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Testing the Computational Unified Field Theory's (CUFT) 'Differential-Critical Prediction/s': The Higgs-Boson Particle May Not Exist Continuously!

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a) The existence of a basic "theoretical inconsistency" between the "pillars" of a given scientific discipline –i.e., the basic theoretical inconsistency that exists between RT & QM.
b) Existence of a series of "unexplained phenomena" which cannot be accounted for by the current Paradigm: the accelerated expansion of the physical universe is currently attributed to purel hypothetical "dark-matter" and "dark-energy" concepts (e.g., accounting for up to 85% of all mass and energy in the universe) – but they can't be verified empirically?!.

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TESTINGTHECOMPUTATIONALUNIFIEDFIELDTHEORYSCUFTDIFFERENTIALCRITICALPREDICTIONSTHEHIGGS-BOSONPARTICLEMAYNOTEXISTCONTINUOUSLY

Strictly as per the compliance and regulations of:

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Jehonathan Bentwich, Ph.D

I. Introduction

Twenty-first century Theoretical Physics in undergoing a major 'Paradigmatic Shift' due to the discovery of the 'Computational Unified Field Theory' (CUFT) – from the current 'Material-Causal' Paradigm underlying both 'Relativity Theory' (RT) and 'Quantum Mechanics' (QM) towards the CUFT's new 'A-Causal Computation' Paradigm; As shown previously, this 'Paradigmatic Shift' is warranted based on Kuhn's (1962) well-known rigorous scientific criteria for the acceptance of a 'Paradigmatic Shift' in Science, which includes:

a) The existence of a basic "theoretical inconsistency" between the "pillars" of a given scientific discipline – i.e., the basic theoretical inconsistency that exists between RT & QM.
b) Existence of a series of "unexplained phenomena" which cannot be accounted for by the current Paradigm: the accelerated expansion of the physical universe is currently attributed to purely hypothetical "dark-matter" and "dark-energy" concepts (e.g., accounting for up to 85% of all mass and energy in the universe) – but they can't be verified empirically?!
c) Identification- and empirical validation- of at least one "differential-critical prediction" of the new CUFT Model which significantly differs from the predictions of the 'Material-Causal' Paradigm underlying both RT and QM; Initial empirical validation for one of the CUFT's 'differential-critical prediction' was provided by Bernaur & Pohl (2014) "Proton-Radius Puzzle" (see below). Indeed, the goal of this article is to delineate several direct experimental methods for empirical validation of the CUFT's 'differential-critical predictions'.
d) Ideally, this new 'CUFT's' new 'A-Causal Computation' Paradigm will offer new insights, empirical predictions, and a broader theoretical framework going beyond the current strict 'Material-Causal' Paradigm of RT and QM: i.e., for instance its complete unification of 'space', 'time', 'energy' and 'space' within a single 'Universal Computational Formula' (see below), alongside its recognition of a singular ('computational invariant') 'Universal Computational/Consciousness Reality' (discussed below).

One of the intriguing new theoretical ramifications of this new *'A-Causal Computation'* Paradigm of the CUFT is that it stipulates that there cannot exist any "material-causal" relationships between any (two or more) exhaustive spatial pixels existing either in the same- or different USCF's frames (e.g., at either the relativistic or quantum levels). This is due to the CUFT's discovery of a new singular higher-ordered 'Universal Computational Principle' (UCP) which simultaneously computes every exhaustive spatial pixel in the universe –i.e., including its four basic physical features (of 'space', 'time', 'energy' and 'mass') constituting any single- or multiple- USCF's frame/s (at every minimal time-point: "c^2/h" = 1.45^{-42} sec'). This UCP's computation of those four basic physical features is based on two (out of three) UCP's 'Computational Dimensions': "Framework" ('frame' vs. 'object'), and "Consistency" ('consistent' vs. 'inconsistent'), e.g., with 'space' and 'energy' – representing the UCP's 'frame' – 'consistent' vs. 'inconsistent' measures, and 'mass' and 'time' representing the UCP's 'object' – 'consistent' vs. 'inconsistent' measures (Figure 1). The key point to be noted is that "in-between" any two consecutive USCF's frames there doesn't exist any physical universe (but only the singular Universal Computational Principle). Furthermore, the CUFT's "Computational Invariance Principle" reasons that since this 'Universal Computational Principle' (UCP) represents a '*computationally-invariant*' principle, i.e., as it exists singularly both "during" its sole computation of each exhaustive spatial pixel of any (single or multiple) USCF's frame, and also solely exists "in-between" any two such consecutive USCF's frames; whereas those four physical features (of 'space', 'energy', 'mass' and 'time') are regarded as "*computationally-variant*" since they exist only "during" each consecutive USCF's frame (as solely computed by the UCP) but cease to exist "in-between" any two consecutive USCF's frames; therefore,

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the 'Computational Invariance Principle' reasons that only this 'computationally-invariant' UCP may be regarded as 'permanent' and 'continuous' whereas the four basic physical features may only be regarded as 'phenomenal' and 'transient'…

Finally, another key accomplishment of the CUFT is its full integration – not only of Relativity Theory and Quantum Mechanics, but also of these four basic physical features of 'space', 'time', 'energy' and 'space', e.g., within a singular 'Universal Computational Formula':

Universal Computational Formula (Ucf)

$$\frac{c^2}{h} = \frac{s}{t} \cdot \left[\frac{e}{m}\right]$$

Note worthy is this UCF's (Relativistic & Quantum) Representations' replication (and transcendence) of all major RT and QM laws and relationships, e.g., including the 'Mass-Energy Equivalence' and Heisenberg's 'Uncertainty Principle' 'Complimentary Pairs' accuracy constraint:

1) Relativistic Representation: $e \times s = m \times c^2$
2) Quantum Representation: $\frac{t\, mc^2}{h} = s\, e$

Several far-reaching theoretical ramifications were derived from the discovery (and initial empirical validation) of the CUFT:

a) Based on the CUFT's 'A-Causal Computation' (ACC) Paradigm's assertion regarding the impossibility of the existence of any "material-causal" physical relationships between any two (or more) exhaustive spatial pixels (e.g., existing either in the same- or different- USCF/s frame/s) at the quantum or relativistic levels, the CUFT's negated the "Big-Bang" Model which assumes that it was an initial "nuclear explosion" which "caused" the origination of "matter", "energy", stars, galaxies etc..
b) Similarly, the new 'ACC' Paradigm's principle negation of any 'material-causal' physical relationships between any (two or more) exhaustive spatial pixels comprising the physical universe (at any single- multiple- USCF's frames) – was shown to negate the existence of the (purely hypothetical concepts of) "dark-matter" and "dark-energy"! This is due to the ACC Paradigm's negation of any 'material-causal' relationship assumed to exist between "dark-matter" or "dark-energy" and the accelerated expansion of the physical universe; Instead, the CUFT's new 'ACC' Paradigm explains this accelerated expansion of the physical universe as arising from an accelerated increase in the number of exhaustive spatial pixels comprising any consecutive USCF's frame/s.
c) The CUFT's new 'ACC' Paradigm was also shown to challenge both RT's and QM's current 'Material-Causal' Paradigm manifesting in RT's "Einstein's Equations" and QM's 'Probabilistic Wave Interpretation': this is because in RT it is assumed that it is the direct physical interaction between a "massive-object" and 'space-time' which "causes" the "curvature of space-time", and conversely that it is the direct physical interaction between this "curved space-time" which "causes" those (and other) "massive-objects to travel in particular travelling pathways"; But, since the new 'A-Causal Computation' Paradigm clearly negates the possibility of the existence of any such 'material-causal' physical interactions between any (two or more) exhaustive spatial pixels in the physical universe (e.g., once again due to the UCP's simultaneous computation of all exhaustive spatial pixels at any single or multiple USCF's frames); therefore the CUFT challenges RT's' Einstein Equations'; Similarly, the new 'ACC' Paradigm (of 21st century Physics) challenges QM's assumed "collapse" of the subatomic 'target's' probability wave-function as "caused" by its direct physical interaction with another subatomic 'probe' element; Instead, the ACC new Paradigm postulates that the singular UCP simultaneously computes every exhaustive spatial pixel in the universe giving rise to the appearance of the "curvature of space-time" associated with presence of "massive objects" – that is not due to any 'material-causal' physical relationship/s between such 'massive objects' and 'space-time', but rather arises from the UCP's intrinsic computational properties, e.g., of certain USCF's regions characterized as "high-energy, low mass" as opposed to other USCF's regions characterized as "low-energy, high-mass)…

Instead, the emerging new picture of the universe is one which is continuously being computed- "dissolved"- re-computed- and evolved- e.g., at every consecutive minimal time-point: "c^2/h"$=1.45^{-42}$ sec' USCF's frame/s… Hence, also the CUFT's new 'A-Causal Computation' Paradigm's conception of "mass" – as "caused" by the Higgs-boson particle, e.g., through its direct physical interaction with all other basic particles is challenged (and in fact negated) by this new Paradigm in 21st Century Theoretical Physics: This is because if we are to reject the basic possibility of the existence of any 'material-causal' physical relationship/s (or even interactions) between any (two or more) exhaustive spatial-pixels (existing either in the same- or different- USCF's frames), due to the simultaneous computation of the UCP of every exhaustive spatial pixel in the universe (in any single- or multiple- USCF's frame/s) – then there cannot exist any physical interaction between the 'Higgs-boson' particle and any other subatomic particle (once again at any single- or multiple- USCF's frame/s)… Also, viewed from the

CUFT's 'Universal Computational Formula' perspective, the "mass" (as well as the 'space', 'energy' and 'time') physical feature of any given 'Higgs-boson' particle or indeed of any other particle – is computed solely based on the UCP's computation of that particle's "object-consistent" values (as shown above and previously):

$$M\text{:}\ \Sigma[oj\{x,y,z\}\ [USCF(n)] = o(i\ldots j\text{-}1)\ \{(x), (y), (z)\}\ \{USCF(i\ldots n)\} / h * n\{USCF's\}$$

such that

$$[oi\{x,y,z\}USCF(n)] - [oi\{(x+j),(y+j),(z+j)USCF(1\ldots n)] \leq n * h[USCF(1\ldots n)]$$

Where in the 'mass' value of an object is computed based on a measure of the number of times an "object" is presented "consistently" across a series of USCF's, divided by Planck's constant.

Therefore, the "mass" of any given particle is not "caused" by its direct physical interaction with the 'Higgs-boson' particle – i.e., as such subatomic physical ('material-causal) interactions are negated by the UCP's *simultaneous* computation of all exhaustive spatial pixels in the universe (at any single or multiple USCF's frame/s); Rather, it is solely and singularly being computed (at every minimal time-point consecutive USCF's frame) by the singular reality of the UCP (for each exhaustive spatial pixel/s in the universe at any such consecutive USCF's frame/s).

We therefore find ourselves in an "awkward" theoretical situation in which the conception of "mass" (e.g., of an object or of a particle) is described in almost "*antithetical*" manners by the prevailing RT's and QM's conceptions – as opposed to its computation by the CUFT's This is because in Relativity Theory "mass" constitutes an intrinsic "continuous-constant" physical property of objects (or particles) which "causes" a curvature of 'space-time'; In Quantum Mechanics, the measurement of the "mass" of any subatomic 'target' particle is contingent upon its direct physical interaction with another subatomic 'probe' element which is assumed to "cause" the "collapse" of that 'target's' (assumed) "probability wave-function" due to its direct physical interaction with another subatomic 'probe' element; In contrast, according to the CUFT, the "mass" of any given particle is computed solely based on the UCP's computation of that particle's degree of "consistent" spatial presentations (across a series of USCF's frames); Moreover, the CUFT negates the very possibility of the existence of any such 'material-causal' quantum or relativistic physical interactions, e.g., associated with the determination of "mass". This contrast between RT's and QM's and the CUFT's conception of "mass" is particularly striking when we take into consideration a few particular "differential-critical predictions" postulated by the CUFT as clearly differentiating it from the corresponding predictions of both RT and QM:

It was previously predicted by the CUFT that if we are to compare the appearances of a 'massive' vs. a 'less-massive' subatomic particle (across a series of USCF's frames) we expect to obtain that the 'more massive particle' would appear more spatially-consistent" across a given series of USCF's frames: This means that: a) the 'more-massive' particle was predicted to be measured at a greater number of USCF's frames than the 'less-massive' particle; b) its measurement should be spatially more "consistent", i.e., its spatial measurement should occupy a "smaller size" than the 'more-massive' particle; and c) its spatial measurement accuracy should be greater than the spatial measurement accuracy of the 'less-massive' particle; Intriguingly, an initial empirical validation for this CUFT's 'differential-critical prediction regarding the more consistent spatial presentation of the more massive Muon particle relative to the electron particle was given by Bernaur & Pohl (2016); they found that the nucleus of a Hydrogen nucleus that is encircled by a negatively charged Muon (which is approximately 100 times more massive than the electron) is found to be approximately 100 times smaller (and its measurement is 100 times more precise) then the radius of the equivalent Hydrogen nucleus which is encircled by the electron particle. This greater "spatial-consistency" of the radius of a Hydrogen nucleus into which a Muon particle sinks relative to the measurement of an equivalent Hydrogen atom that is encircled by an electron, e.g., manifesting as the Muon-Hydrogen Nucleus' (100 times) smaller radius and more accurate measurement precisely confirms the above mentioned CUFT's 'differential-critical prediction': this is because according to the CUFT, the "mass" of any given particle is computed by the 'Universal Computational Principle' (UCP) as a measure of the degree of "consistency" of that particle ('object') across a series of USCF's frames; Obviously, according to this 'computational-definition' of 'mass' (as computed by the UCP at every minimal time-point "c^2/h" $= 1.45^{-42}$ sec') the more massive a particle is measured to be the greater its "spatial-consistency", e.g., its spatial size and its spatial accuracy (of measurement). Therefore, Bernaur & Pohl's (2014) "Proton-Radius Puzzle' indicating that Hydrogen-Muon Nucleus is measured as 100 times smaller (and more accurate) than its equivalent Hydrogen Nucleus encircled by an electron (which is 100 times lighter in its mass than the Muon particle) precisely confirms one of the CUFT's 'differential-critical prediction'.

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It may be said that these "Proton-Radius Puzzle" findings confirm to a large degree several aspects of the abovementioned (and previous) 'differential-critical prediction' of the CUFT, as they indicate that the more massive Muon particle is measured as "spatially more consistent" than the less massive particle, i.e., both in its "proton-radius size" and its "spatial measurement accuracy" (e.g., confirming 'b' and 'c' above aspects of the CUFT's differential-critical prediction). Indeed, the purpose of this article is to test the CUFT's new conception of "mass" as representing the UCP's computation of an "object-consistent" measure" (as shown above).

Specifically, the aim of this article is to test three 'differential-critical predictions' of the CUFT associated with its UCP's (abovementioned) computation of 'mass', which differentiate it from the corresponding predictions of both RT and QM:

a) Test the CUFT's 'differential-critical' prediction that "more-massive" particles would appear across a greater number of USCF's frames than a "less-massive" particle, i.e., above and beyond the expected increase in the quantum measurement of more massive particles relative to less massive particles.

b) Test the CUFT's 'differential-critical prediction' that any given subatomic particle cannot be measured "in-between" any two consecutive USCF's frames (e.g., due to the complete "dissolution" of all exhaustive spatial pixels constituting any given USCF's frame "in-between" any two consecutive USCF's frames); Perhaps most significant (in this regard) is to demonstrate that the 'Higgs-boson' particle "doesn't' exist", i.e., cannot be measured "in-between" any two consecutive USCF's frames as the 'Higgs' particle is currently assumed to impart "mass" to all other subatomic particles: If indeed, it will be shown empirically that the Higgs particle doesn't exist continuously "in-between" any two consecutive USCF's frames, then this would imply that all other particles do not exist "in-between" any two consecutive USCF's frames, thereby substantially validating the CUFT as the new satisfactory 'A-Causal Computation' Paradigm (of 21st century Physics)..

II. Method

Therefore, the proposed method for testing these three 'differential-critical predictions' comprises of several different experiments that can verify each of these predictions:

a) Test the CUFT's 'differential-critical' prediction whereby a *"more-massive" particle would appear across a greater number of USCF's frames relative to a "less-massive" particle*; at least two experimental embodiments for verifying this 'differential-critical prediction' are hereby suggested

1) *Testing CUFT's "Less Temporal Measurements of Less Massive Particles" Prediction*: Contrasting between the number of "fine-temporal measurements" (e.g., see below their mathematical calculation) in which a 'more massive particle' would be detected relative to a "less-massive" particle (across the same given number of such fine-temporal measurements): It is suggested to test the CUFT's 'differential-critical prediction' regarding the appearance of the 'more massive particle' at a significantly greater number of 'fine-temporal measurements' than the 'less massive particle' (across the given number of 'fine-temporal measurements'); Specifically, in order to test this 'differential-critical prediction' of the CUFT it is necessary to contrast the number of 'fine-temporal measurements' in which the 'more-massive' 'Muon' relative to the number of 'fine-temporal measurements' in which the 'less-massive' electron particle would be detected. A key point to be note is that the temporal resolution of most accelerators is far less "sensitive" than the hypothesized rate at which the Universal Computational Principle (UCP) computes the series of USCF's frames, i.e., "c^2/h"$=1.45^{-42}$ sec' – with certain accelerators reaching almost the speed of light "c = 3.33^{-6} sec' (e.g., regarded as the 'fine-temporal measurements' accuracy level in this experiment), producing a magnitude difference of x^{-36} sec'; Nevertheless, it is suggested that even if we opt to sample temporal measurements at such a "decreased" temporal resolution (below) the speed of light "c = 3.33^{-6} sec', e.g., in effect sampling a significantly decreased temporal accuracy level (e.g., x^{-36} sec' decreased magnitude of accuracy relative to the rate at which the Universal Computational Principle (UCP) computes the series of USCF's frames (i.e., "c^2/h"$=1.45^{-42}$ sec')) ; we can still expect that the "more massive electron"(relativistic accelerated) particle would appear at a greater percentage of these "c = 3.33^{-6} sec' samplings relative to the number of (decreased accuracy) time-samplings in which the electron would be detected. As stated above, in calculating the CUFT's 'differential-critical prediction' regarding the significantly smaller number of 'fine-temporal measurements' in which the 'electron' particle would be detected relative to the number of such 'fine-temporal points' in which the 'electron' may be measured, we need to correct for the known subatomic (quantum theory related) bias towards a slightly "easier" measurement of such 'more-massive' 'Muon' particle relative to the measurements of a 'less massive' 'electron' particle;

In other words the CUFT's 'differential-critical prediction' regarding the significantly greater 'fine-temporal measurements' (FTM) at which the 'more massive' Muon (M) would be detected relative to the number of equivalent 'fine-temporal measurements' at which the 'less-massive' electron (e) particle would be detected should subtract the "quantum measurement bias" (QMB) towards a more 'sensitive temporal measurement' of more massive particle:

$$FTM(M) – QMB > FTM(e)$$

2) A second (almost equivalent) experimental procedure geared towards testing this 'differential-critical prediction' regarding the detection of a 'more-massive' particle at a significantly greater 'fine-temporal-measurements' relative to the detection of a 'less-massive' particle (measured across the same number of 'fine-temporal measurements), involves the acceleration of a beam of electrons – to two significantly different velocities (relative to the speed of light); The proposed experimental design involves utilizing a special Accelerator which can accelerate a beam of electrons at varying velocities up to 99% of the 'speed of light': given the fact that the more accelerated electrons (relative to the speed of light) are, the greater is their "mass" value, we propose to construct an experimental design wherein the beam of electrons would be accelerated to two significantly different levels: a) electrons that will be accelerated to 99% of the speed of light and hence their "mass" value would increase considerably (possessing a "high-mass value", 'HMV'; and b) a condition in which the beam of electrons would only be accelerated to roughly 10% of the speed of light, therefore possessing a relatively "lower mass value", 'LMV'). Once again, it is suggested that the number of 'fine-temporal measurements' (FTM) in which the 'high-mass value electron' (HMV-e) would be measured (across a given number of FTM) would be significantly higher than the number of FTM in which the 'low-mass value electron' (LMV-e) would be measured (e.g., excluding the above mentioned "quantum measurement bias" 'QMB'):

$$FTM(HMV-e) – QMB > FTM(LMV-e).$$

b) *Test the CUFT's Non-Continuous Temporal Existence of the 'Higgs-boson' Prediction*

Namely, test the experimental hypothesis wherein the Higgs-boson particle cannot be detected "in-between" any two consecutive USCF's frames: As discussed above, despite the far less "time-sensitive" measurements enabled by an Accelerator (e.g., which can only conduct measurements that are below the speed of light: "c = 3.33^{-6} sec'), which represent a decreased temporal measurement accuracy in the magnitude of x^{-7}sec' relative to the Universal Computational Principle's (UCP) rate of computing the series of USCF's, "c^2/h"=1.45^{-42} sec'; Nevertheless, it is hypothesized that it may still be possible to detect the "non-existence" of the Higgs-boson particle "in-between" any two consecutive USCF's frames; However, in order to be able to adjust the measurement of a "Mid-Point" (MP) "in-between" any two consecutive USCF's frames (which involves measurements in the magnitude of "c^2/h"=1.45^{-42}) by a given Accelerator that can only measure a minimal 'fine-temporal measurement' (FTM) in the magnitude of "c = 3.33^{-6} sec', it is necessary to carry out several (computational and experimental) steps, which include:

1) *Compute the precise "Accelerator's Temporal Sampling-Ratio" (ATSR)*

Compute the above "fine-temporal measurement" (FTM) divided by the "Universal Computation Rate" (UCR) (e.g., the Universal Computational Principle's 'UCP' rate of computing the series of USCF's frames: "c^2/h"=1.45^{-42} sec'):

$$ATSR = FTM/UCR$$

This (Accelerator-specific) 'ATSR' value provides us with a measure of the precise sampling ratio that exits between the 'Universal Computational Rate' (UCR) (the rate at which the 'Universal Computational Principle' UCP computes every consecutive USCF's frame/s) and the (far-less sensitive) 'fine-temporal measurement' (FTM) rate at which the specific Accelerator measures:

2) Measure the presence of a 'Higgs-boson' particle at a given time "ti".

3) Calculate the "Mid-Point" between this given "ti1" USCF frame and its subsequent "ti2" USCF's frame (USCF-MP-ti{1.5})

$$USCF\text{-}MP\text{-}ti\{1.5\} = USCF\text{-}ti2 - USCF\text{-}ti1 / 2$$

4) Calculate the "Accelerator-Detectable Mid-Point" (ADMP)

Adjust this calculated USCF-MP-ti{1.5} based on the Accelerator-specific 'ATSR' in order to "capture" this USCF-MP-ti{1.5} by the "decreased" FTM of the given Accelerator; to accomplish this we simply need to multiply the calculated USCF-MP-ti{1.5} by the Accelerator (specific) ATSR value

$$ADMP = USCF\text{-}MP\text{-}ti\{1.5\} * ATSR$$

This ADMP (Accelerator-specific) value provides us with a calculation of the precise (measurable) time-point at which the given Accelerator can "detect" the 'Mid-Point' between any such given two consecutive (USCF-ti1 and USCF-ti2) USCF's frames (e.g., due to its "synchronization" of a precise cyclic number of USCF's frames' that elapse from an initial detection of a given

USCF's Higgs-boson particle existence – with the 'Accelerator's Temporal Sampling-Ratio' ATSR, to provide the precise Accelerator-Detectable Mid-Point, ADMP).

5) In fact, due to the reoccurrence of such a 'temporal mid-point' (TMP) between every two consecutive USCF's frames

USCF-MP-**ti{x}**{1.5} = USCF-ti{n+1} - USCF-ti{n} / 2

It is also possible to measure a "Reoccurring Detectable Mid-Point" (RDMP) thus:

RDMB = USCF-MP-**ti{x}**{1.5} * ATSR

6) We can now test the CUFT's "Non-Continuous Temporal Existence of the 'Higgs-boson" Prediction by trying to measure at any such given RDMP for the existence of the Higgs-boson particle.

7) Moreover, in order to fully validate this second 'differential-critical prediction' of the CUFT, e.g., regarding the "Non-Continuous Temporal Existence of the 'Higgs-boson Particle' we now focus on detecting the (same) Higgs-boson particle in the precise (Accelerator-detectable) time-points at which the UCP computes each consecutive USCF's frame/s; (This is based on the CUFT's stipulation that the UCP computes an extremely rapid rate of "c^2/h" = 1.45^{-42} sec' of consecutive USCF's frames, including all of their exhaustive spatial pixels comprising the entire physical universe at every minimal time-point USCF's frame/s – which completely "dissolve" "in-between" any two such consecutive USCF's frames, and is then "re-produced" in the consecutive USCF's frame/s by the UCP.) Therefore, in order to "capture" this UCP's stipulated "re-production" of the Higgs-boson particle with each consecutive USCF's frame/s we construct the experimental design to aim measuring those FTM measurements occurring at precisely each "Detectable Recurring USCF's" (DR-USCFs):

DR-USCFs = USCF-ti{x} = USCF-ti{i..n} * ATSR

Indeed, according to this CUFT's second 'Non-Continuous Temporal Existence of the 'Higgs-boson" Prediction, it is predicted that if we alternate between measurements of "Detectable Recurring USCF's" (DR-USCFs) – in which the 'Higgs-boson' particle can be detected, and measurements of "Reoccurring Detectable Mid-Point/s" (RDMP) – in which the 'Higgs-boson' particle cannot be detected; we may reach the inevitable conclusion that the Higgs-boson particle may not exist "continuously"… More significantly, since the Higgs-boson particle is currently assumed to impart "mass" to all other subatomic particles, then to the extent that it may be shown empirically to "not-exist" "in-between" any two consecutive USCF's frames, then this implies that no other subatomic particle/s can "exist" – "in between" any two consecutive USCF's frames!

c) Test" Non-Continuous Temporal Existence of Other Subatomic Particles" Prediction

Indeed, to the extent that the above empirical testing of the "non-existence" of the 'Higgs-boson' particle "in-between" any two consecutive USCF's frames would be verified experimentally, this would lead to a broader testing of the "non-existence" of other subatomic particles "in-between" any two consecutive USCF's frames (e.g., based on the above mentioned 'fine temporal measurement' (FTM) which is adjusted to the Accelerator's ATSR; at least two different "embodiments" (experimental design and set-up) that can test this new intriguing 'differential-critical prediction'

1) Utilizing any given Accelerator to test for the "dissolution" of various subatomic particles "in-between" any two consecutive USCF's frames and their "re-production" at any consecutive USCF's frame/s (based on an equivalent experimental design as listed above – adjusted to the given Accelerator's specific ATSR value as explained above).
2) Utilizing the above mentioned special Accelerator capable of accelerating electrons up to the "speed of light", we can use the same (above mentioned) methodology to calculate the Accelerator's ATSR and RDMB, DR-USCFs which would allow for an empirical testing of the UCP's "production"- "dissolution"- and "re-production"- of differentially accelerated electrons (which possess different masses).

Needless to say that to the extent that these CUFT's differential-critical predictions would be validated empirically this may bear potentially far-reaching theoretical ramifications in terms of its validation of the CUFT's new 'A-Causal Computation' Paradigm, as well as impart theoretical validity to the CUFT's broader conception of the physical universe as being solely computed- "dissolved" (e.g., "in-between" any two consecutive USCF's frames)- and re-produced- by the singular 'Universal Computational Principle' (UCP) with every consecutive USCF's frame/s that it produces.

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