We understand what all theories are not able to explain the space before the Big Bang, include Higgs mechanism. Why is that, we make clear that has to keep the symmetry. When we will enter the space before the Big Bang, there are unloading a dim curtain as "fluctuation" and "chaos" etc, which has impossible to explain the theory.

Therefore, I suggest the B-W field as the space of origin. We look in to after the Big Bang at here. Then, I will use as the probe which sets the virtual-particle Areon and explores the consistence of the principle of relativity and the quantum theory.

1.　The B-W field

The virtual-space of origin had the phase transition at GAPS theory [1] which made the light-velocity c, the Planck's constant $\hbar$, the magnetic charge -magnetic flux- Q and the electric charge q. I arrived at them use to calculation theory is Laplace inverse transformation as Bromwich-Wagner integration [2] is the foundation.

$$ L^{-1}[Gf(s)] = \frac{1}{2\pi i} \int_{c-i\omega}^{c+i\omega} \varepsilon^{st} f(s) ds \qquad \cdot \cdot \cdot \text{B-W integration} $$

The virtual-space of origin has nothing to all, distance, direction, energy and power etc as a stereotype. However, I will change a method of receiving in this idea.

It is made "You not able to refer about distance, direction, energy and power etc of the virtual-space of origin". I make the B-W field at the physical field like this space. In a wide sense, it is nothing. You can give the condition by freely even if impossible to refer to the field, fortunately.

First, I give a complex plane that is possible to B-W integration. The Laplace inverse transformation stands up which expresses the phase transition.

$$ Gf(s) = \pm [c]_{\omega} \frac{s-\sigma}{(s-\sigma)^2 + \omega^2} \qquad \cdot \cdot \cdot \text{Function of Laplace transformation} $$

Next, I give three dimensions to the real space for express the universe after the Big Bang. Also, I give imaginary space I_3 which has three dimensions, too, because B-W integration needs a one-to-one ratio with real dimension and imaginary dimension.
The functions are, as follows.

$$ R_3 = (x, y, z) \qquad I_3 = (ix, iy, iz) \qquad\qquad \cdot \cdot \cdot (1) $$
$$ G_3 = [(x, ix)(y, iy)(z, iz)] $$
$$ = (g_1, g_2, g_3) \qquad\qquad \cdot \cdot \cdot (2) $$

This G_3 forms Para B-W sphere 【Fig 1】. The requirement of the B-W field is in the virtual-space of origin as impossible to refer. However, the virtual-space of origin has not

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only this condition but also many things and chances. How dose them do that is return to the virtual-space of origin and does not actual state.

The B-W field is same as that, pair creation of the 3-D real space and the 3-D imaginary space are pair annihilation immediately. In other words, it has not become substantial space which returns to the virtual-space of origin.

I make organize the B-W field, here. The H is the virtual-space of origin. You are not able to refer to dimension of the virtual-space H which mean has no limitation for dimension. The B-W field, it is a property of the virtual-space, needs real three dimensions, imaginary three dimensions and three complex planes which is made by combination of them for the physical quantity has survive in the actual space. G_3 is the complex space in temporarily but I call it GAPS $-$the gap space$-$ in correct. Also, dimension number of the actual space is not six which should make nine in appearance. Then I represent as H_9.

$$H_9 = (R_3, G_3, I_3) \qquad\qquad \cdot \cdot \cdot (3)$$

Clear the discus here.

(a) The virtual-space of origin H has equipped in essentially with the B-W field.

(b) The space which is not separated the real space R_3 and the imaginary space I_3 in clearly was born which is Entanglement [3] with R_3 and I_3 by the B-W field has many kinds of phase transitions repetition.

(c) The gap space G_3 was born which was composed between R_3 and I_3 then the whole space H_9 was formed.

(d) The B-W field is the energy field where the result of the addition and subtraction is always zero.

(e) The fluctuation and chaos is not necessary put into the B-W field. Also, the spontaneous symmetry breaking is unnecessary.

2.　The elementary function F

Of cause, the function (3) is not origin. It was making by the phase transition for exists the sustainable space. The phase transition, here I say, is the Laplace inverse transformation in mathematical. The Laplace transformation is same. The elementary functions which got from GAPS theory are, as follows.

$$F_R = \pm [a]\, \omega \exp (\pm \sigma \tau) \cos \omega \tau \qquad\qquad \cdot \cdot \cdot (4)$$
$$F_G = \pm [V]\, \omega \exp (\pm i \sigma \tau) \cos \omega \tau \qquad\qquad \cdot \cdot \cdot (5)$$

F_R is the function of real space. F_I is the function of imaginary space. F_G is the function of GAP space. Omit F_I because only give i to front of F_R.

I got many base functions of the physical in integrate of the elementary function.

I got here the Acceleration, inverse of Capacity, Moment of Force, Energy, Electric Potential, Velocity, Angular Momentum, Planck's constant, Magnetic Charge－Magnetic Flux－, Distance, Inductance, Moment of Inertia, Electric Moment, and Electric Charge. Especially, I got the value in definite that the light-velocity c, the Planck's constant $\hbar$, the magnetic charge -magnetic flux- Q and the electric charge q, as follows.

$$v = \pm [c]\, \omega^2 e^{+\sigma\tau} \cos\omega\tau /(\sigma^2 + \omega^2) \quad \cdots \quad \text{light-velocity} \tag{6}$$

$$\mathbb{H} = \pm [\hbar]\, \omega^2 e^{-\sigma\tau} \cos\omega\tau /(\sigma^2 + \omega^2) \quad \cdots \quad \text{Angular Momentum} \tag{7}$$

$$|\mathbb{H}| = \hbar \quad \text{is Planck's constant}$$

$$Q = \pm [Q_-]\, \omega^2 e^{-i\sigma\tau} \cos\omega\tau /(\sigma^2 + \omega^2) \quad \cdots \quad \text{magnetic charge} \tag{8}$$

$$Q_s = \pm [Q_+]\, \omega^2 e^{+i\sigma\tau} \cos\omega\tau /(\sigma^2 - \omega^2) \quad \cdots \quad \text{magnetic charge} \tag{9}$$

$$\text{It has singular point}$$

$$q = \pm w\tau\, \mathbb{H}/Q \quad \cdots \quad \text{electric charge} \tag{10}$$

$$-\text{Part of real space}-$$

3. The Virtual-Particle Areon

It is obviously that existence of the energy when I use the Laplace inverse transformation for take the elementary function. The virtual-space H needs energy for phase transition.

I overall take the function group which was won here and I make one phenomenon A. Name this phenomenon the "Areon". This is the coinage which made by area with on which is expression of particle.

You may think the Areon which is the unit space of quantization or a quantum or a basic particle. Using the function

$$E_A = \hbar\, \nu_A \quad \cdots \quad (11)$$

get energy E_A of the Areon. I attach symbol A because distinguish general function and here.

ν_A is frequency of the Areon. I use the result of the GAPS theory here. I use the number of $\omega\tau$ and $\sigma\tau$. j is the position of $w\tau$ and θ.

For example, in case of

① $w\tau_j = 48.87668$

As follows,

$\theta_j = 4.21671E-7$ $\qquad$ $\omega\tau_j = 0.00001312066853\,\pi/2\ (\doteqdot 0)$

Next case,

② $w\tau_j = 48.886015$

As follows,

$\theta_j = 0.01954296$ $\qquad$ $\omega\tau_j = 0.955316618$

And then,

③ $w\tau_j = 48.901915$

As follows,

$\theta_j = 0.032126893$ $\omega\tau_j = 0.999999999890292\,\pi/2$ ($\fallingdotseq \pi/2$)

Value of j has from 1 to ∞ because it has not quantization. By the way, j is 1 at ①.

I get the frequency ν base on case ①, ②, ③. $\omega\tau$ starts almost 0 [rad] at case ①, so the frequency starts same point, as follows.

$\nu_① = (48.87668 - 0)/2\pi$

$= 7.778965223$

$\fallingdotseq 7.779$

The frequency of case ② starts 0.955316618 [rad], as follows.

$\nu_② = (48.886015 - 0.955316618)/2\pi$

$= 7.628407573$

$\fallingdotseq 7.628$

By the way, 0.955316618 [rad] is tilt angle of the electron.

The frequency of case ③ starts almost $\pi/2$, as follows.

$\nu_③ = (48.901915 - \pi/2)/2\pi$

$= 7.53298109$

$\fallingdotseq 7.533$

The phase difference is $\pi/2$ between case ① and case ③. Also, $+$ and $-$ of Q has the phase difference π. It mean is that the Areon, or energy of Areon, has both spin [-1, 0, 1] in case ① and spin [-1/2, 1/2, 3/2] in case ③.

The meaningful case is only ① and ③ which have physical number exist in the real world c, ℏ, q got by the GAPS theory. However, the Areon is built by all case include ②. I got the frequency ν_A, in above.

$\nu_A = (7.533, \ 7.779)$ $\cdot\cdot\cdot$ (12)

Also I got the energy EA by the function (11) and (12).

$E_A = (7.944E-34, \ 8.203E-34)$

I change the system of units, here. Use as follows.

$1eV = 1.60217733E-19$ [J=$V^1A^1s^1$]

Then I got, as follows.

$E_A = (4.958E-15, \ 5.120E-15)$ [eV] $\cdot\cdot\cdot$ (13)

The Areon is a mixture of the Boson and the Fermion after I considered it in comprehensive. Incidentally, I observe the function in correctly what light-velocity c and electric charge q have the solution of plus or minus is obvious.

By the way, the Areon has only plus energy because the Planck's constant is

scalar with absolute value of angular moment and

$$|Ħ|=ħ$$

frequency ν_A has only positive value.

Consider about phase transition.

It is possible to express that virtual-space H was separated in the area of the real and imaginary with the phase transition and express by The Laplace inverse transformation in mathematically.

This is simple pair production of the phenomenon A'. In this case, phenomenon A' anti disappears immediately. I call a series of the phase transition are "simple phase transition". Incidentally, the real and imaginary area is a virtual energy area and the frequency is zero in this case. Of course, the virtual-space H before the phase transition had zero virtual energy E_H.

This phase transition is stabilized by the create of the complex area "the gap space" in the moment －before pair annihilation－ pair creation of the real and imaginary area. The elementally function, as follows.

$$F=(F_R、 F_G、 F_I) \qquad (\text{Omit } \pm)$$

I call this "first phase transition". I make H_9 of the whole space after the phase transition.

Next, I integrate the basic function which was gotten when the first phase transition.

$$\int F_R=(v、 Ħ) \qquad \int F_G=(Q、 Q_S) \qquad (\text{Omit } F_I)$$

There are basic physical quantities as already explained. A series of these natural operations are called "second phase transition". The substantial weak positive energy area is born here.
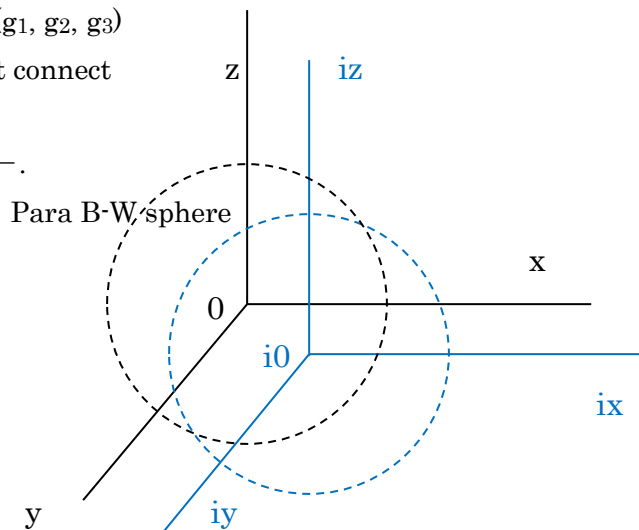
●The Para B-W sphere like the soap bubble in image

$G_3 = [(x, ix), (y, iy), (z, iz)] = (g_1, g_2, g_3)$

The starting point 0 does not connect

That is the gap space

－the virtual complex space－.

Para B-W sphere

【Fig 1】

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Also, pair creation of the electric charge q of the plus or minus and the energy coheres in the "third phase transition". I make the phenomenon A which is the minimal area includes them and I call it the "Areon" for repeating. The electric charge is repeating the pair creation and the pair annihilation as the phenomenon in the Areon. The Areon is the Holographic Bubble in the gap space G_3. This is the Para B-W sphere【Fig 1】.

4.   The relation between the mass and the electric charge

The mass is born and the gravitation occurs in the "fourth phase transition". The mass is necessity for the stabilization of the plus and minus electric charge which was the pair creation. It does the pair annihilation that each of the plus and minus electric charge pastes two pieces of same mass respectively. The minus electric charge comes the electron by pastes the micro mass. The Neutrino $\bar{\nu}$ (s=−1/2) exists as the constructor of the electro-weak interaction. The plus electric charge pastes the quark of three pieces of micro mass comes the proton. The occurrence of the strong interaction and the electro-weak interaction are same reason in avoid the pair-annihilation of the electric charge. They survived that do not the pair annihilation which is the counter particle to entertain just like different one. The Neutrino $\bar{\nu}$ acts what is the relation between theoretical stabilization of neutron in the composite-particle and stabilization in short time of the independent neutron.

The electric charge is born only in the gap space G_3. And it does not survive by the pair annihilation in the real space R_3. The energy object is not able to survive only in the real space R_3, because the magnetic charge Q is in the gap space G_3. It is necessary to become mass m if trying to survive in the real space R_3. The mass is not born in the gap space G_3. The mass can survive in the real space R_3, but it was not creating in the independence. The electric charge q pastes the mass m which is stabilization in the real space R_3.

I use $E=mc^2$ and

$m=E/c^2$ $[V^1A^1M^{-2}S^3]$.   (VAMS unit system)

By the energy function of Einstein $E=mc^2$. Incidentally, $q[A^1S^1]$, $E[V^1A^1S^1]$, $c[M^1S^{-1}]$.

The negative mass does not exist by the real space R_3 has not negative energy. The reason of the mass was not create in the independence what the real space R3 of origin do not have a resistance by no interaction and all phenomena are moving light velocity by a super-fluidity and a super-conductivity. However, the Neutrino which has minimal energy and mass exist here that should be move light velocity.

The elementary particle which is not accompanied of the electric charge is not able to survive in the natural world –the real space R3– by un-stabilization.

Therefore, I make the elementary particle

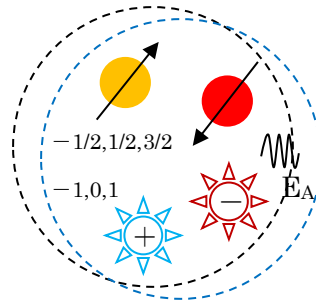K (m, q) $\cdots$ (14)

at sub-function which has the substantial. Also, original mass is a minimal even if exist then the gravitational interaction is a negligible quantity.
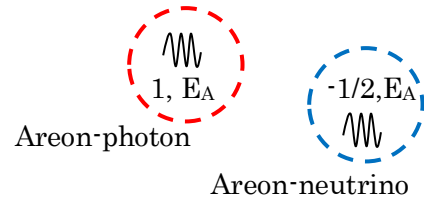
       All particles should be running at light velocity for survive in the real space R_3. Incidentally, the negative energy and the negative mass can exist in the imaginary space I_3. Because, the absolute value expression of imaginary symbol i becomes negative.

       It is the Areon-photon that first occurred in the real space R_3. The positive and negative electric charge past to the Areon-photon in the Areon and to be pair creation of the electron and the positron. Then, the electron and positron mass existed. Also, it is the occurrence of the electromagnetic interaction through the Areon-photon. These phenomena happen what the Areon is the mixture of the boson and the fermion. After that, the electron and the positron doing pair annihilation as a result of the electromagnetic interaction and to be re-creation of the Areon-photon【Fig 2】.

●The Areon is in the gap space G_3.

The Areon is in the basic real space R_3 at first.

【Fig 2】

       The assembly at multi of the phenomena –the Areon－ can exist. I am possible to make a form for the double Areons, as follows.

【+, －, +, －】⇒ {【3 quarks, positive charge】,【1 mass, negative charge】}

In this case, do not the extinct phenomena. 【3 quark, positive charge】 is the proton that a result with strong interaction is invented and 【1 mass, negative charge】 is the electron. Above, the mass and the electric charge are stable and elementary particle can exist.

       I can receive the multi Areon but it is the complicated phenomenon for make many kinds of particle. There has a process for exist the neutron. It is collapses with instability by the weak interaction at the result. It is concluded. The neutrino －Areon neutrino－ is born in the Areon, too. It appeared in the real space R_3 from the first.
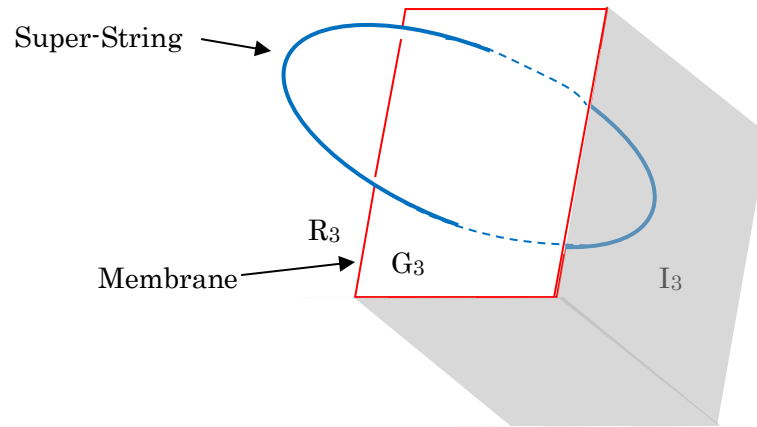
The energy of function (13) is an Areon photon $-$case① $-$ and an Areon neutrino $-$case② $-$.

5. The relation to the latest physics

The holography area G_3 [(X_1, iX_1), (X_2, iX_2), (X_3, iX_3)] express from the B-W field [4].

$$g_j = (X_j, iX_j) \quad ; \quad G_3 = (g_1, g_2, g_3)$$

The gap space G_3 is the Holographic Membrane.

【Fig 3】

Also, the Areon is like a Super-String【Fig 3】. The theory of B-W field is extension of the M-theory [5] in catch as above.

It does not have relation to the Higgs mechanism [6] as directly. It will be relates the Higgs mechanism in secondary same as the relativity or the quantum theory.

I consider here about number of dimension and generation in necessity. The original virtual-space H receives 11 dimensions, 23 dimensions or so all dimensions though why do not remain only the whole space H_9 (R_3, G_3, I_3).

This evident is simple.

(a) If there has not the orthogonal, be not able to calculation for the elementary function.

(b) If you cannot concrete calculation, do not get the light-velocity c, Planck's constant $\hbar$ and the electric charge q.

(c) Therefore, all physical phenomena do not exist.

(d) The orthogonal is concluded under than three dimensions with each dimension.

(e) They must be paired between the real space R_3 and the imaginary space I_3.

In other words, the one-to-one ratio is necessary.

(f) If only this reason, the whole space concluded (R_2, I_2), (R_5, I_5) or so.

(g) The gap space (G_1, G_2) does not concluded at the whole space is (R_1, I_1) or (R_2, I_2) which has not the holography gap between real and image.

(h) A proposition is concluded, if I possible to proof which is not orthogonal over four dimensions.

(i) The evidenced by unnecessary to the mathematical perfection as for the physics.

The magnetic charge $Q_{\pm}$ and the electric potential V exist in the holography area. Q_+ has the singular point at $\theta = \pi/4$ which may have caused the Inflation.

The imaginary space I_3 is the parallel world. The spin does not occur at the space has not the curvature. The curvature exists here that is the evidence of existence for the Gravitation.

The function of the spin at refers to the GAPS theory.

$$\text{л}_j = \sin^2\theta_j\cos^2\delta_j \qquad \text{л}_j - \text{л}_k = \sin^2\theta_j\cos^2\delta_j - \sin^2\theta_k\cos^2\delta_k$$
$$= 0 \quad \text{-Space has Curvature-}$$
$$= \beta \quad \text{-Space has not Curvature-}$$
$$\text{л}_j{}^2 - \text{л}_k{}^2 = (\text{л}_j + i\,\text{л}_k)^2 \qquad \because \text{л}_j \perp \text{л}_k$$
$$\neq 0 \qquad\qquad\qquad\qquad\qquad \cdots (15)$$

The para B-W spherical equation is, as follows.

$$(x+ix)^2 + (y+iy)^2 + (z+iz)^2 = l^2 \qquad\qquad \cdots (16)$$

or

$$(x-ix)^2 + (y-iy)^2 + (z-iz)^2 = l^2 \qquad\qquad \cdots (17)$$

The Para B-W spherical equation has a part of the spin function. The parallel world cannot exist in the GAP Space if there has not a curvature from above.

Come to a conclusion, the GAP Space was borne that has curvature.

Incidentally, I am sure that the time t is not the physical substance. I use it in temporarily as τ which is not discussed with the symmetry and so on.

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