

The Hybrid Time Clock as a Function of Gravity

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Abstract: This paper follows on from the preceding papers [1-15] in detailing how time is a function of gravity using what is termed the “hybrid time clock” as a standardized construct of measurement for time for the purpose of understanding the concept of space and associated phenomena of energy and mass and light. This paper will take the concept of the *hybrid time clock* and associated equation from paper 15 ([15]: p11, eq8) and present its case as “the” integral function of G (gravity) directly associating it to EM (electromagnetism) as the phi-quantum wave-function as accounted for in the preliminary papers [1-15].

Keywords: time; space; gravity; golden ratio; pi; phi; hybrid time clock; Euler’s formula; phi-algorithm; Einstein; special relativity; general relativity

1. Introduction

This paper follows on from the preceding papers [1-15] in detailing how time is a function of gravity using what is termed the “hybrid time clock”, in much the same way Einstein used the analogy of a clock in his special relativity theory [16]. The paper here does not dispute key known facts of special relativity regarding time and gravity, and of course mass, yet it does highlight new equations relevant to the general question theoretical physics is asking in regard to gravity, namely how is it related to QED (Quantum Electrodynamics).

In this paper, “time” is considered to be “what a clock measures” for the lack of a better definition. The *hybrid time clock* is a concept developed from the hybrid time equation of the preceding papers [1-15],

more specifically the most recent paper *Hybrid Time Theory: “Euler’s Formula” and the “Phi-Algorithm”* [15], and is implemented here in this paper as a function of gravity. In short, the concept of the *hybrid time clock* is that of using a construct of measuring time, the concept of time, using a “time-clock” as a standardized construct of measurement for time. Time could indeed be the most mysterious entity of all. It may not even exist. Yet the *hybrid time clock* is a way to measure the concept of time for the purpose of also understanding the concept of space and associated phenomena of energy and mass and light. This paper will take the concept of the *hybrid time clock* and associated equation ([15]: p10, eq6) and present its case as “the” integral function of G (gravity) directly associating it to EM (electromagnetism) as the phi-quantum wave-function as accounted for in the preliminary papers [1-15].

Mathematics is a tool that brings measurement to gaze upon physical phenomena. Science has evolved using mathematics in a fashion that standardises certain features of physical phenomena, key features, as equations with associated constants. Space and time may both be unfathomable, yet for the “purpose” of science mathematics is employed to discuss their relationship. All the standards for space and time, those dimensions, have been upheld in the preceding papers [1-15]. The key difference between the theory presented in this paper including preceding papers [1-15] to the commonly held notion of “spacetime” and its associated curvature feature as gravity (as per Einstein’s Special and General Relativity theories [16]), is that the *hybrid time clock* replaces Einstein’s simple clock, and that the *hybrid time clock* has embedded into it the idea of cause and effect replacing Newton’s and Einstein’s notions for “inertia” as gravity.

To achieve such a task, this series of papers [1-15] started by presenting a case for the new time algorithm, as a hypothesis, and then presented how that time-algorithm, the ϕ -algorithm (golden ratio algorithm for time), could network with 3d space, and what would result through such a joining of the concept of the ϕ -algorithm with 3d space [1]. Space thus also needed defining from a new set of mathematical axioms to stream with the ϕ -algorithm for time [2]. Such was the process through papers 1-14 [1-14]. Through those papers, the equations and associated correct constants for gravity and electromagnetism were derived, so too the fine structure constant, the speed of light, the values for mass and charge, Rydberg’s equation, Avogadro’s number, the temperature constant, CMBR, maximum redshift, the Lamb shift, the cosmological constant, together with presenting a new modelling case of the elementary particles, as new version of the standard model incorporating the ϕ -algorithm, all consistent with known values and associated observed data.

The next step was made, paper 15 [15], following paper 14 [14] there in presenting a solution to the cosmological constant problem, to take a new and more streamlined look at the basis for the ϕ -algorithm in paper 1 [1]. In doing so, in taking a closer look at the *idea* of time as a circle and space as a “zero” entity extending into infinity, as the papers [1-14] generally concluded such to be the case, an algorithm for π was established relevant to the ϕ -algorithm, a known formula for π . A key finding in paper 14 ([14]: p26) was the process of “radio-active decay” as a phenomenon in its own right, separate to the ϕ -algorithm for time. It was noted that Euler’s formula, $e^{i\pi} + 1 = 0$, is directly related to such a phenomenon (radio-active decay) ([15]: p8-9), and so it became logical to include Euler’s formula into the ϕ -algorithm which then became known as the “hybrid time” equation, a derived formula to demonstrate such a concept

is in fact valid, as a formula detailing the spatial link between Euler's formula's structure as a time algorithm to the φ -algorithm, namely ([15]: p10, eq6) $e^{i\pi} + 1_{t_N} = 0_{t_A}$.

In following on from paper 15 [15], it is considered that the hybrid time theory can be used as a standard reference for time as a “*hybrid time clock*”, and that this clock can be used in the process of Einstein's reasoning in his Special Relativity [16] to “derive” the concept of gravity and time as a function of it thereof, without disputing known data regarding light and gravity. Essentially, this paper shall present the case that gravity can be explained without using the concept of inertia, yet instead by applying the new “*hybrid time clock*” which owing to it having greater granularity of definition should present itself to be a theory for gravity, a theory which can make the concept of gravity something that **can** be “generated” through specifically manipulating an *EM* field (resonance).

This paper will therefore be structured as follows:

1. Introduction
2. Measurements of time and space
3. Hybrid time as the primary function of gravity
4. Conclusion

The general conclusion reached is that Einstein in dealing with the concept of inertia as gravity in the context of cause and effect failed to deliver an actual theory for gravity, instead complicating light, light in space, QED, and what is perceived of the stars, with the simple notion of gravity being a curvature of spacetime as an “inertial” entity, never therefore actually providing a theory for gravity that links with EM theory, QED, and a standard model for particles, and not just that, not explaining how gravity as a force is intimately related to mass in theory other than the simple premise of “inertia”. This paper shall demonstrate that if more granularity of definition is given to a form of measurement for time, here as the “*hybrid time clock*”, then such an understanding of gravity can be reached without corrupting all known equations and values for the field forces, particles, mass, energy, and light.

2. Measurements of time and space

Why is the hybrid time equation from paper 15 [15] now being considered as a “clock”? Because it tells the time, and it does this by using two different process as one, e and φ , as both the radioactive decay process in time (e) and the standard contained process of matter in time (φ), as outlined in paper 15 ([15]: p11-12); the *hybrid time clock* “tells” the time, measures the idea of time, of “change”. From the first paper [1], it was suggested that time propagates as a spherical wavefront through space. Such a definition for time was preliminary. It was a way to “propose” how time could behave in space as per the proposed behaviour of light-EM. From there, that concept was annexed with a type of human-perception feature for time, namely the flow of time as perceived by human consciousness, from time-past to time-future via time-now. That then arrived at the golden ratio “algorithm” for time, as a way to measure the concept of time as adjusted to human perception.

The biggest question through all the papers has been “how is it possible to seemingly “make-up” a time-algorithm and then apply it to space”? “What if it is wrong?”. “What if all that was delivered from paper 1 [1] is entirely fabricated, that formulas for EM and G cannot and should not be derived, nor the Rydberg equation, nor a standard model of particles, and so on and so forth, because the *basis* is wrong?”

The fact is that the proposed process here **has** worked, as it **has** successfully derived all that it has thus far, all the key formulas and constants for physics theory with associated descriptions of associated phenomena to those key formulas and constants. The question though is “why” has it worked if it is commonly disputed that “time” is not a substance, as thing, other than an emergence from a curvature of space as per Einstein’s general relativity theory?

The great misconception some have is that if the idea for time as an “algorithm” is presented, then such means that time must be an algorithm, and not only that, a “unique construct”. That is not the case. The algorithm “for” time is a way to “measure” the idea of time. Time like space could be something far more mysterious, yet for the purpose of physics a type of measurement device is being employed, here the ϕ -algorithm (developed into the idea of the *hybrid time clock*), to “measure” time, to standardise it so it can be measured using such an algorithm.

There have been many ways to measure time in history, from different calendars to different amounts of units to determine how long it takes the Earth to rotate, and so on and so forth. The time-algorithm is merely another way to describe the idea of time, yet used here for the specific purpose of better explaining how one would not just perceive time, yet calculate objects in space in regard to their relative motions, and thus in regard to time.

The idea of “measurement” is the mainstay of science, measuring the basic ideas of space using rulers and time using clocks. Upon measurement comes theory, to form ideas relevant to what would be a super-structure to everything, laws that govern how objects in reality behave. Measurement and theory aim to remove the unfathomability of space and time and associated phenomena from our awareness, to make it fathomable and structured, computable, and predictable, to assist us in making clearer decisions, to know our reference with greater clarity. To then propose a new way to measure the idea of time indeed is a paradigm shift.

Physics, simply, is no stranger to proposing new ideas, so why not the proposal for a time-algorithm, as a hybrid time clock to embed itself anew into Einstein’s initial notions presented in his Special Relativity paper, to give the idea of gravity more scope with the embedded notions of “e” and “ ϕ ”, and to have this supported with known tested and observed data?

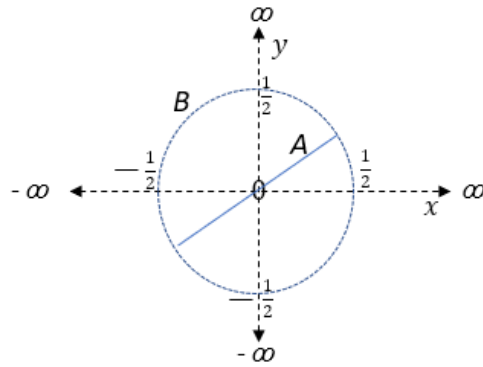
*In this paper, the hybrid time clock will be presented along the lines of equation 6 in paper 15 ([15]: p10, eq6), $e_{t_B}^{i\pi} + 1_{t_N} = 0_{t_A}$, as a spatial relationship, as a spatial relationship of time as a measurement basis, representing a new analogue for gravity as a function of time, yet not only this, a more accurate basis for perception in regard to time’s flow, as per the very nature of the ϕ -algorithm, namely being based on the functional appreciation of time our perception executes, namely the movement of time from time-before to time-after via time-now. In other words, the ϕ -algorithm shall be shown to already calculate that process in any relativistic situation, and that the only feature that would need calculating in relativity theory using the *hybrid time clock* would be “how” that time algorithm relates with the idea of mass and thus gravity.*

Conversely, in the “absence” of using a theory for time relevant to our conscious ability, spacetime theory becomes a wash of paradoxes in using the idea of inertia alone for gravity and thus mass. The case in point there is that relativity theory assumed one or two too many things which then lead to a series of complications and unresolvable paradoxes, two key complications being unable to explain quantum-entanglement together with not being able to resolve the cosmological constant problem (other than using dark energy and dark matter). Although the basic notions regarding time and gravity in special relativity appear correct, as relativity theory developed to explain cosmology (primarily the redshift effect) it (relativity theory) seemed to be carrying an unnecessary and assumed list of unproven additions (dark energy and dark matter), necessitating new approaches such as QED and the standard model, which still although both using inertial theory (which is what special and general relativity theory are based upon), required the necessary “perturbations” to seek new theoretical considerations to accommodate for observed phenomena (primarily QED and the standard model), as explained throughout paper 14 [14].

It is therefore proposed that gravity can be better explained by not using the simple premise of gravity as a process of inertia, yet of bringing cause and effect as an analogue of inertia into the measurement process as per the ϕ -algorithm for time, as per the notion of time-before to time-after via time-now. In such a way, “gravity”, previously firmly tagged with the idea of “inertia”, can now be tagged and thus explained using that algorithm for time instead, using that measurement device for time, and thus gravity being a pure function of time, and thus in regard to light.

The question is how inertia as concept can be removed from the axiomatic definition of space and time (not entirely of course in the overall process, just where it needs to be), in that space and time would require axioms, and not “new” axioms, yet “first” axiomatic definitions, given current space and time axiomatic definitions are based on “spacetime” aka inertia. To remove the idea of inertia though and replace the idea of what appears to be time’s arrow, a standard clock, with the idea of the ϕ -algorithm, appears to be no minor operation, yet complicated surgical procedure to ensure that all the known constants and associated equations are still upheld. Much of that surgery has already been performed with papers 1-15 [1-15]. The key thing to consider though is how the proposal for the ϕ -algorithm as a way of measuring time can fit properly with the idea of 3d space, as a general statement. The idea of time as a circle and space as a 0-reference construct was presented in paper 15 [15] in presenting an algorithm for π regarding that association between time and space. Yet it did not include the idea of the ϕ -algorithm for time, the ideas of ϕ and $\frac{-1}{\phi}$. So, let that operation be performed here in this paper.

There are three key items to consider when putting together the notion of the algorithm for π developed in paper 15 [15] to the idea of the ϕ -algorithm. The first is what was presented in paper 15 ([15]: p5, fig1):



<from paper 15> Figure 1: here, A is a straight line of length "1" in any infinite region of 2-d space effected by the axes x and y around an arbitrarily reference point "0" such that from that "0" point the line extends a length of +½ and -½ from that "0" reference. "B" is the value of π as the arc around the central point "0" radius ½.

Here the blue line is length "1", as a ruler for time, as a way space (as per "0") can be used to measure time. Here this "ruler" length of space for time is a value of "1", as per figure 1.

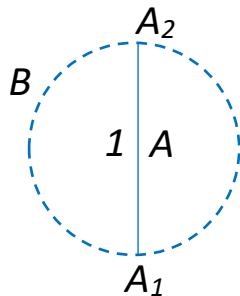


Figure 1: Here the diameter of circle "B" is length "1", as a ruler for time, as a way space (as per "0") can be used to measure time. Here this "ruler" length of space for time is a value of "1", between points A₁ and A₂.

The next key item to consider is what was presented in paper 2 [2] regarding the nature of space in regard to the φ-algorithm, as per paper 2 figure 1-2 ([2]: p4, fig1-2):

$$\left(\frac{-1}{\varphi}\right)^2 + \varphi^2 = \sim 3 \tag{1}$$

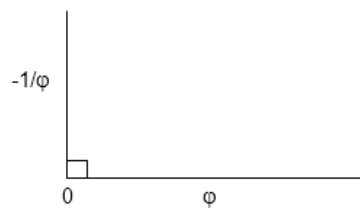


Figure 1; two axes of time, $\frac{-1}{\varphi}$ and φ .

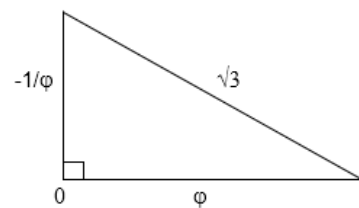


Figure 2; two axes of time, $\frac{-1}{\varphi}$ and φ , which then result in the value of $\sim \sqrt{3}$ in a squared relationship.

This can be represented as per figure 2.

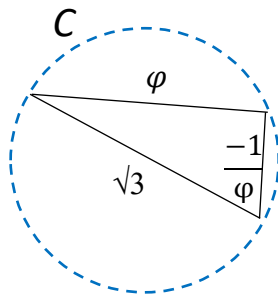


Figure 2: Here, the diameter of circle “C” is the value of $\sqrt{3}$, the hypotenuse of sides ϕ and $\frac{-1}{\phi}$.

The third option to consider is the two directions along the axis of the time-algorithm, as per figure 17 paper 2 ([2]: p19, fig17):

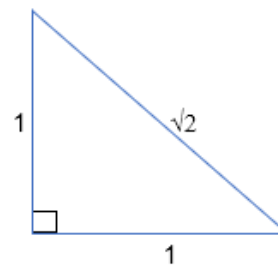


Figure 17; two axes of time t_{u} 1 and 1, which then result in the value of $\sqrt{2}$ in a squared relationship as a resultant value of t_{u} .

This can be represented as per figure 3.

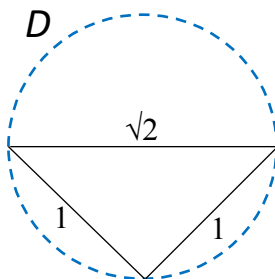


Figure 3: Here, the diameter of circle “D” is the value of $\sqrt{2}$, the hypotenuse of sides 1 and 1.

These are all spatial representations of the proposed time-scaling system. It is now a task of arranging them together as a combined geometry, as per figure 4.

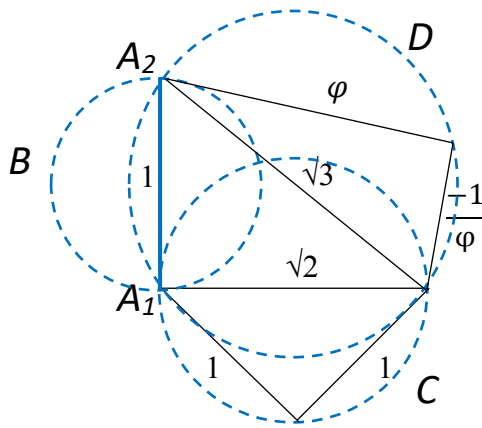


Figure 4: Here, circles “B”, “C”, and “D” are brought together such that the diameters of each of such circles form a right-angle triangle.

What does this combined geometry represent for time as a representation of space? The distance of line A, from A_1 to A_2 is “1”. That is the concept of space in regard to time, time as circle “B”.

In using 3d space, an extra two “1” units are brought together in the context of a π time-circle to result in a value of $\sqrt{2}$ as the space representation of circle “C”. Not only this, the ϕ -algorithm for time in regard to a circle “D” is brought into play as the value of $\sqrt{3}$ as the diameter of circle “D”. So, the distance between A_1 and A_2 as a spatial representation of circle “B” is being factored with $\sqrt{2}$ and $\sqrt{3}$. Yet the basic premise of time as π for circle “B” as established in paper 15 ([15]: p5-7, eq4) needs to be upheld, thus this π value can be equated to the values of $\sqrt{2}$ and $\sqrt{3}$ by the absolute association that has been measured in $\sqrt{2}$ and $\sqrt{3}$ joining A_1 and A_2 using circles “C” and “D”, as follows (equation 1):

$$\sqrt{2} + \sqrt{3} \cong \pi \quad (1.)$$

What this equation simply means is that the distance as time that circle “B” can absolutely walk (i.e., π) can only be represented through 3d space using the ϕ -algorithm using those two associated lengths of $\sqrt{2}$ and $\sqrt{3}$ as per equation 1. It’s not an exact match (~0.15% error to the known value of π), yet a telling association; the error is a good way of saying that there is still more to the idea of time, and not just the ϕ -algorithm scaling system. And thus “something more” had to be established for time, as per Euler’s equation in paper 15 ([15]: p11), necessitating the need for the “hybrid time” equation of $e^{i\pi} + 1_{t_N} = 0_{t_A}$.

Now, let us investigate how the ϕ -algorithm for time can be related to the idea of gravity as the *hybrid time clock*.

3. Hybrid time as the primary function of gravity

In this section, the notion of gravity from paper 1 ([1]: p1-8) will be presented, and highlighted to represent a function of time, primarily (3.1). Then, the idea of the ϕ -algorithm will be presented in a similar manner to how Einstein presented the idea of his simple clock in special relativity (3.2). Following this, the idea of the *hybrid time clock* will be then introduced, explaining the feature of time in that clock that specifically relates to the idea of gravity (3.3).

3.1 Gravity's emergence from electrodynamics [1].

The idea of gravity was first presented in the first paper, in chapter 2 ([1]: p8-9):

1. **Gravitational modelling**

Now let us add a few features of time to space; gravity[12] as the feature of 0-scalar space given mass by time (our proposal), would be proportional to the following:

- *the mass of one event M_A ,*
- *the mass of another event M_B ,*
- *a "fine-structure" mass context relevant to an overall space and time feature of the event M_c ,*
Gravity would also be indirectly proportional to the following:
- *the time difference from M_A to M_B , t_{AB} , a process of "symmetry-breaking" with t_{BA} ,*
- *the time difference from M_B to M_A , t_{BA} , a process of "symmetry-breaking" with t_{AB} ,*

Note that t_{BA} and t_{AB} would be features of t_N . Thus, the following equation would apply as the gravity between the two events of M_A and M_B as G_{AB} (eq. 10.):

$$G_{AB<NEWTONS>} = \frac{M_c M_A M_B}{t_{AB} t_{BA}} (kg^3 t^{-2}) \quad (10)$$

Note that t_{AB} and t_{BA} are synonymous (same value) yet represent two different time references for M_A and M_B . Thus, the following equation would apply if we were to eliminate "time" from the equation by using ($\frac{d}{t} = c, t = \frac{d}{c}$) (eq. 11.):

$$G_{AB<NEWTONS>} = \frac{M_A c^2 M_A M_B}{d^2} (kg^3 t^{-2}) \quad (11)$$

Here $M_c c^2$ would represent the value of "G", the gravitational constant. M_c would represent a fine-structure mass-context relevant to two spatial references, yet as though the one reference in there being a "vector-tensor"[13] effect in play on the fine-structure level. Note equation 11. is relevant to a dual context of "time", so we need to consider applying a 3-dimensional 0-scalar context of space in view of this dual feature reference for time.

Thus, let's consider two fine-structure mass contexts; fine-structure mass context 1 M_{C1} and fine-structure mass context 2 M_{C2} . Together, they represent the collective mass of M_{C1} and M_{C2} as M_{C1+C2} . Yet this fine-structure mass M_{C1+C2} is a spatial dimensional entity. Simply, we have two mass

entities that represent the one mass as a fine-structure context with a vector-tensor manifold in effect (3 vectors for each); in this universal context there would exist two 3-dimensional spatial scalar/vector paradigms for the dual time-reference, “as one” though; thus we are transforming their reference to each other given their separate references for time, much like in the inertial Lorentz transformation model[14], yet here executed more simply while considering two references of time, t_{AB} and t_{BA} , as a process of defining gravity (a spatial tensor for each vector).

Considering that the fine-structure mass M_{C1+C2} in a spatial context relevant to the dual time spatial dimensional equation (eq. 10.) requires to be “per” not just one 3-dimensional 0-scalar context but another, one “3” for each fine-structure mass context, thus a value of 3^2 , together with needing to represent a double temporal t_N context (golden ratio process of two possible outcomes, φ or $\frac{-1}{\varphi}$, thus times “2”, then the following can be considered for M_C (eq. 12.)

$$M_C = \frac{2M_{C1+C2}}{3^2} \quad (12)$$

Adding known values; the most basic fine-structure mass context M_C is the mass of a proton ($1.67... \cdot 10^{-27}$ kg) and a neutron ($1.67... \cdot 10^{-27}$ kg) representing generally the mass of a basic atom as the value of $3.33... \cdot 10^{-27}$. Thus:

$$M_C = 3.33 \cdot 10^{-27} \cdot \frac{2}{3^2} \cong 7.4... \cdot 10^{-28} \text{ (kg)}$$

Now, if we apply this to $M_C \cdot c^2$:

$$M_C c^2 = 7.4 \cdot 10^{-28} \cdot (2.99 \cdot 10^8)^2 \cong 6.67 \cdot 10^{-11} = G \text{ (kgd}^2\text{t}^{-2}\text{)}$$

< the equivalent of equation 10. as Nm^2kg^{-2} >

Thus, it seems we can involve gravity in the process of using the golden ratio for time as a primary electromagnetic feature. Let’s now look at the electromagnetic equations for charge.

In short, the equation for gravity here was based on the φ -algorithm, more exactly here as:

$$G_{AB<NEWTONS>} = \frac{M_C M_A M_B}{t_{AB} t_{BA}} \text{ (kg}^3\text{t}^{-2}\text{)} \quad (2.)$$

Time here was and still is a function of gravity. Yet perhaps more should have been highlighted in that paper regarding the importance of that equation.

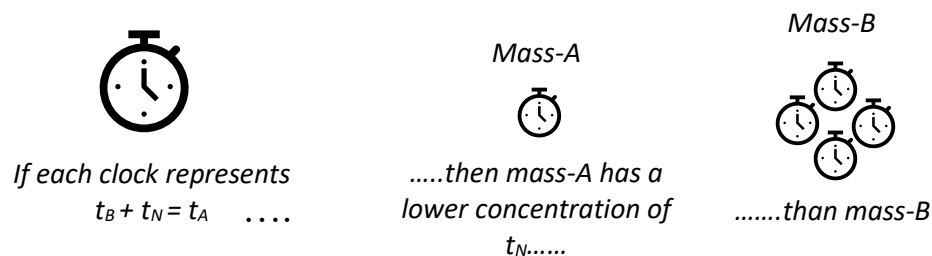
3.2 The φ -algorithm time clock

According to special and general relativity [16], spacetime is a 4d manifold (3d space, 1d time), where the length of time is given as “ ct ” where “ c ” is a constant value set at the speed of light. Further to this, the geometry of spacetime becomes distorted by energy and momentum, a distortion represented by gravity, and thus “affected” time, distorted time, becomes known as

“gravity” as the curvature of *spacetime*. According to relativity theory, *time is change* where the rate of change is measured using the number of ticks on a clock. Thus, when the number of ticks on two identical clocks are considered while timing a beam of light going from say “clock-a” to “clock-b” and from “clock-b” to “clock-a”, if the *measured distance* between each pair of clocks are equal, each beam of light will arrive at the same time to each clock. Yet *spacetime* theory holds that the clock in the weaker gravitational field will have counted more ticks than the clock in the greater gravitational field. Or more simply, time will have passed faster for the clock in the weaker gravitational field compared to time in the stronger gravitational field. Or more simply still, an observer in the weaker gravitational field will see the clock in the stronger gravitational field ticking slower, an effect that has been confirmed by experiments, an important principle that is calculated when aiming to keep GPS satellites in-sync. Can the ϕ -algorithm clock explain the same phenomena?

Einstein measures time as the relativity between masses moving at different speeds and thus time dilations, time measured as a function of gravity while considering that “the speed of light is the same in all inertial and thus gravitational frames of reference”. Where therefore is the variability in ϕ -algorithm regarding time, the variability of time? The ϕ -algorithm creates a frame of reference for time, as $tN = 1$. This frame of reference of time as the process of the phi-quantum wave-function is relevant to mass as explained in paper 4 ([4]: p5-8). It follows therefore that each frame of reference for time for each mass may change between different frames of reference depending on the amount of mass and thus the quantity of the component phi-quantum wave-function associated to that mass. Simply, time “length” is proportional to mass, and so with a greater mass, the “time-duration” is increased. In explaining this further, it should be primarily noted that “mass” is a result of the ϕ -algorithm, as presented in paper 4 ([4]: p5-8). There, the idea of mass forming is proposed to be a result of the resonance of the phi-quantum wave-function. The simple issue there is that time in being associated to the phi-quantum wave-function would account for more phi-quantum wave-function resonance for the more mass, and thus more time **as** the “*phi-quantum wave-function*” is required. Consider figure 5.

Figure 5.



The proposal here is that for a greater mass there would be more phi-quantum wave-functions in one region and thus more analogues of t_N , and thus an accumulative “longer” t_N time process. Yet, the overall time would remain the same, as per equation 2, and so the proposal is with a greater number of t_N features there is a smaller frequency value (larger

accumulated time-factor) and thus in the context of a constant “c” a *longer wavelength* and thus *redshift effect*, known as *gravitational redshift*.

Thus, in considering figure 5, take two vastly different sized masses. They are not moving relative to each other, so the distance remains the same. Yet, one of the paradoxes of relativity theory is that time central to the larger mass is longer compared to the smaller mass, yet if the distance remains the same between the two objects, then as a comparison, time would be observed to have passed faster in the weaker gravitational field, slower in the stronger, and furthermore, if the distance between those two objects is held, a third object viewing those two references will not perceive "light" bearing the same wavelength depending on what it is exactly viewing, the larger mass compared to the smaller, predicted by the time-theory proposed here.

3.3 THE HYBRID TIME CLOCK

Employing the idea of hybrid time to the ϕ -algorithm, to the time-equation, as per the equation $e^{i\pi} + 1_{t_N} = 0_{t_A}$, merely considers that there would exist a component to gravity in regard to the ϕ -algorithm, to the time-equation, a process of mass and thus gravity collapsing to “0”.

Simply, it could be proposed that Euler’s equation would represent the force of gravity as attraction, of relative distance collapsing to “0”, and also given it is a concept of radio-active decay, of relative mass collapsing to “0”, of what would be observed to be a spiral process of free elementary particles collapsing to zero when in that state. This attraction would be kinetic in being associated to the concept of “negative energy” ([7]: p2-3), together with the *CMBR* in being intrinsic to space, of that natural concept of the radioactive decay of the atom as presented in the paper “Solving the Cosmological Constant Problem”([14.p21-28).

In considering therefore this feature of gravity, the gravitational field testing of paper 7 ([7]: p6-16) and those issues of *electrical-arcing and high-energy collapse of the antenna in the resonance field* seem to become more understandable, as it would appear that a key process in the generation of a gravity field using an *EM* resonance field incorporates the phenomena of an “exponential” collapse as a process of atomic decay. Although this feature may seem to make the whole idea of generating a gravitational field from an *EM* resonance field rather pointless, it would be a matter of somehow containing and structuring that collapse of the mass associated to the *G* (*EM* resonance) field, and that would require a very particular type of antenna design that would incorporate a high energy absorbent manifold structure to catch that release of energy. Yet further to this, the possibility exists that such a process could represent a form of energy “generation” that can be held in a *G* (*EM* resonance) field, potentially yielding results for new forms of nuclear energy generation.

Another feature to consider about the *hybrid time clock* is how to measure the phenomena of the stars regarding gravity, or rather, how the *hybrid time clock* can shed better light on our current notions of General Relativity. The key notion of General Relativity is to explain the redshift effect, to explain why

galaxies are held together in the context of the metric expansion of space (owing to “that” interpretation of the redshift effect, namely BBT, and associated requirement of dark matter). Yet the ϕ -algorithm presented in this series of papers has proposed a new explanation for the redshift effect (Space, and the Redshift Effect [13]), presenting the case for a steady-state spatial reality, and that the stars would most likely be a type of highly magnified process of atomic decay. So, according to the theory proposed here, general Relativity is being discounted.

4. Conclusion

The key intention of this paper has been to present the idea of not just the ϕ -algorithm for time as a model for gravity, yet the *hybrid time clock* as the basis for the property of gravity. Although the ϕ -algorithm equation for gravity was presented in paper 1 [1], and then explained further in regard to mass in paper 4, [4] and then presented in the form of an experiment based on an EM resonance field in paper 7 [7], the *hybrid time clock* neatly summarizes the behavior of light in regard to gravity, and the nature of gravity itself without corrupting well-held ideas and observed phenomena of special relativity. This has been achieved in the context of the 15 preliminary papers [1-15]. On top of this, a new algorithm for π was derived relevant to how time and space would interact regarding the ϕ -algorithm for time and 3-d space, an approximate value of 0.15% error given the absence of the required inclusion of “ e ”. In short, the proposal here is that the ϕ -algorithm for time and associated *hybrid time clock* gives a far more broad-scale account for time regarding energy, mass, light, and thus gravity, more structured and broad-scale than standard special relativity.

Conflicts of Interest

The author declares no conflicts of interest; this has been an entirely self-funded independent project.

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