Temporal Energy

The Equivalence of Inertial and Gravitational Masses

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Abstract

Inertia, the force you feel pulling on you as you accelerate and gravity - the force that attracts all objects with mass. Are two separate and distinct phenomena and yet they share an equivalence which cannot be explained. In this paper we will show how and why inertial and gravitational masses are equivalent and how temporal energy – time is the underlining mechanism which links and governs them.

Background and Introduction

For almost four hundred years, from Galileo Galilei to Isaac Newton to Albert Einstein, the scientific community has tried to unlock the enigma of gravity. In 1915, Einstein published his Theory of General Relativity, which describes gravity as a warping in the fabric of space-time. In the paper, "Temporal Energy – The Equivalence of Inertial and Gravitational Masses" a new methodology is described explaining the process of exactly what causes inertia and gravity and proves that gravity is not caused by the warping of space-time. In doing so, will perhaps lead to a resolution where gravity and quantum mechanics can finally be reconciled. To achieve this accomplishment, we took a step back and reanalyzed the nature of time which led to an undeniable conclusion about the nature of inertia and gravity.

From this moment forward, we define time dilation as temporal energy and will prove our justification.

What is inertia? As you accelerate, relative to an outside observer, you acquire an increase in mass as your gravitational field and time dilation/temporal energy increase proportionally to your rate of acceleration. This increase in time dilation/temporal energy moves you into the future. Thereby, causing outside stationary clocks, in the past, to see you as the path of least resistance to the future. As such, these clocks are drawn to and pull on you in the opposite direction of acceleration. This is inertia, a rising gradient of temporal energy caused by an accelerating mass, attracting outside stationary clocks in the past as its clock moves into the future.

What is gravity? In the earth-moon system, each body experiences a different amount of time dilation due to the different magnitudes of their gravitational fields. Therefore, each body exists at a different location in time relative to the other. Earth's stronger time dilation/temporal energy means it exists at a position in time further in the future relative to that of the moon's position. The moon, in the past, wants to reach a higher state of entropy and is drawn to the future here at earth's surface. Thus gravity is the attraction of bodies of mass in different positions in time relative to one another, due to its temporal energy, that are drawn together to satisfy the 2nd law of thermal dynamics.

As such, temporal energy is the mechanism and the reason why inertial and gravitational masses are equivalent. It causes the attraction between bodies, in relative past and future moments, that want to reach a higher state of entropy.

To be stated accurately the moon is not just drawn to the earth. The earth is also attracted to the moon and the point in space and time where they would intersect is the temporal nexus of the system. This nexus is a point that all bodies are attracted to in a gravitational system, and its location is always closest to the object with the greatest mass.

Figure 1. Black holes with high magnitudes of temporal energy are depicted in space. Blue regions represent the future and red regions represent the past. As with any massive object, clocks point in the direction of black holes as they are extreme regions of high temporal energy and future time.

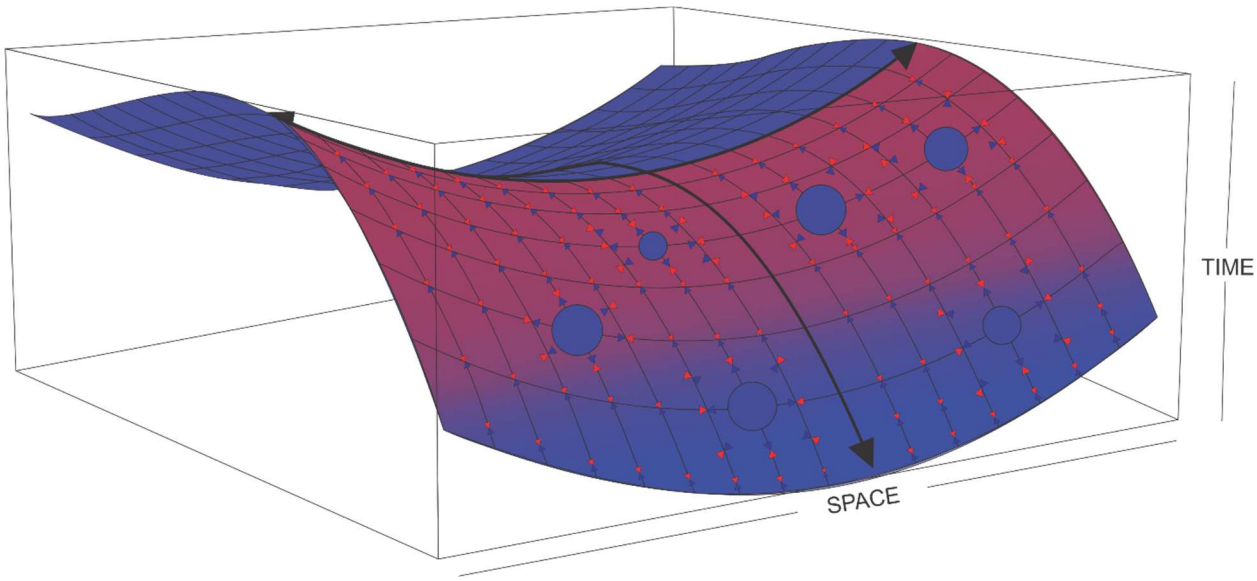

Figure 1. Clocks are attracted to the high magnitude of temporal energy of black holes which reside in the future.

To measure temporal energy and the amount of attraction it causes between two objects, we need to find the value of an object's temporal energy relative to the temporal energy value of another object. No matter how far apart the objects are in space and time.

To find this value we need to find a common point in space and time that is the same in all reference frames. We need a common lighthouse and for this, we use the Big Bang. By measuring the magnitude of time dilation/temporal energy of an object, we can determine its distance relative to the Big Bang and hence, its absolute position in time.

Thus, to calculate the temporal energy value for an object, we use the following constant. The stronger a gravitational field is – the greater the time dilation/temporal energy. Thus, the greater the time dilation/temporal energy – the further in the future that region is relative to any clocks outside of that field. Hence, by measuring the strength of the gravitational field, as a function of escape velocity for the speed of light, will give us a direct correlation with y (gamma) – The Lorentz Factor.

Therefore, by measuring the acceleration of an object or the equivalent acceleration needed for an object to escape a gravitational field. We can determine an object's time dilation and the subsequent temporal energy it possesses. This, in turn, corresponds to its absolute position in time relative to that of the Big Bang and we denote this constant R0 (r- naught). Figure 2.

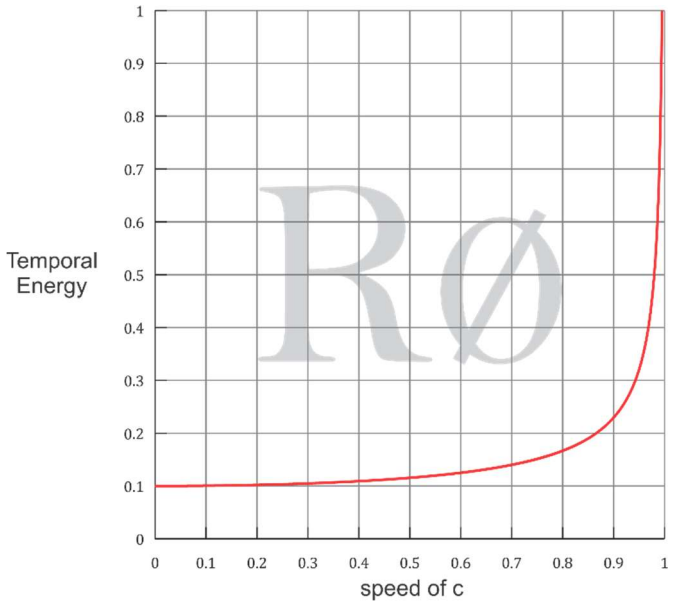

Figure 2. R0 (r-naught)

$$RØ = 1 - \sqrt{1 - {}^{v^2}/_{c^2}}$$

Where

v = velocity from 0.0 -1.0 of c

c = 1 the speed of light

R0 = amount of temporal energy measured as 0.0 – 1.0 (1.0 = temporal energy of a black hole)

The closer an object's R0 is to 1, the higher its temporal energy and its subsequent time dilation. Since mass and time are intrinsically woven together. We write the equation for mass incorporating temporal energy in the following term. This equation explains how mass increases proportionally to R0, which is proportional to acceleration and given $E=mc^2$, explains how R0 is the energy contained within mass.

$$m = \frac{\left(\sqrt{2RØ\text{-}RØ^2} \cdot c\right)^2 r}{2G}$$

Where

R0 = amount of temporal energy measured as 0.0 – 1.0 (1.0 = temporal energy of a black hole)

c = 299792458 speed of light in meters

r = radius of object in meters

G = gravitational constant

m = amount of mass in kg

Thus we have conclusively shown how and why inertia and gravitational masses are equivalent, what gravity is and that "time" is the underlining mechanism responsible for each phenomena.

The following are conclusions of this theory.

1. Inertia and gravity is the attraction of time between two objects. All clocks in "the past" are drawn to "the future".

2. Time itself has/is energy – temporal energy. It is intrinsically apart of mass and is what gives mass energy as it is accelerated or accumulated in a volume of space.

3. If antimatter does have reverse time symmetry and travels backward in time. Then "neutral" antimatter should fall up in a gravitational field as it races away from the future into the past.

4. Gravitational lensing and tidal force are caused by clocks being drawn to a common future. Not by the curvature of space-time.

5. Anything with the same temporal energy has the same clock and exists at the same "now" no matter where they each are in the universe.

6. Space and time are not woven into a single 1 to 1 fabric of space-time. An object can be at a given distance away spatially but exist at a different location temporally. For example, if the sun was converted into a black hole. Spatially it would be 149 billion meters away. However temporally the black hole would exist in the far – far future. Thus space and time are not woven into a single fabric. Time has a separate coordinate system from that of space. It is actually mass and time that are woven together.

7. Gravitational acceleration of an object is the rate at which the object falls through time which is proportional to R0. On earth, that rate is 9.807 m/s^2

Acknowledgments

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Sample Equations

To find the R0 of earth we convert its escape velocity to a percentage of c.

Which gives us 11186 / 299792458 = .0000373125 % of c, we then input this value in our equation for R0.

$$.0000000007 = 1 - \sqrt{1 - \frac{.0000373125^2}{1^2}}$$

Given earth's R0 we can calculate its mass in kg

$$6.006*10\text{^}24 = \frac{\left(\sqrt{2_{.0000000007\ -\ .0000000007^2}} \cdot c\right)^2 6.371*10\text{^}6}{2G}$$

To find the R0 of a neutron star we again convert its escape velocity to a percentage of c.

Which gives us 125000000 / 299792458 = .416955119 % of c, we then input this value in our equation for R0.

$$0.0910729244 = 1 - \sqrt{1 - \frac{.416955119^2}{1^2}}$$

Given the neutron star's R0 and a radius of 10 km we can calculate its mass in kg

$$1.170*10\text{^}30 = \frac{\left(\sqrt{2_{.0910729244\ -\ .0910729244^2}} \cdot c\right)^2 10000}{2G}$$