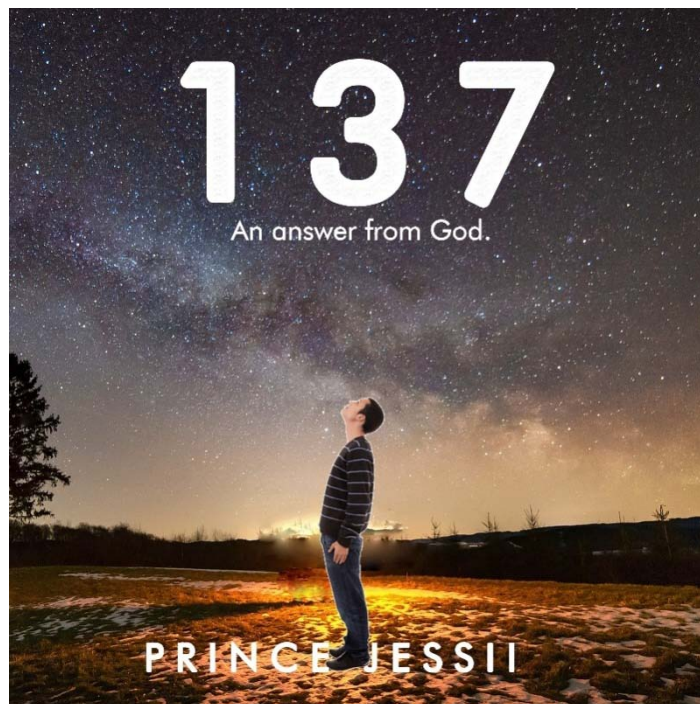


Figure 27

Since 2018, I Prince Jessii (Prince C Igbojesi) has tried to pass an understanding to the world by discovering the GUT (Theory of Everything) but a lot of people are still not aware of this. It seems there's a difficulty from the physics community in recognizing breakthroughs or maybe I need an "Eddington" to the rescue. The earlier the better I'm just saying, please do well to pass this paper to those you think might need it.

Finally, the wisdom of man is foolishness in the eyes our creator. Think, do you think that the billions of planets and stars at the outer space are a form of decoration? No is the answer to that question. If all matter changes to its indestructible form (dark matter), it means that humans would be immortals. Therefore, the billions of planets would contain as many. Think, I keep saying that "this universe is a game." If you understand the significance of the 16<sup>th</sup> century game I presented earlier then you'll realize the only way this unstable universe can become stable again. It is how matter can change to its indestructible mode (dark-matter). Not all things is presented as physics, read the book [5] (Figure 27)

It's all about the discovery of the Grand Unification Theory (GUT), its discovery resulted into new developments in physics, we just have to move through and identify. So far, the "Theory of Everything" has contributed a lot in physics. I present all achievements in physics brought about by the GUT.



Amongst other minor achievements, I present seven major.

S/N	Achievements in Physics by (GUT/TOE)	Experimental/Observational Confirmation
1	Unification of General Relativity with Quantum Mechanics alongside gravity	Measurement of the fine-structure Detection of gravitational waves Detection of a Pack-Photon (pending) Space-time Curvature: rotation and revolution of planets around their star
2	Perfect Understanding of our Universe (Theoretical and Mathematical)	Existence of black-holes Existence of dark matter and dark energy Detection of Gravitational waves Gravitational lensing Expansion of the Universe Detection of a Pack-Photon (pending) Gravitational effect by dark matter (pending)
3	Confirmed mathematical validation of gravitational theory; space-time model (Description of the different natures of space-time with their values)	Clock Experiment on different planets (pending) Observations on Moon and ISS Acceleration due to gravity
4	Theoretical/Mathematical description of the differences in time	Clock Experiment (pending)
5	Theoretical/Mathematical Presentation of how matter interacts differently in other natures of space-time	Clock Experiment (pending) Observations on Moon and ISS
6	Dark Energy and Dark Matter Theory Black Hole Theory	Existence of black-holes Discovery of equal mass of dark matter (pending) Discovery of a Dark Star (pending) Expansion of the Universe Gravitational effect by Dark Matter (pending)
7	Further Understanding on Electromagnetism; main description of the fine structure constant	Detection of a Pack-Photon (pending)

All theories/calculations and results in this paper are novel and proposed by Prince Jessii.

See more solutions to unsolved problems in science, Physics of the Universe (2) coming soon (2021).

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