

# Einstein's $E = MC^2$ as Energy Conversion Instead of Mass and Energy Conservation and Energy and Space Annihilation Based on Yangton and Yington Theory

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**Abstract:** Einstein's  $E = MC^2$  is not a law of mass and energy conservation. Instead, it is only an energy conversion between matter's structure energy and photon's kinetic energy. On the other hand, Wu's Pairs are created by the energy generated in big bang explosion, which is a typical mass and energy conversion. According to Yangton and Yington Theory, in the beginning, energy and space are first generated from nothing, and then matter and time are induced from energy. At the end of the universe, to reverse the process, matter will convert to energy first, and then energy and space annihilation will happen either in black hole or through aging of the universe.

**Keywords:** Yangton and Yington, Wu's Pairs, Force of Creation, Subatomic Particles, Energy and Mass Conservation, Black Hole, Big Bang, Singularity, Spacetime Shrinkage, Antiparticle Annihilation, Energy and Space Annihilation.

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## I. Introduction

### 1. Yangton and Yington Theory – A Theory of Everything

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. The theory explains the formation of all subatomic particles and the correlations between space, time, energy and matter.

### 2. Five Principles of the Universe – A Theory of Creation

According to Yangton and Yington Theory, it is proposed that a Wu's Pair containing two super fine antiparticles Yangton and Yington circulating in an orbit with an inter-attractive Force of Creation is generated from Nothing. Although it is just a theory, the whole concept was developed based on the following Five Principles of the Universe [1] with a series of systematic logical thinking:

1. There was Nothing in the universe in the beginning.
2. From Nothing to Something it must be a reversible process.
3. The Something must be a pair of Antimatter particles with an inter-attractive force such that they can attract and destroy each other.
4. From Something to permanent matter there must be an external energy to cause a constant circulation motion between the two Antimatter particles so as to avoid them from recombination and destruction.
5. Eventually the whole universe will end and go back to Nothing.

To begin the introduction of the Yangton and Yington Theory, let's first start from the above five principles:

The 1<sup>st</sup> principle:

“There was Nothing in the universe in the beginning.” This is the result of logical thinking. Otherwise, if the universe started from Something then one will always ask where that Something came from.

The 2<sup>nd</sup> principle:

“From Nothing to Something it must be a reversible process.” This is also a result of logical thinking. Common sense tells us that everything that has a beginning must have an end. The question is how it ends? And how long it takes to end? Would it make more sense just to reverse the initial process from Something back to Nothing? Simply because that Nothing already existed and also the reverse could happen instantly at an equilibrium condition. Therefore, I believe that from Nothing to Something it must be a reversible process.

The 3<sup>rd</sup> principle:

“The Something must be a pair of Antimatter particles with an inter-attractive force such that they can attract and destroy each other.” As a result of logical thinking, the only possibility that Something can go back to Nothing is that the Something must have a built-in self destruction mechanism such as a pair of Antimatter

particles, Yangton and Yington Pair, with an inter-attractive Force of Creation for the enforcement of self destruction.

The 4<sup>th</sup> Principle:

“From Something to permanent matter there must be an external energy to cause a circulation motion between the two Antimatter particles so as to avoid recombination and destruction.” A circulation motion between two particles can be produced by two opposite motions against a vertical force. Since Force of Creation is the vertical force between the two Antimatter particles, and the external force could be provided by Big Bang explosion, this principle is very well supported by the Big Bang Theory.

The 5<sup>th</sup> Principle:

“Eventually the whole universe will end and go back to Nothing.” With logical thinking the universe can only be ended with Nothing. Otherwise, it will become a never ending story. Only going back to Nothing can stop this paradox.

### 3. Yangton and Yington – The Basic Particles

It is proposed that Yangton and Yington [2] are a pair of super fine Antimatter particles that can only be produced together with inter-attractive Force of Creation simultaneously from an empty space named as “Nothing”. This Yangton and Yington Pair with Force of Creation [2] known as “Something” can recombine and destroy each other so that Something can go back to Nothing. Both Yangton and Yington are the fundamental particles of the universe. They can be used to form Something (Fig. 1) and Wu’s Pair (Fig. 2) [2]. Something is only a temporary particle, but Wu’s Pair is a permanent particle which is the building block of all matter such as photons, quarks, electrons, positrons, neutrons, protons and Dark Matters, etc [3]. Instead of solid particles, Yangton and Yington can also be considered as two tiny Energy Whirlpools (Energy Particles) with opposite spin up (Yangton) and spin down (Yington) directions generated by the energy released from the Big Bang explosion.



Fig. 1 Something - a Yangton and Yington pair with Force of Creation.

### 4. Force of Creation – The Fundamental Force

Yangton and Yington must coexist with an inter-attraction force named “Force of Creation” (Fig. 1), such that recombination and destruction can be enforced and Something will go back to Nothing. Therefore, the reaction of this reversible process can be represented by the following formulas:

$$\text{Nothing} \rightarrow \text{Yangton} \ominus \text{Yington} \quad \Delta E = E_{\text{Creation}}$$

Or

$$E_{\text{Creation}} \leftrightarrow \text{Yangton} \ominus \text{Yington}$$

Where “ $\ominus$ ” represents Force of Creation, “Yangton  $\ominus$  Yington” represents Something and  $E_{\text{Creation}}$  is Energy of Creation.

The inter-attractive Force of Creation between Yangton and Yington is the fundamental force in the universe, which can be used to generate String Force for the formation of elementary subatomic particles such as quarks, leptons, gluons and bosons; as well as the Four Basic Forces including gravitational force, electromagnetic force, weak force and strong force for the formation of composite subatomic particles such as proton, neutron and nucleus.

### 5. Big Bang – How the Universe Started?

About 13.8 billion years ago, there was nothing – no space, time, energy or matter, which is known as “None”. Then a Big Bang [4] exploded. Immediately, space was created and energy was released from a single point known as “Singularity”. Energy released from Big Bang explosion was used to generate Yangton and Yington Pairs with inter-attractive Force of Creation and subsequently drive them into a circulating motion. This circulating motion could prevent the recombination and destruction of the Yangton and Yington Pairs such that Something couldn’t go back to Nothing and thus a permanent Wu’s Pairs (Fig. 2) [2] could be formed.

### 6. Circulation – How Matter Become Permanent?

The energy released from the Big Bang explosion could drive Yangton and Yington particles into a circulating motion [2]. This circulating motion not only prevents the attraction and destruction between Yangton and Yington particles, but it also makes them alive and in operation.

Circulation can also be found commonly in our cosmos such as that electron circulating the nucleus, moons circulating planets, planets circulating stars, stars circulating the galaxies, etc. Therefore, circulation is the key to making a matter permanent. This is, again, a result of logical thinking.

### 7. Wu's Pair – The Building Block of the Universe

When Something became a permanent matter, a Yangton and Yington circulating pair with inter-attractive Force of Creation named as "Wu's Pair" (Fig. 2) was formed. These Wu's Pairs are the fundamental building blocks (God's Particles) of all matter such as photons, quarks, electrons, positrons, neutrons, protons, etc.

From Something to a permanent Wu's Pair, the reaction process can be represented by the following formulas:

$$\text{Yangton } \ominus \text{ Yington} \rightarrow \text{Yangton } \Phi \text{ Yington} \quad \Delta E = E_{\text{Circulation}}$$

Or

$$E_{\text{Creation}} + E_{\text{Circulation}} \leftrightarrow \text{Yangton } \Phi \text{ Yington}$$

Where "Yangton  $\ominus$  Yington" represents Something – a temporary Yangton and Yington pair. "Yangton  $\Phi$  Yington" represents Wu's Pair – a permanent Yangton and Yington circulating pair.  $E_{\text{Circulation}}$  is the circulation energy including potential and kinetic energies that is contributed by the Big Bang explosion.

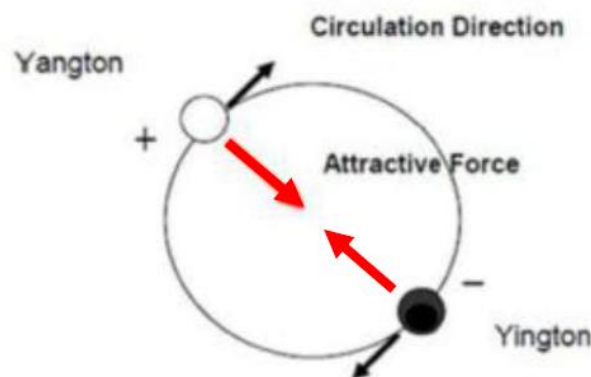


Fig. 2 Wu's Pair - a Yangton and Yington circulating pair.

## II. Mass and Energy Conversion

It is assumed that mass and energy are convertible such as that Yangton and Yington particles (could be considered as energy particles) can be produced by the energy generated from the Big Bang explosion.

$$E_{\text{Creation}} + E_{\text{Circulation}} \leftrightarrow \text{Yangton } \Phi \text{ Yington}$$

The conversion between Mass and Energy can also be commonly found in LHC experiments [5]. In some cases, an external energy must be applied to overcome the activation energy like any other chemical reactions. Because of these reasons, antiparticle pairs can be formed from vacuum by external energy. Heavy particles can be produced from light particles [6] and gamma ray can be generated from antiparticle annihilations [7]. Furthermore, a virtual photon [8] can be used to represent an energy transformation process.

## III. Einstein's $E = MC^2$

When a matter explodes it becomes a bundle of free photons escaping into the space at a constant speed of  $3 \times 10^8$  m/s. A massive energy in the magnitude of  $MC^2$  is released. This theory is proposed by Einstein [9]. The theory predicts that matter and energy is interchangeable. Additionally a huge amount of energy can be released through the transformation (nuclear reaction).

Because photon is a free Wu's Pair travelling in space according to Yangton and Yington Theory, it is assumed that, during the explosion, a group of subatomic particles with mass  $M$  were first escaped into the space having kinetic energy  $\frac{1}{2} MC^2$  at a light speed  $3 \times 10^8$  m/s. And subsequently, Wu's Pairs were separated from the subatomic particles to form photons. Since mass  $M$  is the total amount of Wu's pairs times Wu's Unit Mass which remains unchanged during the explosion,  $E = MC^2$  has nothing to do with the transformation

between mass and energy. In fact, it is an energy conversion from subatomic particle's structure energy (generated from string force and four basic forces) and kinetic energy to photon's kinetic energy  $Mh\nu$ .

It is believed that the energy ( $E_{\text{Creation}} + E_{\text{Circulation}}$ ) needed for the conversion between energy and matter (Wu's Pairs) such as those generated in Big Bang explosion and nuclear reactions should be much bigger than  $MC^2$ .

#### **IV. Creation and Annihilation 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.

During Big Bang explosion, 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. This is called "Annihilation of Space and Energy".

None  $\leftrightarrow$  Space + Energy

It is further proposed that both space and energy were created in the Singularity during the Big Bang explosion. Subsequently, in accompany with time, Wu's Pairs were formed from energy and then all matter was produced and the universe was born.

#### **V. End of the Universe**

It is proposed that Yangton and Yington will eventually recombine and destroy each other to release Energy of Creation and Energy of Circulation which then annihilate with space to return back to None, so is the end of the universe. According to Yangton and Yington Theory, Wu's Pairs (Yangton and Yington Circulating Pairs) – the building block of all matter (physical universe) could be ended in one of two ways:

##### **1. Black Holes**

In the Black Hole, the circulation of Yangton and Yington Pair is first destroyed by the massive gravitational force, followed by the recombination and destruction of Yangton and Yington Pairs, then massive energy (Energy of Creation and Energy of Circulation) is released. Finally, energy annihilates with space and everything enters into a Singularity to become None.

##### **2. Aging of the Universe**

After trillions of years, due to Wu's Spacetime Shrinkage Theory [10], recombination and destruction between a Yangton and Yington Pair will occur. Finally, each Yangton and Yington Pair will form a tiny Singularity where Yangton and Yington Pair will convert to energy (Energy of Creation and Energy of Circulation), then annihilate with a tiny space to become None.

#### **VI. Conclusion**

Einstein's  $E = MC^2$  is not a law of mass and energy conservation. Instead, it is only an energy conversion between matter's structure energy and photon's kinetic energy. Wu's Pairs on the other hand are created by the energy generated in big bang explosion, which is a typical mass and energy conversion. According to Yangton and Yington Theory, in the beginning, energy and space are first generated from nothing, and then matter and time are induced from energy. At the end of the universe, to reverse the process, matter will convert to energy first, and then energy and space annihilation will happen either in the black hole or through the aging of the universe.

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