

A Summary of Yangton and Yington Theory and Their Interpretations on Subatomic Particles, Gravitation and Cosmology

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Abstract: *Yangton and Yington Theory is a hypothetical theory based on Yangton and Yington circulating particle pairs (Wu's Pairs) with a build-in inter-attractive force (Force of Creation) that is proposed as the fundamental building blocks of the universe. It has explained successfully the formation of all subatomic particles, propagation of gravitational force, cosmological redshift, universe expansion and many other correlations between space, time, energy and matter. More than 31 major physical phenomena and theories are interpreted and derived from Yangton and Yington Theory. In summary, a road map of systematic derivation and a correlation network between the major physical phenomena and Yangton and Yington Theory are presented.*

Keywords: *Wu's Pairs, Yangton and Yington, Force of Creation, Subatomic Particles, String Force, String Theory, Quantum Field Theory, Quantum Gravity Theory, Unified Field Theory, Standard Model, Dark Matter, Antimatters, Graviton, Particle Radiation, Gravitational Waves, Photon, Special Relativity, General Relativity, Light Speed, Doppler Effect, Acceleration Doppler Effect, Inertia Transformation, Redshift, Cosmological Redshift, Gravitational Redshift, Vision of Light, Vision of Object, Principle of Correspondence, Spacetime, Field Equations, Dark Energy, Universe Expansion, Reverse Expansion, Spacetime Shrinkage Theory.*

Date of Submission: 23-09-2018

Date of acceptance: 08-10-2018

I. Introduction

There are many ambiguities in the modern physics. For examples: Is photon a particle or a wave? Is there a unified field? Is string theory true? Is light speed constant? Does time change with speed and gravity? Is there a dark energy? What is dark matter? Is the universe expanding? And accelerating? What is spacetime? What is the black hole? Is there a wormhole? Can we do time travel? So on and so forth. To answer these questions, we need a breakthrough in particle physics. We need to know what the "God's Particles" – the building blocks of the universe really are?

II. Yangton and Yington Theory

Based on the Five Principles of the Universe [1], it is proposed that Wu's Pairs [2], a Yangton and Yington circulation pair, with a build-in inter-attractive Force of Creation [2] are originally created from None where has no space, time, energy or matter. Wu's Pairs are the building blocks of all matter. With String Force [3] generated between two adjacent Wu's Pairs induced from Force of Creation, String Structures are made in compliance with String Theory [3]. Subatomic Particles [3] are then composed of various string structures with Four Basic Forces [4] including electromagnetic force, gravitational force, weak force and strong force in accordance with Unified Field Theory [4].

Gravitational force is generated between two gravitons with linear string structures [3]. Electromagnetic force is created between electron and positron with spherical string structures [3]. Both proton and neutron have ring string structures [3]. Weak force is formed between positron and neutron. Strong force is produced between two neutrons or between a pair of neutron and proton [3].

The propagation of gravitational force likes photon radiation is caused by the graviton radiation and contact reaction [5]. Gravitational field reflects the distribution of the concentration of gravitons in space. Gravitational Wave [5] is generated by the fluctuation of the graviton radiation from a pair of circulating black holes.

Photon is a free Wu's Pair escaped from a substance through a two stage separation and ejection process [6]. Due to Photon Inertia Transformation [6] and Vision of Light [7], Equation of Light Speed [7] can be derived as a vector summation of absolute light speed (3×10^8 m/s observed from light source) and inertia speed (the speed of light source observed by the observer). This opposes to Einstein's Special Relativity and Velocity Time Dilation based on the constant light speed [8]. Furthermore, $E = MC^2$ is the transformation

between matter's structure energy and photon's kinetic energy [9] instead of the conversion between mass and energy.

Because of the Photon Inertia Transformation, Redshift can only be generated from Acceleration Doppler Effect [10]. As a result, the expansion of the universe and Hubble's Law can be interpreted by the Acceleration Doppler Effect with Dark Energy [11]. However, where the Dark Energy comes from remains a mystery.

When a photon emitted from a star, it maintains the same period and diameter as that of Wu's Pair in the parent star [12]. In other words, photon carries the DNA of its parent star [12]. According to Wu's Spacetime Theory [12], the period of Wu's Pair decreases with the diameter of Wu's Pair ($t_{yy} \propto l_{yy}^{3/2}$). Also, based on Wu's Spacetime Shrinkage Theory [12], the diameter of Wu's Pair can increase with the gravitational field and decrease with the aging of the universe. Because of these reasons, gravitational redshift and cosmological redshift can thus be generated. As a result, the acceleration expansion of the universe and Hubble's Law can also be derived from Wu's Spacetime Shrinkage Theory and Wu's Reverse Expansion Theory [11] without Dark Energy.

Since Wu's Pairs are the building blocks of all matter, in theory, a measurement can be applied based on Wu's Pairs such that the unit mass is a single Wu's Pair, the unit time is the period and the unit length is the diameter of Wu's Pairs [13].

When an object or event takes place or moves to a different location, the appearance of the object and the duration of the event will change with the gravitational force and the aging of the universe, but not the structure of the object and the time sequence of the event. These groups of objects and events are called "Corresponding Identical Objects" [13] and "Corresponding Identical Events" [13].

In measurement of the physical properties of the corresponding identical objects and corresponding identical events by the corresponding identical unit mass (single Wu's Pair), corresponding identical unit time and corresponding identical unit length, each property should have a constant relative amount, no matter the gravitational field and the aging of the universe. This phenomenon is named "Principle of Correspondence" [13]. Because of the Principle of Correspondence, all physical laws maintain unchanged in an inertia system (constant speed) measured by the corresponding identical units.

According to Yangton and Yington Theory, the unit time (period of Wu's Pair) and the unit length (diameter of Wu's Pair) of a four dimension system can change subject to the gravitational force and the aging of the universe. Wu's Spacetime [12] and Wu's Field Equations [14] are derived based on a local system with the unit time and unit length of the same gravitational force and the aging of the universe. These are different from Einstein's Spacetime and Einstein's Field Equations that are derived based on a reference system at its corresponding unit time and unit length (such as that on Earth).

More specifically, Wu's Pairs and Yangton and Yington Theory can be used successfully in explanation and derivation of the following major physical phenomena and theories:

1. Five Principles of the Universe [1].
2. Wu's Pairs and Force of Creation [2].
3. Photons as free Wu's Pairs [2].
4. String Theory, String Structures and String Force based on Wu's Pairs and Force of Creation [3].
5. Subatomic Particle Structures based on Wu's Pairs and Force of Creation [3].
6. Four Basic Forces and Unified Field Theory based on Force of Creation [4].
7. Graviton Structures and Gravitational Force based on Wu's Pairs and Force of Creation [3].
8. Graviton Radiation and Propagation of Gravitational Force [5].
9. Gravitational Waves and Graviton Radiation [5].
10. Mass of Subatomic Particles and Photons [6].
11. $E = MC^2$ interpreted by the energy transformation between Wu's Pairs and Photons [8].
12. Photon Formation and Absolute Light Speed based on the separation of Wu's Pairs [6].
13. Photon Inertia Transformation and Inertia Light Speed [6].
14. Black Body Radiation and Wu's Pairs [6].
15. Vision of Object, Vision of Light and Light Speed [7].
16. Equation of Light Speed [7].
17. Special Relativity and Light Speed [9].
18. General Relativity based on Wu's Pairs [9].
19. Redshift and Acceleration Doppler Effect [10].
20. Mass, Time, Length, and Principle of Correspondence [13].
21. Spacetime system based on Wu's Pairs [12].
22. Wu's Spacetime Theory [12].
23. Wu's Spacetime Field Equations [14].
24. Photon and Wu's Spacetime [12].

25. Acceleration Doppler Effect and Hubble's Law [10].
26. Wu's Spacetime Reverse Expansion Theory and Hubble's Law [11].
27. Wu's Spacetime Shrinkage Theory and the expansion of the universe [12].
28. Cosmological Redshift and Wu's Spacetime [12].
29. Gravitational Redshift and Wu's Spacetime [12].
30. Aging of the universe and self destruction of Wu's Pairs [12].
31. Black Hole and destruction of Wu's Pairs [12].

For a better understanding of Yangton and Yington Theory, a road map of systematic derivation and a correlation network between the major physical phenomena and Yangton and Yington Theory can be presented in the following flow chart (Fig. 1).

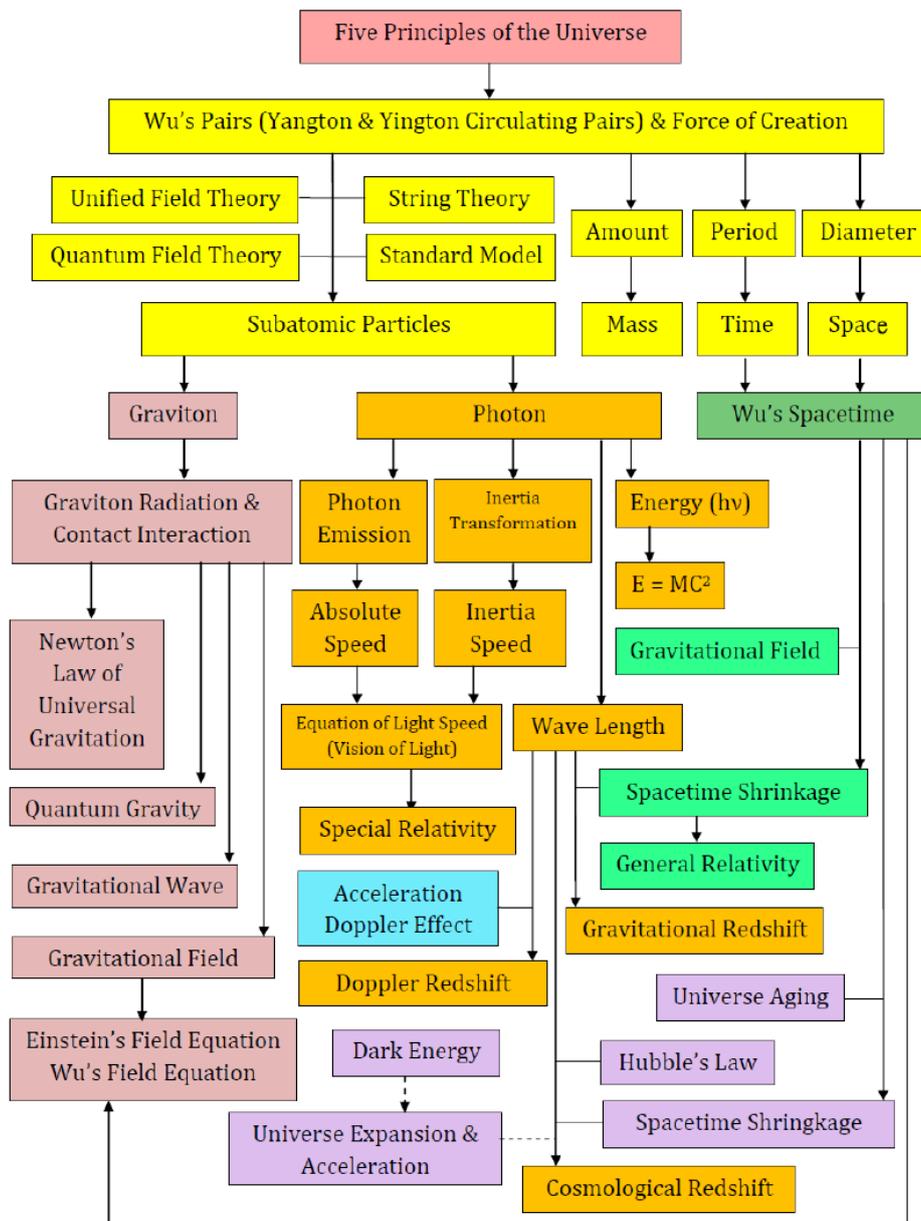


Fig. 1 A road map of systematic derivation and a correlation network between the major physical phenomena and Yangton and Yington Theory.

III. Creation of Space and Energy

Among the four basic elements of the universe: space, time, energy and matter, it is believed that space and energy are two primary elements, and time and matter are two secondary ones or induced elements. Matter is the distribution of energy and time is the change of the distribution of energy and the motion of matter.

It is suggested that space and energy were first created together from None. The process should be reversible such that space and energy can recombine and destroy each other to ensure that everything will return back to None.

$$\text{None} = \text{Space} + \text{Energy}$$

It is also proposed that both space and energy were generated through Singularity in the Big Bang explosion accompanied by time and matter. Wu's Pairs were first formed and subsequently all subatomic particles such as photons, quarks, electrons, neutrons and protons, with four basic forces, including gravitational force, electromagnetic force, weak force and strong force were built based on Wu's Pairs and their inter-attractive Force of Creation. Finally, all matter was formed and the universe was born.

IV. Creation of Matter

It is proposed that a pair of super fine particles, Yangton and Yington with an inter-attractive Force of Creation, can be generated from the Singularity during the Big Bang explosion. Also, due to the enforcement of the inter-attractive Force of Creation, Yangton and Yington particles can recombine and destroy each other to ensure Something will go back to Nothing.

It is also proposed that during the Big Bang explosion, the Yangton and Yington Pairs became the permanent Wu's Pairs by absorbing Energy of Formation and started circulation in an orbit balanced by the centrifugal force against the inter-attractive Force of Creation.

Instead of a solid particle, Yangton and Yington can also be considered as two tiny energy whirlpools or turbulences (energy particles) with opposite spin up (Yangton) and spin down (Yington) directions. However, with this model, Yangton and Yington, can be created by directly absorbing the energy generated from the Big Bang explosion. There is no need to form a metastable state such as a Something in between Nothing and a permanent Wu's Pair. Therefore, matter can thus be considered as a group of energy particles (Wu's Pairs) in space.

V. Creation of Time

Time is a secondary element of the universe. It reflects the change of the distribution of energy and the motion of matter. Without energy there would be no time. Therefore, time is formed in accompaniment with energy.

VI. Big Bang Theory

The Big Bang Theory (Fig. 2) is the prevailing cosmological model for the universe from the earliest known periods through its subsequent large-scale evolution. The model accounts for the fact that the universe expanded from a very high density and high temperature state, and offers a comprehensive explanation for a broad range of phenomena, including the abundance of light elements, the cosmic microwave background, large scale structure and Hubble's Law. If the known laws of physics are extrapolated to the highest density regime, the result is a Singularity that is typically associated with the Big Bang explosion 13.8 billion years ago. After the initial expansion, the universe cooled sufficiently to allow the formation of subatomic particles, and later simple atoms. Giant clouds of these primordial elements later coalesced through gravity in halos of Dark Matter, eventually forming the stars and galaxies visible today.

Furthermore, it is assumed that not only energy and matter, but also space and time were all created at the same time from a Singularity in the beginning of the Big Bang explosion. Wu's Pairs, the Yangton and Yington circulating pairs with inter-attractive Force of Creation, were first formed by two tiny energy whirlpools or turbulences (energy particles) with opposite spin directions. Subsequently, subatomic particles and all matter, with four basic forces, were formed by Wu's Pairs. Once the first Yangton and Yington Pair were formed, time started to reflect the changes of the distribution of energy and the motion of matter.

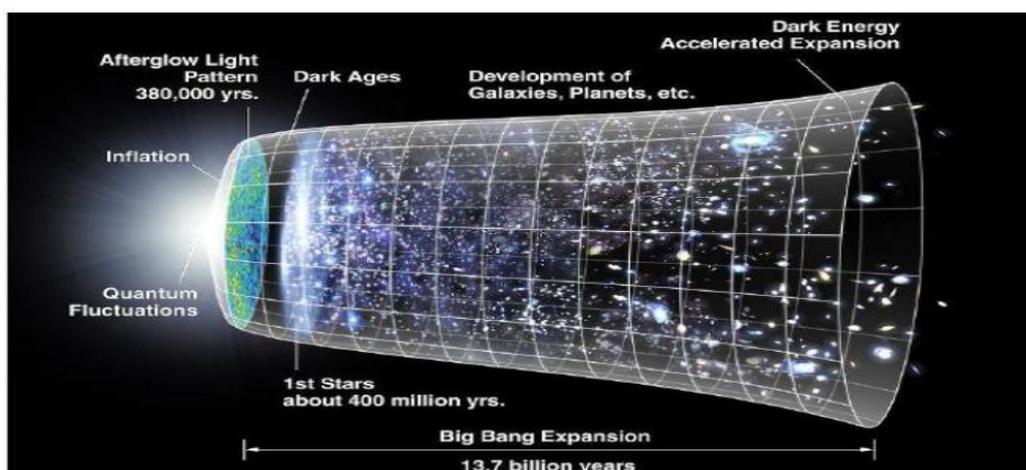


Fig. 2 Big Bang and the expansion of the universe.

VII. Future Study

Wu's Pairs and Yangton and Yington Theory seem ideal in explanation of the structures and properties of most subatomic particles and major phenomena in the universe, Wu's Pairs are too small to study with the present state-of-the-art scientific instrument, there is no proof of the existence of Wu's Pairs and how they build subatomic particles and matter. For future research, quantum mechanics and quantum field theory will be used to study the interactions between Wu's Pairs and the formation of subatomic particles and their anti particles. Also, according to String Theory, quantum gravity theory can be developed based on the string structures made of Wu's Pairs. In addition, similar to Einstein's Field Equations, a mathematical equation based on nonlinear geometry will be developed to interpret the relationship between the curvature of Wu's spacetime and the gravitational field. Furthermore, the relationship between Wu's Unit Length (or the speed of light) and gravitational field (or Graviton concentration) will be obtained from a careful observation of the corresponding Redshift with respect to the gravitational field. Through these studies, hopefully Wu's Pairs and Yangton and Yington Theory can be better understood and broadly accepted by the scientific world.

VIII. Conclusion

Wu's Pairs, a Yangton and Yington circulating pairs, the core of Yangton and Yington Theory, is proposed as the building block of all matter which are composed of string structures in compliance with String Theory. Force of Creation, the inter-attractive force between Yangton and Yington Pair, on the other hand, is the fundamental force of four basic forces that form all subatomic particles in accordance with unified field theory. In addition, it successfully explains the propagation of gravitational force, cosmological redshift and universe expansion, and the correlations between space, time, energy and matter. More than 31 major physical phenomena and theories are interpreted and derived from Yangton and Yington Theory. In summary, a road map of systematic development and a correlation network between the major physical phenomena and Yangton and Yington Theory are presented.

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Edward T. H. Wu" A Summary of Yangton and Yington Theory and Their Interpretations on Subatomic Particles, Gravitation and Cosmology." IOSR Journal of Applied Physics (IOSR-JAP) , vol. 10, no. 5, 2018, pp. 45-50.