Redshift Anomalies are key to understanding dark energy, dark matter, black holes and the unobservable universe.

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Dedicated to Halton Arp

Abstract:

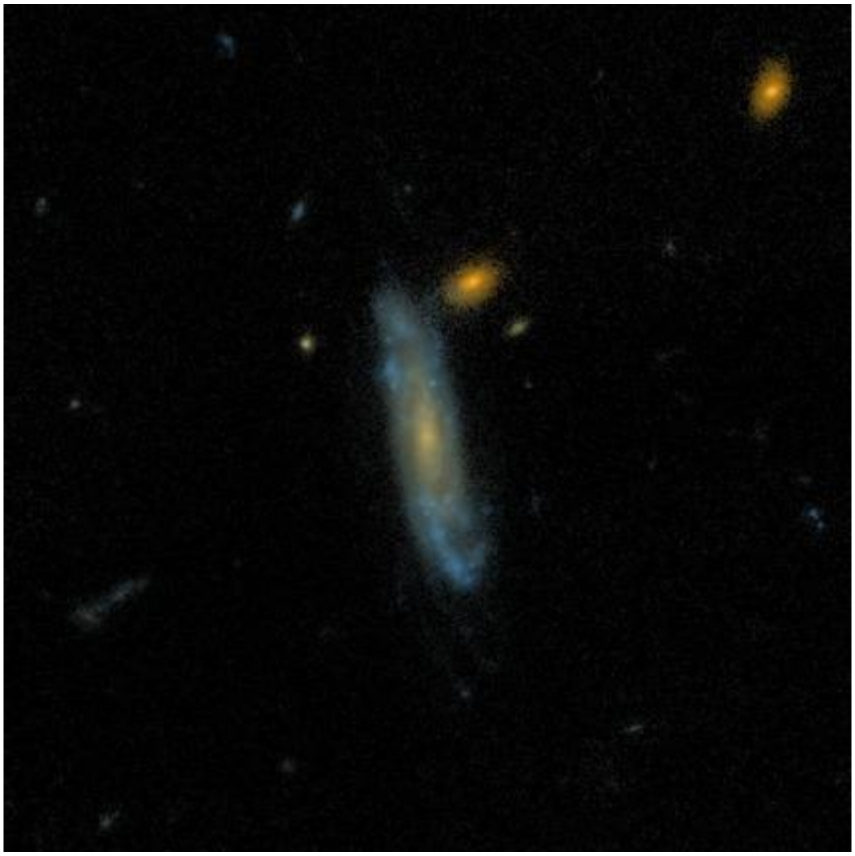
A galaxy's redshift is not related to the Hubble velocity alone. Numerous redshift anomalies have been detected which suggest this. This papers goal is to explain the nature of these redshifts. Redshift anomalies in Quasars with a high-z, binary galaxies with a mass gaining companion with a discordant high-z, and the furthest galaxies with high-z values all have a similar trait, their mass is increasing at a high rate at time of observation. This paper proposes that when an objects gravity well is in the process of strengthening (by gaining mass), the light observed during its gravity well strengthening phase is redshifted accordingly. I provide numerous observations of objects that are closer than their high z values places them under current interpretation that support the hypothesis. The greater the look back time, the younger the galaxy, the younger the galaxy when observed, the faster its gravity well is strengthening. The faster a gravity well is figuratively deepening, the further photons will be stretched that traverse and depart the morphing gravity well. The implications of this phenomenon have one of three outcomes for the nature of the observable universe.
A. the universe is not expanding as fast as estimated.
B. the universe is static (redshifts will still appear higher the farther we look).
C. the universe is contracting (the redshifts still appear higher the farther we look).
The redshift anomaly can help us understand dark matter also. Z total = the affects of (change in GW well of the observable universe) + (change in GW of Milky Way) + (change in GW of observed galaxy) + (Velocity of observed galaxy). The paper contains numerous tests that may prove the hypothesis presented. To not even glance at these redshift anomalies because they don't agree with today's model of measuring expansion is just preventing advancement in the field, halting future discoveries.

Introduction:

A galaxies redshift is not related to the Hubble velocity alone. Numerous redshift anomalies have been detected. This papers goal is to explain the nature of these redshifts and how it relates to younger galaxies producing a high-z which will shed light on our understanding of current expansion models. The expansion of the universe is overestimated if expansion is occurring. Redshift anomalies in Quasars with a high-z, binary galaxies with a mass gaining companion with a discordant high-z, and the furthest galaxies with high-z values all have a similar trait, their mass is increasing at a high rate at time of observation. This paper proposes that when an objects gravity well is in the process of strengthening (by gaining mass), the light observed during its gravity well strengthening phase is redshifted accordingly. When an object is losing mass and its gravity well is in the process of weakening, the light of the object gets blue shifted proportionately.

When an object is gaining mass, high red shift values are observed. An object that is in the process of gaining mass at a high rate will be reflected in a z value that is proportionately high also, and an object that is losing mass at a high rate will give an extremely blue shifted value, which will be proved by many redshift anomaly observations of stellar objects in the paper.

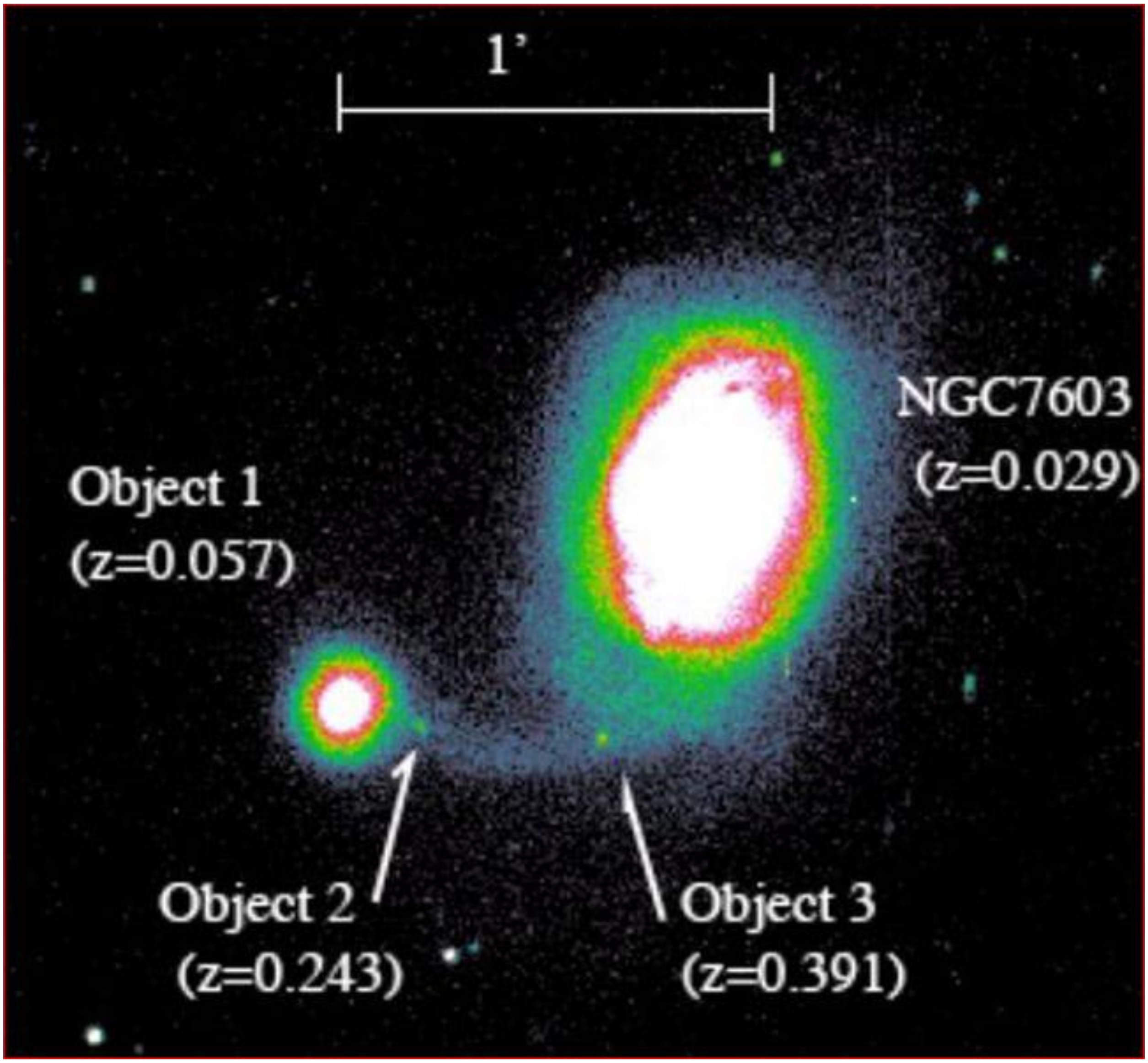
Observations:



Obs 1

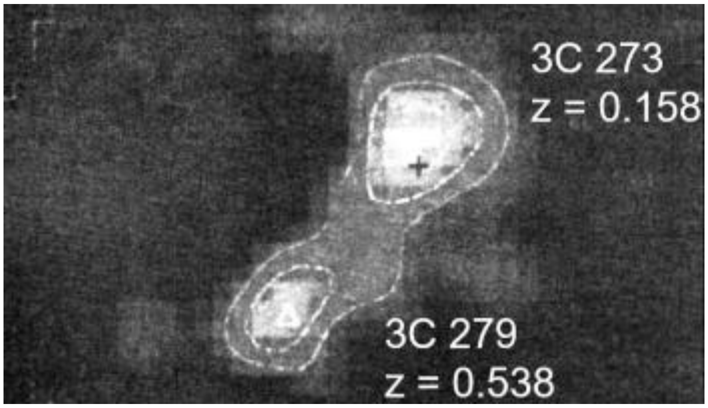
Source: http://cas.sdss.org/dr7/en/tools/explore/obj.asp?id=587727943496892689

(Obs. 1) Here's an image where the smaller object is gaining mass from the larger object. The larger object z=0.228000 and the smaller object is z= 0.710081 . The smaller object has such a high z because the amount of mass it's gaining relative to its size is high. Notice the bridge connecting to the smaller object where it is funneling the mass from the larger object.



Obs 2

(Obs. 2) Here, object 3 is gaining mass from Ngc 7603. Object 3 is gaining a lot of mass relative to its own mass. Object 1 is gaining mass from object 2 and Ngc 7603. Object 2 is losing mass. Object 1 is red shifted because it is in the process of gaining mass when observed. Object 2 is blue shifted because it is in the process of losing mass. Object 3 is redshifted because it is gaining mass.



Obs 3

(Obs. 3) Here the smaller object is in the process of gaining mass from the larger object, giving it a high z

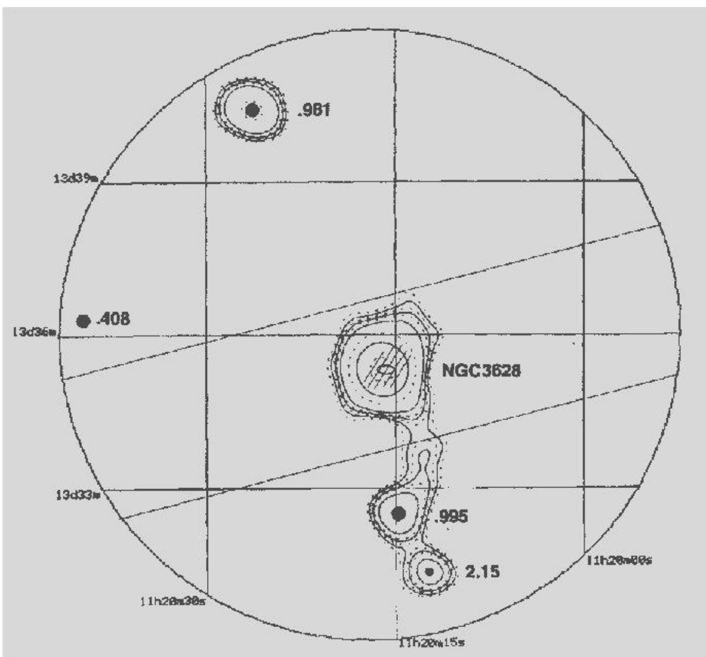
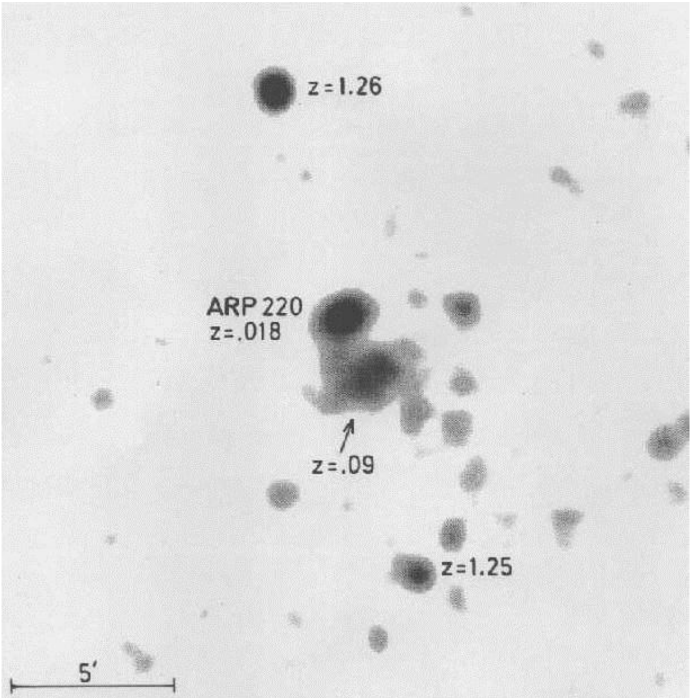


Fig. 14 - Quasars of z = .981 and .995 are paired across the minor axis of the bright, low-redshift galaxy NGC 3628. The isophotes show that an X-ray jet from the center of the galaxy contains the z = .995 quasar and ends on the z = 2.15 quasar. (see Arp et al. 2002 for other features of this association.)

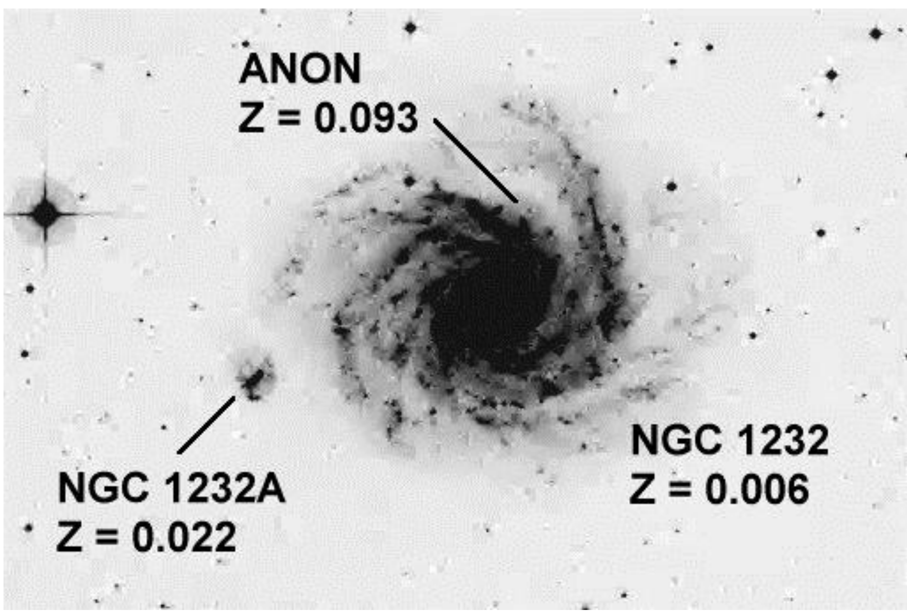
Obs 4

(Obs. 4) Here the object on the bottom is gaining mass from the objects above it, giving it a z of 2.15. The smaller object with z=.995 is in the process of gaining mass from Ngc 3628.



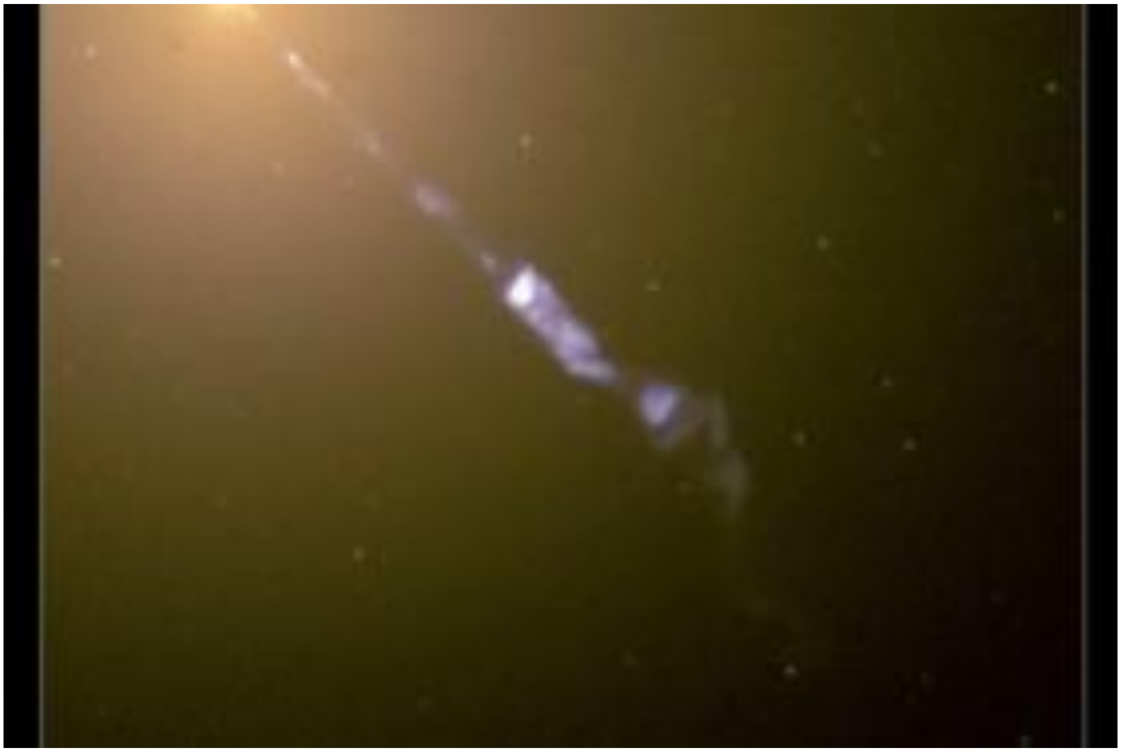
Obs 5

(Obs. 5) Here the z=.09 object is gaining mass from arp220. The z=1.25 connects via a bridge to Arp 220 and is gaining mass also from the objects above it. The mass gain gives these objects a higher z value.



Obs 6

(Obs. 6) Here Ngc 1232a is gaining mass from Ngc 1232 via its spiral arm giving it a higher z value.


Obs 7

(Obs. 7) Now here is the opposite, an extremely blue shifted star cluster. The biggest blue shift ever observed. The cluster was ejected from m87. The clusters gravity well is weakening as you can see from the trail (matter is dispersing). M87 is also tugging on the star and stripping the cluster of its mass as M87 tugs on the cluster. The ejected star cluster has a blue shift of 1,026 kilometers per second. It's such an extreme blue shift because the gravity well of the cluster is in the process of weakening at a rapid rate.

The cause:

I propose an object in the process of gaining mass at a high rate produces a high z value. This proposition is not to be negated if the following possible explanation of the phenomenon is incorrect. The fact still remains, an object in the process of gaining mass will produce high z values to an external observer.

Possible mechanism:

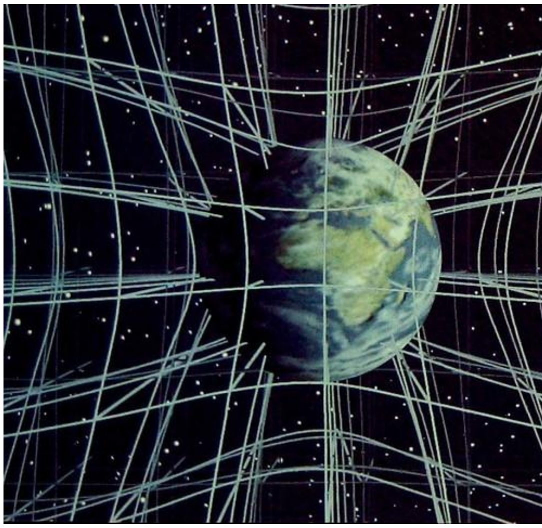


Figure 1

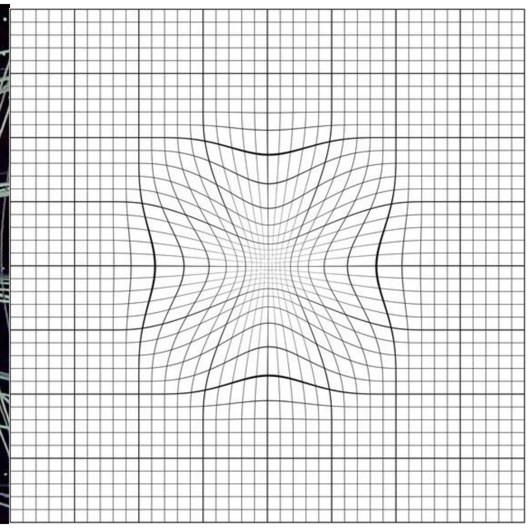


Figure 2

Now, I will explain one such possibility and will use the proposed cause to explain the underlying concept of the phenomenon. These high z value objects gravity wells are strengthening when observed. When photons travel up a gravity well, photons are redshifted, hence, i propose, when photons travel up a strengthening (figuratively stretching and deepening gravity well), these photons will further stretch, producing a higher z value for mass gaining objects, after the photons leave the gravity well, they are further stretched because the edge of the strengthening gravity well (which is gaining mass) is in the process of moving away from the photon (to the center of mass). Light gets red shifted further when it traverses and departs a gravity well of an object during the strengthening of the gravity well. One can use the trampoline analogy to picture this phenomenon, although the analogy is somewhat a misconception, it is alright to use for the sake of understanding the phenomenon. But the accurate analogy is using this grid (fig. 1) and taking out a plane (fig 2) to understand what's happening. Keep in mind the grid/gravity well (fig. 2) has to be in the process of changing strength to shift the z values of the photons traversing, so you can picture the gravity well increasing in the image. The more mass the object gains, the more stretched each box becomes surrounding the object, which stretches photons traversing the stretching zones, these stretched boxes also get pulled inwards as a whole to the center of the gravity well during mass gain of the object in the center of the gravity well. When the light escapes the gravity well, these photons further get stretched as they travel intergalactic space, this is because the gravity wells edge is moving away from the emitted photons (lines converging to center of the gravity well), stretching the photons further. Keep in mind, the photons stretch as described when the gravity well is in the PROCESS of changing its strength (gaining mass). When the gravity well decelerates (stops gaining mass) photons no longer get stretched. Conversely, the more the inner boxes compress, the more blue shifted photons may become that are traversing the compressing zones. Now when an object in a gravity well loses mass, the inner boxes expands (redshifts) and the outer boxes unstretch. As light traverses the unstretching boxes, photons blue shift, after the light leaves the gravity well that is losing mass, the weakening gravity well lines at the edge of the well chases the photons as it unwarps, blue shifting photons further. We will only focus on the photons that redshift/blueshift at the outer boxes for now as this is the last state photons go through after leaving the object and during their journey from a changing gravity well, which are observed from earth. Also the inner boxes (center of gravity well) are engulfed by the circumference of the matter in the well, so we won't focus on that for now. From now on, when I talk about strengthening gravity wells, I am referring to the previous explanation, but will be representing the phenomenon through 2d fabric analogies and metaphors to make it easier to explain.

A thought experiment to understand the mechanism:

Imagine a zero mass speaker flush with the trampoline fabric with its cone pointing upwards emitting a steady tone that traverses the fabric radiating 360 degrees from source. Now if we give mass to this speaker it will sink (this is analogous to a young galaxy accreting matter from intergalactic space), bending the trampoline fabric and creating a well, while it is in the process of sinking in the deepening gravity well, the tone will get stretched along the stretching fabric proportionately to the rate of stretch of the fabric (red shifted). When the speaker sinks to its end location, the tone will go back to its normal pitch. Now picture that speaker in the middle of the trampoline and it's your ear (the Milky Way), and there are many speakers (galaxies) across the trampoline (the observable universe). The trampoline is huge and its fabric is a mile above the ground. Also now the sound waves can only travel on the plane of the trampolines fabric (sound waves represent light waves). Now make all these speakers sink all at once in the fabric while emitting a steady tone (galaxies forming and gravity wells strengthening). They will all sink to the ground beneath the trampoline at the same time and stop at the same time. The speakers should drop instantly to 99% the speed of sound and start to slowly decelerate after the midpoint of their descent, and will come to a stop at the bottom. The closest speaker to your ear will have the first sounds stretched and when it stops sinking, the sound goes back to normal. We will lock the observation time to this point. While you hear the normal tone of the first speaker, at the same time you will hear the stretched sound waves of a farther speaker (as its decelerating in the well). Further on you will hear a speaker whos sound is more stretched (which had less deceleration time so its heard when it was sinking faster). The farther the speakers are from you, the more their sounds will be in their initial falling phase and more stretched, since sound from a farther source takes longer to reach your ear, we hear them in the past (look back time). When we hear the farthest speaker, we are hearing them while they were sinking in the trampoline in their initial phases of sinking. The furthest speakers tone will be stretched the most, relative to the closest speaker, when heard at the center at the same time. If we had one extra speaker placed beyond the furthest speaker (beyond the observable universe), perhaps its tone may not even be heard yet, and the sound is still travelling to your ear. Notice the speakers were not moving apart and still gave an increasing stretched tone/redshift the further you heard/looked back in time. But if enough time passed and there is no sound heard from the speaker outside the observable universe trampoline, that would mean no galaxies exist beyond the edge, or the galaxies beyond the observable universe are clustered far away and our observable universe is a cluster of its own. Also note we can make the observable universe trampoline contract and the further speakers will still emit stretched sound waves. If the observable universe is expanding, it would mean its expanding at less than the Hubble rate because the stretching of sound from gravity wells was not taken into account properly when calculating the expansion rate. Now imagine the closest speaker lifting up and its gravity well is weakening, this represents mass loss, we will now hear the tone from that speaker being compressed (blue shifted).

Another way you can imagine a strengthening gravity well red shifting photons is picture a small hula hoop within a larger hula hoop. This is a top view of a gravity well. Now connect a light wave with one end to the small hula hoop, and the other end to the large hula hoop. The light wave's direction should travel opposite the center of the gravity well. Now decrease the circumference of the smaller hula hoop, which represents a strengthening gravity well. The light wave will stretch.

I provided numerous observations of objects that are closer than their high z values places them under current interpretation that support the hypothesis. All these objects are increasing in mass at a high rate. Mass accretion from intergalactic free floating matter adding itself to a gravitational source, increasing positive pressure, increasing energy, increasing rotation curve of a galaxy, and any other factors that deepen the gravitational well of an astronomical object as a whole will stretch photons (after they are emitted) that are traversing the gravity well during the transformation of the gravitational well. The closer galaxies have lower z values because their gravitational well sink rates are settled or slowing down to a stop due to their observational mature phase. Their red shifted light has already passed earth eons ago, we are now observing them in the blue shift. The greater the look back time, the younger the galaxy is. The younger the galaxy is when observed, the faster its gravity well is strengthening (analogous to the trampoline fabric stretching). The faster a gravity well is deepening, the further photons will be stretched that traverse the morphing gravity well. The light from these far galaxies also traverse across the edges of the gravity wells of galaxies in between the earth and the far galaxy. The further the galaxy, the more gravity wells it will traverse (think gravitational lensing), which means the light from farther galaxies will become even more redshifted before reaching earth. This has far reaching consequences, one of which is the universe isn't expanding as fast as we think, it still can be expanding, but less than the current calculated rate of expansion because the mentioned phenomenon is attributed incorrectly. Alternatively, galaxies that have slowed down their rate of mass gain will have a sinking but decelerating gravity well, which will blue shift photons relative to younger photons that traversed the high sink rate well. Conversely, gravity wells of galaxies that are in the process of losing mass are attached to gravity wells that are lifting/"shallowing". This process blue shifts photons traversing the morphing gravity well. Since photons blue shift going down a gravity well and redshift going up a gravity well, if any light traversed down the shallowing gravity well, it would be blue shifted further than normal. In the scenario of a photon travelling up a deepening or shallowing gravity well, the photons travelling up the well will always have a higher z value then photons travelling down the same gravity well. Redshifts are not a good tool to measure distances unless certain modifications are made. The redshifts of quasars suggest they are extremely far away objects, but they really are not as far away as their z values state. Their z values are high because quasars are mass gaining machines, which redshifts their light. Related galaxies with discordant redshifts are numerous, where extremely redshifted galaxy a and extremely blue shifted galaxy b exist in a binary galaxy system, which proves redshift is not a good indicator for distance. Actually what's happening here is one galaxy is gaining mass from the other causing the mass gaining galaxy to redshift and the mass losing galaxy to blue shift. To not even glance at these redshift anomalies because they don't agree with todays accepted big bang model and expanding universe model is just preventing advancement in the field, halting future discoveries. Major discoveries have been made from observations that make one say, "hmmmm that's weird". It's time we look at these redshift anomalies and ask why? Of course if an object is approaching or receding from us it will have a z in accordance of travel, but these travel speeds are overestimated based on the total z value observed because they do not take the proposed phenomenon into account.

Furthermore, extragalactic blue shift anomalies occur because these objects are losing mass to a nearby object that is pulling matter away from the extragalactic object. The extremely blue shifted star cluster near m87 is one example. The star cluster may have been flung out, but the gravitational pull from m87 wants it back, and feeds on the stars masses by pulling on it, making the stars lose mass. This weakens the gravity well of the star, blue shifting the light it emits as the light traverses the shallowing gravity well.

A quasar is an object with a high rate of mass gain, thus its gravity well is strengthening at a rapid rate, thus its redshift will always have a high z value. The higher the rate of change of its mass the higher the observed z value will be. If the quasar were to turn into a black hole, it would be due to the fact that its gravity well is deepening so violently that photons traversing up its gravity well red shift extremely. So extreme that light cannot leave it for now. But when the gravity well decelerates eons from now, that light may exit the black hole, the redshift so extreme that one wave's length is on galactic scales.

The redshift of an object depends on the rate its gravity well is deepening relative to its previous mass. For instance, if you add 1000 stars to a massive galaxy with a billion stars, the galaxy's gravity well isn't phased much. Alternatively, if a small galaxy with 10000 stars has a mass gain of a thousand stars, its gravity well will deepen significantly, which will redshift photons greater than its larger counterpart would.

The implications of this phenomenon have one of three outcomes for the nature of the observable universe.

A. the universe is not expanding as fast as estimated. (If dark energy is not repulsive and just a redshift anomaly, than what's making the universe expand? It may be possible that radiation is making the galaxies move away from each other). IF there is a repulsive force, and if the galaxies are accelerating away, it would than seem reasonable that when an object is accelerating, its gravity well is in the process of strengthening, which would produce a high redshift of the object, which needs to be accounted for in measuring their true speed.

B. the universe is static (redshifts will still appear higher the farther we look).

C. the universe is contracting (the redshifts still appear higher the farther we look). If a galaxy is accelerating towards us, since acceleration increases mass, that galaxy's gravity well is strengthening, which will produce a higher z value, this needs to be accounted for when measuring their speed.

Since the farther we look, the more younger the galaxy appears, which also means the more its gravity well is sinking and strengthening as observed, which produces a higher red shift value when the younger light reaches us (after it traversed its own gravity well). **The realizations of one of these 3 results yields something astonishing with one of 2 possible outcomes.**

1. (In scenario B and C) our cosmic horizon may expand as oppose to galaxies disappearing at the edge of the observable universe. (In scenario A) the cosmic horizon may expand and then recede.

2. (In scenario B or C) If light already has had enough time to reach us from beyond the edge of the observable universe, and no galaxies are observed beyond 13.7 billion ly radius, that would mean no galaxies exist beyond the edge. If galaxies do exist beyond the edge, they must be clustered far away and the observable universe is a secluded cluster of its own.

Hypothesis for dark matter and the workings of black holes based on gravity wells strengthening:

Now that we have an understanding that a strengthening gravity well red shifts photons we can talk about dark matter. Remember the trampoline thought experiment, just picture the speaker sinking in the gravity well so fast that sound can't escape the sinking gravity well.

Dark matter gatherings is just ordinary matter (a galaxy) gaining mass so fast that its gravity well is strengthening at an alarming rate. The light from the object creating this well is trapped in the deepening gravity well or is currently in transit in intergalactic space. Light from an object behind the dark matter clump can only traverse the lip of the gravity well of the invisible galaxy. This light will redshift as it traverses the gravity well lip and is able to climb out the gravity well. It redshifts because the lip sinks also but relatively less than in the middle of the gravity well. The light that traverses directly into the gravity well of the unseen galaxy (dm), gets caught in the deepening gravity well and gets extremely redshifted. If you look at (fig. 3)

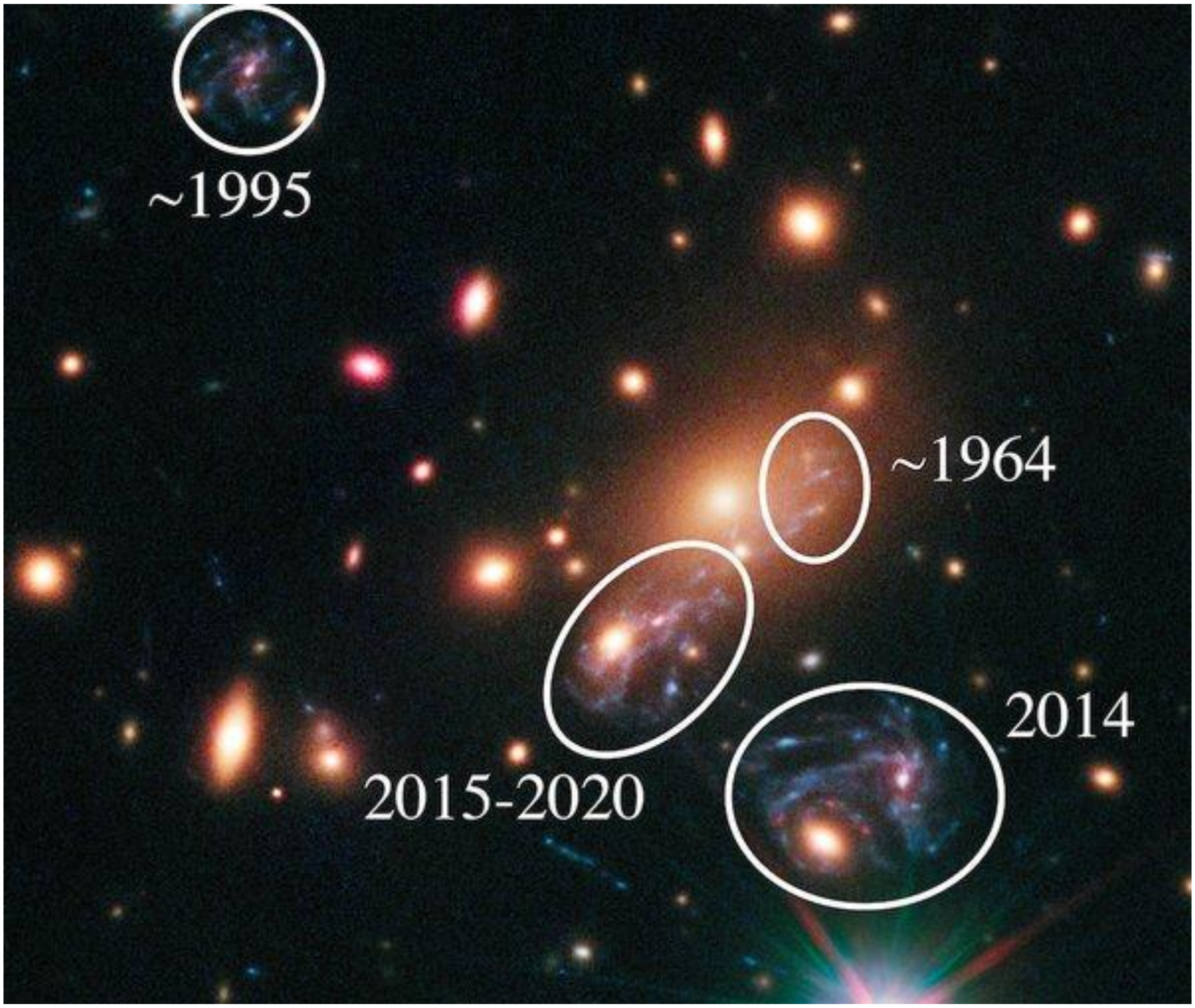


Figure 3

, you can see each circled area has a galaxy shaped black void within which is similar to the shape of galaxies that are in the image. The gravitationally lensed image of the galaxy in the dark matter clumps is light from behind traversing the gravity well lip of the invisible galaxy. Light that makes it directly to the invisible galaxy will get trapped in the strengthening gravity well of the invisible galaxy, also the invisible galaxy's own light is trapped in the same manner as well, showing us a black void in the shape of the invisible galaxy where the light is trapped (or redshifted at phenomenal levels). When the gravity well of each invisible galaxy stops strengthening, the light may emerge into space. Einstein rings (fig. 4) hold a galaxy within the ring. The gravitationally lensed ring edge is the gravity well lip of the partially seen galaxy within. The galactic center will start to show itself in the center of the ring, eons from now the light from the outer disc of the galaxy within the lensed circumference will begin to reveal itself more, filling the Einstein ring.

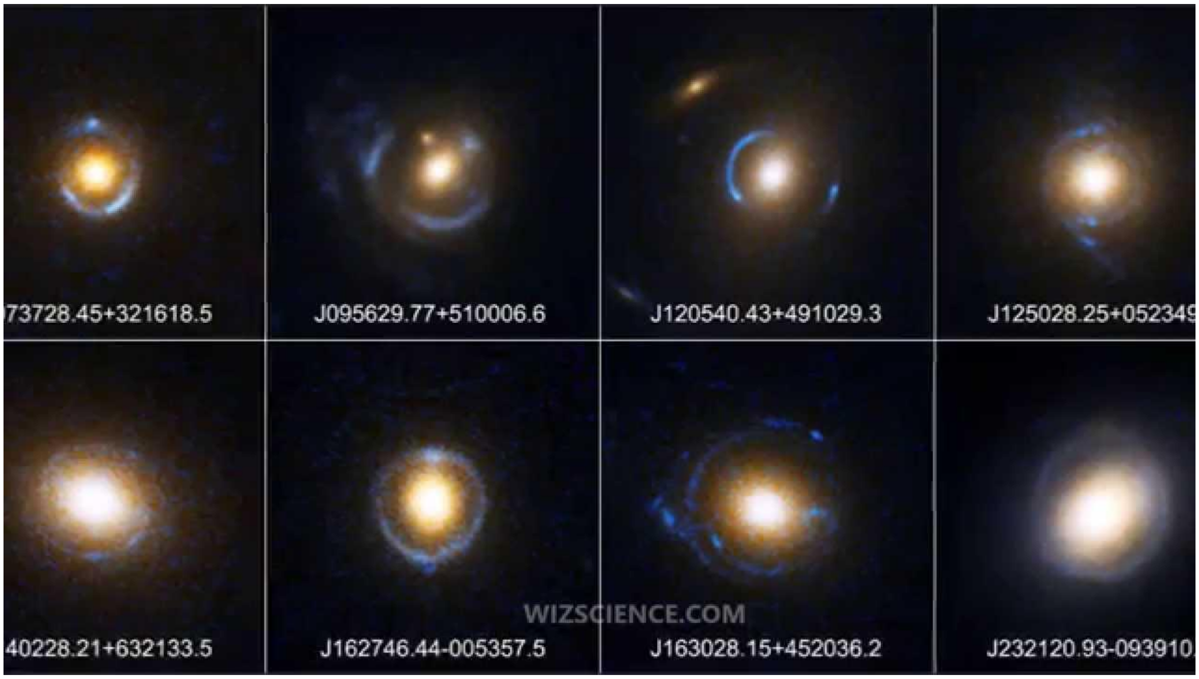


Figure 4

You can see many Einstein rings, each at a different stage of the galaxy within revealing itself through time at different stages. Gravitational lensing that produces many arcs around a central location may contain a spiral invisible galaxy, all the arcs are the outlines of the spiral arms. If you look at any gravitational lensing with these arcs, they all have the same spiral arm like arcs that angle relative to each other similar to how the outline of spiral galaxies would have. In the center of these arcs there are usually 1 or more large masses interacting. These are the early stages of formation of the galaxy revealing itself to us. These objects merge into possible galactic black holes of the mostly invisible spiral galaxy. The other smaller galaxies inside the arcs are just galaxies in the foreground and are in the line of sight of the invisible spiral galaxy. All gravitationally lensed via dark matter observations have a partial outline shape of known galactic shapes only, this is interesting. (Fig. 5) Here is an image (from article: Elusive Dark Matter Galaxy Revealed by Cosmic Lens)

Figure 5

of a large partially seen galaxy starting to show itself (the galactic center), as eons pass by, the rest of its outer disc will show itself after the gravity well of the large partially seen galaxy settles. In the gravitationally lensed area there is also a small elliptical invisible galaxy, it was either behind the gravity well lip of the larger partially visible galaxy, in front of the gravity lip, or beside it. This is further support for the hypothesis.

Figure 6

Dark matter filaments observed in blue are actually galaxies beginning to show themselves (fig. 6). This is the early light of these galaxies. These images represent the early stages of galaxy formation. If you look at any dark matter clumps, they resemble young shapes of galaxies. Thus we can see how galaxies start to form.

Dark matter presents itself as it does because light from a mass gaining object is still trapped in the gravity well of the mass gaining object, or still in transit in space from the object, preventing direct observation. For example imagine a galaxy that formed so fast that its light is trapped in it own gravity well. When the mass gain of the galaxy stops and becomes static, the first light to exit the gravity well is the galactic centers light. Then slowly the outer discs younger light will reveal itself. Any light from an object behind the galaxy can only traverse through the lip of the galaxies gravity well and will red shift. We see this as dark matter gravitationally lensing, but it's really ordinary matter gravitationally lensing the light, we just can't see the light of the ordinary matter yet, or we don't see the edges of the partially invisible galaxy because it has a lag time from the gravity well relative to the central light of the galaxy.
Another possibility is Dark matter in observable galaxies, such as Andromeda, is actually millions of points of young stars within the galaxy (or any other mass gaining

structure) all "recently" gaining mass or strengthening their gravity wells at an alarming rate (e.g. star birth or even supernovas). Picture a large gravity well of a galaxy that is static, and millions of new tiny gravity wells are forming inside the large gravity well of the galaxy. This makes the light these stars emit redshift as they climb their own gravity wells. Each stars light is either trapped in the gravity well of their respective star, or is in transit in intergalactic space (if the star stopped gaining mass and the gravity well settled into a static and unchanging state) or is redshifted so much that they can't be detected with current instruments. Any light from an object behind these stars traversing through the lip of their gravity wells will red shift when observed. Light from an object behind these stars that travel directly into the deepening gravity wells of these stars will get trapped in the gravity well because the gravity well is strengthening at such a fast rate. Another possibility is that Andromeda is still in the process of revealing itself to us, as in the oldest light has already escaped the gravity well, and the younger light escaped the gravity well eons later, after the gravity well became static. Dark matter can also come in the form of total blackness with no apparent visible matter, these are galaxies that have a gravity well that is strengthening at an extreme rate that light can't escape.

This same concept applies to black holes. A definition of a black hole is that space time is warped so much that light can't escape, more precisely, a black hole is matter creating a gravity well that is strengthening at such an alarming rate that its own light can't escape the well. Dark matter and black holes may essentially be the same phenomenon.

Now we can talk about what happens inside a black hole. If the black hole is gaining mass at an extreme rate, the gravity well will strengthen (sink) so fast that photons emitted from the singularity will race against the strengthening gravity well and photons will stretch as they travel up the gravity well, trapped in the gravity well and red shifting extremely. If photons from outside the black hole enter the event horizon, they will stretch as they ski across the strengthening gravity well and would not reach the singularity during the morphing gravity well. We can't see a black hole from outside and an observer on the singularity can't see outside the black hole neither. When the gravity well decelerates, light travelling down the gravity well will then be able to travel to the singularity and light traveling up from the singularity may emerge (redshifted to the max). Another analogy to understand this phenomenon, picture a water fall as the strengthening well and the lake bottom (bottom of gravity well) keeps on falling away and the cliff keeps elevating. A motor boat (named The Photon) speeds up the waterfall zig zagging right and left, representing a light wave. The boat cannot reach the top of the waterfall. The trail the boat will leave will be stretched. Conversely, a boat travelling down the waterfall still cannot reach the bottom of the waterfall as long as the bottom is moving away. The zig zagging trail the boat will leave in the waterfall will have a higher frequency going downward relative to the boat that was going up. The more water that skims across the bottom of the boat the more redshifted the boat. This same concept applies to invisible galaxies (dm), if we can't see it, an observer on the dark galaxy can't see us. Furthermore, on a milder level, if the milky way's gravity well is in the end stages of strengthening, the light that comes to earth from other galaxies will be stretched a tiny amount before reaching earth as it travels down the milky way's gravity well, giving a higher redshift for all z's observed, conversely, if the milky way is losing mass, all z values observed from other galaxies will be blue shifted as their light travels down the shallowing gravity well of the milky way.

Gravity is the key to understanding dark energy, dark matter, black holes and the unobservable universe.

Possible tests to prove if strengthening gravity wells produce redshift anomalies.

1. Black hole/white dwarf and star binary system where black hole/white dwarf is feeding on star.

The star that is losing mass should have an unusually blue shifted feature and the accretion disc of the black hole should have a redshift relative to the star. This accretion disc would be located at the gravity well lip of the black hole so the redshift may not be extreme in this area.

2. Supernova

View a galaxy, measure the z of the stars, and wait for a supernovae. When a super novae occurs, it will redshift during its collapse phase relative to its pre supernova z value (gravity well deepens), and blue shift during its rebound phase (gravity well undeepens a small amount from losing mass). There may be some outer blue shifting affects during the supernova collapse because the pre supernova gravity wells lip will rise as the middle of the gravity well sinks in a smaller more compact well. There also may be a red shifting affect from the ejected material coalescing away from the star. There also may be blue shifting occurring for ejected matter speeding towards the observer. To eliminate these errors, we can test a stars light behind but viewed directly beside the supernovae as this light will traverse the supernovas changing gravity well. But the best test would be observing the exact center of the supernova, blocking out the outer disc and ejecta, and observe this light. The expected result should be a redshift on collapse (higher z than z was before supernova) and a blue shift after rebound when the star loses some mass. These values should be compared to the stars z pre explosion. Pre explosion the star should b z=x, during collapse it should be z>x, during rebound it should be z<redshift observed during collapse.

But, if a supernovas gravity well strengthens so fast that its own light gets trapped in its own gravity well, that would mean the supernovas original self would not be seen previous to the explosion, and its super nova would appear in the night sky from nothing. So if we observe a super nova but the star couldn't be observed previous, this would prove my hypothesis also.

3. Stars that are losing a lot of mass. These stars should be blue shifted relative to their star neighbors who are not losing much mass relatively. These comparison stars light should not travel through the gravity well of the mass losing stars (to prevent red shifting errors)

4. LHC
Set up an array of lights that the particles will traverse perpendicular to the light waves. Measure the z of light before and as accelerating particles speed towards and pass each other intersecting through the light rays. Light should redshift during the pass. Note: the particles cannot just pass the light beams at a steady speed, there must be an acceleration from a lower velocity to a higher velocity while the particle is passing the light (simulating an increasing/changing gravity well attached to the particles during transit through the light).
We can also smash particles which would momentarily create an increasing gravity well upon impact. If light traverses the impact location, it will redshift then blue shift. This test is only valid if the gravity well upon impact or acceleration is large enough in change.

5. Accelerate 2 objects in the same direction. The gravity well of each object will increase. Emit a photon from object a to object b. Observe the z value. When both objects are at a constant speed (not accelerating), emit a photon from object a to object b, this z value should be lower than the z value observed during acceleration phase.

The test to prove if the universe is expanding, contracting or static.

1. Identical quasars or galaxies at different distances:

Locate a galaxy nearby, locate a distance galaxy that looks exactly the same, both these galaxies must have the same rate of mass gain or loss. Measure their z value. If the z value is the same, the universe is static. If the further objects z value is higher than the closer object, the universe is expanding. If the z value of the further object is less than the nearer object, the universe if compressing. Subsequently, quasars would be a better test. Find a nearby quasar, and a faraway quasar. If these are lone quasars, with no gas clouds or companion galaxies, this would mean their gravity wells are not strengthening. We must also be sure the quasars jets are releasing matter at the same rate (optimal state would be no jets as this tells us there's not much mass loss). If the z value is the same for both objects, the universe is static. If the further objects z value is higher than the closer object, the universe is expanding. If the z value of the further object is less than the nearer object, the universe if compressing. This test will yield the rate of expansion or compression if enough data is compiled.

Test to prove dark matter is due to strengthening gravity wells.

1. Look at a dwarf galaxy with a lot of dark matter as a fraction. Observe the redshift of light from an object behind the dwarf galaxy passing through the dark matters gravity well lip. Now find another galaxy with the same mass and same distance, but has less dark matter as a fraction. Measure the redshift of light passing through this galaxy from an object behind it. If light from an object behind the dwarf galaxy with a lot of dark matter redshifts more than light passing through a galaxy with less dark matter, it means dark matter is attached to currently strengthening gravity wells (which redshifts light more than static gravity wells) and the hypothesis is correct.

2. Another test to prove my hypothesis is to look at the black void in a dark matter clump, if no light from behind the dark matter clump traverses through it, my hypothesis is correct. There of course will be galactic objects in front of the dark matter clump (between the dark matter clump and earth).

Time affects:

Now that we have an understanding of how gravity wells that are changing affect light. We can explore the effects on time. When a gravity well is in the process of strengthening, time slows down, when the gravity well stops strengthening, time speeds up until it reaches a certain rate, then remains constant. When a gravity well is in the process of losing mass, time speeds up, when the gravity well stops losing mass, time slows down to a certain rate, then remains constant.

Formula blueprint:

Z total = the affects of (change in GW well of the observable universe) + (change in GW of Milky Way) + (change in GW of observed galaxy) + (Velocity of observed galaxy)

Conclusion:

This paper proposed that when an objects gravity well is in the process of strengthening (by gaining mass), the light observed during its gravity well strengthening phase is redshifted accordingly. The greater the look back time, the younger the galaxy, the younger the galaxy when observed, the faster its gravity well is strengthening. The faster a gravity well is deepening, the further photons will be stretched that traverse and depart the morphing gravity well. I challenge the community to create and perform tests to prove this phenomenon. Redshift anomalies are not taken seriously and they hold the key to understanding the observed redshifts of galaxies. The proposed mechanisms of light red shifting in a strengthening gravity well may be one possibility of the redshift anomaly, but there may be other mechanisms that produce the redshift anomaly. Please do not dismiss the paper if you do not agree with the deeper details of the hypothesis, because the main point still remains, a high z value is produced when an object is gaining mass at a high rate, and this should not be dismissed merely because of possible disagreements elsewhere in the paper. I am confident that objects that are in the process of gaining mass produce higher z values and this discovery has been backed up by observations presented in this paper. Another thing im certain about is using redshift as a measuring tool only for calculating velocities of observed galaxies is faulty when the rate of change of the gravity well of the observed galaxy is not taken into account. I am also confident that the further we look into space, the more redshifted an object is not only because it's moving away, but also because the farther an object, the more it is in the process of gaining mass due to the look back time. Furthermore I am confident that the rate of expansion is less than the Hubble rate. It is also plausible that the universe is static or contracting, which is also less than the Hubble rate of expansion. A galaxies redshift is not related to the Hubble velocity alone. It's time we stop avoiding redshift anomalies. Redshift anomalies in Quasars with a high-z, binary galaxies with a mass gaining companion with a discordant high-z, and the furthest galaxies with high-z values all have a similar trait, their mass is increasing at a high rate at time of observation. Z total = the affects of (change in GW well of the observable universe) + (change in GW of Milky Way) + (change in GW of observed galaxy) + (Velocity of observed galaxy). If we can work out a proper equation based on the z total blueprint mentioned, we can calculate the rate of expansion or contraction of the universe with great accuracy. With an open mind and observational evidence, we have the power to understand the true nature of the universe. Please do not hesitate to contact me if you would like to be a part of this discovery and have some insight you would like to share.

Notes:
First draft.
References will be added in final version.