

The “Axis of Evil” multipoles have the same shape as electron cloud orbitals and are the space time particle clouds of the Sun or the Earth. Dark Matter via lensing are the space time particle clouds of clusters and also have electron cloud shapes.

Harsimran Dhaliwal

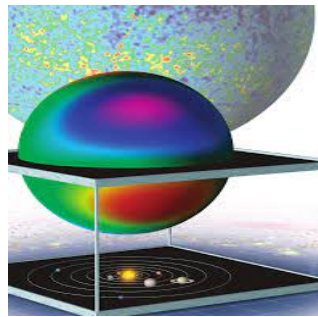
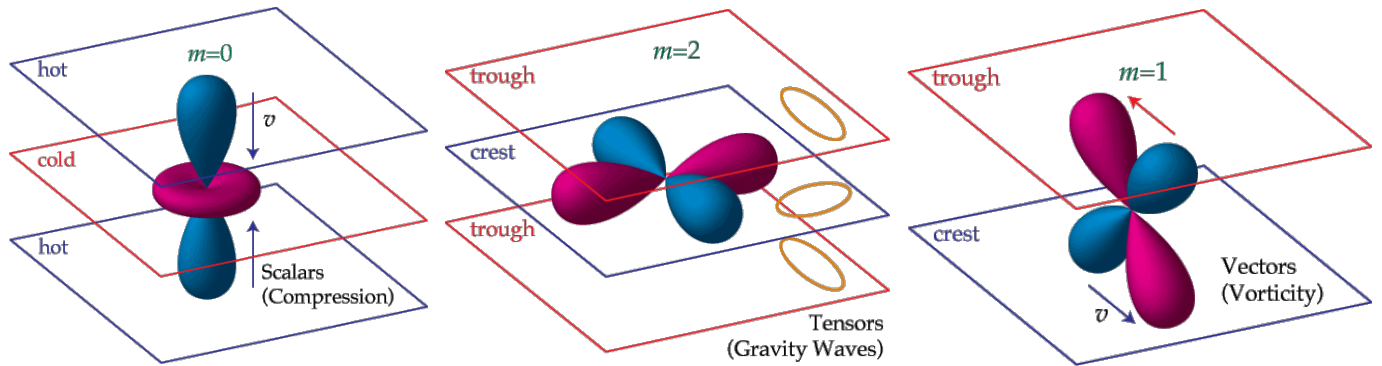
Abstract:

Planets, stars, galaxies and galaxy clusters have their own massive particle clouds which have the same shapes as electron orbital clouds however at cosmic scales and are the cause of gravity. We will refer to these particle clouds as space time particle clouds. Large scale space time particle clouds can be seen indirectly through gravitational lensing. Dark Matter observations through lensing are actually the measurements of these space time particle cloud which have electron orbital cloud shapes. These space time particle clouds can also be seen through CMB maps. The Axis of Evil which is named that because it may invalidate many theories because it is aligned with the ecliptic reveals the space time particle clouds of either the Sun or the Earth. Each multipole belonging to the Axis of Evil such as the quadrupole and the octopole are each either the space time particle cloud of the Sun or the Earth and they have the same three dimensional shape as 3d and 2p electron cloud orbitals however may be related to other electron orbital shapes. Our place in the universe is not special which the Axis of Evil was thought to convey. The CMB Dipole is aligned with the Axis of Evil also and this may be the space time particle cloud of either the Earth or the Sun and has the 2p electron orbital cloud shape or related to that of an electron cloud shape with two large lobes. Since the field of view of the CMB satellite always faces away from the Sun with the Earth in between, the Sun’s space time particle cloud could have seemed like it was centered around the Earth if one or more multipole moments aligned with the ecliptic are the space time particle cloud/s of the Sun. However it is possible one more of these multipole moments are the Earth’s space time particle cloud as well. The Axis of Evil and the Dipole are local phenomena related to the Earth and or the Sun which is why we do not see any gravitational lensing effects upon them from foreground objects. Smaller space time particle clouds are housed inside larger space time particle clouds and as an example, the Earth’s space time particle cloud may be within the Sun’s space time particle clouds which is within the Milky Way’s space time particle clouds which is in the space time particle clouds of our cluster which is in the space time particle cloud/s of the observable universe. A higher energy state space time particle cloud can transition into a lower energy state space time particle cloud by emitting whatever excites it. This can change the gravitational strength of the baryonic matter within and for a star it may cause a Supernova, or worse, break apart a planet if the planet’s space time particle cloud de excites. There have been observations where an exoplanet disappeared over time. This is 1 occurrence among roughly 5000+ known exoplanets resulting in a high occurrence rate thus it may happen to Earth and thus it is imperative for this theory to not be delayed in testing it experimentally to come up with measures to prevent this. Furthermore, numerous “shrinking planets” are losing their atmospheres quickly and these events may possibly be due to the exoplanets space time particle cloud transitioning to a lower energy state thus weaker gravity also. Since we only know of 5000+ exoplanets, the odds of this happening to Earth is likely. The CMB monopole is a 1s electron shaped space time particle orbital cloud that is local and the FIRAS graph of this monopole has the exact same curve shape as the radial probability distribution curve of the 1s electron orbital likely due to the detection of the space time particle cloud particles very faintly with each space time particle in the cloud having similar probability and an associated energy similar to the 1s electron orbital cloud. This 1s electron orbital cloud related space time particle cloud seen as the Monopole is the space time particle cloud of either the Earth or the Sun or an observation of the combined Earth’s and Sun’s separate spherical S-type electron orbital related space time particle clouds

mixed. Furthermore, a star constellation map was super imposed on the CMB map and many stars were in the middle of adjacently paired hot and cold regions which reveals the space time particle clouds of these stars in the sky. This paper will describe multiple ways Quantum Gravity may work on a detailed level and one is highly likely to be correct using known quantum mechanic phenomena on larger scales.

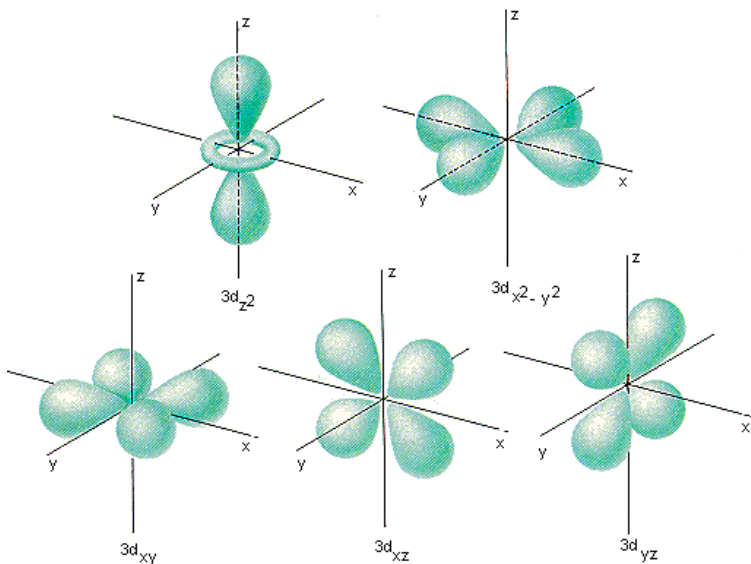
A More Detailed Description of a possible Quantum Gravity and other interesting correlations:

The following are the CMB Multipoles aligned with the Ecliptic and the Dipole in Three dimensional form.

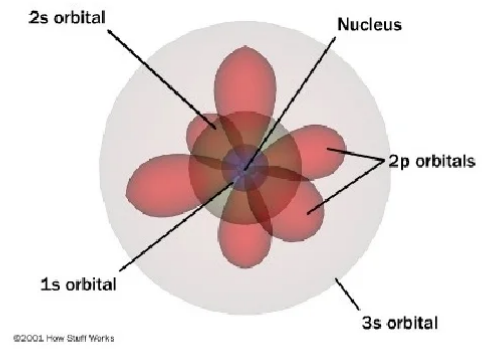


3D electron orbitals below same shape as Quadrupole

2P orbitals same as shape as octopole

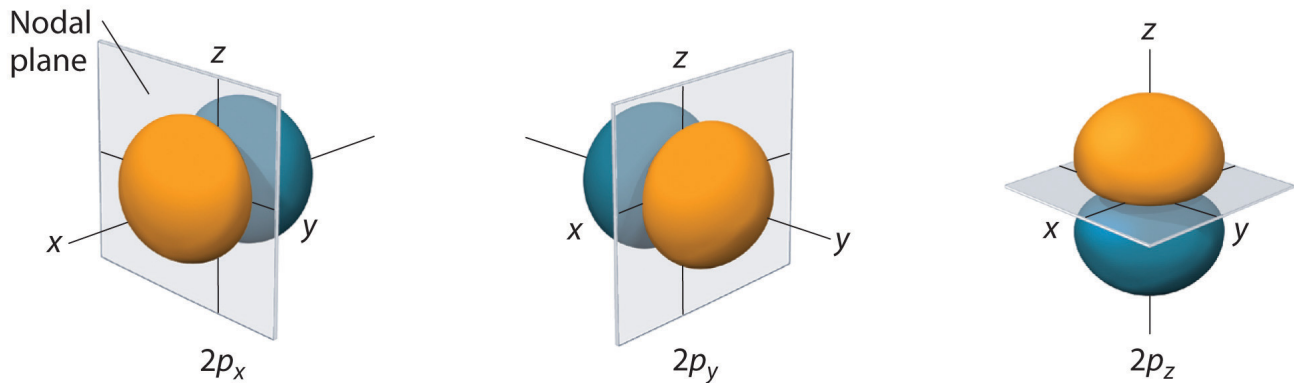


The Quantum Mechanical Model



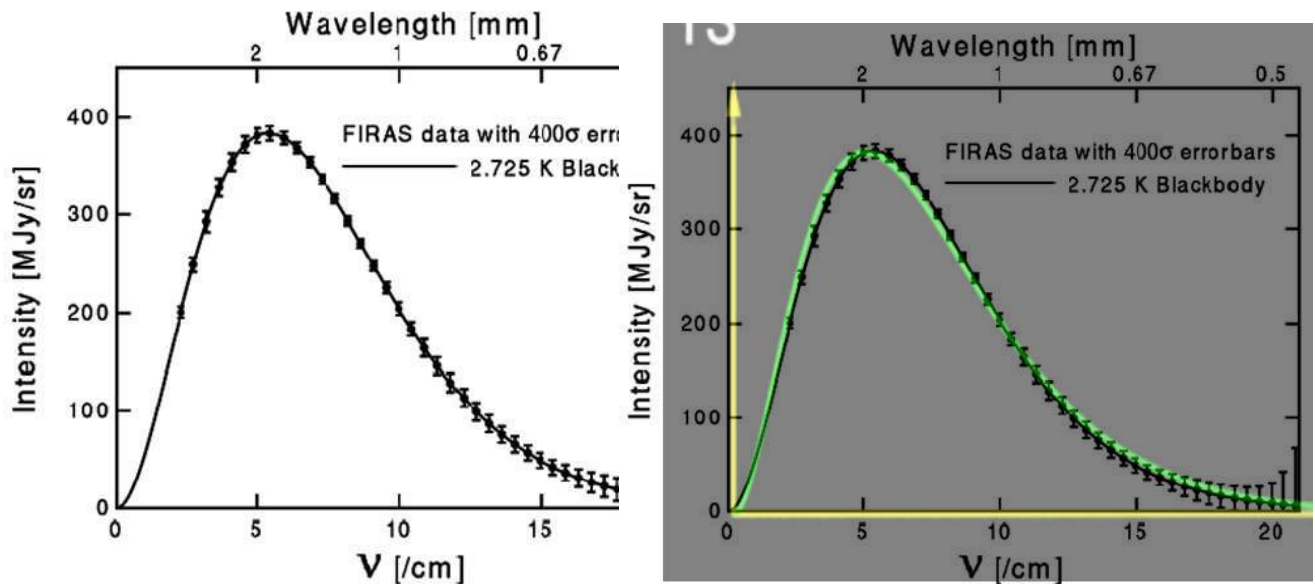
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2p electron orbitals below same shape as Dipole above.



The Axis of Evil and the Dipole are the same shape as electron orbitals and a quantum link is highly probable.

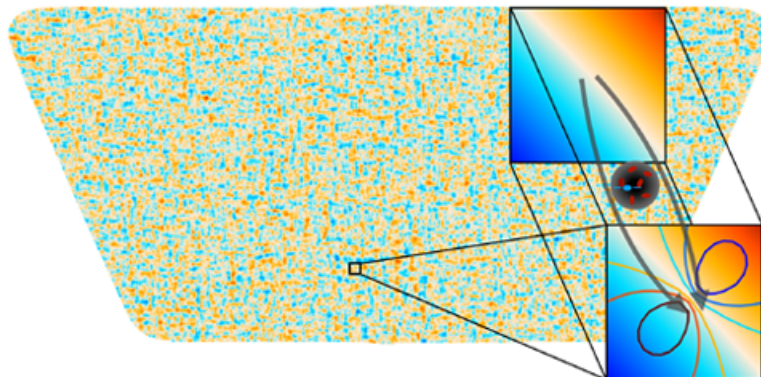
The multipole maps of the CMB that align with the ecliptic also known as the “Axis of Evil” are actually the local space time particle clouds of the Sun or the Earth and the three dimensional representations of the Axis of Evil are the same shapes as the 3d and 2p electron orbital clouds, however it is also possible that other electron orbital type shapes are related to it if not the ones mentioned. The CMB Quadrupole is either the space time particle cloud of the Sun or the Earth. The CMB octopole is also either the space time particle cloud of the Sun or the Earth. The Dipole which is aligned with the Axis of evil is also a space time particle cloud of the Earth or the Sun and has the same shape as an electron orbital with two large lobes and possibly related to the 2p electron orbital. It seems likely that the quadrupole and the Octopole is the Sun’s space time particle cloud due to the higher energy state shapes and lower brightness relative to Dipole which may be the Earth’s space time particle cloud since it is much hotter possibly meaning much closer, however further research needs to be done to confirm which multipole belongs to the Sun and which belongs to the Earth. The Monopole can be either the Sun’s or the Earth’s space time particle cloud. The FIRAS monopole is a representation of an 1s electron orbital cloud shaped space time particle cloud of the Earth or the Sun or also can be a combination of both the Sun’s 1s electron orbital shape type space time particle cloud and the Earth’s smaller 1s electron related space time particle cloud since both would appear all around us. The Firas CMB curve matches exactly with the curve of the 1s electron orbital radial probability distribution. This may be due to the detection of the 1s electron shaped space time particle cloud having the same probability as the 1s electron however scaled up which the same energies per radius per particle.



Above: Firas Graph shown on the left, and Firas graph with 1s electron radial probability distribution curve overlaid on the right.

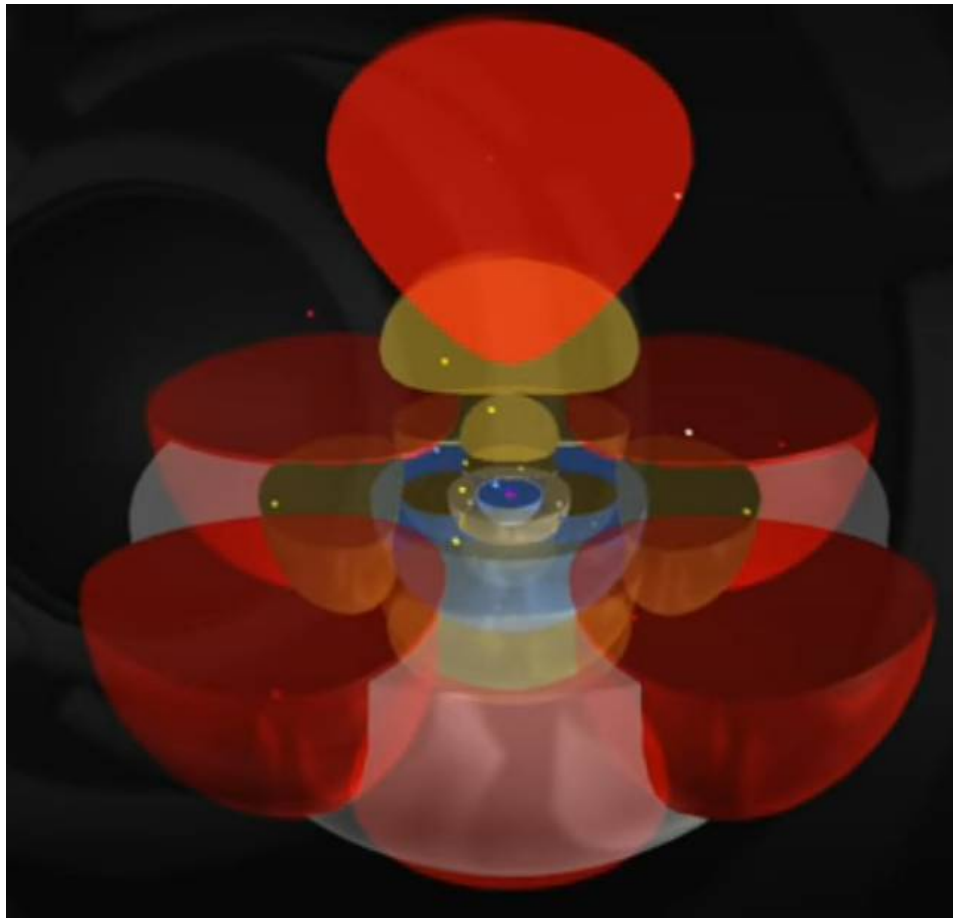
https://www.researchgate.net/figure/The-FIRAS-measurements-on-top-a-theoretical-blackbody-curve-Note-the-amplification-of_fig2_45903241

The multipoles aligned with the Milky Way are the space time particle clouds of our Galaxy. The three dimensional shapes of these multipole graphs are the same shapes as electron orbital clouds. Other multipoles will be the space time particle clouds of other cosmic structures and will also have shapes similar to electron orbitals or electron orbitals that overlap. Furthermore a star map from the point of view of Earth was overlaid over the CMB map revealing that the location of each star was located in the middle of paired adjacent hot and cold regions. In addition, galaxy clusters are centered in between adjacent hot and cold regions as well which can be seen below. These paired hot and cold regions in the CMB are a visual of the space time particle cloud of the star or galaxy cluster centered between their related space time particle clouds indirectly seen via adjacent hot and cold regions.



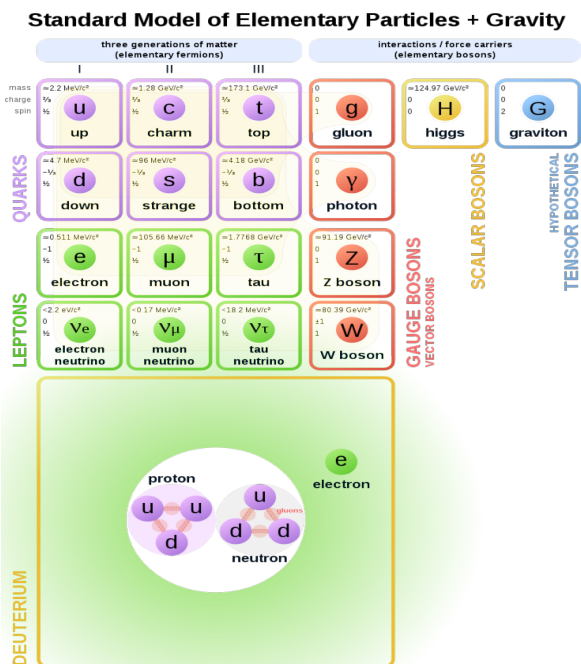
Above: Galaxy cluster's center is located between the hot and cold region.

The $l=4$ and $l=5$ multipole moments may also be the space time particle cloud of the Sun or the Earth if they appear symmetrical around the Earth. Furthermore, any multipole moment that is symmetric in nature that has poles that appear the same size 180 degrees from each other centered around any plane of the Sun or the Earth is also the space time particle clouds of the Sun or the Earth. Some multipoles may also be show the overlap regions of two or more space time particle clouds of the Sun or the Earth resulting in constructive or destructive interference where the overlap between the space time particle clouds are analogous to overlapping sections of many overlapped electron orbital clouds like the following image:



This may allow us to understand particle physics on the smaller scales by observing these larger scale versions of particle clouds. Furthermore, any multipole moment that is somewhat symmetric however some poles are slightly larger 180 degree from each other and or offset slightly may be the space time particle cloud of the Sun or the Earth that is being repulsed thus one side has a higher probability of space time particles. However multipoles that have poles that are much larger on one side and not symmetric or appear to be centered around another object or not centered around the Earth may be the space time particle clouds of multiple other cosmic structures such as the space time particle clouds of other stars, the Milky Way, galaxies, our galaxy cluster, other clusters, and up to the space time particle

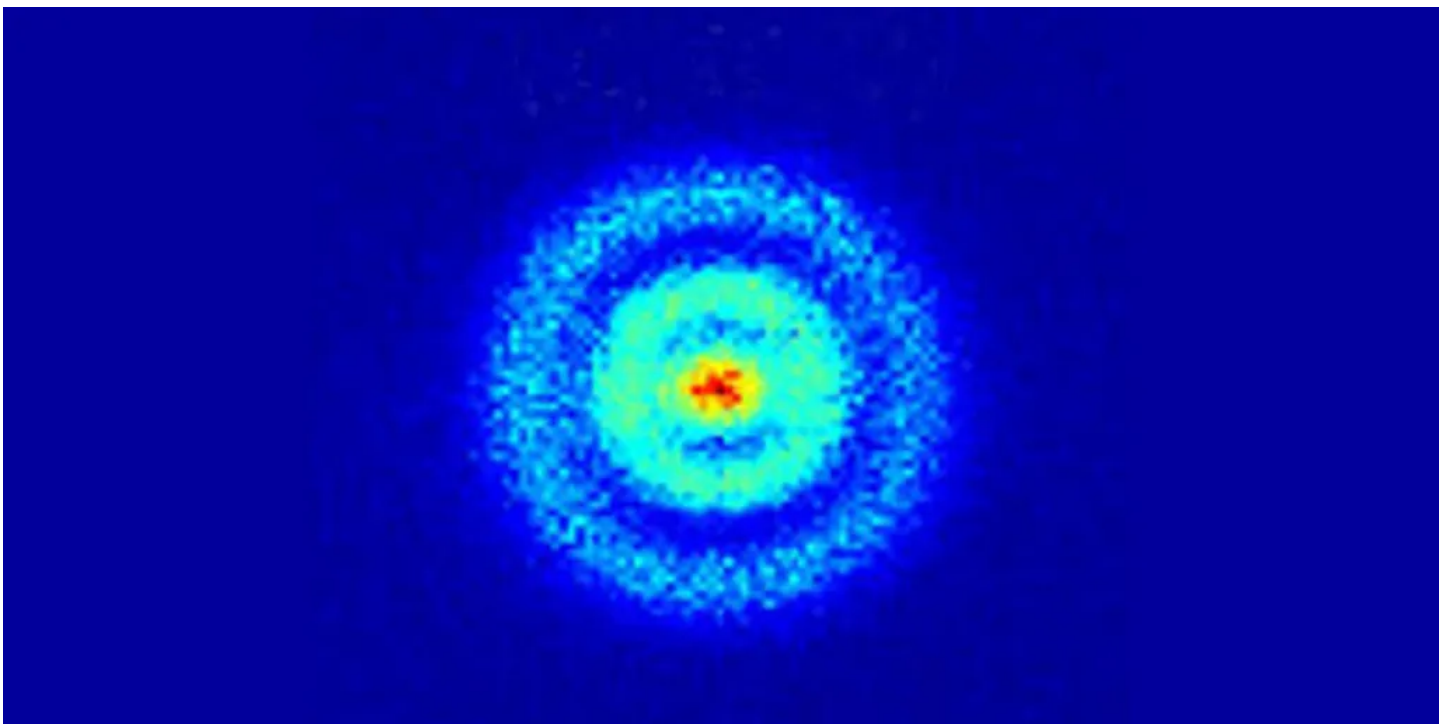
clouds of the observable universe and even beyond the observable universe. The baryonic matter within these space time particle clouds will be in the regions separating hot and adjacent colds regions for lobe dominant type space time particle clouds in the CMB, or in the center of hot or cold regions in the CMB for dominantly S-orbital type shaped space time particle clouds. Furthermore, these multipoles can also reveal baryonic empty space time particle clouds via hot or cold regions.



The Quantum Gravity Principle #1:

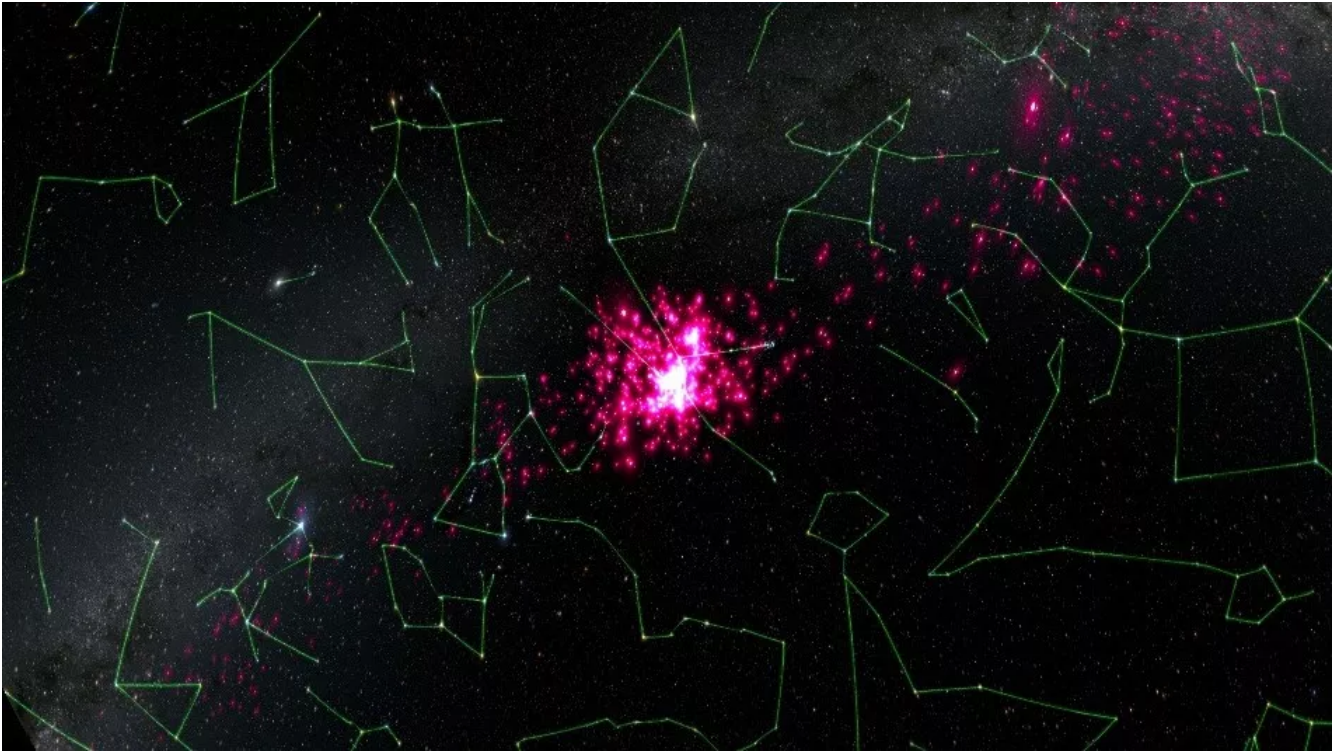
The space time particle cloud around baryonic structures is made of a type of fermion lepton. These fermion leptons form a fermion lepton cloud and have densities and shapes similar to known electron orbital clouds however on larger scales. Some of the fermion lepton clouds can be seen through lensing of Dark Matter or through CMB multipoles. The fermion leptons absorb a type of boson. The fermion leptons also emit these bosons. Either or both the Bosons and fermion leptons interact with baryonic matter causing baryonic matter to accelerate. These fermion leptons and bosons can be obtained from the standard model, or may also be unknown as of yet however have similar features.

There are many options on how these space time particle clouds may interact with Baryonic matter and they will be described. The following is one mode. The space time particle cloud may have a charge such as negative charge. This may interact with the negative charge of baryonic particles such as electron orbitals causing the electrons cloud to be more dense towards the opposite side of the higher potential or energy density regions within the space time particle cloud. This may cause permanent dipole like moments in the electron clouds where electrons in the electron cloud gather towards the lower potentials or energy densities within the space time particle cloud causing them to accelerate away from the most repulsive side of the region of the space time particle cloud they are in to the least repulsive region. The electron clouds of baryonic particles will want to move towards a lower potential or energy of the space time particle cloud they are located within. This following image shows electron clouds where the electrons are gathered to one side and this one side may be towards the Earth if it isn't for equipment interference.



Even if interference is occurring for the lopsided cloud above, electron clouds may still appear as such even if minutely causing acceleration towards the side more more electrons and may appear as above if represented in an exaggerated state. The positively charged nucleus of baryonic particles may attract towards the higher potentials of the negatively charged space time particle cloud however repulsion between the negative charges may win. Thus Baryonic matter may accelerate from higher densities to lower densities within the space time particle cloud via charge in most situations. However a more accurate way would be to determine the potential within each region of the negatively charged space time particle cloud that would be induced upon an electron cloud where the electron cloud accelerates from higher to the immediate adjacent lowest potentials or energy densities within the space time particle cloud. The Van Der Waal forces between the space time particle cloud and the baryonic matter may be the cause of gravity however rather than two electron clouds adjacently repelling each others clouds, it may occur from all around upon the electron clouds of baryonic particles however the highest repulsion region wins to repulse the electron cloud to the lowest repulsion side within the space time particle cloud. Furthermore, this would reveal an inwardly type of gravity and an outwardly type of gravity where electron clouds in Baryonic matter may be repulsed towards the lowest potential within the space time particle cloud however there is a point or boundary within space time particle cloud where there is the highest potential value separating two or more adjacent lower potential regions. For the 2p electron orbital shaped space time particle cloud, this may possibly be the densest region within the lobes and depending on which side the baryonic matter is around this point, it will be repulsed away from this highest energy density region towards the immediate lower energy density regions generally, however the real potentials within the space time particle clouds should be determined and repulsion from higher density to lower density may be used as a simpler way to understand what's occurring if a more precise approach is needed. Baryonic matter accelerating towards the nucleus of the space time particle cloud may be referred to as inward type of gravity and baryonic matter accelerating away from the nucleus may be known as an outward type of gravity. There can also exist tangential type of gravity

where baryonic matter is accelerated radially tangentially, for example in the 3d electron shaped space time particle cloud, baryonic matter may accelerate towards the angular nodes if it is the easiest path with from a denser region. The contour map of an electron orbital can be used as an analogy where energy density is analogous to elevation and baryonic matter will accelerate from the highest elevations to the lowest elevations. However baryonic matter being repulsed from a higher potentials to a lower potential may be more accurate and may not exactly coincide with these analogies which one must keep in mind when examples are given. A larger space time particle cloud with a smaller space time particle cloud within may also repulse the smaller space time particle cloud from higher potentials towards lower potentials via repulsion. This may be the reason for lopsided Dark Matter halos which are really the space time particle clouds and this lopsidedness may occur due to the larger space time particle cloud housing the lopsided smaller space time particle cloud repelling the smaller lopsided space time particle cloud within to a lower potential of the larger space time particle cloud. The Milky Way's Dark Matter Halo is known to be lopsided and so are many others which may in turn lead to lopsided galaxies and clusters etc. These structure's space time particle clouds may be repulsed by either larger space time particle clouds they located within, or by an adjacent space time particle cloud repulsing the lopsided space time particle cloud. To test this, we must first confirm that all electron clouds measured has dipole moment where electrons are densest towards the Earth's surface and this will be the first test. The Second test may be using QFT to construct either a space time particle cloud from an electron cloud but scaled up to cosmic scales, or a neutrino cloud which is negatively charged and in the shape and density of an electron orbital cloud and on cosmic scales. The negative charge of Neutrinos will be explained later as it is known to be neutral at the moment. Than by placing baryonic particles within QFT to determine how they are repulsed. Furthermore, these space time particle clouds may get excited into higher energy states or de excited into lower energy states much like electrons orbitals do via photons resulting in many different space time particle cloud shapes relating to the many electron orbital shapes. What excites these space time particle clouds may be Bosons, Gravitons, Photons, or even Neutrinos, however likely via gravitational waves. These space time particle clouds will also emit whatever excites it in the form of gravitational waves and bosons when measured. When the space time particle cloud transitions into another energy state the gravitational forces experienced by baryonic matter will change and this can cause Supernova's, evolution of galaxies, planet formation, black hole formation, and many other drastic cosmic events. The Earth will have a space time particle cloud that is being repulsed Sun Wardly by the larger space time particle cloud of the Sun. This would result in the Earth's space time particle cloud to be lopsided and more space time particles within the space time particle cloud of the Earth may gather towards the Sun side resulting in a repulsion of Earth towards the Sun. The Sun's space time particle cloud may also repulse the baryonic matter of the Earth Sunwards directly as well. Furthermore, we can use the lopsidedness of Dark Matter to determine which direction its galaxy, cluster, or cosmic object is accelerating. The baryonic structure and space time particle cloud may be accelerating towards the side with the larger probabilities of the space time particle due to repulsion of this cloud via a larger space time particle cloud it is within or an adjacent space time particle cloud. This lopsided space time particle cloud will also make the baryonic masses within the space time particle cloud to become lopsided such as the following image where one side of the space time particle cloud has lower probability of space time particles and the other side has a higher probability of space time particles resulting in a higher more spread out gravitational force on one side and a condensed yet sparser gravitational force on the other:



<https://www.livescience.com/star-cluster-mond-disprove-newton>

This above lopsided cluster may also have occurred via an interaction with an adjacent space time particle cloud where the charges of each cloud interacted to morph the space time particle cloud of at least this cluster into a lopsided shape either via repulsion or attraction with the other space time particle cloud if this is the case. This is similar to the Van der Waals forces however on cosmic scales and these forces can occur with any interacting space time particle clouds in the universe such as that of planets, stars, clusters, galaxies, or perhaps even universes.

If two space time particle clouds repulse each others space time particle cloud enough, the baryonic matter on the sides of each space time particle cloud that gets thinned out may release baryonic matter.

Furthermore, two space time particle clouds of two galaxies may repel each other much like electron clouds of two electron clouds repelling each other and this may be one mechanism of Dark Energy if repulsion wins especially if this occurs with many galaxies and their space time particle clouds repulsing other galaxies' space time particle clouds across the universe. The space time particle clouds will also have a proton/neutron related space time particle cloud with a positive charge and this can interact with other other space time particle clouds as well and determines a net repulsion or attraction of the other space time particle cloud. Furthermore, this proton/neutron related space time particle cloud may also repulse the nucleus clouds of baryonic matter and attract the electron clouds of baryonic matter and repulse the nucleus clouds of baryonic matter and whichever force is stronger wins resulting in repulsion or attraction. Furthermore, the electron related space time particle cloud and the proton/neutron related space time particle cloud may interact with the charges of baryonic matter in unison resulting in a net attraction or repulsion of baryonic matter through charges causing acceleration. The proton/neutron related space time particle cloud and the electron related space time

particle cloud of a larger structure such that of the Sun, may also interact with the smaller proton/neutron related space time particle cloud and electron related space time particle cloud such that of the Earth's to cause attraction as well similar to how the clouds of two atoms may attract resulting in the Earth's orbit. This mode would keep the Earth at a certain distance away from the Sun, however it is also possible that the negative charge of the Sun's space time particle cloud repulses Earth's space time particle cloud causing acceleration Sun Wards also. This can further apply to large objects as well like Galaxy clusters. Therefore, any interaction that is possible with two atoms and their positive and negative charges can occur with space time particle clouds adjacently, or also with one smaller space time particle cloud system within a larger space time particle cloud system resulting in gravitational forces between the two. Please note that when we mention the space time particle cloud without qualifying its relation to a proton/neutron related space time particle cloud or an electron related space time particle cloud, it is by default referring to the electron related space time particle cloud which is the ones we are able to observe through CMB and or lensing of Dark Matter that resemble electron orbital shapes, and as of now, the proton/neutron related space time particle cloud remains to be observed as it is likely located within stars, black holes, or at the center of galaxy clusters.

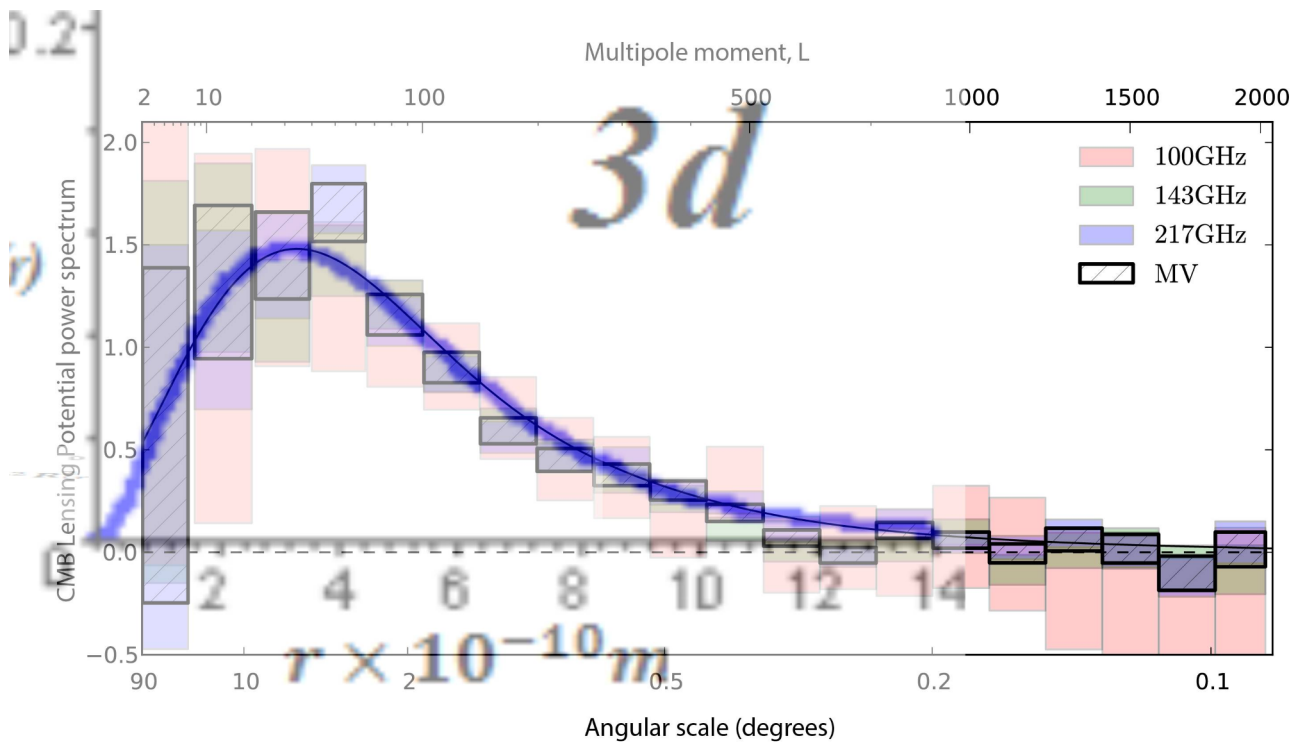
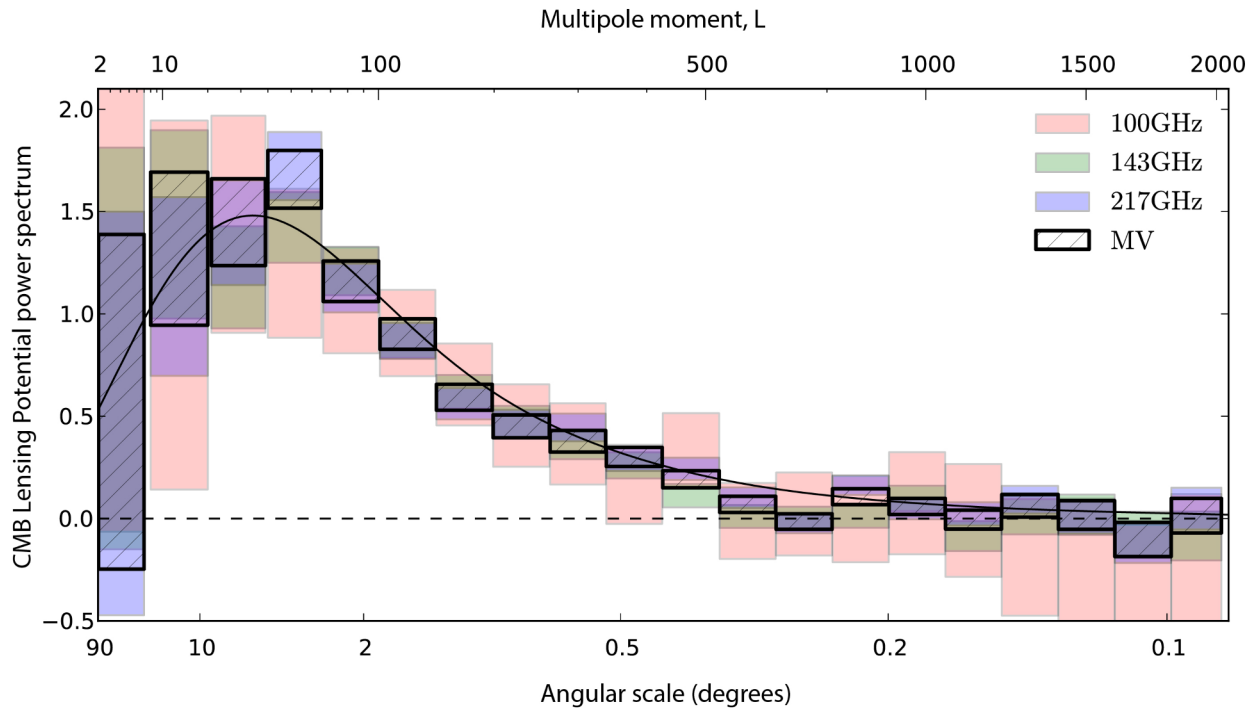
The above is one mode on how Quantum Gravity may work, however just in case, other modes will be described if not the above, or one of the following may also possibly contribute to acceleration negligibly. Furthermore, the rest of the paper describe observations that confirm the space time particle clouds existence and also how they may generally interact with baryonic matter and can be incorporated into any mode, even the above mode. For example, Quantum Gravity behaviour as described below may be applied to the above description of how Quantum Gravity works based on repulsion and attraction of the space time particle clouds to expand more upon it.

Baryonic matter may accelerate from higher energy density regions within the space time particle cloud to the adjacent lowest energy density region within the space time particle cloud where the energy densities are related to the energy of the space time particle at small scale regions around and or within the baryonic matter. Another mode may be that Baryonic matter accelerates from higher potential energies within the space time particle cloud to lower potentials energy regions, converting potential energy into kinetic energy. Yet another mode may be that baryonic matter may accelerate away from its side that is being imparted by the highest energy from the repulsive presence and or the emissions of particles from space time particles in their space time particle cloud interacting with baryonic matter within this cloud. There are many possibilities of how this may occur. One example is that these space time particles may be made of neutrinos which have a negative charge which emit gravitons and these gravitons repulse baryonic matter in a direction away from the side with the highest energy imparted upon baryonic matter by gravitons. (reference for negatively charged neutrinos: Neutrino charge constraints from scattering to the weak gravity conjecture to neutron stars Arindam das <https://arxiv.org/abs/2005.12304>).

At least a portion of these gravitons may be detected incorrectly as Neutrinos which mimic graviton absorption events by ejecting electrons from atoms as a result of electron scattering and many of these gravitons may also pass through baryonic matter while interacting minutely imparting a small amount of kinetic energy as they pass through and perhaps are also be reflected from baryonic matter causing acceleration. (reference for neutrinos mimicing bosons: International Association of Mathematical Physics Freeman Dyson <http://www.iamp.org/bulletins/old-bulletins/201401.pdf>). The other possibility is space time particles within the cloud emits Neutrinos which impart some kinetic energy either by passing through baryonic matter, directly absorbing it, and or reflecting off baryonic matter causing a net acceleration. The space time particle clouds may be also excited by neutrinos analogous to photons

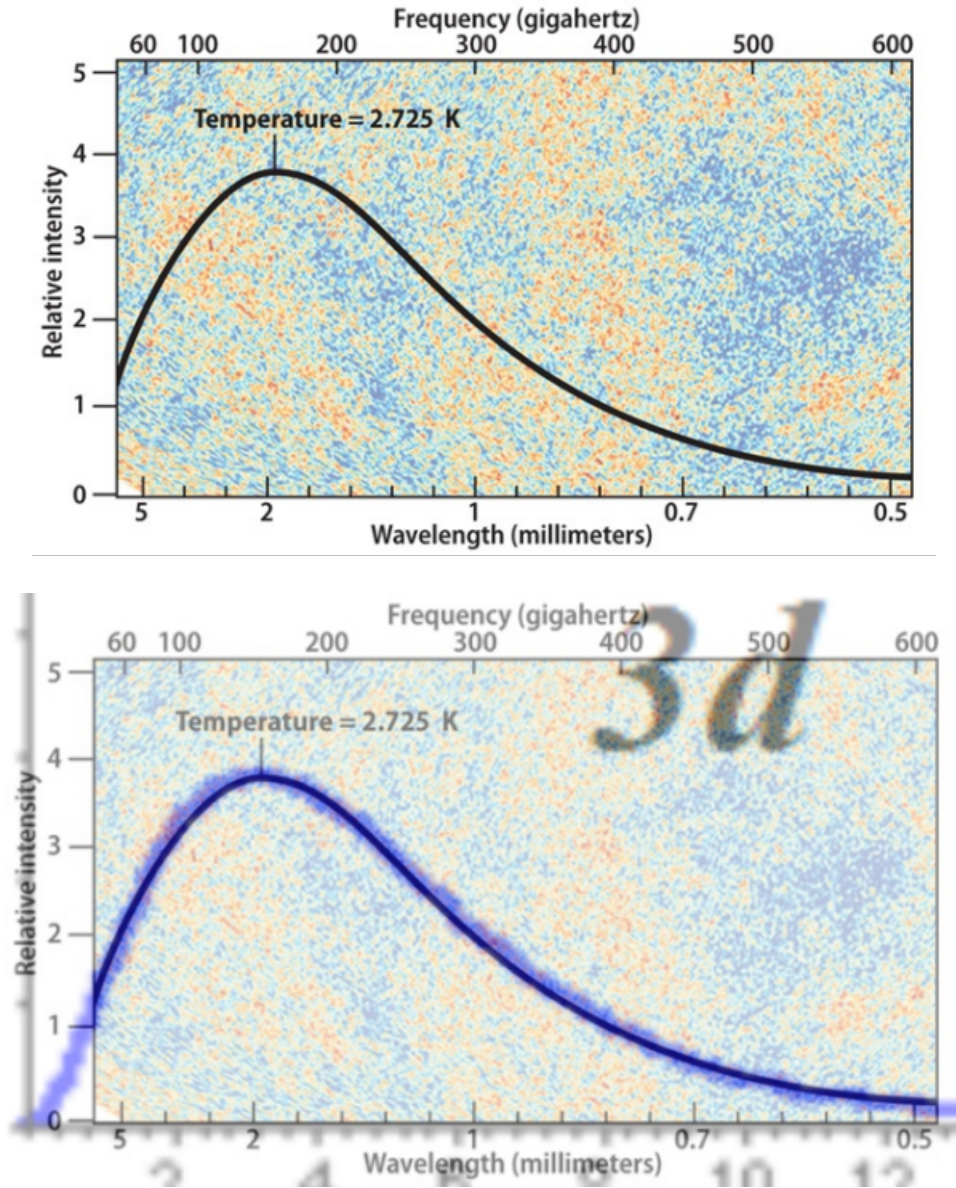
exciting electrons. This may explain the different flavours of Neutrinos detected and why Earth's night side has more neutrinos detected due to its night side facing a higher density of the space time particle cloud. Another possibility is that the space time particle clouds are made of Gravitons which repulse baryonic matter or Neutrinos that repulse baryonic matter directly via presence. Yet Another possibility is that the space time particle cloud is in a super position and effects Baryonic matter while in a superposition state through some mode of interaction. This mode of interaction may be the imparting of the momentum of the space time particle cloud upon baryonic matter within this cloud causing baryonic matter to accelerate and this transfer of energy is analogous to the measuring of the momentum of an electron cloud via a momentum measuring device. This momentum imparted on baryonic matter may differ based on the location of the baryonic mass within the space time particle cloud and or the state of the standing wave of the cloud. Other modes are also possible to cause acceleration which will be described if not these. Furthermore, Dark Matter is an indirect observation of these space time particle clouds and is the space time particle cloud itself. Baryonic matter can be seen accelerating from higher densities within the Dark Matter densities to lower densities as a rough approximation of the repulsion of baryonic away from the highest energy imparted upon it from the space time particles or the emission of particles from the space time particles, however other causes are also possible thus each example of how the space time particle may interact with baryonic matter should also consider applying other causes described anywhere else within the paper. Thus when images are shown of Dark Matter and their repulsion affects it may be highlighted that baryonic matter is moving from higher densities to lower densities within the Dark Matter cloud as an easier way to partially describe the real repulsive phenomena which may be much more complex and mathematical in nature.

The multipole Moments vs lensing graph of the CMB match the probability density curve of at least the 2p or the 3d electron orbital meaning the space time particle cloud of the observable universe may have a similar electron orbital cloud shape with similar densities per distance causing such lensing effects upon photons where higher densities of the observable universes space time particle cloud causes more stronger lensing and or the baryonic matter located within the densest regions of the observable universe's space time particle cloud contain the densest collections of baryonic matter causing such lensing. The following CMB vs Lensing graph is overlaid with the 3d electron orbital probability density curve in blue and they are the same shape. This may mean our observable universe has the space time particle cloud shape of perhaps the 3d electron orbital.



<https://sci.esa.int/web/planck/-/51605-planck-s-gravitational-lensing-power-spectrum>

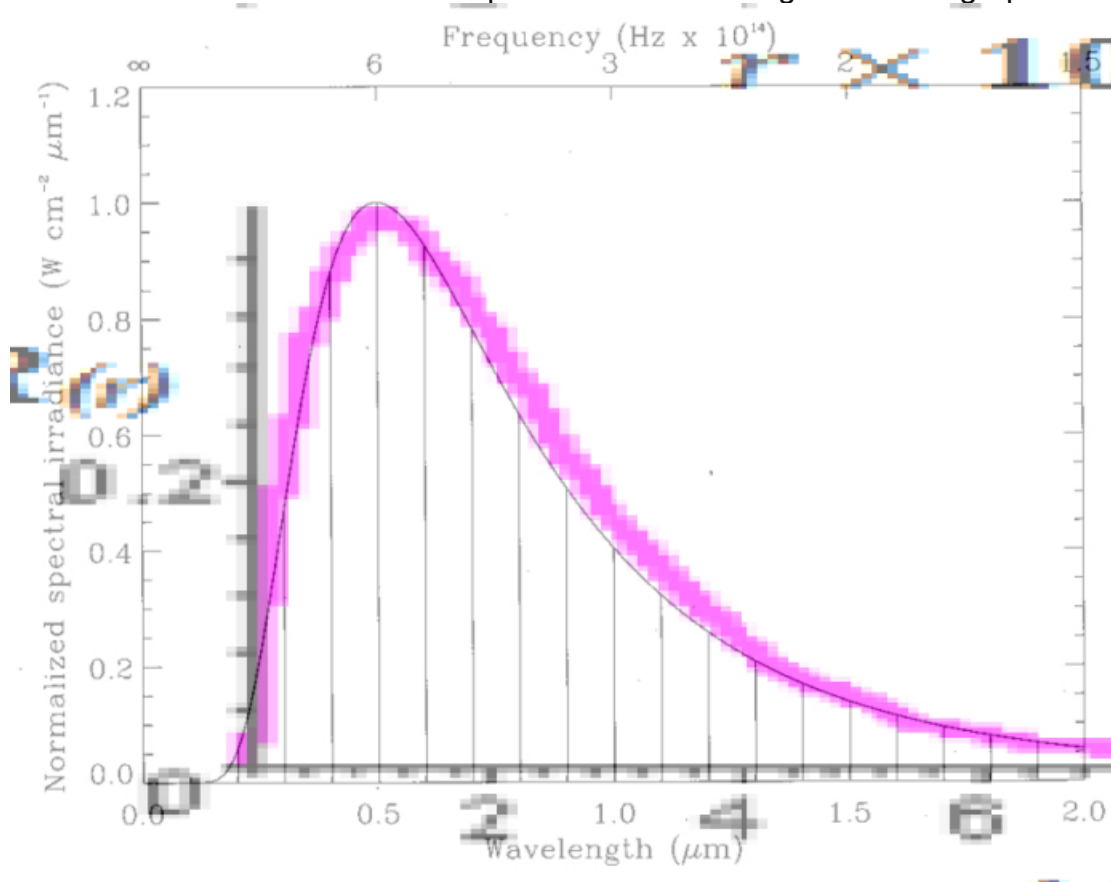
We also see that the CMB frequency VS intensity curve is the same shape as the probability density of the 3d orbital in blue:



<https://astronomy.com/magazine/ask-astro/2014/04/remnant-radiation>

Making it more likely that the observable universe has a space time particle cloud in the shape of the electron 3d orbital. This makes us think of something interesting. It may be possible that the axis of evil is really showing us the space time particle cloud shape of the universe as one multipole has the same shape as the 3d electron orbital. However this may not be true as the farther multipoles are more lensed and the Axis of Evil is not. Thus it is more likely it is the space time particle cloud of the Sun or the Earth. However more research is needed.

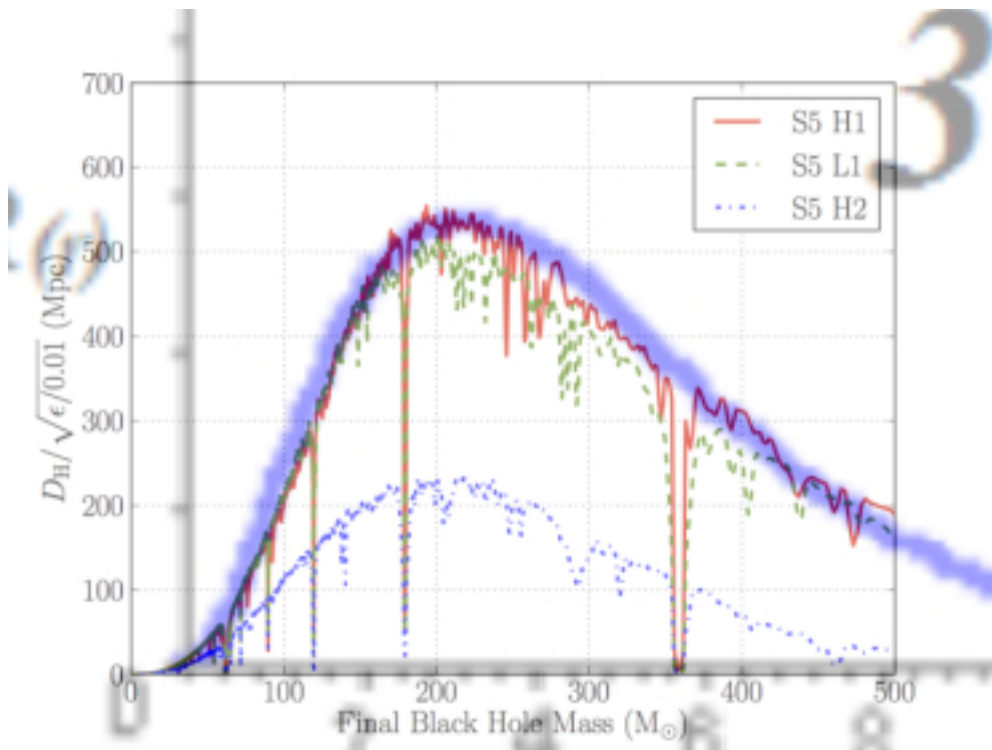
The following image is the 2p electron radial probability distribution in pink overlaid on A 5800 K Planck distribution function divided into equal 100 nm wavelength intervals graph:



A 5800 K Planck distribution function divided into equal 100 nm wavelength intervals.

https://www.researchgate.net/figure/A-5800-K-Planck-distribution-function-divided-into-equal-100-nm-wavelength-intervals_fig2_236003842

If by chance these graphs are not related to the space time particle cloud of the observable universe, we are still located in one. We are likely not in the middle of this observable universe space time particle cloud whatever form it may be in in terms of electron related orbitals shape/s however one side may have large lobes and the other direction may have smaller lobes due to our non central position which would allow us to determine our position within this cloud. The CMB black body radiation curve matches the radial probability distribution curve of at least the 2p or 3d electron orbital. The Ligo gravitational wave curves match the curve shapes of the at least the 2p or 3d electron orbitals radial probability distribution curves as well meaning the gravitational wave may have been emitted from a similar shaped space time particle cloud.

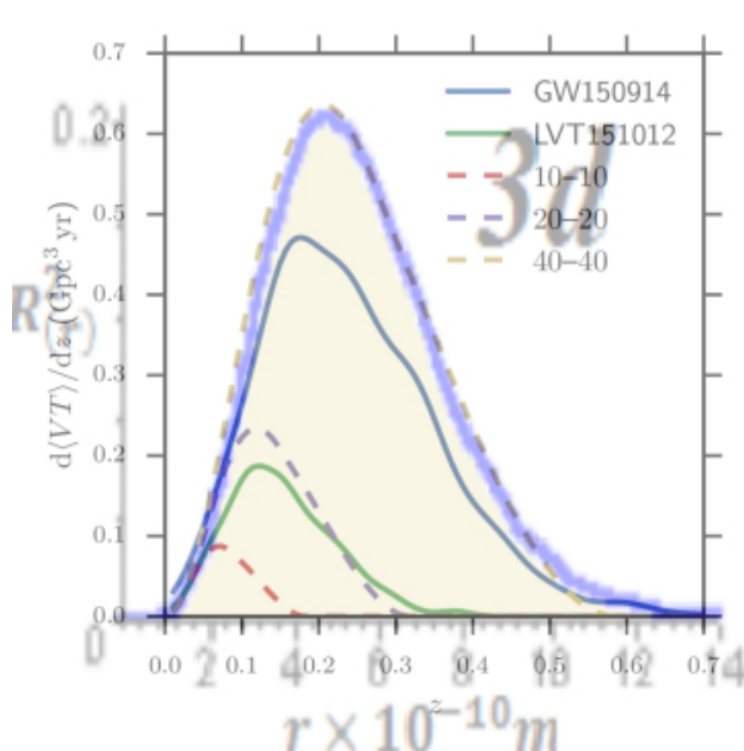


<https://www.ligo.org/science/Publication-S5S6RD/index.php>

3d orbital radial probability distribution curve in blue super imposed on gravitational wave data above.

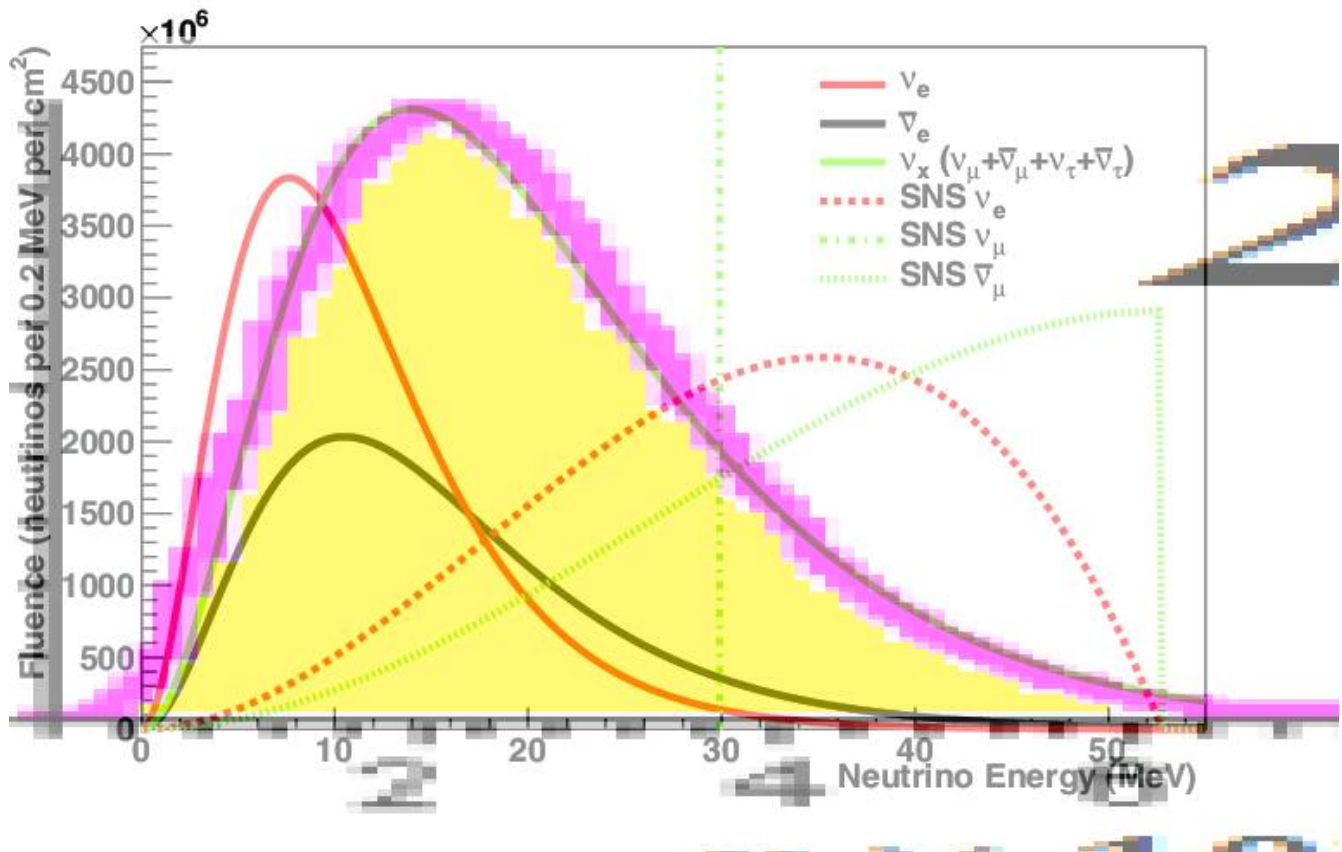
Here is another example with the 3d electron orbital radial probability distribution curve in blue overlaid the gravitational wave events graph:

<https://www.gw-openscience.org/s/events/GW150914/GW150914.html>



Furthermore, the neutrino occurrence vs energy curve from Supernova 1987a and other Neutrino event rates curves match the radial probability distribution curves of at least the 3d and 2p orbitals. This could be the signal of Neutrinos emitted from the space time particle cloud of the 1987a star which would also cause the excitation of Earth's or Sun's or a combination of both their space time particle clouds and when de excited these clouds may emit Neutrinos with occurrences correlated to the radial probability distribution of an electron orbital which were measured by neutrino detectors. The radial distribution of the electron orbital matching the curve of the neutrino occurrence curve would be associated with a space time particle cloud having the same shape yet on larger scales.

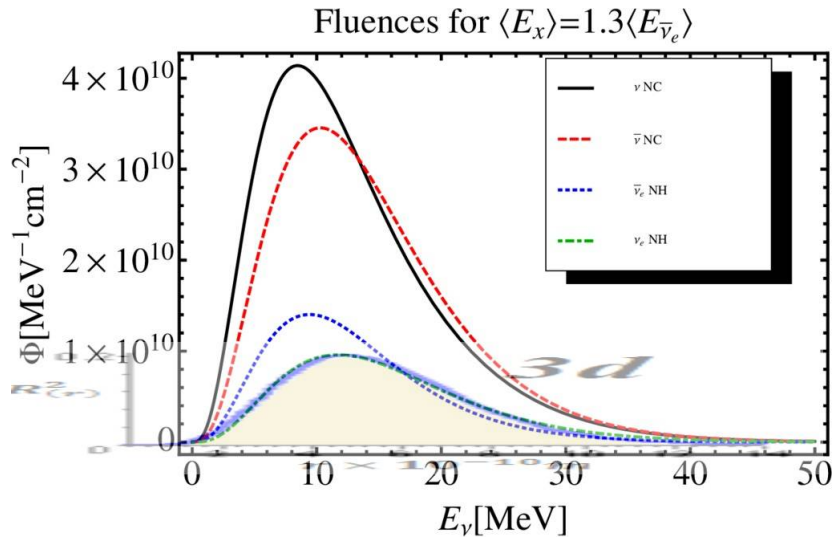
2p orbital radial probability distribution in pink super imposed on a neutrino curve.



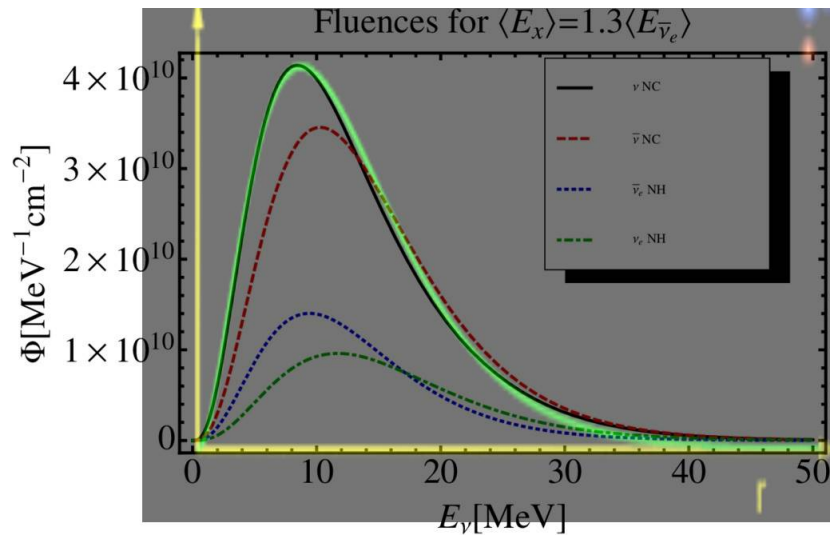
https://www.researchgate.net/figure/Neutrino-energy-spectra-from-supernova-bursts-neutrinos-solid-lines-and-the-neutrino_fig2_277576135

3d orbital radial probability distribution in blue super imposed on neutrino curve.

<https://arxiv.wordpress.com/2014/02/28/spectrum-of-supernova-neutrinos-in-ultra-pure-scintillators-ssa/>

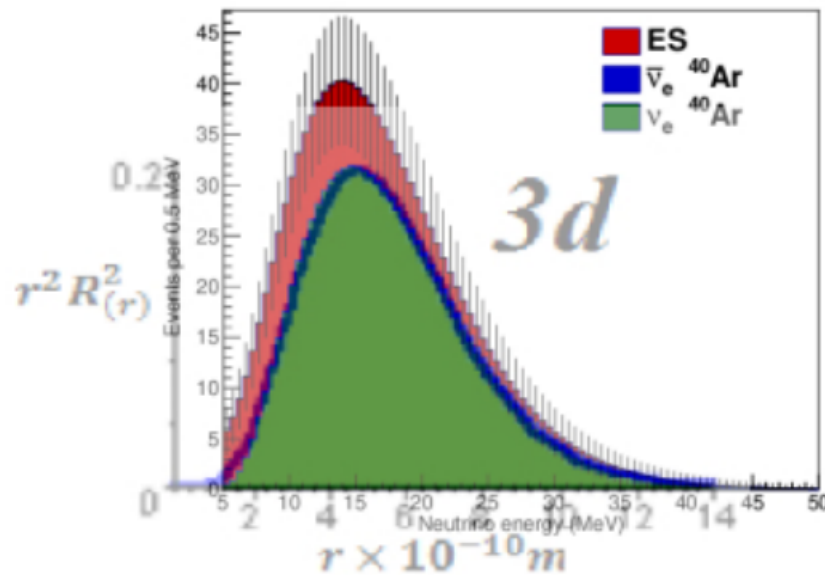
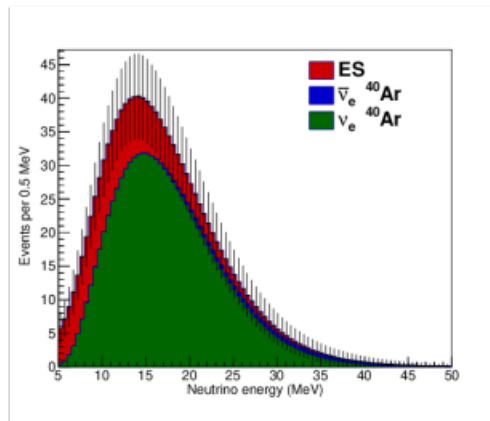


1s orbital radial probability distribution in green super imposed on neutrino curve.



<https://arxiv.wordpress.com/2014/02/28/spectrum-of-supernova-neutrinos-in-ultra-pure-scintillators-ssa/>

The following is another neutrino curve detected from a Supernova and the radial probability distribution curve of the 3d orbital in black matches one of the curves:



<https://cds.cern.ch/record/2729754/plots>

When it is referred anywhere in the paper that a certain space time particle cloud has the same shape as a particular electron orbital, electron orbital cloud, or electron cloud, this is to be understood as meaning the space time particle cloud being described may have the same shell shape or overall structure shape, and or similar density distributions or densities to the space time particle cloud on larger scales. Furthermore, the space time particle cloud may have similar yet scaled down densities to

a related mentioned electron cloud when measured with less interactions resulting in a less denser yet scaled up space time particle cloud related to the electron cloud mentioned.

The Firas monopole may be a representation of a 1s shaped electron orbital space time particle cloud around the Earth of the Sun or a combination of both their 1s electron related space time particle clouds and its graph matches exactly with the shape of the 1s electron radial probability distribution curve graph. This may be due to particles emitted by this space time particle cloud very weakly interacting detectors. This will also reveal the energy relationship between space time particles per radius if the X-axis was replaced with a radius parameter. Thus, the hot and cold cmb fluctuations measured beyond the solar system and even beyond the Milky Way may be weak signals from the particle that causes repulsion upon baryonic matter sensed by the CMB imaging satellites. Adjacent Hot and Cold regions may be part of the same space time particle cloud and the temperature differences may be due to one of many factors which include the change in amplitude of standing wave of the space time particle cloud for each lobe, or emission of gravitational waves of the standing waves, however more possibilities will be described as well.

One side of a baryonic particle may encounter a higher energy imparted upon it and the other side of the baryonic particle may have a lower energy imparted resulting in acceleration towards the space time particle cloud regions with relatively lower densities from higher densities. Also possible is that the space time particle cloud may repulse baryonic matter from regions with a higher potential energy within the space time particle cloud to regions with a lower potential energy within the space time particle cloud. This would explain the anomalous acceleration away from the Sun experienced by comet Oumuamua as it traversed close to the angular nodes of the space time particle cloud of the Sun where it would have had less repulsion towards the Sun relative to if the comet was travelling through the plane of the solar system which would have denser space time particle cloud regions. An object traversing directly in the angular nodes may feel repulsion from both lobes from each side as well and accelerate inwardly if the space between the object and the nucleus direction has lower energy density of space time particle probabilities. Furthermore, multiple space time particle clouds may overlap much like electron clouds overlap and baryonic matter be repulsed from higher energy imparted on the baryonic mass from the space particle cloud to the lower energies imparted by the space time particle cloud via repulsion from the particles in the space time particle cloud upon baryonic matter and or emission from particles of the space time particle cloud. This would allow an inwardly type of gravity and also an outwardly type of gravity. For example, using the 2p electron orbital shaped space time particle cloud, if a hypothetical baryonic particle was placed just before the densest region in this cloud with the baryonic matter closer to the nucleus of the space time particle cloud it will accelerate towards the nucleus and baryonic matter placed just after the most densest region on the plane of this space time particle cloud baryonic matter will accelerate away from the nucleus. Since energies increase with radial distance, there may be a radius border where repulsion forces due to the presence of space time particles or emissions from these space time particle before this border repulse baryonic towards the nucleus direction and after this boundary repulsion forces may accelerate baryonic matter in a direction away from the nucleus in a space time particle cloud/s which are caused by the space time particles being locally repulsive or due to emissions from these space time particles from near and afar. The densities of the space time particles in certain regions may overcome the higher potential of particles at larger radiuses resulting in an acceleration of baryonic matter from higher densities with lower potentials of each particle to lower densities with higher potential of each particle. The radiuses which accelerates baryonic matter in a direction towards the center of the space time particle cloud can be referred to as inwardly type of gravity and the radiuses which accelerate baryonic matter with a

direction away from the nucleus can be referred to as outwardly type of gravity however both may be caused by a relatively higher repulsive force on the baryonic particle's rear side than the front side making it accelerate away from the higher repulsive regions of the space time particle cloud. When space time particle clouds overlap, these other space time particles with differing energies also repulse baryonic matter in unison based on probability of the cloud. Furthermore, the space time particle cloud may be constantly excited and de excited from higher energy states to lower energy states going from existing in one space time particle orbital shape to another much like electrons do or space time particles can occupy all space time particle orbital shapes needed to allow the observed space time particle cloud seen in the same manner electron orbitals do. Excited state means a higher energy state of the space time particle cloud relatively and de excited refers to a lower energy state than a previous higher energy state of the space time particle cloud. Furthermore, it is also possible that the observed space time particle cloud shape is in its ground state which is the lowest energy state it can have. Another possibility is that we see the space time particle cloud as a whole and not particle by particle over the exposure time due to the momentum it imparts upon baryonic matter and possibly even photons through lensing. This is kind of similar to how particle clouds that are not in a positional observed state when their momentum is known due to measurement of their momentum which is imparted upon a measuring device like a needle moving. The space time particle cloud may either be in a superposition and not in consecutively measured states and baryonic matter moves from higher energies imparted upon it to lower energies or from higher energy regions to lower energy regions or the space time particle cloud is in constant repetitive position measured state back to a superposition state and again back to a position measured state. This may allow momentum energy to transfer to the baryonic matter when in the superposition state and when in the measured state the space time particle may repulse locally and or emit a particle to repulse baryonic matter. Thus baryonic matter may gain kinetic energy from being repulsed by the space time particle cloud to a region with a lower potential energy within the space time particle cloud.

The reason we may see these space time particle clouds is that since the exposure time is long when being photographed over time so we can see many positions of each particle in the space time particle cloud much like how electron clouds are measured over time measurement by measurement however via lensing when we observe Dark Matter which is actually the space time particle cloud. Via CMB sensors we may able to see the space time particle directly via emission. Furthermore, another possibility is the space time particle cloud acts as a lense and many of the emissions of particles from the space time particle cloud would concentrate towards baryonic matter which is in the center of the space time particle cloud where the probability of the emitted particles interacting with baryonic matter are higher from all sides. Orbiting bodies may have this affect locally such as the Earth with their own space time particle cloud, but the larger space time particle cloud they are in such as the Sun's space time particle cloud around the Earth will cause higher energies imparted upon the night side of the Earth causing it to orbit.

Space time particles in the space time particle cloud may be measured one by one over time resulting in the space time particle cloud shapes to be seen over many measurements much like electron clouds are mapped. The positional presence of each space time particle in the cloud may be indirectly seen from lensing of background photons. If so, we can use the exposure time of a cosmic object to our advantage to measure the time dilation of the cosmic object. A space time particle cloud that is more intense is a result of a faster time passage of the cosmic object observed relative to another cosmic object with a similar shaped space time particle cloud that is dimmer assuming the occurrence of the particles showering upon the space time particle cloud that excite it and background light sources are similar

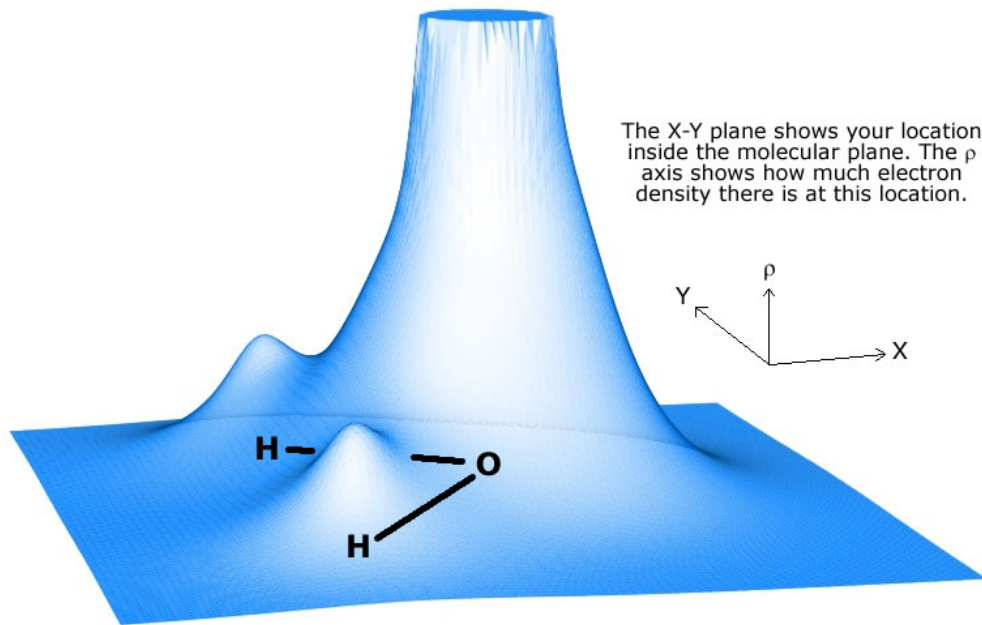
when adjusted for time. The faster time passage may show more measurements of the space time particles in the cloud. This may also be the reason some space time particle clouds are visible for one system such as a galaxy or cluster such as a two lobed shaped electron orbital type space time particle cloud however the 1s electron orbital shaped space time particle cloud in the middle is very faint due to less measurements due to slower time. Furthermore, longer exposure at regions at the edge of galaxies or away from galaxies however with a focus set for the galaxies may show the higher energy space time particle clouds which are less probable for some systems thus needing more exposure time to be seen to allow more measurements of position of each space time particle cloud to occur. This can also be applied to image the center of galaxies to see the space time particle clouds within using a longer exposure time however a clever technique needs to be used to block out the very bright photons that over expose the image. The probability of detection may be lower due to a slower time thus this is why a longer exposure time is needed to reveal the space time particle clouds that may be effected by time dilation or are the cause of time dilation. Furthermore, when a cluster is observed with a 2p shaped electron orbital space time particle cloud, there may be invisible space time particle clouds as well that we cannot see that holds the cluster that also accelerates baryonic matter with a higher repulsive force per interaction yet less probability to hold the cluster. The energy density of a small region within the space time particle cloud based on probability and the energy of the particles within the region determine the passage of time for baryonic located within these regions within the space time particle cloud. Baryonic matter located in a region of the space time particle cloud with a higher density of space time particles will experience time faster than less denser regions within space time particle. More accurately, baryonic matter will experience a rate of time which is proportional to the energy density of the space time particles in a volume within the immediate surroundings of the baryonic matter within the space time particle cloud. If this baryonic matter is in the densest regions within the space time particle cloud which has the highest energy density within the space time particle cloud of space time particles, it will experience the fastest time possible within the space time particle cloud. Baryonic matter located in regions with no probability or zero probability of space time particles within the space time particle cloud will experience the slowest time passage within the space time particle cloud and the background space time particle cloud may affect its time dilation.

Furthermore, the space time particle cloud may be fully or partially self sustaining to allow gravity. Whatever particle that excites the space time particle cloud may be emitted from black holes or stars that result from the gravitational effects of the space time particle cloud itself due to repulsion and in turn these baryonic stellar objects may also emit particles that further excite its space time particle cloud to help sustain the space time particle cloud in a loop. When an excess amount of these particle whatever they may be are emitted from the object and even added with interstellar neutrinos from external sources as well that get absorbed by the cloud, the space time particle cloud may go to a higher energy state which than would collapse the star to make it go supernova, or even create a black hole due to the change in repulsion causing higher gravitational forces.

For spherical masses, the repulsive force is directed radially inwards from all angles since the spherical baryonic mass is likely in the center of the space time particle cloud with larger radiuses of the space time particle cloud near the spherical mass having higher densities resulting in the acceleration of baryonic matter towards smaller radiuses also allowing the compaction of the spherical mass. In this manner the space time particle cloud can act as a sort of lense based on probability. It is unclear what process may be causing this repulsion, however a few will be listed now. The repulsive force may possibly be caused by neutrinos emitted from particles in the space time particle cloud in the vicinity or even from a distance away upon baryonic matter where at least a portion of the kinetic energy of the

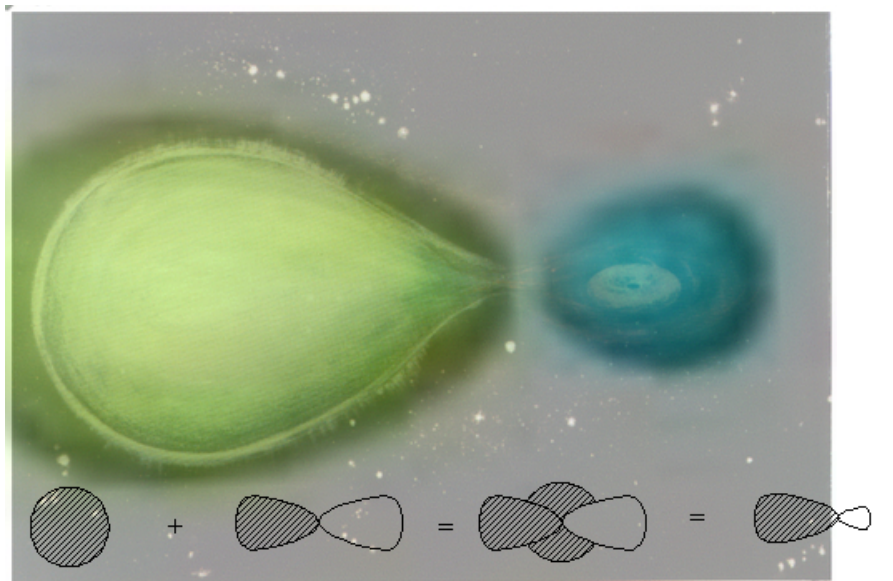
neutrino is imparted upon a baryonic particle causing repulsion in the direction where least amount of neutrinos are coming from. If one side of the baryonic mass is exposed to more neutrinos than the other side, the baryonic particle will accelerate towards the side with the relatively lesser neutrinos and away from where relatively higher neutrinos are emitted that interact with the baryonic matter. The same may occur for spherical masses where neutrinos are emitted from higher densities and the spherical mass is compacted and accelerates towards regions in the cloud where there are lesser neutrinos emitted. However other repulsive causes may also be possible such as negative or positive charge of the space time particle interacting with the negative or positive charge of the baryonic particles causing attraction of repulsion. Another possibility is the interference of the standing waves of the space time particle cloud with the standing waves of the particle clouds of baryonic matter. Another possibility is gravitation waves are emitted from space time particle clouds much like photon are emitted from electron clouds and these gravitational waves interact with baryonic matter in a way to accelerate it however it known that gravitational waves do not accelerate efficiently or at all.

Furthermore, when it is mentioned that a space time particle is a certain shape associated with the shape of an electron orbital, this shape may also come with other space time orbital cloud shapes that allow it to exist. The space time particle clouds may exist with many space time particle cloud shapes added together allowing the observed space time particle to be seen. The observed space time particle cloud can also be a lone space time particle cloud. Other possibilities is that the space time particle cloud is in a ground state. However any possibility may occur that would occur in the electron cloud system. If a higher state cloud occurs rarely in terms of position being measured than a lower state one which is more visible, the higher state may have less of an effect upon baryonic matter however locally may have more energy imparted upon baryonic matter due to the higher energy state. These higher energy space time particle clouds with low probability may be seen through longer exposure times. Infinite combinations are possible on how the space time particle clouds exists over time for each system and this is based upon the absorption of the particle that excites these clouds that fly through interstellar space or are emitted locally and how often the cloud interacts with these events. It is analogous to a hydrogen electron orbitals which is interacted with and one that is not interacted with. They will have different outcomes and different orbital densities. Another possibility may be is that electron orbital or combination of electron orbitals have a lowest energy state that is stable and does not need any excitations to be maintained in its ground state and this may occur when the space time particle cloud exciting event stops showering upon the space time particle cloud. Furthermore, just like molecules exist with many electron clouds, so possible is with space time particle clouds that are joined to make a molecule shaped space time particle cloud similar electron clouds of baryonic molecules. These space molecule space time particle clouds can also be excited. Furthermore, the same way baryonic matter exists such as a solid object with many molecules, so is a possibility that space time particle clouds can exist with intricate patterns and shapes by interacting with each other and if zoomed out far away enough it would look solid to a hypothetical observer billions of times larger than the universe many universe lengths away. Dark Matter may just be a larger version of baryonic matter and any way that baryonic particle clouds can behave with other baryonic particle clouds also can occur with space time particle clouds interacting with other space time particle clouds on cosmic scales. For example, some dark matter clouds which are actually space time particle clouds may have the same shapes and densities as the electron density of H₂O or carbon however at cosmic scales:

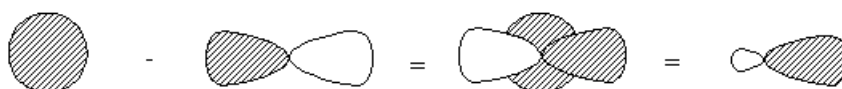


Baryonic matter may accelerate from a higher energy density to a lower energy density regions of the space time particle cloud it is in even when the space time particle cloud is in a molecular state such as a cosmic version of the above electron map of h20 with similar densities.

Furthermore, these space time particle clouds may also bond much like electron clouds bond or also become hybridized also like electron clouds and have similar shapes. Covalent bonding may also occur between space time particle clouds. This in turn would also effect baryonic matter when such a process occurs. The following cosmic structure may have a space time particle cloud with hybridized orbitals where a star is eaten:

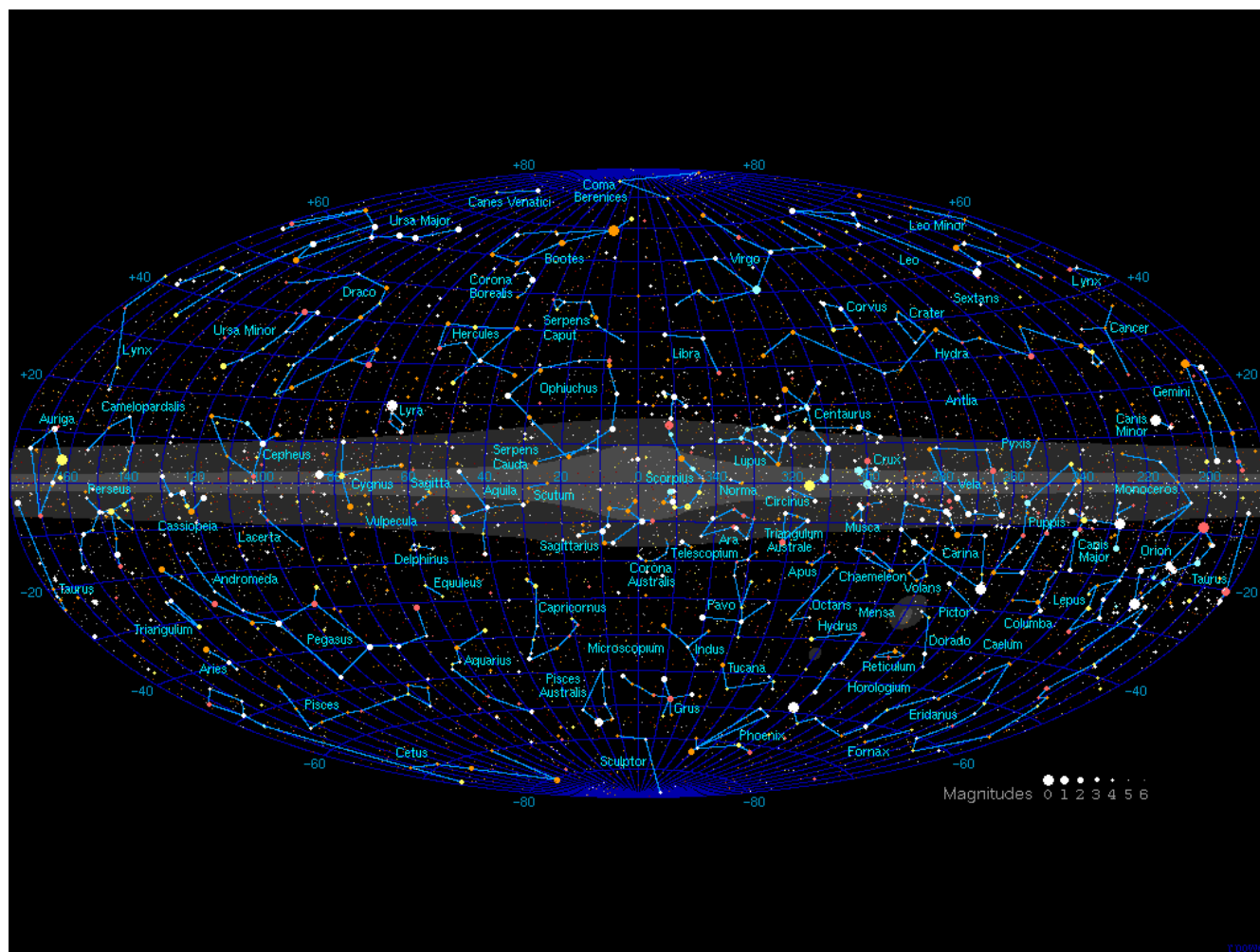


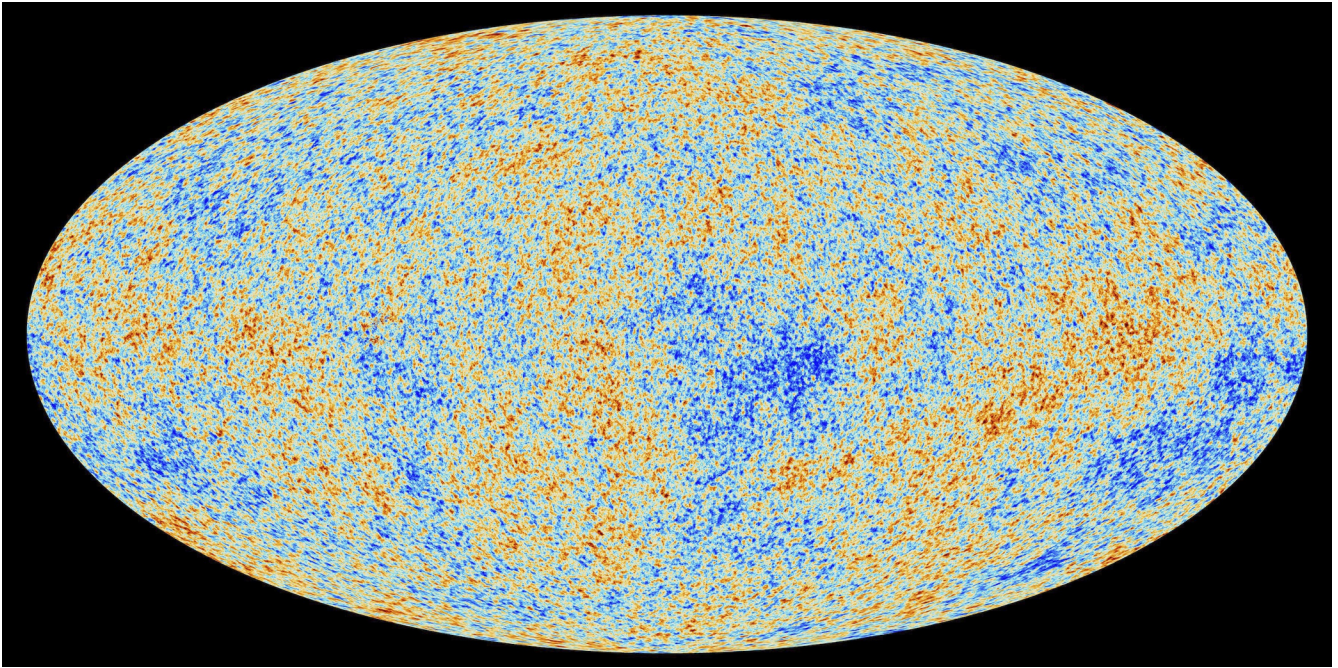
sp hybrid orbitals



The multipole maps that align with the galactic plane of the Milky way are the space time particle clouds of the Milky way. There are also two lobes aligned with the axis of the Milky Way which may be one of the space time particle cloud orbitals of the Milky Way and these may influence or cause the Vast Polar Structure. These space time particle clouds are made of standing waves which may oscillate, expand and contract, just like the standing waves of electron orbitals do. These space time particle clouds absorb a type of particle to transition it into higher excited states and emit the particle when they transition into lower energy states just like electron orbitals do however with photons.

A map of the constellation of the stars in the sky was superimposed on the CMB map. The stars locations coincide with the borders between hot and adjacent cold spot regions. These hot and cold regions around each stars location is a visual caused by the space time particle cloud around each star.





Hotter CMB may be correlated with photons travelling through a space time particle cloud lobe that is shrinking and colder CMB may be correlated with photons travelling through a space time particle cloud or lobe that is expanding for a space time particle cloud of one system such that of a star or galaxy. However other reasons may also exist for the temperatures such as phase, gravitational waves emitted by the clouds or other reasons. Another reason is the weak detection of the particles that the space time particle may emit and this is sensed by the CMB detectors, or background photons passing through, more research needs to be done. Space time particle clouds and the lobes they also have may also overlap with other clouds or lobes much like electron clouds may overlap which may be seen through differing frequencies of light passing through the cloud resulting in a combined pairing of hot and cold regions. This may leave the possibility open that we cannot see in detail some space time particle clouds of a system as they are mixed within the CMB temperatures.

The large cold spot anomaly may be a space time particle cloud that once was made of perhaps one or combined electron cloud shape which transitioned into another state such as 1s or 3s electron cloud shaped space time particle cloud which is now seen as the entire Cold Spot having the 1s electron cloud shaped space time particle cloud and larger rings around it. This shape may have an outwardly type of gravity and repulse baryonic matter away that was once located in the inwardly type of gravity regions of the previous space time particle cloud/s or a region with previously differing gravitational forces caused by the previous space time particle cloud now experiencing a different force due to the new cloud. The inwardly or outwardly type of gravity regions of the previous space time particle cloud would have changed due to excitation of the space time particle cloud and baryonic matter may have flung off since the gravity field changed locally that once was there. The Dark Flow which are galaxies are moving towards the "Great Attractor" may actually moving directly away from the Cold Spot which may be cause of the Dark Flow by the now changed gravity due to the new space time particle cloud that may be in the form of a S-orbital electron cloud related space time particle cloud accelerating the galaxies away from the Cold Spot from the presence of this new space time particle cloud around the Large Cold Spot or from a change in gravity due to the new cloud.

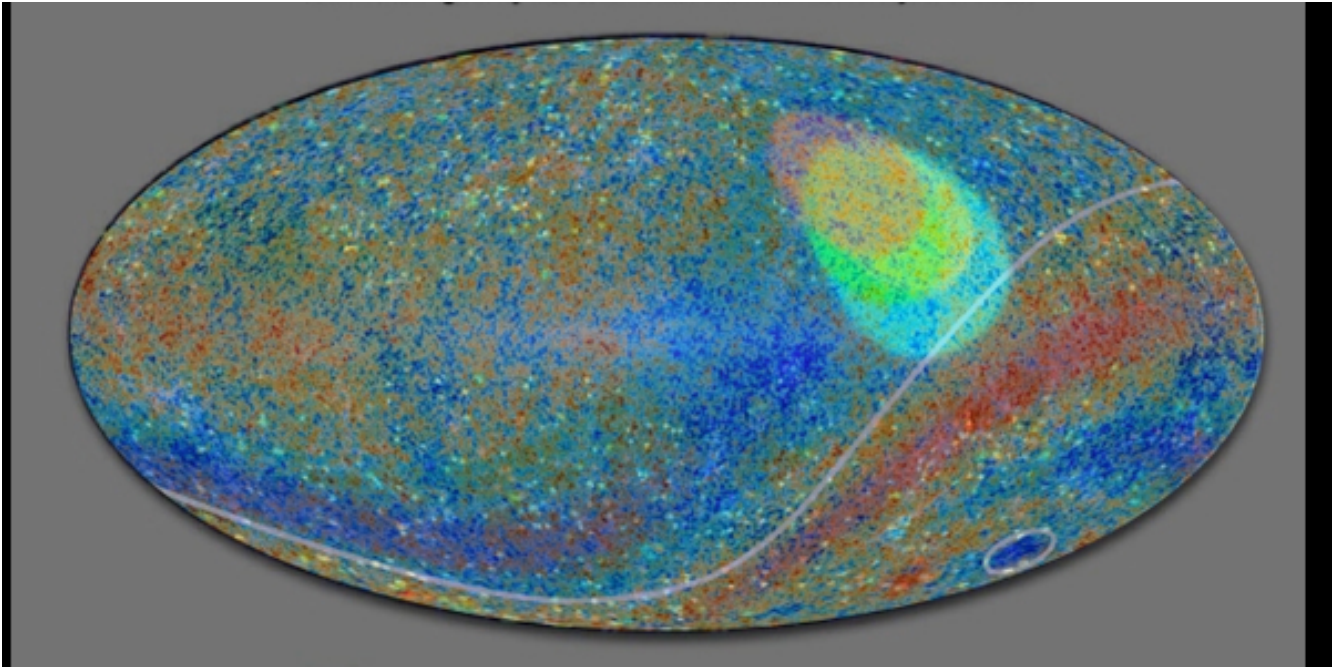
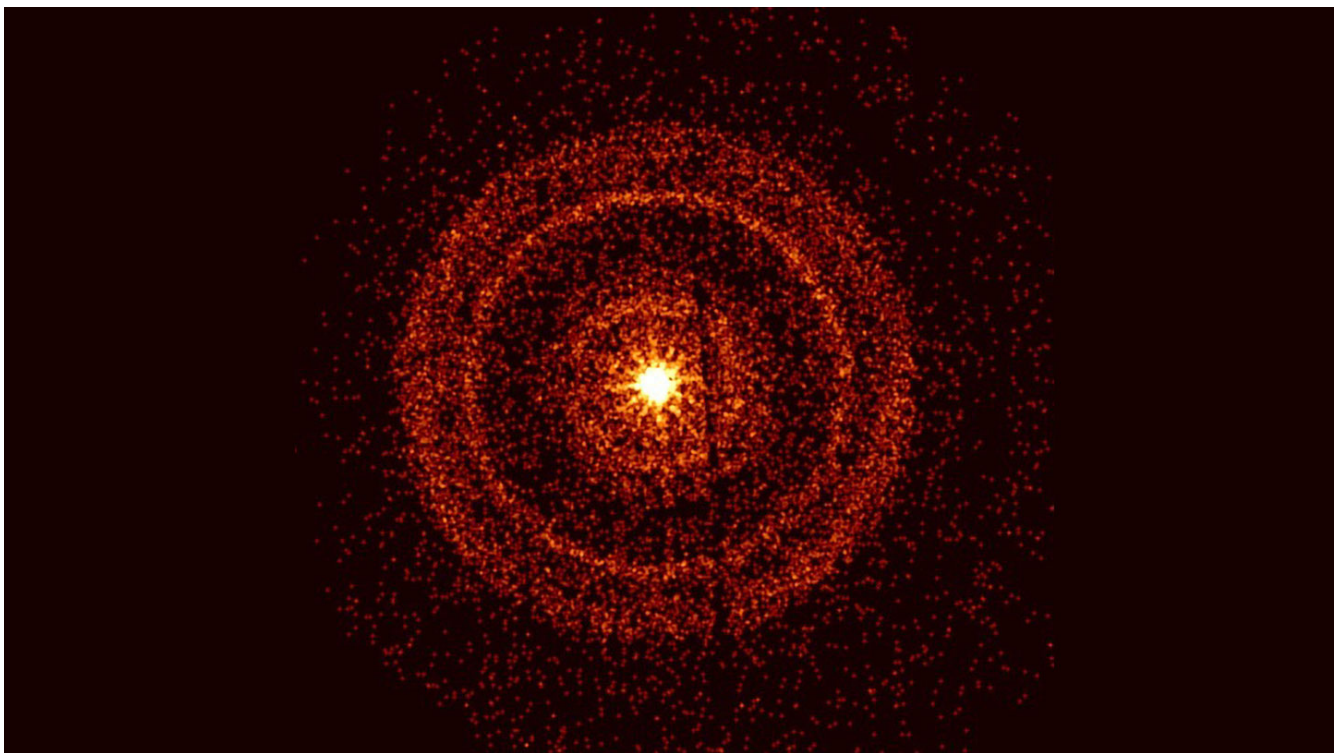


Image above shows the Dark Flow appearing to move away from the Large Cold Spot. We can also see a spiral arm structure with one arm in red looping around the map and the other arm in blue looping around the map and emanating from the Large Cold Spot and ending in the upper left with a wider view of the arms. Perhaps the Large Cold Spot is the center of a spiral galaxy, or these arms are gravitational waves, or perhaps the view of an S-orbital type space time particle cloud that is being repulsed causing it to have a spiral shape instead of concentric circles that a higher energy S-orbital would have.

(“Experts from Durham University said in a paper that as a parallel universe crashed into ours, much of the galaxies and matter were shoved away from the cold spot.”

<https://www.express.co.uk/news/science/1027458/multiverse-discovery-martin-rees-book-big-bang-theory>). “However instead the galaxies may have been shoved away by the space time particle cloud or lack thereof.” An inwardly type of gravity for previously held baryonic matter may have disappeared allowing this baryonic matter to be flung off. The space time particle cloud belonging to the Large Cold Spot may also be one that was promoted or demoted to a higher/lower level S orbital like the 3s orbital resulting in the Dark Flow. This may also cause the effect of what is known as Dark Energy at larger scales with the space time particle clouds of the universe which house the many smaller space time particle clouds of clusters, galaxies, stars and planets. This phenomena may also occur within galaxy clusters where the galaxy cluster has a space time particle cloud having the same shape as the 3d orbital as an example, however it transitioned into a space time particle cloud with a 2p, 3s or 1s electron orbital shaped space time particle cloud, and the outwardly type of gravity of these orbital shaped space time particle clouds will repulse baryonic matter that was held by the previous inwardly type of the gravity of the previous higher energy state space time particle cloud or the gravitational strength changed to a lower strength in certain regions allowing baryonic matter to be flung away halting their orbits and converting this energy to accelerate away. Galaxy clusters that appear to be colliding may have been the result of the space time particle cloud of both the clusters changing resulting in a change of gravitational forces and they were always a part of the one shared space time particle cloud that transitioned to another energy state. Furthermore, the transition from the previous

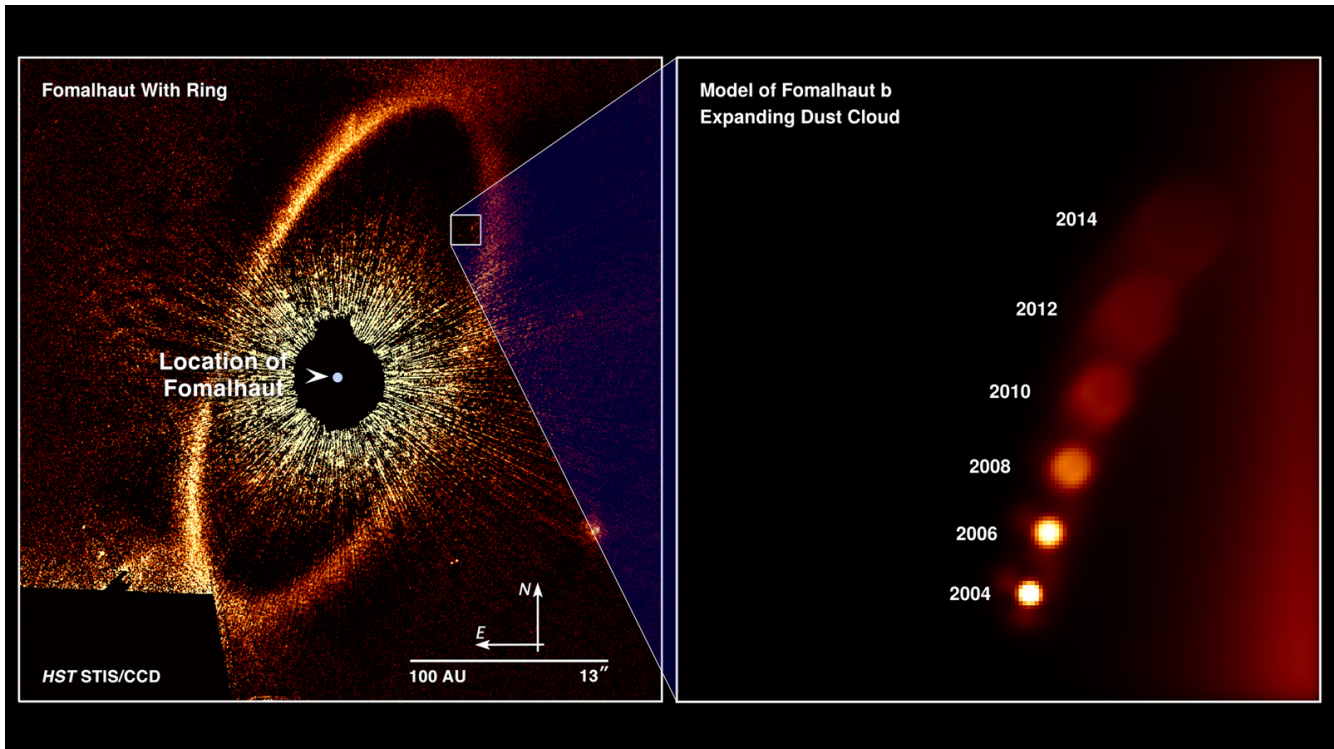
space time particle cloud shape to another electron orbital cloud related space time particle cloud shape that the Large Cold Spot now is would have caused massive gravitational waves while the transition was occurring between a higher energy state of the space time particle cloud to a now lower one. This would be analogous to higher state electron orbitals emitting photons and transitioning into a lower electron orbital state where the photons emitted are analogous to gravitational waves emitted from the Cold Spot. If so, these gravitational waves may be seen as spiral like arm structures in the CMB emanating from the Cold Spot where photons are stretched and compressed depending on their location as they travel from interstellar space to the Earth or are due to the excitation particle within the waves to excite the space time particle clouds of other objects in the waves path resulting in temperature differences in the CMB seen as spiral arms. The transition from one space time particle cloud shape to another may also be the cause of Supernovas where the space time particle cloud transitions from perhaps a 3d electron orbital shaped space time particle cloud to a 3s electron orbital shaped space time particle cloud shape resulting in less gravitational forces on the star making its go supernova and this can be seen in the following image of a star that went Supernova having an S-orbital like pattern:



<https://www.sciencenews.org/article/boat-brightest-gamma-ray-burst-supernova>

This phenomena where the space time particle cloud transitions into a lower energy state much like an electron cloud transitions to a lower energy state may also occur with the space time particle cloud belonging to planets. This would cause the planets to break apart. The atmosphere may not be held by the weaker space time particle cloud in milder cases however the ground and the entire planet may also break apart and float away into space for more extreme reductions in gravitational strengths. This would be an extinction level event. Thus measures must be put in place to prevent this by somehow exciting the space time particle cloud via new technology if such an event starts occurring. We know of

over 5000 exoplanets. Even if within one of these 5000 plus exoplanets there has been an observation of one planet breaking apart, it is possible to occur with Earth. There have been many observations of exoplanets shrinking at a rapid rate losing their atmosphere also. Furthermore, we have many planets in the solar system without atmospheres and their space time particle clouds may have transitioned to a lower state causing this, and or are awaiting to be transitioned into a higher energy state which would produce an atmosphere through heating due to stronger gravitational forces. Please see the following images of the disappearing exoplanet that once orbited Fomalhaut star:



It was explained that the “disappearing planet”, which was thought to always be a planet before it started vanishing, was comets colliding, however this is not realistic. Therefore, it is absolutely necessary for these Quantum Gravity theories to be explored to see if they are correct as humanities survival may depend on it.

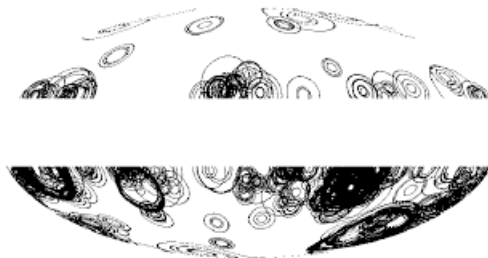
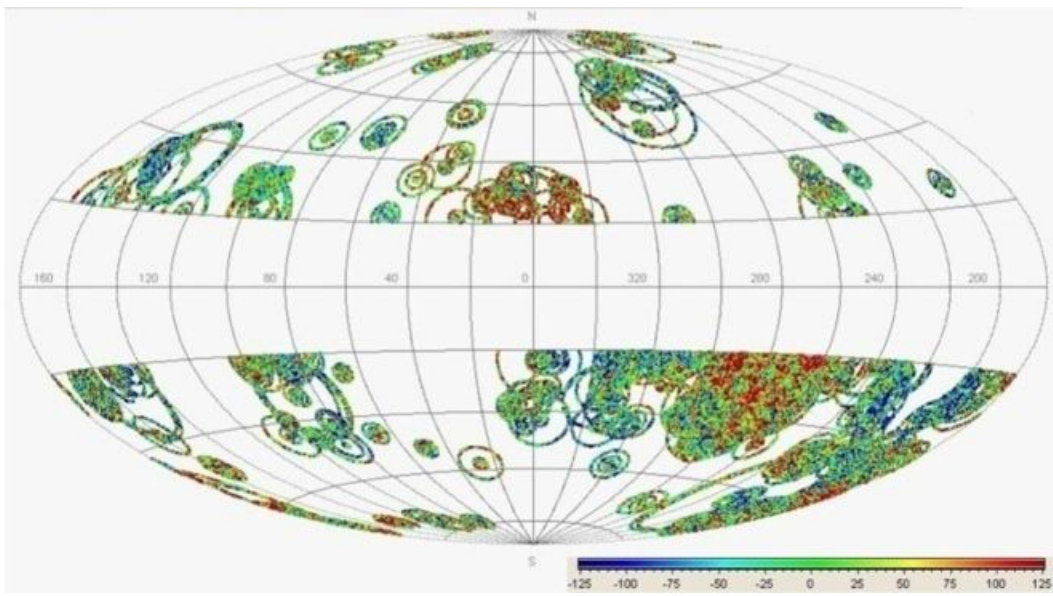
Planet formation may occur when a space time particle cloud excites into a higher state that is located within a stars space time particle cloud which is filled with gas and dust. Furthermore, it is possible that black holes may also form when a space time particle cloud excites to a higher energy state. Black holes may be the engine that feeds the space time particle clouds of stars to sustain them and the particles emitted from stars that excite the space time particle cloud may feed the space time particle clouds of planets to sustain them. This means that if the black hole or sun decreases its output, stars and planets respectively may fade away if their space time particle cloud transitions to a lower energy state. Thus Supernovas may be caused by events based upon external factors and our Sun’s future Supernova event may occur at any time. Furthermore, an exoplanet may also shrink in size when the space time particle cloud of the planet transitions from a lower energy state to a higher energy state, resulting in

greater gravity upon the planet than previous and this may increase volcanic activity allowing the planet to recreate its atmosphere. Furthermore, stars may also shrink if their space time particle cloud transitions to a higher energy state. This is observed with Betelgeuse star as it is shrinking rapidly which may have been due to its space time particle cloud transitioning to a higher energy state. If it is shrinking rapidly, this may mean its space time particle cloud is in a very high energy state, and if its space time particle cloud transitions into a lower energy state, Betelgeuse may go Supernova. Furthermore, it is possible that stars may also go Supernova if the space time particle cloud transitions into a higher energy state due to greater gravitational forces collapsing the star and making it rebound. The space time particle cloud of a planet may also transition into a higher energy state by being excited and this may cause the planet to shrink as well while creating a repulsive gravity at larger radiuses, and this possibility needs to be explored as well for the disappearing exoplanet.

Thus it is important to further develop Quantum Gravity as the fate of the planet may depend on it. If the space time particle cloud of the Earth transitions into a lower energy state, the atmosphere may disappear into space and a worse case scenario is the planet may disappear much like Fomalhaut's planet did. In other cases, Earth's geological activities may also be affected if its space time particle cloud transitions into a higher or lower energy state. If the space time particle cloud of the Earth transitions to a higher state, the Earth may experience too much gravity. Furthermore, Betelgeuse may go Supernova or our Sun may go Supernova due to the external events that may induce such events and not due to the Sun's age.

The space time particle cloud may have an unknown position and known momentum via imparting its momentum upon baryonic matter much like electron cloud momentums are measured and a force is transferred. Thus the space time particle cloud can also be in a superpositional state and perhaps the momentum of the space time particle clouds is measured by and imparted upon baryonic matter to cause acceleration of baryonic matter. In this mode, when the space time particle cloud goes into another state whether a higher or lower energy state, the baryonic matter within the space time particle cloud will now be observing the momentum of this new space time particle cloud which causes a different acceleration profile upon baryonic matter depending on the momentum of this next space time particle cloud state. This process can also occur to galaxy clusters that appear colliding, and why Supernovas occur due to changing gravitational forces due to the energy state change of the space time particle cloud, or even the Large Cold Spot to be how it now appears and before it was in a different space time particle cloud shape state which held baryonic matter however now this baryonic matter has been repulsed away.

The Cmb has concentric circles within, this may be a representation of space time particle cloud related to the higher S-orbital electron cloud shapes:



Below is an image of a space time particle cloud that may be in the shape of a 2s orbital where the 1s cloud within repulses the two clusters within away and the ring repulses baryonic matter from higher densities of the ring to lower densities as well:



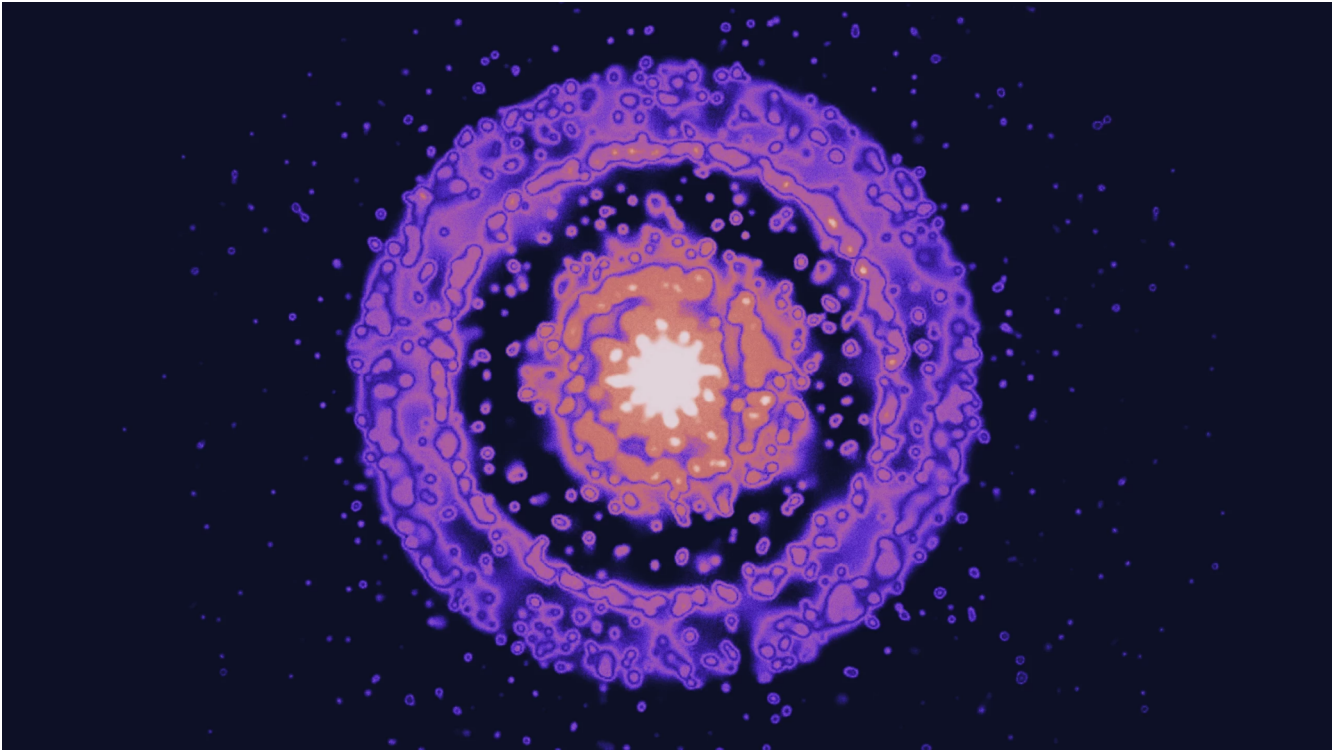
<https://scitechdaily.com/what-is-gravitational-lensing/>

Furthermore, the densest regions in the rings of the space time particle cloud appears to be devoid of baryonic matter which would have been repulsed away towards the lower energy densities of the space time particle cloud.

Since the space time particle cloud is in a certain state seen as an orbital shape in observations, there may also be lower electron orbital shaped space time particle cloud that support and allow the lead up to the higher state space time particle cloud constantly being excited and de excited much like electron clouds in multi electron orbital systems or the observed space time particle cloud is in a dance with other space time particle clouds. Thus the observed space time particle cloud may be the highest energy state orbital shape that occurs most often and emits the most as it dances with other space time particle clouds with differing shapes. The lower energy space time particle cloud shape may be observed less due to time dilation thus less observations may occur to us. Furthermore, the space time particle clouds may have the same amount of particles for each space cloud as their smaller counterparts, the electron cloud with same shapes. Whatever particle that keeps the space time particle clouds exciting and de exciting is needed for gravity to exist as it does and if this particle did not exist, the universe may not exist as it is.

Logically we can then ask what is dominated within space and travels at the speed of light or perhaps close to the speed of light that may excite these clouds. This list would include gravitational waves, photons, neutrinos, and other massless particles. One of these will be the reason gravity exists as it does as we see it due to its excitation effects on space time particle clouds.

Neutrinos are emitted when a star goes supernova and we see two blips usually. Perhaps a neutrino shower showered upon the space time particle cloud of the star that went supernova and also reached Earth. For the star it may have resulted in its space time particle cloud transitioning into a 3s space time particle cloud and other states many times as the neutrino shower interacted with the space time particle clouds of the star resulting in the change of the gravity experienced by the star resulting in a supernova. The neutrino shower may have also originated from the star itself of the transition of the stars space time particle cloud from a higher one to a lower one where it emitted neutrinos and detected on Earth as the first blip of Neutrinos. The de excitation of the space time particle cloud of the star that went supernova may be the first blip of neutrinos we observed which also cause the excitations of the space time particle clouds of Earth, the Sun or the Milky way, and the second blip may be the de excitations of these space time particle clouds locally. These neutrinos could have originated from the star also which in turn excited its own space time particle cloud or perhaps from interstellar space or a black hole nearby. However instead of neutrinos it could be any other particle and when we use a particular particle for as an example one must remember it is just that. Of course 3s electron shaped space time particle cloud is an example also and it could have been any other space time particle orbital shape that changed the dynamics of the gravity experienced by the star where the space time particle cloud transition from a higher state to a lower one or even perhaps from a lower state to a higher one. The 3s space time particle cloud example is used as the following image of a star that went supernova resembles an s-orbital electron:



A star, planet or even a galaxy will have a stable pattern of space time particle orbitals on average and when this configuration change above or below a certain threshold the star may go supernova, a planet may form, or a galaxy may change its structure and may be a cause of galaxy evolution. These drastic changes may also be the reason for star formation and planet formation.

It is possible that the space time particle clouds of the universe and the smaller space time particle clouds within the universe of smaller objects can exist without baryonic matter and by chance baryonic matter occupies the space time particle cloud thus mass does not cause curvature however the “curvature” was already there for baryonic matter to enter into and be influenced by. This is evidenced by dark matter halos that have no baryonic matter since Dark Matter halos are actually an observation of the space time particle cloud. For example, a lone space time particle cloud may exist without baryonic matter in the shape of 1s electron orbital however at galactic scales meaning mass does not cause curvature. Baryonic matter such as the Dark Flow of galaxies may reach a hypothetical 1s electron orbital shaped space time particle cloud and climb it while being decelerated due to the outwardly type of gravity experienced by this 1s electron orbital shaped space time particle cloud or perhaps come close to it. By chance whatever particle or event that excites the space time particle clouds are also accompanied by this Dark Flow of galaxies at the moment of arrival of the baryonic matter to the 1s electron shaped space time particle cloud. This would excite the 1s electron orbital space time particle cloud into perhaps a 3d or higher electron shaped space time particle cloud. The baryonic matter of the Dark Flow of galaxies would now be accelerated inwardly and possibly become trapped within this space time particle cloud’s inwardly type of gravity regions, accelerating baryonic matter now towards to middle of the cloud. This would mean that mass does not cause “curvature”. It is important to note that galaxies within the Dark Flow each would also have had their own smaller space time particle cloud and the stars within would further have had even smaller space time particle clouds

around them. Much like electron clouds do not need an analogous matter within to create the electron cloud, so to may be that baryonic matter in space is not needed to create the space time particle cloud and baryonic matter is just a passenger in this space time particle cloud. This explains empty Dark Matter Halos free of baryonic Matter which are actually empty space time particle clouds as described having lone or combined electron orbital shapes. Furthermore, there have been observations of a galaxy without Dark Matter and it is very diffuse such as NGC 1052-DF2:

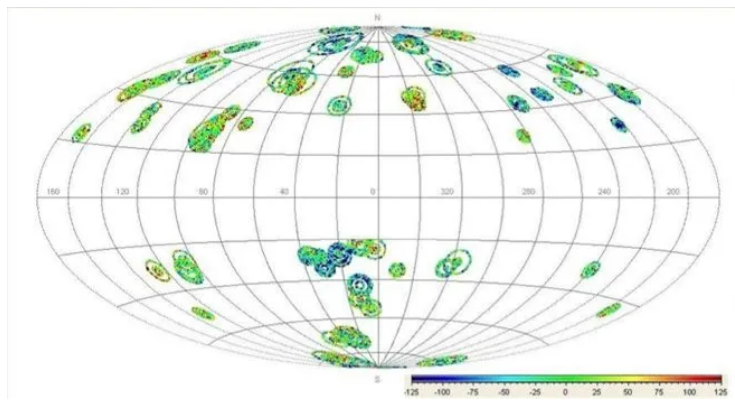


This may be possible if its space time particle cloud was once in an excited state and transitioned into a lower energy state space time particle cloud resulting in the diffusion of the galaxy due to outwardly repulsion forces caused by new space time particle cloud or a decrease or disappearance of Quantum gravitational forces from a previous state. The baryonic matter farther in radius which was previously held due to inwardly type of gravity by the previous space time particle cloud where now no local space time particle cloud exists may be flung off much like a ball spinning on a rope which is let go. This can also explain the anomalously bright “globular clusters” in this diffuse galaxy due to doppler shift as these “globular clusters” approach us from the near side of this galaxy. Some of the so called more distant galaxies appearing behind this galaxy may just be baryonic matter of the NGC 1052-DF2 galaxy located on the far side of this galaxy moving away from us due to the outwardly type of gravity regions of a 1s electron orbital shaped space time cloud within the galaxy where baryonic matter is located. At a later time this space time particle cloud of the galaxy may be excited once again to a

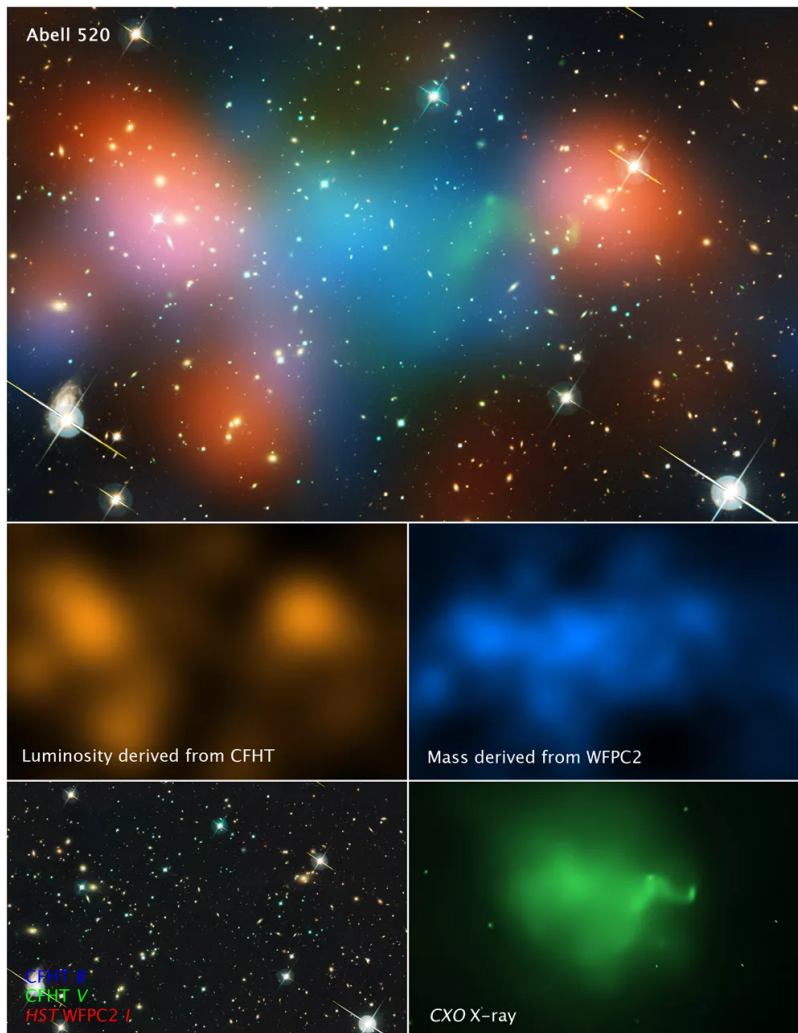
higher state via absorbing the correct gravitational waves or particle energies to retain the galaxy and it will contract some or all of the baryonic matter of the galaxy once again depending on how far along the diffusion process is. However if the space time particle cloud remains in the lower electron orbital shaped state the galaxy may break apart fully and get more diffuse and the baryonic matter may encounter other space time particle clouds and have a chance to incorporate into them. This may occur with another 1s electron shaped space time particle cloud that morphs into an excited state while this baryonic matter is within the boundaries of the future inwardly type of gravity borders of the excited space time particle cloud. The process occurring with the NGC 1052-DF2 as described may also occur on universe sized scales and be the cause of Dark energy. The Large Cold Spot in the CMB may be a source of Dark Energy having a massive electron shaped space time particle cloud that repulsed baryonic matter away from it and for baryonic matter that was held by an inwardly type of gravity farther away may be released due to their orbital velocity being converted without the need to be repulsed due to the local space time particle cloud disappearing or decreasing in strength in those farther radiuses. The space time particle cloud once originating around and in the Large Cold Spot may have transitioned into a lower or higher state such as into a 3s electron orbital shaped space time particle cloud we see now which could explain the large rings around it that span the entire sky.

A space time particle cloud that goes from a lower energy state cloud shape to a higher energy state cloud shape which is analogous to a lower energy electron cloud state transitioning to a higher energy electron cloud state, may be the process which allows galaxies and stars to form where once sparse baryonic matter within a lower energy state space time particle cloud is repulsed inwards more strongly in the relatively higher energy space time particle cloud state which has a higher repulsive force. The reverse may cause a Supernova where the space time particle cloud of a star transitions into a lower energy state space time particle cloud resulting in less repulsive forces holding the star together than previous causing the Supernova. However the Supernova or diffusion of a galaxy or cluster or perhaps the Dark Flow may also occur when the space time particle cloud transitions from a higher energy state to a lower energy state where the lower energy state space time particle cloud has a central space time particle cloud orbital that is highly repulsive in their outwardly type of gravity regions such as the 1s electron cloud shaped space time particle cloud within causing the outward movement of baryonic matter. Also possible is a space time particle cloud transitioning from a lower energy state to a higher energy state to cause a Supernova or repulsion of baryonic matter away, or even what is the space time particle cloud now of the Large Cold Spot causing the Dark Flow due to changes in the probability of the space time particles in the cloud thus changes of acceleration of baryonic matter within the cloud.

Galaxy clusters' space time particle clouds will also have the nucleus of their space time particle cloud located at the borders between Hot and Cold regions in the CMB and these space time particle clouds can be seen through the polarization lensing of photons which reveal the space time particle cloud of these galaxy clusters, generally with two lobes, however the shapes may be more complicated but the net result may be lobes to be observed as a hot and adjacent cold region if they are actually a mixture of space time particle cloud shapes of the cluster. The net result may be a hot or cold spot due to the 3 dimensional nature of the lobes and the photons passing through them or even from them to interfere resulting in a net hot or cold region seen as pairs of spots mostly. Background and foreground polarizations and temperatures caused by background and foreground CMB should be minused to see these space time particle clouds of clusters through polarization. Furthermore, S-orbital related space time particle clouds may not have hot and cold regions however appear as concentric circles in the CMB. In the S-orbital case, the baryonic structure's center will be located in the middle of the circles:

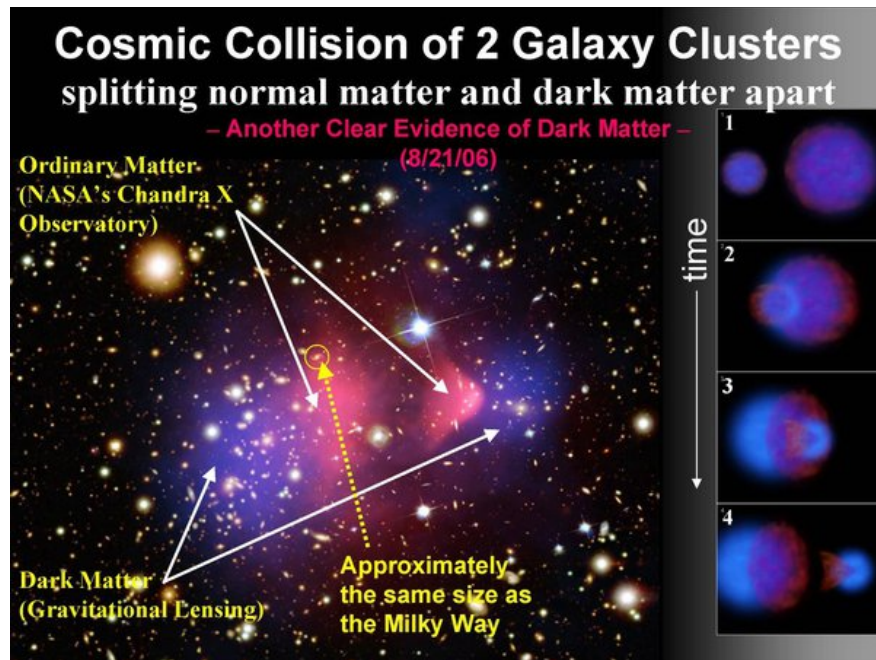
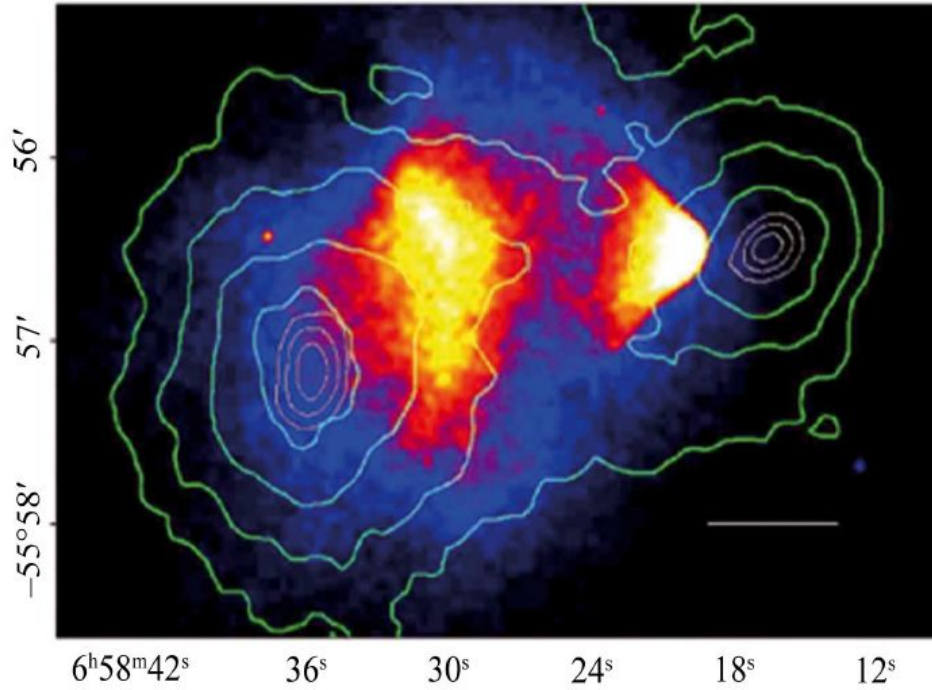


We can also see the following image where the galaxies are moving away from the central Dark Matter Sphere:



<https://www.space.com/14773-strange-dark-matter-colliding-galaxies.html>

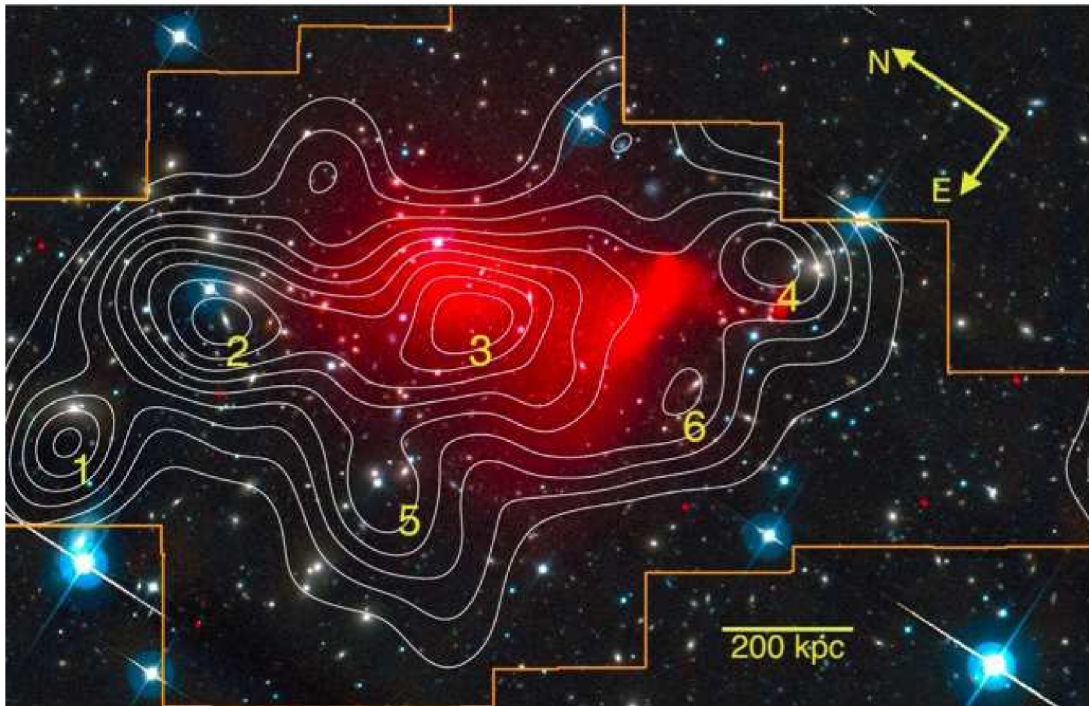
Dark Matter as seen through background lensed light is actually the space time particle cloud. We can also see in the Bullet Cluster that baryonic matter is moving from higher energy densities to lower energy densities in a lobe shaped space time particle cloud similar to the 2p electron cloud:



However a less likely situation yet possible may be that two s orbital shaped space time particle clouds approached each other and than repulsed each other through Van der Waal forces and in the process the baryonic matter flung out. Another possibility is that the two space time particle clouds were headed towards each other attracted each other through Van der Waals forces and when they joined a sudden deceleration occurred where baryonic matter flung out. Yet another possibility is that the space time particle cloud of all the baryonic mass in pink was in a higher energy state space time particle cloud which transitioned into a lower energy paired lobe type electron cloud shaped space time particle cloud causing a different gravitational arena within resulting in the baryonic mass to accelerate as seen and the farther baryonic mass that once was held within the higher energy state space time particle cloud flung into interstellar space due to a lack inwardly type of gravity. In any scenario mentioned, baryonic matter as observed still moves from higher energy densities to lower energy densities of the space time particle cloud and this is how it may normally accelerate within all space time particle clouds. It seems unlikely that the “dark matter” passed through each other which how it is currently explained as if this was so both the dark matter cloud and baryonic matter should be in more erratic shapes. There are other observations of other clusters with paired lobes of “dark matter” halos and baryonic matter in the middle of the lobes and such symmetrical fly throughs of “dark matter” halos and baryonic matter is unlikely. It should be much more chaotic.

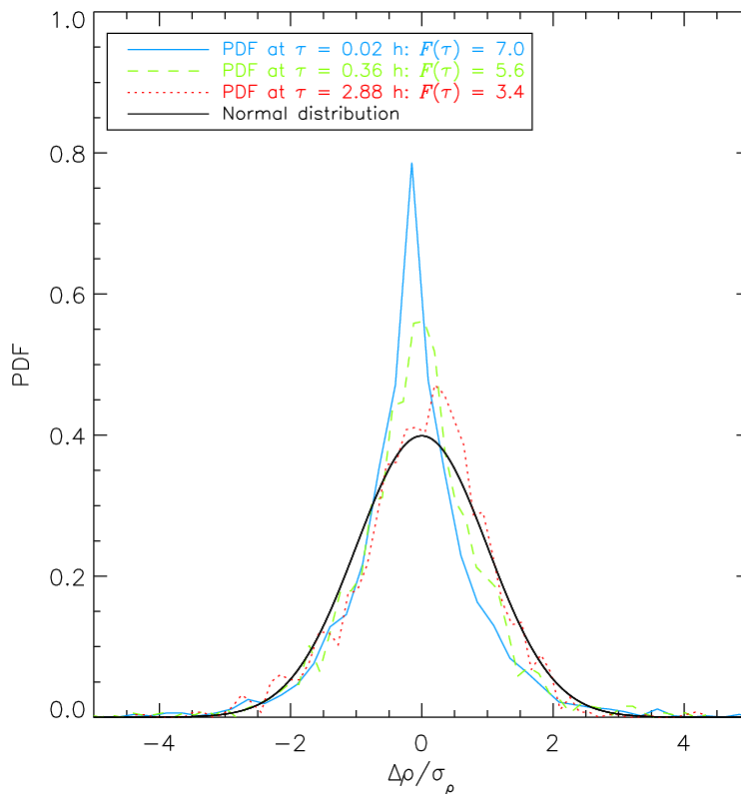


We can also see the following image where baryonic matter is moving from higher energy densities to lower energy densities within the contour map of Dark Matter:

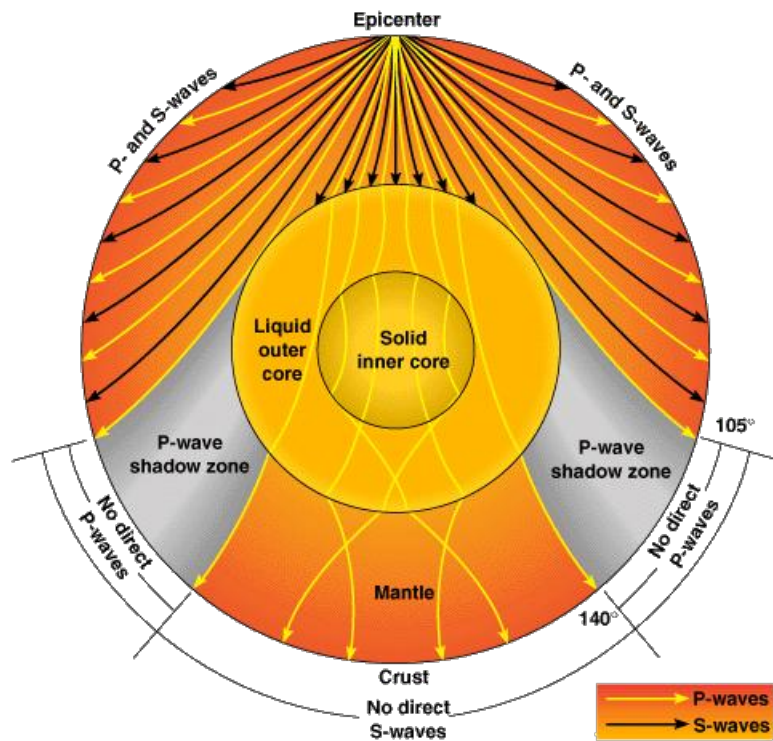


<https://www.mdpi.com/2075-4434/6/2/43#>

The space time particle cloud has another component much like electron cloud also has a nucleus cloud which exerts forces upon baryonic matter and we will call proton/neutron space time particle cloud cloud. This proton/neutron related space time particle cloud located at the nucleus of the electron related space time particle cloud will be very compact and baryonic matter within this cloud will accelerate in a similar manner to how baryonic matter accelerates in the electron related space time particle cloud which may be in the opposite direction of the highest energy density towards the adjacent lowest energy densities within regions of this cloud due to the space time particle repulsion and or what the space time particle emits. Furthermore, a quark related space time particle cloud can also exist within. The proton/neutron related space time cloud may also have radiuses with an inwardly type of gravity and an outwardly type of gravity. A spherical proton/neutron related space time particle cloud may allow the existence of black holes where the inside of the black hole resides in the middle of the proton/neutron related space time particle cloud if there is a probability void, however if there is no probability void and the exact center is the densest probability than the black hole will be free of baryonic matter and empty due to immense repulsion forces caused by the proton/neutron related space time particle cloud which could be via charge where the positive charge of the proton/neutron space time particle cloud repulses the nucleus clouds of baryonic matter away from the black hole with the event horizon at the edges of this proton/neutron related space time particle cloud. The following probability density curve of the proton implies there is no probability void:



However the repulsion may also be due to radiation upon the baryonic particles via whatever particle that is emitted by proton/neutron related space time particle cloud, or perhaps even transfer of momentum of the cloud to baryonic particles or any other mode describing acceleration upon baryonic matter with the electron related space time particle cloud. This would also allow black hole jets to occur traversing spherically the edges of the proton related space time particle cloud from the accretion disc and meeting at the axes to create jets on each side without passing the event horizon due to repulsion. The proton/neutron related space time particle cloud may also emit particles just like conventional known protons however with a different particle and this may cause repulsion upon baryonic matter towards the lowest energies imparted upon the baryonic particle from this proton/neutron related space time particle cloud. These concepts may then further be applied to the Sun which would solve the Solar neutrino problem where the Sun has a hollow internal region due to the proton/neutron related space time particle cloud which props up an outer spherical layer of the Sun via the outwardly type of gravity of the proton/neutron related space time particle cloud against the inward type of gravity of the electron related space time particle cloud with the Sun's shell supported from both sides in between. Furthermore, this may also allow a hollow sphere to exist within the Earth if there is a strong enough proton/neutron related space time particle cloud within the Earth and this may explain the seismic shadows observed via Earthquakes which may be a result of seismic reflections from the interior surfaces of the spherical shell of the Earth facing the hollow void within the Earth being the cause of the reflections.



When a star goes Supernova, it may be that the space time particle cloud transitions from a higher energy state which held the star together into an s electron orbital shaped space time particle cloud. This would repulse baryonic matter of the Star away that are located at the radiuses of the 1s electron orbital shaped space time particle cloud resulting in an explosion of the star, the reduction of inward acceleration due to the new lower energy electron related space time particle cloud may not be enough to hold back the stars outwards pressure resulting in a Supernova. The remnant may remain due to inwardly type of gravity portions of the 1s electron shaped space time particle cloud due to the hole in the 1s orbital shaped space time particle cloud and be propped up by the proton/neutron related space time particle cloud resulting in a hollow sphere within the remnant. However the 1s electron orbital shaped electron related space time particle cloud may also be the cause of black holes and central voids in the Sun or planets using the same mechanisms described by the proton/neutron related space time particle cloud previosly, and within is also a proton/neutron related space time particle cloud and in between the boundaries of the proton/neutron related space time particle cloud and the electron related space time particle cloud is another smaller shell layer of baryonic matter. We just need to understand which space time particle cloud types may cause this.

The proton/neutron related space time particle cloud may interact with baryonic matter through charge. The proton/neutron related space time particle cloud may have a charge such as a positive charge which repels the positive charge of the nucleus clouds of baryonic matter. It may also attract the negative charges of electrons clouds of baryonic matter. This may allow hollow regions within the proton/neutron cloud devoid of baryonic matter due to repulsion if repulsion wins. These hollow voids may exist in black holes and stars. However a void is not mandatory as the proton/neutron cloud may also attract baryonic particles as well via charge if attraction wins. Again, via Van Der Waals forces however not adjacently interacting, but rather via smaller baryonic particle clouds interacting within

and with a cosmic sized space time particle cloud may be the cause of gravity where baryonic particle clouds want to accelerate towards the lowest adjacent potential in either case of repulsion or attraction.

Up til now we assumed that the electron related space time particle cloud is negatively charged and the proton/neutron related space time particle is positively and likely as such due to particle clouds behaving the same. However a chance possibility exists that the electron related space time particle cloud is positively charged and the proton/neutron related space time particle cloud is negatively charged and repulse or attract baryonic matter accordingly. However this seems less likely but wanted to mention this is something unexpected is going on. After all, it is Quantum Mechanics.

The Quantum Gravity Principle #2:

Electron related space time particle clouds are made of a type of fermion leptons having the orbital cloud shapes and densities that electron orbital clouds have however on larger scales. The proton/neutron related space time particle cloud is located within the middle of this electron related space time particle cloud and is made of fermion quarks having similar orbital cloud shapes and densities as proton/neutron clouds however at larger scales.

Black holes may exist due to the proton/neutron related space time particle cloud where matter is repulsed away from this space time type particle cloud. There may also be a small pocket in the middle of the proton/neutron related space time particle cloud where baryonic matter may reside and be immensely compacted due to regions of this proton/neutron related space time particle cloud inducing an inwardly type of gravity with the caveat that the proton/neutron related space time particle has lower probability in the exact middle like the 1s electron orbital, however unlikely. If the proton cloud has a hollow central region, much like the 1s electron orbital, gravity would be immense at the border of zero probability and where probability of the proton/neutron related space time particle cloud begins which may allow black holes to form through these latter reasons instead of the fully outwardly type of gravity of the proton/neutron related space time particle cloud as mentioned earlier. However, if strong enough, the 1s electron orbital may also repulse matter enough to create a black hole with a void inside and this can also apply to star's and planet's cores. At the moment, more research is needed to determine if the proton/neutron related space time particle can cause this or a 1s electron orbital shaped space time particle cloud can.

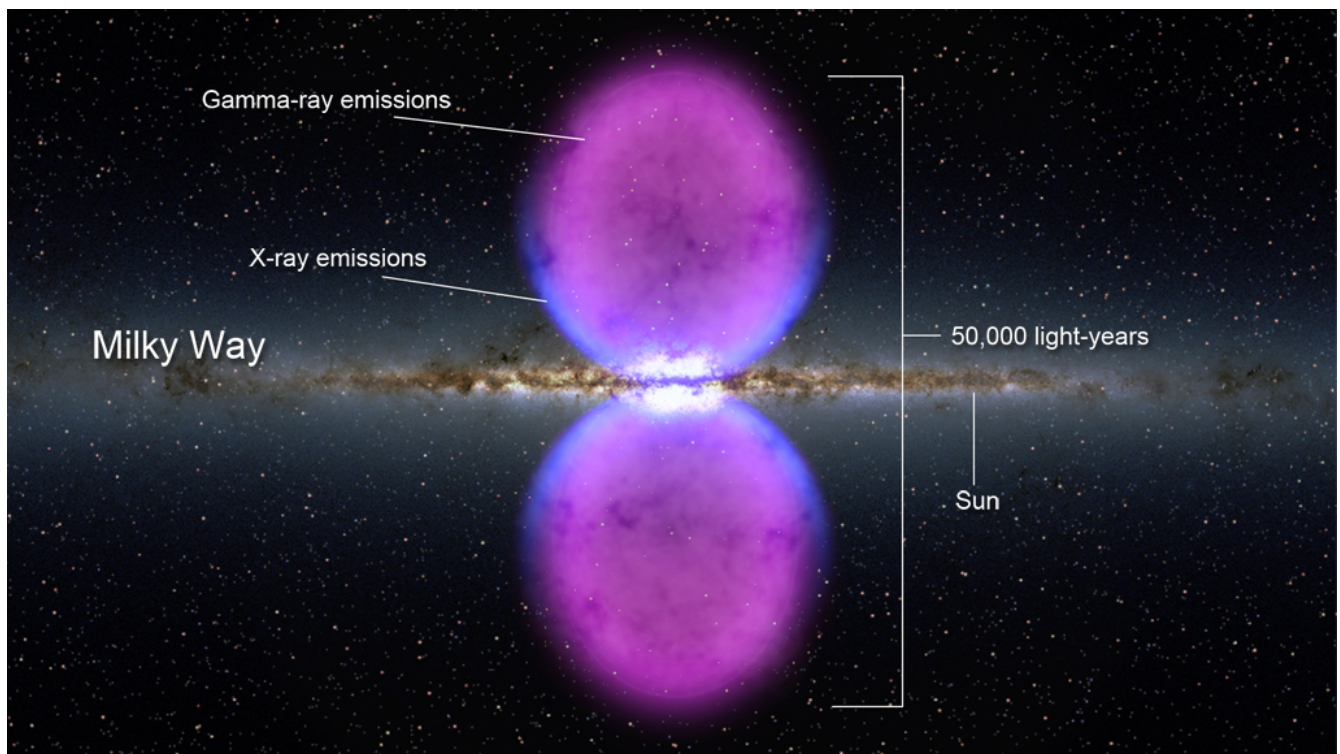
The Quantum Gravity principle #3

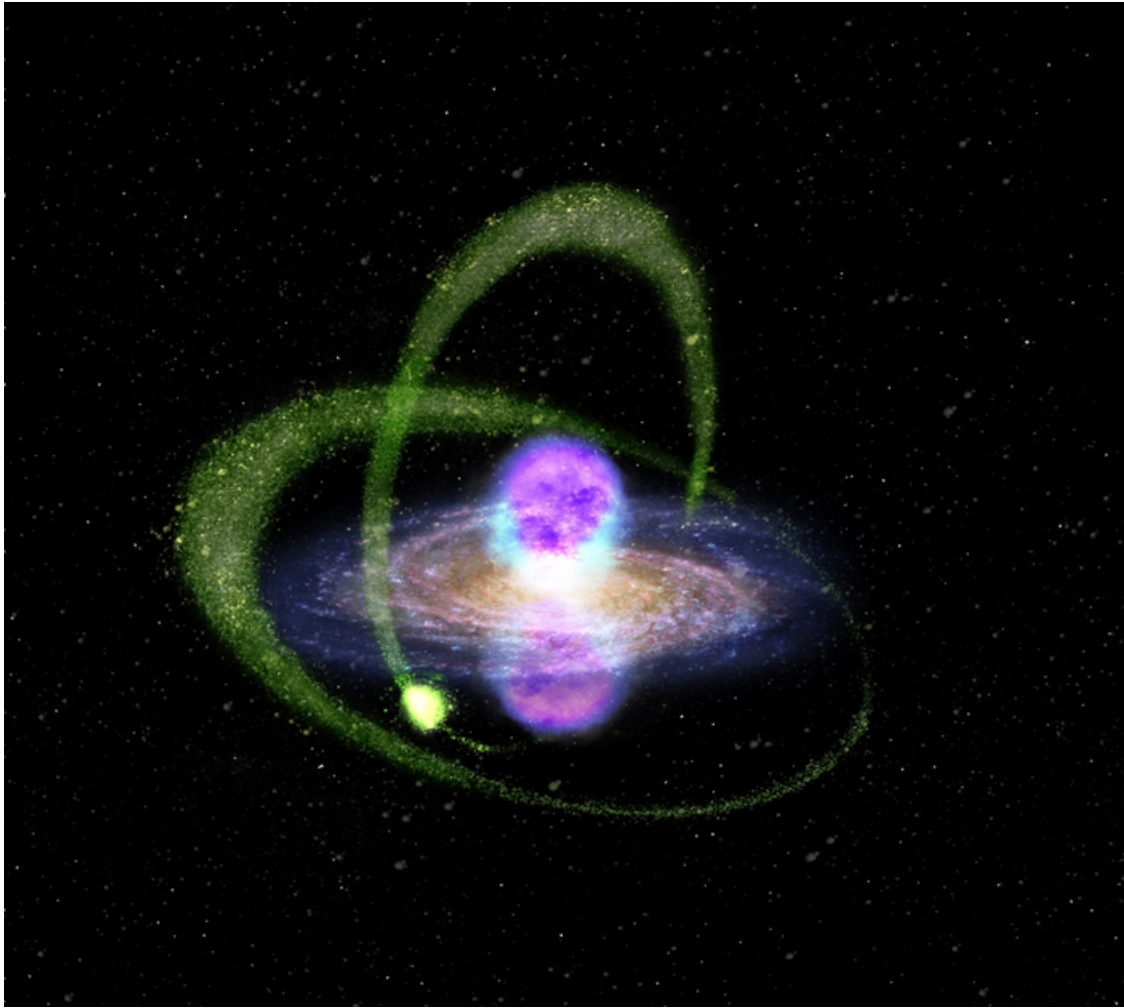
The proton/neutron related space time particle cloud is a major contributor to the activity of the Sun and the mechanics at the center of quasars and galaxies.

The proton/neutron related space time particle cloud instead may also be in a superposition and the momentum of the cloud or of regions in the cloud may impart energy onto baryonic matter to accelerate it. Much like the recoil of a particle imparting its energy or similar to how electron clouds may impart their energy when momentum is measured, so is possible with the proton/neutron space time particle cloud where it transfers energy to baryonic mass to accelerate it. Another possibility is that the particle clouds of baryonic matter particle may impart their momentum upon the space time particle cloud as well resulting in acceleration of the baryonic mass.

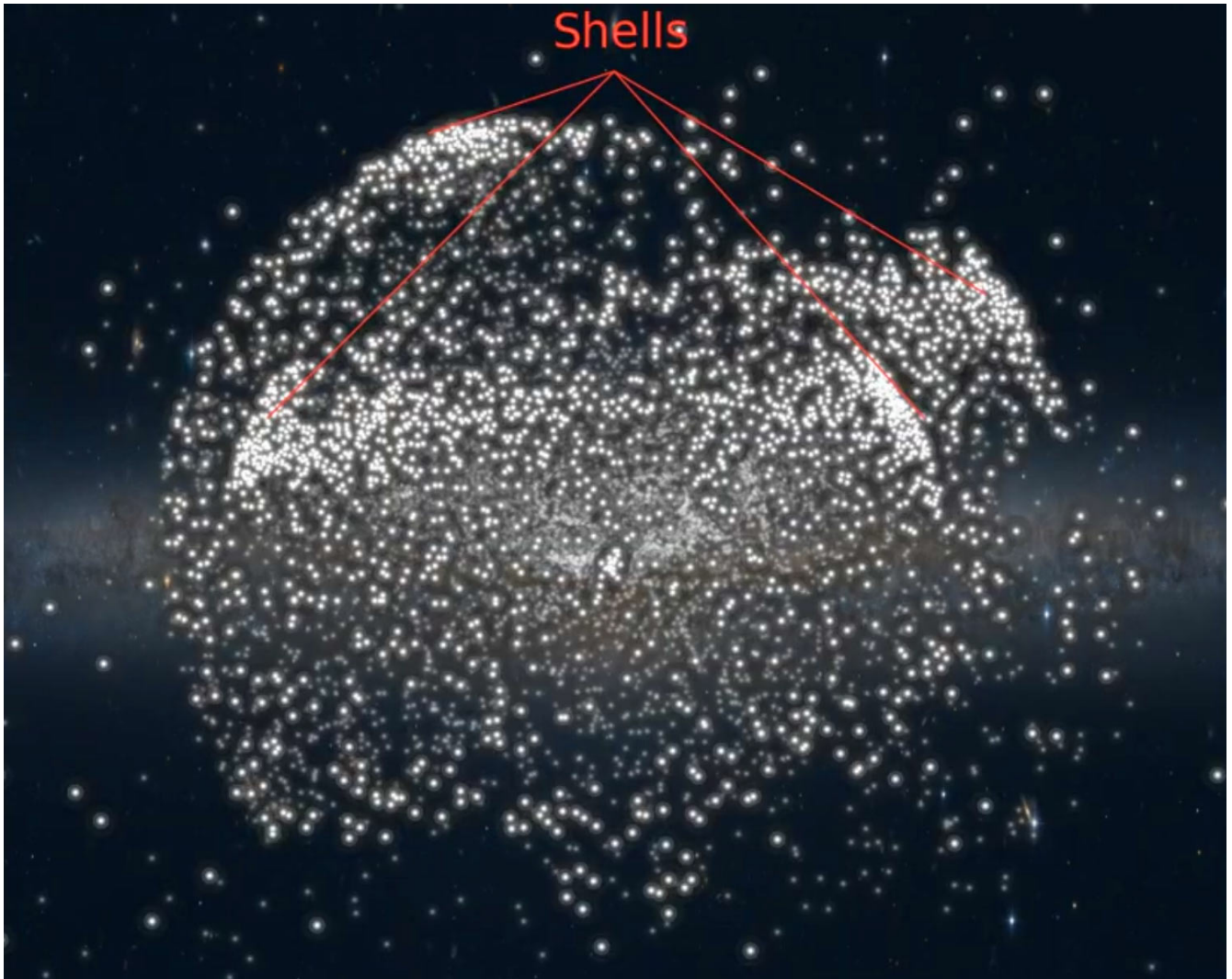
Whenever supernova events are detected or events which cause gravitational waves occur, the space time particle cloud of Earth or of the Sun will oscillate if these gravitational waves pass us or possibly may transition the space time particle cloud of the Earth or the Sun to a more excited state or a higher vibrational state if no excitations occur and this may cause weather events on Earth due to fluctuations in gravitational forces. Storms have occurred when supernova events have occurred or when gravitational waves were detected on Earth which may be due to gravitational forces changing due to gravitational waves which causes the morphing of the space time particle cloud of the Earth or the Sun. Even supernovas have affected the Earth's ionosphere which may be due to gravitational fluctuations caused by gravitational waves of the Supernova or neutrinos interacting with the space time particle cloud. The 1987s Supernova occurred on February 23 1987. A significant winter storm also occurred within the same date names the nor'easter winter storm between February 22 and February 24 1987.

Multipoles of the CMB that do not align with any plane of the Earth may be the space time particle cloud of the Milky Way, the galaxy cluster we are located in, up to the space time particle clouds of the observable universe, than the universe, and thereafter possibly other universes. There are also lobes aligned to the axis of the Milky Way and this may be a part of the space time particle cloud of the Milky Way. Furthermore, the Vast Polar Structure may also be caused by the space time particle cloud around the Milky way from a 3d or 2p or similar electron orbital shaped space time particle cloud.



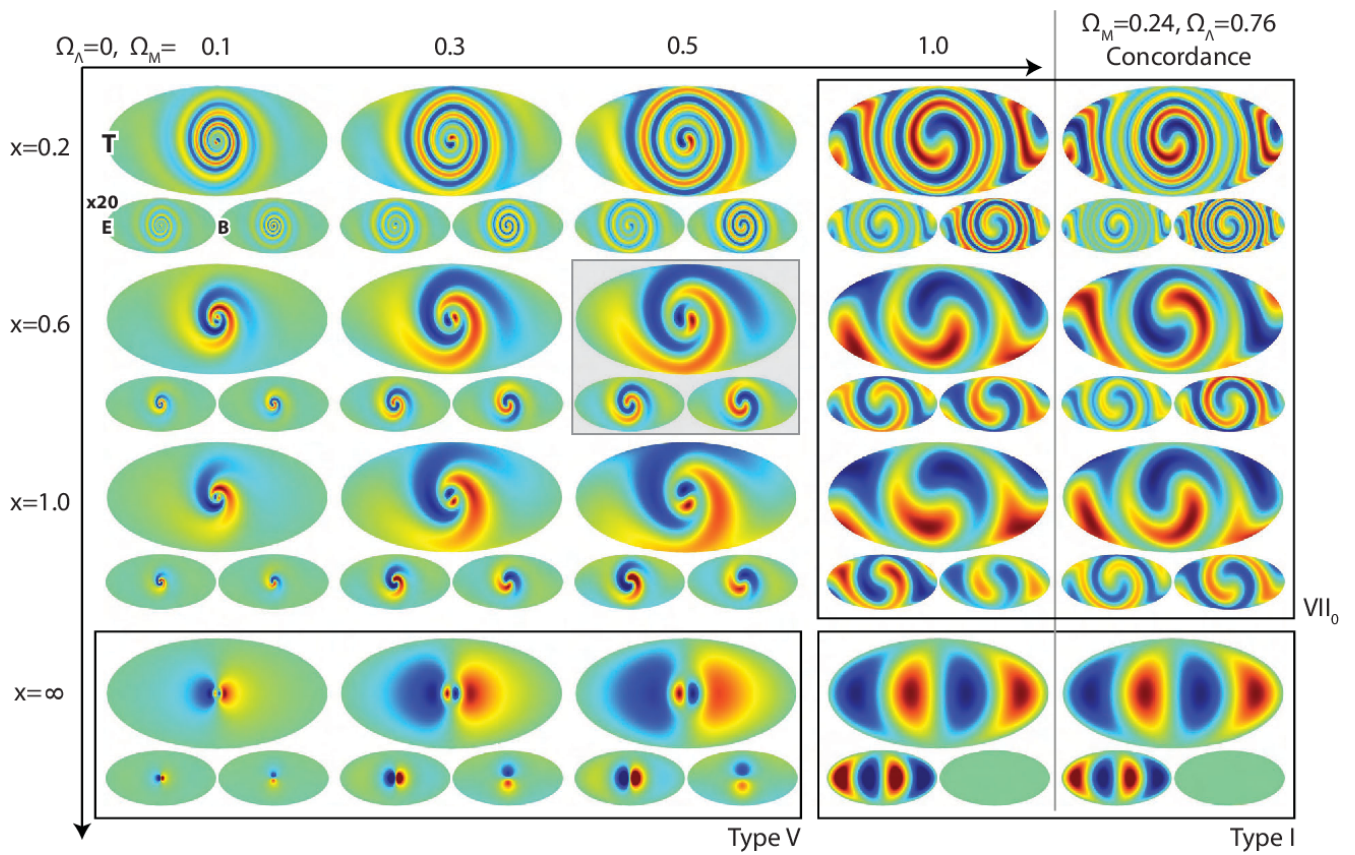


The outer spirals may be baryonic matter within a higher energy s-orbital electron cloud related space time particle cloud and same for the shells around the Milky Way.



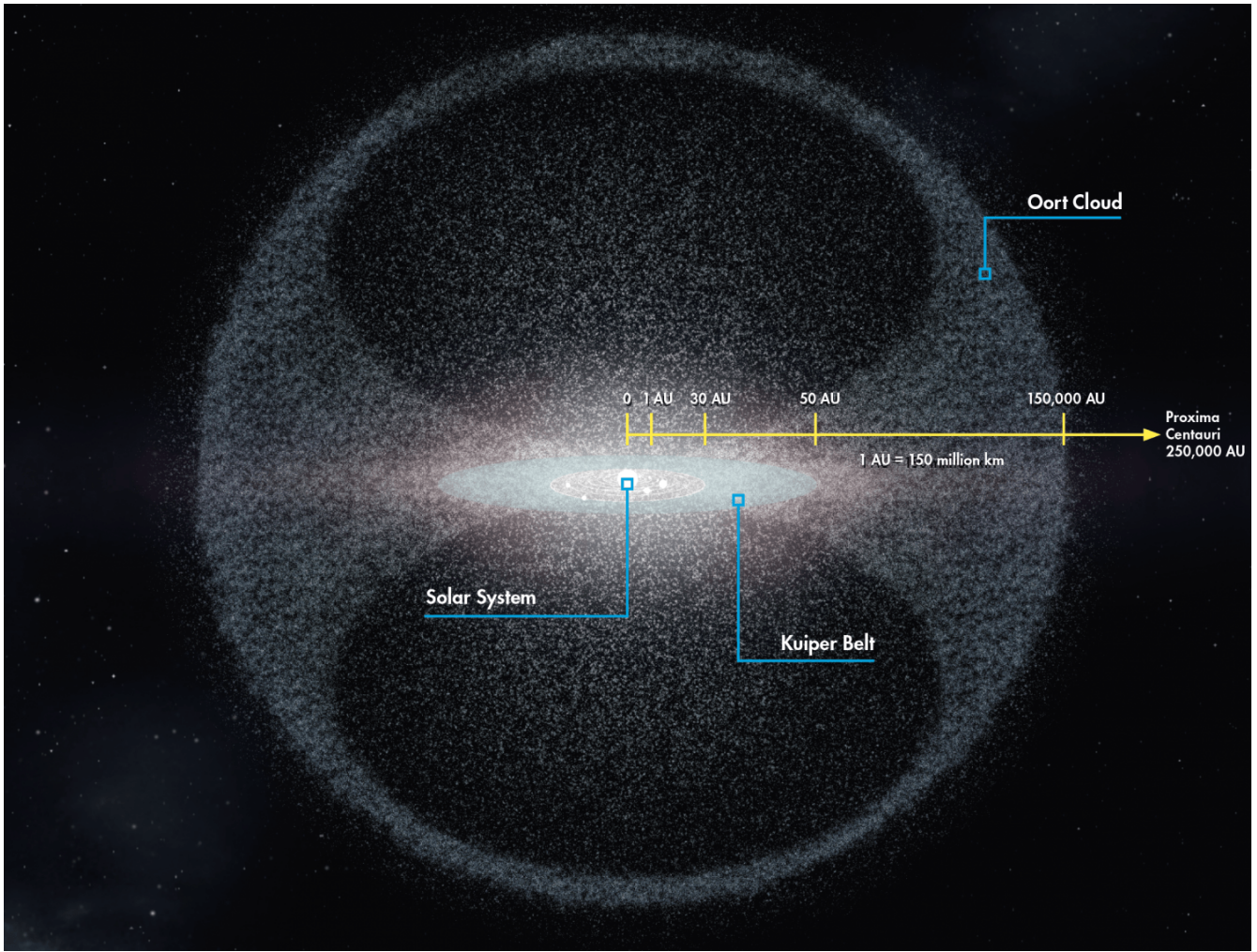
<https://scitechdaily.com/first-of-their-kind-shell-structures-found-in-milky-way-evidence-of-galactic-collision/>

Furthermore, the majority of the following maps may be a view of the space time particle clouds of the Milky Way especially Type V patterns that have lobes:

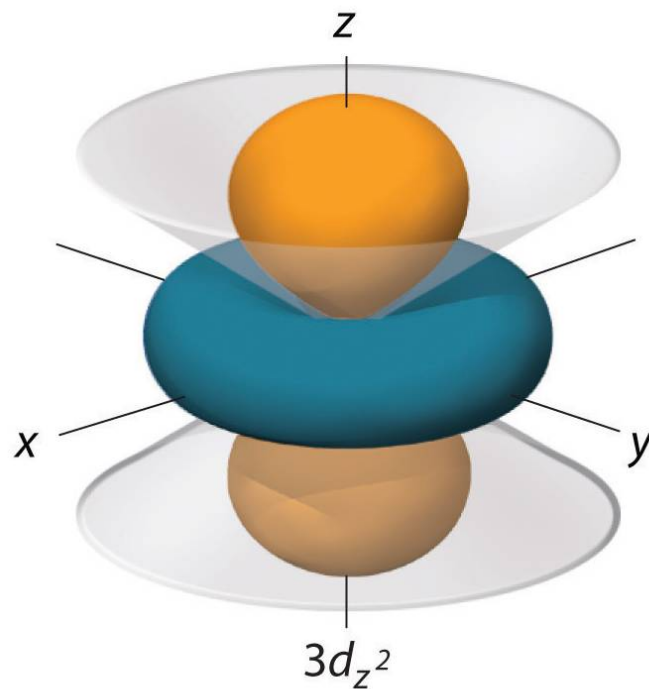


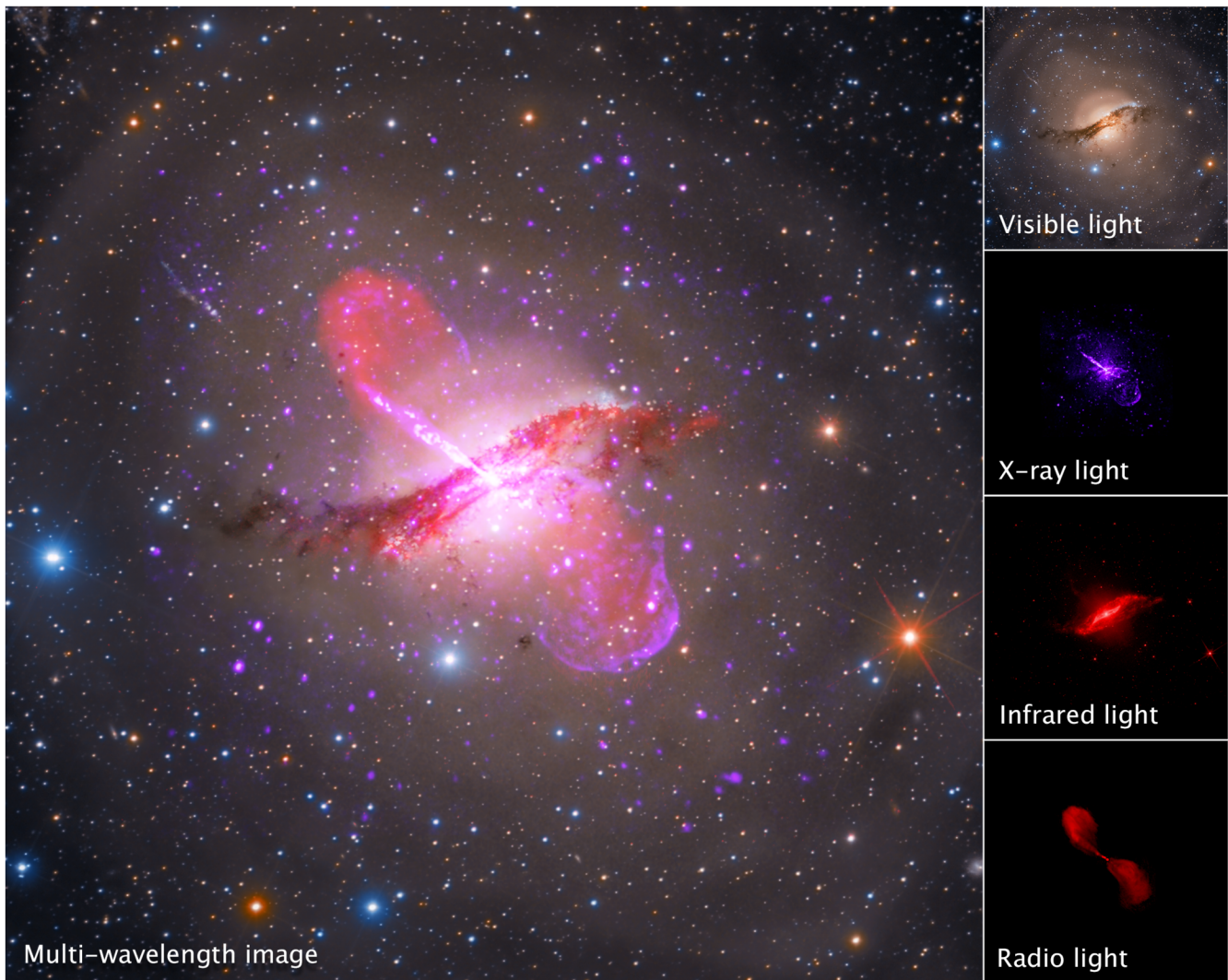
<https://www.semanticscholar.org/paper/Rogues'-gallery%3A-the-full-freedom-of-the-Bianchi-Pontzen/b852a4eeaa9ad9d8a78f69f73f69c939704663c1/figure/0>

The oort cloud of the solar system appears to have lobes as well:



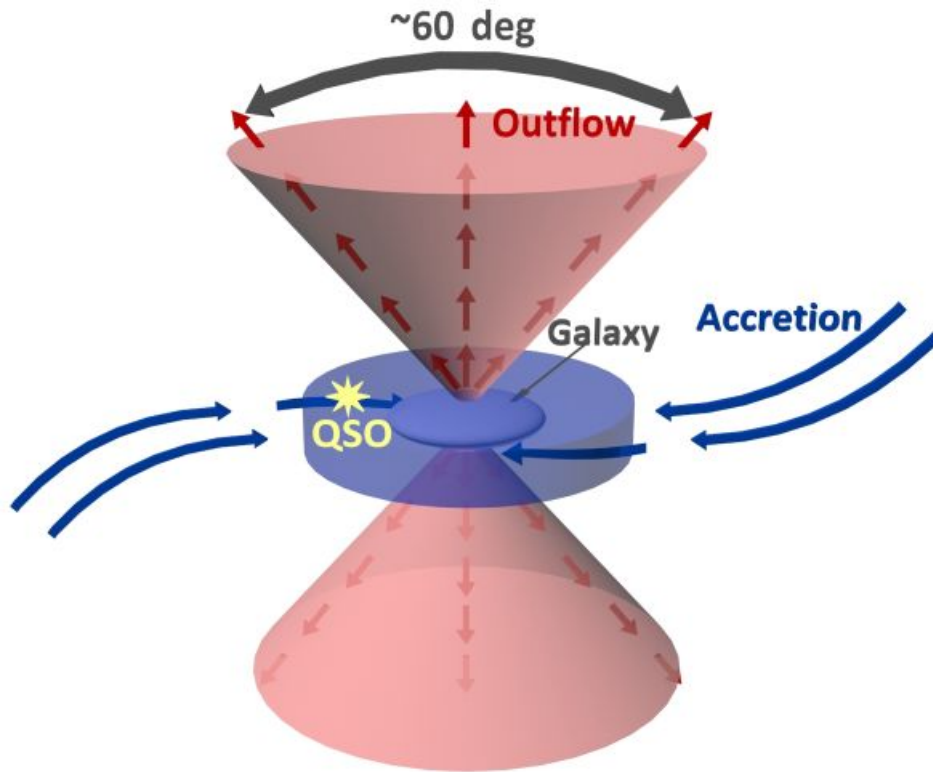
We can also see that quasars assume the shape of the 3d electron orbital shapes in following images:





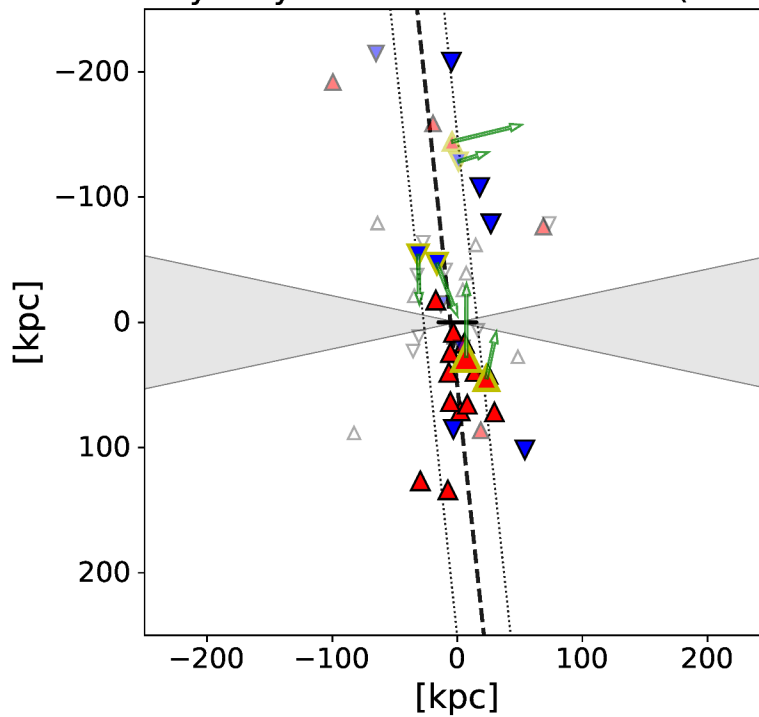
<https://webbtelescope.org/contents/media/images/2021/015/01F0SYGF8QVZSSKFECRFBAM9RE?Tag=Active%20Galaxies/Quasars>

Furthermore, it is possible that a cosmic structure such as a galaxy, cluster or even the observable universe may have a space time particle cloud similar in shape as the 3d electron orbital with a torus. In this case the galaxies may rotate within the inner sides of the torus and be affected by their own smaller space time particle clouds as well. Baryonic matter may also be ejected through the angular node portions such like the image below which has the same shape as the angular nodes of the 3d electron orbital:

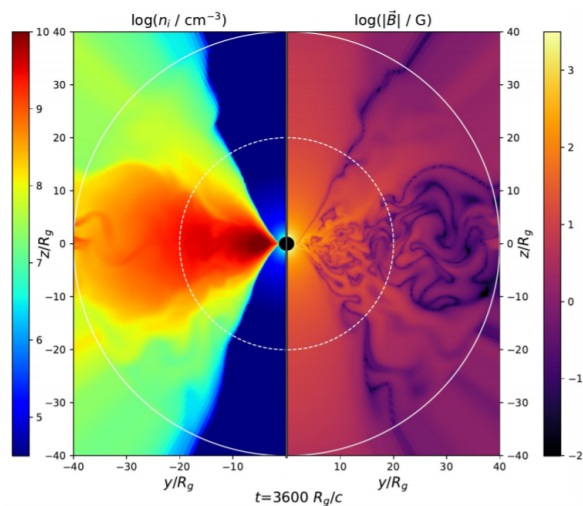


If the Milky Way has a 3d electron orbital shaped space time particle cloud, the two lobes may have matter traversing them such as in Vast Polar Structure in the Milky Way:

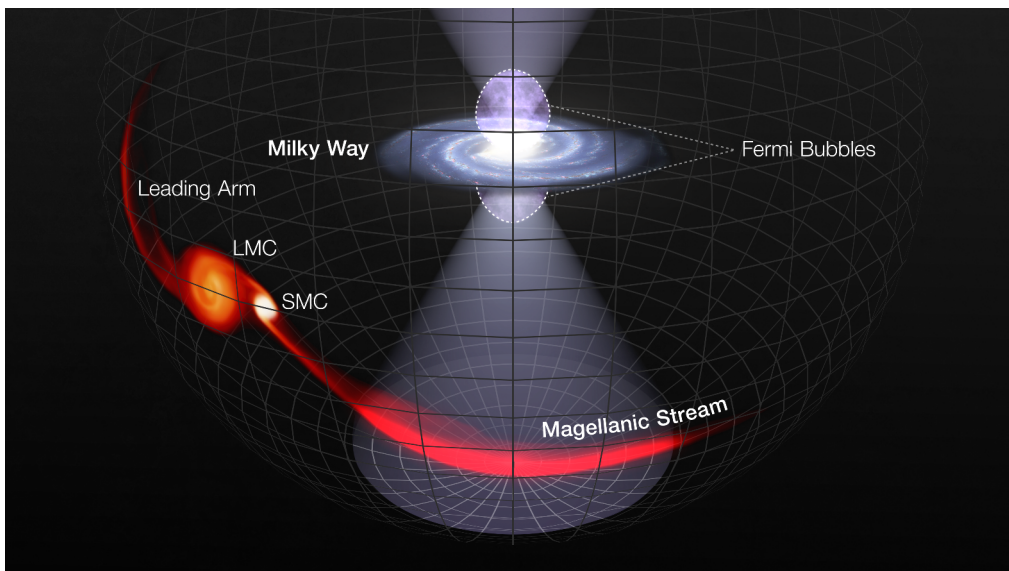
Milky Way's Vast Polar Structure (VPOS)



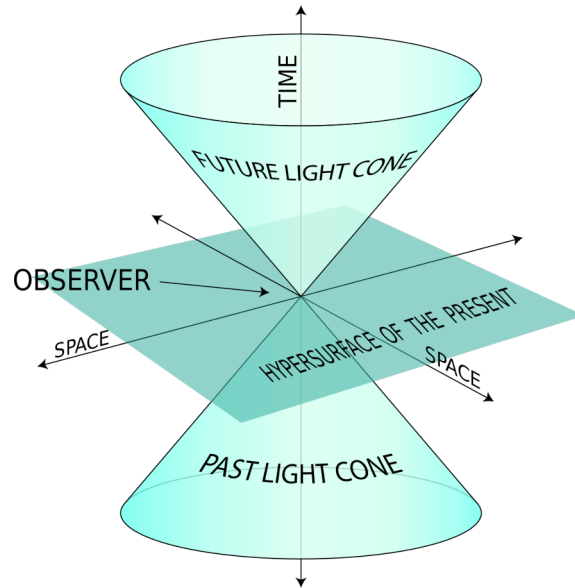
Here is a black hole with external regions having the shape of the 3d electron orbital:



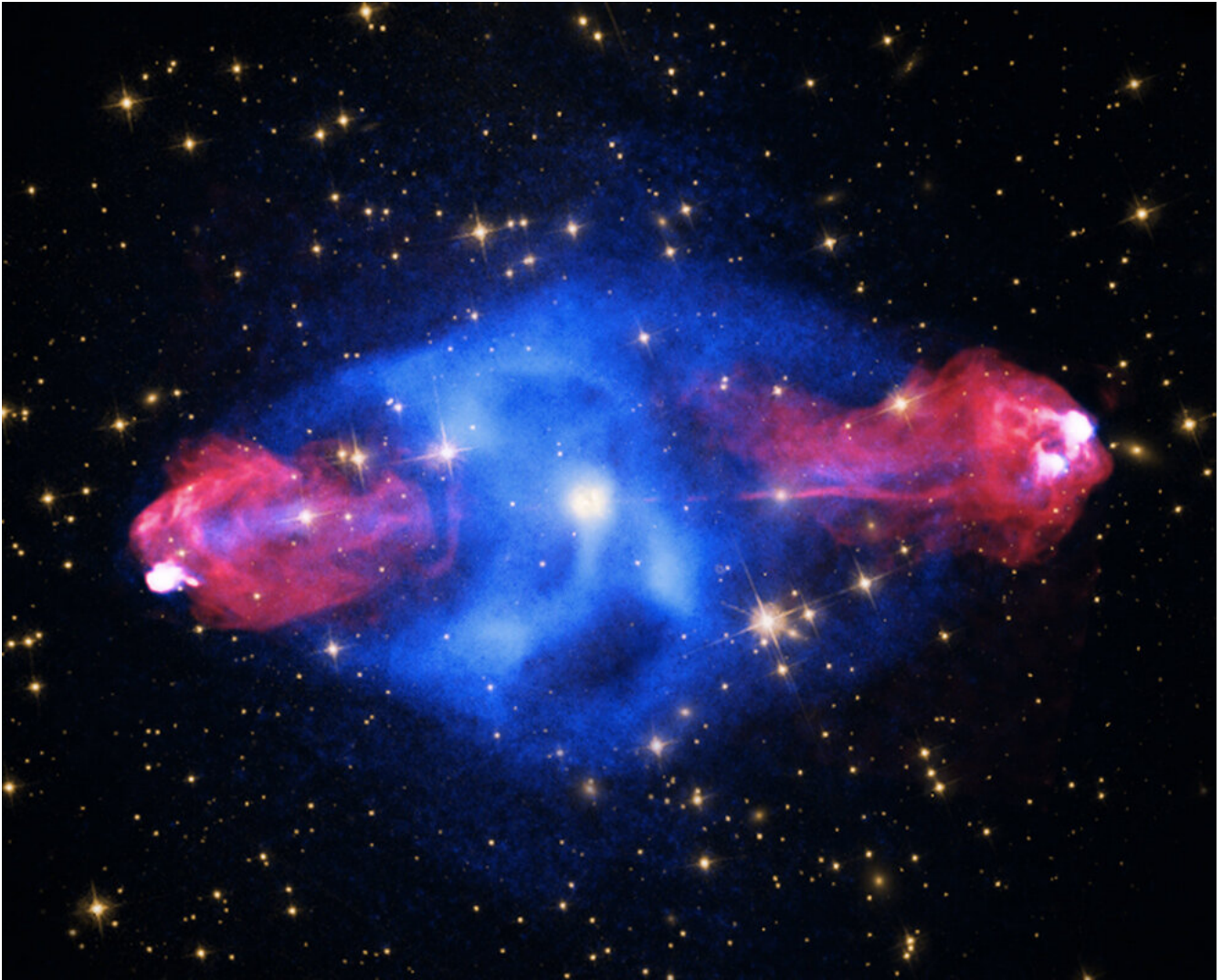
Here is the Milky Way with cone shapes like the 3d electron orbital which possibly may be the angular nodes in the space time particle of the Milky Way:



It is also interesting to note that the light cone has the same shape as the angular nodes of the 3d electron orbital, is there a relationship here?:



Also, baryonic matter can get so dense within a space time particle cloud that the distribution of baryonic matter can start resembling the shape and densities of the space time particle cloud that the baryonic matter is located within. This is so due to the repulsive nature of the space time particle nearby or the particle it emits imparting most if not all its energy on the baryonic particles nearest to it and this emitted particle from the space time particle thus cannot travel very far through the thick baryonic matter field. These space time particles are able to appear in these dense regions by being excited into these regions from a lower energy state space time particle in a lower orbital that absorbed a particle to excite the space time particle. This particle that is absorbed and later emitted at another location can be a Neutrino or perhaps a Graviton, however it may be any other particle and more research is needed. Below are a few images of baryonic masses that have the same shapes as electron orbitals which in turn are likely due to the space time particle cloud these baryonic particles are in having the same shape also yet on cosmic scales:



Thus the shape of the baryonic cosmic structure can be used to infer the shape of the space time particle cloud in some instances when the space time particle cloud is highly populated with baryonic matter.

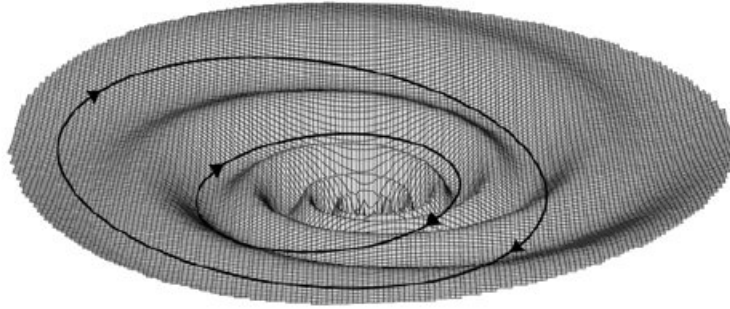


Figure 14: The gravitational potential of a bisymmetric spiral galaxy with an exponential mass distribution plotted on a vertical axis against the galactic disc on a horizontal plane. Potential closely follows the mass distribution. The alignment of osculating elliptical orbits with troughs in the potential is shown. True orbits precess in both directions while remaining aligned with the arms.

Another possibility is that these gravitational waves are so strong that they emit radiation. Some bands may be very small and others very large like those produced from the Large Cold Spot. These bands may also form spirals possibly allowing spiral arms to exist in galaxies on smaller scales.

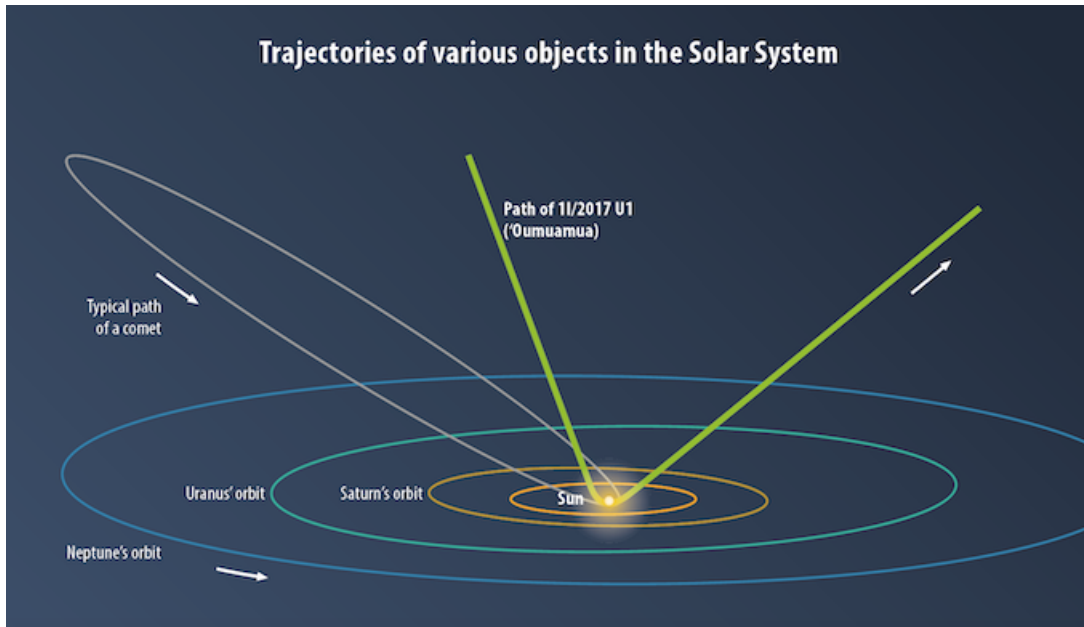
The following Youtube Video may be used to understand the concepts described if you imagine the electron cloud in the video as an electron related space time particle cloud and the electromagnetic waves in the video as being gravitational waves however on a two dimensional plane. The cold spot may be the analogous to the 1s orbital in the video which was once a higher energy orbital that held baryonic matter such as the 4 lobes of a previous 3d electron orbital shaped space time particle cloud which now has a large outwardly repulsive portion of the 1s electron orbital shaped space time particle cloud causing the Dark Flow or Dark Energy, or now a lack of a local space time particle cloud where there once was one and now causing Dark Energy.

<https://www.youtube.com/watch?v=aQZnMIYO8cM>

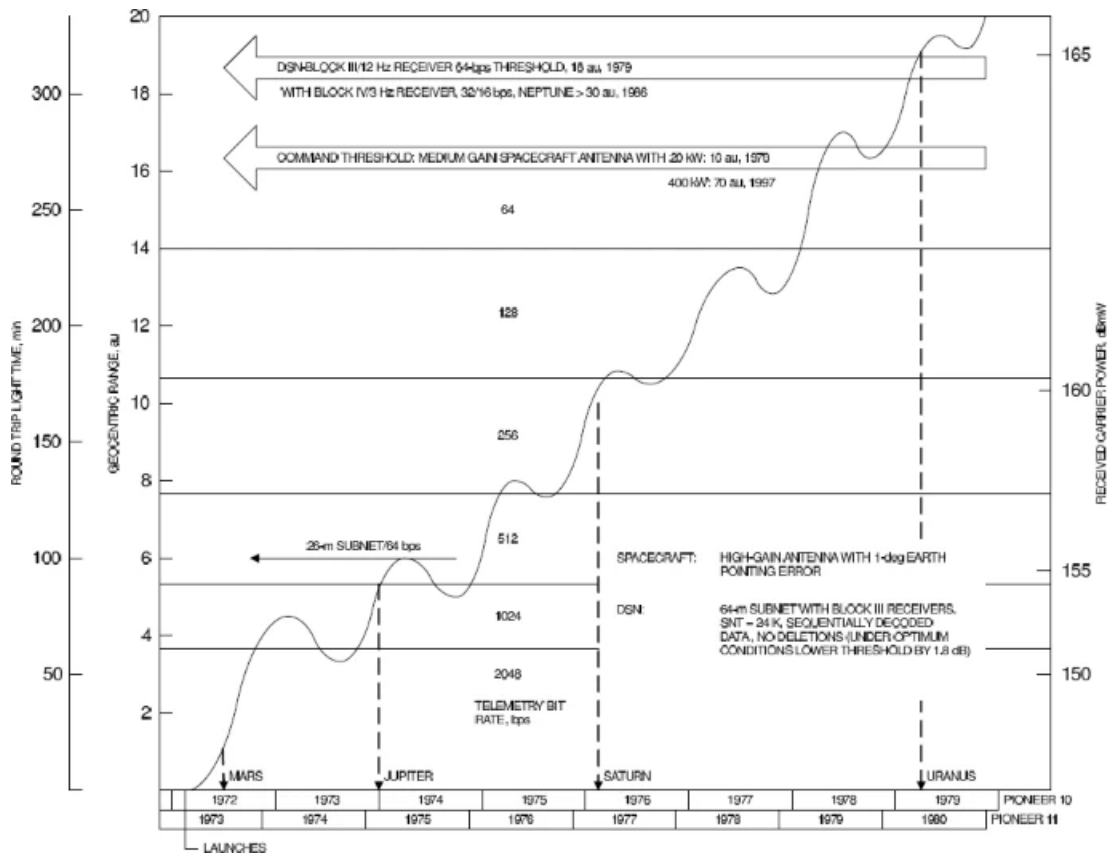
When a space time particle cloud transitions to a higher or lower state that is a large jump, it may be a very dynamic event and does not occur instantly. This would cause the baryonic matter within this space time particle cloud that is transitioning states to become very erratic and shake up the baryonic mass within this space time particle clouds. These are the reasons supernovas may occur. Furthermore, star formation and other dynamic events may also occur due to this. What appears to be galaxy cluster's merging may also be caused by this instead of clusters merging that were once separated and isolated. The formation of black holes and galaxies may also occur due to these transitioning events of the space time particle cloud exciting or de exciting from one level to another.

Space time particle clouds are made of standing waves like the electron orbital is made of standing waves however on galactic scales. These standing waves have regions where probability is low such as

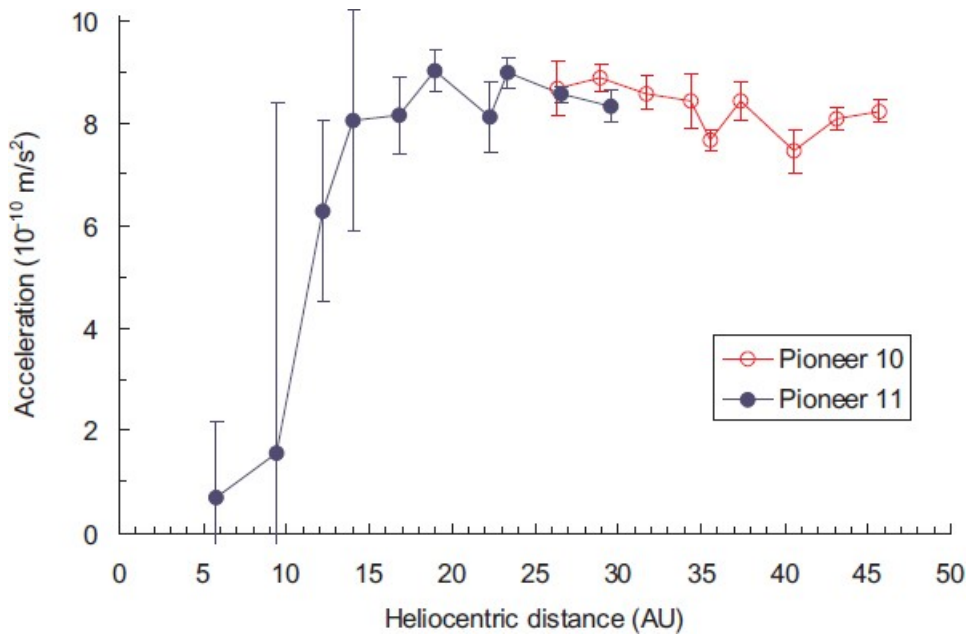
the angular nodes within the 3d electron orbital shaped space time particle cloud. This may have been the reason for the anomalous acceleration away from the Sun of comet Oumuamua where the comet traversed close to the or within the angular node of the Sun's space time particle cloud which has a less dense space time cloud to travel through relative to the ecliptic resulting in less acceleration directed towards the Sun with relatively less dense regions resulting in less repulsion towards the Sun.



Furthermore, cyclical accelerations and decelerations may also be caused by the standing waves of the space time particle cloud around the Sun as may be experienced by the Pioneer probe due to the contraction and expansion of the standing wave or very small regions of the space time particle cloud that repetitively increase and decrease in density however on average increases in density at larger radiuses resulting in cyclical repulsive forces upon baryonic matter. Please see the Cyclical acceleration and decelerations of the Pioneer anomaly which may not be fully explained by the Earth's movement.



The space time particle cloud may also explain the Pioneer anomaly due to a higher than thought acceleration inwards with distance due to a thickening space time particle cloud:



<https://link.springer.com/article/10.12942/lrr-2010-4>

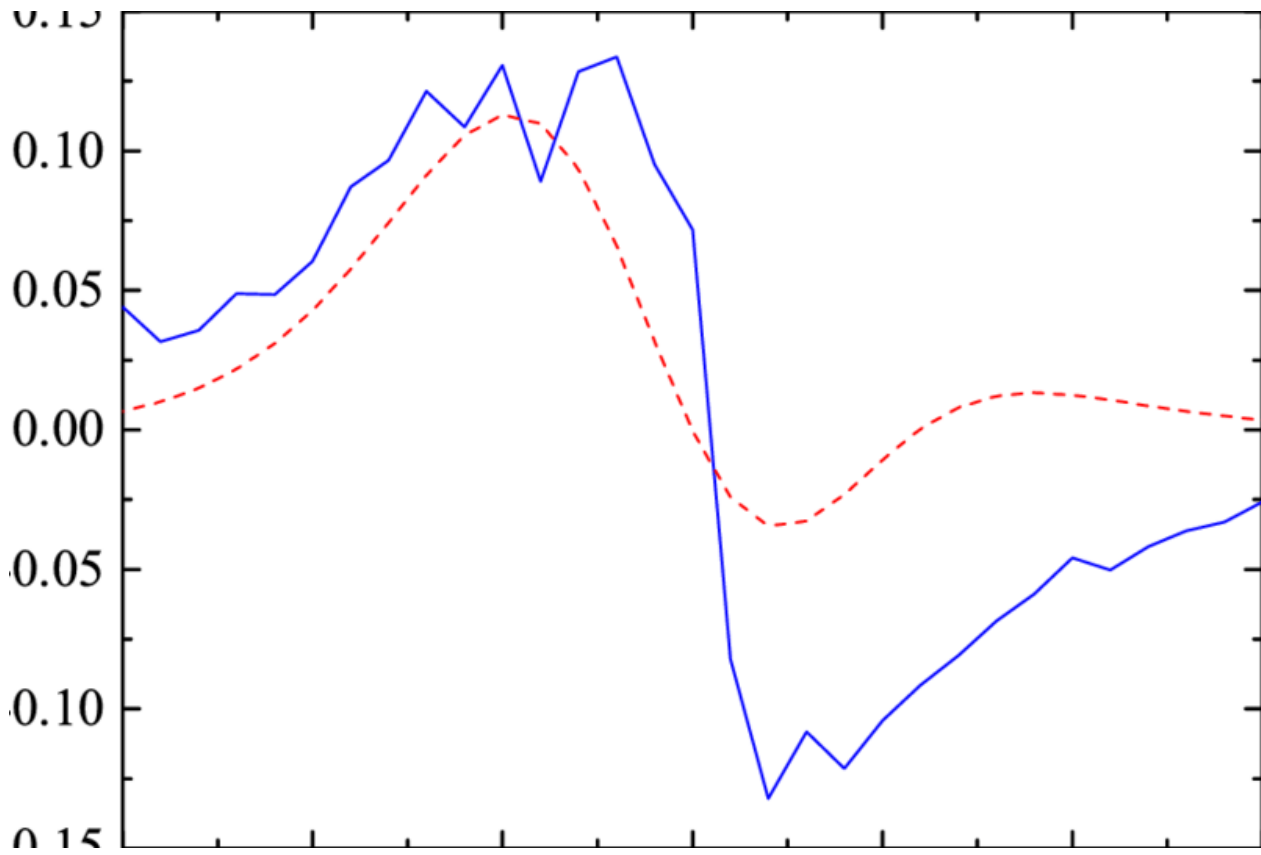
The vertical oscillations of the Sun as it orbits the Milky Way may also be caused by the standing waves of the space time particle cloud belonging to the Milky Way or differing densities within the space time particle cloud.



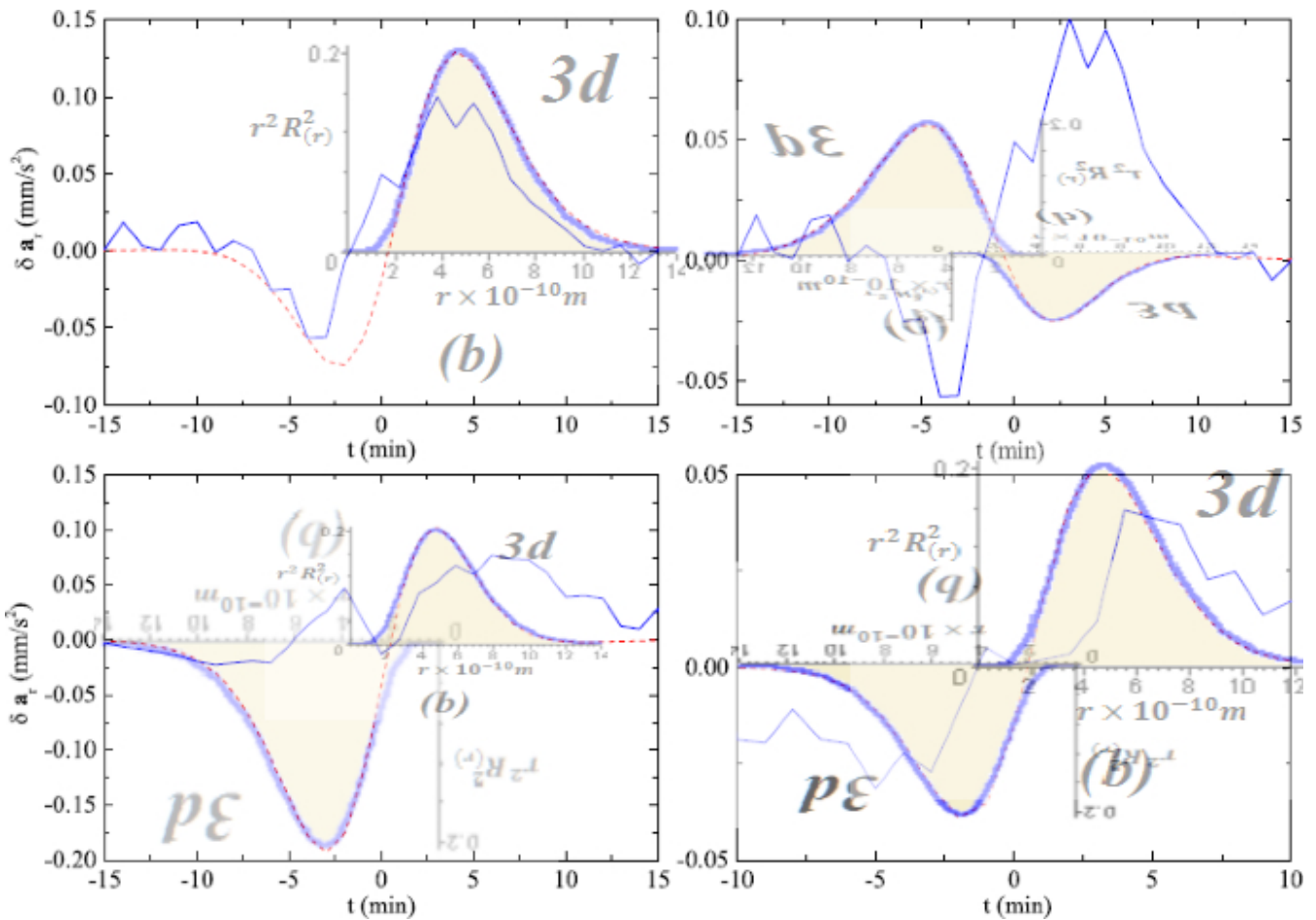
A far more correct (though exaggerated vertically for clarity) depiction of the Sun's motion around the Milky Way galaxy has it bobbing up and down every 64 million years due to the gravity of the galactic disk.

Image credit: Chris Setter/Phil Plait

The density of the space time particle cloud which gets denser with distance belonging to and around the Sun seen through the multipoles aligned with the ecliptic may explain the anomalous deceleration of the pioneer probe as this probe may have had to traverse a “steeper” well than thought which is related to the space time particle cloud density and the repulsion caused and not curvature of space time. The flyby anomalies may also be explained where the space time particle cloud around a planet may have a 1s plus a 2p or 3d electron orbital shaped space time particle cloud and the way the space craft traverses this cloud may cause the net acceleration or decelerations experienced by space crafts as seen in the flyby anomaly. Furthermore, the flyby anomaly acceleration curve matches the radial probability distribution curve of either the 1s electron orbital or the 3d electron orbital which may have a relation to the space time particle cloud. In the following image is super imposed the 3d electron orbital radial probability distribution:



Below fly by anomaly graphs are overlaid with the 3d orbital radial probability distribution curve, interestingly the 1s curve fits better and almost exact.

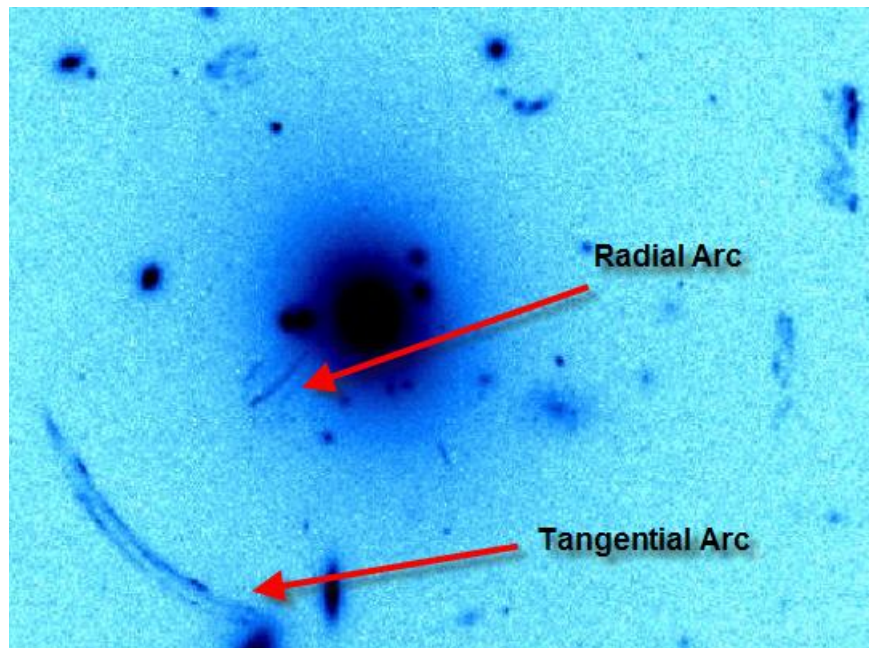


<https://link.springer.com/article/10.1007/s10509-017-3205-x>

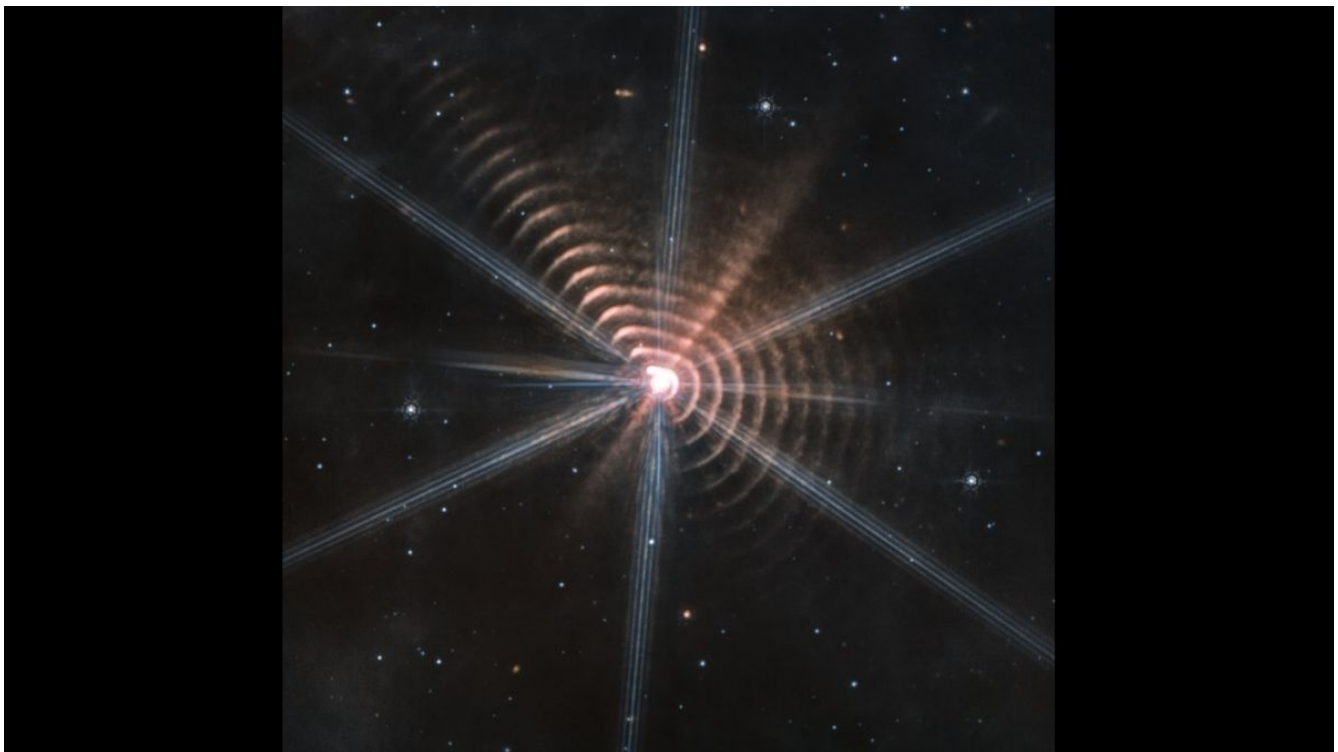
The space craft may be traversing angular nodes in the space time particle cloud belonging to and around the planet in some moments.

Problems This Theory Solves:

The Solar neutrino problem and Dark Energy may be explained by mechanisms explained. The rotation curves of galaxies may exist as they are because the repulsion forces caused by the space time particle cloud is enough to accelerate baryonic matter inwardly to maintain the rotation curves observed of the galaxies in question and each galaxy may have a differing and not universal gravitational experience based on the space time particle size, state and activity. CMB anisotropies may also be explained by space time particle clouds belonging to their own cosmic baryonic structures which are seen as a net hot and cold adjacent regions caused by the space time particle clouds belonging to the baryonic structure with the center of the baryonic structure (stars, galaxy clusters) being located between their space time particle cloud which is between adjacent hot and cold regions in the CMB. The Large Cold Spot in the CMB may also be explained and the cause of the Dark Flow is due to the Large Cold Spot which is made of a space time particle cloud. This possibly 1s electron shaped space time particle cloud may also be in the process of expanding if the transition from the previous excited state has not fully finished resulting in the stretching of photons passing through this space time particle cloud resulting in the cooler temperature of the photons from the Large Cold Spot which are stretched. All the multipoles in the CMB are also explained. We can use this knowledge to filter out the hot and cold regions in the CMB caused by foreground space time particle clouds to see if the Big Bang actually occurred. Black holes may also be explained however this requires much more research as there is almost zero observational evidence relatively speaking of the proton/neutron related space time particle cloud with the exception of radially distorted gravitational lensing which may be caused by the proton/neutron related space time particle cloud due to its concentrated repulsive nature, however this may also be caused by a very compact 1s electron orbital shaped space time particle cloud belonging to a higher S orbital state space time particle cloud.



The gas rings around the image of the following star which are square shaped may be caused by a space time particle cloud with four lobe and the corners may be caused by this gas located within the angular nodes of the space time particle cloud due to less repulsion from the space time particle clouds from differing angles:



<https://www.space.com/james-webb-space-telescope-odd-ripples-image>

Furthermore, a possibility is that the space time particle cloud of this star may be transitioning or the standing waves of the space time particle cloud may be emitting gravitational waves that when they cross paths in the middle they become temporary standing waves resulting in concentric regions where higher energies impacted on the external sides of each ring compact the ring.

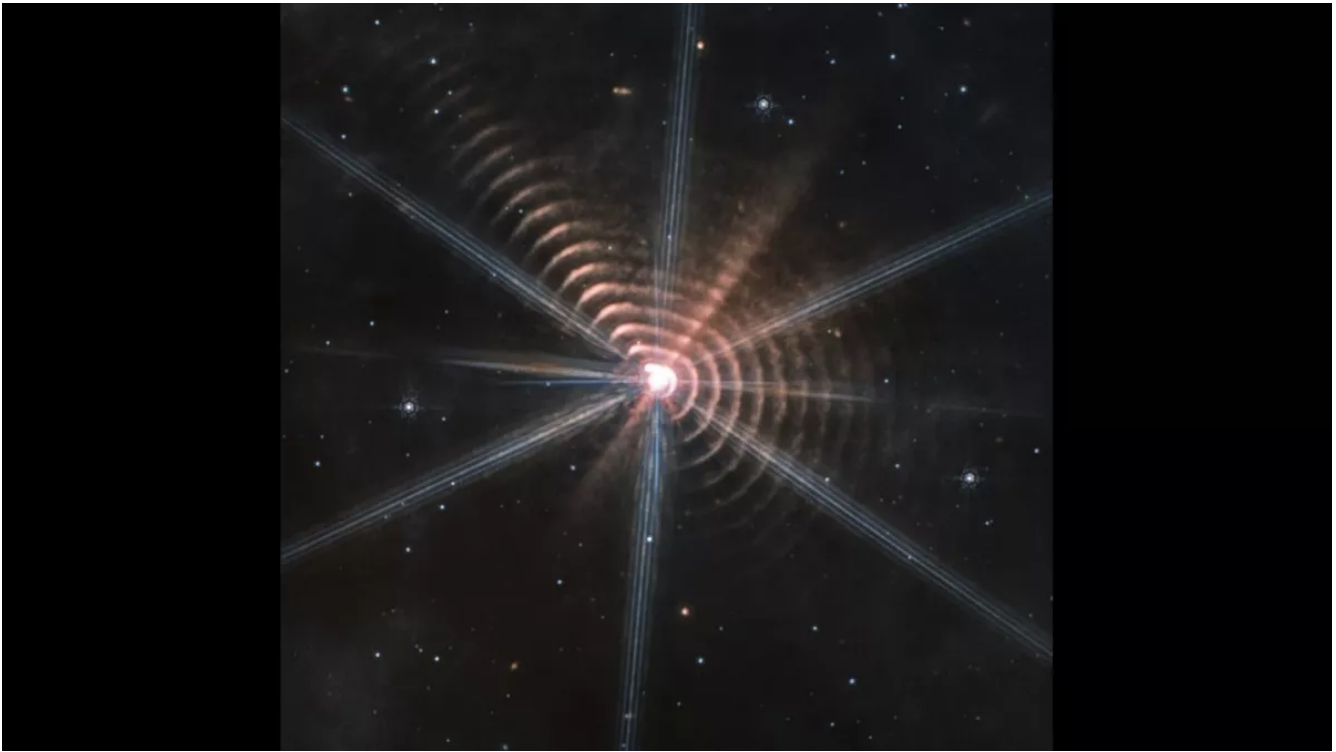
The space time particles themselves may emit particles detected by the CMB sensors revealing the presence of space time particles analogous to electron revealing themselves through photons, however this detection may be indirect or very weakly much like gravitational lensing revealing Dark Matter which is also the space time particle cloud detected in a different way is very weak. Furthermore, the particle emitted by the space time particle which we can call the repulsion particle may just pass through the CMB detector however leaving a small interaction by imparting kinetic energy. Furthermore, hotter regions may be due to the a lobe in its full standing wave system of the space time particle cloud being larger at the moment of measurement than the other lobe which would result in higher energy space time particles to exist in the larger lobe causing hotter signals. Thus a pair of adjacent cold and hot spots may be related to a space time particle cloud with atleast two lobes and one lobe is smaller due to the decrease in size of the standing wave in this lobe resulting in less probability of the space time particle in this lobe especially at larger distance where the space time particle would have more energy. The expanding lobe within the standing wave of this space time particle cloud may be expanding and thus larger which in turn allows the probability of higher energy space time particles to exist in farther radiuses relative to the other lobe. This would cause hotter temperatures from the relatively larger lobe. Below is a video showing how standing waves work for electron orbitals and this can also be applied to the standing waves of the space time particle cloud:

<https://youtu.be/Opufc3onVow?list=LL>

<https://www.youtube.com/watch?v=Ziz7t1HHwBw>

It is important to describe other possibilities as well to allow guidance of readers to find out what causes these temperatures mathematically if one possibility was incorrect. The space time particle cloud or lobe that is expanding may be related to one type of polarization such as tangentially elongated polarization and the contracting space time particle cloud or lobe may related to radially distorted polarization, or perhaps vice versa. Furthermore, it is possible that an expanding cloud or lobe is related to hotter cmb due to gravitational waves produced by the expansion and the contracting cloud which the photons travel through and clouds or lobes that are contracting is related colder cmb due gravitational waves, or vice versa. Another possibility is one that is already mentioned however more observations are needed which is where an expanding space time particle cloud or lobe is related to stretched photons and a contracting cloud or lobe is related to compressed photons which has traversed through the cloud or lobe. Another possibility is the phase of the lobes of the space time particle cloud of a cosmic structure are opposite much like the lobes of an electron orbital are opposite and this may cause hotter CMB for one phase and cooler CMB for the other or of the net lobes which is culmination of all the lobes ahead and behind for the same cloud. It may also be that foreground or background phases of clouds or lobes may cause a cloud or lobe of interest to be hotter or colder. Another possibility is that B-mode lensing may be caused by borders between adjacent hot and cold regions or between the lobes of a space time particle cloud belonging to a cosmic structure or perhaps when the space time particle cloud or lobe transitions between an expanding state and shrinking state with a short window in between emitting b-mode polarization patterns.

Furthermore, gravitational waves may also be caused by the space time particle clouds which travel towards the center of the space time particle cloud which may also create fully of partial standing waves as these waves pass through each other resulting in spiral arms seen in galaxies or gas rings around stars such as in the following image:



Testing Quantum Gravity experimentally:

This space time particle cloud can be tested in quantum field theory. The atomic orbital shapes that are the same shapes as the multipoles observed aligned with the ecliptic and or belonging to the Sun can be mapped into QFT and scaled up to mimic the space time particle clouds around the Sun. Each particle within this field within each cloud can have a repulsive value and or emit a particle based on probability which proportionally increases in energy with distance which is scaled using the energy of each electron at each radius within their respective electron orbitals shapes using their energies. The space time particle cloud created may be in a superpositional state. The emitted particle may impart its kinetic energy upon a baryonic mass which may be placed within a field to see how it interacts with the constructed space time particle cloud. The total energy for each particle in the cloud may be dialed up or down in unison until the correct gravitational forces via repulsion are experienced by the baryonic mass which mimics a baryonic mass in the solar system. We can use the same method to construct space time particle clouds of galaxies by using their own space time particle cloud shapes. The space time particle can be a graviton cloud in a superposition with the cloud densities of the related electron orbital of a cosmic structure and the emitted particle can be a Neutrino. Or the opposite can be tried where the space time particle is a Neutrino cloud in a superposition with the cloud densities of the related electron orbital cloud or clouds of a cosmic structure and the emitted particle is a Graviton.

However if the Graviton is not correct, any other force carrier particle may also be tried. The Neutrino may be assigned a negative charge. In another test the space time particle can be unknown or a known one and the emitted particles can be Neutrinos which imparts kinetic energy on baryonic mass or any other particle. We can test many particles from the standard model where the electron related space time particle cloud and the proton/neutron related space time particle cloud is composed of fermions or combination of fermions. The emitted particle being one of a force carrier particle. Any other particles from mentioned examples in the paper can also be used. We can also construct a Proton/neutron related cloud inside the electron related space time particle such as the neutrino cloud or graviton cloud however this particle is yet undetermined however may likely just be a type of proton and neutron made of quarks.

Furthermore, the particle the emits from the space time particle cloud to cause repulsion may be based on probability much like photons are based on probability when observed by baryonic matter. The particle emitted by the space time particle in the cloud may based on probability and repulse or reflect off of baryonic matter causing acceleration.

Another test may include creating a space time particle cloud within QFT which can be a neutrino cloud, or a graviton cloud having the same densities and shapes as a related electron orbital cloud of a space time particle cloud of a cosmic structure, such that of the Sun or the Earth using the Axis of evil, Dipole and Monopole. However other particles may also be tested. We can than place a baryonic particle within a field as well and see how the momentum of the space time particle cloud is imparted upon the baryonic particle.

We can also recreate a particle cloud in QFT having the same shape as the Sun or Earth's space time particle cloud and see how a baryonic particle is repulsed via interacting with the charge of the space time particles. We can use QFT to build a massive proton/neutron cloud and a massive electron cloud and place baryonic particles within to see how the charges of the massive electron cloud and massive proton/neutron cloud which represents the both the proton/neutron related and electron related space time particle clouds to determine how it attracts or repels the negative and positive charges of each baryonic particle within. All clouds tested may need to be the same shapes as the object being tested, and if we are testing the Sun's gravity, all the space time particle clouds belonging to the Sun need to be created in QFT.

We can also build a large negatively charged Neutrino Cloud as the space time particle cloud and see how the charge of this cloud interacts with the charges of the baryonic particles that can be placed within this Neutrino Cloud to see how it accelerates these baryonic particles. The negative charge of the space time particle cloud will repulse the electron clouds and attract the nucleus clouds of baryonic matter causing them to accelerate inwards if repulsion wins. The proton/neutron related space time particle cloud will repulse nucleus clouds of baryonic matter and attract electron clouds of baryonic matter and one force may win which we can determine through QFT.

The Loop Quantum gravity models and String theory models can also be used to test this theory. For String theory, Since the space time particle cloud is a standing wave much like an electron cloud, we can turn each radius each into a hollow shell expanding and contracting that corresponds to the amplitude of the wave at each radius of the wave function of the space time particle that coincides with the probability of the space time particle and has a relation to the amplitudes of the wave function of electron orbitals having the same shape as the space time particle cloud. The baryonic matter within

may also be composed of smaller standing waves with their own vibrating shells. The space time particle shell strings may interact with the baryonic matter shell strings causing acceleration. See the following video to understand the vibrating shells where each circle is a cross section of the vibrating shells within the standing waves of an orbital.

<https://www.youtube.com/watch?v=Opufc3onVow&list=LL&index=50>

For loop quantum gravity we can add the space time particles mentioned within and allow them to emit particles as well. In an example, negatively charged Neutrinos are distributed in shapes and densities of the space time particle cloud which is similar to an electron orbital cloud densities, and these neutrinos may emit bosons such as a graviton to cause acceleration upon baryonic matter. However any fermion leptons may be used for the space time particle cloud and any boson may be tested until the correct one is found.

We can also test if electron clouds may be some sort of space time particle cloud as well that accelerates the electron/s within. Thus we can construct an electron cloud within a QFT Field which emits photons based on probability. We can place an electron in a measured state within the cloud as a collapsed point. We can then observe how the electron moves within the cloud via interaction with photons imparting their kinetic energy onto the electron and see if anything interesting occurs.

Another test may be performed in QFT by placing the space time particle cloud of a cosmic structure within the QFT field and placing a baryonic particle within a field and measuring the momentum imparted upon the baryonic particle from the space time particle cloud to see how it accelerates. The space time particle cloud may use scaled up values of the electron clouds and proton clouds and the energy distribution of each can be dialed up or down in unison until baryonic mass behaves as observed in the cosmic structure.

The space time particle cloud can also be tested in general relativity where neutrinos are stationary within the field and distributed the same way Dark Matter or in other other words the space time particle cloud is distributed around a cosmic structure. Gravitons may then be emitted by the neutrinos based on probability much like photons are emitted via probability and interact with baryonic matter through repulsion or pressure. Each time this particle is impacted upon baryonic matter a repulsive curvature similar to an upwards curvature in two dimensions on a flat plane may be induced around the baryonic mass at all interaction points having heights proportional to the repulsive energy. When this occurs from all angles upon the baryonic mass an upwards curvature that is moving across the field will be created that the baryonic mass is carried by. This movement of the upwards curvature occurs due to the baryonic matter rolling down the upwards curvature as one side will be lower and the upwards curvature will chase the baryonic mass as more particles are absorbed by the baryonic mass.

Another way to test Quantum Gravity in General Relativity is instead of a downward curvature which we will call a positive curvature which is generally used in 2d examples for the fabric of space time, a negative curvature on an analogous 2d plane can be created that has heights at each region square proportional to the energy density of the space time particle cloud at each region within the space time particle cloud using the cross section of the space time particle cloud. The Sun's space time particle cloud cross section may be used on the plane where baryonic masses orbit it. This negative curvature will be repulsive. We can then move on to a 3 dimensional curvature of space time in General Relativity using the previous analogy and create curvature strengths proportional to the energy

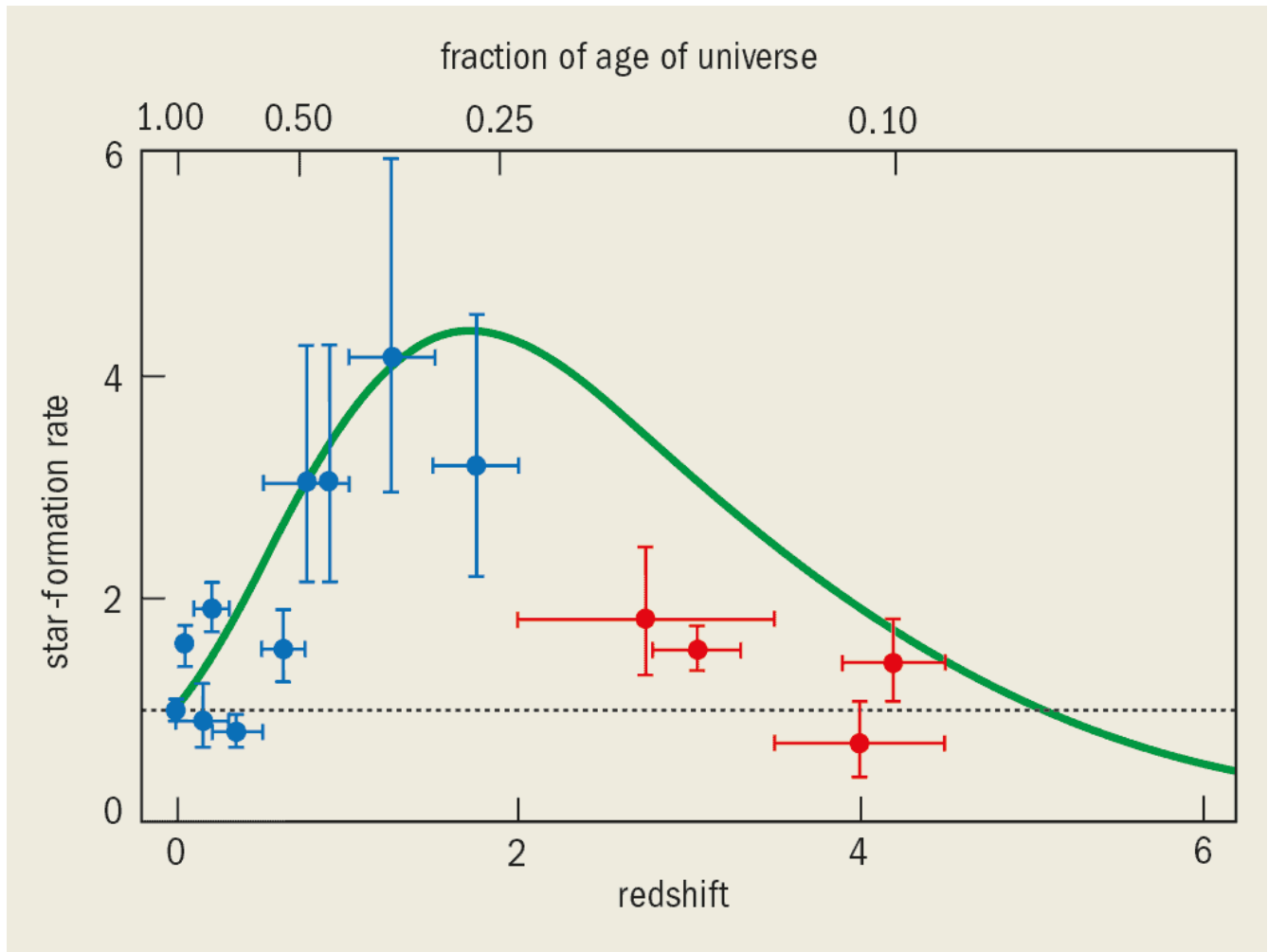
densities within each small region within the space time particle cloud and this curvature is repulsive. We can then test the orbits of planets.

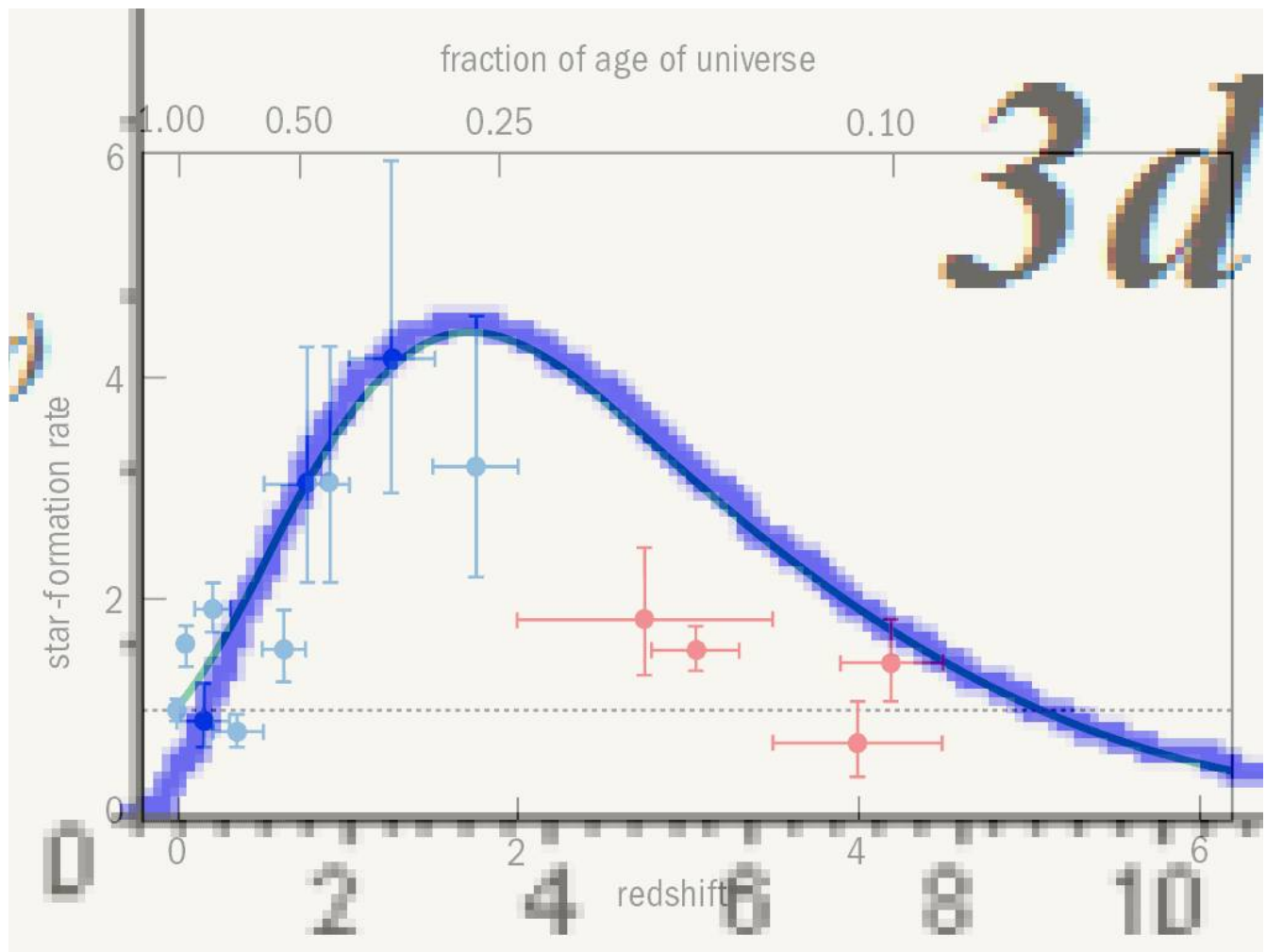
Other possible realizations and analogies:

The space time particle cloud can be analogous to light sources placed at positions in space that match the probability density of the space time particle cloud. These light sources will send one photon each one at a time and their directions are based on probability. These photons will impart energy upon a baryonic particle within when probability is such to reach the baryonic particle. Photons will also fly away and this can also contribute to Dark Energy. Even photons from the light sources at the edge very far away from the baryonic particle may have a chance to impart their energy on the baryonic particle. Closer light sources to the baryonic matter particle will have a higher chance to emit a photon that will impart its energy on the baryonic particle. The light sources may create a sort of lense for the photons to concentrate at the center of the collection of light sources which may accelerate the baryonic particle inwardly. Another analogy is using an electron orbital and shining it with light so that it absorbs and emits photons. If we place a hypothetical very small baryonic particle much smaller than the electron which can hypothetically be impacted by the photon's energy through radiation pressure the baryonic particle will start accelerating within the electron cloud. Whatever the space time particle emits may have a radiation pressure effect on baryonic matter. The space time particle cloud has space time particles that are based on probability. These space time particles may emit yet another particle one by one which we may refer to as the repulsive particle. The repulsive particle's direction will have a probability. The repulsive particle emitted from a farther space time particle will have a lower probability to impart its energy on a baryonic particle relative to a closer space time particle that emits a repulsive particle. However the farther space time particle that emits a repulsive particle may have more energy in some cases, and in other cases less depending if the baryonic particle is closer to the nucleus of the cloud or farther out. The repulsive particles over time based on probability tends to concentrate towards the middle of the space time particle cloud allowing orbits and a central mass to form. The orbiting object will have its own smaller space time particle cloud (Earth) within the larger space time particle cloud (Sun) allowing the smaller object to form also. The space time particle cloud that is larger will also impact the smaller orbiting object with a higher kinetic energy from the particles of the larger space time particle cloud imparting more energy on the night side of the orbiting object. Furthermore, the space time particles themselves may also be repulsive upon baryonic matter and even photons. This may be why there are hot lobes and cold lobes where the standing waves of the space time particle cloud result in one lobe expanding resulting in a red shift of the photons and the other may be contracting resulting in a blue shift of the photons traversing the lobes. However more research is needed on this.

The probability component of the space time particle may be time and the positional component may be space. This probability component will also have an energy associated with it which may also be a time component. For an object with no mass it will not experience time like a photon and this may be so because the space time particles or the particle the space time particles emit do not interact with photons by imparting energy upon them. However for an object with mass, these space time particles or emissions from the space time particles may impart energy on baryonic matter resulting in the passage of time or via repulsion and or attraction causing time dilation. The more energy that is imparted the more time may pass.

Furthermore, since a more higher passage of time is correlated with higher energies imparted upon baryonic matter from these space time particle, this would explain the redshift VS star formation rate graph of the universe where higher star formation rates are indicative of faster time. The space time particle cloud of the universe may have the shape of an electron orbital, perhaps the 2p or 3d or one with lobes and the densest regions within this space time particle cloud will have a faster time thus a higher star formation rate. We can see that the following redshift vs star formation curve matches with the probability density curve of at least the 2p or 3d electron orbital which may be the shape of the space time particle cloud of the universe:





The observed redshifts may be due to baryonic matter located in the outwardly type of gravity regions of the observable universes space time particle cloud or the result of the observable universe's space time particle cloud changing states much like when Supernova's occur on smaller scales due to their space time particle cloud changing states. Furthermore, Dark Energy may be caused by the space time particle cloud of the observable universe transitioning from a higher energy state to a lower energy state resulting in galaxies being flung away or repulsed away due to changing to a lower gravitational strength or new repulsive regions appearing or both.

The time passage experienced by baryonic matter within the space time particle cloud relative to other regions within the same space time particle cloud at any moment is proportional to the energy density of the space time particle cloud region the baryonic matter is located in. Higher energy density regions are related with faster clocks and lower density regions are related to slower clocks.

Furthermore, time may be equal to probability. To understand this, let's take an electron orbital and create many hollow spherical shells around the nucleus which grow larger and larger with larger radiuses. The volume within these hollow spherical shells will have a total probability of particles being present within over time based on the electrons presence when measured over time. Within each hollow spherical shell we can place a clock. Each clock will tick based on the positional presence of a

particle within its shell and the clock's tick will lapse in a longer times with higher energies of the particle at this radius. Thus time may determine the presence of a particle and its energies where higher radial probability distribution values correlate with faster times. We can also place clocks in the space time particle cloud with a clock at each radius and create thinly sliced shells within the cloud much like onion layers. Each clock will tick based on the probability of space time particles within the hollow spherical volume of their related radiuses and each tick will span a longer time passage if the energy of the particle is higher. Time may be probability and the passage of faster times will allow more particles or higher energy particles to be present and slower times may allow less particles to be present with less energies relatively. Thus, we can use the radial probability distribution curve of the space time particle and multiply each value with the energy of the space time particle for their related radiuses to determine the general shape of the time dilation curve experienced by orbiting bodies if they were to hypothetically orbit on all planes within the space time particle cloud relative to one another over time yet always remaining at the same radiuses. However an even more accurate time dilation curve would determine what space time particle density values an object traversed through over time and multiplying these density values with the energy value of the related space time particle traversed when traversed to reveal the most accurate time passage experienced by the orbiting object where higher energies are proportional to faster time passage. If we were to hypothetically make baryonic matter fixed at each radius on a line extending away from the nucleus within the space time particle cloud, each baryonic object's time passage in the shape of a curve can be obtained by the probability of the space time particles times its energy of particles present near the baryonic object. Generally though, Space time may be defined as the volume within a hollow spherical shell which is space, and average time may be described as probability of a particle within the shell times its energies since probability and time are directly linked. On a localized level time is equal to the probability of a particle times its energy within a fixed region volume anywhere within any particle cloud and will affect baryonic matter with the same values added if the cloud is a space time particle cloud. If baryonic matter is orbiting always in the same densities such as in the inner toros of the 3d orbital shaped space time particle cloud with the same radiuses at all times, the probability density curve of the space time particle cloud will reveal the time dilation curve of all orbiting bodies orbiting at all radius within the inner side of the toros when probability is multiplied by energy of the particles for each radius, however on an average level we can use the following formula to describe space and the average time passage within a space of a hollow spherical shell of any particle cloud:

Probability_(r) = $|\Psi|^2 4\pi r^2$ where probability is the probability of particles within a spherical shell volume at radius r, where when probability value is multiplied by the energy value of the particles at their radius r would be synonymous with time lapsed, and the r value is synonymous with space.

However to determine a non averaged time passage, we can use the following formula: Probability_(r) = $|\Psi|^2$ where probability is the probability of a particle within a fixed volume at radius r and when probability value is multiplied by the energy value of the particles for their respective radius we get the time passage values relative to all other radiuses.

Thus the amplitude for each half wave length standing wave of a particle as per the Schrodinger equation when multiplied by the particles energy may be equal to time.

**This results in the following possibilities however more research needs to be done:
If (Probability x Energy) = Time, than it is possible that Energy = Time, and since
energy is equivalent to mass, we can also state that time is equivalent to mass.**

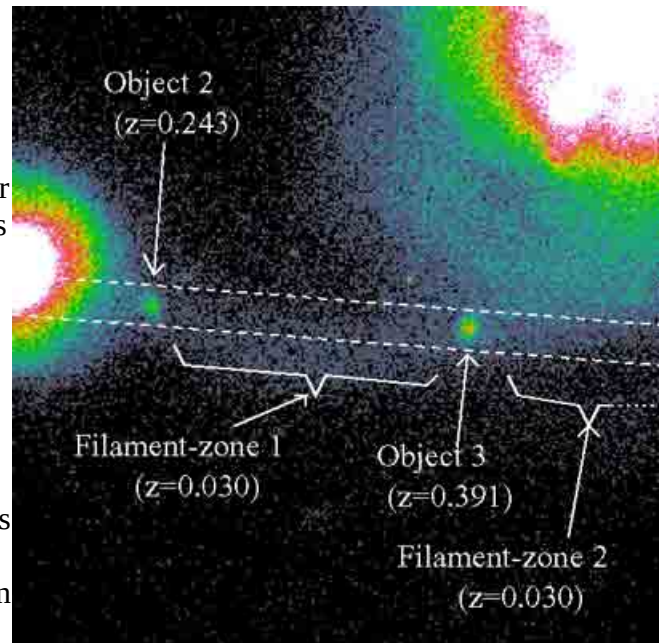
Quantum Gravity Principle #4

Probability and time are two sides of the same coin. Time passage experienced by baryonic matter within a space time particle cloud is proportional to the energy density of the space time particles near the baryonic matter.

When a space time particle cloud is mentioned and a related electron orbital cloud shape is mentioned that the space time particle cloud may also be in the same shape, it is just an example and the shape of the space time particle cloud may have the shape of another electron orbital shape. For example, when mentioning a space time particle cloud with the 2p electron orbital shape, it may be another one with two lobes like a 3p electron orbital shape. More research needs to be done to confirm the space time particle shapes in relation to electron orbital shapes. Furthermore, some space time particle cloud shapes may not resemble electron orbital shapes and or some space time particle cloud shapes may have electron orbital shapes of electron orbitals we are not aware. Therefor, finding a space time particle cloud shape that is new may reveal a new type of electron orbital that also exists however not on Earth.

With the concepts described in this paper, it may be that the Big Bang did not occur. Another possibility in addition to mentioned phenomena of observed redshift due to the outwardly type of gravity of the observable universe's space time particle cloud is that it may be that since the photons emitted from farther galaxies are based on probability and the farther away these galaxies are the less probable their higher frequency light will reach us due to baryonic matter in the way however more probable that lower frequencies will pass through. The higher energy photons from the galaxy will be absorbed by these intervening baryonic particles in the way and again emit based on probability thus in a different direction and be absorbed again which in turn gets emitted again in another direction. The lower energy photons are more probable to reach the Earth unimpeded since they are not absorbed by baryonic matter. This may be why we see lower frequency light the farther a galaxy is since the farther the galaxy is the more intervening baryonic particles the photons must traverse thus requiring a lower frequency to pass through all this baryonic matter on the way without being absorbed. The farther a galaxy, the more lower the frequency needed to pass through the higher amounts of baryonic matter in between thus a higher chance of having a baryonic particle in between that would absorb lower frequencies so an even lower frequency is required to reach Earth for even farther galaxies. Furthermore, the probability of matter that can absorb higher energy frequencies increases with distance. This phenomena may be negligible however possible while also taking into account the outwardly type of the gravity of the space time particle cloud of the observable universe which may explain the time dilation of more distance Supernova's.

The red shift anomaly may also be caused by an outwardly type of gravity the quasar is in of the local space time particle cloud. Intervening baryonic matter may also be local to the higher red shift quasar that is very densely composed of matter that absorbs higher frequencies even X-rays such as the quasar disc. The lower redshift object may not have as much of the same type of gas that absorbs those higher frequencies relatively and or has less intervening matter. The lower redshift object may also have higher amounts of matter that absorbs higher frequencies. There exists x-ray weak quasars, perhaps due to baryonic particles that absorb it being unusually high around quasars. Thus the composition of the galaxy in terms of its baryonic matter may determine the red shift and can be considered intervening baryonic matter which may absorb higher frequency light resulting in lower frequency light reaching the Earth that passed through unimpeded and or lost energy. Thus red shift may be based on distance due to intervening baryonic matter, however also due to the baryonic make up of the galaxy and what frequencies it absorbs allowing a higher redshifted galaxy to be closer than a lower redshifted galaxy dependant on the gas clouds of the galaxies and baryonic matter of the galaxy. Furthermore, quasars appear to be blurry/fuzzy and instead of partially resolved images being the cause, the blurriness may come from higher energy photons losing energy to the quasar's orbiting matter resulting in a change of momentum causing the blurriness and detected as redshift. Furthermore, high redshift galaxies are more gas rich allowing a higher chance of intervening matter to absorb the higher frequency photons while lower frequency photons do not get absorbed.



The Quantum Gravity Principle #5

The electron related space time particle cloud can go into a higher or lower energy state and this will change the forces imparted upon baryonic matter within.

End of Paper

Please make sure to reference this paper and mention it within the beginnings your paper if you do build upon these ideas. If you can experimentally test Quantum Gravity as described, contact me so we can collaborate together.

Contact:

quantumgravitiespacetimeparticlecloud@protonmail.com