

# Elementary Particle Pulsation Principle-Theoretical Physics Hypothesis

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Abstract)

The dark energy was found in 1998.

18 years before of discovery (1980)

A writer announced a hypothesis of "Elementary particle pulsation principle" by Physical Society of Japan.

I'm challenging much mysterious explication in theoretical physics by this hypothesis.

Keyword)

Higgs mechanism organization.

Quark.

4 dimensional space.

The atomic nucleus structure.

Dark matter.

Dark energy.

## 1) INTRODUCTION

By quantum mechanics、

Elementary particles are particles and are waves at the same time.

And probabilistic interpretation of quantum mechanics was born.

By this hypothesis "simultaneous" is denied.

It is not simultaneous.

Elementary particles repeat conversion of particles and waves at super high speed.

I think that this is a hidden variable in quantum mechanics.

\* According to Elementary particle pulsation principle.

The particle stroke and the negative particle stroke are four-dimensional spaces.

The three-dimensional space is a cross-section of a four-dimensional space.

Elementary particles that pulsate in 4-dimensional space have mass. However,

Elementary particles in three-dimensional space are points with zero mass.

The electromagnetic power acts on it in a wave journey of a photon.

And

Gravity acts on it in a negative particle journey of a photon.

Gravity and electromagnetic force act alternately.

In the wave stroke where photons are moving at the speed of light, the time stops, and the time progresses in the particle stroke and the negative particle stroke.

The time and space are intermittent at Planck time and Planck length, and advance the space-time coordinates stepwise.

Photons in the particle stroke and photons in the negative particle stroke are supersymmetric particles of photons in three dimensional space.

$+mc^2$  and  $-mc^2$  cancel each other in each pulse of pulsation and the total energy becomes zero.

- Dark Matter (The Photons who pulses is a dark matter.)

A photon pulsating in a 4-dimensional space has positive and negative masses. In case It is a particle in the Culur-Klein state. In case Photons are perfect candidates for dark matter.

## 2) Hypothesis to theoretical physics " Elementary particle pulsation principle "

[Pulsating hypothesis]

Universe is filled in the very thin dark energy. The energy is making repulsive force act on each other. The average density of the dark energy is set as an energy zero. The energy zero is set as an vacuum. A difference in energy densities from the average density of the dark energy (vacuum) will be fluctuation of the mass. A change in energy densities will be fluctuation of the mass. A Elementary particle is an aggregate of the energy. An aggregate of the energy is repeating an explosion and reduction in Planck time. (Elementary particle pulsation). An aggregate of the energy is repeating an explosion and a wave in Planck time. An aggregate of the energy is repeating a particle and a wave in Planck time.

In the energy corrugated figure which showed a change in an energy densities. The average density of the dark energy is set as an energy zero. That was illustrated as a horizon. A horizon was illustrated as the three dimensional space we recognize. The top and the bottom of a horizon is set as the 4-dimensional space. A change in energy densities of the dark energy is set as a Material wave. The wave is spread by speed of light.

### Elementary Particle Pulsation Principle-Theoretical Physics Hypothesis

Figure 1. Conceptual diagram of energy waveform of pulsating principle

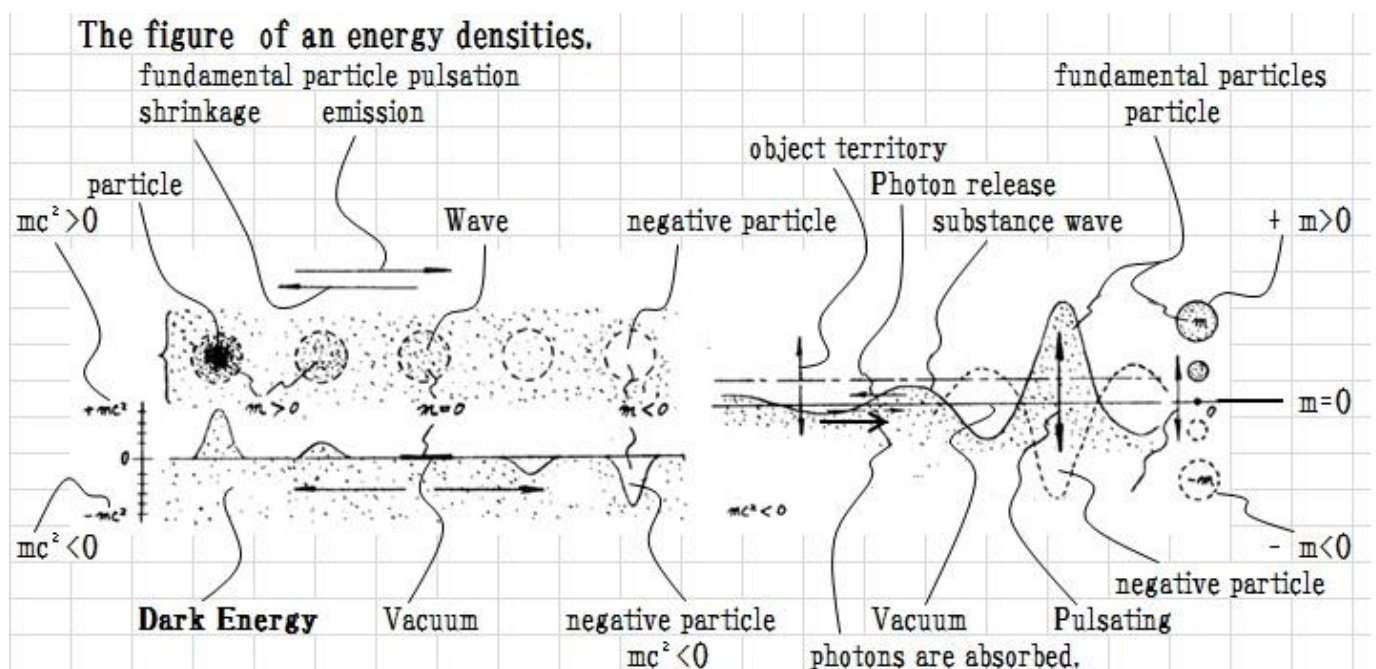


Figure 2. Conceptual diagram of energy waveform of pulsating principle

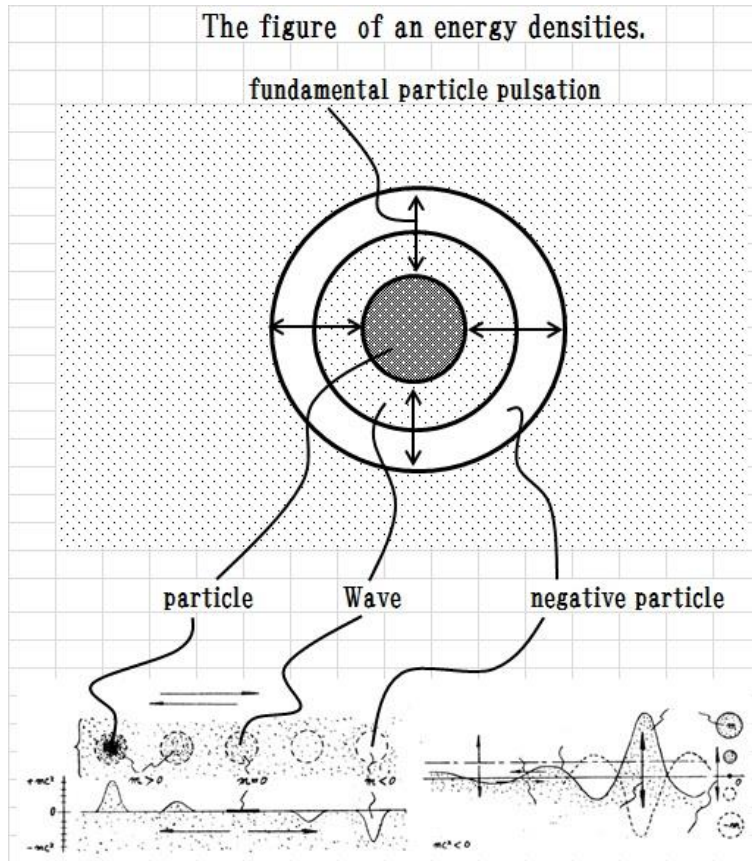


Figure 3. Nuclear force, gravity and the electromagnetic power. (1980)

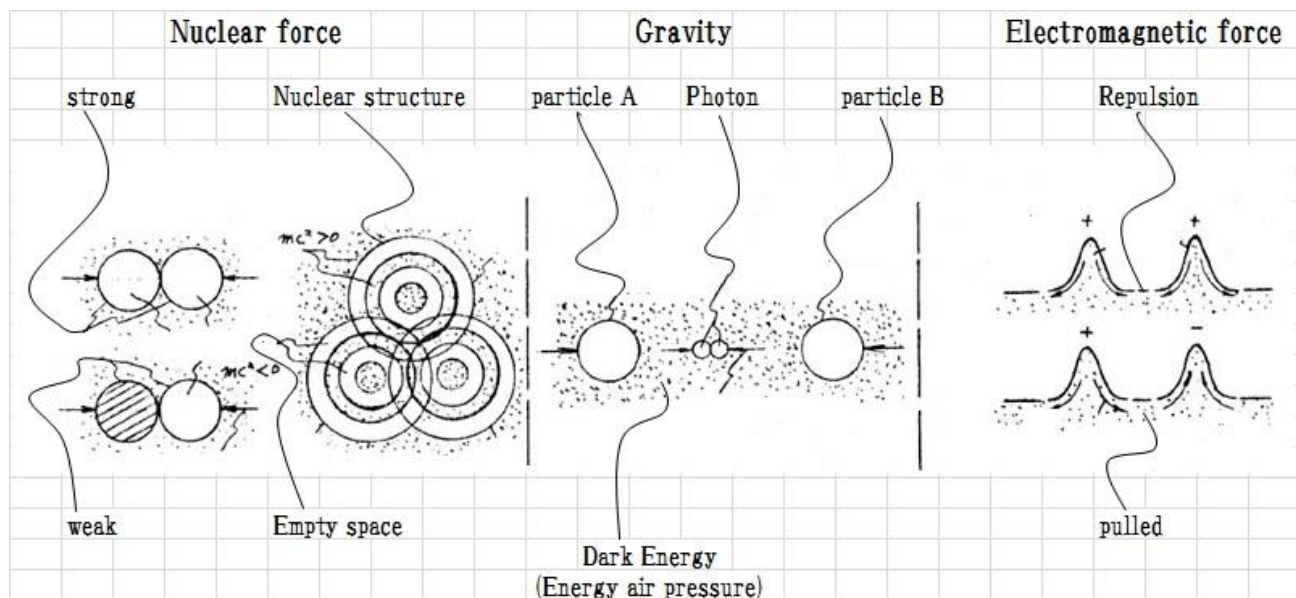


Figure 4. Higgs organization

Principle of elementary particle pulsation explains Higgs mechanism.

Elementary particles have size (mass) intermittently, eliminating the infinity of the equation.

Currently, Higgs particles are basic particles giving mass to elementary particles.

However, the origin of the mass of the Higgs particle itself is unknown.

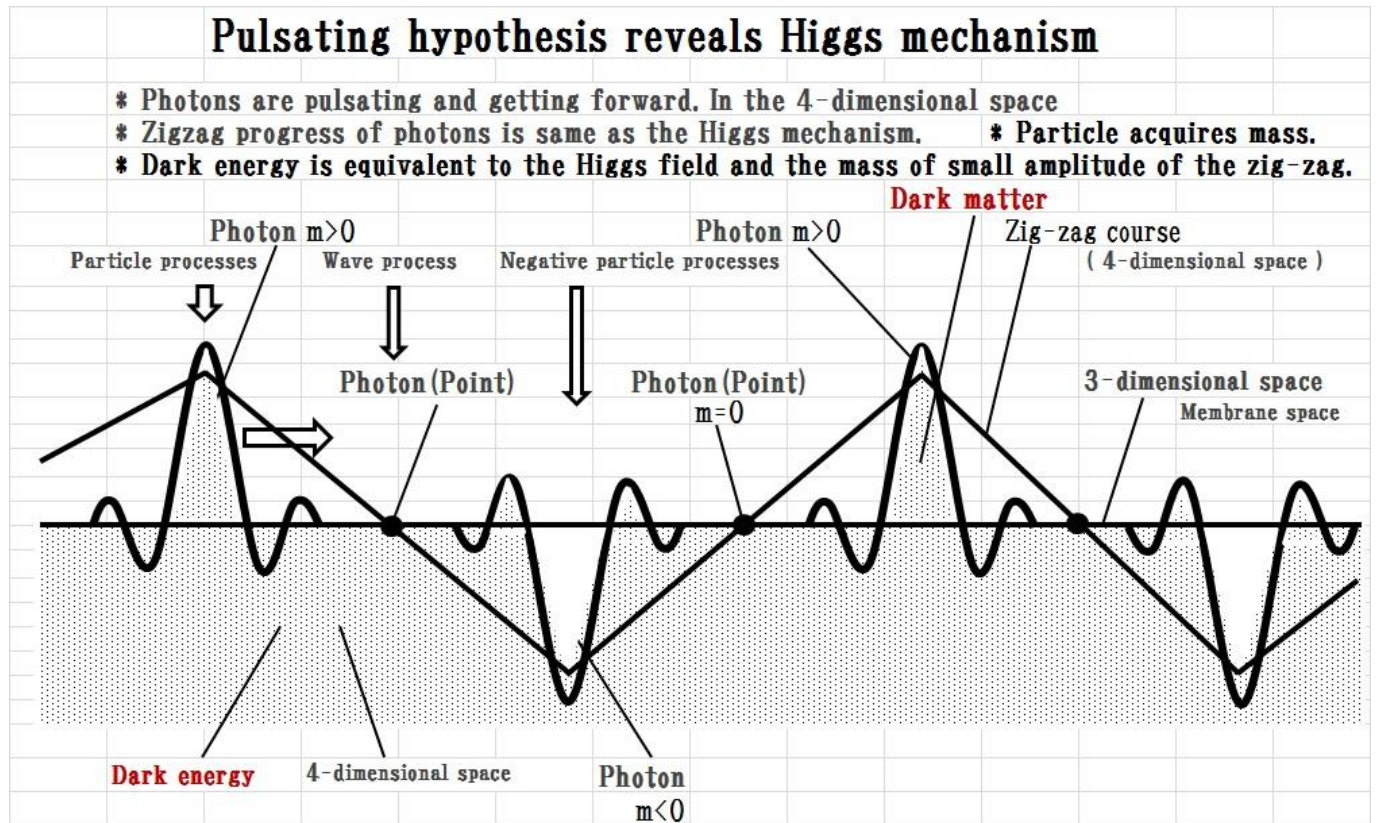
The principle of elementary particle pulsation gives mass to elementary particles.

The mass of the photon is generated by the pulsation of the four-dimensional space. (Most of the mass is kinetic energy)

The photon( $mc^2$ ) in the particle stroke and the photon( $-mc^2$ ) in the negative particle stroke are supersymmetric particles of the photon.

The total energy sum is zero.

(Higgs mechanism)



3) Dark Matter (The Photons who pulses is a dark matter.)

The present prediction.

A photon is a perfect dark matter candidate if the photon has a mass and it is a particle in the Curur-Klein state.

•According to Elementary particle pulsation principle.

A photon pulsating in a 4-dimensional space has positive and negative masses. In case

It is a particle in the Curur-Klein state. In case

Photons are perfect candidates for dark matter.

Figure 5. 4 dimensional space

The particle stroke and the negative particle stroke are four-dimensional spaces. The three-dimensional space is a cross-section of a four-dimensional space. Elementary particles that pulsate in 4-dimensional space have mass. However, Elementary particles in three-dimensional space are points with zero mass.

## Discovered new 4-dimensional space

( Figure A and Figure B is another direction arrow )

Figure A The concept of the modern vacuum.

Particle and antiparticle . From the vacuum space : Birth and Annihilation

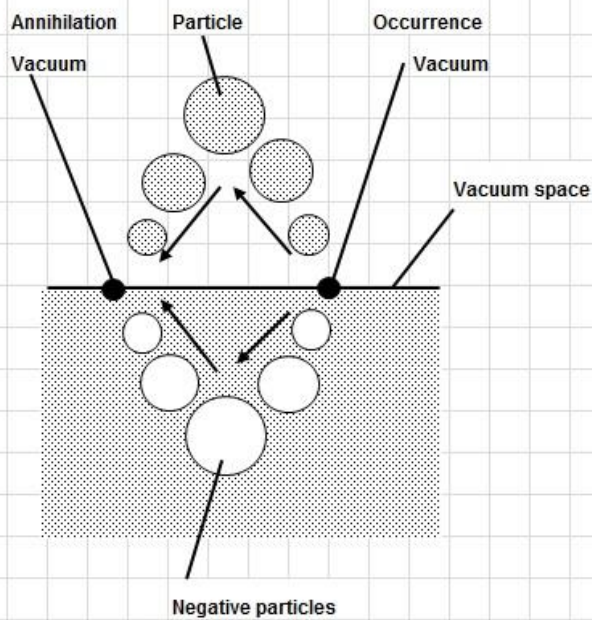


Figure B New 4-dimensional space

Elementary particles have repeatedly caused

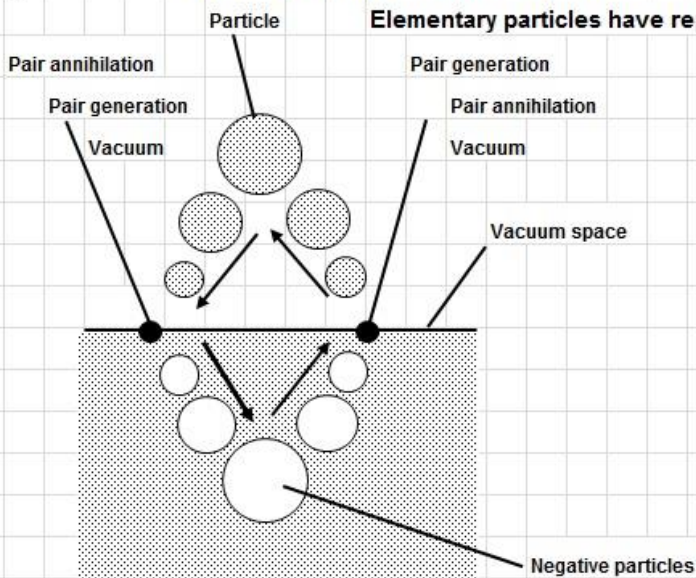
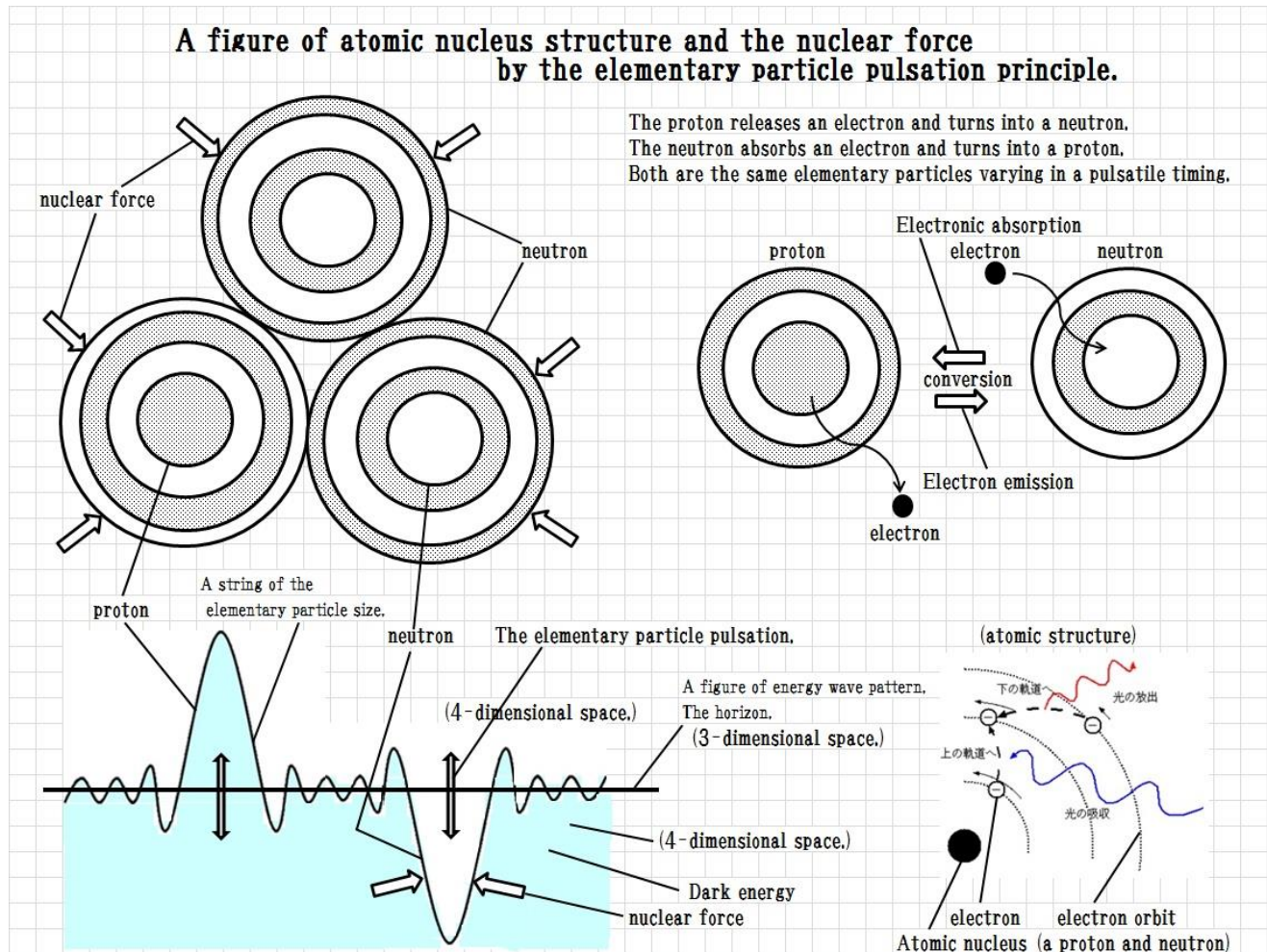


Figure 6. The structure of the atomic nucleus

The valleys of proton and neutron waves are negative particles、Protons and valleys of neutron waves are negative particles、The compressive power of dark energy acts on the valleys of the wave、Nuclear forces will occur. The compression force of dark energy acts on the valley of the wave And Nuclear forces will occur.



**Photons are perfect candidates for dark matter.**

(A photon pulsating in a 4-dimensional space has positive and negative masses. )

Dark matter and dark energy are the greatest mysteries of Astrophysics science.

All physical theory of existence can't solve a mystery.

The dark energy was found in 1998.

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of photons in three dimensional space.

$+mc^2$  and  $-mc^2$  cancel each other in each pulse of pulsation and the total energy becomes zero.

The three dimensional space we recognize is the section of 4 dimensional space.

Elementary particles repeat conversion of particles and waves at Planck time.

A photon is a mass zero by a wave journey.

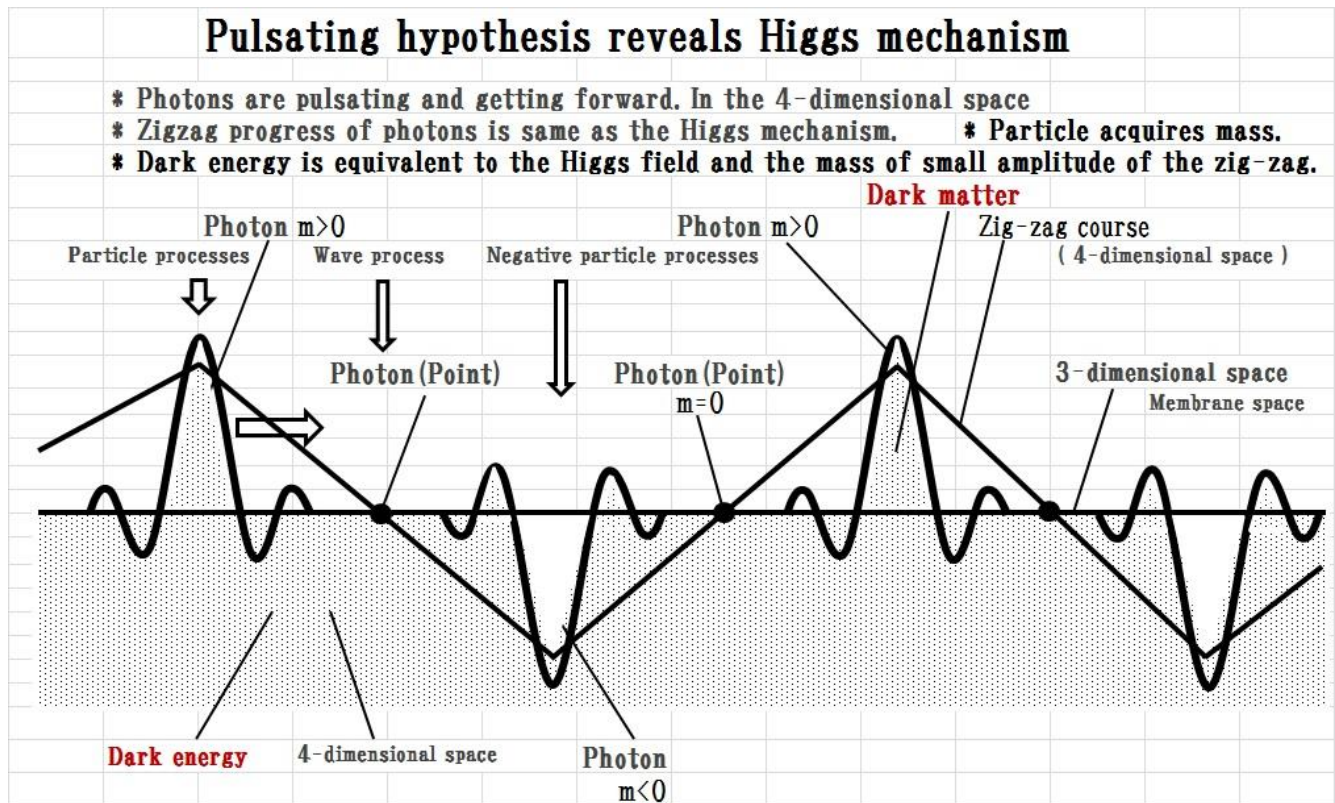
It isn't possible to detect the mass of the photon by an experiment of three dimensional space.

That has the mass of the plus or minus by a particle journey and a wave journey.

A photon is filled in space.

Figure 1.

A figure is the photon which pulses at 4 dimensional space.



Einstein kept looking for 4 dimensional space for unification of gravity and the electromagnetic power.

But、

He couldn't find it.

A fundamental particle pulsation principle solves the puzzle.

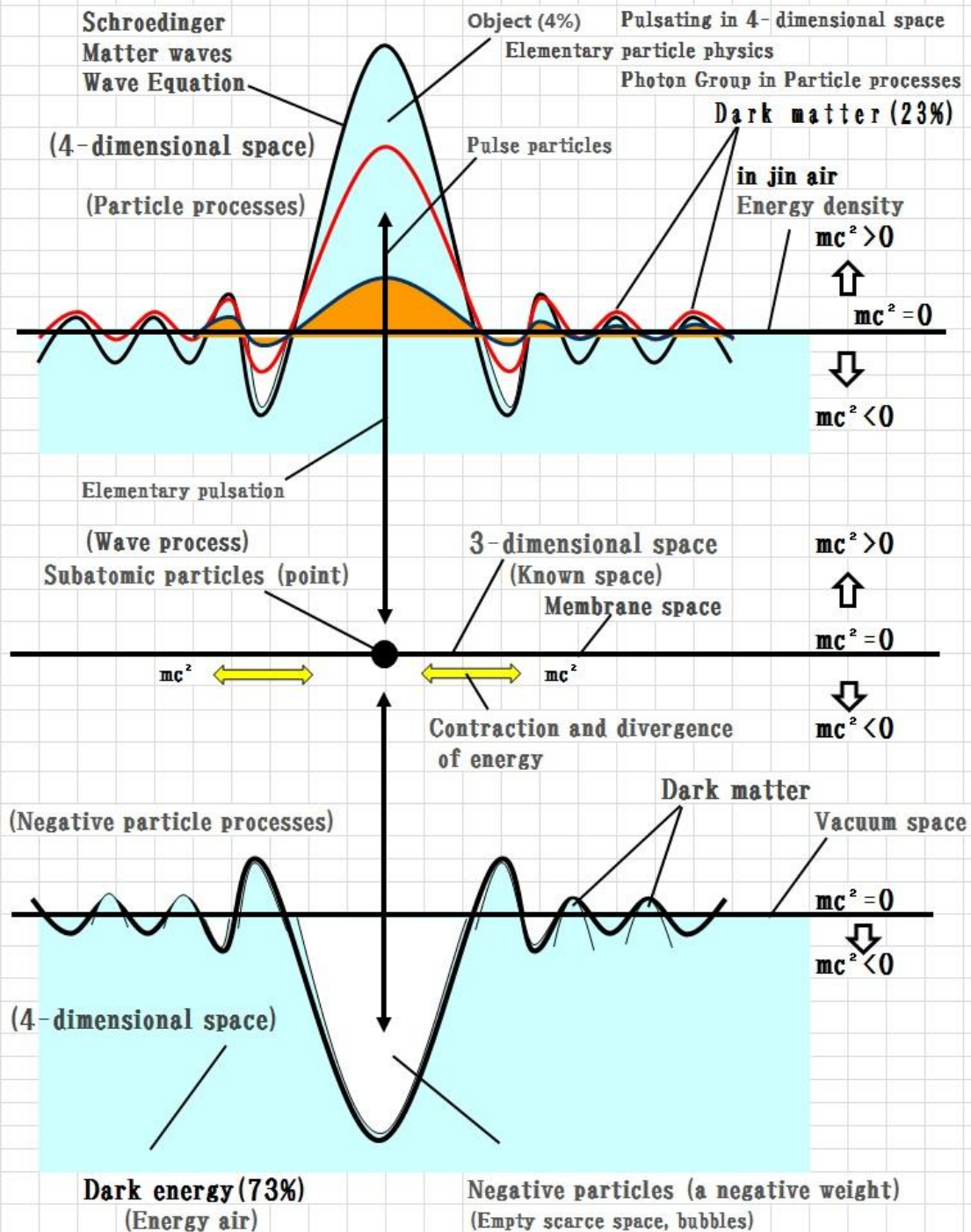
Figure 2.

A figure is a key map in 4 dimensional space.

# 4-dimensional space

Be cut in 4-dimensional space sees our 3-dimensional space.

Outer space is bathed in light (a pulsating Photon Group), which form a 4-dimensional space.



A fundamental particle pulsation principle

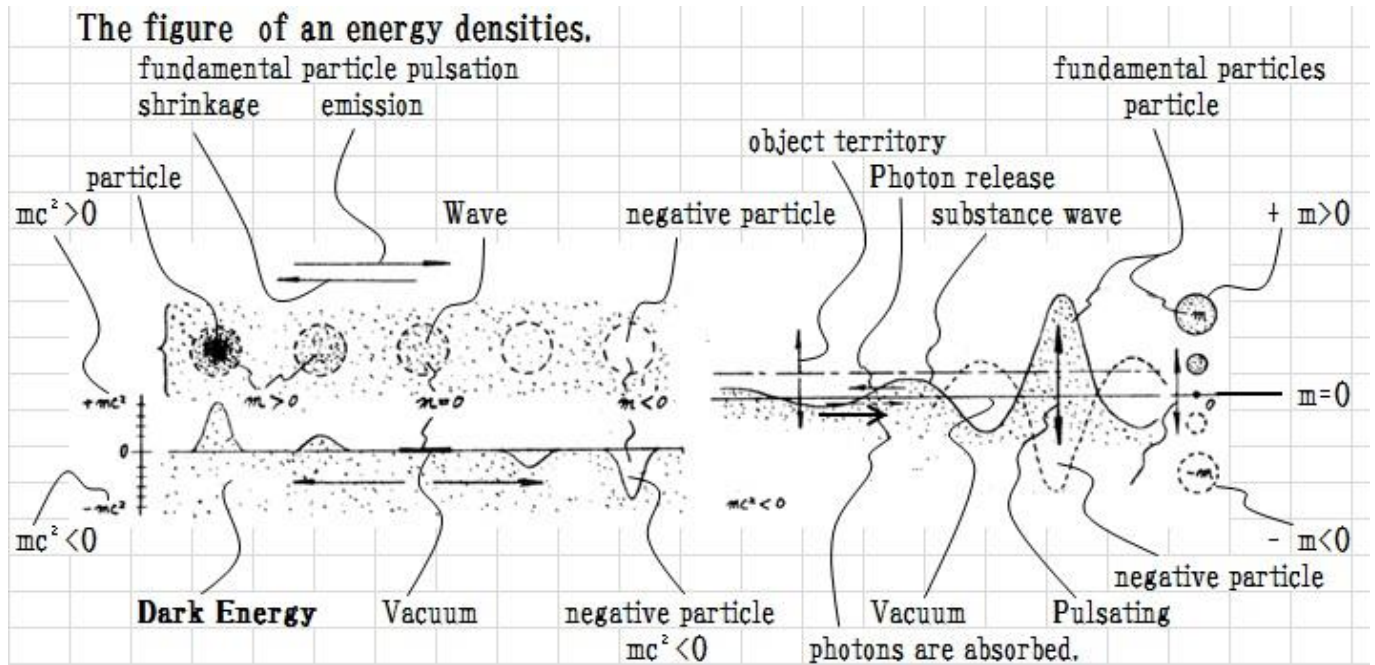
2) Hypothesis to theoretical physics " Elementary particle pulsation principle "

[Pulsating hypothesis]

Figure 3. A figure is an energy corrugated figure.

Figure 1. Conceptual diagram of energy waveform of pulsating principle





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Figure 7. A quark and a super-string .

The principle of elementary particle pulsation explains the quark model and superstring model.

# A pulsation hypothesis leads a super string and a quark theory.

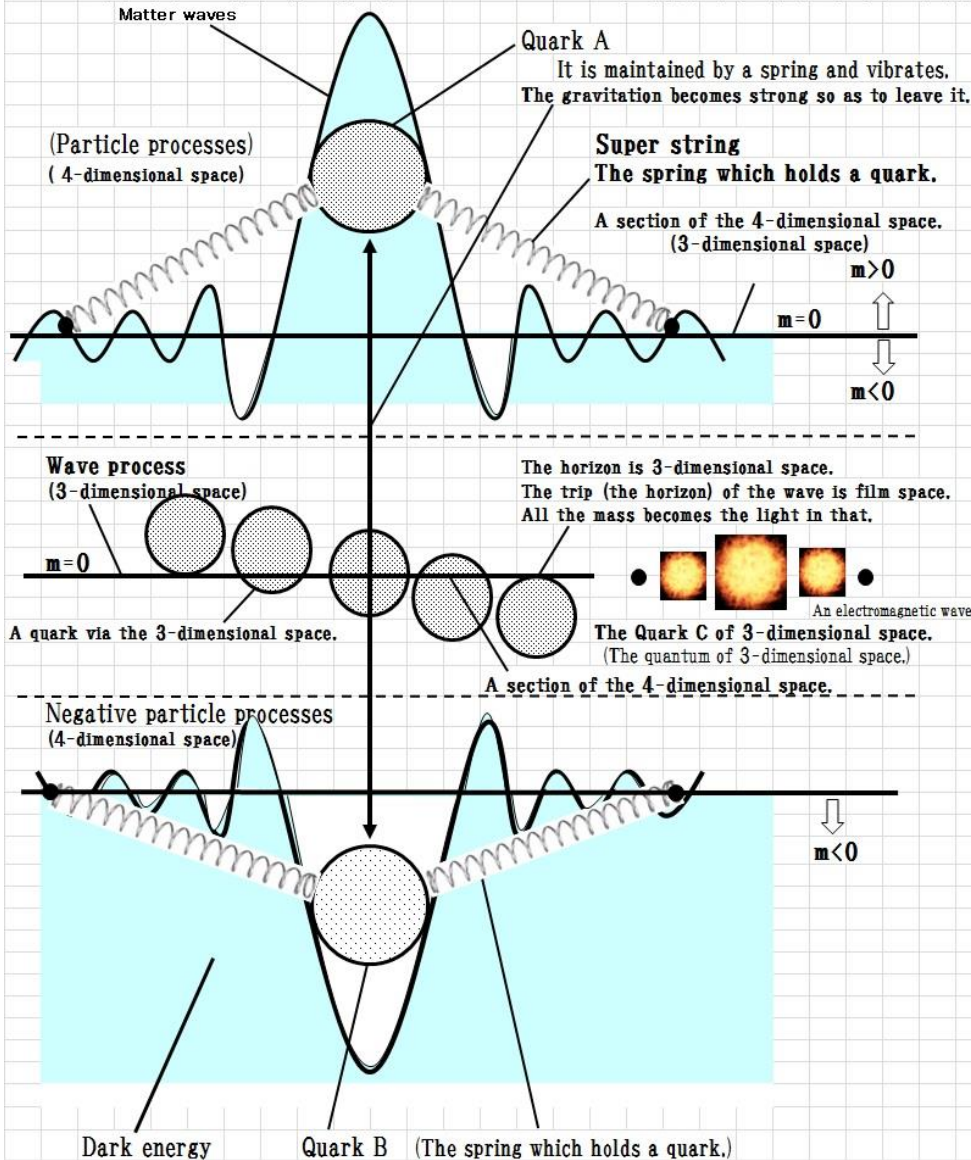
(A string theory of the elementary particle size.)

(image)

The fault of the initial string theory. A hadron of mass zero. The quark which came close. Quark A and quark B. The vibration of the same thing. Both are not separate existence. A matter wave holds a quark. A matter wave lets a quark vibrate. A matter wave is elastic body. One quark turns into quark A, quark B, quark C. The trip (the horizon) of the wave is film space. The trip (the horizon) of the wave is 3-dimensional space. All the mass becomes the light in that.

The elastic film covering a quark.

The mass of the hadron is zero in that.



- Quarks and superstrings in three dimensional space are points that do not have size.
- There are ultra pimp of elementary particle size. It describes electrons, protons, neutrons.

## Explication of a black hole by a fundamental particle pulsation principle.

A black hole is based upon physics of a dark energy pulsation principle. And

A black hole is assumed to be repeating pulsation by the cycle of hundreds of millions of years.

In a mass corrugated figure of the dark energy pulsation principle.

A horizon is a boundary line of three dimensional space and 4 dimensional space.

A horizon of a pulsation principle and an outline of a black hole are the same one.

The energy of the three dimensional space is changed to the mass of the plus or minus in 4 dimensional space by an outline.

Time stops by an outline and a horizon.

A picture of a black hole is the picture observing space in 4 dimensional space from three dimensional space.

A black hole is the negative mass of 4 dimensional space (air bubble-like space).

The black hole is based on usual physical theory. And

General principle of relativity and quantum mechanics can understand.

The mass of 4 dimensional space is uniform. And

A peculiar point doesn't exist during it.

The mass of the photon is a zero by three dimensional space. But

Photon has the mass at 4 dimensional space.

Its mass is dark matter.

The horizon of a black hole and a phenomenon is based on usual physics. And

A black hole is observed as a picture of the mass in 4 dimensional space.

A black hole will be inspection of a dark energy pulsation principle (fundamental particle pulsation principle).

# Black hole and pulsation principle

A black hole or is assumed to be pulsing.

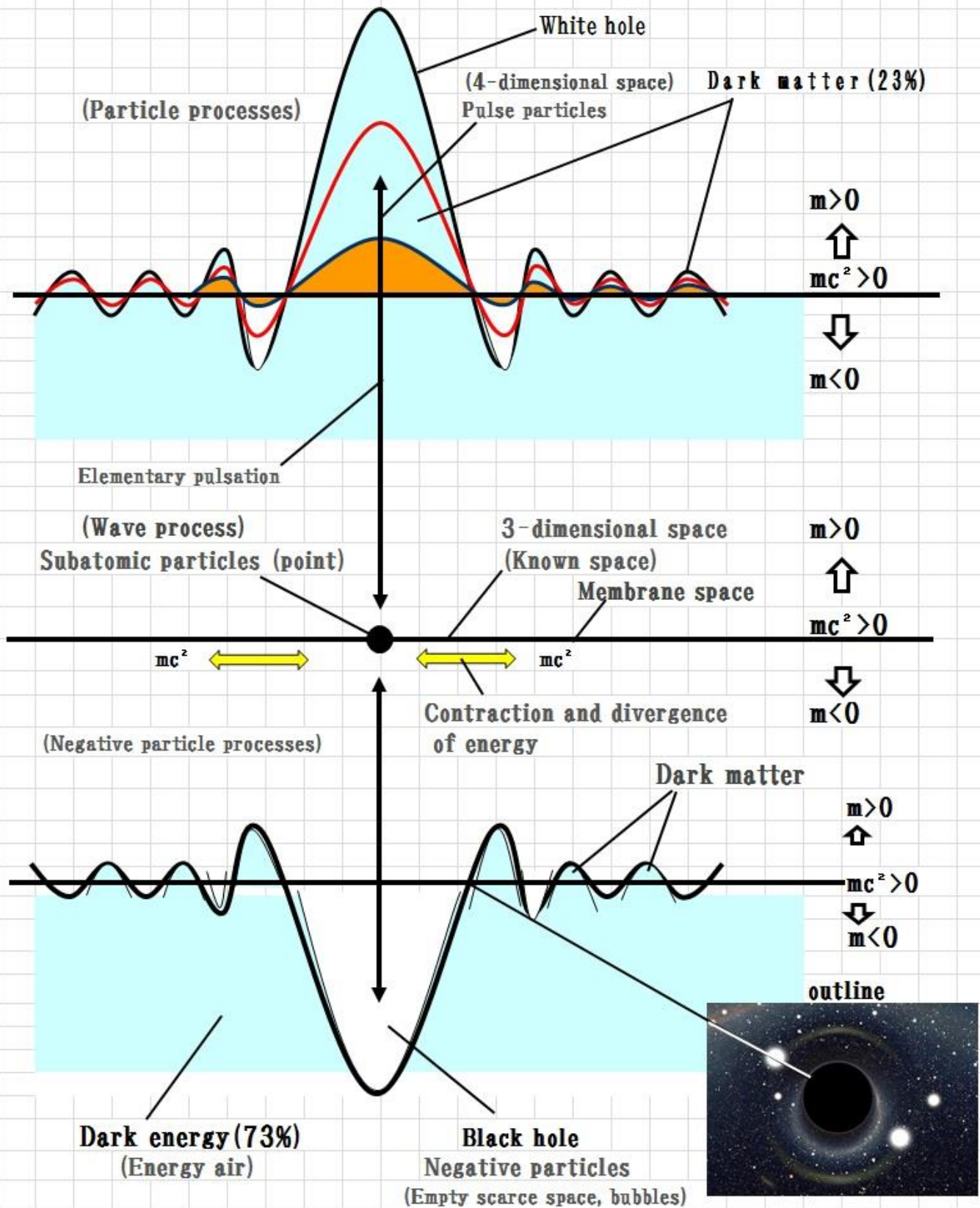
The horizon of a black hole is same as a horizon of a pulsation principle.

A black hole is the picture observing the mass of 4 dimensional space from three dimensional space in the film universe. Time stops at each horizon.

Photon's particle has a mass in four-dimensional space. It is a dark matter.

A horizon of a pulsation principle is a change line of the mass and the energy.

An outline of a black hole is a change line of the mass and the energy.



## 脈動する光子は暗黒物質の完璧な候補。

- \*光子は粒子行程にて質量を持ち、負粒子行程にて負質量を持つ。波行程の質量はゼロ。
- \*光子は4次元空間の暗黒エネルギーの中を脈動しながらジグザグに進む。
- \*脈動によるジグザグ進行はヒッグス機構のジグザグに相当し、光子に質量を与える。
- \*脈動する光子はカルツァー・クライン状態の粒子であり、暗黒物質の完璧な候補である。

