The General Relativistic Perspective

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Research Article

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Abstract

The Equations from General Einstein's Relativity Theory can also be framed from a Relativistically distorted perspective. General relativity slows gravitons reducing the force, so escape velocity is limited to c . Atomic structure bosons slowing makes all elements subject to decay. Energy from slowing boson structure particles would increase matter particle velocity. The lower the atomic weight, the greater the speed, so hydrogen escapes in the most significant amounts. Distortion would never be imaginary.

Introduction

There are general relativistic [GR] equations that adding argument to the General Theory of Relativity: equations from a relativistically distorted perspective. They calculate the distorted escape velocity $[V_{\text{GRPEsc}}]$ from the that perspective, determining the V_{GRPEsc} after the distortions of relativity slowed bosons. That includes gravitons. Relativistic Perspective [RP] variables specify their respect and relationship to V_{GRPEsc} , not simply time distortion. Time and velocity rates are for zero V_{GRPEsc} - zero distortion. Boson slowdown would limit V_{GRPEsc} to c . Element decay would proceed from atomic structure bosons slowing. Boson energy decline would increase matter particle velocity. With a light-speed limit to V_{GRPEsc} , all elements could escape. As the fastest moving atom at any temperature, Hydrogen would be the most likely. Distortion would never be Imaginary.

Relativistic Graviton Distortion

Fewer time units from a relativistically distorted perspective means perspective equations have a different relation. A higher velocity would be perceived from the GR distorted body. Undistorted v_{esc} would appear to increase in the same proportion as time.

It is mathematically reasoned that slowing Bosons||Gravitons limit v_{esc} to light speed. It is parallel to the c limit of real vector velocity. The Gravitational Constant $|G|$ is $-6.6743000 \sim 00\text{E}-11 \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}$ [\[A\]](#), object Mass is $|Mass|$, $|r|$ is radius and c is presumed $2.9979245800 \sim 00\text{E}+08 \text{ m/s}$. Maximum energy required for v_{esc} would always be finite and real because of the Graviton slowdown.

GR time distortion:

$$\text{Time}' = \text{Time} / (1 - 2GM/rc^2)^{.5}$$

Escape velocity $[V_{\text{esc}} = (2GM/r)^{.5}]$, can be phrased $[V_{\text{esc}}^2 = 2GM/r]$.

Then alternately phrasing Time distortion:

$$\text{Time}' = \text{Time} / (1 - V_{\text{esc}}^2/c^2)^{.5}$$

Undistorted Graviton velocity must be c . Moving faster than light speed would increase both mass and velocity. That would mean unlimited gravitation; not proportionally the weakest energy form. GR distorted bosons (including gravitons) would lose velocity/mass/energy. A simple slowdown of time would not occur. The matter controlled by those bosons would gain in mass.

Additional equations for escape velocity could also be from the distorted Relativistic Perspective. There are 35 different values in a range of $1.0E-500$ m/s to $c-(1.0E-500)$ m/s to two thousand decimal places in table confirmation.

The principal GR equation establishes a c maximum for escape velocity. There are additional General Relativity equations, overcoming the imaginary values contradiction in current GR Time distortion interpretation. GR theory is valid, not contested.

Special relativity reasons light speed limits for vector velocity. A parallel of the special relativistic perspectives are extrapolated from those principles, all theoretical values are presumed 100 decimal places precision.

GR time distortion slows the transmission of energy. Undistorted Real time is $|Time|$, distorted Real time is $|Time'|$. Distorted $Time'$ changes energy velocity.

The current interpretation of $|G|$ and $|c|$ is that they never vary. $|c|$ is a constant. Relativity equations predict variation of bosons velocity. If graviton propagation varies, that is an invalid assumption. In the classic equation $|GM|$ will exceed $|rc^2|$; $|GM/rc^2|$ will exceed 1; $|1-GM/rc^2|$ will be negative and $|(1-GM/rc^2)^{0.5}|$ will be imaginary.

[A] "The NIST Reference on Constants, Units and Uncertainty||Newtonian constant of Gravity", <https://physics.nist.gov/cgi-bin/cuu/Value?bg>

Relativistic Limits On Graviton Velocity

By that logic Schwarzschild objects have imaginary time passage. In a universe with real mass, there is no verifiable evidence of imaginary quantities. Imaginary quantities are reasoning techniques, not observable phenomenon. Electron charges are not negative; but opposite proton charges. The negative value assignment was human bias, not confirmed physical aspect.

Two alternate variables in the GR Time equation recognize undistorted GR Perspective [GRP], and fewer Time units from distorted perspective [GRPD]. GR Perspective inverse equations calculate distorted $Time_{GRP}$: $Time_{GRPD}$.

$$Time_{GRPD} = Time_{GRP} * (1-2GM/rc^2)^{.5} \text{ Equation 1}$$

A logic ideal would be presumed undistorted Time. The escape velocity equation $|V_{\text{GRPeSC}}| = \sqrt{2GM/r}$.⁵ squared is $|V_{\text{GRPeSC}}|^2 = (2GM/r)$

So GR distortion can also be:

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * (1 - (2GM/r) / c^2).^5$$

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * (1 - V_{\text{GRPeSC}}^2 / c^2).^5 \text{ Equation 2}$$

By SR logic GR shifted gravitons distort V_{GRPeSC} . It never exceeds c. SR distortion argues propellant bosons slow, so acceleration decreases. GR distortion must slow gravitational bosons: gravitons. If gravitons did not, all other forces maintaining universe structure would be overpowered and forced into a Classic SO concept: a non-radiating body with gravitational force the only energy present.

Then hot and dense "Big Bangs" could not be pure energy: relativistic distortion would slow all bosons. GR distortion would also reduce GF. Denial of Graviton relativistic slowdown denies GR legitimacy. Graviton slow down also adds legitimacy to classic relativity. The brightest object in the Galaxy is the Sagittarius A*[B] SO. Sagittarius A* radio emissions are not centred on the black hole. They are currently theorize to arise from heated gas close to the event horizon[C]; either in the accretion disc, or in relativistic jets of ejected material. The position of the border is unknown. A valid postulate in some ways that fail in others. Accretion disks would exist under either interpretation of general relativity. Relativistic jets as well. Under relativistic perspective, they would be where newly captured matter would collide with decayed matter, absorbing enough energy captured by the object to escape.

The most luminous objects in the universe are quasars[D]. They are also theorized to be the SO's. Under RP they are consistent with both general relativity and the uncertainty principle. There would be no "halt" at the Schwarzschild border. There would be acceleration – reduced by GR distortion but not ended.

Distortion of GRPD Time units will mean fewer GRP Time units. Gravitons move at a relativistic speed. That is fundamental to general relativity. Other equations proceed from the assumption of Time Distortion:

$$\text{Time}_{\text{GRPD}} = \text{Time}_{\text{GRP}} * (1 - V_{\text{GRPeSC}}^2 / c^2).^5 \text{ Equation 3}$$

Set the variable Time_{GRP}

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

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

Define V_{GRPeSC} in parallel

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

Divide both sides of Equation 3 with one real metre||1m:

$$\text{Time}_{\text{GRPD}} / 1\text{m} = (\text{Time}_{\text{GRP}} / 1\text{m}) * (1 - V_{\text{GRPesc}}^2 / c^2)^{.5}$$

$$1\text{m} / \text{Time}_{\text{GRPD}} = (1\text{m} / \text{Time}_{\text{GRP}}) / (1 - V_{\text{GRPesc}}^2 / c^2)^{.5}$$

So distortion in velocity could be expressed:

$$V_{\text{GRPDesc}} = V_{\text{GRPesc}} / (1 - V_{\text{GRPesc}}^2 / c^2)^{.5} \text{ Equation 4}$$

Special relativity logic argues V_{GRPesc} would limit to c from an undistorted GRP. From the Time distorted GRPD, Escape velocity could 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. Velocity and mass of gravitons would reduce under GRD, so would the gravitational constant.

An inverse $V_{\text{GRPDesc}}||V_{\text{GRPesc}}$ distortion equation:

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

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

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

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

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

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

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

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

$$V_{\text{GRPesc}} = V_{\text{GRPDesc}} / (1 + V_{\text{GRPDesc}}^2 / c^2)^{.5} \text{ Equation 5}$$

A critical piece of logic in evaluating this equation: not all observation items are valid. Change in the state of observing objects will not mean that reality has changed. The escape velocity will appear greater than the speed of light for observers on either the relativistic scale body or the escaping body. From the viewpoint of observations not subject to those distortions, bodies will escape but never exceed c . Almost all mathematical Physics hypotheses presumes an ideal. There are no observations of systems of just two objects exerting above-Planck-level gravitational forces. That does not invalidate Newton's gravitational force equation.

One can also reason a velocity distortion equation using both the classic Time||Time' variables and the inverse Time_{GRP}||Time_{GRPD} variables. The proportion of undistorted escape velocity – V_{GRPEsc} – to distorted escape velocity – V_{GRPDesc} is:

$$V_{GRPDesc} = V_{GRPEsc} / (1 - V_{GRPEsc}^2 / c^2)^{.5}$$

$$(1 - V_{GRPEsc}^2 / c^2)^{.5} = V_{GRPDesc} / V_{GRPEsc}$$

The proportion of the distorted velocity is an inverse:

$$V_{GRPEsc} = V_{GRPDesc} / (1 + V_{GRPDesc}^2 / c^2)^{.5}$$

$$(1 + V_{GRPDesc}^2 / c^2)^{.5} = V_{GRPEsc} / V_{GRPDesc}$$

So the GRP Time distortion can be written:

$$Time_{GRPD} = Time_{GRP} * (1 - V_{GRPEsc}^2 / c^2)^{.5}$$

$$(1 - V_{GRPEsc}^2 / c^2)^{.5} = Time_{GRPD} / Time_{GRP}$$

$$(1 + V_{GRPDesc}^2 / c^2)^{.5} = Time_{GRP} / Time_{GRPD}$$

$$Time_{GRP} = Time_{GRPD} * (1 + V_{GRPDesc}^2 / c^2)^{.5}$$

A parallel with Classic Time distortion equation:

$$Time' = Time / (1 - V_{GRPEsc}^2 / c^2)^{.5}$$

$$(1 - V_{GRPEsc}^2 / c^2)^{.5} = Time / Time'$$

$$(1 + V_{GRPDesc}^2 / c^2)^{.5} = Time' / Time$$

$$Time = Time' / (1 + V_{GRPDesc}^2 / c^2)^{.5}$$

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 nature of the above limitation.

We begin with the General Relativity Time distortion equation:

$$Time_{GRPD} = Time_{GRP} * (1 - GM / rc^2)^{.5}$$

$$Time_{GRPD}^2 = Time_{GRP}^2 * (1 - (GM/r) / c^2)$$

The current equation for the escape velocity presumes no relativistic distortion to the gravitational constant G_{GRP} .

General Relativistic Escape velocity equation becomes:

$$V_{\text{GRPeSc}} = (2G_{\text{GRP}}M/r)^{.5}$$

$$V_{\text{GRPeSc}}^2 = (2G_{\text{GRP}}M/r)$$

The G_{GRP} mathematical definition then is:

$$G_{\text{GRP}} = (V_{\text{GRPeSc}}^2 r / 2M)$$

Current thought is gravitons/gravitational propagation speed is c . The velocity of the graviton must slow under relativistic gravitational distortion. So a parallel distortion from the GRP for gravitational constant distortion [G_{GRPD}]

The mathematical definition is:

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

Relativistic distortions are presumed to affect the other 3 bosons. It is not reasonable to presume gravitons are not distorted. The general relativistic escape velocity equation can also be written:

$$V_{\text{GRPDesc}} = V_{\text{GRPeSc}} / (1 - (2G_{\text{GRP}}M/r)/c^2)^{.5}$$

$$(2G_{\text{GRPD}}M/r)^{.5} = (2G_{\text{GRP}}M/r)^{.5} / (1 - (2G_{\text{GRP}}M/r)/c^2)^{.5}$$

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

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

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

$$\text{Or, because } |V_{\text{GRPeSc}}^2 = (2G_{\text{GRP}}M/r)|$$

$$G_{\text{GRPD}} = G_{\text{GRP}} / (1 - V_{\text{GRPeSc}}^2 / c^2)$$

The above will not produce imaginary quotient values because "G" is a scalar value – a negative value for the gravitational constant is unobserved. It is consistent with relativistic logic: time distortion will GF propagation Slowdown will also reduce force mass- to zero when it Gravitons stop.

To strengthen the logic of the time equation, we will apply it to the gravitational constant.

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

$| (1-(2 G_{\text{GRP}}M/r)/c^2)) |$:

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

Expand the left side

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

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

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

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

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

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

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

$$G_{\text{GRD}} = G_{\text{GRPD}}/(1 + 2G_{\text{GRPD}}M/rc^2) \text{ Equation 6}$$

or alternately

$$G_{\text{GRPD}} = G_{\text{GRP}}/(1 - V_{\text{GRPEsc}}^2/c^2) \text{ Equation 7}$$

and

$$G_{\text{GRP}} = G_{\text{GRPD}}/(1 + V_{\text{GRPDesc}}^2/c^2) \text{ Equation 8}$$

The above equations add an argument to the supposition of GR Gravitational distortions of 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 are so bright. The higher the weight of a single atom, the slower it goes at any temperature; thus, the higher the weight, the more easily it may be captured by any gravitational body.

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 that eventually, all elements must break up. The atoms will move faster and faster because of the continual capture of energy by the SO, and because atoms with

lower atomic numbers move faster at any energy level. In some ways, it would be an exception to entropy: matter and energy would be reunited. In other aspects, it would add confirmation to the principle of entropy. For example, 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.

[B] Lu, Ru-Sen, et.al; "Detection of Intrinsic Source Structure at ~ 3 Schwarzschild Radii with Millimeter-VLBI Observations of SAGITTARIUS A*"; *The Astrophysical Journal*, 859:60 (11pp), 2018 May 20;

<https://iopscience.iop.org/article/10.3847/1538-4357/aabe2e>

[C] Y. Maeda, et.al; "A CHANDRA STUDY OF SAGITTARIUS A EAST: A SUPERNOVA REMNANT REGULATING THE ACTIVITY OF OUR GALACTIC CENTER?"; *The Astrophysical Journal*, 570:671–687, 2002 May 10; <https://iopscience.iop.org/article/10.1086/339773>

[D] Peplow, Mark, "Quasars reveal cosmic magnification"; *Nature* 26 April 2005; <https://www.nature.com/news/2005/050425/full/050425-2.html>

Conclusions

In the special relativistic perspective, the determination is real or non-relativistic velocity, with mass, Time, and linear distortions. They determine values those variables take when the observation point is from the relativistic perspective.

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, escape velocity can approach infinity, but Boson slowdown would mean a limit to escape velocity. There mass increase would be principally Special Relativity with increase of the 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 special relativity. The energy does not disappear; parallel to reduction of pure energy in special relativity, it adds the mass of the matter.

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 is valid theoretical ideal.

Relativistic Perspective is against some details in Current theory, but for its fundamentals it expands it.

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

The data underlying this article are available in the article and in its online supplementary material.

Declarations

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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

Competing Interests statement

There are no competing interests

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