A PRACTICAL VIEW ON GRAVITY: THE CONNECTION BETWEEN ELECTROMAGNETIC FORCES AND QUANTUM GRAVITY

Author: Kumar Bittu

Individual Research

Email: iactbittu70@gmail.com

Abstract: This research redefines gravity, showing that it is not a separate force but originates from atoms, specifically from the nucleus of the atom. Rather than arising from space-time curvature or the hypothetical graviton particle, this theory suggests that gravity is positive force of atom, that exhibits a weak attraction to neutral atoms (neutral objects) and repel same charge atom (positive charge objects). Moreover, utilizing the framework of gravity, this paper provides a practical and detailed explanation of how the solar system, galaxy, and the broader universe operate. This model solves key cosmological problems, presenting a more tangible and applicable understanding of cosmic phenomena, as opposed to purely theoretical and hypothetical approaches, and combines quantum mechanics and classical physics with gravity.

KEYWORDS: Quantum gravity, Gravitational force, Planetary motion, Solar system dynamics, atomic energy, Nucleus-based gravity, Repulsive force in gravity, Redefinition of gravity, Practical quantum gravity theory, Gravitational attraction and repulsion.

1. INTRODUCTION

For centuries, our understanding of gravity has been shaped by the ground-breaking theories of Newton and Einstein. Newton's law of universal gravitation introduced gravity as a force that attracts masses, while Einstein's general theory of relativity redefined it as the curvature of space-time. However, despite the success of these models in explaining large-scale phenomena, both theories face significant limitations, especially at quantum scales. For example, we do not fully understand the gravitational force at small scales, nor do we know how gravity is produced or which particle is responsible for it. We are also unable to create gravitational force in a laboratory setting, and our understanding of the behaviour of celestial bodies and the nature of the early universe remains incomplete.

This paper introduces a new way of thinking about gravity. Instead of viewing gravity as a separate force caused by the bending of space-time, this research shows that gravity originates from atoms, specifically from the nucleus of the atom. Under certain conditions, this nucleus generates a force that manifests as gravitational force. This theory suggests that gravity exerts a push on celestial bodies, leading to a weak attraction to neutral atoms (neutral objects) and a strong repulsive force on other celestial bodies.

Furthermore, this research goes beyond theoretical discussions to provide a practical explanation of how our solar system, galaxy, and the universe function. By combining quantum mechanics and classical physics with gravitational principles, this work addresses several key cosmological challenges and presents a unified model that integrates both microscopic and macroscopic scales. This approach redefines our view of the universe.

2. NEED OF THE STUDY

The need for this study arises from the persistent gaps in our understanding of gravity, particularly at quantum scales. Despite the significant contributions of classical theories proposed by Newton and Einstein, many fundamental questions remain unanswered. Traditional models struggle to explain gravitational phenomena in high-energy environments and at the quantum level, which limits our ability to fully comprehend the forces shaping our universe.

Moreover, the inability to produce gravitational forces in laboratory settings and the lack of clarity regarding the fundamental particle associated with gravity presents a critical challenge for physicists and cosmologists. This study aims to address these shortcomings by providing a novel perspective on gravity that connects atomic behaviour to cosmic phenomena.

Understanding gravity from the standpoint of atomic nuclei offers several advantages. It has the potential to bridge the gap between quantum mechanics and classical gravitational theory, presenting a cohesive model that encompasses both microscopic and macroscopic scales. Additionally, by re-evaluating the origins of gravity, this research may unlock new insights into the dynamics of celestial bodies and the underlying mechanisms of cosmic evolution.

Furthermore, as we explore the possibility of a finite universe with a fixed boundary, expanding the horizons of theoretical physics. The findings of this research could pave the way for new methodologies in experimental physics and contribute significantly to our understanding of the universe's fundamental nature.

In summary, the urgency to study quantum gravity through the lens of atomic nuclei stems from a fundamental need to enhance our understanding of the gravitational force, resolve existing theoretical inconsistencies, and explore the broader implications for the nature of the universe itself.

3. GRAVITY USING ATOMIC NUCLEI

This research explains gravity by examining how highly positive atomic nuclei create gravitational forces. It shows that an atomic nucleus generates a strong force when there are no electrons in the atom's orbit. When many nuclei come together, they form a larger nucleus with a very high positive charge. This force is actually a nuclear force, but we perceive it as gravitational force. This helps us understand the connection between an atom's nuclear force and gravitational force.

This group of nuclei cannot be created in our laboratory, but nuclei can combine under certain conditions. At the beginning of the universe, when it was formed, those conditions existed, allowing many nuclei to combine and form a large nucleus. According to our current knowledge, this large nucleus would be unstable, but it could be stable. To explain this, we know that some small nuclei are unstable, while larger nuclei are stable, so the stability of a nucleus doesn't depend on its size. I believe it depends on the number of protons and neutrons, meaning the amount of each present in the nucleus.

This large nucleus can't remain stable as an atom because of its extremely large size, but it can be stable as a large nucleus. The property of this group of nuclei is that it can ionize nearby atoms.

Now let's see how this group of nuclei interacts with different types of atoms. If a group of nuclei (containing many protons and neutrons) comes near a neutral atom, it can attract the neutral atom because the atom has negatively charged electrons. However, the attraction is not very strong because the neutral atom also has positively charged protons, and the strength of the attraction depends on the distance between the nucleus and the neutral atom. This is explained by electrostatic induction, where a charged object causes the redistribution of electric charges in a nearby neutral object without direct contact. When the electric field of the charged object affects the charge distribution in the nearby neutral object, an interaction occurs.

3.1 Mathematical formula of the interaction between nucleus and neutral atom

We know that this nucleus will attract neutral atom, So: -
The attractive force between nucleus and neutral atom can be expressed as:

$$F \propto Mn/Ma.r^2$$

$$F = K.Mn/Ma.r^2$$

F is the force exerted by the nucleus on the neutral atom.
Mn is the mass of the nucleus.
Ma is the mass of the neutral atom.
r is the distance between the nucleus and the neutral atom.
K is constant (charge of a very small mass of nucleus).

The force is inversely proportional to the mass of **Ma** because when the mass of **Ma** increases, its acceleration decreases because, according to the force formula **F = ma**, force also depends on acceleration. So, if acceleration decreases, the force also decreases.

The value of **K** that I calculated is **4.48×10^2 C/kg**. This means that this much charge is produced by 1 kg of nucleus.

How I calculate the value of K ?

- Using a stable Nucleus (nucleus of iron) , I used mass of a stable nucleus and charge of this nucleus , using this value I calculate the charge of 1 kg nucleus stable nucleus.

The unit of this force will be **$C/kg\cdot m^2$**, which represents electric charge per kilogram per square meter.
By this equation, the mass of earth's nucleus is approx. **8.88×10^{11} kg**. But, the size of this nucleus should be small due to extremely high density.

The name I want to give to this force is **Nuclear Polarization Force**, and this **Nuclear Polarization Force** is responsible for **Quantum Gravity**.

[Proof of this force in real life – When glass rod is rubbed with silk, it become positive chare due to loss of its electrons, and attracts neutral objects (everything which is neutral, like : piece of a paper) with a week force.]

It will repel positively charged atoms due to having the same charge. The strength of the repulsion depends on the charge of the atom; a greater charge results in a stronger repulsive force. It also depends on the distance between the atoms and the mass of the charged atom, since repulsion is a force. If the force is the same on two atoms with different masses, the atom with greater mass will accelerate less, while the atom with lesser mass will accelerate more.

3.2 Mathematical formula of the interaction between nucleus and Positive charge atom

We know that this nucleus will repel positive charge atom, So: -
The repulsive force between nucleus and charged atom can be expressed as:

$$F \propto Q1 \cdot Q2 / r^2$$
$$F = Ke \cdot Q1 \cdot Q2 / r^2$$

Q1 is charge of nucleus.
Q2 is positive charge atom.
r is distance between nucleus and positive charge atom.
Ke is Coulomb's constant ($8.99 \times 10^9\ Nm^2/C^2$).

According to Newton's second law of motion, the acceleration **'a'** experienced by an atom depends on the force and its mass:

$$a = F/m$$

Combining Both Concepts:
The total formula combining the charge-based repulsion and the mass-dependent acceleration can be written as: -

$$a = Ke \cdot Q1 \cdot Q2 / m \cdot r^2$$

This formula describes the acceleration of positive charge atom due to the repulsive force of nucleus.

The ability of the nucleus to repel a positively charged atom depends on the mass and charge of that atom. If the charge on an atom is greater, the nucleus can more easily repel that atom. If the charge is less, the nucleus cannot easily repel that atom.

[proof of this force in real life – This is the combination of Coulomb's Law with Newton's Second Law is used in physics to describe the dynamics of charged particles.]

4. GRAVITATIONAL FORCE OF EARTH

4.1 Why Newton's law of universal gravity is not fully correct: -

According to the fundamental law of electrostatics, two pieces of matter do not attract each other; rather, this attraction depends on the charge of the matter. If both pieces are neutral, they cannot attract or repel each other. For two pieces of matter to attract, their charges must be opposite. This suggests that, according to Newton's law of gravitation, every piece of matter behaves as if it has an opposite charge in relation to other matter. In essence, objects do not attract anything unless they are charged by nature or artificially. While Newton's law states that matter attracts each other, we cannot observe the force of small masses, nor can we see the force exerted by large masses, such as mountains. However, the law is accepted in relation to the Earth and other objects present in the Earth's gravitational field.

In my view, Newton's universal law of gravitation states that m_1 is the mass of the Earth, m_2 is the mass of the object within the Earth's gravitational field, and '**r**' is the distance between the Earth and that object. It does not imply that this formula applies to every two masses universally.

4.2 Why Einstein's General Theory of Relativity might not be fully correct: -

In my view, there are many problems in Einstein's general relativity theory; it does not explain certain concepts correctly or practically.

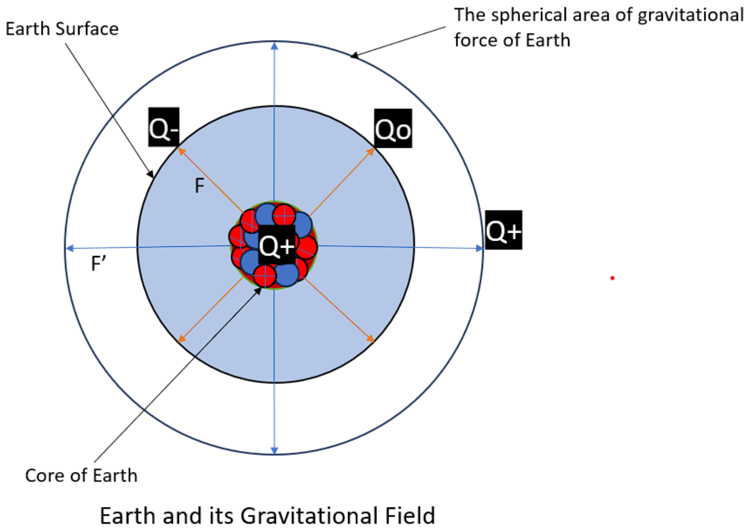
1. **Quantum Gravity:** General relativity fails to integrate gravity at the quantum level. My paper solves this by introducing the Nuclear Polarization Force, which arises from interactions between atomic nuclei and neutral atoms. This provides a

quantum-based explanation of gravity, connecting atomic-level forces to gravitational behaviour, which General Relativity cannot.

2. **Unified Approach to Gravity and Electromagnetism:** General relativity does not explain how gravity and electromagnetic forces might be related. My theory offers a unified explanation by showing that both forces emerge from atomic interactions. This provides a practical unification, which general relativity does not attempt.
3. **Practical Explanation of Solar System Dynamics:** While general relativity explains planetary motion through space-time curvature, my paper provides a more tangible approach, where the Sun repels planets due to same charge in their centre, and attract other objects. This alternative mechanism for planetary motion offers a practical model using classical physics that general relativity does not.
4. **High-Energy Environments**: In extreme conditions like near black holes or during the early moments of the universe, general relativity breaks down, requiring a theory that can handle both quantum effects and gravity at high energy levels.

4.3 How this group of nuclei is responsible for the gravitational force of earth.

If we assume that the nucleus is present at the centre of the Earth and in the centres of every celestial body, such as planets, stars, and galaxies, this could solve many problems in the universe, from micro to macro levels, like : How this force operates on celestial bodies and the matter present both on celestial bodies and in space. Additionally, I will address why celestial bodies exerts an attractive force on object and everything around it. It would provide a practical explanation of the universe rather than a hypothetical one.



F = G force applied on the surface of earth.
F′ = G force applied in the space (Up to the fixed Height).

Fig 1. This figure demonstrates the location of nuclei present in the core of the Earth and explains how Earth's gravitational force operates.

The group of nuclei present in the core of the Earth acts as a large nucleus, attracting all neutral atoms and negatively charged atoms while repelling positively charged atoms within the area influenced by this nuclear force, which is located at the centre of the Earth. The nucleus in the core generates a highly positive charge force, which we perceive as gravitational force.

A super solid sphere, referred to as the nucleus, is present in the centre of the Earth, specifically in the inner core or may be as inner core. Although the nucleus in the Earth’s core is relatively small, it has an extremely high density, making it the densest material in existence. This density results from being composed of protons and neutrons, with little to no space between them. Additionally, the magnetic field generated by this nucleus is extraordinarily strong, and its range extends widely, which we observe as the area of gravitational influence around the Earth. This group of nuclei is also present at the centre of every planet, star, and galaxy.

The value of the force exerted by the nucleus of the Earth on an object present on the surface of the Earth, or between points **F** and **F′**, is:

$$F = G(m_1 \cdot m_2)/r^2$$

Here, m_1 represents the mass of the Earth. However, according to my theory, gravity does not depend on the mass of the Earth; it depends on the mass of the nucleus. For the sake of this discussion, we will assume that the mass of the Earth is equal to the mass of the nucleus. Therefore, the force exerted by the Earth is equal to the force exerted by the nucleus between points **F** and **F′**. And

$\mathbf{m_2}$ is the mass of the object presents on the surface of the Earth or between points **F** and **F′**. The variable **'r'** represents the distance between the Earth's surface and $\mathbf{m_2}$, not the distance between the nucleus of earth and $\mathbf{m_2}$.

[proof of this theory in real life – This is ($F = G(m_1 \cdot m_2)/r^2$) accepted in classical physics. And we do not observe the attraction between two masses; instead, we see the attraction between earth and other object. This is because earth (nucleus of earth) generates gravitational force, not all mass generates gravitational force.]

5. SOLAR SYSTEM

We know that the theory of relativity does not solve all the problems of the universe, and its solutions are hypothetical rather than practical. According to my theory, which states that gravity is produced by the nucleus of the atom, it can solve these problems in a practical way. My theory can explain how the solar system operates, how galaxies function, what black holes are, and why the universe appears to be expanding. It may also provide answers to the origin and creation of the universe.

5.1 Solar system and its gravitational field

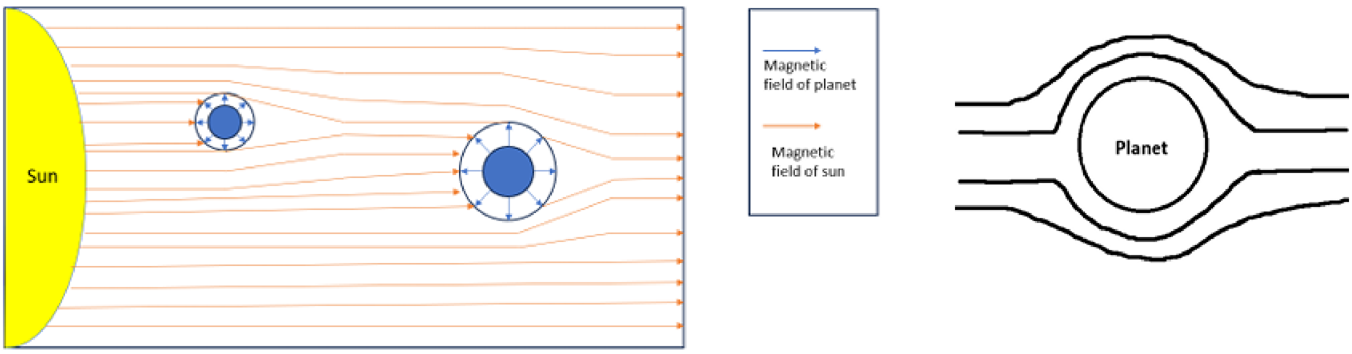


Fig 2. This diagram shows the solar system, illustrating the Sun's gravitational force field interaction with planets, and how gravitational field lines bend around planets.

According to my theory, the Sun does not attract the planets; instead, it repels them due to the similar charges in their cores. Newton suggested that planets don't collapse due to centripetal force, but he did not explain where this force comes from to move the planets. In my theory, the question also arises: why doesn't the Sun's repulsive force push the planets away? This is because the Sun's repulsive force is not strong enough to push the planets away entirely. However, once you exit the range of Earth's gravitational Force, the Sun's gravitational force begins to pull, as it extends throughout the entire solar system. The Sun's gravitational influence also extends across the solar system, but as you move farther from the Sun, its gravitational pull weakens. At a certain distance, the Sun's gravitational pull becomes so weak that it can no longer hold objects, marking the point where the Sun's influence effectively ends. This boundary can be thought of as the "edge" of the solar system, where the Sun's ability to affect planets, comets, and other bodies with its gravity reaches its limit. Beyond this point, objects are no longer under significant gravitational control of the Sun.

The side of a planet facing the Sun, experiences a stronger influence from the Sun's gravitational force, while the opposite side feels less due to the planet partially blocking the Sun's gravitational force. After a certain distance from the planet's opposite side, this effect becomes more noticeable as the Sun's gravitational field lines bends, this is illustrated in Figure 3***. The point where the Sun's gravitational field line meets in the opposite direction of the planet is known as the Lagrange point (where the gravitational forces of both the Sun and the planet act on this point).*** The magnitude of the Sun's gravitational force decreases with distance, as is the case with the gravitational force of all planets, stars, and galaxies.

5.2 Relation between Solar system and Black hole

I want to clarify that a black hole is not a hole-like structure. It is a super-solid, sphere-shaped object made of nuclei that does not emit light like stars, but some emit we know it as white hole. It has an extremely strong gravitational force with a wide range, gas and dust rotate around it. A black hole is located at the centre of a galaxy, holding many solar systems and controlling the entire system within the galaxy. The boundary of a galaxy depends on the range of the black hole's gravitational field.

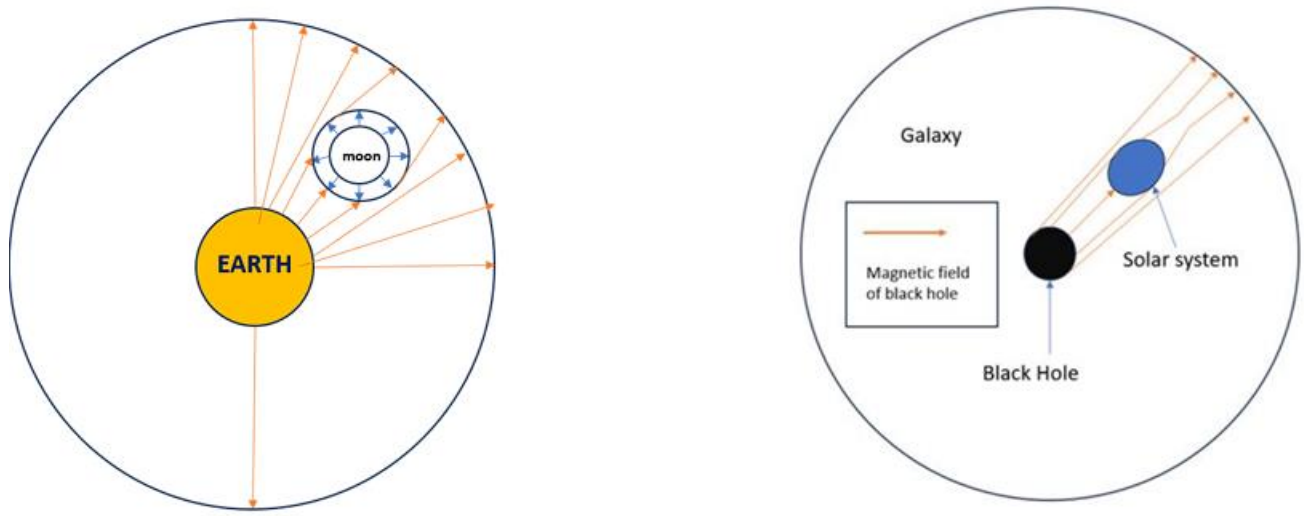


Fig 3. This image shows how Earth's gravitational force is applied to the Moon and how the gravitational force of the black hole is applied to the solar system.

The gravitational force of the Sun plays a vital role in the solar system, affecting the motion of the planets within it. Similarly, the gravitational force of the Earth affects the Moon, while the gravitational force of a black hole affects the entire solar system. The Earth repels the Moon due to the force of equal charges; however, the Moon remains under the gravitational influence of the Earth. Despite the repulsive force, the Moon is not affected by it, due to its greater mass.

Just as the gravitational force of the Sun acts on the planets and controls the solar system, similarly the gravitational force of the Earth acts on the Moon, and the gravitational force of a black hole operates within a galaxy and controlling the solar system.

5.3 Solar System Dynamics

5.3.1 Direction of planet's rotation in solar system

According to my theory, planets rotate around the Sun because the solar system itself rotates around the black hole. The planets orbit the Sun in a counter clockwise direction because the solar system rotates in a clockwise direction around the black hole in the galaxy. Due to inertia, the planets rotate opposite to the solar system (means: suppose we have a paper with a smooth surface, and there is a steel ball on this paper, when we pull the paper in one direction the ball wants to stay at the same point, but the paper is rotating in one direction, when we observe it seems that the ball is moving opposite to the direction of motion of the paper). And it also depends on the rotation of the Sun on its axis. When the Sun rotates in a counterclockwise direction, it influences the planets to rotate in the same direction, as they are bound by the Sun's gravitational force. Additionally, the rotation of planets on their axes is affected by their orbit around the Sun.

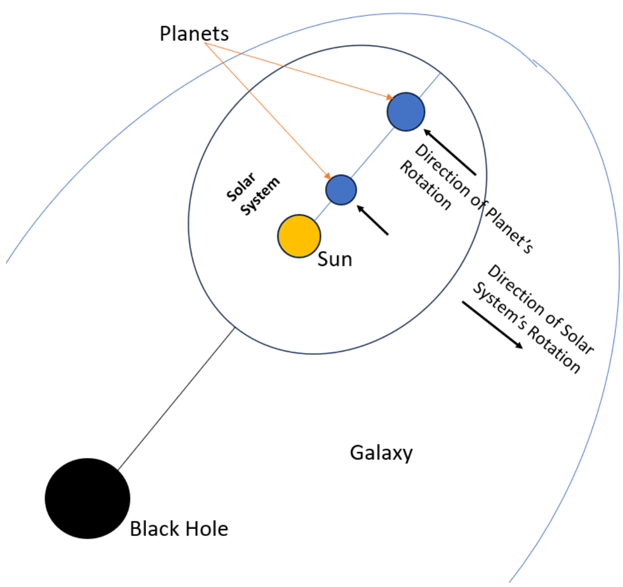


Fig 4. This image shows the rotation of the planets and the solar system around the black hole in the galaxy.

5.3.2 Speed of Planet's rotation

The speed of rotation of planets around the Sun depends on two things: the location of the planet and its mass. The planet nearer to the Sun rotates faster because it is more affected by the gravitational force of the Sun. When the Sun rotates on its axis, it tries to move the planets with same speed of itself on its axis, because all planets are bound by the gravitational force of the Sun. The planet nearer to the sun is more strongly bound by its gravitational force, so it tries to match the speed with the Sun's motion on its axis, but it cannot match that speed because the speed of the planet also depends on its mass (if the planet has some mass, then it cannot match the speed with the Sun's motion on its axis), while the planets farther away are not affected as much, because the gravitational force of the Sun decreases with distance, so the speed of farther planets is slow (means speed is decreasing with distance). This principle can be easily understood through a practical explanation.

The rotation of planets on their axis is affected by their rotation around the Sun, and the speed of rotation depends on their location. Planets closer to the Sun rotate more slowly because they are more strongly bound to the Sun's gravitational force, while planets farther away rotate faster on their axis, because the Sun's gravitational force weakens with distance. I believe that the angle of a planet's rotation is affected by the gravitational force of both the Sun and the planet itself, although the exact reason for this phenomenon is still unclear to me. The concept of planetary rotation that I propose can be understood more easily when demonstrated through practical examples or real-world observations.

By illustrating how planets rotate around the Sun and the factors that affect their motion, such as gravitational force, we can understand these underlying principles more effectively. This practical view simplifies the complexity of the theory, making it easier to understand and visualize.

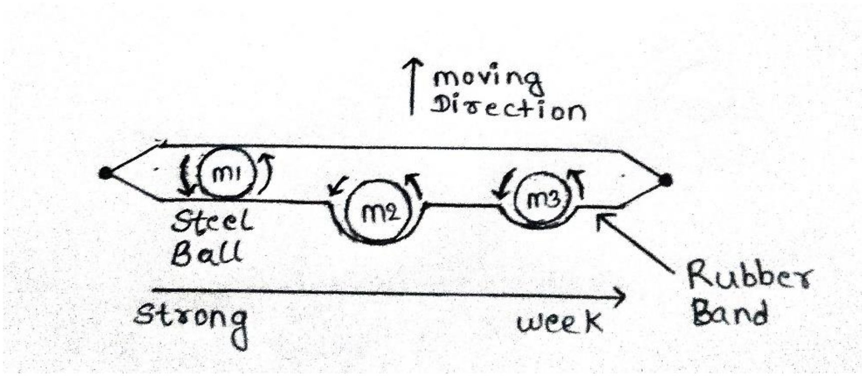


Fig 5. The image showing the experimental proof of my theory of planet's rotation.

In this image, we have a rubber band and three steel balls with different masses (mass $m1 = m3 < m2$), the strength of the rubber band decreases from left to right and the balls are placed between the rubber band. When the whole rubber band moves in one direction, it tries to move the balls. As it moves, the ball with less mass (m1) located to the left of the rubber band can easily move in the direction of the band. However, the ball with more mass (m2) does not move so easily; it bends the rubber and lags behind the other balls. This means that the speed of the balls depends on both their masses and the strength of the rubber band.

5.3.2.1 Mathematical equation of planet's rotation around sun: -

$$V \propto 1/M \cdot d$$

$$V = K/M \cdot d$$

v is the speed of the planet,
M is the mass of the planet,
d is the distance between the planet and the Sun.
k is a constant of proportionality, that is **2.66×10^{34} $km^2 \cdot kg \cdot s^{-1}$**,

In this calculation, I determine the value of **K** using the mass of Earth. If we have the exact mass of Earth, then using this equation, we can easily calculate the accurate mass of every planet (since we don't have the exact mass values for all planets) and determine the precise speeds of the planets. With this formula, we can accurately calculate the mass and density of a planet.

[Proof of this theory in real life - When an object is near the earth and not attached to it, it rotates at the same speed as the earth on its axis. When observed, it appears to be at the same place because it is very close to the earth, and the earth tries to rotate it with its own speed on its axis. But when the distance between the earth and the object increases, its speed decreases (like the speed of planets decreases with distance from the sun) Then if we observe from that object, we can clearly see the earth rotating on its axis (as observed from a space station).]

6. EXPANTION OF UNIVERSE

Galaxy also rotates around the centre of universe (around a supermassive Black Hole which is located in the centre of universe.

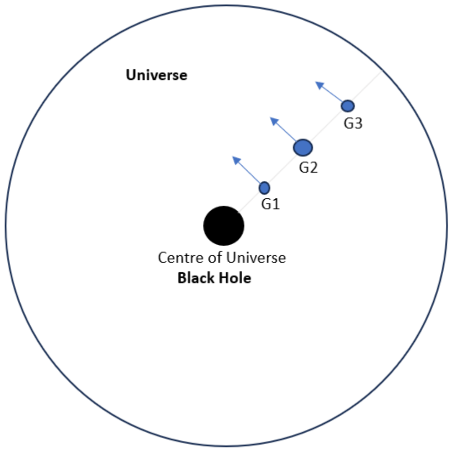


Fig 6: The figure sowing that, why universe looks like it expanding ?

In my view, the shape of the universe is spherical, with a fixed boundary. At the centre of the universe lies a supermassive black hole, around which galaxies rotate. Additionally, the expansion of the universe depends on the location of our galaxy, influencing how we observe other galaxies from our vantage point.

Let us consider ourselves in galaxy **G1**, which is revolving around a supermassive black hole. We know that **G1** rotates faster than galaxy **G2** because **G2** is farther away from the black hole. This is similar to the behaviour of planets around the Sun, that means the farther object rotates slower and the nearest object rotates faster around the celestial body having gravitational force. If **G1** and **G2** have the same speed, it will not seem like **G2** is moving away. However, if **G2** has a lower speed than **G1**, it will seem to be moving away because **G1** is revolving faster around the black hole. On the contrary, if **G2** has a higher speed than **G1**, it will seem to be approaching **G1**. So, the further away a galaxy is from our galaxy, the slower its speed will be compared to our galaxy, so it will appear to be moving away faster. In short, if one galaxy has a higher speed than the other, the distance between the two galaxies will increase. Because of the different speeds of galaxies around the centre of the universe, it appears that galaxies are moving away from each other.

[proof of this theory in real life – we have already data about this expansion : in which some galaxy looks like it going far and some galaxy coming near (like : Andromeda Galaxy looks likes coming to us)]

6. CREATION OF UNIVERSE

Everyone has a different view of the creation of the universe because we still do not know the exact reason behind its origin. This diversity of viewpoints reflects the complexity and mystery surrounding cosmic phenomena. Many theories, from the Big Bang to various philosophical and religious explanations, attempt to explain how the universe came into being. As scientists continue to explore the universe and gather more evidence, our understanding of the creation of the universe can evolve. Ultimately, the quest to understand the origin of the universe remains one of humanity's greatest intellectual challenges, inviting both curiosity and wonder.

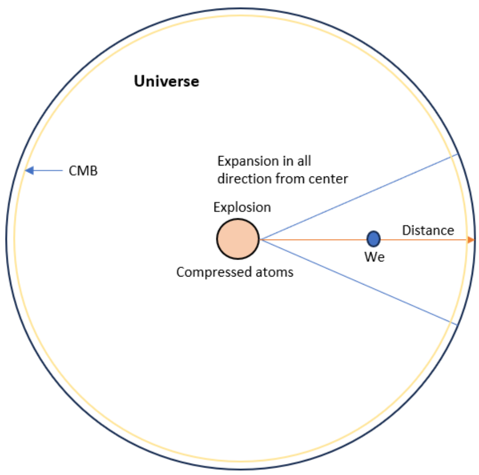


Fig 7: Representation of the Universe

According to the law of conservation of mass, an atom cannot create another atom, but it can break down into subatomic particles. Therefore, the universe could not have originated from a single point (particle). My theory also argues that dark energy does not exist. Instead, the entire universe consists only of atoms and atomic energy, with no other particles existing in space except atoms and subatomic particles.

I do not have a definitive explanation for how the universe was created or where all the atoms originated. However, the Big Bang theory offers some insights into its creation. While my theory shares certain similarities with the Big Bang theory, there are key differences.

First, my theory proposes that the universe began from compressed atoms—essentially all the atoms present in the universe—rather than from a small, dense particle. At a certain point, these compressed atoms underwent an explosion, leading to the creation of nuclei.
Second, after this explosion, atoms, particles, and radiation expanded in all directions, forming a spherical structure. Over time, through various processes, these elements gave rise to celestial bodies, a concept also explained in the Big Bang theory.
Third, unlike the idea of an infinitely expanding universe, my theory suggests that the universe has a fixed boundary. Within this boundary, the distance between celestial bodies continues to increase, but the universe itself is not expanding infinitely. Additionally, the universe has a finite lifespan—while it was expanding and forming celestial bodies after its creation, it has now reached a stable state.

7. RESULTS AND DISCUSSION

RESULTS

1. **Nucleus-based Gravity**: The study shows that gravity is not an external force but rather a consequence of the atomic nucleus, which creates a gravitational-like force through its highly positive charge. This force explains the attraction of neutral atoms and the repulsion of positively charged ones, providing an atomic basis for the gravitational force we observe in celestial systems.
2. **Quantum Gravity and Nuclear Polarization Force:** The research introduces the concept of a *Nuclear Polarization Force*, responsible for both quantum gravity and the large-scale gravitational interactions in the universe. This force, derived from the interaction between highly charged atomic nuclei and neutral atoms, provides a mathematical model for gravitational attraction at both quantum and cosmic scales.
3. **Gravitational Influence of Black Holes:** The study suggests that black holes are super-dense spheres made up of atomic nuclei, rather than voids. Their strong gravitational fields influence the orbits of entire galaxies, including our solar system, demonstrating the link between black holes and galactic motion.
4. **Planetary Rotation and Gravitational Force:** The speed of planetary rotation around the Sun is influenced by two factors: distance from the Sun and planetary mass. Planets closer to the Sun experience a stronger gravitational force and thus rotate faster. The mathematical model developed in this study helps to calculate planetary speeds based on mass and distance.
5. **Expansion of the Universe:** The research challenges current theories on the infinite expansion of the universe. Instead, it proposes that galaxies orbit a supermassive black hole at the centre of the universe, with the speed of rotation influencing the perceived expansion. This model suggests that the universe has a fixed boundary, contradicting the infinite expansion implied by the Big Bang theory.

DISCUSSION

1. **Revisiting Classical Gravity**: This theory redefines gravity not as a result of space-time curvature, as described by Einstein, but as a fundamental force originating from atomic nuclei. By attributing gravity to atomic interactions, this model bridges the gap between quantum mechanics and classical physics, offering a unified explanation of gravity across different scales.
2. **Implications for Cosmology**: The introduction of a nucleus-based gravity model provides a new way of understanding cosmic structures, such as galaxies, black holes, and planetary systems. It suggests that black holes play a central role in governing the motion of galaxies and offers a practical explanation for the apparent expansion of the universe.
3. **Limitations and Further Research**: While this theory provides practical insights into gravitational phenomena, certain aspects—such as the exact nature of the interaction between highly charged nuclei and neutral atoms—require further investigation. Additionally, the inability to replicate the conditions necessary to form large nuclei in laboratory settings presents a challenge for experimental verification.
4. **Practical Application**: This theory's strength lies in its practical approach to solving existing cosmological problems. By grounding gravitational force in atomic phenomena, it offers a new lens through which to study planetary motion,

galactic rotation, and the overall structure of the universe. Practical demonstrations and further experimentation are necessary to validate the predictions made by this theory.

8. CONCLUSION

This research redefines gravity by proposing that it originates from atomic nuclei rather than space-time curvature or hypothetical particles. The introduction of *Nuclear Polarization Force* offers a new perspective on gravitational attraction and repulsion, linking gravity to atomic behaviour and providing a unified model that spans both quantum mechanics and large-scale cosmic phenomena.

The theory explains planetary motion, the role of black holes, and the observed expansion of the universe, addressing gaps in classical theories. Although further experimental validation is needed, this nucleus-based approach offers a practical and tangible understanding of gravity, with potential to advance both theoretical and experimental physics.

In summary, this study bridges the divide between quantum mechanics and gravitational theory, offering new insights into the forces shaping the universe.

9. REFRENCE

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