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# Fundamental Particle Pulsation Principle-Theoretical Physics Hypothesis

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***Abstract***- This hypothesis suggests the elucidation of a number of fundamental mysteries in modern physics. The experiment of double slit is the starting point of quantum mechanics and Interpretation of wave function ψ.

***Keywords***-*4 Dimensional Spaces, Fusion of Gravity and the Electromagnetic Power, New Geometric Model of Superstring Theory, Dark Energy, Dark Matter, Space Fixed Number Λ, Offsetting of the Plus or Minus Energy by the Super-Symmetry, The Size is Given to a Fundamental Particle, Proof of Riemann Expectation*

## I. INTRODUCTION

Relativism and quantum mechanics are a basis of present-day physics. This hypothesis returns quantum mechanics to real physics from physics of a probability and I tried fusion of relativism and quantum mechanics. By quantum mechanics a fundamental particle is a particle and is a wave at the same time and probabilistic interpretation of quantum mechanics was born. This hypothesis denies the same time. That isn't simultaneous. A fundamental particle is repeating a change in a particle and a wave at superspeed. I am thinking this is the variable from which hid.

## II. HYPOTHESIS TO THEORETICAL PHYSICS "FUNDAMENTAL 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 fundamental particle is an aggregate of the energy. An aggregate of the energy is repeating an explosion and reduction in Planck time. (Fundamental 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.

Hypothesis to theoretical physics Fundamental particle pulsation principle.

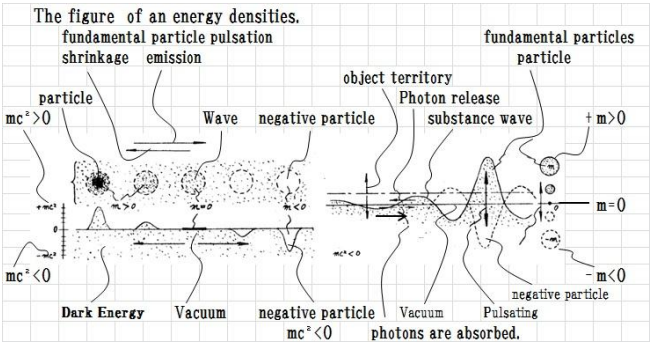


Figure 1. Conceptual diagram of energy waveform of pulsating principle

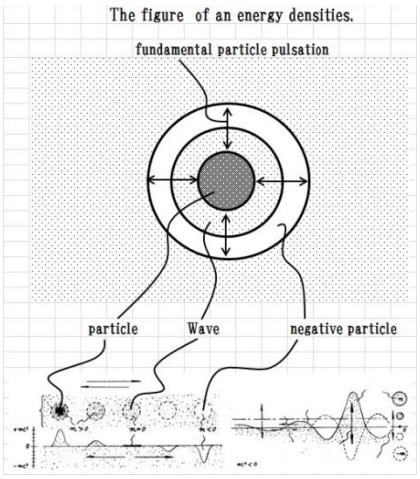


Figure 2. A conceptual diagram. Fundamental particle pulsation principle

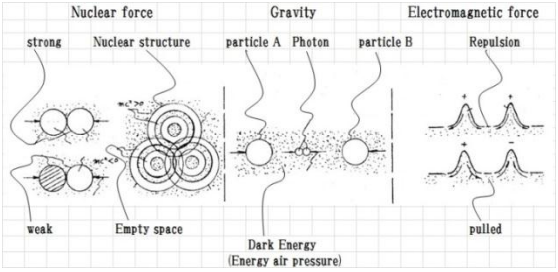


Figure 3. Conceptual diagram of nuclear, gravity and electromagnetic force by pulsating principle.

Quantization of time and space by pulsating principle. Intermittent time and space. Hidden variables in quantum mechanics.

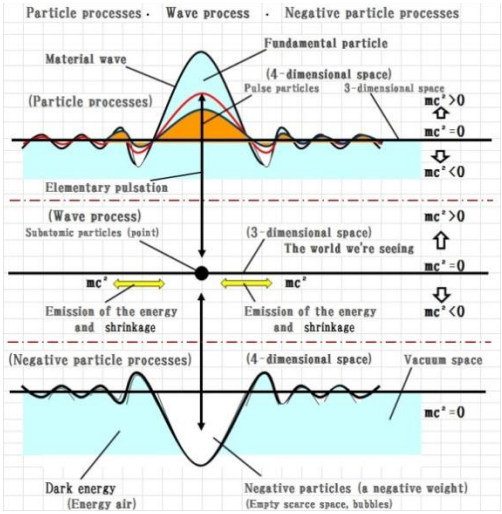


Figure 4. By a wave journey of fundamental particle pulsation

The mass of all fundamental particles is changed to the energy and that is released to a horizon. That's spread by speed of light as a material wave. When reaching speed of light according to a relativity principle, time stops. Then a fundamental particle is a point. Then the mass of the fundamental particle is a zero. Time moves intermittently like the second hand of a clock, and space also becomes discrete.

By a wave journey of fundamental particle pulsation. The mass of all fundamental particles is changed to the energy and that is released to a horizon. That's spread by speed of light as a material wave. When reaching speed of light according to relativism, time stops. When reaching speed of light according to a relativity principle, time stops. Then a fundamental particle is a point. Then the mass of the fundamental particle is a zero.

Time moves intermittently like the second hand of a clock, and space also becomes discrete. Stairs of Prime resembles a staircase in time and space.

TABLE I. TABLE OF PHYSICAL PHENOMENA BY STROKE.

| Properties | TABLE OF PROPERTIES | | |
|---|---|---|---|
| | Particles travel | Wave travel | Negative particles travel |
| Energy value | $mc^2$ | 0 | $(-)mc^2$ |
| Quality | m | 0 | (-)m |
| Size | Measured values | Point | Measured values |
| Distortion of the space | Positive strain | No distortion | Negative distortion |
| Force | No | Electromagnetic force | Gravity Nuclear force |
| 9-Dimensions | 3-Dimensions | 3-Dimensions | 3-Dimensions |
| State | Object | Vacuum | Empty space |
| Super string | Particle Measurement | Point | Particle Measurement |
| Time | For | Stop | For |
| Spin | Fermions | Bose particles | |
| Elementary particle physics | Electronic. Proton. Neutron | Photon | Graviton. Meson |
| Space | 4-dimensional space | 3-dimensional space | 4-dimensional space |
| The laws of physics | Quantum mechanics | Quantum mechanics | The theory of gravity |
| Uncertainty | Location | Exercise | Location |

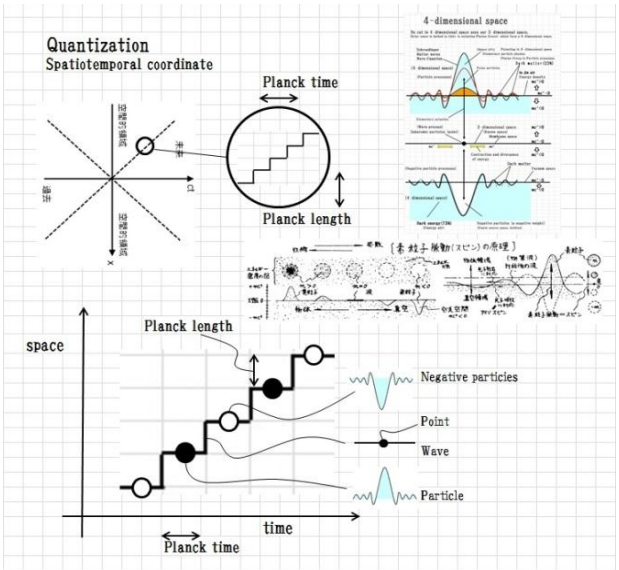


Figure 5. The Planck time is intermittent. (The variable from which hid)

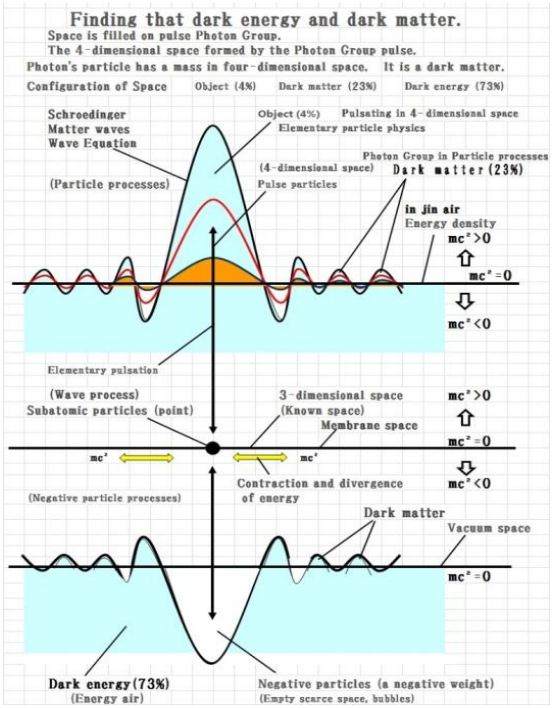


Figure 6. Dark matter and dark energy are two of the greatest mysteries of the universe, still perplexing scientists worldwide.

If the photons have mass, and if the photons are particles Carter-Klein States in, Photon is a perfect candidate for dark matter. According to a pulsation principle the photons have mass and a photon is in the state of the "Kaluza-Klein".

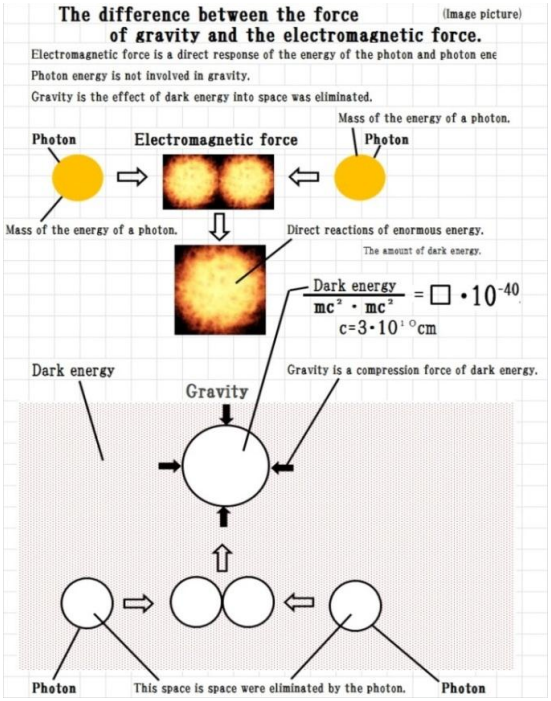


Figure 7. Concept of gravity by a pulsation principle and the electromagnetic power.

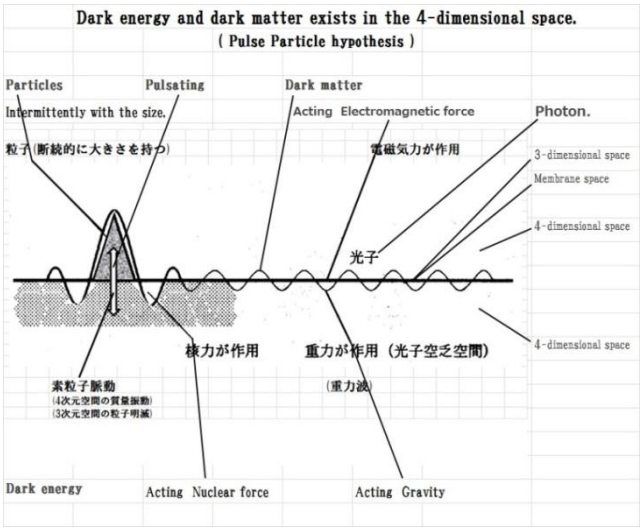


Figure 8. Nuclear forces, Gravity, Electromagnetic force.

Concept of nuclear force by a pulsation principle, gravity and the electromagnetic power.

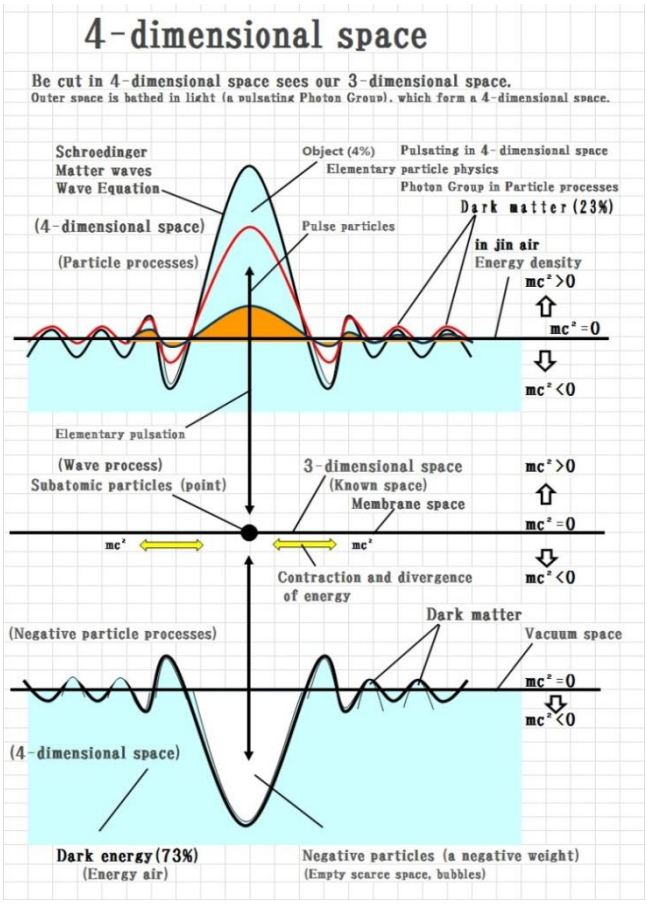


Figure 9. 4 dimensional space of Kaluza-Klein theory

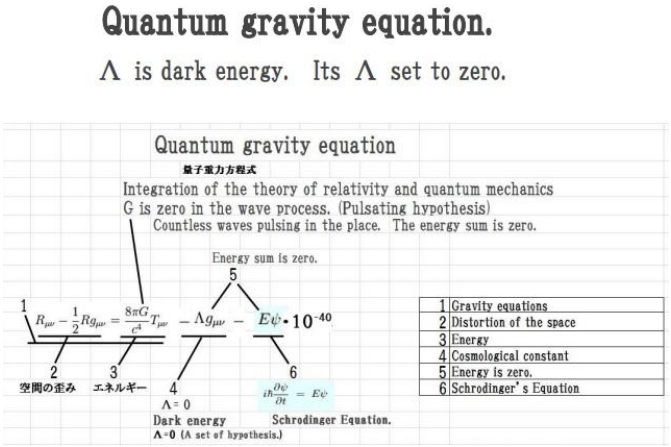


Figure 10. Combination of gravitational equation and quantum mechanics

The energy of the plus or minus is offset by super-symmetry of a pulsation model, and space fixed number Λ will be a zero.

The energy of the plus or minus is offset every 1 cycle of a pulsation model, and the total of the Schredinger equation is made a zero.

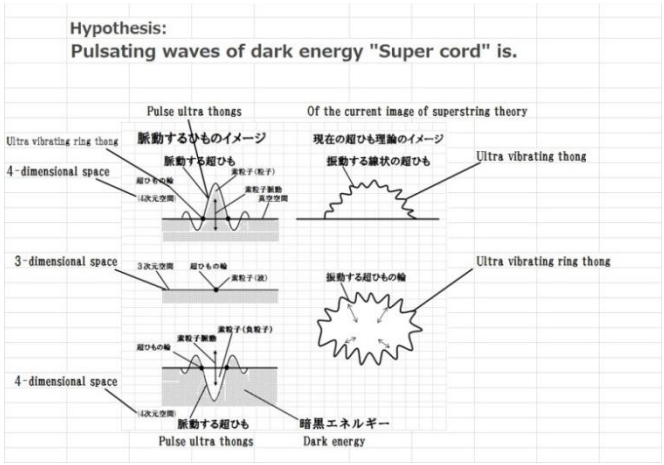


Figure 11. New geometric modelling of superstring theory.

Compact concept isn't balled minimal space, an observation is the impossible minimal hour.

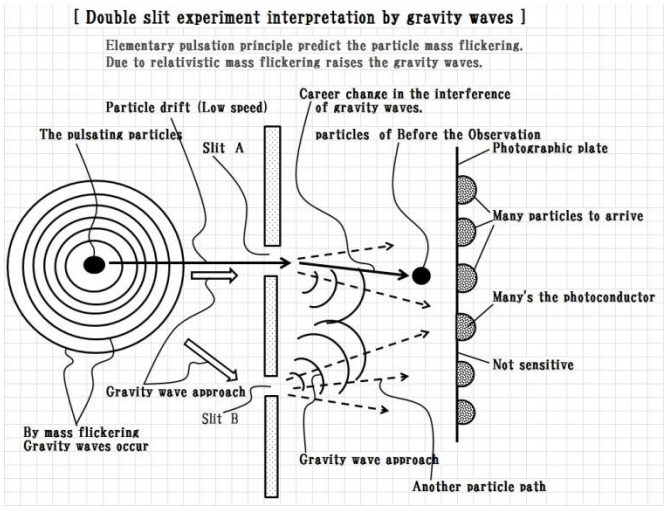


Figure 12. Mystery of a double slit experiment

Mystery of a double slit experiment is influence of a gravity wave, and the stochastic interpretation is unnecessary.

A double slit experiment is a gravity wave detector in the laboratory.

A gravity wave keeps occurring from the fundamental particle which pulses.

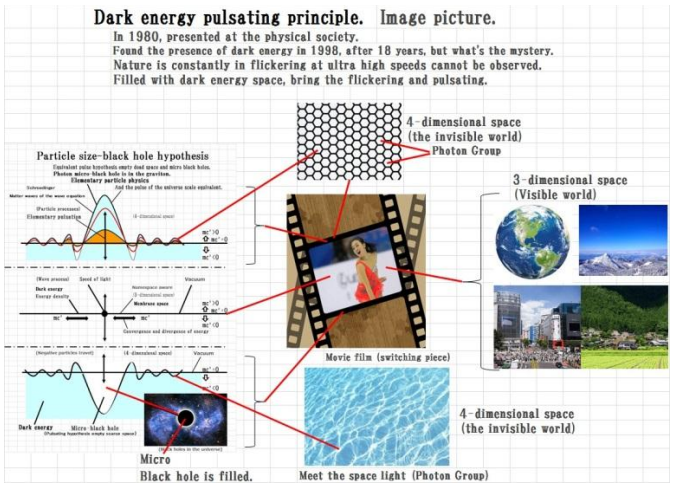


Figure 13. Dark energy pulsation principle (Another name)

The whole creation is blinked by Planck time. The three dimensional space we recognize is the section of 4 dimensional space.

This hypothesis elucidates fundamental mystery in the physics whole field.

- That solves a puzzle of the dark energy and dark matter.
- That solves a puzzle in 4 dimensional space.
- That solves a puzzle of gravity and the electromagnetic power.
- That solves a puzzle of superstring theory.
- The dark energy
- That solves a puzzle of the dark energy.
- The difference between the theory numerical value and the observation numerical value is $10^{120}$.
- Super-symmetry of a pulsation model offsets the energy of the plus or minus.
- That makes space fixed number $\Lambda$ a zero.
- The energy of the plus or minus is offset every 1 cycle of pulsation.
- That makes the energy total of the Schrodinger equation a zero.
- (A pulsation hypothesis)
- That combines an equation of quantum mechanics with gravitational equation.
- That evades infinity of an equation in quantum mechanics.
- That solves a mystery of wave function $\psi$ in a Schrodinger equation.
- That solves a puzzle of a double slit experiment.
- Gravity wave interpretation.
- A pulsation hypothesis can explain indeterminacy principle by a figure.
- A pulsation hypothesis challenges proof of Riemann expectation.
- I made them combine a distribution map of the prime number and a figure of the pulsation hypothesis.
- All zero points are on the line.
- The straight line is the section of 4 dimensional space (three dimensional space).
- The stairs of prime number are similar to time and spatial stairs.

… and all that.

## III. CONCLUSION

The hypothesis of "fundamental particle pulsation principle" announced in 1980 is physics of the found dark energy in 1998. An energy corrugated figure showed the average density of the dark energy as a horizon. A fundamental particle is shown as a ripple mark of a horizon. A fundamental particle is repeating a change in a particle journey, a wave journey and a negative particle journey by Planck time. A horizon is the grand unification place where nuclear force, gravity and the electromagnetic power were described in unifying way and everything is blinked at super speed. The mass of the photon is a zero. But a photon is a perfect ticket for dark matter with the mass at 4 dimensional spaces by pulsation.

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**Terubumi Honjou**, address: 254-0914, Japan, Takamura 203, Hiratsuka-Shi, Kanagawa-Ken. Member of the Japan Association of Mathematicians. Birthday: February 12, 1942. The job category: Free. Academic meeting announcement: 1980.