

Definitive Experimental Falsification of General Relativity
A New Theory of Gravity Without a Spacetime Continuum

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The Andromeda Galaxy (M 31)

The above image of Andromeda is experimental proof that photons are not deflected or “curved” in any way by gravity when they pass near the sun. If each photon in this photograph was not lined up perfectly in Euclidian space and time with its emitting star, the whole picture would appear as a homogenous dim grey cloud.

ABSTRACT

When Einstein presented the General Relativity theory, he made the prediction that the path of every photon that passes stars and through and around galaxies is slightly deflected in its path by the gravity of these bodies. He calculated the angle of deflection for starlight passing the edge of the sun to be 1.75 arc seconds. The deflection of the star’s other photons passing much farther from the sun would all be deflected by smaller but still significant amounts. In 1919, Arthur Eddington measured the sun’s

starlight deflections to be very close to Einstein's prediction. This means each photon passing through the cosmos would be deflected countless times as it passed through the gravitational fields and curved space of the billions of stars in each galaxy. No photon could pass through the cosmos without undergoing billions of tiny deflections around its original momentum vector. Even a tiny deflection would produce an enormous horizontal displacement of photons when viewed light years away from the deflecting star. In the above photo of Andromeda, each of the trillions of photons recorded on the photographic plate appear to be perfectly lined up with the star that emitted them. Where are all the deflected photons? If any of these photons were even slightly deflected, they would now be millions of miles if not light years away from one side or the other of our telescope. These photons had moved through Andromeda for many thousands of years and then traveled for over two million light years before reaching our telescope. If any number of them had been deflected from their true paths by even one millimeter, this photo would be blurred beyond any recognition. If Einstein was right about his idea of a non-Euclidian curving gravitational spacetime continuum, it would completely destroy the clarity all astronomical observations.

Now in 2020, new physical measurements and calculations of Einstein's angle of solar deflection show the effect to be only an optical illusion and not an actual change in a photon's actual path through Euclidian space and time. The apparent angles of curvature are dynamically measured and calculated to be the same as those predicted by Einstein. However it is also calculated that the measured angles are made from the perspective of the observer's changing momentum and not from any changes in the photon's actual momentum vector. The measured deflection results from changes in the gravitational momentum at Earth's surface and not from any changes in the photon's path caused the sun's gravity. This photo and these measurements show conclusively Einstein's downward pointing *Four-Dimensional Spacetime Continuum* is nothing more than a smoke and mirror illusion and has nothing to do with photon motion. The equivalence principle is false, as well as all the other downward pointing gravitational field and aether theories. It is a measured and calculated fact that the Earth's surface falls up with absolute gravitational momentum as the size of the electron slowly expands.

Experimental Rejection of the Equivalence Principle

It is ironic that the 1919 experiment measuring starlight appearing to curve as it passed the sun was what gave General Relativity its tremendous burst in popularity and now today in 2019, it is this same experiment that provides the ultimate disproof of its experimental validity.

If the Einstein deflection of starlight really was caused by curving non-Euclidian space near the sun, it would make most astronomy impossible. Beyond the planets, the whole of the cosmos would appear as an impenetrable gray fog. We would still be able measure the dominant background of the 2.7 K blackbody photons and the directions of cosmic rays but most other cosmic observations would be blurred beyond recognition. The following experimental measurements conclude that the apparent deflection is an optical illusion caused by measured changes in the geometry of Earth's gravitational momentum and not by imagined and calculated changes in a gravitational spacetime continuum surrounding the sun.

Author's Note

I must state here that I am exclusively an experimental physicist. I do conduct actual physical experiments but my primary activity is in the calculations of experimental values before they are measured. While my predictions might be classed as thought experiments, I accept all measurements at face value and I never engage in the speculations of theoretical physicists that predict results that are contrary to the principles and conservation laws of the scientific method of physical measurement. All of my measurements are primarily based on changes in the momentum vectors of atoms and photons as measured by force and calculated as energy. Gravity is represented here as a single accelerometer measurement of force and a calculation of momentum. No theory of gravity beyond the extrapolation of accelerometer readings is used in this explanation. This model of starlight deflection contains only local measurements of gravitational deceleration and cosmic measurements of mass, space, and time. These are principles of physical measurement that are the opposite of theories. Theories are used to make predictions of measurements based on metaphysical assumptions. A theory is used before the calculations of an assumption are measured. If the prediction is correct, the theory becomes a principle of measurement and if the prediction is wrong the theory remains a metaphysical assumption. I make no metaphysical assumptions other than believing in the physical accuracy of my accelerometers, clocks, and measuring rods.

Experimental Measurements of Solar Deflections and Time Delays

The following thought experiments are based on calculations of the Einstein's predicted bending of starlight as it passes the sun and other bodies of mass. They show the calculated angles for General Relativity's starlight deflections and the actual measurement of the apparent deflection of photons as they pass by the surface of the sun and the a measurement of the Shapiro Time Delay in which radar signals appear to curve and slow as they pass near the sun back and forth between Earth and Mercury. These last two measurements conclusively show that gravity has exactly no effect on the perfectly straight Euclidian momentum vectors of all photons. The measured deflection results from the curvature of the gravitational space and time of Earth and not from any curvature in the inertial space and time of photons.

Einstein's Predictions

Deflection at sun's surface = $4GM/C^2R = 1.75$ arc-second

Deflection at Pluto's orbit = $4GM/C^2R = .0002072$ arc-second

Deflection at 1 LY from sun = $4GM/C^2R = .000001286$ arc-second

A Space Alien's View of Our Solar System

In the first observation, space aliens on a planet orbiting Alpha Centuri have focused in on our solar system with a 200 inch telescope identical to the Hale telescope on Palomar mountain. They are attempting to measure the mass of our solar system by measuring the gravitational deflection of starlight photons that passes the outer edge of the solar system at Pluto's orbit.

At their location, 4 light years from the sun, the starlight deflection at Pluto's orbit (.0002 arc sec) would displace the photons from their telescope's mirror by a horizontal distance of 38,000 km. They still might be able to see photons from the sun but the background stars would appear as a homogeneous grey fog.

A Photo of the Andromeda Galaxy

In this observation, we will observe and photograph photons from the Andromeda galaxy with the 200 inch Hale telescope. In this measurement, we will consider only photons emitted by Andromeda stars that have passed within at least one light year of another star. These photons will all be deflected in one direction or another by a horizontal distance of at least 1,004,216 km by the time they reach Earth after their 2.5 million light year journey. The deflection of photons by Einstein's maximum of 1.75 arc seconds for a sun sized star would be displaced by 12.2 light years from their original trajectories by the time they reached the Milky Way. For photons to be able to record the position of their emitting star within Andromeda, they could not be deflected by even as much as a millimeter. If photons were to undergo any gravitational deflection as they traveled through Andromeda, the above photo would appear as a dim grey blob and not as a galaxy with billions of individual stars. While the same number of Andromeda photons will reach our reflector, none will be on their original momentum vectors and together will appear as a grey blob of light. No photons would be lined up perfectly in the direction of their emitting stars.

Actual Measurement of Einstein's Apparent Bending of Starlight

This explanation of the apparent deflection of photons as they pass the sun is calculated entirely from the values of three complimentary principles of measurement.

Earth's escape/surface velocity, its deceleration of gravity, and its radius.

The Gravitational Expansion of Mass, Space, and Time

$$V_{es} = \sqrt{2gR} = 11,200 \text{ m/s} \quad \& \quad g = \frac{V_{es}^2}{2R} = 9.807 \text{ m/s}^2$$

A body's escape/surface velocity V_{es} is measured as $\sqrt{2}$ times its deceleration of gravity g at Earth radius R . & A body's acceleration of gravity g is measured as its escape/surface velocity squared V_{es}^2 divided by two times its radius R .

Each of Earth's three gravitational parameters of Velocity, Force and Radius can be determined from the measurement of the other two, ($V_{es} = \sqrt{2gR}$), ($g = \frac{V_{es}^2}{2R}$), and ($R = \frac{V_{es}^2}{2g}$). For the purposes of this explanation, these equations are used to measure Earth's surface acceleration $g = 9.807 \text{ m/s}^2$ and then calculate its gravitational surface momentum of $p = 11,200 \text{ m/s}$. These measurements and calculations are used to determine that the Einstein starlight angle is real but only in Earth's non-inertial *gravitational space-time*. The equations are then used to calculate the sun's surface gravity of 274.2 m/s^2 to measure the apparent Shapiro's time delay of photons passing through the *gravitational space-time* of the sun.

These values are measured with accelerometers, clocks, and rulers here on Earth and they are all that is needed to calculate the angle at which starlight appears to curve as it passes the sun as well as the apparent measured time delay of radar photons that are reflected off Mercury and return to Earth. Only the Euclidian geometry of the Newtonian laws of force and momentum are used to arrive at a value of 1.74 arc-second for the apparent deflection of starlight and .000190 second for the apparent round trip photon time delay between Earth and Mercury. These measured values of Euclidian geometry are basically exactly the same as General Relativity's calculated values using non-Euclidian geometry and the equivalent momentum vectors of photons. In these measurements, photons undergo no actual deflection within Euclidian inertial space. It is the changing geometry of gravitational momentum within the Earth and sun that only gives the outward appearance of starlight curving and time delay.

*Earth "curves" to meet the photons. Photons do not curve to meet Earth.
Gravity is the effect of the changing geometry of Earth's momentum.*

Photons are not effected in any way by gravity or any other field theory. Photon momentum can only be changed when they are emitted, reflected, or absorbed by an atom. They only appear to curve or slow when they are viewed relative to the changing gravitational momentum of the Earth and sun. The extent of a body's changing gravitational momentum extends only to its surface and it can have no physical effect on passing photons.

Einstein's Gravity is Upside Down, Backwards, and Inside Out

The whole counter-intuitive theory of General Relativity is based on the metaphysical assumption that imaginary downward radial gravitational force and motion are equivalent but not equal to the real gravitational inertial force and momentum that is measured at Earth's surface to move upward.

Einstein used his unmeasurable equivalence theory to imagine a downward pointing equivalent force and momentum produced by an infinite gravitational field. He believed the upward force and momentum measured at Earth's surface was just an imaginary idea used by his subconscious mind to constantly maintain his body's balance against gravity's "perceived" upward force.

Einstein's Gravitational Imagination

Apparently, even Einstein wasn't smart enough to consider and believe in his own subconscious mind's interpretation of gravity developed from monitoring it with his five senses since birth. How was it possible that Einstein could lie in bed next to a Newtonian accelerometer and not imagine, feel, and calculate that his bed was accelerating upward with decelerating time to maintain a constant upward velocity of 11,200 m/s.

Luckily, Einstein was a theoretical physicist and not an experimentalist. This allowed him to ignore all empirical measurements and concentrate on making gravity do whatever he wanted with his metaphysical equations. Even if the force of gravity was not measured to point down, he could make it point down with his upsidedown equations. Even though gravity is measured as upward momentum produced by upward force, Einstein's backward equations calculated downward momentum produced by equivalent force. While gravitational energy can only be measured when bodies fall or are lifted, the inside out General Relativity equations calculate that a body's real potential energy increases as it moves away from Earth's gravitational "fields". It was then imagined and correctly calculated that this increasing energy causes atomic clocks on satellites to run faster as they move away from Earth.

When Einstein imagined and calculated that gravity was caused by the curving motion of his four-dimensional spacetime continuum, he made the prediction that photons from distant stars would be deflected 1.75 arc-seconds by this curving space when they passed near the sun. Einstein was so focused on his magical ideas about gravity that he failed to realize that if his predicted starlight deflection was correct it would completely destroy the optics of the science of astronomy.

The Astrophysical Disaster of General Relativity

Einstein's apparent bending of starlight is caused by the changing geometry of Earth's gravitational momentum. In the theory General Relativity, it is perceived as unmeasurable changes in the geometry of a universal spacetime

continuum. In the principle of the Expansion of Gravitational Momentum, photons undergo no changes in trajectory or momentum as they pass the sun or other mass bodies. The measured deflection comes from the perspective of relativity theorists trying to calculate their imagined effects of equivalent force and momentum using non-Euclidian geometry.

If the inertial momentum vectors of photons were actually changed by gravity fields or curving space, as relativity theorists have always imagined, it would be a disaster for astronomical observations. Consider the photons that Eddington failed to capture on his photographic plates in 1919. They are now a hundred light years away moving through the Milky Way on the trajectories of Eddington's measured angle of 1.75 arc-seconds. These photons are all believed to move at slightly different angles depending on their distance to the sun when they passed. A simple calculation shows that these photons are now at a horizontal distance of 128,000,000,000 km away from their original momentum vectors before they passed the sun. This is just for the photons that pass the sun near its surface. Virtually every photon passing the sun at other radii out to infinity will have its own unique deflection angle and altered momentum vector.

Photons Cannot Be Deflected by Gravity

In General Relativity, the gravitational field of every atom in the cosmos is constantly changing the momentum vectors of every photon in the cosmos. In the principle of absolute gravitational momentum, as in electrodynamics, the linear and angular momentum of photons is absolute and unchanging.

The only change that has ever been measured in a photon's momentum vector occurs at absorption where its momentum is conserved or at reflection where its momentum is conserved by the Compton effect and changes are measured as Doppler effects.

If according to General Relativity, the presence of gravitational mass was able to change a photon's straight line path by even the slightest amount, the photons from distant stars and galaxies would be far removed from their original Euclidian vectors and would appear as a diffuse cloud of random photons everywhere we looked. Each photon would slightly change its path many times as it passed through and around galaxies. With all this random light pollution, the whole cosmos would appear as a dim gray fog and it is doubtful if the Hubble telescope could even see beyond the solar system. Even the random light pollution from streetlights here on Earth makes certain astronomical observations impossible near cities.

The Lorentz Transformation of Mass, Space, and Time

Besides the Einstein bending of starlight, General Relativity's only other

calculated measurement is the gravitational red shift. This is caused by the Lorentz transformation of mass, space, and time and has nothing to do with General Relativity's fundamental assumption of equivalent or relative momentum. In fact, the Lorentz transformation is actually a disproof of equivalent momentum. Lorentz transformations are a measure of changes in a body's absolute momentum. The equivalent momentum at Earth's surface would not cause a gravitational red shift. See Pound-Rebka Experiment.

The Lorentz transformation is not a theory. It is the principle of physical measurement used to calculate and measure the conservation of momentum $P = ms/t$. It consists of three equations for calculating the measured values of mass in kilograms ($m' = M/\sqrt{1-v^2/c^2}$), time intervals in seconds ($t' = T/\sqrt{1-v^2/c^2}$), and space in meters $s' = Sv\sqrt{1-v^2/c^2}$. M, S, and T represent the measured values of Mass, Space, and Time at a position of Zero Momentum Rest for the cosmos.

General Relativity's Cosmological Paradox

Ever since Einstein first proposed the theory, the great unexplained paradox for General Relativity theorists has always been their complete inability to confirm the validity of the experimental physicist's measurements of photons appearing to curve their paths as they pass the sun. Although the measurements appeared to be real, their validity could not be confirmed by measurements of photons in general. While the measured photons appeared to curve away from their emitting stars, the rest of the photons in the cosmos did not curve away from their original emission vectors.

The paradox is this. If each photon's path is slightly changed when it passes a body of mass, how is it possible the Hubble telescope is able to view each photon in the exact direction of the star that emitted it? Except for the cosmic blackbody radiation, the cosmos contains almost no spectral photons that cannot be potentially identified with their source.

In General Relativity theory, photons are calculated to slow to less than c as they approach the sun and then speed back up to c after they pass it. This is thought to be the cause of the observed Shapiro time delay of photons passing near the sun. The electrodynamics of Special Relativity has no explanation of how these photons are able to slow and then speed back up or how if ever they are able to get back to their original Euclidean momentum vectors. This is indirect opposition to what happens when comets pass the sun. They speed up as they approach the sun and then continually slow after they pass.

According to electrodynamics, photons are potentially blue shifted as they approach the sun and potentially red shifted as they move away. This is a transverse gravitational Doppler shift (Lorentz transformation) relative to the sun's gravitational momentum but it has no actual effect on the inertial motion or the wavelengths of the photons themselves. This blue shift would only be real when the photons are absorbed on the sun by atoms with slowed time dilation caused

by the upward gravitational momentum at the sun's surface. The photons themselves are not changed in any way but are perceived by the atoms as blue due to the atoms' slowed clocks. These photons would be reflected or emitted as red for the same reason. Transverse shifted photons have the same red shifts in all directions when emitted and the same blue shifts when absorbed.

The quandary here among relativity theorists is that because of the Shapiro time delay, a postulate of Special Relativity (the constant speed of light) must be abandoned to account for a General Relativity calculation that is only based on a calculation of equivalent force and motion rather than a real physical measurement.

General Relativity theorists all seem to imagine that the above effects are perfectly explained by the equivalence principle. While all experimental physicists are able to accurately measure absolute force and momentum, no one has ever been able to measure “equivalent” force and momentum or gravitational “potential” energy.

Einstein's Bogus Bending of Starlight

To understand the mechanics of the apparent bending of starlight, we must look at it purely from the perspective of the experimental physicist's physical measurements rather than the imagined metaphysical calculations of theoretical physicists. If the effects are explained in terms of actual measured changes in the Earth's and sun's gravitational momentum, it is plain to see that no changes in individual photon momentum vectors are required to account for the false observation of General Relativity's curving spacetime continuum.

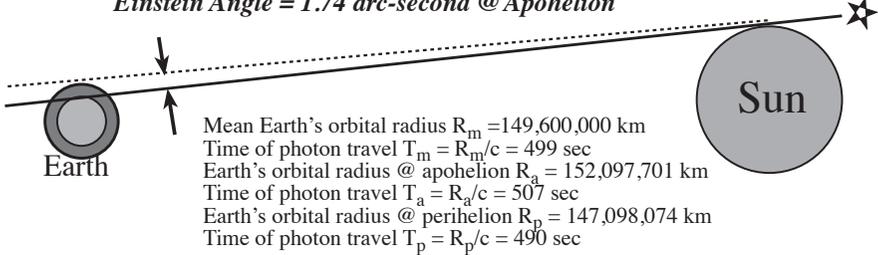
No theory at all is required to account for Einstein's imagined deflection of photons by curved space because no such phenomenon can be measured to occur within the measurements and calculations of Euclidian geometry's space and time.

There can be no “theory” of gravity beyond the simple description and extrapolation of the measurements of Earth's force, momentum, and radius.

The angle of the Einstein non-deflection of light can be calculated from just accelerometer measurements of force and momentum at Earth's surface. The acceleration of gravitational momentum and the deceleration of gravitational time is not a new “theory of gravity” because it is just a principle of measurement. The only other measurements needed to calculate the apparent deflections are the radius of Earth and radius of its orbit around the sun. None of General Relativity's metaphysical non-Euclidian complex mathematical baggage is needed to produce precise calculations for the measurements of apparent photon bending.

The Apparent Solar “Bending” of Starlight

Einstein Angle = 1.74 arc-second @ Aphelion



Mean Earth's orbital radius $R_m = 149,600,000$ km
 Time of photon travel $T_m = R_m/c = 499$ sec
 Earth's orbital radius @ aphelion $R_a = 152,097,701$ km
 Time of photon travel $T_a = R_a/c = 507$ sec
 Earth's orbital radius @ perihelion $R_p = 147,098,074$ km
 Time of photon travel $T_p = R_p/c = 490$ sec

Earth gravity $g = 9.807$ m/s²
 Distance $D = gT^2/2 = 1221$ km 725 km per arc-second
 Einstein angle @ mean $R_m = 1.68$ arc-second
 Einstein angle @ aphelion = 1.74 arc-second
 Einstein angle @ perihelion = 1.62 arc-second

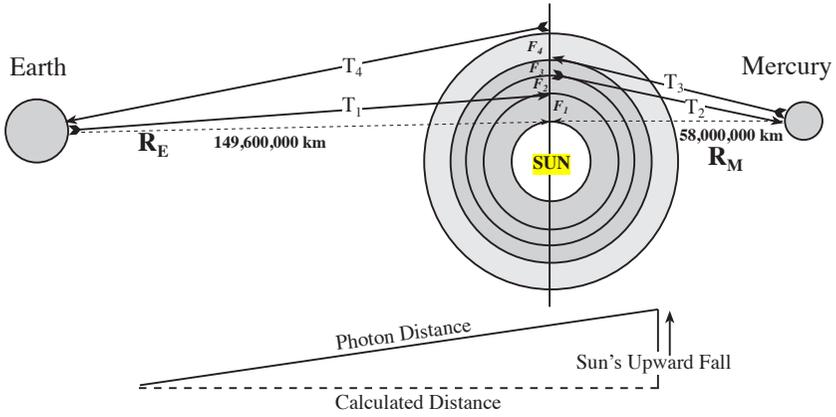
What an observer on Earth actually sees is a star that according to the Euclidian geometry of empty inertial space should be hidden just behind the solar disk. What has actually happened is that in the 8 minutes it takes for the photons to reach Earth from the sun, Earth's gravitational momentum has carried its surface upward a distance 1221 km so that the observer can now see the star just outside the solar disk. This effect has nothing to do with solar gravity deflecting photons and is caused completely by the measured upward gravitational momentum of Earth's surface. It is the same basic effect with the Shapiro Time Delay except that it is the changing geometry of the sun's gravitational momentum that causes the measured illusion of deflections and time delays of photons passing between Earth and Mercury.

Gravitational Expansion's actual measured values of mass, space, time, and gravity are identical to the metaphysical calculations of General Relativity. Both begin with the same physical measurements of the force, velocity, and radius of Earth's gravity. The difference is that General Relativity calculates radial gravitational momentum to be equivalent but not equal to absolute linear and angular momentum. To do this, Einstein had to imagine a virtually infinite gravitational continuum field that physically connected the force of every atom in the cosmos with the mass of every other atom. With the gravitational expansion of mass, space, and time, the force of each atom's gravity extends no farther than its surface.

Both Gravitational Expansion and General Relativity, describe gravity as the changing geometry of space and time. In General Relativity theory, it is the infinity of external gravitational space surrounding atoms and photons that changes and curves with non-Euclidian time and geometry. With the measurements of Gravitational Expansion, it is the internal gravitational space within atoms that expands and curves. In General Relativity, gravity is a theory of Space-time. Gravitational Expansion is just a measurement of Mass, Space, and Time.

The Shapiro Time Delay

Shapiro Time Delay from Earth to Mercury



Shapiro Time Delay Values & Calculations

Sun's Surface Gravity ----- .2742 km/s²
 Sun's upward escape/surface velocity -- $V_{es} = \sqrt{2gR} = 617,800$ km/s
 Radius of Earth orbit ----- $R_E = 149,600,000$ km
 Radius of Mercury orbit ----- $R_M = 58,000,000$ km
 Geometric Distance @ T_0 ----- $R_E + R_M = 207,600,000$ km
 Calculated Time of travel Earth to Sun R_E/c ----- $T_0 = 498.67$ sec.
 Calculated Time of travel Mercury to Sun R_M/c --- $T_0 = 193.33$ sec.
 Calculated Time of travel Earth to Mercury ----- $T_0 = 692$ sec.
 Calculated round trip travel Earth to Mercury ----- $T_0 = 1384$ sec.
 Upward Fall of Sun's Radius $F_1 = gT^2/2$ during --- $T_0 = 34,092.44$ km
 Upward Fall of Sun's Radius $F_2 = gT^2/2$ during---- $T_2 = 5,124.49$ km
 Upward Fall of Sun's Radius $F_3 = gT^2/2$ during --- $T_3 = 5,124.49$ km
 Upward Fall of Sun's Radius $F_4 = gT^2/2$ during --- $T_4 = 34,092.44$ km
 Photon distance Earth to Sun ----- $T_1 = 149,600,003.9$ km = 498.66668 s
 Photon distance Sun to Mercury ----- $T_2 = 58,000,013.3$ km = 193.33338 s
 Photon distance Mercury to Sun ----- $T_3 = 58,000,017$ km = 193.33339 s
 Photon distance Sun Earth ----- $T_4 = 149,600,020.6$ km = 498.66674 s
 Total measured round trip time ----- $T_1 + T_2 + T_3 + T_4 = 1384.000190$ sec
 Calculated round trip travel Earth to Mercury ----- $T_0 = 1384.000000$ sec

Shapiro Time Delay to Mercury and Back = .000190 second

General Relativity calculations for the delay are between .000180 & .000199

The Shapiro Time Delay of .000190 second is calculated by measuring the hypotenuses of four right triangles formed by the orbital radii of Earth and Mercury and the upward gravitational fall of the sun's surface. General Relativity's prediction of this value is between .000199 s and .000180 s depending on how various physical parameters are tweaked in the calculations. My calculations do not allow tweaking the values of Space, Time, or the Speed of Light.

Philosophical Considerations

The theory of General Relativity and the principle of Absolute Gravitational Force and Momentum are based on opposite geometries of space and time. Both begin with the same “non-existent” universal three-dimensional Euclidian void of inertial zero momentum empty space. General Relativity superimposes its four-dimensional spacetime continuum on Euclidian space and allows it to continually curve in four dimensions around the centers of both moving and stationary bodies of mass. This proposed spacetime continuum serves as the “aether” through which photon waves and gravitational space moves. The paths of photons are predicted to bend with the non-Euclidian curvature of this potentially infinite continuum.

In the experimental principle of absolute gravitational force and momentum, it is not the external void of space that curves but rather the internal inertial gravitational space within atoms that appears to expand and curve with time. It is not space that expands but the internal structure of the atoms themselves. The upward force of gravity is an acceleration in space and a deceleration in time that maintains a constant upward escape/surface velocity $V_{es} = \sqrt{2gR} = 11,200 \text{ m/s}$ at Earth’s surface. This velocity represents absolute momentum that is calculated as mass and measured as a slowing of atomic clocks.

Gravity is Local and General Relativity Infinite

In the concept of General Relativity, the gravitational force exerted by each atom extends continuously, unalterably, and undetected to every other atom in the universe. Compare this to the principle gravitational expansion where the gravity of each atom and star in the cosmos is measured to extends no farther than its outer surface. The measured gravitational expansion of Earth is caused by the individual expansion of each atom and does not cause the whole of the universe to expand as a unit like it does with the Dark Energy theory of expanding space.

The cause of gravity is the circlon shapes of all electrons, protons, and photons continually expanding with near perfect Circlon Synchronicity throughout the whole universe. The only divergence in this process is that electrons expand slightly faster than protons and this is the yin/yang dichotomy that causes today’s electron/proton mass ratio of 1/1836 to get larger with the passage of gravitational time. The effect is the continuing evolution of atoms, energy, and gravity. This expansion of mass, space, and time gives life to the Cosmos as a growing entity. (see Living-Universe.com)

Peculiar Gravitational Psychologies

In the fifty years or so that I have been trying to promote the principle

of the Gravitational Expansion of Mass, Space, and, Time, I have had to contend with the peculiar phenomenon I call *adverse gravitational psychology*, in which everyone absolutely refuses to believe in or even consider my empirical measurements of gravitational expansion. Even though everyone can feel and measure the surface of Earth constantly pushing them upward, no one can believe it is true except small children who deal with this upward force every day in their play and experimental physicists who measure this force and momentum with their accelerometers. Even otherwise very intelligent people prefer to believe in incomprehensible magical ideas like infinite gravitational attractions between all atoms or a universal but undetectable curving spacetime continuum was physically connected to every atom.

Quantum Gravity

The actual measurement and bodily feeling of gravity is much simpler and far easier to understand and calculate than the bazaar theories of infinite attractions and curving spacetime. General Relativity's metaphysical gravity of universal reach is infinitely more complex and counter-intuitive than a physical model of gravity that extends no further than the outer surface of each proton's and electron's circlon shape. It is the individual local expansion of each atom that is the *true quantum of gravity* and not waves of gravitons or local distortions in infinite gravitational fields.

Gravitational Philosophy and Scientific Logic

I hate to think what William of Oakham would say to all these people who believe in General Relativity's complex metaphysical calculations of a universal continuum and reject all local measurements of gravity as just equivalent.

Even Isaac Newton couldn't figure it out! He said; "*We are to admit no more causes of natural things than such are both true and sufficient to explain their measurements.*"

Newton invented the concept of the accelerometer as the fundamental tool of measurement (Pendulum Clock) but for some unknown psychological, emotional, or politically correct reasons, he could never bring himself to believe that his accelerometer measurements always calculated the true direction of force and momentum vectors.

Expanding Gravity is Impossible Because Expanding Spacetime is True

I have been told by several seemingly clever people that it would be impossible for the circlon shaped structures of protons, electrons, and photons to continually expand into the infinity of space. However, these same people have a firm belief that the Guth inflation once caused the whole cosmos to expand from the point of a singularity to nearly its present size in a tiny fraction of a second.

Actually, gravitational expansion is a really very slow process in terms of the human comprehension of time. Let's assume that you could transform yourself into one of Maxwell's demons and shrink down in space and time to the size of a proton. From this perspective, you could watch the circlon structure of the proton's Compton wavelength (1.321×10^{-15} m) spinning at the speed of light in two different directions. You assume that this reciprocal wavelike motion has something to do with the proton's gravitational expansion, so you sit back and start counting revolutions to determine how long it takes for the size of the proton to double in size. You must watch 8,000,000,000,000,000 revolutions before the proton has doubled its size.

Compare that to Big Bang theory's proposed Guth inflation where the cosmic singularity began at a diameter of less than one millimeter and then expanded in size by 130,000,000,000,000,000,000,000,000 times in a tiny fraction of a second.

Now, compare these ideas to the very popular many worlds interpretation of Quantum Mechanics where the whole cosmos, space and all, bifurcates instantly every time an atom emits a photon. These examples show quite conclusively that an experimental physicist's measurements of Mass, Space, Time, and Gravity are simple indeed when compared to the cherished beliefs of all those turkeys who call themselves theoretical physicists. Philosophically, belief in the simple measurements of gravity has intrinsic simplicity when compared to the many adverse unmeasured metaphysical assumptions of the Standard Model Theories of Physics and the Big Bang.

The Four Metaphysical Assumptions of Physics and the Big Bang

There are basically only four metaphysical assumptions in the Standard Model Theories of Physics and the Big Bang. I have found them all to be totally incompatible with experimental principles of physical measurement. If these four unmeasurable ideas are rejected, all of physics and cosmology can be measured and calculated in terms of their actual physical parameters and no theories based on metaphysical assumptions are necessary to describe the physical characteristics of atoms, photons, and gravity (mass, space, and time).

1. $E = MC^2$ and the Massless Photon

Momentum, angular momentum, and energy are measures of photon mass.

2. Equivalent of Gravitational Force and Inertial Momentum

Gravitational force and momentum are measured to point up and not down.

3. The Intrinsically Uncertain Location and Momentum of Point Particles

The Circlon Shapes of electrons and protons are the same size as their uncertain locations $h/2\pi = m\lambda c/2\pi$.

4. Universal and Eternally Constant Electron/Proton Mass Ratio of 1/1836

Cosmologists' unquestioned beliefs in the eternal electron/proton mass ratio have completely prevented them from developing reasonable theories, models, and calculated interactions for the creation and evolution of the cosmos.

In the Living Cosmos, the rotational Energy/Mass = C^2 of the electron has

been gradually decreasing from an e/p mass ratio of 1/1, near its beginning, to today's value of e/p = 1/1836. In this process, the electron's decreasing rotational $E/M = C^2$ is converted to the linear $E/M = c^2$ of atoms and photons. The total Energy/Mass of the cosmos as well as its intrinsic momentum has remained constant and conserved from the beginning of its creation to today. The total momentum contained in all cosmic protons, electrons, neutrinos, and photons is a universal constant that has never changed from its universal total value of exactly zero. The only change to occur in total cosmic momentum is the evolutionary process by which the angular momentum of the electron is gravitationally transformed into the linear momentum of atoms and photons.

The Creation and Evolution of the Living Cosmos

This slow evolution of the electron's mass presents cosmologists with a precise step by step creation and evolutionary sequence for the cosmos that explains all of its major features without resorting to Big Bang theory's metaphysical assumptions like a singularity, Guth inflation, expanding spacetime, equivalent mass and energy, equivalent force and momentum, and the matter/antimatter inequality paradox. .

The 2.7 K cosmic Blackbody Radiation

Electron evolution is a long and slow process that began with the very slow bifurcation of antineutrons that gradually accumulated into galaxies, that then transformed into individual stars. The stars were then quickly transformed into compact clouds of electrons and protons. This sudden creation of electrons and protons from the synchronous decay of neutrons within these clouds occurred when the electron/proton mass ratio reached 1/146.5. Because of their increased size, Electrons and Protons were no longer confined within neutrons and could now couple together into atoms and emit spectral photons for the first time in the history of the cosmos. This sudden simultaneous burst of photons throughout the whole cosmos formed the 2.7 K Cosmic Blackbody Radiation that we still observe today at its original temperature.

The Hubble Red Shift

As the electron's mass continued to decrease it caused the Bohr radius to also decrease by a proportionate amount. This caused spectral photons to decrease in wavelength and increase in momentum and energy. The Hubble red shifted photons from distant galaxies are not Doppler shifted by galactic momentum. Billions of years ago, atoms with more massive electrons emitted photons with much longer wavelengths and less momentum and energy than they have today. The Hubble red shift is not the effect of an expanding universe. Rather, it is the effect of a contracting Bohr radius.

Dark Energy

The observations of the decreased energy and intensity of distant supernovae used by cosmologists to formulate their ideas of Dark Energy have nothing to do with an expanding spacetime continuum. This phenomenon can be completely explained by electron evolution. Billions of years ago thermal photons from supernovae had less energy than they do today and this caused them to be less intense than local supernovae.

Stable Solar Energy

The nuclear energy industry as long demonstrated the extreme difficulty in controlling nuclear fusion. The sun could not have maintained its near perfectly stable energy output for billions of years if it had to rely on the random and unpredictable process of nuclear fusion. Constant solar energy output is the result of the electron's rotational Energy/Mass = CC slowly being transformed into the linear Energy/Mass = cc of atoms and photons. The small fluctuations in the sun's energy output generally result from random and sporadic nuclear fusion, whereas the evolution of electron Energy/Mass supplies the sun with an extremely stable and perfectly constant supply of energy.

Cosmic Rays

Electron evolution is also the source of the enormous energy of cosmic rays. As the electrons within atoms give up their energy, they are able radiate it away with photons. However, atomic nucleus ions have no external electrons to radiate photons. As the electrons within the neutrons of the nucleus give up their $E/M = cc$, they are able to transfer it to the nuclear structure, but with no electrons, they are not able to radiate it away. As these nuclei travel through space for billions of years they can build up tremendous amounts of energy within their structures.

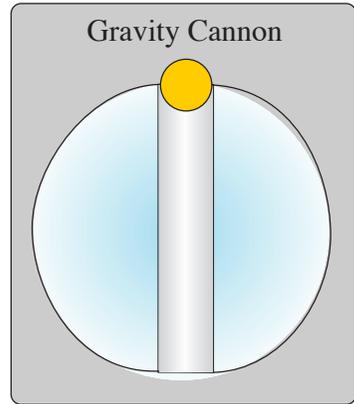
Large Dinosaur Bones

As the Bohr radius continues to grow smaller with the decrease in electron mass, it causes the size of atoms to also grow smaller. Millions of years ago, Earth was large and less dense than it is today. This caused its surface gravity to be much less and this allowed very large dinosaurs to walk and run which they couldn't with the greater gravity of today.

Einstein's Theories of Relative motion make up the first experimental half of my two Principles of Absolute Force and Momentum and Relative Gravity and Energy. The two laws of physics are the constant speed of light and the relative speed of gravity. The Absolute Momentum of photons is relative to the Absolute Gravitational Momentum of matter.

The Gravity Cannon Test

*The gravity cannon is a definitive experimental test that can easily differentiate between the four possible general theories of gravity. This test is so simple and basic that once it has been performed, the results can be put on **You Tube** to make it possible for the true nature of gravity to be understood by everyone. Even the small child will be able to clearly see and understand just how gravity really works.*



The Gravity Cannon Experiment

*The Gravity Cannon experiment is the ultimate test to either validate the **Gravitational Expansion of Mass, Space, and Time** or falsify General Relativity's metaphysical assumption of a curving spacetime continuum. The test will show conclusively whether the force of gravity is internal to matter or external to the cosmos.*

The gravity cannon is an extremely simple and inexpensive mechanical device with only two moving parts. It has the absolute ability to differentiate between the **equivalent downward inertial momentum** calculated and predicted by General Relativity and the **absolute upward gravitational momentum** measured with accelerometers.

The only thing difficult or expensive about the Gravity Cannon experiment is that it has to be performed in outer space. The cannon itself is a large clear glass sphere with a round shaft drilled through it at its center. A round cannonball of some heavy material such as Gold is machined to loosely fit inside the shaft. To begin the test, the cannonball is held briefly at one end of the barrel and then released.

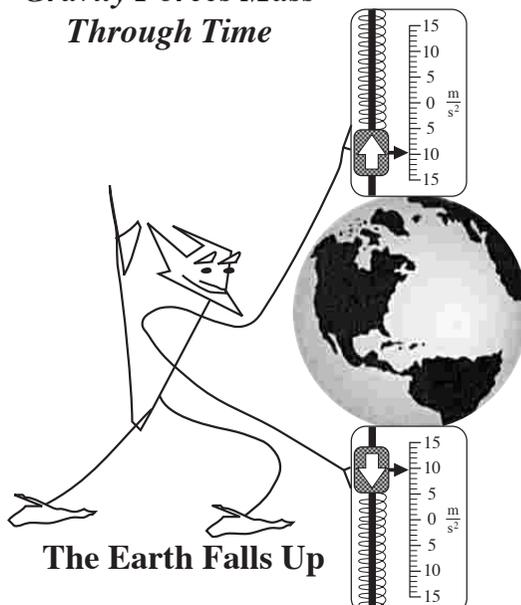
If General Relativity's idea is correct, equivalent momentum will be added to the ball by equivalent force and it will accelerate down the barrel, reach maximum velocity at the cannon's center and then decelerate to a stop at the other end of the barrel. The process will then continually repeat itself in reverse with the ball accelerating back down the barrel and then slowing to a stop at the opposite surface of the glass sphere.

If the absolute momentum of measured gravitational expansion is correct, the Gold ball will move toward the center with decreasing acceleration until it eventually appears to stop just short of center. The results of this test will be completely unambiguous and will decisively separate the measurements of absolute gravitational momentum from all equivalent momentum and attraction theories of gravity.

Gravitational Expansion of Mass, Space, and Time

Accelerometers that measure force to calculate momentum, energy and velocity are the only instruments available to modern experimental physicists. All measured values eventually break down into individual changes in momentum. When we watch TV our eyes measure the individual variations in momentum of the photons emitted by the screen. When we measure gravity with accelerometers and clocks, we can only conclude that it is a three-dimensional upward pushing force that produces three-dimensional outward momentum. There are no accelerometer measurements that show gravity to be a two-dimensional downward pulling force.

Gravity Forces Mass Through Time



The Earth Falls Up

Upward Force of Gravity Produces Inertial Motion (Radial Gravitational Momentum)

Accelerometer Measurements of Force and Change in Momentum

There are four basic quantities in the Newtonian experimental measurement process: Mass, Space, Time, and Gravity. All conceivable experimental measurements are made with Newtonian accelerometers to quantify individual values for Mass, Space, Time, and Gravity. These values are combined together in the calculations of momentum, angular momentum and measurements of centrifugal and centripetal force, and linear and rotational kinetic energy. Energy is the idea used to divide the equal momenta produced by of a single force into multiple values. Gravity is the measure of force used to calculate radial gravitational momentum. Linear momentum and force exist on individual one-dimensional vectors, angular momentum and centripetal force exist on two-dimensional planes and the force and momentum of gravity are measured and calculated at the surface of three-dimensional spheres.

Einstein's imaginary ideas about equivalent force and momentum causing inertial space to curve have only been measured with null results.