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By Dr. Jehonathan Bentwich, Ph.D.

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Abstract- Twenty-first century Theoretical Physics is undergoing a major 'Paradigmatic-Shift' from the old 'Material-Causal' Paradigm underlying both Relativity Theory (RT) and Quantum Mechanics (QM) to the New 'Computational Unified Field Theory's (CUFT) 'A-Causal Computation' (ACC) Paradigm'; The ACC Paradigm has been shown capable of replicating all major RT & QM laws and phenomena, while challenging and revising key assumptions of the old 'Material-Causal' Paradigm including: the "Big-Bang" Model, RT's "Einstein's Equations", the "Second Law of Thermodynamics", the possibility of "Time-Reversal" and transcending the "Speed of Light" barrier, etc. Initial empirical validation for the CUFT's new ACC Paradigm was given through the "Proton-Radius Puzzle" associated findings. This article sets to test directly two "time-sensitive" "critical –predictions" of the CUFT involving a Cosmological measurement of the "Non-Continuous Accelerated Expansion of the Universe" (NCAEU) predicted to occur around the Jewish "Rosh Hashanna" (New Year) due to the postulated effect of a "Collective Human Consciousness Focus" (CHCF) upon the CUFT's discovered "Universal Computational/Consciousness Principle" (UCP) which computes every exhaustive spatial pixel in the universe at the incredible rate of " $c^2/h = 1.36^{50}$ sec!"; and a Subatomic Accelerator "Fine-Temporal Measurement" (FTM) of the CUFT's predicted greater number of times that a relatively "more massive" Muon particle would be detected than a "less-massive" electron particle across a given number of such FTM. An urgency for the measurement of the NCAEU CUFT's prediction (by October 18th, 2019) calls for an immediate validation of this CUFT's 'critical-prediction' which may establish the CUFT as the new Paradigm for 21st century Physics.

Note: due to the significant "time-sensitive" interval for empirical validation of the CUFT's "critical prediction" centered around the upcoming Jewish "Rosh Hashanna" time interval, Astronomers, Cosmologists, of other Accelerator or Experimental Physicists interested in communicating and transferring their data regarding the empirical testing of this very significant verification of the CUFT should communicate directly with Dr. Bentwich via e-mail.

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I. INTRODUCTION: THE CUFT'S PARADIGMATIC SHIFT IN 21ST CENTURY PHYSICS

Twenty-first Theoretical Physics has reached a point akin to the state of Physics over 100 years ago prior to Einstein's 1905 and 1915 'Paradigmatic Shift' brought about by his New Relativity Theory: The two primary pillars of 20th century Physics namely: Relativity Theory (RT) and Quantum Mechanics (QM) seem theoretically "inconsistent", and none of them is capable of explaining a series of unexplained "Physical Conundrums", including: the inability to detect the (purely hypothetical concepts of) "dark-matter" or "dark-energy", which are assumed to account for up to 95% of all "matter" and "energy" in the universe! Such a condition calls for a 'Paradigmatic-Shift' as defined by Thomas Kuhn (1961) in his famous analysis of the "Structure of Scientific Revolutions": Indeed, to the extent that a "NewParadigm" can be found which can resolve the principle theoretical inconsistency that seem to exist between RT & QM, which can explain such 'dark-matter', 'dark-energy' Physical Conundrums and which can predict new unique "critical-predictions" that can be tested experimentally and which can differentiate this "New Paradigm" from the Old "Material-Causal" Paradigm of RT and QM, then this would satisfy Kuhn's criteria for such a 'Paradigmatic Shift' in 21st century Theoretical Physics! Fortunately, such a 'New Paradigm' has been discovered recently (Ref??) called the "A-Causal Computation" Paradigm of a new "Computational Unified Field Theory" (CUFT) which was shown thus far to satisfy two (out of three) of Kuhn's criteria, namely: a) to resolve the apparent "theoretical inconsistency" that seem to exist between RT & QM. And b) explain – i.e., "negate" the existence of "dark-matter" or "dark-energy" based on the discovery of a singular higher-ordered Universal Computational/Consciousness Principle which computes every exhaustive spatial pixel comprising the entire physical universe many billions of times per second (e.g., calculated through " $c^2/h = 1.36^{50}$! per

second!) Therefore, the final step necessary for "validating" this new CUFT's ACC Paradigm as the New Paradigm for 21st century Physics is to experimentally test at least one "critical-prediction" of the CUFT which clearly differentiates it from the (corresponding) predictions of either RT or QM – which is called for in this article:

But, prior to describing the precise specifications of two such "critical predictions" unique to the CUFT, let us briefly explain in which way was the CUFT capable of satisfying the two first abovementioned criteria of Kuhn's 'Paradigmatic Shift' – as well as describe initial empirical evidence for the satisfaction of an initial (indirect) unique prediction of the CUFT which was already validated through the "Proton-Radius Puzzle" associated findings (Bernaur& Pohl, 2014???)⁵⁰; First, the CUFT was able to resolve the apparent "theoretical inconsistency" that seemed to exist between RT & QM, related to RT's apparently "causal-local" vs. QM's "non-local, non-causal" theoretical perspectives associated with the phenomenon of "quantum entanglement": according to Relativity Theory there must exist a "causal" connection between one ("local") physical event taking place at a certain point in "space-time" and the transmission of a signal from that ("first") event to any ("second") point in 'space-time'. However, in Quantum Mechanics, the "Quantum-Entanglement" phenomenon seems to indicate that a measurement of one "entangled-particle" seems to affect "instantaneously" its other "entangled-particle" (which was once before connected with the 'first entangled particle') – thereby "violating" RT's strict insistence upon the elapsing of time associated with the transmission of a signal between the location of the first "entangled particle" and the second "entangled particle"; The way in which the CUFT was shown to resolve this apparent principle "contradiction" between RT and QM is through its broader computational theoretical framework associated with the (abovementioned) singular higher-ordered Universal Computational/Consciousness Principle which simultaneously computes every exhaustive spatial pixel in the universe – for each consecutive "Universal Frame" (computed at the incredible rate of $\frac{c^2}{h} = 1.36^{50}$ per second!). The basic idea is that this singular higher-ordered UCP's simultaneous computation of all exhaustive spatial pixels (in the universe) includes its computation of "single spatial-temporal" "particle" elements – which are embedded within the UCP's broader "multi-spatial-temporal" "wave" configurations, that all (e.g., both "particle" and "wave" elements) comprise integral components of the UCP's (simultaneous) computation of each (consecutive) Universal Frame/s. In this manner, the CUFT's new 'ACC' Paradigm explains the physical properties of any subatomic "particle" ('single spatial-temporal' computation) – as comprising integral elements of the (broader)"wave" ('multiple spatial-

temporal' computation. Furthermore, based on the CUFT's new 'ACC' Paradigm and associated 'Universal Computational Formula' – which integrates the four basic physical properties of 'space', 'energy', mass' and 'time' as representing this singular Universal Computational/Consciousness Principle (UCP) computations of "frame"- "consistent" or "inconsistent", or of "object" – "consistent" vs. "inconsistent" measures (of each exhaustive spatial pixel comprising the entire Universal Frame/s; the CUFT's new 'ACC' Paradigm is able to explain the "quantum-entanglement" phenomenon as representing the UCP's (singular) simultaneous computation of "equivalent" 'single spatial-temporal' ("particle") points along the broader 'multi spatial-temporal' ("wave") configuration – i.e., rather than as resulting from any "material-causal" physical interaction between the two "entangled-particles"! (Additionally, this new CUFT's ACC Paradigm's explanation also "deciphers" QM's Heisenberg's "Uncertainty Principle" 'complimentary pairs' as representing exhaustive complimentary computational measures of the UCP's 'frame' – 'consistent' (space) or 'inconsistent' (energy), or 'object' – 'consistent' (mass) or 'inconsistent' (time), rather than stemming from any such "material-causal" direct physical interactions between the subatomic "probe" and "target" elements which is assumed to "cause" the "collapse" of the "probability wave function"!)

Second, the CUFT's new 'ACC' Paradigm is shown to resolve the 'Physical Conundrum' of "dark-matter" and "dark-energy" based on its alternative explanation of the accelerated expansion of the physical universe: Succinctly stated, the CUFT's new ACC Paradigm hypothesizes that the accelerated expansion of the physical universe arises as a result of the singular UCP's simultaneous computation of each exhaustive spatial pixel comprising the entire physical universe (for each 'Universal Frame')– wherein this UCP's computation adds an "increased" number of such exhaustive spatial pixels for each Universal Frame! In other words, the empirically observed accelerated expansion of the physical universe is "caused" – not by the existence of any (purely hypothetical) "dark-matter" or "dark-energy" (which could not be detected experimentally despite numerous attempts to detect this "dark-matter", "dark-energy" elements), but rather arises from the UCP's (singular higher-ordered) simultaneous computation of all exhaustive spatial pixels in the universe wherein the UCP adds an "increased" number of such exhaustive spatial pixels each time that it computes another consecutive Universal Frame... It should be noted that this new CUFT's "A-Causal Computation" Paradigm's alternative explanation of the accelerated expansion of the physical universe (e.g., "discarding" or "negating" the existence of "dark-matter" or "dark-energy") is closely tied with one of its unique "critical-predictions" differentiating it from the

(corresponding) predictions of both RT and QM (which will be delineated further on in this article) – i.e., the CUFT's 'critical-prediction' regarding the "non-continuous" accelerated expansion of the physical universe – at the time of the Jewish People's "Collective Consciousness Focus" "Rosh-Hashanna" (Jewish New Year)!? This is because according to the CUFT's new 'A-Causal Computation' Paradigm, the singular (higher-ordered) 'Universal Computational/Consciousness Principle' (UCP) is not "bound" (or "constrained") by any "material-causal" physical laws, but is rather "motivated" based on its "Ten Laws of Hierarchical Manifestation" – i.e., with one of them being its "All-Goodness" characterization; and an additional feature of this UCP's operation being the "Collective Human Consciousness Focus Hypothesis", e.g., stating that Human Consciousness possesses a unique potential to "interact" or "affect" this singular higher-ordered Universal Computation/Consciousness Principle (or "Universal Consciousness Reality"), through its "Collective Consciousness Focus" state: it was hypothesized that at those special times in which a large segment of human-beings are intensively focused (unitarily) in their Consciousness upon "praying" or "communicating" with this singular Universal Consciousness Reality, then this can in fact affect this UCR's simultaneous computation of all exhaustive spatial pixels in the universe – leading to the accelerated expansion of the entire physical universe at the "Jewish Rosh Hashanna"! It should perhaps also be mentioned that this 'A-Causal Computation' new Paradigm of the CUFT is also closely related to its previous challenging of a series of key assumptions underlying the Old "Material-Causal" Paradigm (of RT and QM), including: challenging the "Big-Bang" Model, Einstein's Equations, and the 'Second Law of Thermodynamics', because all of them are based on the basic "material-causal" assumption which assumes that it is based on the direct physical interactions between a finite number of constituting physical elements – that we can explain the "creation" of the physical universe (e.g., through an initial "nuclear explosion") or its evolving dynamics (i.e., based on the curvature of space-time by massive objects and conversely the determination of those massive objects travelling pathways based on this 'curved space-time' etc.), or the assumption that this physical universe increases its level of "entropy" as "caused" by the direct physical interactions between all of its constituting elements (along the progression of time)... However, all of these "material-causal" "models" and "laws" are negated by the CUFT's new 'A-Causal Computation' Paradigm due to its discovery of the singular (higher-ordered) Universal Computational/Consciousness Principle which simultaneously computes all exhaustive spatial pixels in the universe, therefore negating the very possibility of the existence of any such 'material-physical' causal interactions!

Third, an initial empirical verification of a closely related 'critical-prediction' of the CUFT's new 'A-Causal Computation' Paradigm was provided by the "Proton-Radius Puzzle" findings: Succinctly stated, one of the 'critical-predictions' of the CUFT (differentiating it from the predictions of both RT & QM) was its prediction that relatively "more massive" particles (such as the "Muon") would be computed by the Universal Computational/Consciousness Principle (UCP) as more "spatially-consistent" relative to "less massive" particles (such as the electron – i.e., both negatively charged) across a given series of Universal Frames. This is due to the UCP's computation of the "mass" of any given particle as the degree of "object-consistent" measure across a given number of Universal Frames; Indeed, the computation of the "mass" of a given particle as the degree of "object-consistent" spatial presentations across a given number of Universal Frames possesses two (empirical and theoretical) ramifications: a) one "critical prediction" stemming from of this new CUFT's UCP definition of "mass" – as the degree of 'object-consistent' spatial computation – is that a relatively 'more massive' particle (such as the 'Muon') would be measured as "more spatially consistent" across a given number of Universal Frames, than a 'less massive' particle (such as the electron)! This essential 'critical prediction' was empirically verified through the "Proton-Radius Puzzle" findings (which I am explaining here briefly) And b) another 'critical prediction' arising from the CUFT's new UCP computational definition of "mass" as the degree of "object-consistent" spatial presentations of any given particle across a series of Universal Frames – is that such 'more massive' particles (such as the Muon) would appear across a greater number of Universal Frames, relative to the appearance of 'less massive' particles (such as the 'electron') that would appear across a lesser number of Universal Frames! (This additional 'critical-prediction' would be "called for testing" later on in this article – as one of the "critical-predictions" that can directly validate the CUFT as the satisfactory New 'A-Causal Computation' Paradigm for 21st century Physics!) With regards to the first (a) abovementioned 'critical-prediction' of the CUFT the 'Proton-Radius Puzzle' findings (indirectly) verified this 'critical prediction': The 'Proton-Radius Puzzle' relates to a situation in which the Nucleus size of a (standard) Hydrogen Atom (which is being encircled by an 'electron') is being measured – and compared to a situation in which the electron of such a Hydrogen Atom is being "replaced" by a (100 times more massive) 'Muon' particle; The findings of the "Proton-Radius Puzzle" were that the diameter of a Hydrogen Proton were found to be a 100 times larger, and the precision of the measurement is also 100 more accurate – when it is accompanied by the Muon particle (which "sinks" into the Proton), relative to when it is surrounded by the electron particle!? But note that these findings precisely

conform to the above mentioned (a) "critical prediction" of the CUFT! This is because this (a) 'critical –prediction' of the CUFT predicted that the "spatial-consistency" of a relatively 'more massive' particle (such as the Muon) would be greater than that of a 'less massive' particle (such as an electron) – which manifested in the 100 times more (spatially-consistent) smaller- and more accurate- measurement of the Muon-Proton diameter than of the Proton encircled by the (100 times "lighter") electron particle; These findings therefore validate (indirectly) the CUFT (a) 'critical-prediction' wherein the UCP's computation of the "mass" of a given particle represents its degree of "spatial-consistency" across a given series of Universal Frames, which yields a (100 times) more accurate and smaller (e.g., more 'spatially-consistent') Proton-Radius diameter measurement for the (100 times) "more massive" 'Muon' particle than for the 'electron' particle!

II. DIRECT EXPERIMENTAL VALIDATION OF TWO CUFT'S "ACC" PARADIGM'S "CRITICAL PREDICTIONS"

The next determining step in order to fully accept the CUFT's New 'A-Causal Computation' Paradigm as the satisfactory New Paradigm for 21st century Physics is to carry out at least one (or two) additional experimental testing of two direct "critical-predictions" of the CUFT's ACC Paradigm which involve "time-sensitive" measurements pointing at the singular higher-ordered Universal Computational/Consciousness Principle's (UCP) operation – as solely determining unique phenomena predicted only by the New CUFT's ACC Paradigm:

- a) *Collective Human Consciousness Focus Non-Continuous Universal Expansion Rate Hypothesis (CHCF-NCUERH) at Jewish "Rosh-Hashanna" (New Year)*

According to the CUFT's New ACC Paradigm, the accelerated expansion of the physical universe is not the result of any (purely hypothetical) "dark-matter" or "dark-energy" (as mentioned above and previously), but is rather produced by the singular higher-ordered Universal Computational Principle (UCP) – which adds an "accelerated" number of exhaustive spatial pixels to each (consecutive) Universal Frame! Indeed, it should be noted that according to the CUFT's New 'A-Causal Computation' (ACC) Paradigm due to the simultaneity of the UCP's computation of all exhaustive spatial pixels in the universe (for each consecutive Universal Frame) – there cannot exist any such "material-causal" direct physical interactions between the (purely hypothetical) "dark-matter" or "dark-energy" and the accelerated expansion of the universe (because there cannot exist any such "cause" and "effect" relationships between any two or more exhaustive spatial pixels existing either in

the same- or different- Universal Frames); One of the special means for testing experimentally this new explanation of the CUFT's New 'A-Causal Computation' Paradigm for the accelerated expansion of the physical universe is based on the "Collective Human Consciousness Focus" – Non Continuous Universal Expansion Rate Hypothesis" theoretical postulate (CHCF-NCUERH): this new CHCF-NCUERH theoretical postulate hypothesizes that Human Consciousness can interact with the singular higher-ordered Universal Consciousness Principle based on a "Collective Human Consciousness Focus", e.g., a situation in which a large ensemble of human beings all unite in their Conscious focus on this singular Universal Consciousness Principle such as in "prayer" at the Jewish Rosh Hashanna (Jewish New Year in which all the Jews in the world pray and focus on this Universal Consciousness Reality and ask for its "governance" over the world!) Therefore, according to this CHCF-NCUERH postulate, due to this Collective Human Consciousness Focus upon the singular higher-ordered Universal Consciousness Reality during the time-interval of the Jewish "Rosh-Hashanna" there is a "non-continuous" leap in the accelerated rate of the Universe's expansion – which occurs "during" the specific time-interval of "Rosh-Hashanna" (two days): Hence, the CHCF-NCUERH postulate predicts that the rate of the accelerated expansion of the physical universe (represented as: 'X' for a given Jewish year) would undergo a significant increase in its value (represented by: 'X' + 'N') "during" the two days of "Rosh Hashanna" – which would continue at the "new accelerated rate" value (represented by: 'X' + 'N') all throughout the new Jewish Year time interval!

Therefore, the experimental testing of this CHCF-NCUERH postulate would comprise an Astronomical Observation/s of the accelerated rate value of the Physical Universe's Expansion Rate: before-"during"- and "after"- the "Jewish Rosh Hashanna" interval: specifically, it is suggested to test the acceleration rate of expansion prior to Rosh Hashanna – 12 days prior to 'Rosh Hashanna' (e.g., this year beginning from 18/9/19) in which the "Accelerated Expansion Rate" (AER) of the universe's expansion is assumed to be "X"; compared to the Increased Acceleration Expansion Rate of Rosh-Hashanna" (IAER-RH) assumed to be represented as: "X+N" (due to the hypothesized CHCF-NCUERH postulate): this IAR-RH = "X+N" is predicted to be measured from 'Rosh Hashanna' (29/9/19 – 1/10/19) and throughout the suggested 12 days following 'Rosh-Hashanna' (2/10/19 – 13/10/19). (It should be noted that a minimal four days prior to Rosh Hashanna (26-29/9/19), Rosh Hashanna (26-29/9/19), and four days following Rosh Hashanna (2-6/10/19) would also suffice (at minimum) to establish the CUFT's 'critical prediction' regarding the "non-continuous accelerated expansion" of the universe

around the Jewish Rosh Hashanna (New Year); To the extent that these Astronomical Observations would confirm the CUFT's New ACC Paradigm's CHCF-NCUERH prediction indicating that the 'Accelerated Expansion Rate' (AER) of the physical universe – changes around the Jewish 'Rosh-Hashanna', then this will validate one of the unique critical predictions differentiating the CUFT from both RT and QM – based on the CUFT's negation of the existence of any "dark-matter" or "dark-energy" direct 'material-causal' with any exhaustive spatial pixels in the universe (due to the simultaneity of the UCP's computation of all exhaustive spatial pixels in the universe for each consecutive Universal Frame/s), and specifically based on the CUFT's unique CHCF-NCUERH postulate indicating a special connection of a "Collective Human Consciousness Focus" with the singular higher-ordered Universal Consciousness Principle (or Reality – e.g., which solely computes- "dissolves"- re-computes- and evolves- every exhaustive spatial pixel in the universe for each consecutive Universal Frame... Significantly, it should be noted that in addition to this (groundbreaking) new "critical-prediction" of the CUFT postulating that the accelerated expansion of the physical universe undergoes a "non-continuous increment" (i.e., "leap") every Jewish New Year (e.g., due to the Collective Human Consciousness Focus" hypothesis), a further aspect of this unique "critical-prediction" of the CUFT (which totally differentiates it from the predictions of both RT and QM) is that there should be a set incremental increase in the rate of accelerated expansion of the physical universe occurring with each consecutive Jewish New Year: thus for instance if the "Universe's Accelerated Expansion Rate" (UAER) is set as "X" – at or around- a given Jewish New Year ("Rosh Hashanna"), then it is predicted by the CUFT (as another facet of this 'critical-prediction') that in- or around- the following Jewish New Year the measured 'UAER' would be measured as "X+i", and then the following year it would be measured as "X+2*I" or conversely as "X + i + j" – which could be determined through precise cosmological measurements of the precise increments in the UAER's values; in any event the CUFT's 'critical-empirical' prediction is that this UAER increases in a "non-continuous" manner or rate in- or around the Jewish New Year" interval (i.e., as stated above that the UAER would be measured as changing significantly precisely around the Jewish New Year interval, say twelve days before – during- and after- these two days Rosh Hashanna time! Further Cosmological measurements are called for and mathematical calculations should be made to determine the precise measurement of this "non-continuous" increase in the UAER from one Jewish New Year to another.

b) *Greater "Fine-Temporal Measurements" of "More Massive" than "Less Massive" Particles*

As mentioned (above), another unique "critical prediction" of the CUFT's New 'ACC' Paradigm relates to the number of "consistent-spatial measurements" of relatively "more massive" particles (such as the Muon) as compared to the number of "consistent spatial measurements" of "less-massive" particles (such as the 'electron), across a given number of 'Universal Frames': As stated above, based on the CUFT New 'ACC' Paradigm computational definition of "mass" as the number of "spatially-consistent" presentations of any given particle across a given series of Universal Frames can be measured through "fine-temporal measurements" comparison of the presence of "more massive" particles relative to "less massive" particles: Based on the CUFT's New ACC Paradigm's computational definition of a particle's "mass" as the number of times that particle appeared (consistently) across a given series of 'Universal Frames' the CUFT's "critical-prediction" is that a relatively more massive particle (such as the Muon) would be detected across a greater number of Universal Frames than a relatively "less-massive" particle (such as the electron); Special care should be taken to deal with the fact that the finest subatomic Accelerators seem to be able to carry out "fine-temporal measurements" (FTM) at the relatively rapid rate close to the speed of light (approximately $3.34 \cdot 10^9$ per second), whereas the rate at which the "Universal Computational Principle" (UCP) computes the "Universal Frames" is at a much more rapid rate of $c^2/h = 1.36 \cdot 10^{50}$ per second; This relatively "temporally-insensitive" measurement rate of the Accelerator (relative to the UCP's extremely rapid rate for computing the series of consecutive Universal-Frame can be "overcome" based on a statistical "sampling" from the much more rapid (abovementioned) UCP's rate of production of the series of 'Universal Frames' by the Accelerator – which would nevertheless still allow for a comparison between the number of "Fine-Temporal-Measurements" (FTM) ("Accelerator-sampling") measurements in which the relatively 'more-massive' Muon particle was detected (across a given number of such FTM Accelerator samples) relatively to the number of times that the 'less-massive' electron particle was detected (across the same number of FTM Accelerator's measurements)! Once again, due to the CUFT New 'ACC' Paradigm's computational definition of the "mass" of any given particle as the number of times that this particle appears (spatially consistently) across a given number of Universal Frames, therefore the unique critical prediction of the CUFT is that the Muon particle would be detected across a greater number of Universal Frames than the electron! – i.e., even if our "decreased temporal sensitivity" Accelerator's "Fine-Temporal Measurements" (FTM) can only sample $3.34 \cdot 10^9$ out of $1.36 \cdot 10^{50}$ ("X" number of Universal Frames).

Now, to the extent that either one of these two "critical-predictions" of the CUFT would be validated experimentally, then this would indicate that the CUFT's New 'A-Causal Computation' Paradigm represents a more comprehensive and satisfactory New Paradigm for 21st century Theoretical Physics (e.g., than the Old 'Material-Causal' Paradigm of 20th century Physics of both Relativity Theory and Quantum Mechanics)! This is because in both cases, the CUFT's unique 'critical-predictions' cannot be accounted for by the Old 20th century 'Material-Causal' Paradigm of RT and QM: In case of an empirical verification that the accelerated expansion of the physical universe – is "non-continuous", i.e., undergoing a significant "increase" in the universe's "Expansion Acceleration Rate" specifically during the Jewish "Rosh Hashanna" (associated with the CHCF-NCUERH postulate), then this could not be accounted for by either Relativity Theory (which assumes that the accelerated expansion rate may only be due to Einstein's Equations dynamics between certain massive objects and their curvature of space-time or through direct physical interactions between the purely hypothetical "dark-matter" or "dark-energy" concepts and their "propelling" of certain galaxies); Nor could it be explained by QM's probabilistic interpretation which assumes that the existence of any such large-scale accelerated expansion of the physical universe could only be accounted for based on a "collapsing" of any given target's 'probability wave function' based on its direct physical interaction with another subatomic probe element?! But, such an assumed "collapsing" of a subatomic target's "probability wave function" – is on such a "small-scale", could not be related to a "macroscopic" large-scale time-interval of the Jewish "Rosh Hashanna" (New Year) associated with Millions of Jews (around the world) focusing their Collective Human Consciousness upon the singular (higher-ordered) Universal Consciousness Principle (or Reality)!? Likewise, an empirical validation of the CUFT's 'critical-prediction' regarding the detection of a relatively 'more-massive' particle (such as a Muon) – across a greater number of "Fine-Temporal Measurements" (FTM) measured (or "sampled") by an Accelerator, relative to the number of such FTM's which would detect the presence of a less massive particle (such as an electron) – could not be explained (or accounted for) by either RT or QM! This is because according to both Relativity Theory and Quantum Mechanics, the very existence of any subatomic particle – i.e., be it a relatively "more massive" particle such as the Muon or a "less-massive" particle such as the electron is "continuous" – i.e., its existence is not "transient" appearing in only a certain percentage of the time but nor being detected at other ("Fine-Temporal Measurements" sampling of the series of Universal Frames, as discussed above)!? Therefore, to the extent that the Accelerator's FTM would indicate that the 'more massive' Muon particle would be detected

across a greater number of measurements than the 'less-massive' electron particle, then this could not be accounted for by either RT or QM – but only through the CUFT's New 'A-Causal Computation' (ACC) Paradigm, which defines the "mass" of a particle as a function of the number of times that the Universal Computational Principle (UCP) computes each particle across a given number of Universal Frames (with the 'more massive' Muon particle being computed by the UCP across a greater number of Universal Frames than the 'less massive' electron).

III. DISCUSSION: THE CUFT'S NEW 'A-CAUSAL COMPUTATION' PARADIGM OF 21ST CENTURY PHYSICS

As stated above (and previously), Theoretical Physics has reached a state calling for a "Paradigmatic-Shift" from the Old 'Material-Causal' Paradigm of 20th century Physics' Relativity Theory and Quantum Mechanics to the "Computational Unified Field Theory" (CUFT's) New "A-Causal Computation" (ACC) Paradigm, which is due to the fulfillment of Kuhn's criteria characterizing such a 'Paradigmatic Shift': the two "pillars" of 20th century Physics namely: Relativity Theory and Quantum Mechanics seem contradictory of each other (e.g., specifically based on the 'Quantum Entanglement' phenomenon which seems to violate Relativity's strict limitation set by the Speed of Light for the transmission of any signal or even of any "information" across 'space' and 'time'); there exist key "Physical Conundrums" that cannot be explained or accounted for by the Old 'Material-Causal' Paradigm such as "dark-matter" and "dark-energy" which is assumed to comprise up to 90% of all of the "mass" and "energy" in the universe – yet cannot be detected experimentally (associated with the empirically observed accelerated expansion of the physical universe). Therefore, the discovery of the New CUFT's 'A-Causal Computation' (ACC) Paradigm which was shown to resolve the apparent "theoretical inconsistency" between RT & QM, e.g., based on its new exhaustive computational framework which includes a "single spatial-temporal" "particle" (or relativistic object)- as embedded within the broader "multi spatial-temporal" "wave" entity, and both 'particle' and 'wave' computational entities are embedded within the Universal Computational Principle's (UCP's) computation of the (extremely rapid series of) of exhaustive "Universal Frame/s" (as explained above).

However, as Kuhn stated, in order to produce a Paradigmatic-Shift it is also necessary for the new ('ACC') Paradigm to prove at least one instance in which its unique (critical) prediction – significantly differs from the corresponding predictions of the Old Paradigm's RT or QM: Fortunately, there has already been at least one empirical validation of at least one such unique 'critical

prediction' differentiating it from the predictions of both RT and QM, namely: in the case of the "Proton-Radius Puzzle" (Bernaur& Pohl, 1914): As mentioned above, the Proton Radius puzzle precisely conforms to one of the CUFT's specific 'critical-predictions' associated with the Universal Computational Principle's computation of relatively 'more massive' particles with a greater "spatial-consistency" (across a given number of Universal Frames) than the computation of 'less-massive' particles – which manifested through the 'Proton-Radius' Puzzle's findings' measurement the more massive 'Muon' (sunk) Hydrogen Proton as (100) times smaller and more accurate than the 'standard' Hydrogen Proton (surrounded by an electron); In other words, the fact that the UCP computes the "spatial consistency" of the Proton diameter when surrounded by the (100) more massive Muon – as (100) times smaller and more accurate than the (100) less massive electron confirms the unique 'critical-prediction' of the CUFT, but cannot be explained by either Relativity Theory or Quantum Mechanics. However, this initial empirical validation of one of the CUFT's unique 'critical predictions' still constitutes an "indirect" confirmation of the CUFT's New 'A-Causal Computation' (ACC) Paradigm as "more valid" than the Old 'Material-Causal' Paradigm underlying both RT and QM; What's necessary is to carry out at least one of the two specific 'critical prediction's outlined in this article which directly contrast between the CUFT's New ACC Paradigm and RT's/QM's Old 'Material-Causal' Paradigm: It is suggested that to the extent that even one of these two outlined Astronomical or Subatomic 'critical-predictions' of the CUFT would be confirmed experimentally, then this would necessarily establish the CUFT's New ACC Paradigm as the New Paradigm of Theoretical Physics for 21st century Theoretical Physics! This is because an empirical validation of the non-continuous accelerated expansion of the physical universe – which is shown to take place specifically at the time of the Jewish "Rosh Hashanna" (New Year) would uniquely confirm the CUFT's New 'A-Causal Computation' Paradigm indicating that the singular higher-ordered Universal Computational/Consciousness Principle (UCP) is responsible for this "non-continuous accelerated expansion" of the universe based on the above mentioned "Collective Human Consciousness Focus Non-Continuous Universal Expansion Rate Hypothesis" at the Jewish Rosh-Hashanna! (CHCF-NCUERH)! Such experimental confirmation of the CUFT's unique 'critical-prediction' would support the CUFT's New 'A-Causal Computation' Paradigm indicating that the accelerated expansion of the physical universe is not the result of any (purely hypothetical non-existent) "dark-matter" or "dark-energy" (associated with the Old 'Material-Causal' Paradigm of RT and QM), but is rather produced solely by the singular higher-ordered Universal Consciousness Principle, which is also connected with the "Collective Human Consciousness

Focus" postulate. Alternatively, an empirical confirmation of the CUFT's unique critical prediction wherein a 'more massive' Muon particle would be measured across a much greater Fine-Temporal Measurements (FTM) than a less massive electron particle would also uniquely establish the CUFT New 'A-Causal Computation' Paradigm as the satisfactory New Paradigm for 21st century Theoretical Physics. This is because it would (unequivocally) demonstrate that particles' mass value is computed based on their "spatial-consistency" across a series of Universal Frames – with relatively more massive particles (such as the Muon) being computed across a greater number of Universal Frames than less massive particles (such as the electron). Such experimental finding cannot be explained or accounted for by either Relativity Theory or Quantum Mechanics because it would indicate that particles may not exist "continuously", i.e., appearing across all consecutive Universal Frames, which comprises a basic assumption of both of these Theories representing the Old Material-Causal Paradigm (of 20th century Physics).

It should perhaps be noted that the called for experimental validation of either of these two unique critical predictions of the CUFT's New 'A-Causal Computation' Paradigm would completely satisfy the criteria of Kuhn's "Paradigmatic Shift" in Science – indicating an empirical validation of a unique (critical prediction) of the New Paradigm in Physics; It would also be equivalent to Einstein's similar empirical verification of his unique Relativity Theory 'critical prediction' regarding Mercury's perihelion (caused by the Sun's curvature of Space-Time) – which uniquely validated Relativity Theory as more valid than the (then) "Old Paradigm" of Newton's Classical Mechanics. Indeed, such an empirical validation of either of these unique 'critical predictions' would establish the CUFT's New 'A-Causal Computation' Paradigm as more valid than the Old 'Material-Causal' Paradigm of 20th century Physics' Relativity Theory and Quantum Mechanics; It should be noted, however, that as in the case of Relativity Theory's inclusion of Newton's Classical Mechanics as a "special-case" "approximation" in "non-relativistic" velocities – so does the New 'A-Causal Computation' Paradigm of the CUFT include, embed, integrate and transcend the 'Old Material-Causal' models of RT and QM: Indeed, as shown previously, the CUFT's new 'Universal Computational Formula' fully integrates both Relativistic and Quantum Models laws and relationships as secondary computational features of the Universal Computational Principle's (UCP) continuous computation of all exhaustive spatial pixels in the universe for each consecutive Universal Frame/s! In fact, a third unique 'critical-prediction' of the CUFT New 'A-Causal Computation' Paradigm regards the specific characterization of the CUFT's (abovementioned) 'Universal Computational Formula' – i.e., in terms of its mathematical representation of the "special-cases" of

Relativistic or Quantum laws (and physical relationships) within the broader Formats of the Universal Computational Formula:

Universal Computational Formula (UCF):

$$\left\{ \frac{c^2}{h} \right\}_{UF\{n...n\}} = \frac{s}{t} \cdot \frac{e}{m} \quad Px\{1...n\}$$

The acceptance of the CUFT's New 'A-Causal Computation' Paradigm as the satisfactory New Paradigm of 21st century Physics brings about a profound metamorphosis in Modern Physics basic conception of the origin- sustenance- and evolution- of the physical universe (as also described previously): Due to the CUFT's New 'A-Causal Computation' Paradigm's discovery of the UCP's simultaneous computation of all exhaustive spatial pixels in the universe (for each consecutive Universal Frame/s) it was already shown that this New 'A-Causal Computation' Paradigm negates the "Big-Bang" Model, Einstein's Equations, and the existence of "dark-matter" or "dark-energy"; this is because due to the simultaneity of the UCP's computation of each exhaustive spatial pixel in the universe (for each consecutive Universal Frame/s) there cannot exist any "material-causal" physical relationship/s between any two or more exhaustive spatial pixels in the universe (at any single or multiple Universal Frame/s). Therefore, according to the New 'A-Causal Computation' Paradigm the basic assumptions of the Old 'Material-Causal' Paradigm manifesting through the Big-Bang Model (assuming that the creation and initial expansion of the physical universe was "caused" by an initial nuclear explosion), or through Einstein's Equations (assuming that the evolution of the universe is "caused" by direct physical interactions between certain 'massive objects' and 'space-time') or through the (purely hypothetical) "dark-matter" or "dark-energy" concepts (which assume that the accelerated expansion of the physical universe is "caused" by the direct physical interaction between these "dark-matter" or "dark-energy" entities and certain galaxies, stars etc. The New 'A-Causal Computation' Paradigm therefore introduces an entirely new conception of the origin-sustenance- "dissolution"- re-creation- and evolution of the entire physical universe: The Universe was not created by a "Big-Bang" nuclear explosion, not does it evolve based on any "superfluous" (non-existent) "dark-matter" or "dark-energy", or based on the curvature of space-time by massive objects. Rather, the physical universe is being computed simultaneously for each of its exhaustive spatial pixels simultaneously by the singular higher-ordered Universal Computational Principle (UCP) – producing a series of Universal Frames at the incredible rate of "c²/h" = 1.36⁻⁵⁰ (sec)! The entire physical universe "dissolves" in-between one such Universal Frames and its consecutive Universal

Frame – back into the singularity of this Universal Computational Principle!? In fact, due to the only "transient-phenomenal" nature of the entire physical universe – which exists only "during" each consecutive Universal Frame/s but not "in-between" any two such consecutive Frames (wherein only this singular Universal Computational/Consciousness Principle exists without the presence of the physical universe), two additional theoretical postulates of the CUFT (the "Computational Invariance Principle" and related "Universal Consciousness Reality") asserted that in truth there only exists one singular (constant) "Universal Consciousness Reality" – which exists "invariantly" and constantly both "during" each consecutive Universal Frame and also "in-between" any two such consecutive Frames: Therefore, according to this "Universal Consciousness Reality" postulate the entire physical universe is seen only as a "transient-phenomenal" manifestation of the singular Universal Consciousness Reality. Finally, the empirical validation of the Collective Human Consciousness Focus Non-Continuous Universal Expansion Rate Hypothesis (CHCF-NCUERH) at Jewish "Rosh-Hashanna" (New Year) would also bring about a new important direction in Theoretical Physics research focusing on the connection between the newly discovered "Collective Human Consciousness" postulate and the operation, sustenance and evolution of the entire physical universe by the singular Universal Consciousness Reality...

REFERENCES RÉFÉRENCES REFERENCIAS

1. Bentwich, J. (2006a). The 'Duality Principle': Irreducibility of sub-threshold psychophysical computation to neuronal brain activation. *Synthese*, Vol. 153, No. 3, pp. (451-455).
2. Bentwich, J. *Universal Consciousness: From Materialistic Science to the Mental Projection Unified Theory*, iUniverse Publication (2006b).
3. Bentwich, J. (2012a) "Harmonizing Quantum Mechanics and Relativity Theory". *Theoretical Concepts of Quantum Mechanics*, Intech (ISBN 979-953-307-377-3), Chapter 22, pp. 515-550.
4. Bentwich, J. (2012b) "Theoretical Validation of the Computational Unified Field Theory". *Theoretical Concepts of Quantum Mechanics*, (ISBN 979-953-307-3773), Chapter 23, pp. 551-598.
5. Bentwich, J. (2013a). "The Theoretical Ramifications of the Computational Unified Field Theory". *Advances in Quantum Mechanics* (ISBN 978-953-51-1089-7), Chapter 28, pp. 671-882.
6. Bentwich, J. (2013b). The Computational Unified Field Theory (CUFT): A Candidate Theory of Everything. *Advances in Quantum Mechanics* (ISBN 978-953-51-1089-7) Chapter 18, pp. 395-436.
7. Bentwich, J. (2014a). Critical Empirical Validation of the 'Computational Unified Field Theory' (CUFT) vs.

- Quantum & Relativistic Models. *Selected Topics in Applications of Quantum Mechanics* (ISBN 978-953-51-2126-8).
8. Bentwich, J. (2014c) *What if Einstein was Right?* Amazon Kindle Book Store.
 9. Bentwich, J. (2015). On the Geometry of Space, Time, Energy & Mass: Empirical Validation of the Computational Unified Field Theory. Proceedings of Vigier IX – Unified Mechanics: Natural Science Beyond the Veil of Spacetime (Baltimore, Maryland).
 10. Bentwich, J. (2016) The 'Computational Unified Field Theory': A Paradigmatic Shift. *Research & Reviews: Journal of Pure & Applied Physics*.
 11. Bentwich, J. (2017a) The Computational Unified Field Theory: Could 'Dark Matter' & 'Dark Energy' be "Superfluous"? *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 12. Bentwich, J. (2017b) The Computational Unified Field Theory: Explaining the Universe from "Without". *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 13. Bentwich, J. (2017c). The Computational Unified Field Theory: A New 'A-Causal Computation' Physics. *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 14. Bentwich, J. (2017d). Can the 'Computational Unified Field Theory' (CUFT) Challenge the Basic Laws of Conservation? *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 15. Bentwich, J. (2017e). The Computational Unified Field Theory: Time Reversal May be Possible. *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 16. Bentwich, J. (2017f). The Computational Unified Field Theory (CUFT) Transcends Relativity's Speed of Light Constraint. *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 17. Bentwich, J. (2017g). The Computational Unified Field Theory's New Physics: Transcending Space, Time and Causality. *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 18. Bentwich, J. (2017h). A "Supra-Spatial-Temporal Universal Consciousness Reality". *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 19. Bentwich, J. (2017i). A New Science: An Infinite Omniscient Dynamic-Equilibrium Universal Consciousness Reality. *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 20. Bentwich, J. (2017j). The Computational Unified Field Theory (CUFT) Challenges the Second Law of Thermodynamics. *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 21. Bentwich, J. (2017k). The Computational Unified Field Theory (CUFT) Challenges Darwin's 'Natural Selection Principle'! *Research & Reviews: Journal of Pure & Applied Physics, Special Issue: The Computational Unified Field Theory (CUFT)- A Paradigmatic Shift in 21st Century Physics*.
 22. Bernauer & Pohl (2014). The Proton Radius Puzzle. *Scientific American*, 310 (2), p. 20-24.
 23. Born, M. (1954). The statistical interpretation of quantum mechanics, *Nobel Lecture, December 11*.
 24. Brumfiel, G. (2006). Our Universe: Outrageous fortune. *Nature*, Vol. 439, pp. (10-12).
 25. Ellis, J. The Superstring: Theory of Everything, or of Nothing? *Nature*, Vol. 323, No.089, pp. (595-598) (1986).
 26. Giacosa, Francesco (2014). "On unitary evolution and collapse in quantum mechanics". *Quanta* 3 (1): 156-170. doi:10.12743/quanta.v3i1.26.
 27. Greene, B. *The Elegant Universe*, Vintage Books, New York (2003).
 28. Heisenberg, W. Über den anschaulichen Inhalt der quanten theoretischen Kinematik und Mechanik. *Zeitschrift für Physik*, Vol. 43 No. 3-4, pp. (172-198) (1927).
 29. Horodecki, R.; Horodecki, P.; Horodecki, M. & Horodecki, K. Quantum entanglement. *Rev. Mod. Phys*, Vol. 81, No. 2, pp. (865-942) (2007).
 30. J. von Neumann (1932). *Mathematische Grundlagen der Quantenmechanik (in German)*. Berlin: Springer.
 31. J. von Neumann (1955). *Mathematical Foundations of Quantum Mechanics*. Princeton University Press.
 32. Kuhn, Thomas S. (1962). *The Structure of Scientific Revolutions* (1st ed.). University of Chicago Press. p. 172. LCCN 62019621
 33. "Ockham's razor". Encyclopædia Britannica. Encyclopædia Britannica Online. <http://www.britannica.com/EBchecked/topic/424706/Ockhams-razor>. Retrieved 12 June 2010.
 34. Polchinski, J. All Strung Out? *American Scientist*, January-February 2007 Volume 95, Number 1 (2007).