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The General Relativistic Perspective

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Abstract

Schwarzschild objects are not black holes. They are the brightest objects in the universe. Classical Relativity equations are simplistic as they only use values observed from an undistorted viewpoint. The general relativity distortion slows gravitons, reducing the force they exert. Hence, distortion limits escape velocity to *c*, similar to special relativity. The slow atomic structure of bosons and elements decays rapidly, and their energy increases the matter particle's velocity. The lower the atomic weight, the greater the speed, which matches the EM signature of hydrogen that escapes in the most significant amount. This study shows that the distortion is always mathematically real and never imaginary.

Keywords

Classical Relativity, General Relativity, Distortion

1. Introduction

There are fewer Time units from a Relativistically distorted Perspective, so the Perspective equations have a different relation. Observers would perceive a higher velocity in a GR-distorted body. Thus, an undistorted v_{esc} would appear to increase in precisely the same proportion as Time. The above can be reasoned to: mean v_{esc} is limited to light speed, just as Real velocity. The maximum energy required for that v_{esc} would never exceed what would be needed to reach light velocity. That presumes there are Relativistic effects because of the slowing of all Bosons, including Gravitons.

The development of the equations is fundamental, formulating a Time distortion relationship.

$$\text{Time}' = \text{Time} \Big/ \left(1 - 2GM/rc^2\right)^{0.5}$$

Escape velocity $V_{esc} = \left(2GM/r\right)^{0.5}$, can be phrased $V_{esc}^2 = 2GM/r$. So the

|Time| equation can also be phrased

$$\text{Time}' = \text{Time} \Big/ \left(1 - V_{\text{esc}}^2 / c^2\right)^{0.5}$$

Real (i.e. not Relativistically distorted) velocity is limited to *c*. The Relativistic slowdown of Time slows Boson velocity. The velocity of Gravitons could not be anything other than *c*. Moving faster than light speed would mean that Gravitons would increase in mass and velocity. But that would mean the energy of Gravitons would have no limit, not the weakest energy form proportionally. So the GR distorted Bosons (including the Graviton) would lose their velocity/mass/energy. However, that would not mean a simple slowdown of Time, because the matter controlled by those Bosons would gain in mass.

This relationship allows the additional development of 2 formulas/equations for the Escape velocity.

Relativistic Perspective equations are Table confirmed for 35 different values in a range of 1.0E−500 m/s to *c* − (1.0E − 500) m/s to two thousand decimal places. Errors were not higher than 1.000~000E-1992.

Light speed limits are a defining aspect of our reality. Exceptions are conceived and reasoned from observations of non-experimentally controlled data but not demonstrated. The principal GR equation establishes the same principle that the maximum velocity of a matter object is light speed [c]. It can be reasoned to set a light-speed maximum Escape velocity. The following reasoning adds equations to the original General Relativity theory, overcoming the fundamental "imaginary" values contradiction inherent in the primary GR Time distortion equation. The equations do not contest GR theory. They add arguments for its validity.

After the "On the Electrodynamics of Moving Bodies" introduction and fuller recognition by the Science Community, the theory of Special Relativity has established a speed limit for light in our Universe. That limit has inherent characterizations. A vessel exceeding a velocity of $(c/(2^{0.5}))$m/s would be perceived by observers inside it to move faster than the speed of light. A parallel between the SPECIAL Relativistic Perspective establishments can be reasoned. All theoretical values are presumed exact to 100 decimal places for the following Relativistic equation illustrations. This presumption is not a declaration, only a valid theoretical assignment. Light speed |c| is assumed to be 2.9979245800~00E+08 m/s

The principal equation is

$$\text{Time}' = \text{Time} \Big/ \left(1 - 2GM / rc^2\right)^{0.5}$$

|Time| is Real & undistorted, |Time'| is the Real time passing when the expression $|GM/rc^2|$ is greater than zero and distorts the progression of events||energy. |*G*| is the Gravitational Constant − 6.6743000~00E−11 $m^3 \cdot kg^{-1} \cdot s^{-2}$ [1]. |*M*| is the Mass of object and |*r*| is its radius.

The current interpretation of the equation is that |*G*| and |*c*| will never vary. |*c*| as a logical constant will not change. However, the propagation light, of all Bosons, is predicted by the Relativity equations to vary. If the propagation of

Gravitons fluctuates, it will not be the constant it is currently presumed to be. Assuming it to be constant: 1) by the classic equation, the $|GM|$ value will be greater than $|rc^2|$, 2) the $|GM/rc^2|$ value will be greater than 1, 3) the $|1 - GM/rc^2|$ value will be negative and 4) the $|(1 - GM/rc^2)^{0.5}|$ will be the square root of a negative number—imaginary.

2. Relativistic Limits on Graviton Velocity

It is now thought that Schwarzschild objects have imaginary Time passages. In a Universe with Real Mass, there is no verifiable evidence of what an imaginary $(-1^{0.5})$ quantity represents. Imaginary quantities are reasoning techniques in circuit design, astronomy, and other applications, not observable phenomena. Electron charges are not "negative" but are opposite to proton charges. The assignment of a negative value was human bias, not a description of a physical aspect/event.

GR Time [Time] represents Real undistorted units occurring for an event, with the greater amount of Real [Time'] happening with event distortion. The Classic GR Time distortion equation is entirely from the non-relativistic Perspective. Two alternate variables would recognize the undistorted GR Perspective [GRP], with fewer Time units when the Perspective is distorted [GRPD].

The inverse equation from the GR Perspective uses fewer Time units of the distorted body. $|\text{Time}_{\text{GRP}}|$ when no distortion; $|\text{Time}_{\text{GDPD}}|$ when there is.

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * \left(1 - 2GM/rc^2\right)^{0.5} \tag{1}$$

Assume theoretic ideal: an undistorted Time and the outcomes of that presumption.

The Escape Velocity equation $V_{\text{GRPesc}} = \left(2GM/r\right)^{0.5}$ leads to further rephrasing. Squared, that equation is $V_{\text{GRPesc}}^2 = 2GM/r$

So the GR equation can be re-written

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * \left(1 - \left(2GM/r\right)/c^2\right)^{0.5}$$

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * \left(1 - V_{\text{GRPesc}}^2/c^2\right)^{0.5} \tag{2}$$

Using SR logic, GR-shifted gravitons would distort the V_{GRPesc}, so it never exceeds c. SR distortion argues that all Bosons in the propellant slow and acceleration decreases. GR distortion must be parallel: the slowdown of Time on a Gravitational body must slow Gravitational Bosons - Gravitons. If Gravitons do not slow, all other forces maintaining Universe structure would be overpowered and forced into a Classic SO: a single non-radiating body whose only energy would be its GF.

A hot and dense Big Bang would not be pure energy—all Bosons would slow under Relativistic distortions. GR distortion must DIRECTLY affect GF and limit the Escape Velocity to *c*. Declaring a Relativistic slowdown does not affect Gravitons, then denies GR legitimacy. Graviton slowdown adds to the legitimacy of

Classic Relativity. The brightest object in the Galaxy is an SO—Sagittarius A * [2]. The current theory is that Sagittarius A * radio emissions do not centre on the black hole but arise from a bright spot in the region around the black hole. It would be close to the event horizon, possibly in the accretion disc or a relativistic jet of material ejected from the disc. The border's exact position is unknown, so while that is a valid postulate in some ways, it fails in others. The accretion disk would exist under either interpretation of General Relativity. Relativistic Jets do as well. Under Relativistic Perspective, they would be at the point where the newly captured matter would collide with matter that had decayed and absorbed enough energy captured by the SO itself to escape.

The most luminous objects in the Universe are Quasars [3] also thought to be SO's. SO's being the brightest objects in our reality becomes consistent with GR and the Uncertainty Principle. There would be no "halt" at the Schwarzschild border; there would be an acceleration—the Classic acceleration would reduce by GR distortion on Graviton velocity, but it would not stop.

Fewer GRPD Time units (e.g., seconds) will pass for any given number of GRP Time units. Gravitons move at a relativistic speed—they are Bosons. That is fundamental to General Relativity. Other equations proceed from the assumption of Time Distortion.

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * \left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5}$$

Set the variable Time_{GRP}

$$\text{Time}_{\text{GRP}} = 1\,\text{m} / V_{\text{GRPesc}}$$

$$V_{\text{GRPesc}} = 1\,\text{m} / \text{Time}_{\text{GRP}}$$

Define V_{GRPDesc} in parallel

$$V_{\text{GRPDesc}} = 1\,\text{m} / \text{Time}_{\text{GRPD}}$$

A Relativistic Perspective equation can be formulated by dividing both sides of the equation with one Real metre||1m:

$$\text{Time}_{\text{GRPD}} / 1\,\text{m} = \left(\text{Time}_{\text{GRP}} / 1\,\text{m}\right) * \left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5}$$

$$1\,\text{m} / \text{Time}_{\text{GRPD}} = \left(1\,\text{m} / \text{Time}_{\text{GRP}}\right) \Big/ \left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5}$$

So the distortion could be expressed as:

$$V_{\text{GRPDesc}} = V_{\text{GRPesc}} \Big/ \left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5} \tag{3}$$

SR logic argues that V_{GRPesc} would have a Real limit of *c*, from an undistorted GRP. From the Time distorted GRPD, Escape velocity would appear higher than *c*. GR distortion would mean the Matter mass of a body would increase because of the slowdown in Bosons. The mass||speed||energy of all Bosons would decrease. The velocity and mass of Gravitons MUST reduce under GRD. So the Gravitational Constant would be reduced.

An inverse $V_{\text{GRPDesc}} || V_{\text{GRPesc}}$ equation is reasoned to use within the area of distortion by squaring both sides:

$$V_{\text{GRPDesc}}^2 = V_{\text{GRPesc}}^2 \Big/ \left(1 - V_{\text{GRPesc}}^2 / c^2\right)$$

$$V_{\text{GRPDesc}}^2 * \left(1 - V_{\text{GRPesc}}^2 / c^2\right) = V_{\text{GRPesc}}^2$$

$$V_{\text{GRPDesc}}^2 - V_{\text{GRPDesc}}^2 * V_{\text{GRPesc}}^2 / c^2 = V_{\text{GRPesc}}^2$$

Add $V_{\text{GRPDesc}}^2 * V_{\text{GRPesc}}^2 / c^2$ to both sides

$$V_{\text{GRPDesc}}^2 - V_{\text{GRPDesc}}^2 * V_{\text{GRPesc}}^2 / c^2 + V_{\text{GRPDesc}}^2 * V_{\text{GRPesc}}^2 / c^2$$
$$= V_{\text{GRPesc}}^2 + V_{\text{GRPDesc}}^2 * V_{\text{GRPesc}}^2 / c^2$$

$$V_{\text{GRPDesc}}^2 = V_{\text{GRPesc}}^2 + V_{\text{GRPDesc}}^2 * V_{\text{GRPesc}}^2 / c^2$$

$$V_{\text{GRPesc}}^2 = V_{\text{GRPDesc}}^2 * \left(1 + V_{\text{GRPesc}}^2 / c^2\right)$$

$$V_{\text{GRPesc}}^2 \Big/ \left(1 + V_{\text{GRPesc}}^2 / c^2\right) = V_{\text{GRPDesc}}^2$$

$$V_{\text{GRPDesc}}^2 = V_{\text{GRPesc}}^2 \Big/ \left(1 + V_{\text{GRPesc}}^2 / c^2\right)$$

Taking the square root of both sides, we have the GRP Escape Velocity without GR effects.

$$V_{\text{GRPesc}} = V_{\text{GRPDesc}} \Big/ \left(1 + V_{\text{GRPDesc}}^2 / c^2\right)^{0.5} \tag{4}$$

A critical piece of logic in evaluating this equation: not all observation items will be valid. The change in the state of the observing object will not mean that reality has changed. The escape velocity will appear to be greater than the speed of light for any observer either on the Relativistic scale body or on the escaping body. From the viewpoint of observations, not subject to any of those distortions, the body will escape without ever moving faster than the speed of light. All mathematical reasoning for Physics hypotheses presumes an ideal. There is nowhere in our observed reality where there are no greater than two objects exerting an above-Planck-level gravitational force. That does not invalidate Sir Isaac Newton's Gravitational Force equation.

The velocity distortion equation can also reason a Time distortion equation using both the Classic Time||Time' variables and the inverse Time_{GRP}||$\text{Time}_{\text{GRPD}}$. The proportion of values of the undistorted values to the distorted values. The ratio of the undistorted escape velocity – V_{GRPEsc} to the distorted escape velocity – V_{GRPDesc} is

$$V_{\text{GRPDesc}} = V_{\text{GRPesc}} \Big/ \left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5}$$

$$\left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5} = V_{\text{GRPDesc}} / V_{\text{GRPesc}}$$

The proportion of the distorted velocity is an inverse

$$V_{\text{GRPesc}} = V_{\text{GRPDesc}} \Big/ \left(1 + V_{\text{GRPDesc}}^2 / c^2\right)^{0.5}$$

$$\left(1 + V_{\text{GRPDesc}}^2 / c^2\right)^{0.5} = V_{\text{GRPesc}} / V_{\text{GRPDesc}}$$

One can use the above for any General Relativistic equation proportion. Rewriting the GRP Time distortion:

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * \left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5}$$

$$\left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5} = \text{Time}_{\text{GRPD}} / \text{Time}_{\text{GRP}}$$

$$\left(1 + V_{\text{GRPDesc}}^2 / c^2\right)^{0.5} = \text{Time}_{\text{GRP}} / \text{Time}_{\text{GRPD}}$$

$$\text{Time}_{\text{GRP}} = \text{Time}_{\text{GRPD}} * \left(1 + V_{\text{GRPDesc}}^2 / c^2\right)^{0.5}$$

And the Classic Time distortion equation

$$\text{Time}' = \text{Time} \Big/ \left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5}$$

$$\left(1 - V_{\text{GRPesc}}^2 / c^2\right)^{0.5} = \text{Time}/\text{Time}'$$

$$\left(1 + V_{\text{GRPDesc}}^2 / c^2\right)^{0.5} = \text{Time}'/\text{Time}$$

$$\text{Time} = \text{Time}' \Big/ \left(1 + V_{\text{GRPDesc}}^2 / c^2\right)^{0.5}$$

There is another form of the light-speed limit for escape velocities. Although the equations are very similar, they offer a reasonable postulate about the source of the above limitation.

We begin with the General Relativity Time distortion equation:

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * \left(1 - GM / rc^2\right)^{0.5}$$

$$\text{Time}_{\text{GRPD}}^2 = \text{Time}_{\text{GRP}}^2 * \left(1 - \left(GM/r\right)/c^2\right)$$

The current equation for the escape velocity presumes no Relativistic distortion to the Gravitational constant G_{GRP}, |6.674286700~00E−11 $m^3 \cdot kg^{-1} \cdot s^{-2}$|– again, presumed exact to 100 decimal places.

The General Relativistic Escape velocity equation becomes the following:

$$V_{\text{GRPesc}} = \left(2G_{\text{GRP}} M / r\right)^{0.5}$$

$$V_{\text{GRPesc}}^2 = 2G_{\text{GRP}} M / r$$

So the G_{GRP} mathematical definition is

$$G_{\text{GRP}} = V_{\text{GRPesc}}^2 \, r / 2M$$

The current thought is that Gravitons/gravitational propagation speed velocity is *c*. In Special Relativity, the *G* constant would have to vary with the velocity; otherwise, moving objects would behave differently at high velocities. If nothing else, the apparent velocity of the Graviton would appear to increase beyond *c* at high velocities. The velocity of the Graviton must slow under Relativistic Gravitational distortion. Thus, the parallel distortion from the General Relativistic Perspective would presume the following Relativistic distortion with the Gravitational Constant presumed altered under GR distortion [G_{GRPD}].

So its mathematical definition would be

$$G_{\text{GRPD}} = V_{\text{GRPDesc}}^2 * r / 2M$$

Again, Relativistic distortions are presumed to affect the other 3 Bosons: is it

reasonable not to do the same to the Graviton? The General Relativistic Escape velocity equation, substituting the formula for escape:

$$V_{\text{GRPDesc}} = V_{\text{GRPesc}} \Big/ \left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right)^{0.5}$$

$$\left(2G_{\text{GRPD}}M/r\right)^{0.5} = \left(2G_{\text{GRP}}M/r\right)^{0.5} \Big/ \left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right)^{0.5}$$

$$2G_{\text{GRPD}}M/r = \left(2G_{\text{GRP}}M/r\right) \Big/ \left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right)$$

$$G_{\text{GRPD}} = \left(\left(2G_{\text{GRP}}M/r\right) \Big/ \left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right)\right) \Big/ \left(2M/r\right)$$

$$G_{\text{GRPD}} = G_{\text{GRP}} \Big/ \left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right)$$

Or, because $V_{\text{GRPesc}}^2 = 2G_{\text{GRP}}M/r$

$$G_{\text{GRPD}} = G_{\text{GRP}} \Big/ \left(1-V_{\text{GRPesc}}^2/c^2\right)$$

The above does not have the complication of imaginary values because "G" is a scalar value—a negative value for the gravitational constant is unobserved. The above is also consistent with Relativistic logic: Time distortion will slow the propagation of the gravitational force. However, that slowdown will also reduce the mass of the force because the signal that carries it will be zero when it reaches the velocity of zero.

To strengthen the logic of the Time equation, we will use the same logic for the Gravitational Constant.

Multiplying both sides of $2G_{\text{GRPD}}M/r = \left(2G_{\text{GRP}}M/r\right) \Big/ \left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right)$ with $1-\left(2G_{\text{GRP}}M/r\right)/c^2$:

$$\left(2G_{\text{GRPD}}M/r\right)\left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right)$$
$$= \left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right) * \left(2G_{\text{GRP}}M/r\right) \Big/ \left(1-\left(2G_{\text{GRP}}M/r\right)/c^2\right)$$

Expand the left side

$$2G_{\text{GRPD}}M/r - \left(2G_{\text{GRPD}}M/r\right) * \left(2G_{\text{GRP}}M/r\right)/c^2 = 2G_{\text{GRP}}M/r$$

Adding $\left(2G_{\text{GRPD}}M/r\right) * \left(2G_{\text{GRP}}M/r\right)/c^2$ to both sides:

$$2G_{\text{GRPD}}M/r = 2G_{\text{GRP}}M/r + \left(2G_{\text{GRPD}}M/r\right) * \left(2G_{\text{GRP}}M/r\right)/c^2$$

Simplifying the left side

$$2G_{\text{GRPD}}M/r = \left(2G_{\text{GRP}}M/r\right) * \left(1+\left(2G_{\text{GRPD}}M/r\right)/c^2\right)$$

Dividing both sides with $1+\left(\left(2G_{\text{GRPD}}M/r\right)/c^2\right)$

$$\left(2G_{\text{GRPD}}M/r\right) \Big/ \left(1+\left(2G_{\text{GRPD}}M/r\right)/c^2\right) = 2G_{\text{GRP}}M/r$$

Reversing the terms

$$2G_{\text{GRP}}M/r = \left(2G_{\text{GRPD}}M/r\right) \Big/ \left(1+\left(2G_{\text{GRPD}}M/r\right)/c^2\right)$$

Dividing both sides with $(2M/r)$

$$G_{\text{GRP}} = G_{\text{GRPD}} \Big/ \left(1+\left(2G_{\text{GRPD}}M/r\right)/c^2\right)$$

or more simply

$$G_{GRD} = G_{GRPD} \Big/ \left(1 + 2G_{GRPD} M / rc^2\right) \quad (5)$$

or alternately

$$G_{GRPD} = G_{GRP} \Big/ \left(1 - V_{GRPesc}^2 / c^2\right) \quad (6)$$

and

$$G_{GRP} = G_{GRPD} \Big/ \left(1 + V_{GRPDesc}^2 / c^2\right) \quad (7)$$

The above equations support the supposition of GR Gravitational distortions in all Bosons, including Gravitons.

It also argues that Einstein's equations do not predict an imaginary existence – our reality will always be Real.

A light-speed limit also offers an alternate explanation for why Quasars ("Black" Stars) are so bright. The higher the weight of a single atom, the slower it goes at any temperature. So the higher the weight, the more easily any gravitational body captures.

If a Quasar captures any element above Hydrogen-1, it will eventually break up. All of the Strong Nuclear Force Gluons will slow and lose mass. If you accept the Relativistic Perspective, there is no limit (except below zero velocity) to that slowdown. So eventually, all Elements break up. The atoms will move faster and faster because of the continual capture of energy by the SO and because lower Atomic numbered Atoms move faster at any energy level. In some ways, it would be an exception to Entropy—matter and energy would be reunited. In others, it would add confirmation to the principle of Entropy. One Uranium-235 atom is more ordered than 235 H1 atoms moving at a velocity considerably higher than the single U235 atom. They would also be moving in 235 randomly different directions.

Again, the Relativistic Perspective equations are Table confirmed for 35 different values. Velocities||escape-velocities ranged from 1.0E−500 m/s to c − (1.0E−500) m/s to two thousand decimal places. There were never errors greater than 1.000~000E−1992. That was determined to be entirely due to the uncertainty of irrational numbers. Comparisons calculated for values to one thousand decimal places never had errors greater than 1.000~000E−992.

3. Conclusions

In the Special Relativistic Perspective, the determination is the Real or non-Relativistic velocity, with mass, Time, and linear distortions. They determine the values those variables would take when the observation point was from the Relativistic Perspective.

The General Relativistic Perspective is parallel. An object observed from a non-Relativistic Perspective will appear to have an Escape velocity limited to light. From the Relativistic Perspective, the Escape velocity can approach infinity, though only because of Time distortion. There is no suggestion that there is a parallel mass increase with increased Escape velocity. The mass of any energy

associated with a Relativistic object will decrease by precisely the same proportion as the mass of matter increases with velocity in SR. This writer does not suggest that the energy disappears; similar to all reduction of pure energy in Special Relativity, it would add to the mass of the matter.

Emphasis: the above refers to a point in Space, and the observations are from the two Perspectives. Movement in any direction would change the values. The above, however, is valid, and the creature inhabits so much of Classic/Relativistic/Quantum science—the "theoretical ideal".

Relativistic Perspective argues for some of the principles of current Entropy Theory but against some of its details. It also expands it.

4. Methods

This paper is entirely theoretical, with no Laboratorial or Observation details aside from widely accepted current data.

Data Availability

The data availability is entirely from Classic Theory and open public References.

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This paper was written entirely by DGT with no outside contributions.

Author Contributions

DGT did all theoretic formulation, reference research and the manuscript authorship.

Conflicts of Interest

There are no competing interests.

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