Temporal Mechanics (A): Time-Space Circuits

4th January 2021

Stephen H. Jarvis.

http://orcid.org/0000-0003-3869-7694 (ORCiD)

EQUUS AEROSPACE PTY LTD
Web: www.equusspace.com
email: shj@equusspace.com

Abstract: Explained here is the idea of the time-space circuit, a basic feature of how a proposed scheme of time-points interact in space with each other, taking note of their time-before, time-now, and time-after attributes in the context of an arrow of time. The explanation here also presents two associated concepts as a way to measure the overall Temporal Mechanics scheme, namely how the time-space circuit links a "time-space manifold" with a resultant "time-space constant", here as the constant values of the vacuum energy (CMBR) and associated vacuum permittivity and permeability that are rendered through the Magnetic Quantum Shell (MQS) time-space manifold scheme, from the microscopic scale to the cosmological, here as a demonstration primarily of the time-space circuitry. This paper shall be the first of 3 papers on the Temporal Mechanics subjects respectively of "time-space circuits", "time-space manifolds", and then "time-space constants".

Keywords: temporal mechanics; temporal calculus; time-point; time-space circuit; time-space manifold; time-space constant; magnetic quantum shell; atomic barrier enhancement; string theory

1.   Introduction

Presented here is the mathematical code of Temporal Mechanics, the mathematical code used from paper 1 to paper 30 [1-30] relaying the idea of applying a primary mathematical code to the human ability of temporal perception, and how that then relays to an understanding of mathematically measuring

phenomena in 3-d space, here presented as a basic time-space 1-d principle (time-space circuit) in regard to 3-d space via a 2-d spherical surface area manifold (time-space manifold) resulting in an overall constant steady-state reality (time-space constant).

Here in this paper, a general overview of the body of Temporal Mechanics, those 30 papers [1-30], shall be presented as the proposed next step to physics theory, a more difficult step, as it can only be, in adding a new discipline to physics theory upon all that is known of the spatial metric, namely a new temporal metric that executes a new mathematics that confirms and links all known equations and associated physical phenomena under the one umbrella algorithm, the umbrella of the one *temporal* algorithm.

As this paper shall highlight, "time" is mathematics in its purest sense, as much as an equation *equates* as a process of one equation/function step to be the next via a certain mathematical operator, as a calculation in time operating (as it shall be demonstrated) at the speed of light in space, measuring space using time via "c".

The motive here is five-fold:

- To present a new basis for the physical use of mathematics, namely as a time-equation, based on the human perception temporal awareness ability, laying the foundation for a physics that conforms to our human temporal perception ability.
- To then re-work all of what current spatial mathematics lays claim to by using this new mathematical formalism.
- To, by this process, thereby link the field forces under the one mathematical process, namely upon this new temporal calculus formalism.
- To achieve such by not needing unproveable entities, entities such as dark energy and dark matter.
- To then present a new more accurate cosmological model, or rather, one more substantiated than the ΛCDM model.

As this paper shall present, time represents a perception-limited 2-d spherical wave-front manifold based on a fundamental time-space circuit ($TS\varphi$) that naturally derives a 3-d volume in its passage, manifesting phenomena that the $TS\varphi$ primarily gives rise to by its specific interference patterns in space as a 2-d spherical-front phenomenon. Subsequently, a new model for cosmology is mandated, as one that involves the use of no unconfirmed ingredients or qualities (such as dark matter and dark energy).

The mathematics employed here is not given free-reign as otherwise described by the certain function of spatial geometry via physics' common calculus approach of infinitesimals (partial, or complete), yet abides by the common basic principles of time in relation to space according to the ability of human perception; the mistake that physics makes in giving mathematics free reign with space is not made here by this new *temporal calculus* process, yet guided by the constraints of human temporal perception abilities.

It will therefore be noticed that through the theoretic building process of the temporal algorithm with space there is eventuated a specific mathematics in play, namely clear temporal steps of time-space

interdimensional mechanics, temporal steps for each specific energy and mass phenomena in space as based on those relevant phenomena qualities, those temporal steps of inter-dimensional (time and space) development for particles and their field force carriers, a specific inter-dimensional relationship of time with space, yielding <u>*the known*</u> equations for phenomena as understood by contemporary metric-space physics theory and associated mathematical equation formalisms. Consequently by this process, each phenomenon in space will be demonstrated to have a specific requirement to fulfill under the umbrella of the time-algorithm, the time-algorithm in prescribing a 1-d time-space circuit ($TS\varphi$) temporal event resulting in a primary 2-d region of temporal activity in space enshrouding 3-d space, giving the 2-d temporal event the appearance of volume with associated known physical attributes of energy, light, and mass, as it only can.

This paper shall be the first of 3 papers on the Temporal Mechanics subjects respectively of "time-space circuits" as Temporal Mechanics (A), "time-space manifolds" as Temporal Mechanics (B), and then time-space constants" as Temporal Mechanics (C).

2.   Theoretic Constraints

Mathematics is a term most generally used to describe the association of quantities of numbers, as quantities of number theories for objects/points/phenomena in space, space as a particular geometry, using a particular type of mathematical process/formalism and analysis.

Mathematics, in its application to physics, is a way the discipline of science attempts to rationalise the concept of objects as phenomena in space using units of measurement of any such objects and associated locations in space as algorithms (number theory and algebra) that attempt to capture the idea of a flow of those unit values and associated structures in space as force and motion, to then develop theories that demonstrate the utilities of those mathematics in a reproducible and predictable manner, explaining the basis of the motion of objects with one another as the effect of particular field forces, based primarily on their qualities of mass and inertia.

The thinking here (with such an employment of mathematics in physics) is that getting those algorithms right for basic phenomena should point to a mathematical description of all phenomena in space using that algebra as the development of laws as symmetries, universal laws applicable throughout, of course, the universe. Einstein for instance developed his theory for spacetime as the field force of gravity, citing the curvature of spacetime as gravity, and that the component of time in spacetime theory is derived from the fundamental effect itself of gravity, of the curvature of spacetime, using his Special Relativity (SR) mathematical formalism.

The obvious question for both scientists and philosophers has of course been, "can physical phenomena be worked out *completely* by the use of algorithms, and put into a "theory", and how?".

To answer this question is to address the issue of how any theory defines its basics, its start, its fundamentals, and with what theoretic tools, what number theory, what algebra, what geometry, and what process of mathematical analysis, and fundamentally, whether it conforms to our perception ability. For instance, can mathematics see the future, despite the fact we as humans cannot? Can mathematics be

a wand that can be used to re-structure reality in knowing the code of that wand? Clearly our perception ability defines certain constraints, yet of course certain basic conditions of reality need to come to the forefront regarding our perception ability, as no theory is going to change the shape of reality as a theory entire of itself. The issue is what theory works best, or in other words, "covers more realistic ground" than other theories, without defying our perception ability.

Physics is most basically a study of physical phenomena. The lineage of physics theory takes root from measuring physical phenomena using numbers and geometry, as a way to capture the dimensions of space, 3-dimensions primarily. This has been the case for millennia. The range of concepts physics seeks to describe with mathematics and associated geometries that transform from one place in 3-d space to another include the idea of mass, inertia, force, light, and energy, what constitutes mass and energy and light, and how that can be measured with mathematics, to then determine if that mathematics associated to physical phenomena can predict new phenomena and thus demonstrate that there is an underlying mathematics behind physical phenomena, behind reality, almost implying a type of mathematical order to reality, a type of mathematical determinism.

Along this process though of measuring and seemingly trying to anticipate the nature of reality, of creating laws that describe symmetries in nature, consistencies of phenomena and associated laws, has been the need to create a start-date for physical phenomena as the current big bang model (ΛCDM) describes. The primary reason for the ΛCDM model is to explain the observed redshift effect of light from the stars, the only mechanism of explanation there being by giving space a mathematical feature, and thus explaining the redshift effect of light as a metric expansion of space.

There, is the assumption of mathematics taking precedence with space as a *metric*, as a metric expansion of space, as a process of space expanding, to explain the redshift of light. Secondary to this is the idea of time, together with light being dragged along by the metric expansion of space from the big bang event. The big bang model though requires a huge amount of energy, 10^{121} more than what is observed of the current energy level of space (CMBR), thus requiring a thing called "dark energy", together with requiring a thing called "dark matter" to keep galaxies from flying apart in the context of this metric expansion of space.

In short, the ΛCDM model proposes an explanation to the redshift effect via the tagging of space with a mathematical grid, making essentially space mathematical. To achieve this though, that theory has to employ phenomena not found, not evident, of the order of 80% of what it proposes should be accountable care of the required inclusions of dark matter and dark energy. Yet most of physics hammers away at that proposal and associated fundamental theoretic start point without question. That should be a problem, yet that problem is overlooked in the exercise of the hope that evidence for dark energy and dark matter can be found, primarily through mathematical theory as much as the issue in question of the expansion of space is described purely metrically, as a metric expansion of space.

Ultimately, according to a principle of relativity, if the large scale is coordinated with the small scale, and certain ingredient characters such as dark matter and dark energy cannot be found on the small scale in this solar system, then a better theoretic basis should be required to capture more data under the one theoretic umbrella device.

What is to be presented here in this paper in league with the Temporal Mechanics series of papers [1-30] is the idea of a new approach to physical phenomena, of not flying blind with a metric of space, yet opening our perception to a metric of time, of making the idea of time a primary feature of mathematical utility, and to then apply that metric of time to the concept of geometrical space, as a *one* theoretic umbrella, without needing the unsubstantiated inclusions of dark matter and dark energy.

3.   Forming a Solution

Although Physics depends on a certain basis of mathematical formalism with the dimensions of time and space in requiring the use of the metric expansion of space, the proposal of this paper is that a new theoretic basis is required to better explain the redshift of light than by using the metric expansion of space.

With any new proposal for a new a priori for time, the current a priori of physics' definition for time needs to be superseded, and that is quite a task given Einstein's theory of relativity holds court, for although Einstein did not consider time as a dimension as an a priori, yet a *result* of space and mass undergoing *changes*, he was still able to predict certain key phenomena with his theory. Therefore any new theoretic upgrade must explain all that Einstein's theory predicted, and then solve what Einstein's theory cannot, as presented in papers 28-30 [28-30].

Indeed, it is quite understandable how one could think that mathematics as a geometry with associated relationships between numbers would automatically prescribe a physical reality, yet the problem with how Einsteinian physics uses mathematics and how that mathematics is then constructed as a mathematics is the concept of "time", namely it technically does not exist, as presented in paper 28 ([28]: p2-11). As has happened, "time" is made secondary, as "space" as a metric expansion primarily describes the redshift of light, as what else could if "time" as a concept is made secondary if not redundant?

The concept being proposed though by Temporal Mechanics and associated $temporal\ calculus$ $is\ quite\ fundamental$ in that it makes the entire process of the mathematics being employed as a flow of "time" itself, as a "measure" of time itself for space, even using time to *measure* "space" using "c", and therefore more inclusive in the description of the redshift of light.

The presentation here moreover with Temporal Mechanics is to raise the awareness that mathematics *can* better abide by our *perceptive constraints* of measuring physical reality, and here our perceptive constraint with "time" needs addressing *primarily*, not as a mathematical offshoot as described in Einstein's *spacetime*; the argument of Temporal Mechanics is that the approach of Einstein misses what our perception ability with time naturally accounts for, as much as our perception ability with space can harness with geometry. In explaining this further, the following points need to be brought to attention:

- Physics uses mathematics to confirm something that it considers more *fundamental* than the mathematics it uses in explaining reality, namely by employing an initial *approach* as the process of putting words to space as a 3-d geometry spawned from a zero-start date in time and space

from which all things presumably have come (big bang), and to then consider 3-d space as a mathematical construct per-se that rolls itself out from the big bang event as a mathematical equation, as a metric expansion of space.

- The great premise there is considering that mathematics as this "rolling-out" process of the spatial expansion and associated contained phenomena *is* reality, that mathematics thus can prescribe a type of mathematical determinism to everything, a completeness.

- All of such though has been refuted repeatedly in phsyics, as per the inability of mathematics to prove itself to be the deterministic *feature* of reality (as per Heisenberg's Uncertainty principle and Bell's Theorem) as also per Gödel's Incompleteness Theorem, together with as per the impossibly large amount of energy required for the metric expansion of space to explain the redshift effect (cosmological constant problem), all as presented in paper 29, "Time and Non-Locality: Resolving Bell's Theorem" [29].

If "space" is the primary focus in physics theory, somehow the idea of a temporal algorithm and associated calculus needs to embed itself into the known understanding of 3-d space to rectify these issues, to properly quantify the mathematics of space with time. The question now is how to instal *into* physics theory a mathematical formalism that represents the code of the human temporal awareness ability, to instal such without changing known data associated to known phenomena, known equations of known data proven to represent known phenomena.

The process to be proposed here is to construct a temporal algorithm and associated calculus representative of the human temporal perceptive ability and have that "construct", formulate, the geometry of 3-d space and all the known phenomena associated to 3-d space, to be more inclusive primarily in explaining phenomena. Such a process of Temporal Mechanics has been the process of the preceding 30 papers [1-30] with the aim of explaining the biggest mysteries of reality, namely the nature of the stars, specifically the redshift effect, and if there is a common mathematical link between mass and light, and if so how can that be demonstrated via experiment.

4. The *Temporal Calculus* Approach

What is *temporal calculus*? *Temporal calculus* is most simply a fundamentally new approach to the definition of time and space giving a priority to time (and not mass nor space), a temporal algorithm of time-points that derives mathematically the concept of 3-d space and the genesis of mass as certain temporal wave-functions resonating in space. It may sound like Quantum Mechanics, even String Theory, yet *temporal calculus* is a Quantum Mechanics and/or String Theory **without** the use of Einstein's Special Relativity mathematical formalisms while making the primary string in spacetime a time-space circuit ($TS\varphi$), giving priority to time. Thus, it is fundamentally different to Quantum Mechanics and String Theory, requiring therefore certain new descriptions and *descriptors* to highlight that new process, despite the fact it describes the same reality we are all familiar with, with no hidden surprises, no "dark matter" or "dark energy" that needs to appear out of the vacuum of space.

What is a time-point therefore? A time-point is a hypothetical point of time in the void, defined as such as an *a priori* that can exist anywhere and everywhere in the void. By definition, it is both a symmetry of fact, as a *time-before* point and a potentiality as a *time-after* point (defined as a squaring of a *time-before* point, a 2-d representation as a spherical front), manifesting though only as a *time-now* construct when completing a time-circuit of time-points in space, as a time-space circuit ($TS\varphi$), as initially presented in paper 1 ([1]: p3-5) as the time-equation, thence paper 8 ([8]: p3) as a new derivation of that same time equation of paper 1, thence paper 30 as the "5 Principles of Simplicity" ([30]: p11-15).

Time-points are not therefore a collective *physical phenomenon*, yet they are a *temporal phenomenon; they are* time-points. They can still be an aether of points though in space, not as spatial points, yet temporal points *in* space.

Time-points represent everything, not just features of fundamental particles. For instance, particles such as electrons are not time-points per-se yet the result of time-space circuits ($TS\varphi$) of time-points giving rise to the features itself of an electron (as with all other particles), explained consistently from paper 20 through to paper 30 [20-30], summarised in paper 26 figure 1 ([26]: p10, fig 1).

The measure of a *fundamental* time-point, a φ, a *time-before* icon, is how that is defined as an a priori, as a non-local symmetry, in a time-equation circuit that then proposes its existence in a 3-d space leading to time-space circuit ($TS\varphi$) wave-functions ([2]: p3-11), and all other physical phenomena and associated field forces (force carriers) as physics has measured ([25]: p20-22).

In all, time-points represent a type of time-point aether, a temporal aether that has a certain circuitry built into it based on our temporal awareness ability, as it could only be, as we could only be properly aware of it. This temporal aether is **not** the more physical-based aether Lorentz considered, as did Newton, namely a more spatially contrived physical thing, like water is for waves, thus incurring the idea of aether flux as aether winds. Temporal aether is designed **not** to have the aether wind issue, as wind connotes temporal *movement*, and time-points already represent the potentiality of movement as time with its time-space circuitry ($TS\varphi$), thus any type of wind in any axial spatial direction is **already** implicit despite any relative motion between objects in space (which technically is filled in by time-points, despite sizes of distances between spatial references and objects).

Using time-point theory as a fundamental basis allows for the development initially of wave-functions that can then become "particles" via a particular resonance of wave-functions, particles that take on actual physical qualities acting as mass with momentum; what therefore String Theory proposes as with Quantum Mechanics is so much easier to reconcile by using a time-point aether.

The difficult task is to script the definition of the time-points and how they then via a certain temporal algorithm (styled on the human temporal perception ability) work with 3-d space and thence offer a new wave-function equation for light.

To note is that *temporal calculus* is not a calculus of infinitesimals, partial or complete, that aims to hone-in on a point in space, or a General Relativity process seeking to measure an infinite completeness of spacetime in the context of a universal cosmological constant to account for non-inertial systems, yet a structured algorithm that takes a step-by-step account of how time is associated (as per a time-space circuit ($TS\varphi$) mathematical formalism) to space. Conversely, the calculus of infinitesimals runs

off into infinite progressions, yet that is not the calculus being employed here. The process here is more exact, while using **no** rounding-off process to infinity.

In short, $temporal\ calculus$ is a completely new way of using mathematics for space, a temporal template for space. This process is summarised in the previous paper, paper 30 chapter 4 ([30]: p6-11), following which is presented 5 principles of simplicity in chapter 5 ([30]: p11-15) as the general functionality of the time-space circuit ($TS\varphi$). There, it is described that first is the concept of vast nothingness, then the concept of "time" to qualify and divide points of reference in that vast nothingness, then the concept of 3-d "space" as that 3-d mathematical characterisation of the void by time, and then the idea of energy and mass, energy as the process of the temporal wave-function in space, and mass as a process of how that temporal wave-function interferes with itself.

As a broad description, it was proposed that the idea of time represents a sea of time-points that give rise to the idea of 3-d space, time-points that give space its 3-d character. The idea of how the time-points interact with 3-d space then became formalised as time-space dimensional mechanics, presented through papers 20-30 [20-30]. There, the time-points were explained in the context of how they form basic elementary/subatomic/atomic particles, and why, focussing primarily on how time as the time-points is divided into a stream of *time-now* time-points, time-point streams. This was initially presented in paper 20 as the arrow of a triple set of *time-now* time-points [20]: p11-13), the time-equation as a most basic time-space circuit ($TS\varphi$).

The summary there is that time-points as a *time-before* event are non-local, and they become local as *time-now* points via the time-equation time-space circuit ($TS\varphi$) mechanism, a mechanism which inadvertently creates an uncertainty between time and space termed the time-space uncertainty principle (TSU) ([20]: p13), which most basically leads to a fundamental construction of a cloud of time-points in their streaming. This then lead as a development of the $temporal\ calculus$ of the time-space template (TST) (atomic template) ([23]: 17-20), ultimately leading to (as per the previous paper's proposal) a Magnetic Quantum Shell (MQS) ([30]: p18-20) which appears to be the overall atomic lynch pin, supporting the value of the CMBR, the permittivity constant, and permeability constant, and vacuum energy, all in the correct context of the electron shell model according to the Rydberg equation for electron shell modelling, the atomic shell model, together with proposing a value for a recently discovered value of energy tagged by researchers at CERN as particle X17 ([30]: p18-19). Also derived was the nature of motion of these time-space templates as described in chapter 7 of paper 30 ([30: p20-21), together with the idea of light polarisation in the MQS explaining the nature of the helical motion of light ([30]: p20).

What makes the *time-before* time-points as *time-now* time-points (*time now* as $t_N = 1$) is the issue, and how they behave in an overall field of time-points, leading to an overall universal model, not contradicting the known cosmological problems as presented in paper 17 ([17]: p3-4). The "circuit" nature of the time-space circuit ($TS\varphi$) itself was presented in paper 6, "The Relativity of Time" ([6] p2-4). Ultimately though, the answer to that question of the flow of *time-now* points as the time-space circuit ($TS\varphi$) requires an entire landscape of the process to unfold as an overall balanced steady state universal equation of time-points lending their description to the ideas of energy, light, and mass.

To achieve that set-up, the key time-space principles were summarised in paper 25 ([25]: p26). The summary of all the general energy and field force equations were presented in paper 25 ([25]: p21-

22), and this was presented in the context of a proposed model of light in space as presented in paper 13 ([13]: p6-11), extra-atomic light and how that relates to an overall size of time-space in reference to an atom releasing a wavelength of light for it to travel spherically as a wave through a time-space field in our local reality, a general local reality central to a primarily dense and vast luminous source of light, SOL, surrounded by an outer-perimeter zone of the Oort cloud, the value of the Oort cloud determined as the general limit to this local reality ([13]: p11) as governed by an equation for the propagation of light in space and thence proposal for the redshift effect of light, leading to a model for a reality ([25]: p55, fig 16) confirming the concept of a uniform CMBR (the "Flatness Problem" thereby solved) and as though the solar system is the centre of the universe (solving the "Axis of Evil" problem).

The key problem that was discovered therefore was the universal model, namely that the stars would in fact represent a plasma field of elementary particle activity, seemingly projected to our reference and associated awareness as though actual solar systems, as presented in paper 30 ([30]: p23-25). Such is a deeply confounding issue for contemporary views on the nature of the universe and associated ΛCDM model, no small issue. To further investigate this issue, the proposal is to go back to the basics of the time-algorithm and associated calculus, and how it would not just construct space, yet measure space, yet not only measure space, yet project images in space as real phenomena from the outer Oort Cloud structure.

5.   The Time-Space Circuit, Time-Space Manifold, and Time-Space Constant

To make the process that needs to be described here more navigable with words, two new time-space concepts in this temporal calculus shall now be proposed in reference to the time-space circuit ($TS\varphi$), namely the *time-space manifold (TSΔ)*, and the *time-space constant (TSΛ)*.

The time-space circuit ($TS\varphi$) is quite simply how the *time-before* time-points become a general "now" event in space with the 5 principles of simplicity, how the basic *time-before* feature of the time-equation as per paper 1 ([1]: p3-5) becomes a general *time-now* event as initially detailed in paper 20 ([20]: p11-13). Here as with paper 30 ([30]: p11-15), merely the term "time-space circuit ($TS\varphi$)" is being applied to that process because the term "circuit" fits well with the next two basic proposals, a time-space manifold ($TS\Delta$) and time-space constant ($TS\Lambda$), the three terms representing quite a simple and efficient way to describe the overall entire process of temporal mechanics.

So, essentially, the idea of a time-space circuit ($TS\varphi$) is merely taking the basic *time-before* point of the time-equation, the equation presented in paper 1 ([1]: p3-5), and labelling the description of how the *time-before* points become a *time-now* point as a circuit, leading to a theoretical sea of *time-now* points in space for any number of time-space circuits ($TS\varphi$) and associated *time-before* non-local time-points, which was underwritten in paper 20 in the formulation of the time-space uncertainty principle (TSU) ([20]: p13) for the time-equation, a principle which prescribed a type of cloud of uncertain *time-now* points in space.

That cloud, as per paper 30, was shown to represent a magnetic quantum shell (MQS) structure ([30]: p18-20), which as a surface area, is now to be presented as a time-space manifold ($TS\Delta$). This

cloud region was also described as a result of an atomic barrier enhancement (ABE) process of construction ([27]: p12-14). So, essentially, the one spherical surface area of *time-now* points, circumscribed by a random/uncertain location of electrons (as presented in paper 20 ([20: p12-13)), has already been explained in three ways, namely first as a time-space uncertainty (TSU) principle (which is really a way to describe the general function of the time-point in this spherical locale), second as how this locale can come across as an atomic/particle barrier itself (as the atomic barrier enhancement (ABE) concept), and thirdly as a magnetic quantum shell (MQS) as the holder of the electron activity of the atom and thus EM features. And so, to add further scope here (as a fourth descriptor), this MQS shall be considered most basically as a time-space manifold ($TS\Delta$), how the time-space circuit ($TS\varphi$) associated to a time-space template (TST) ([23]: p17-20) links with other time-space circuits ($TS\varphi$) and associated time-space templates (TSTs), via space of course.

The question is how a time-space circuit ($TS\varphi$) communicates via the time-space manifolds ($TS\Delta$) of atomic references with other time-space circuits ($TS\varphi$). Here the idea of a time-space constant ($TS\Lambda$) is proposed, which represents the wave-function communication, most fundamental, of time-space circuits ($TS\varphi$) via time-space manifolds ($TS\Delta$). Ultimately, it represents the principle of vacuum energy (CMBR) and associated vacuum permittivity and permeability, all successfully derived as constant values ([25]: p30-33) in a time-space field (TSF) ([23]: p15-17) of activity in space. The issue is across what overall landscape does this occur according to Temporal Mechanics, what overall time-space manifold?

Understandably, the only way that the idea of time-space constant ($TS\Lambda$) can exist, as a sea of activity in a TSF in presuming a flow of time as energy, is as though by proposing a sea of time points all acting in a general tapestry that deems it necessary to have exist what exists because such is the only way to organize the small scale *as the large scale* and the large scale as the small scale. Such shall be presented in the next paper, "Temporal Calculus (B): Time-Space Manifolds".

The entire background energy thence, as a flow of time, and how that is powered by an overall $TS\varphi$, is the next question, namely where does all this energy come from, and how does it work in the large cosmological scale, as the answer to that question will thoroughly address the issue of the cosmological constant, together with addressing if there is a metric expansion of space and thus whether or not dark energy is a required fix for physics theory, to be addressed in the third paper in this series of 3 papers "Temporal Calculus (C): Time-Space Constants".

6.   Conclusion

Is it mere opinion to propose a definition for the concepts of time and space, in any time, in any era, or is there a fundamental reason in play in physics to define the concepts of time and space a certain way? Surely, concepts such as space and time would be considered on a fundamental level, considered more importantly than the idea of mass, even more fundamental than light? Yet such is not so with Einstein's physics. Mass and inertia take priority with Einstein's physics, making the idea of "time" a

secondary issue, which seems to be of no great concern to physics in general, namely losing the potential utility of "time" as an a priori to explain phenomena.

If anything needed reviewing on a fundamental level in physics theory, surely it would be how physics prioritises its axioms, namely whether mass having priority over time is the axiom of choice. Surely, space is space and time is time, and that our perception faculty has the ability to determine the difference, of what is a void and what is the concept of change. Is it possible that there are only a certain few people who are able to understand and formulate space as space and time as time, in thinking space as a void, and time as change in the void, and *then* applying mathematics to that? As the next paper shall highlight, to develop a science based on the phenomena of mass and inertia *primarily* is incorrect, as in giving primacy of mathematical logic mass and inertia *the actual cause* of the energies involved in mass and inertia itself, and more fundamentally of basic particle turbulence, is missed.

Conflicts of Interest

References

1. Jarvis S. H. (2017), Gravity's Emergence from Electrodynamics,
   DOI: 10.13140/RG.2.2.35132.28804/1, https://vixra.org/abs/1704.0169
2. Jarvis S. H. (2017), Golden Ratio Axioms of Time and Space, DOI:
   10.13140/RG.2.2.30099.12327/1, http://vixra.org/abs/1706.0488
3. Jarvis S. H. (2017), The Emergence of Consciousness from Chaos, DOI:
   10.13140/RG.2.2.23388.23683/1, http://vixra.org/abs/1707.0044
4. Jarvis S. H. (2017), Phi-Quantum Wave-Function Crystal Dynamics, DOI:
   10.13140/RG.2.2.10045.10726/3, http://vixra.org/abs/1707.0352
5. Jarvis S. H. (2017), Time as Energy, DOI: 10.13140/RG.2.2.23466.88009/3,
   http://vixra.org/abs/1711.0419
6. Jarvis S. H. (2018), The Relativity of Time, DOI: 10.13140/RG.2.2.13400.55044/3,
   http://vixra.org/abs/1801.0083
7. Jarvis S. H. (2019), Golden Ratio Entropic Gravity: Gravitational Singularity Field Testing, DOI:
   10.13140/RG.2.2.35399.14246/1, http://vixra.org/abs/1904.0485
8. Jarvis S. H. (2019), The Golden Ratio Time Algorithm, DOI: 10.13140/RG.2.2.35399.14246/2,
   http://vixra.org/abs/1905.0081
9. Jarvis S. H. (2019), The Physics Chimera, **DOI:** 10.13140/RG.2.2.28499.02084/1,
   http://vixra.org/abs/1906.0127

10. Jarvis S. H. (2019), <u>The Conception of Time</u>, DOI: <u>10.13140/RG.2.2.10258.71363/1</u>, <u>http://vixra.org/abs/1906.0441</u>

11. Jarvis S. H. (2019), <u>Space, and the propagation of Light</u>, DOI: <u>10.13140/RG.2.2.15833.67689/1</u>, <u>http://vixra.org/abs/1908.0388</u>

12. Jarvis S. H. (2019), <u>Space, and the Nature of Gravity</u>, DOI: <u>10.13140/RG.2.2.17320.93443</u>, <u>http://vixra.org/abs/1909.0656</u>

13. Jarvis S. H. (2019), <u>Space, and the Redshift Effect</u>, DOI: <u>10.13140/RG.2.2.14287.43683/1</u>, <u>http://vixra.org/abs/1911.0064</u>

14. Jarvis S. H. (2019), <u>Solving The Cosmological Constant Problem</u>, DOI: <u>10.13140/RG.2.2.25730.63686/2</u>, <u>http://vixra.org/abs/1912.0451</u>

15. Jarvis S. H. (2020), <u>Hybrid Time Theory: "Euler's Formula" and the "Phi-Algorithm"</u>, DOI: <u>10.13140/RG.2.2.13078.91205/2</u>, <u>http://vixra.org/abs/2001.0233</u>

16. Jarvis S. H. (2020), <u>The Hybrid Time Clock as a Function of Gravity</u>, DOI: <u>10.13140/RG.2.2.27053.64487/1</u>, <u>http://vixra.org/abs/2001.0401</u>

17. Jarvis S. H. (2020), <u>Hybrid Time Theory: Cosmology and Quantum Gravity (I)</u>, DOI: <u>10.13140/RG.2.2.20045.79847/1</u>, <u>http://vixra.org/abs/2003.0659</u>

18. Jarvis S. H. (2020), <u>Scientific Principles of Space, Time, and Perception</u>, DOI: <u>10.13140/RG.2.2.16207.84648/1</u>, <u>http://vixra.org/abs/2004.0260</u>

19. Jarvis S. H. (2020), <u>Hybrid Time Theory: Cosmology and Quantum Gravity (II)</u>, DOI: <u>10.13140/RG.2.2.23972.22405</u>, <u>http://vixra.org/abs/2005.0053</u>

20. Jarvis S. H. (2020), <u>Mathematical Principles of Time and Energy</u>, DOI: <u>10.13140/RG.2.2.34441.67683/3</u>, <u>http://vixra.org/abs/2005.0179</u>

21. Jarvis S. H. (2020), <u>Dimensional Mechanics of Time and Space</u>, DOI: <u>10.13140/RG.2.2.21001.88169/1</u>, <u>http://vixra.org/abs/2005.0286</u>

22. Jarvis S. H. (2020), <u>Dimensional Thermodynamics</u>, DOI <u>10.13140/RG.2.2.29715.71202/2</u>, <u>http://vixra.org/abs/2006.0194</u>

23. Jarvis S. H. (2020), <u>Time-Space Wave-Mechanics</u>, DOI <u>10.13140/RG.2.2.10565.68320/3</u>, <u>http://vixra.org/abs/2007.0223</u>

24. Jarvis S. H. (2020), <u>Temporal Calculus (The Calculus of Time-points in Space)</u>, DOI: <u>10.13140/RG.2.2.15362.09929/3</u>, <u>http://vixra.org/abs/2008.0111</u>

25. Jarvis S. H. (2020), <u>Temporal Calculus: solving the "Yang-Mills Existence and Mass Gap" problem.</u>, DOI: <u>10.13140/RG.2.2.33774.43843/2</u>, <u>http://vixra.org/abs/2008.0226?ref=11562969</u>

26. Jarvis S. H. (2020), <u>Temporal Calculus: Time Scaling Space</u>, DOI: <u>10.13140/RG.2.2.28539.75043/2</u>, <u>https://vixra.org/abs/2009.0091</u>

27. Jarvis S. H. (2020), <u>Temporal Calculus: Resolving Elementary Particle Formation and Confinement</u>, DOI: <u>10.13140/RG.2.2.20191.07844</u>, <u>https://vixra.org/abs/2009.0177</u>

28. Jarvis S. H. (2020), <u>Temporal Calculus: Resolving Einstein's Theory of Relativity (Special and General)</u>, DOI: <u>10.13140/RG.2.2.12474.21447/1</u>, <u>https://vixra.org/abs/2010.0017</u>

29. Jarvis S. H. (2020), <u>Time and Non-Locality: Resolving Bell's Theorem</u>, DOI: <u>10.13140/RG.2.2.12651.98086 (researchgate.net)</u>, <u>https://vixra.org/abs/2011.0002</u>

30. Jarvis S. H. (2020), <u>Non-Local Time-Point Theory: Magnetic Quantum Shell (MQS) Modelling</u>, DOI: <u>10.13140/RG.2.2.11032.83206/2</u>