

Event Horizon and Black Hole Interpreted by Photon Inertia Transformation and Yangton and Yington Theory

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[Abstract]: When a light source is accelerating towards the center of a black hole, because of the Photon Inertia Transformation, the emitted photon compiles two competing speeds in opposite directions: (1) outward Absolute Light Speed and (2) inward Inertia Light Speed. As a result, Event Horizon is the place where photon is in idle with zero net speed. Inside the Event Horizon, photon moves further down to the center of the black hole and it can never escape. Black Hole is generated by a massive gravitational force. Since Wu's Pair expands with gravitational force such that a hollow structure can be formed inside the Black Hole. At the center of the Black Hole, a singularity is formed where the circulation of Wu's Pairs are broken down such that Yangton and Yington could recombine and destroy each other to become None. Black Hole is the grave yard of all matter.

[Keywords]: Wu's Pairs, Yangton and Yington, Photon Inertia Transformation, Absolute Light Speed, Inertia Light Speed, Light Speed Equation, Black Hole, Event Horizon, Aging of the Universe.

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I. INTRODUCTION

1. Photon Inertia Transformation

Photon emitted from an object carries the inertia of the parent object (light source). In other words, photon travels not only at an Absolute Light Speed (3×10^8 m/s) [1] in the trajectory direction from the light source, but also with a speed and direction as that of the light source from the observer. This phenomenon is named "Photon Inertia Transformation" [1].

2. Equation of Light Speed

When a photon emitted from a light source, it travels under two influences, ejection motion and inertia motion. In other words, the light speed observed by the observer at any observation point (C) is a vector summation of the Absolute Light Speed 3×10^8 m/s, the moving speed of the photon away from the light source observed at the light source (C_S), and the "Inertia Light Speed", the moving speed of the light source away from the observer (or his inertia system) observed at the reference (observation) point (V_S). This theory is named "Equation of Light Speed" [1].

$$C = C_S + V_S$$

Where C_S is the Absolute Light Speed and V_S is the Inertia Light Speed.

3. Event Horizon

When a light source accelerating towards the center of a black hole [2], because of the Photon Inertia Transformation, the photon emitted from the light source compiles two competing opposite speeds: (1) outward Absolute Light Speed (C_S) and (2) inward Inertia Light Speed (V_S).

According to Equation of Light Speed,

$$C = C_S + V_S$$

At Event Horizon [3],

$$|C_S| = |V_S|, \text{ therefore } C = 0.$$

Inside Event Horizon,

$$|C_S| < |V_S|, \text{ therefore } C \text{ follows } V_S \text{ and goes inwards.}$$

Outside Event Horizon,

$$|C_S| > |V_S|, \text{ therefore } C \text{ follows } C_S \text{ and goes outwards.}$$

Where C is the light speed observed by observer at the light origin, C_S is the Absolute Light Speed observed at the light source and V_S is the speed of light source observed at the light origin (Inertia Light Speed).

As a result, at the event horizon, the net speed of the photon is zero and the photon is in idle. Outside the Event Horizon (Ergosphere), the Absolute Light Speed is bigger than the Inertia Light Speed, the photon can move outwards and escape from the black hole. However, inside the event horizon, the Absolute light Speed is smaller than the Inertia Light Speed, the photon moves inwards and can never escape from the black hole (Fig. 1). Therefore, the existence of a "Black Hole" can be predicted.

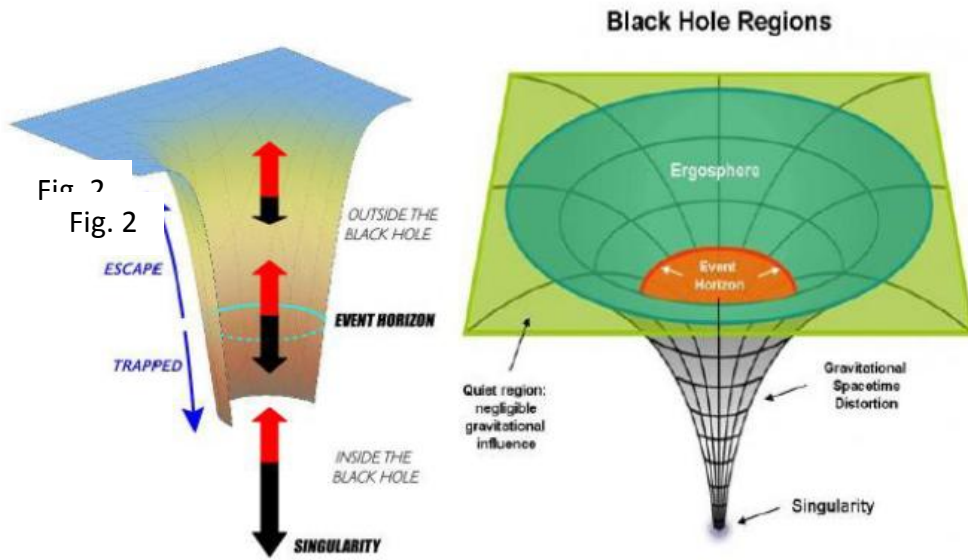


Fig. 1 The Black Hole Regions: (1) Ergosphere ($C > V$) (2) Event Horizon ($C = V$) and (3) Inside the Black Hole ($C < V$). C is light speed and V is the light source speed.

4. Distribution of Wu's Pairs

According to Yangton and Yington Theory [4], large Wu's Unit Length l_{yy} and Wu's Unit Time t_{yy} can be generated by large gravitational force [5]. Therefore, a two dimensional coordination matrix composed of Wu's Unit Squares (1 Wu's Unit Length x 1 Wu's Unit Length) can be used as a map to reflect the distribution of Wu's Pairs in an object caused by the gravitational force (Fig. 2). In other words, the gravitational field can reflect the distribution of Wu's Unit Length and Wu's Unit Time as well as the shape and motion of the object and event.

With a large gravitational force, a three dimensional coordination matrix composed of Wu's Unit Cubes can expand and move matter away from the matrix. Therefore, a Black Hole made of a hollow structure with a singularity composed of a high density core in the center can be realized.

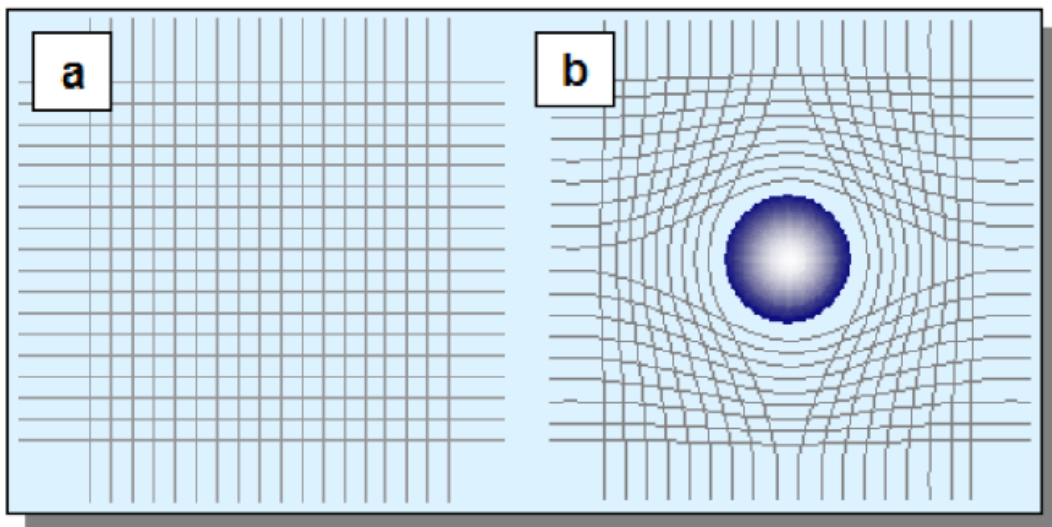


Fig. 2 (a) A coordination matrix in a homogeneous gravitational field (b) The same coordination matrix in an inhomogeneous field with a big massive core in the center.

5. What Is Black Hole?

A “Black Hole” (Fig. 3) [2] is a place in space where massive gravity is generated by the extremely large density caused by squeezing matter into a tiny space. This can happen in a dying star. Because no light can escape, Black Holes are not visible.

Due to the massive gravity, Wu’s Pairs expand to form a hollow structure inside the Black Hole. At the center of the Black Hole, the balance between Force of Creation and centrifugal force is broken and the circulation of Wu’s Pairs collapses. Subsequently, Yangton and Yington recombine and destroy each other, so that matter disappears and the universe returns back to an empty space. In other words, Black Holes are the grave yard of all matter. In the center of the Black Hole, there is a Singularity [6] where everything goes back to None, and there is no space, time, energy or matter left.



Fig. 3 An image of Black Hole.

6. How will the Universe End?

At the end of the universe, it is proposed that Yangton and Yington will first recombine to destroy each other such that Energy of Creation and Energy of Circulation can be released to annihilate with space and everything will return back to None.

According to Yangton and Yington Theory, Wu’s Pairs, a Yangton and Yington Circulating Pairs (the building blocks of all matter) could be ended in one of the following two ways:

a. 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, and 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.

b. Aging of the Universe

According to Wu’s Spacetime Shrinkage Theory [5], after trillions of years, due to the shrinkage of Yangton and Yington Pairs, recombination and destruction between a Yangton and Yington Pair will occur which is named “Aging of the Universe” [5]. 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.

II. Conclusion

When a light source is accelerating towards the center of a black hole, because of the Photon Inertia Transformation, the emitted photon compiles two competing speeds in opposite directions: (1) outward Absolute Light Speed and (2) inward Inertia Light Speed. As a result, Event Horizon is the place where photon is in idle with zero net speed. Inside the Event Horizon, photon moves further down to the center of the black hole and it can never escape. Black Hole is generated by a massive gravitational force. Since Wu’s Pair expands

with gravitational force such that a hollow structure can be formed inside the Black Hole. At the center of the Black Hole, a singularity is formed where the circulation of Wu's Pairs are broken down such that Yangton and Yington could recombine and destroy each other to become None. Black Hole is the grave yard of all matter.

References

- [1]. Edward T. H. Wu. "Vision of Object, Vision of Light, Photon Inertia Transformation and Their Effects on Light Speed and Special Relativity." IOSR Journal of Applied Physics (IOSR-JAP), vol. 9, no. 5, 2017, pp. 49–54.
- [2]. Wald, R. M. (1997). "Gravitational Collapse and Cosmic Censorship". In Iyer, B. R.; Bhawal, B. (eds.). *Black Holes, Gravitational Radiation and the Universe*. Springer. pp. 69–86.
- [3]. https://en.wikipedia.org/wiki/Event_horizon
- [4]. Edward T. H. Wu, "Yangton and Yington—A Hypothetical Theory of Everything", *Science Journal of Physics*, Volume 2015, Article ID sjp-242, 6 Pages, 2015, doi: 10.7237/sjp/242.
- [5]. Edward T. H. Wu. "Time, Space, Gravity and Spacetime Based on Yangton & Yington Theory, and Spacetime Shrinkage Versus Universe Expansion". *American Journal of Modern Physics*. Vol. 5, No. 4, 2016, pp. 58-64. doi: 10.11648/j.ajmp.20160504.13.
- [6]. Claes Ugglä (2006). "Spacetime Singularities". *Einstein Online*. 2 (1002).

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