
Observational evidence of the Axis of Evil having electron orbital shapes and its possible link with Quantum Gravity

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Abstract:

The anomalous ecliptic aligned Quadrupole and Octopole in the Cosmic Microwave Background Radiation has symmetries with the shapes of electron orbitals. Since electron orbitals are a quantum phenomena, the Axis of Evil may be revealing a relation with Quantum Gravity. The Axis of Evil may be local to the Solar System which would explain its anomalous alignment and may have a purpose rather than seeming Evil. The Quadrupole has a doughnut shape with two lobes similar to the 3d electron orbital and may be revealing one of the gravity causing particle clouds of either the Sun or the Earth. Gravity is excluded from the Weak Force, the Strong Force and the Electromagnetic Force currently. Quantum Gravity may operate using these three forces resulting in a full unification of forces where baryonic matter accelerates from higher potentials to lower potentials within the gravity causing particle clouds of the Sun via Electrostatic forces and possibly Van Der Waals forces upon baryonic particles. The negatively charged portion of these gravity causing particle clouds may be observed through the Axis of Evil. We may have been asking the wrong questions. Perhaps General Relativity was a correct approximation analogously via curvature and indirectly describes the other three forces on larger scales yet curvature may not be the real cause of Gravity thus impossible to unify. Instead we should have asked how can gravity work using the three forces within Quantum Field Theory. By using known science at smaller scales and applying it to larger scales especially where we have observational evidence of its manifestation at larger scales such as in the Axis of Evil, we can unify Gravity with the Weak force, Strong force and Electromagnetic force when they operate at larger scales.

Keywords: Axis of Evil, Cosmic Microwave Background Radiation, CMB Quadrupole, CMB Octopole, Quantum Gravity, Dark Matter, Dark Energy

Introduction:

The Cosmic Microwave Background [1] has a feature aptly named the Axis of Evil. It is called evil due to its alignment with the Ecliptic and nothing in the cosmic microwave background (CMB) should be aligned with the Earth or the Sun since we are not the center of the Universe. The Axis of Evil includes the Quadrupole and the Octopole [2]. The Axis of Evil is also perpendicularly aligned with the Dipole [3] in the CMB which is a cause for further confusion. There has yet to be discovered how Quantum Gravity operates with current models. String theory [4] and Loop quantum gravity [5] have been proposed and many minds have tried to make it work however it is still a work in progress. The Standard Model of Particle Physics is one of the most well understood and tested fields and involves particle clouds, probabilities and electrostatic forces in the least. Particle clouds are a description of the probability of finding a certain particle within a certain location from the nucleus. Particle clouds may be made of electron clouds and nucleus clouds. Electron particle clouds have certain probability

densities and orbital shapes for each energy level. These orbitals shapes can be in the form of one or more spherical shell volumes, donut shapes, or lobes with electrons present within these shapes based on probability. Electrons will have a negative charge and the nucleus has a positive charge. These charges are what hold the electrons and the nucleus together. Electrostatic forces repel like charges and attract opposite charges and cause either the attraction or repulsion of baryonic particles from each other. Electron clouds absorb photons which promotes the energy state of the electron cloud to a higher state and these electron clouds also emit photons due to the electron cloud preferring a lower energy state. When a photon is absorbed or emitted the orbital shape of the electron cloud changes.

Methods:

It bears repeating, by using known science at smaller scales and applying it to larger scales especially where we have observational evidence of its manifestation at larger scales, we can unify Gravity with the Weak force, Strong force and Electromagnetic force when they operate at larger scales.

The Axis of Evil multipoles have an odd symmetry with the shapes of electron orbitals. For example, the Quadrupole has a donut shape and two lobes. The $3d_{z^2}$ electron orbital also has a donut shape and two lobes and the images will be compared shortly. This may be a coincidence however there may be something interesting at play and it may be related to Quantum Gravity. Since the Quadrupole is centered around the ecliptic, it may be a local phenomena revealing a relatively exponentially large particle cloud of an unknown type of matter surrounding us which emanates from the Sun or the Earth and vastly larger than its electron cloud counterpart. This would finally explain the Axis of Evil. Similar to how electron clouds have nucleus clouds, then so must the Low order Multipoles have a nucleus cloud which holds the oppositely charged massive in scale particle clouds seen through the Axis of Evil. This nucleus cloud attached to the Quadrupole and Octopole may be located within the Sun if the Sun is the origin of these multipoles, or the Earth if our planet is the origin. The gravity causing particle clouds in the Axis of Evil is perhaps revealed to us indirectly through background photons interacting with the gravity causing particle clouds similar to how Dark Matter is lensed and in fact is Dark Matter however operating much differently than current theory states. However these large particle clouds may be revealing themselves directly instead and further research is needed. Known Dark Matter observations via background photons being lensed in Galaxy Clusters also reveals these types of gravity causing particle clouds however on exponentially larger scales than the Axis of Evil which also have electron orbital shapes. The presence that causes the Quadrupole and Octopole we can now refer to as an electron related gravity causing particle cloud and within either the Sun or the Earth may exist what we will refer to as the nucleus related gravity causing particle cloud. The Octopole may possibly overlap the Quadrupole similar to how electron orbitals overlap and may be the electron related gravity causing particle clouds of the Sun or the Earth, or one of each. The electron related gravity causing particle cloud will have a certain charge which is likely negative, and the nucleus related gravity causing particle cloud will have the opposite charge, positive. These charges will hold these gravity causing particle clouds together via Electrostatic forces. Baryonic particles also have a positive and negative charge depending on the particle and will react to the charges of the gravity causing particle clouds they are located within or near and be repulsed or attracted via Electrostatic forces being accelerated from higher potentials to lower potentials within the gravity causing particle clouds they are in. This may result in the acceleration of baryonic matter that we observe as gravity to

allow star's, planets and black holes to exist. An orbiting object such as a planet that is within a larger electron related gravity causing particle cloud such as that of the Sun's may have its own smaller electron related and nucleus related gravity causing particle cloud which may span past the Moon which may interact with the larger electron related gravity causing particle clouds of the Sun and also with the nearby nucleus related gravity causing particle cloud of the Sun residing within the Sun resulting in acceleration via at least one of Electrostatic forces and Van Der Waals forces between the gravity causing particle clouds of both systems. This acceleration occurs due to the positive charge of the nucleus related gravity causing particle cloud and the negative charge of the electron related gravity causing particle clouds of the Sun interacting with the positive charge of the nucleus related gravity causing particle cloud and the negative charge of the electron related gravity causing particle cloud of the Earth resulting in Earth's gravity causing particle cloud system (which includes both types of gravity causing particle clouds) to accelerate from a higher potential to the lowest adjacent potential of the Sun's gravity causing particle cloud system. The gravity causing particle clouds of the Sun may also interact with the electron clouds of each baryonic particle of the Earth via Electrostatic and possibly Van der Waals forces adding further gravitational effects to the planet. Since the Earth's gravity causing particle cloud system holds the Earth together via the electron clouds and nucleus clouds of baryonic matter particles of the Earth accelerating from higher to lower potentials within Earth's gravity causing particle cloud system, any attraction of Earth's gravity causing particle cloud system Sun ward due to its interaction with the Sun's gravity causing particle cloud system will carry the Baryonic matter within the Earth's gravity causing particle cloud system along with it. Furthermore although not a force, Pauli repulsion may also be a factor causing acceleration upon baryonic matter where baryonic matter accelerates from higher potentials to lower potentials of the gravity causing particle cloud it is located within, or via a smaller gravity causing particle cloud accelerating from a higher potential to a lower potential of a larger gravity causing particle cloud it is within due to Pauli repulsion.

Galaxies will have their own electron related and nucleus related gravity causing particle clouds and within the electron related gravity causing particle clouds of these galaxies will reside stars. These stars will also have their own electron related and nucleus related gravity causing particle clouds. The gravity causing particle clouds of these stars will accelerate from higher potentials to the nearest lowest potentials within the gravity causing particle clouds of their galaxies through Electrostatic forces and Van Der Waals forces. These stars will be held together by their own nucleus related and electron related gravity causing particle clouds and may be similar to clouds observed in the Axis of Evil. A similar story will occur with galaxy clusters where galaxies within a cluster will accelerate from higher potentials to lower potentials of the larger gravity causing particle cloud of the cluster. The galaxies will be held within their own relatively smaller gravity causing particle clouds. Finally, these concepts can be applied to the observable universe where the galaxy clusters in the observable universe will accelerate from higher potentials to lower potentials within the gravity causing particle clouds of the universe. These clusters will also have their own relatively smaller gravity causing particle clouds which hold the galaxies in the clusters together. All larger gravity causing particle clouds will affect all the smaller gravity causing particle clouds within. For example, any particular star will be affected by the gravity causing particle cloud of its galaxy, its cluster, and the observable universe resulting in an additive gravitational forces upon baryonic from all the larger gravity causing particle clouds the star is within in addition to its own which is felt the most.

Gravity is perhaps a force which seems the most logical rather than a curvature of space time. Albert Einstein's work is magnificent, however something more specific is needed to understand the mechanisms of gravity than a curvature even though it's an amazing framework to simulate gravitational motion however yet still limiting when it comes to galactic rotations curves and black holes. There is evidence of Dark Matter halos without any baryonic matter, thus if curvature existed it can without baryonic matter. However more plausible is these gravity causing particle clouds exists and if baryonic matter is lucky enough to reside in it it will adhere to the acceleration it causes. Furthermore, the theory will also allow the possibility of a gravitational force where it acts like Dark Energy when the repulsion of baryonic matter is directed away from the gravity causing particle clouds after a particular radius boundary where the negative charge may be more dominant or when two separate systems of gravity causing particle clouds repel each other such as two galaxy cluster's gravity causing particle clouds repelling each other.

The Strong Force, Weak force and the Electromagnetic Force may not be separate from gravity after all. These three Forces may allow the gravity causing particle clouds to exist as they do by holding the electron related gravity causing particle clouds to the nucleus related gravity causing particle clouds and also interact with the baryonic particle clouds within resulting in the unification of Gravity with these other three forces.

The gravity causing particle clouds may also interact with other adjacent gravity causing particle clouds as well via Electrostatic forces similar to how particle clouds behave at known smaller scales or via Van Der Waals forces. Gravity causing particle clouds may also overlap and baryonic matter may accelerate from higher potentials to lower potentials based on the overlap and the potentials it creates. The gravity causing particle clouds may operate with the same physics that smaller particle clouds operate with to exist, evolve, or how they interact with other particle clouds however on grander scales. For example, the electron related gravity causing particle cloud may absorb a particle to excite it into a higher energy state and emit a particle to go into a lower energy state. This particle may be carried through gravitational waves analogous to how photons are carried through electromagnetic waves. Candidates of these particle may be Neutrinos, Gravitons, Bosons or another particle yet undiscovered. These changes of energy states will also entail changes of acceleration induced upon baryonic matter residing within the cloud and may induce Supernova events, Dark Energy like observations where matter is flung off, planetary atmospheric creation events through volcanic activity, or black hole formations. If an electron related gravity causing particle cloud transitions into a higher energy state via absorption of the particle that excites it, a higher gravitational force will be experienced by baryonic matter within than previous. If an electron related gravity causing particle cloud transitions into a lower energy state via emission of the particle that excites it, a lower gravitational force will be experienced by baryonic matter within than previous. Furthermore, galactic rotation curves may be explained where at least one force of the Electrostatic force and or Van Der Waals forces are enough to hold galaxies together. These electron related gravity causing particle clouds may be seen indirectly through Dark Matter observations via lensing of background photons and Dark Matter is actually gravity causing particle clouds. We can also view these gravity causing particle clouds via the CMB and via the shapes of cosmic structures in some circumstances that partially resemble electron cloud shape is certain regions such as the shells around the Milky Way.

Results:

The three dimensional shapes of the Quadrupole was compared to 3d electron orbital shapes and there is a high symmetry between the two. By placing the images side by side a definite symmetry is viewable. Furthermore, the shapes of the Octopole and the Dipole in the CMB were also compared in a similar manner. To establish another confident connection with electron orbitals and the CMB, graphs representing certain characteristics of the CMB were super imposed with graphs representing certain characteristics of electron orbitals. These graphs include The CMB Lensing Power Potential curve [6] and the CMB Black body radiation [8] with probability densities or electron orbitals. Furthermore, Neutrino Detection graphs were overlaid with probability density curves of electron orbitals. The electron orbital graphs may have been scaled on at least one axis to relate to the parameter scales of the graph it is being compared with. Lastly, observations of Dark Matter and gas clouds having similar shapes to electron orbitals are shown. Other observations that support the paper are also described below.

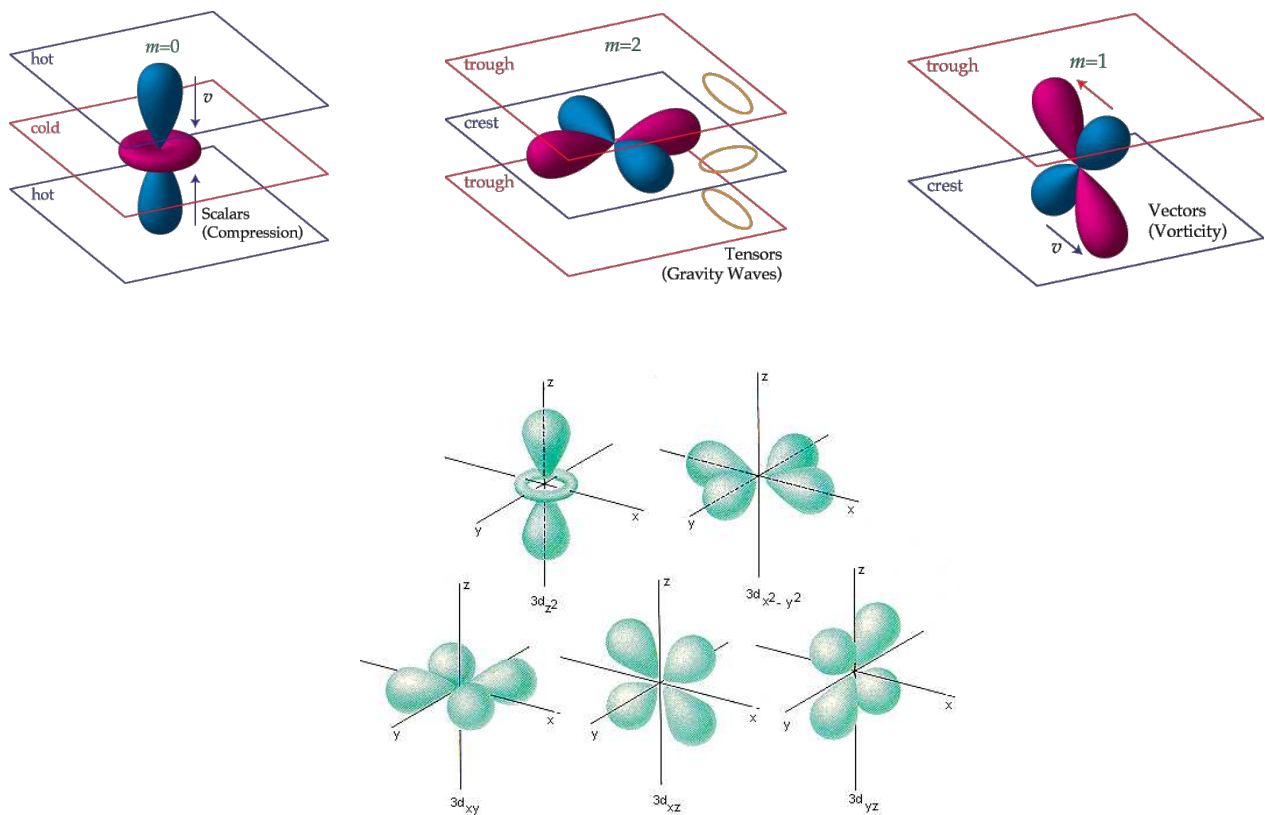


Figure 1. (Top) CMB Quadrupoles [7]. (Bottom) 3d electron orbitals [8].

The Quantum Mechanical Model

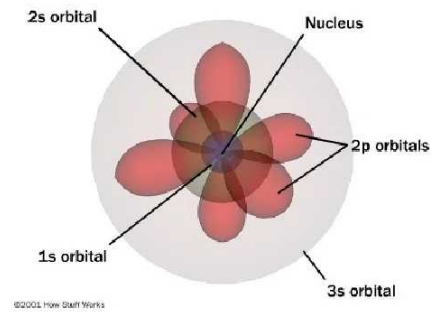
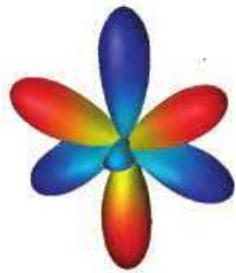


Figure 2. (Left) CMB Octopole [9]. (Right) Electron orbitals with three pairs of 2p orbitals in Pink [10].

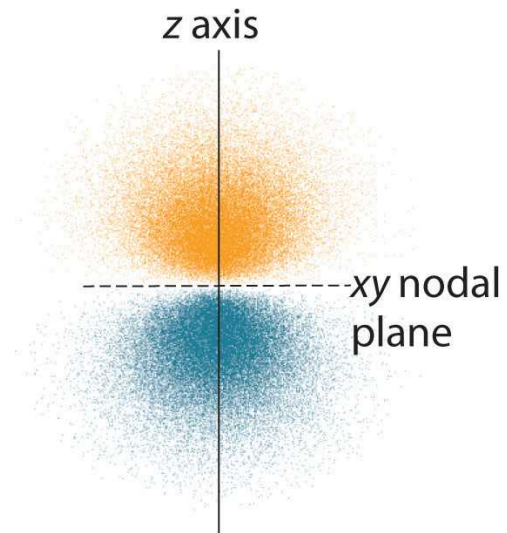
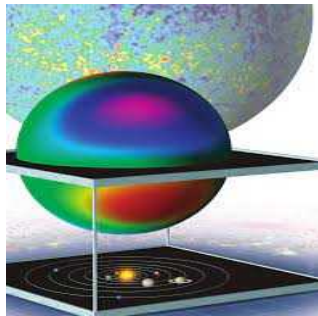


Figure 3. (Left) CMB Dipole [11]. (Right) 2p electron cloud [12].

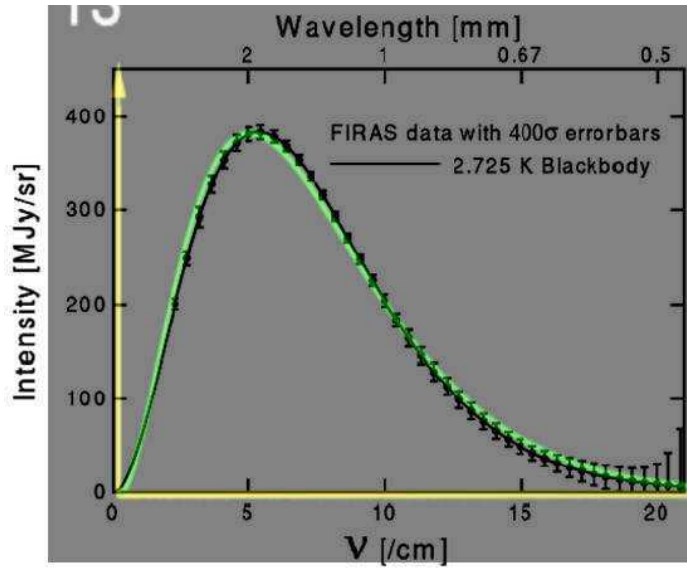


Figure 4. 1s electron radial probability distribution curve (Green) [13] super imposed on CMB FIRAS Curve (Black) [14]

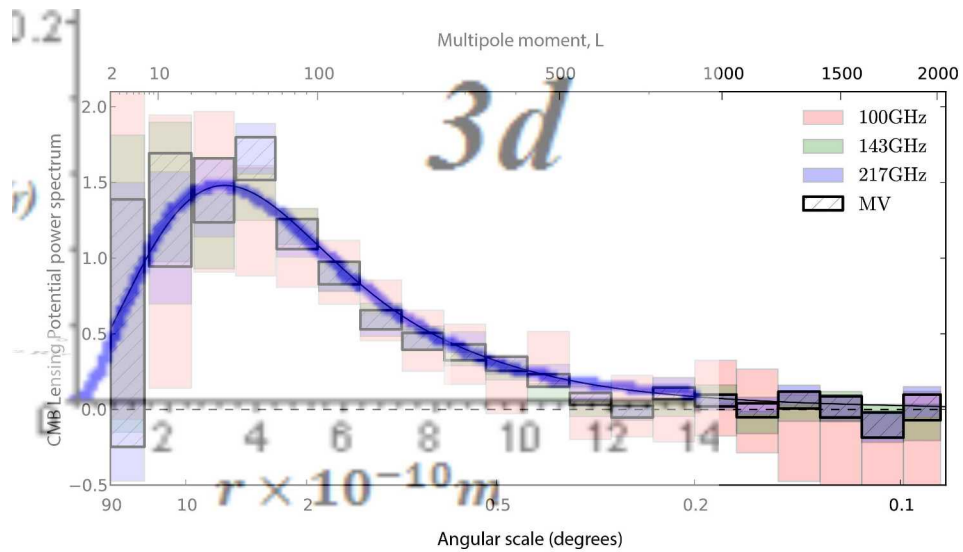


Figure 5. 3d electron orbital probability density curve [15] (Blue) super imposed on CMB Lensing Potential Power Spectrum.

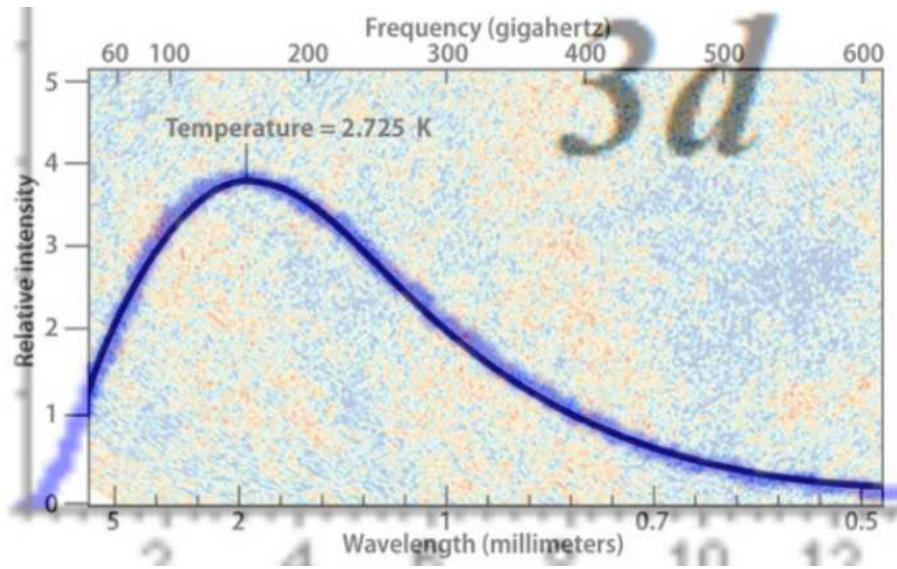


Figure 6. 3d electron orbital probability density curve (Blue) [15] super imposed on CMB Black Body Curve (Black) [16].

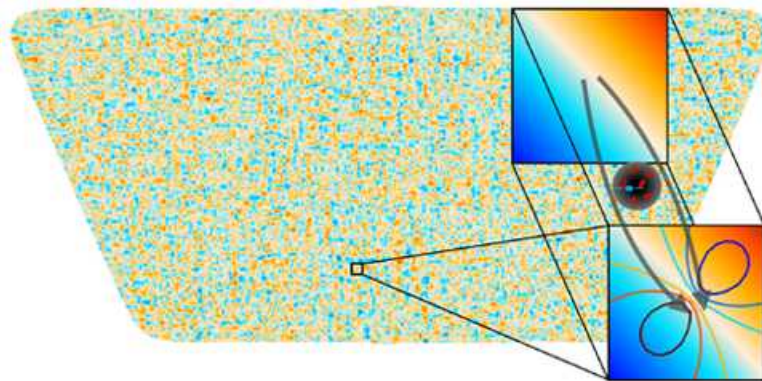


Figure 7. Galaxy Cluster located between hot and adjacent colder region. Stars are located in the CMB similarly. These hot and cold regions reveal the electron related gravity causing particle clouds. Image reference [17]

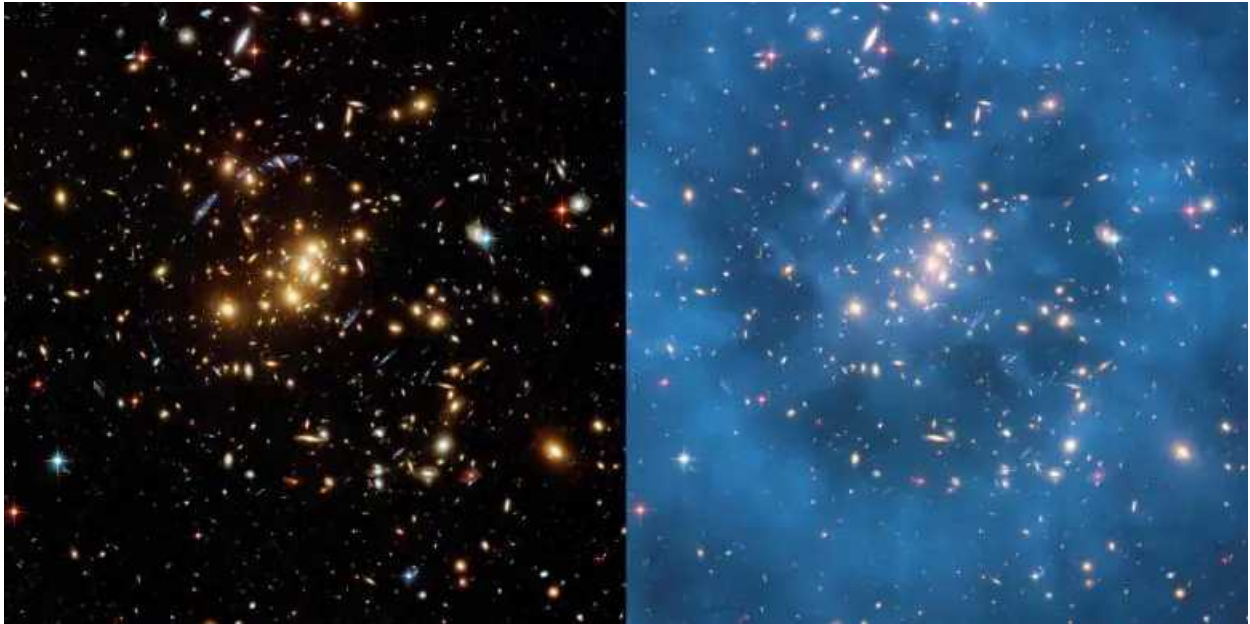


Figure 8. Dark Matter via lensing reveals a particle cloud shape likely that of an S-orbital and more particularly a 2s electron orbital. Image reference [18]

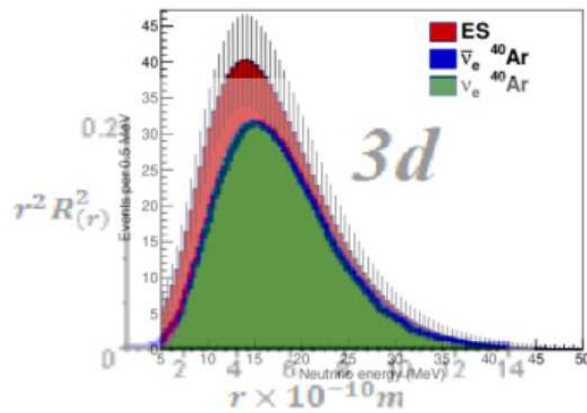


Figure 9. A Neutrino Emission curve [19] of a Supernova and the radial probability distribution curve of the 3d electron orbital super imposed (Dark Blue). This shows a possibility that if the electron related gravity causing particle emits Neutrinos it may be used to determine the shape of the gravity causing particle cloud by inferring its relation to an electron orbital.

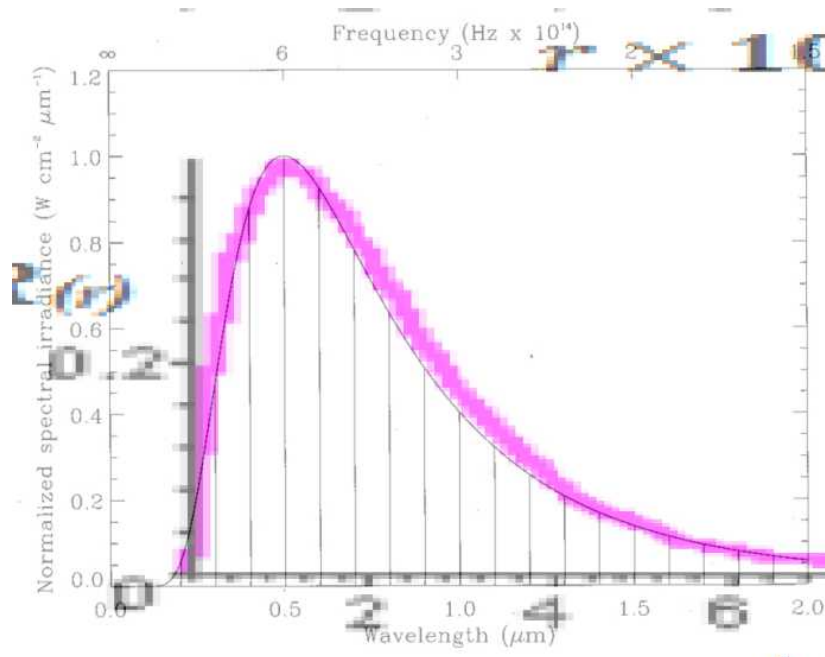


Figure 10. A Neutrino Emission curve [20] (Black) and the probability density curve of the 2p electron orbital (Pink) super imposed.

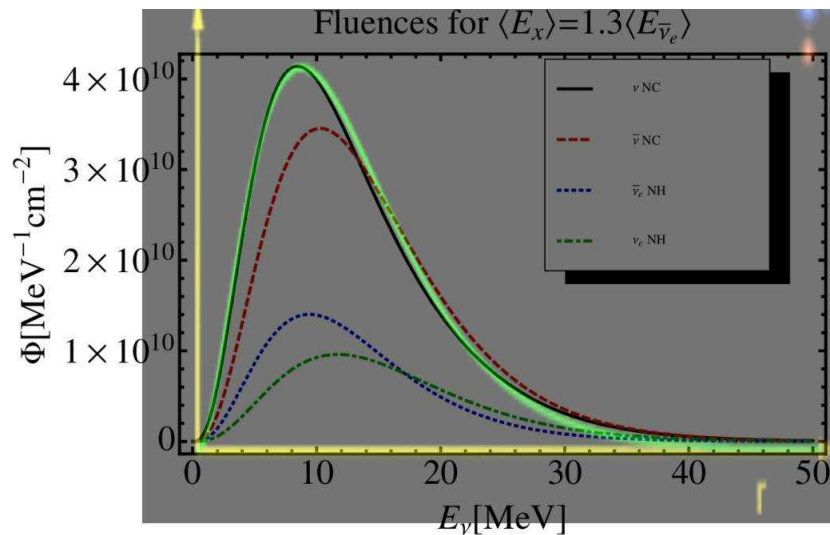


Figure 11. A Neutrino Emission curve of a Supernova [21] (Black) and the probability density curve of the 1s electron orbital (Green) super imposed.

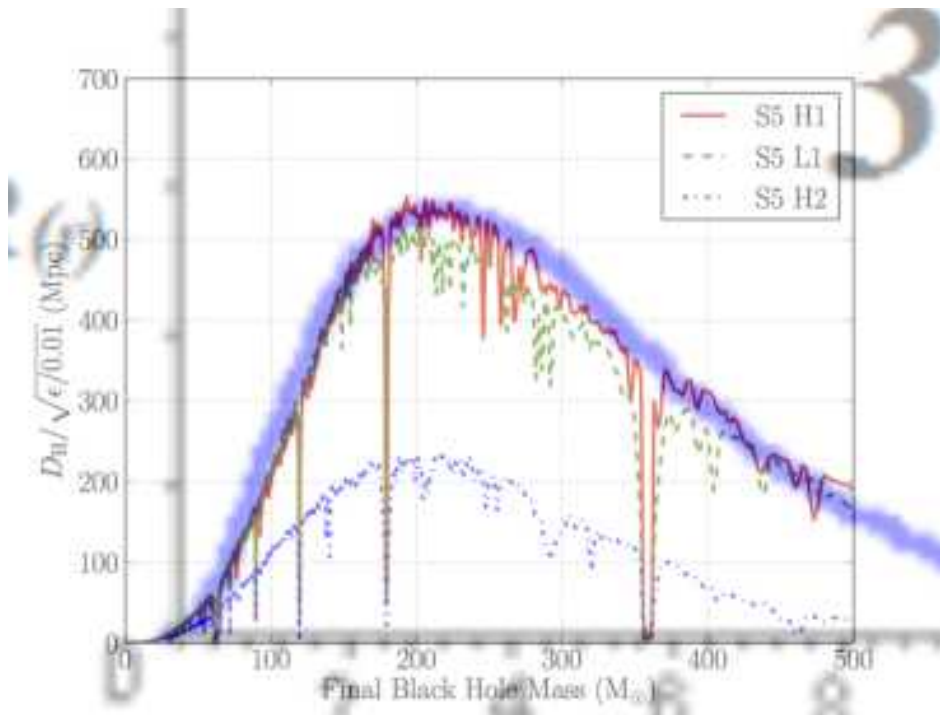


Figure 12. Gravitational waves detected by LIGO [22] (Red) and the 3d electron probability density curve (Blue) super imposed. This shows a possibility that whatever the electron related gravity causing particle cloud emits in the form of gravitational waves may be used to determine its shape by inferring the electron cloud with similar probabilities.

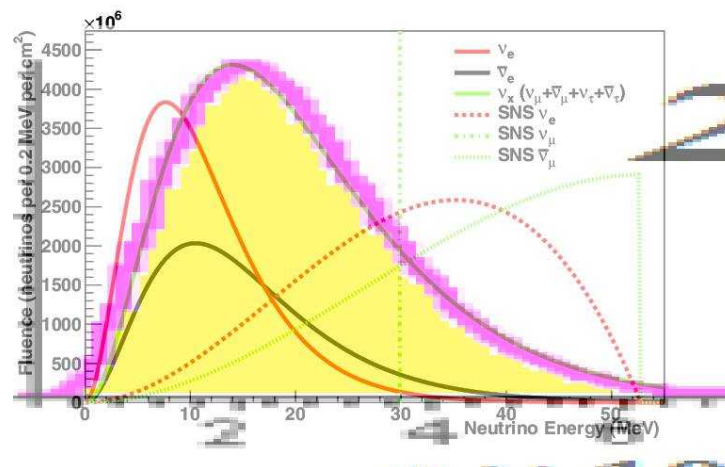


Figure 13. 2p orbital radial probability distribution curve (Pink) super imposed on a neutrino curve [23] (Black).

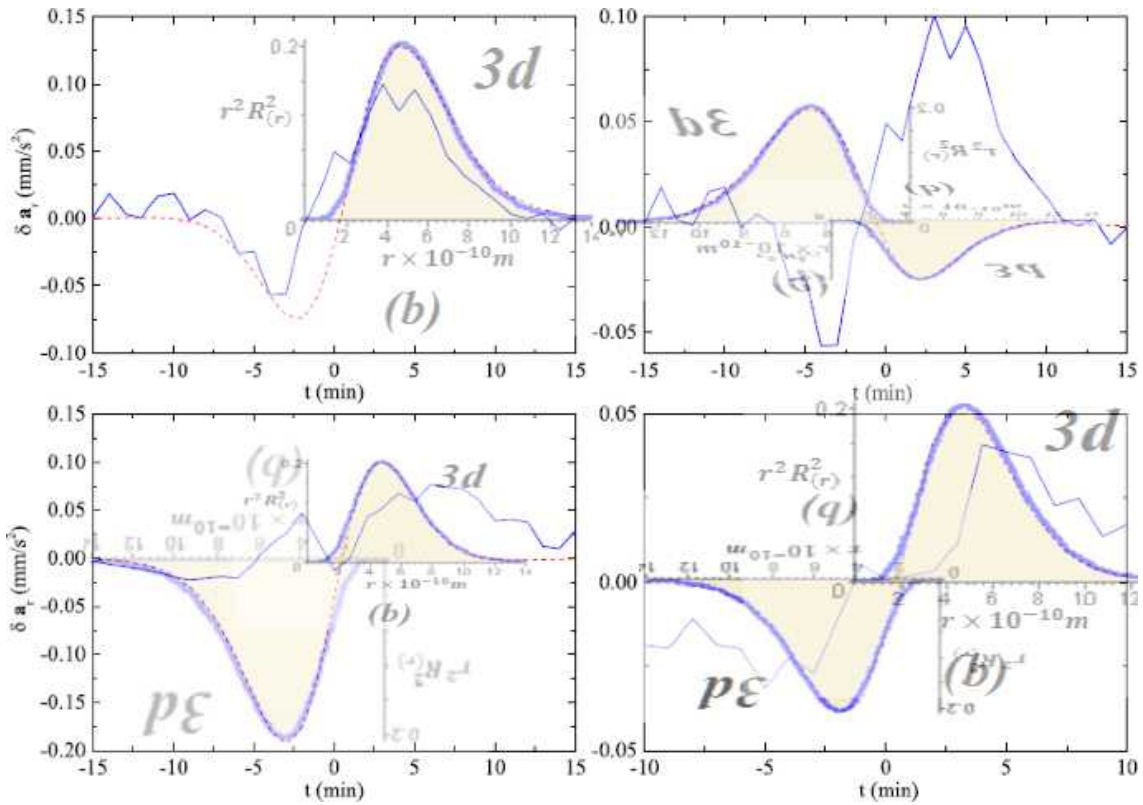


Figure 14. The flyby anomaly acceleration curve [24] and the 3d electron radial probability distribution curve (Blue) is super imposed.

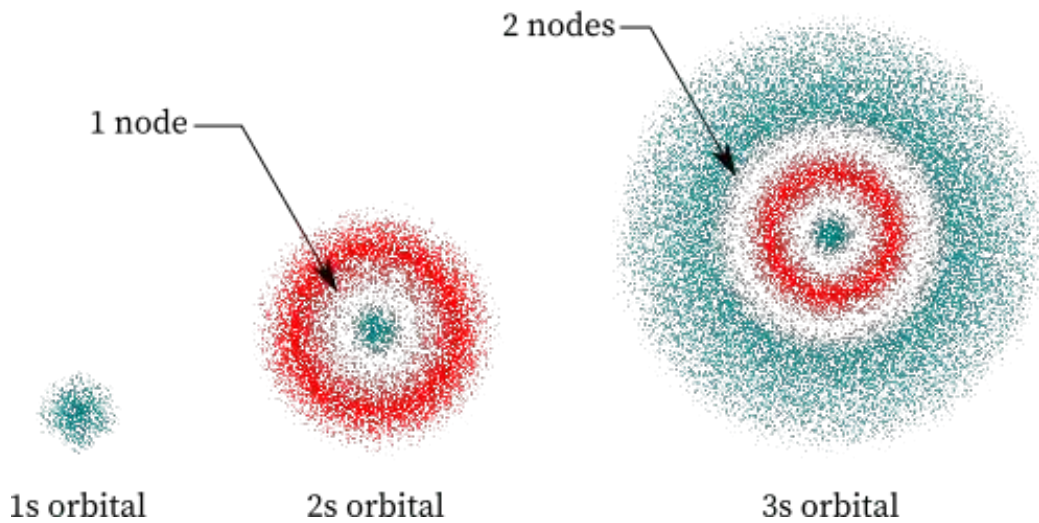
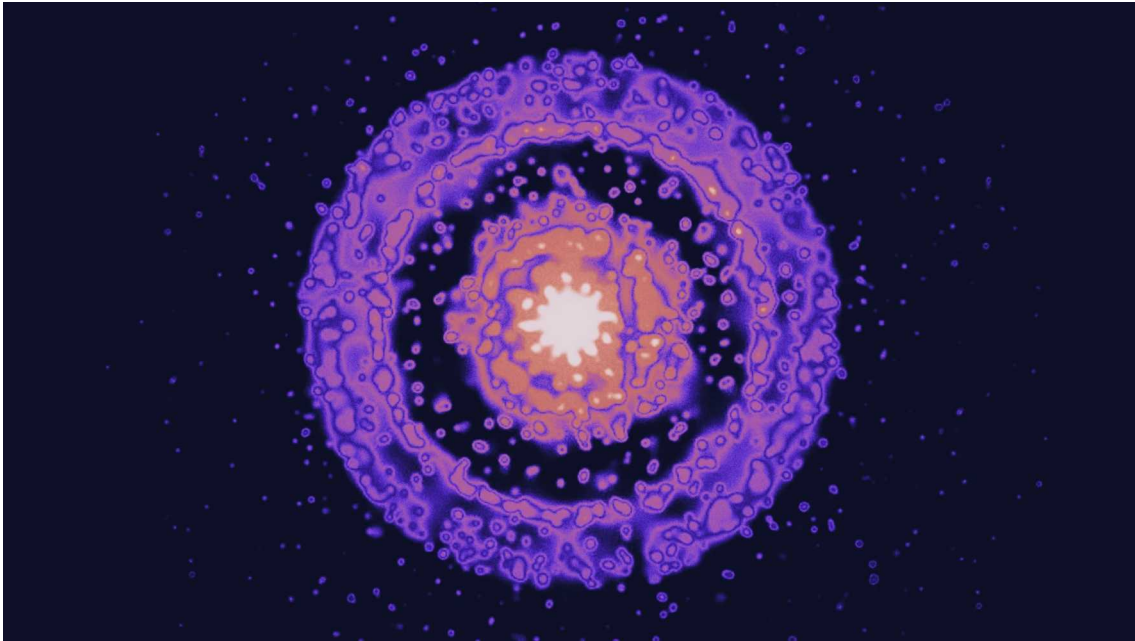


Figure 15. (Top) A Supernova observation [25]. (Bottom) S electron orbital shape [26]. This may be a visual of the current energy state of the electron related gravity causing particle cloud around the star which caused it to go Super Nova and likely is in a 3s electron orbital state.

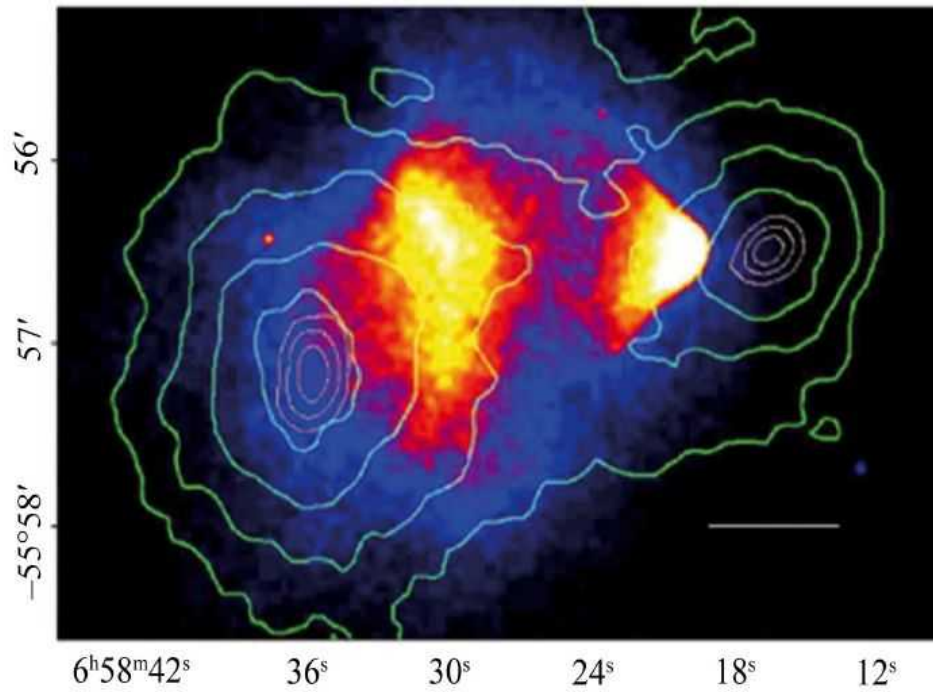


Figure 16. The Bullet cluster's [27] Dark Matter lobes represented by contour lines which is actually an observation of electron related gravity causing particle cloud and its densities and likely having scaled up characteristics of the 2p electron orbital. Baryonic matter in Orange is accelerating from higher potentials to lower potentials within the lobes of the gravity causing particle cloud.

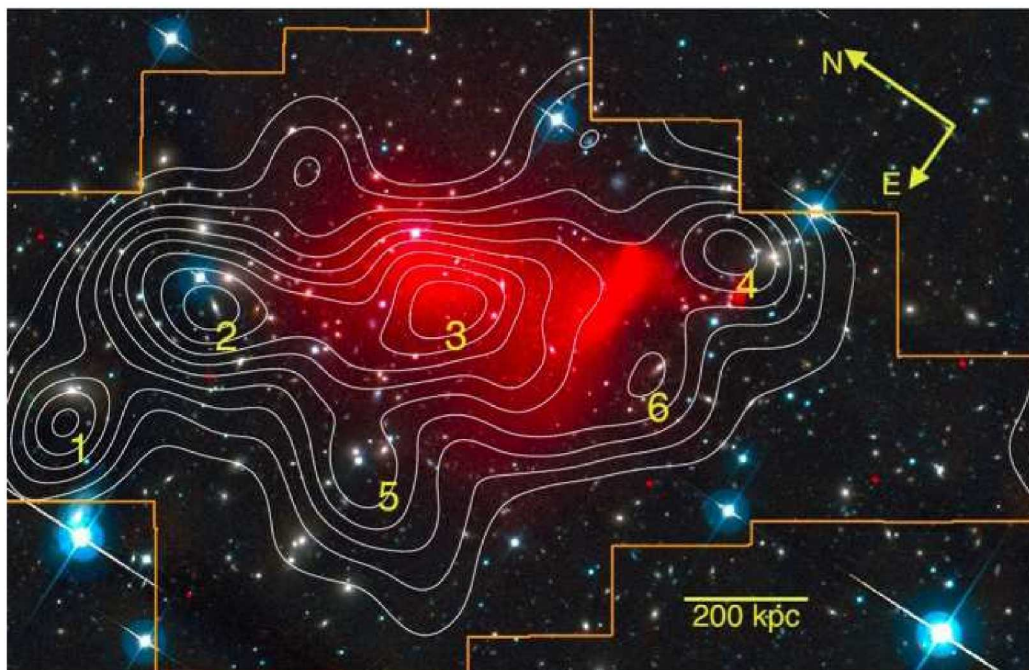


Figure 17. Dark Matter contour map [28] which is the observation of gravity causing particle clouds. Baryonic matter in Red is seen accelerating from higher potentials to lower potentials within these gravity causing particle clouds.

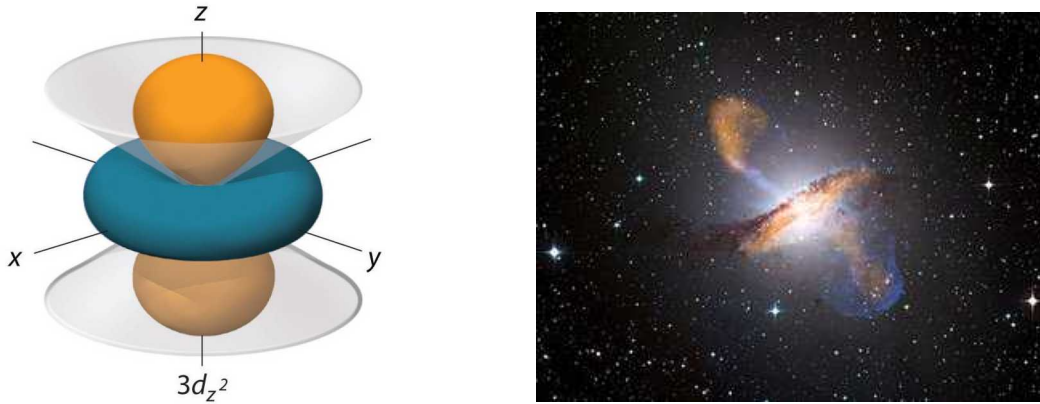


Figure 18. We can also see that quasars [29] (Right) assume the shape of the $3d_z^2$ electron orbital shapes [30] (Left) thus it may have a gravity causing particle cloud in the same shape.

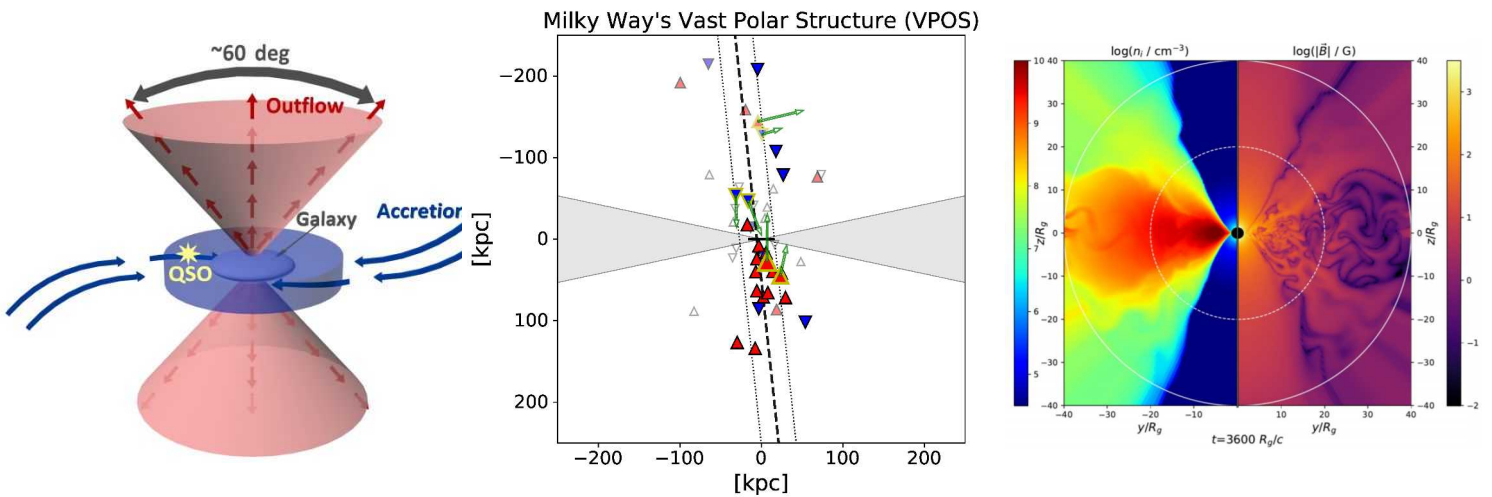


Figure 19 : More structures having $3d_z^2$ electron orbital shapes. (Left) Galaxy [31]. (Middle) Milky Way's Vast Polar Structure [32]. (Right) Black hole [33].

Experimentally testing Quantum Gravity in Quantum Field Theory:

We can use Quantum Field Theory fields to recreate the gravity causing particle clouds of the Sun and the Earth's within the Fields. These clouds can be reconstructed from electron orbitals having the same gravity causing particle cloud shapes that surround the Sun and the Earth and scaled up to match the size relationships between the Sun and the Earth. The density of electrons for each orbital can also be scaled up appropriately to match how much the orbitals were scaled up. We must then determine the potential for each region within the clouds that match the electrostatic forces that would exist to cause such gravitational acceleration of the Earth around the Sun at larger scales. Van Der Waals forces and or Pauli repulsion can also be used, however one force may dominate such as the electrostatic force or it is the culmination of these forces, thus testing the model should try differing combinations of which force to use. The electron related gravity causing particle cloud of the Sun may also interact with the electron clouds of each baryonic particle within the Earth further causing acceleration. The nucleus clouds of the electrons orbitals may also be placed within the electron clouds within Quantum Field Theory using the same procedures as above. We can then determine how the orbital clouds relating to the Earth orbit within and near the orbital clouds of the Sun via at least electrostatic forces between the two. This experiment will also allow us to peer into the activities occurring with the Sun if we populate the regions in or near the nucleus cloud with baryonic particles to construct the Sun. We can perform a combination of tests where the Quadrupole and the Octopole is related to the gravity causing particle clouds of the Sun and The Dipole is that of the Earth. Other tests may use the Quadrupole, Octopole and the Dipole belonging to the Earth only and we can place baryonic matter within their clouds constructed in QFT to test orbiting satellites. Furthermore, other gravity causing particle clouds that are not observed in the Axis of Evil or CMB may need to be added. At least a 1s electron cloud shaped gravity causing particle clouds will also need to be added to the fields around either the Sun and or the Earth due to the Monopole. This Monopole may mimic a higher S-orbital gravity causing particle cloud around either the Earth and or the Sun as well. Since we do not know which Low Order Multipoles belongs to the Sun or the Earth, different combinations may need to be tested as well if the above tests do not produce satisfactory results. Below is a list of possible combinations that can build the initial gravity causing particle cloud foundations in QFT and clouds in other shapes may be added later or before such as the 1s related gravity causing particle clouds.

- 1.Sun: Quadrupole, Octopole. Earth: Dipole.
- 2.Sun: Quadrupole, Octopole, Dipole.
- 3.Earth: Quadrupole, Octopole, Dipole.
- 4.Sun: Octopole. Earth:Quadrupole, Dipole.
- 5.Sun:Quadrupole. Earth:Octopole, Dipole.
- 6.Sun:Dipole. Earth:Quadrupole, Octopole.
- 7.Sun:Dipole, Quadrupole. Earth Quadrupole.
- 8.Sun:Dipole, Octopole. Earth:Quadrupole.

Within QFT we can also a build a black hole by constructing gravity causing particles clouds with enough energy and allow baryonic matter to move towards and interact with the nucleus related gravity causing particle cloud to determine what goes on inside black holes.

Furthermore, galaxy rotations curves can be simulated using the correct gravity causing particle clouds within QFT.

Lastly Dark Energy can be tested where the outer portions of the simulated gravity causing particle clouds may repulse baryonic matter away or via the particle clouds transitioning from a scaled up 3d electron cloud energy state to a scaled up 2s electron cloud energy state.

Other manifestations of Quantum Gravity which may also be considered for experimental tests:

The electron related gravity causing particle cloud may be made of one of the following:

- 1)Gravitons
- 2)Neutrinos
- 3)A negatively charged particle
- 4)Electrons
- 5)An unknown Fermion Lepton

The nucleus related gravity causing particle cloud may be made of one of the following:

- 1)Protons/Neutrons composed of Quarks
- 2)Unknown Fermion Quarks

The particle emitted from the electron related gravity causing particle cloud may be one of the following:

- 1)Gravitons
- 2)Neutrinos
- 3)Gravitational waves
- 4)Electromagnetic waves outside of the infrared to x-ray range
- 5)Unknown Bosons

Other possibilities in lieu of or in addition to mentioned forces causing acceleration:

- 1)Radiation pressure from particles emitted from the gravity causing particle cloud that interacts with baryonic matter
- 2)Transfer of kinetic energy from particles emitted from the gravity causing particle cloud that interacts with baryonic matter
- 3)The Strong force
- 4)The Weak force
- 5)The Electromagnetic force

Lastly, much like particle clouds can be attracted to each other via Ionic bonds, Covalent Bonds and Hydrogen bonds, so can the gravity causing particle clouds of two objects be attracted to each other and interact similarly however on larger scales. The baryonic matter will follow within the movement of the gravity causing particle clouds. Gravity causing particle clouds may also become hybridized.

Discussion:

The FIRAS Monopole may be revealing to us the electron related gravity causing particle cloud of the Sun or the Earth or both since it will appear almost symmetrical around Earth's viewpoint. The CMB Lensing Potential Power Spectrum may be revealing to us that the observable universe has an electron related gravity causing particle cloud in the shape of the 3d electron orbital however at cosmic scales. Furthermore, since an a nucleus related gravity causing particle cloud must also exist with this cosmic sized electron related gravity causing particle cloud, the Cold Spot location is a good candidate for such a nucleus cloud. A connection with quantum mechanics at small scales is also supported with the CMB black body curve matching the probability density curve of the 3d electron orbital. Each Multipole in The Axis of Evil and The Dipole may be revealing to us the electron related gravity causing particle cloud of either the Sun or the Earth. Furthermore, it is possible that the electron related gravity causing particle cloud is the most dominant or fully dominant in causing acceleration upon baryonic matter from higher to lower potentials, however more research needs to be done.

There is an interesting connection between quantum manifestations of small particle clouds and the larger observations of the CMB and Dark Matter. Quantum Gravity and the Axis of Evil are two fields which need answers. Perhaps these two separate fields of cosmology and chemistry that when united and thereafter applied to Quantum Mechanics may reveal Quantum Gravity.

Conclusion:

There has yet to be a model which may explain Quantum Gravity after much effort. Any theory with a small chance of plausibility should be considered if it has a novel approach since current theories are not working. This article if correct has significant implications for humanity. This is because if there is a gravity causing particle cloud, so with it comes the physics that it will transition to a lower energy state via emission analogous to electron clouds when emitting photons. This will pose a risk to Earth's atmosphere which may be stripped due to the lower gravitational forces upon the Earth that comes with such a lower energy state gravity causing particle cloud than we currently have. This cause of atmospheric loss may have already occurred to other planets or Moons within the Solar System. The opposite may create atmospheres where a gravity causing particle clouds of a planet is promoted to a higher energy state resulting in higher gravity forces causing increased volcanic activity causing ejection of atmosphere making materials through eruptions.

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