QUANTUM GRAVITY UNLOCKED: A PRACTICAL APPROACH USING ATOMIC NUCLEI TO SOLVE UNIVERSAL MYSTERIES

Proving Quantum Gravity Through Atomic Nuclei: A Practical Key to Understanding the Universe

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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 charge force of atom, that exhibits a weak attraction to neutral atoms and repel same charge atom (positive charge). Moreover, utilizing the framework of quantum 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 approaches, and combines quantum mechanics with gravity, challenging the ideas of Newton and Einstein and offers a unified law.

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 groundbreaking 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, challenging the ideas of both Newton and Einstein. 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 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 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, challenging established principles and presenting a vision of a universe not born from a single point, as suggested by the Big Bang theory. Instead, it posits that the universe pre-existed and is now undergoing a process of destruction, as evidenced by the disintegration of galaxies, stars, and planets, suggesting that the universe has a finite lifespan and also universe has a fixed boundary.

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. QUANTUM GRAVITY

This research explains quantum gravity by looking at how very positive atomic nuclei create gravitational forces. It shows how an atomic nucleus generates a strong force when there are no electrons in the atom's orbit. When many nuclei come together through the fusion process, they form a larger nucleus with a very high positive charge. This force is actually a nuclear force, but we see it as gravitational force. This helps us understand how the nuclear force of an atom is related to gravitational force.

Using a neutral carbon atom as an example, this study demonstrates how the absence of electrons allows the nucleus to generate a high positive charge on the atom and how this charge is responsible for the gravitational force.

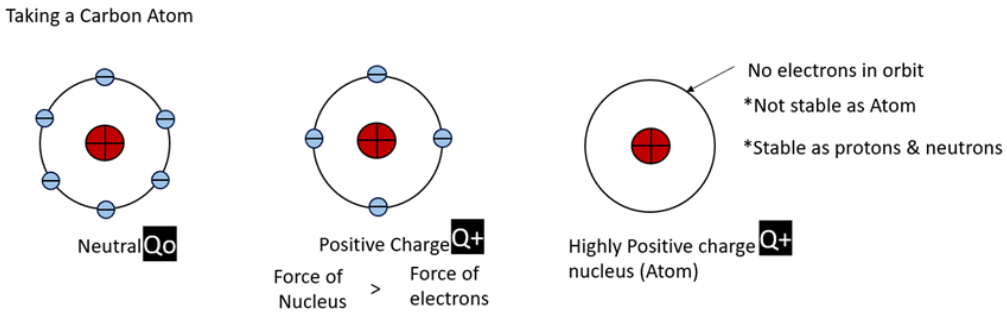


Fig 1. Explaining the charge on atom, how atom behave in absence of electrons. If atom have zero electron in orbit, then atom can't stable as atom, stable as nucleus (only protons and neutrons).

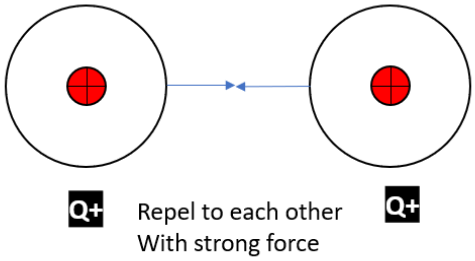


Fig 2. Showing that when two highly positive atom (only nucleus without electrons) come near to each other, then both repel to each other with strong force.

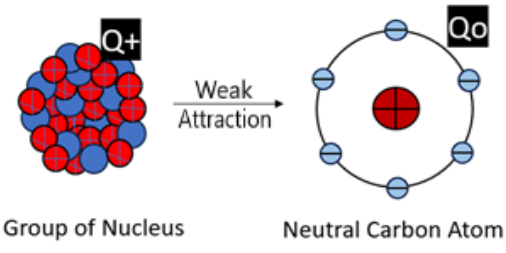


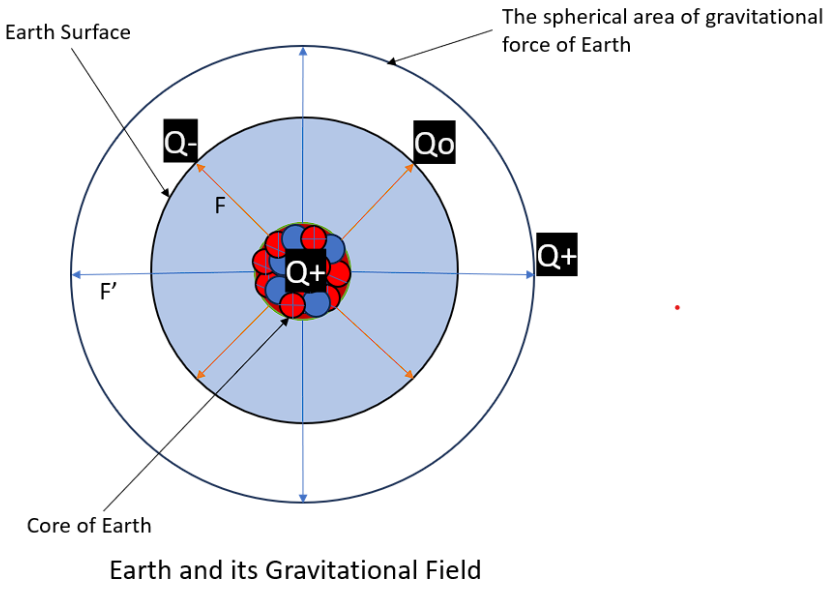
Fig 3. This figure showing the interaction of a group of nuclei with a neutral atom.

If a group of nuclei (which consists of many protons and neutrons) comes near a neutral atom, it can attract the neutral atom because the neutral atom has negatively charged electrons. However, the attraction is not strong because the neutral atom also contains positively charged protons. This phenomenon is explained by electrostatic induction, where a charged object causes a redistribution of electric charges in a nearby neutral object without direct contact. When the electric field of the charged object influences the charge distribution in the nearby neutral object, an interaction occurs.

In this case, we are focusing on how positive charge interacts with a neutral object. Overall, a positive charge can attract a neutral object with a weak force. An example of this is when a charged object, like a comb rubbed against hair, can attract neutral objects, such as small pieces of paper.

In my view, this group of nuclei cannot yet be created by humans in a laboratory with current technology. I believe this group of nuclei was formed at the birth of the universe, and this helps to explain how our universe was created.

I will now explain the origin of Earth's gravitational force, how this force operates on Earth and the matter present both on Earth and in space. Additionally, I will address why Earth exerts an attractive force on us and everything around it.



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

Fig 4. Showing that location of nuclei presents in core of earth, and how gravitational force of earth work.

The group of nuclei present in the core of the Earth as a large nucleus, attracting all neutral atoms and negatively charged atoms while repelling positively charged atoms in 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, known as gravitational force. This nucleus cannot gain electrons and stabilize like an atom because it is too big to stable as atom.

A super solid sphere, referred to as the nucleus, is present in the centre of the Earth, specifically in the inner core. This nucleus cannot attract electrons to become stable like a typical atom due to its size. Although the nucleus in the Earth's core is relatively small, it has a very high density, making it the densest material in existence. This density is a result of being composed of protons and neutrons, with little to no space between them. Additionally, the magnetic field generated by this nucleus is very strong, and its range extends widely, which we observe as the area of gravitational influence around the Earth. This group of nucleus present in centre of every planet, star and galaxy.

According to me, two pieces of matter do not attract each other; rather, this depends on the charge of the matter. If both are neutral, they cannot attract or repel each other. For two pieces of matter to attract each other, their charges must be opposite. This means, according to Newton's law of gravitation, that 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. According to Newton's law, matter attracts each other, but we cannot observe the force of small matter, nor can we see the force exerted by large masses, such as big mountains.

4. SOLAR SYSTEM AND UNIVERSE

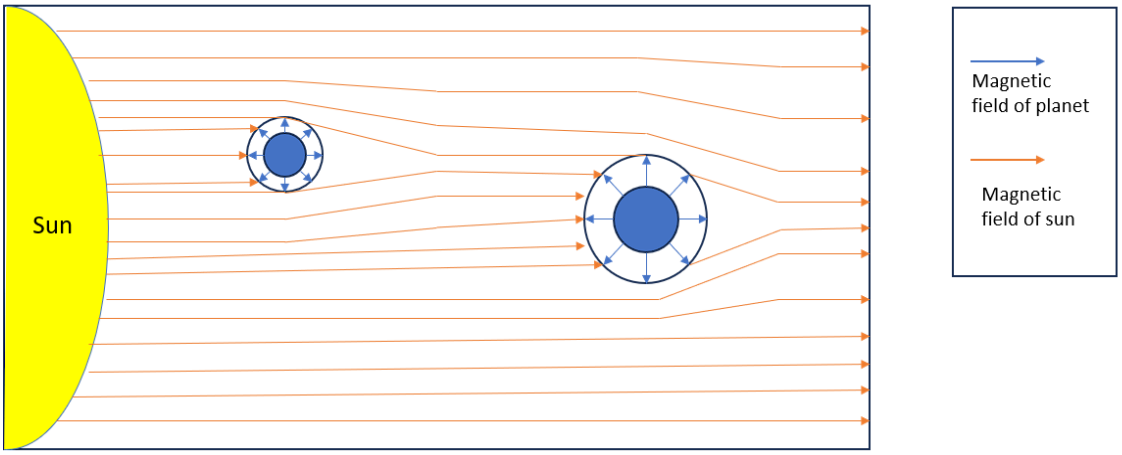


Fig 5. This diagram shows the solar system, illustrating the Sun's gravitational force field, interaction of sun's magnetic field with planets, and the alignment of the planets.

According to Newton's first law of motion, an object remains at rest, unless an external force is applied or acts on it. This is entirely true. And space is the best place to observe this because there is no resistance in space as external force. Objects in space remain where they are if at rest, and if in motion, they continue moving without slowing down. Without an external force, an object cannot be moved or stopped. Therefore, the conclusion is that in space, an object will remain stable or continue moving unless an external force changes its state.

The Sun does not attract the planets; rather, it repels them due to the similar charges in their cores. Newton said that planets don't collapse due to centripetal force, but he didn't explain where this force comes from to rotate the planet. According to my theory, the question also arises: why doesn't the Sun's repulsive force push the planets away? This is because the repulsive force from the Sun is not strong enough to push the planets away entirely. However, once you exit the range of Earth's magnetic field, the Sun's magnetic field begins to exert a pull, as it extends throughout the entire solar system. The Sun's gravitational influence extends throughout the entire solar system, but as you move farther away from the Sun, the strength of its gravity gradually weakens. At a certain distance, its gravitational pull becomes so weak that it can no longer hold onto objects, marking the point where the Sun's influence effectively ends. This point, which can be thought of as the "edge" of the solar system, is where the Sun's ability to affect planets, comets, and other bodies with its gravity reaches its limit. Beyond this boundary, objects are no longer under the significant gravitational control of the Sun. The side of a planet facing the Sun experiences a stronger influence from the Sun's magnetic field, while the opposite side feels less due to the planet partially blocking the Sun's magnetic field. After a certain distance from the planet's opposite side, this effect becomes more noticeable as the Sun's magnetic field bends. This is illustrated in Figure 5. The magnitude of the Sun's magnetic field decreases with distance, as is the case with the magnetic fields of all planets, stars, and galaxies.

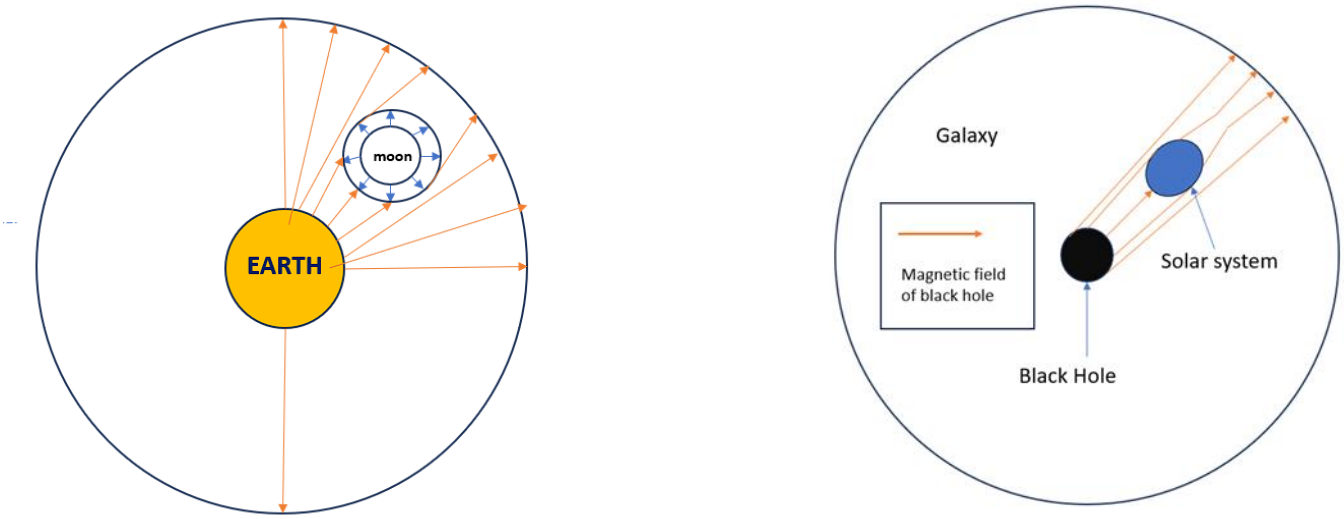


Fig 6. This image shows how the gravitational force of Earth is applied to the Moon and how the gravitational force of the black hole applied on solar system.

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 because of the Earth's stronger gravitational pull, due to its greater mass.

I want to say one more thing: a black hole is not a hole-like structure. It is a super-solid, sphere-shaped object made of nucleus, and it has a strong field with a wide range. It controls the entire solar system within a galaxy, and the boundary of a galaxy depends on the range of the black hole's gravitational field. And one more thing that earth or any planet do not have any magnetic field only gravitational field. The gravitational field is the magnetic field of every celestial body.

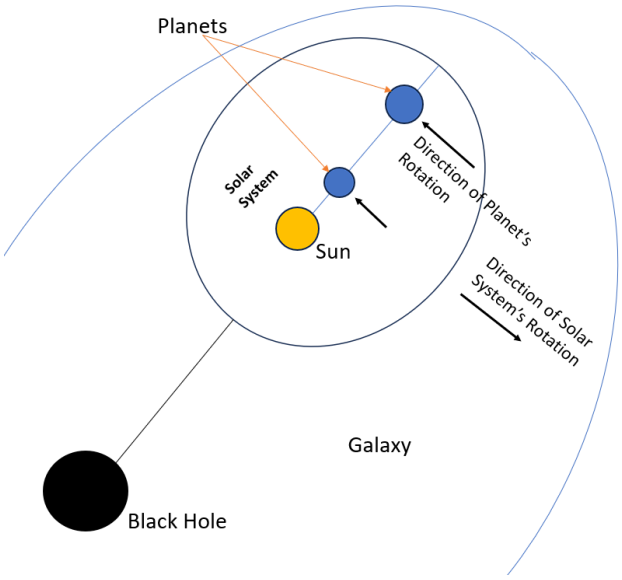


Fig 7. This image shows the rotation of the planets and the solar system around the black hole in the galaxy.

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 counterclockwise direction because the solar system rotates in a clockwise direction around the black hole in the galaxy. Due to the moment of inertia, the planets rotate opposite to the solar system. The planet that is closer to the Sun rotates faster because, according to my theory, it has less mass compared to planets that are farther from the Sun. Don't be misled by the size of a planet, as size doesn't accurately determine mass. The moment of inertia applied to the planets is the same, so an equal force of inertia is exerted on all planets, but their different masses result in varying orbital speeds around the Sun. Their rotation also depends on their density—greater density means greater mass, so planets with higher density rotate more slowly due to their

increased mass. The current data on planetary density is not entirely accurate because we do not know all the materials present on the planets. Different materials have different densities, and we only know about the materials on the surface of each planet.

The rotation of planets on their axes depends on their location. A planet that is closer to the Sun rotates more slowly because it is tightly bound by the Sun's magnetic field, whereas planets farther away rotate faster on their axes because they are not as tightly bound, as the Sun's magnetic force decreases with distance. I believe the angle of a planet's rotation is influenced by the magnetic fields of both the Sun and the planet, but I don't know the exact reason for this phenomenon. According to my theory galaxies also rotate within the universe, possibly around a supermassive black hole or a supermassive star. Additionally, the universe also rotates on its axis.

According to my theory the universe is not expanding. The increase in distance between galaxies may occur because, if any galaxy within a group of galaxies is dead or destroyed, it loses its gravitational force, causing the distance between galaxies to increase. For example, if a tube contains the same charges, they repel each other and maintain a distance between them. If we remove some charges from that tube, the remaining charges will spread out and fill the tube, but the distance between the charges will increase. Similarly, in our universe, the distance between galaxies is increasing; therefore, one might say that our universe is expanding, but in reality, it is not. Our universe has a fixed boundary.

I am not explaining how the universe is created, or how planets, stars, and galaxies are formed. I am only explaining how they work and mainly what is gravity and how it works. And according to my theory the universe did not originate from a single point, as suggested by the Big Bang theory. Instead, it was pre-existing and is now undergoing a process of destruction and transformation, as evidenced by the disintegration of galaxies, stars, and planets, suggesting that the universe has a finite lifespan. According to the law of conservation of mass, an atom cannot create another atom from itself, but it can break down into subatomic particles. So, the universe can't originate from a single point. And argues that dark energy does not exist. Instead, the entire universe is made up of only atoms and all type of atomic energy, with no other particles existing in space other than atoms and subatomic particles.

5. RESULTS AND DISCUSSION

1. **Quantum Gravity Solution:** This work successfully addresses the intricate problem of quantum gravity, offering a novel theoretical framework that elucidates the behaviour of gravitational forces at the quantum level. This advancement provides a deeper insight into the fundamental nature of gravity, potentially reconciling classical and quantum mechanics.

2. **Repulsive Force Theory:** The study posits that the Sun exerts a repulsive force on planets due to similar charges within their cores. While this force is present, it is insufficient to completely displace planets from their orbits. This finding offers a new perspective on the stability of planetary orbits within the solar system.

3. **Influence of Solar Magnetic Fields:** The research highlights the role of the Sun's magnetic field in influencing planetary motion, particularly after planets transition beyond Earth's magnetic influence. The findings suggest that the magnetic pull of the Sun contributes to the retention and trajectory of planets within the solar system, presenting an alternative to traditional gravitational models.

4. **Black Hole Influence on the Solar System:** You suggest that the entire solar system's rotation around a black hole influence planetary orbit. This challenges the conventional understanding of gravity and inertia by proposing that the solar system's rotation causes planets to orbit the Sun in the opposite direction due to the moment of inertia.

5. **Planetary Rotation and Density:** I propose that planetary rotation is influenced not just by distance from the Sun but by their density and mass, which are impacted by unknown materials beneath their surfaces. This contrasts with current planetary data, which you argue are inaccurate due to unknown materials affecting density and mass estimates.

   This research successfully addresses the problem of quantum gravity by proposing a new theory that combines principles from both quantum mechanics and gravity. This theory provides a framework for understanding how gravity operates at the quantum level, offering insights into the fundamental nature of gravitational forces and how they interact with matter. In addition to solving quantum gravity, the study examines planetary rotation within the solar system. It suggests that planets rotate due to the Sun's magnetic field, which exerts a repulsive force on them because of similar charges in their cores. This magnetic force influences the planets' orbits and their speed of rotation. Furthermore, the research indicates that the solar system's rotation around a black hole also affects how planets move, leading to different rotational behaviours. The findings also highlight the role of planetary density in rotation speed. Denser planets tend to rotate more slowly due to their greater mass. However, current measurements of planetary density may not be entirely accurate, as we do not yet know all the materials inside these planets.
   In conclusion, this research not only provides a potential solution to quantum gravity but also offers new insights into the factors that influence planetary rotation, including magnetic fields and density.

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