

Principle of the compressible fluid mechanics featured by ether non-viscosity and continuous medium

Jia Yongxin; Jia Xiangyun; jia yuxuan

(SEPCOIII Electric Power Construction Corporation, Qingdao, Shandong Province, China)

Abstract: In the current optical theory, the moving mass of light quantum is usually studied as the basic mass where the photon energy is concerned. In the paper titled "The Relationship between light translation and fluctuation and ether energy and momentum", the relations between ether photon, energy of the ether field and its momentum can also be considered in light of the manifestation of the mass and momentum. This can show the situation of light quantum based on energy divergence, which has certain significance for an accurate understanding of ether. It can be seen that this method ignores systematicness and independent space of ether photon itself and only the overall relative manifested state of light quantum but not the essential state is revealed. In this context, it is difficult for us to understand the relationship between real photon mass and moving mass, which is quite unacceptable just like the principle of qualitative change in theory of relativity. From the

perspective of quantum property of light quantum momentum, the relationship between the real mass of photon, moving mass and motion itself as well as the relationship between ether photon particle group and motion of astral body and hence the relationship with frequency are analyzed. Our discussion can accurately reflect the real conditions of mass, momentum and energy of light quantum. Many results conforming to the observation are obtained, which can provide explanations for the following relations: the relations between light radiation and motion of pulsating star, volume expansion and motion of astral body, nova eruption and motion, transverse Doppler effect, and the frequency difference in solar spherical radiation. The section can also be used as further development of the classical particle physics, and it can become the compressible fluid mechanics featured by failure of universal gravitation, no strength, non-viscosity and continuous media by changing the mechanics of a single mass point to the mechanics of mass point groups and the manifested group mechanics due to the energy expansion of the single mass point. By bypassing the too general concept of energy in theory of relativity, the energy is defined as the quantity of mass points and momentum points, so that the relationship between energy and momentum is analyzed more clearly.

Key words: lattice; photon spiral bubble; 0 entropy environment; magnetic rotation confinement; photon compression; quark prison

As mentioned in the previous section, photons of each nest refer to the inertia of a spiral vortex curve for ether barrier, which resembles a type of rotational lattice-shaped angular momentum. Actually it is a type of spherical angular momentum, also the quantization of stationary state and spherical momentum. Any curvilinear motion can be broken up into the motion of countless particles, or countless curved points making rectilinear motion. Each curved point in rectilinear motion is due to the lag in mechanical transmission and energy impact by environmental barriers. So every curved point in rectilinear motion can be seen or expressed as an inertial impact point due to the inertia change of motion trajectory. Thus, every inertial impact point is a $M_0 \times c$ momentum point. While in the common unit of time, each curved point in rectilinear motion, that is, inertial impact point, can certainly emit one frequency. Now it is known that the volume of the photon spiral nest is Δv , and the sphere area is S . Supposing that there are n momentum impact curved points uniformly distributed on the sphere S , the sphere area occupied by each momentum impact point is given by

$$\Delta S = \frac{S}{N} \quad , \quad S \frac{1}{\Delta S} = N$$
 curved points, n units of photon momentum points.

Supposing the basic mass of a photon is M_0 , the basic momentum of photon in the ether field is $P = M_0 \times c$.

The basic energy momentum of the photon in ether field, the spiral nest momentum is given by

$$\Sigma p' = M_0 \times c \times n$$

The momentum of the photon at ΔS is

$$P_{\Delta S} = \frac{1}{\Delta S} \times M_0 \times c = M_0 \times c$$

$$P_{\Delta S} = \frac{1M_0 \times c}{\Delta S}$$

The total impact points of the photon spiral nest, that is, the total energy momentum, can be expressed by

$$\Sigma p' = n \frac{1}{\Delta S} \times M_0 \times c = M_0 \times c \times n$$

Because $s \frac{1}{\Delta S} = N$, the momentum of total impact points of photon spiral nest can be expressed as

$$\Sigma S P' = s \frac{1}{\Delta S} \times M_0 \times c$$

The basic energy of this photon in the ether field can be expressed as

$$E = \Sigma S P' = s \frac{1}{\Delta S} \times M_0 \times c$$

S represents the surface area of photon spiral nest, ΔV represents the volume of photon spiral nest, V_0 represents the volume of basic mass of the photon. If M_0 is the basic mass of photon and $S = 4 \pi R^2$, then $\Delta S = \frac{S}{N} = \frac{4\pi r^2}{n}$ and r is the radius of the spherical nest. The velocity of ether photons in the

ether field $v = c$ velocity of light, and basic momentum of the photon in the ether field $\Sigma' = n \frac{1}{\Delta S} \times M_0 \times c = M_0 \times c \times n$, which can be considered as the basic ether energy momentum of the photon. It enables the movement of M_0 photon at the velocity of c . Because of the impacts from multiple curved points of the sphere, the impact of each curved point is $M_0 \times c$ momentum work of each point, and the entire spiral nest can do $n M_0 \times c$ work. This work already includes the energy momentum that can do $M_0 \times c \times n$ work. It has the equivalent meaning as in the zero entropy environment. It is of identical environmental manifestation and identical assimilation qualification. The energy momentum refers to the total momentum capable of such basic unit of momentum, i.e. the total energy of this unit. It should be analogous with energy. Apart from $P = M_0 \times c$ in the following sections, all momentum P should be regarded as energy momentum, meaning the total energy containing such momentum. $P = 4 M_0 \times c$, for example, means that M_0 photon can produce the total momentum of four basic units with $\times c$ as the unit. Formula (3) is equal to formula (4). So in the later calculations, the energy momentum p can be used to replace energy E . Then the energy and energy momentum are compared.

$$P = S \frac{1}{\Delta S} \times M_0 \times v$$

$$E = S \frac{1}{\Delta S} \times M_0 \times v$$

When $x \cdot v$ equals 0, both P and E are 0, but the actual situation is that when $v = 0$, M_0 definitely has no momentum. However, M_0 still has potential energy because it still has the possibility to change the inertial trajectory of the moving object. But the potential energy is no longer the active energy. Thus in microparticle space, it is more accurate to use energy momentum. The accurate expression of energy is

$$E = s \frac{1}{\Delta S} \times M_0 \times v + M_0$$

In the ether environment, the ether field becomes a kind of energy field with equivalent time interval and bubble groups due to the complete equivalence of $n \frac{1}{\Delta S} \times M_0 \times c$, and its state space consists of countless energy bubble spaces of uniform time intervals of the same nature. As the velocity, basic mass and time intervals are identical, each ether photon maintains the most equivalent energy momentum in the uniform time intervals. This is a type of evolutionary momentum of time interval which is caused by the absolute homogeneity of photons and the infinitely large entropy of ether. In light momentum and mass, it may be a fixed value.

Each momentum impact of photons in the spiral nest or, you might say, each momentum curved point can only emit and reflect one frequency of electromagnetic wave from the saturated energy field of the ether photon. So when this photon is removed and is put

in the ether field, it can emit the frequency of electromagnetic wave:

$$\Sigma f = n = M_0 \times c \times n$$

The total energy momentum of the ether field is given by

$$\Sigma P = s \frac{1}{\Delta S} \times M_0 \times c \times \frac{\Sigma V}{\Delta V}$$

ΣV is cosmic space; ΔV is the volume of spiral nest; the total energy is the sum of total momentum and total mass:

$$\Sigma E = s \frac{1}{\Delta S} \times M_0 \times c \times \frac{\Sigma V}{\Delta V} + M_0 \times \frac{\Sigma V}{\Delta V}$$

If the photon in the ether field is put into the quark prison, molecular prison or magnetic spin confinement of electrical property by the movement and impact because of the motion of astral bodies (the prison is the gap in the atomic nuclei with the nature of caging, as shown in Fig. 4), then the photon in the prison must have synchronous potential limited as u (u is the moving velocity of astral prison). Considering the spherical four-directional impact, the whole impulse in the prison could be separated into two parts according to the reference system. So when the photon density in the prison is the same as the balance of the ether field, the energy momentum of photons in the prison is given by

$$\Sigma p'' = \frac{1}{2} n \times M_0 \times (c+u) + \frac{1}{2} n \times M_0 \times (c-u) + M_0 \times u$$

$$\Sigma p'' = \frac{1}{2} n \times M_0 \times (c+u + c-u) + M_0 \times u$$

$$\Sigma p'' = n \times M_0 \times c + M_0 \times u$$

$$P_{\text{increment}} = M P'' - \Sigma p' = M_0 \times u$$

The above reference systems are the basic ether fields. The meaning of $M_0 \times u$ is that when the impact of spherical points of a photon spiral nest in all directions is over, there still exists a synchronous potential of u in photon M_0 . But the momentum increment of a photon in the spiral nest that enters into the moving prison under the same condition is only $P_{in} = M_0 \times u$. This also conforms to the principle of saturation energy and touchability of ether photons. This also explains why the ether resistance is so small. However, in the synchronous motion of a prison, only M_0 gets the inertial increment first, but $n \times M_0 \times c$ (also understood as $n-1$) fails to get the inertial increment, or in other words, the inertia delay occurs. Thus, the equivalent photons in neutral field of the prison must produce relative prison, because the inertia drags compression. Thus, $n \times M_0 \times c$ must take $M_0 \times u$ as the supporting point and produce the lagging inertial compression. The energy momentum which makes the part $n \times M_0 \times c$ to produce inertial compression is : (actually, the wholeness produces equivalent compression, and the synchronism after compression keeps the compression constant, which is infinitely large), then

$$p'''_{\text{compressed}} = n \times M_0 \times u.$$

The energy density of the compressed part actually is

$$p'''_{\text{compressed}} = n \times M_0 \times c + n \times M_0 \times u$$

$$p'''_{\text{compressed}} = \left(1 + \frac{u}{c}\right) n \times M_0 \times c$$

$$p'''_{\text{compressed}} = \left(1 + \frac{u}{c}\right) p'$$

Its ratio to uniform field work of the original momentum within the environment is given by

$$\frac{p'''}{\Sigma p'} = \frac{n \times M_0 \times u}{n \times M_0 \times c} = \frac{u}{c}$$

So the compressed energy momentum may form an energy vacuum in front of the movement. The balance of energy environment requires that the ether field out of the prison should enter the equivalent energy momentum to supplement and balance the vacuum of energy momentum compressed by the motion. Under the equivalent conditions, each photon that enters the prison is compressed into $\frac{u}{c}$, but cannot be compressed any more. In this way, each prison cavity is uniformly $\frac{u}{c}$ with no more photons entering. As a result, the relation between energy momentum additionally compressed into the prison and the moving velocity is expressed as follows:

$$P_{\text{increment}} = p' \frac{u}{c}$$

The contrast of energy momentum unit in the moving prison $\Sigma p'$ changes to

$$\Sigma p_{\text{prison}}'' = \left(1 + \frac{u}{c}\right) p' + \left(1 + \frac{u}{c}\right) M_0 \times u$$

Given the full uniformity of the 0 entropy particle field and the completely equivalent uniformity of energy momentum and density,

the photon density increment in the moving prison is given by

$$\rho' = \frac{u}{c} \rho$$

ρ is ether density, while the photon density in the moving prison is given by

$$\rho' = \left(1 + \frac{u}{c}\right) \rho .$$

It can be seen from $\rho' = \left(1 + \frac{u}{c}\right) \rho$ that when $u = c$, $\rho' = 2\rho$, that is to say, when $u = c$, photon density in the prison becomes two times of an ether field. As a result of equivalent density compression, spiral bubble sphere S turns into

$$S' = S \frac{1}{2}$$

The volume of a photon spiral nest is inversely proportional to its density, and when $\rho' = \rho$,

$$\rho' / \rho = \Delta v / \Delta v', \quad \Delta v' = \frac{\rho'}{\rho} \Delta v$$

$$\text{Thus } \Delta v' = \frac{1}{1 + \frac{u}{c}} \Delta v, \quad v' = \frac{c}{c + u} \Delta$$

$\Delta v'$ the volume of photon spiral nest in a prison changes to 1/2 of Δv , the value before compression:

$$\Delta v' = \frac{1}{1 + \frac{u}{c}} \Delta v = \frac{1}{2} \Delta v$$

$$S'_{\text{P}} = S' \frac{1}{2} \times \frac{1}{\Delta S'} \times M_0 \times c$$

$$S'_{\text{P}} = S' \frac{2}{\Delta S'} \times M_0 \times c$$

Then, it can be seen that the momentum of the photon in the

prison at $\Delta S'$ becomes

$$P_{\Delta S} = \frac{2}{\Delta S} \times M_0 \times c$$

$$P_{\Delta S} = \frac{2M_0 \times c}{\Delta S}$$

That is, the doubled momentum hits one $\Delta S'$ point, which is two times of that before compression, with the basic transformation

formula as follows:

$$P_{\Delta S'} = \left(1 + \frac{u}{c}\right) \frac{1}{\Delta S} \times M_0 \times c$$

$$p'' = S' \left(1 + \frac{u}{c}\right) \frac{1}{\Delta S} \times M_0 \times c + M_0 \times u$$

$$p'' = n \times M_0 \times c + M_0 \times u$$

$$v' = \frac{1}{1 + \frac{u}{c}} \Delta v$$

$$v' = \frac{c}{c + u} \Delta v$$

It is suggested that when the spiral nest is compressed, the number of hittings by the momentum impact of the photon in a prison at ΔS will increase in proportion to $\left(1 + \frac{u}{c}\right)$ (but the total amount remains unchanged). This can clearly demonstrate its relations with the movement of the prison and with ether. In the current theory, the energy momentum of photons can only be expressed by the impacting frequency to the ether field. That is, $v = \lambda f$, where f represents frequency, λ represents wavelength, and v represents wave speed. For an energy impact point, that is, the one frequency impact in this direction (probably the equivalent of 1/2

fuzzy sphere area), $v = \frac{1}{2} \lambda$ (2f) in this direction when $\Delta S=2$.

The frequency is doubled compared to that before the compression, but with the same wave speed, i.e.

$$f' = \left(1 + \frac{u}{c}\right) f, \quad f' = \frac{c+u}{c} f$$

This also explains that the volume of a photon is inversely proportional to the manifested frequency of the photon in the ether field. Meanwhile, the smaller the volume is, the higher the frequency is. Otherwise, the lower the frequency, the larger the volume is. The frequency may be proportional to the compression level of photon volume. The frequency manifested by the photon at the later period increases with the degree of volume compression. The frequency and energy momentum of the compressed photon are a basic standard for photon grading in later stage. In this way, the compression of wave volume actually leads to the superposition of waves, as well as the superposition of states, as manifested by the ether frequency. Since

$$\Sigma p_{\text{prison}}'' = \left(1 + \frac{u}{c}\right) p' + \left(1 + \frac{u}{c}\right) M_0 \times u$$

We assume that when $u=c$, the energy momentum of the photon in the prison is given by

$$\Sigma p_{\text{prison}}'' = 2p' + 2M_0 \times u$$

The energy increment of the momentum of the prison is given by

$$P_{\text{increment}} = p' \frac{u}{c} + \frac{u}{c} M_0 \times u$$

$$P_{\text{increment}} = p' \frac{c}{c} + 1 M_0 \times c = p' + M_0 \times c$$

The increment is just the two times of the original value plus the photon momentum. If this photon system is explosively emitted in the ether field (disruptive emission of prison), the frequency which the system may radiate is: (energy space expansibility, with each expansion by one point, the ether field will produce one frequency).

$$f' = \frac{c+u}{c} f, \quad \Sigma f = n + (1)$$

In case of natural radiation, (two compressed photons making up a group, which may only give out 1/2 prison cavity energy to the outer space spontaneously and the rest 1/2 is for the balance of the prison cavity with the ether environment) the energy frequency that a prison can radiate for an ether field is

$$\Sigma f = \frac{n}{2} + (1)$$

$$\Sigma f = n \frac{u}{c} \times \frac{1}{2} + \left(\frac{u}{c}\right)$$

The fundamental frequency of the emitted photon is doubled frequency:

$$f' = \left(1 + \frac{u}{c}\right) \frac{1}{\Delta S} \times M_0 \times c = 2 f$$

The above is the case regardless of emission energy increment, and the prison radiates the frequency of $\Sigma f = n \frac{u}{c} \times \frac{1}{2} + \frac{u}{c}$. The frequency of the emitted photon at the beginning is 2 f. When the moving velocity of the prison is faster than the velocity of light, this

photon will travel at superluminal velocity, but the wave frequency of radiation is still the velocity of light in the process of movement.

where + (1) is $+(\frac{u}{c}) M_0 \times u$, and in actual movement, $\frac{u}{c}$ will not manifest one frequency independently, but $\frac{u}{c}$ n frequencies. That is to say, $+(\frac{u}{c}) n$ is transformed from $1M_0 \times u$ ($u = c$) during its deceleration process.

For the moving velocity of a single photon in the ether field, the relationship between velocity and volume expansion satisfies: accelerating contraction:

$$v' = \frac{1}{1 + \frac{u}{c}} \Delta v, v' = \frac{c}{c + u} \Delta v$$

Decelerating expansion:

$$\Delta v = (1 + \frac{u - u'}{c}) \Delta v$$

$$\Delta v'' = (1 + \frac{u - u'}{c}) \frac{c}{c + u} \Delta v$$

$$\Delta v'' = \frac{c + u - u'}{c + u} \Delta v$$

The frequency of a single moving photon in the ether field satisfies

$$\Delta f = (1 + \frac{u}{c}) f', \Delta f = \frac{c + u}{c} f'$$

$$\Delta f_{\text{deceleration}} = (1 - \frac{u - u'}{c}) \Delta f'$$

Δf is the current frequency, f' is the frequency before acceleration or after deceleration. For single photons moving in one-way, it may also satisfy the following relation:

$$\Delta v = \left(1 + \frac{u - u'}{u}\right) v'$$

The frequency of a single moving photon in the ether field satisfies

$$\Delta f = \left(1 - \frac{u - u'}{u}\right) f'$$

But in a real-world situation, the emitted photon will expand in a non-rigid prison, i.e., in the ether field, with the expansion ratio $\alpha = p' \frac{u}{c} \times \frac{1}{2}$. According to the principle of exchange, during the process when a photon is to be emitted, one part of momentum volume of the photon is inside the prison, while the other part of momentum volume is outside the prison. Thus, the emitted photon will get 1/2 momentum of the prison environment through the exchange, because of difference in the momentum. Then the total amount of work exchanged is given by

$$P_{\text{obtain}} = \left\{ \left[\left(1 + \frac{u}{c}\right) p' - p' \right] \times \frac{1}{2} \right\} \times \frac{1}{2} = \left(p' \frac{u}{c} \times \frac{1}{2} \right) \times \frac{1}{2}$$

$$P_{\text{obtain}} = p' \frac{u}{c} \times \frac{1}{4} \quad P_{\text{obtain}} = p' \frac{u}{2^2 c}$$

$$n_{\text{obtain}} = n \frac{u}{c} \times \frac{1}{4} \quad n_{\text{obtain}} = n \frac{u}{2^2 c}$$

Therefore, the emitted momentum rate obtained by the emitted photons is 1/4 of the increment of the ether field compared to the prison. When $u = c$, the emitted momentum obtained by the photon is

$$P_{\text{obtain emit}} = p' \times 1/4$$

$$P_{\text{obtain emit}} = n \times 1/4$$

p' is the momentum of the ether photon. Then, the total energy

momentum of the emitted photon is

$$\Sigma P_{\text{emit}} = \mathbf{p}' + \mathbf{p}' \times 1/4 + M_0 \times c$$

$$\Sigma \mathbf{f}'_{\text{emit times}} = \mathbf{n} + \mathbf{n} \times 1/4 + M_0 \times c$$

$$\Sigma \mathbf{f}'_{\text{emit times}} = \mathbf{n} + \frac{1}{4}n + \frac{1}{n}$$

$M_0 \times c$ is the point energy due to the conversion from movement to emission for $n \times 1/4$ amount. When the photon is emitted to obtain emitted energy point, it fundamentally changes the energy momentum of itself for the first time, making n to be $n' = n + \frac{1}{4}n + \frac{1}{n}$. According to the parallelogram principle, $1/2$ of the momentum increment would change into translational acceleration work of the photon, then the emitted photons would be accelerated, which is the movement of super-prison, or the supernova. Then the superluminal translational motion is produced. Since the emission is completed in the same inertia motion system, we only need to consider the total inertial velocity. Then it is emitted in the moving direction (relative to the moving velocity of ether field).

$$v'' = \frac{1}{8}n \times \frac{ds}{dM_0} + v'$$

The basic formula is written as

$$v'' = n(c) \frac{u}{2^3 c} \times \frac{ds}{dM_0} + v'$$

The velocity relative to the prison is given by

$$v'' = \frac{1}{8}n \times \frac{ds}{dM_0}$$

When emitted in the moving direction:

$$\Sigma P_{\text{emit}} = p' + p' \frac{u}{c} \times \frac{1}{4} + M_0 \times u$$

While the frequency changes to:

$$n' = n + \frac{1}{8}n + \left(\frac{1}{n}\right) n' = n + n \frac{u}{2^3 c} + \frac{u}{c}$$

This is the basic formula for the translational motion of the emitted photon. v is the translational velocity of the photons emitted from the ether field. v' is the moving velocity of the prison, i.e. the astral body when the photon is emitted. If it is relative to the prison, i.e. the astral body, then the velocity is $\frac{1}{8}n$. The meaning of $\frac{1}{8}n$ could also be understood as that if the basic quantity n is 1, then $v'' = \frac{1}{8}c + v'$. If the basic quantity n is 8, then $v'' = c + v'$. That is to say, for the prison traveling in the velocity of light, the photons emitted in the front would travel in the ether field at the velocity two times the light velocity of ether. The collision must be lateral collision or squeezing out in the space, because the collision from behind cannot be accomplished.

The movement of the photon emitted in the same direction as its travelling has been considered. The velocity of emission in the direction opposite to inertial motion should be (relative to the moving velocity of the ether field):

$$v' \cong \frac{1}{8}n \times \frac{ds}{dM_0} - v'$$

The basic formula is written as

$$v'' = n(c) \frac{u}{2^3 c} \times \frac{ds}{dM_0} - v'$$

The velocity relative to the prison is given by

$$v'' = \left(\frac{1}{8} n + v' \right) - v'$$

$$v'' = \frac{1}{8} n \times \frac{ds}{dM_0}$$

The basic formula is written as

$$v'' = \left[n(c) \frac{u}{2^3 c} \times \frac{ds}{dM_0} + v \right] - v'$$

$$v'' = n(c) \frac{u}{2^3 c} \times \frac{ds}{dM_0}$$

In direction opposite to the travelling,

$$\Sigma P_{\text{emit}} = p' + p' \frac{u}{c} \times \frac{1}{4} - M_0 \times u$$

While the frequency changes to

$$n' = n + \frac{1}{8} n - \left(\frac{1}{n} \right) n' = n + n \frac{u}{2^3 c} - \frac{u}{c}$$

(Discussion) A photon in motion may be in strict conformity to the inertia principle. It does not generate energy space expansion if it does not decelerate. That is to say, if the energy space expansion or contraction of a photon occurs, its velocity must become smaller or larger. The status of the photon could not change first in the absence of any external change. The energy space volume of an ether photon is inversely proportional to the velocity. As long as an ether photon is in absolute motion, its energy space volume would inevitably reduce. Hence, the above energy level has to reduce by 1/2. The

basic formula after change would be. Due to the energy difference, the energy exchange capacity of the two systems is always 1/2 of the energy momentum difference according to the principle of strong force exchange. Therefore, due to the energy difference inside and outside the prison, the work increment obtained by the emitted photon is

$$p'_{\text{obtain}} = \frac{u}{c} p' \frac{1}{2}$$

The total energy momentum of an emitted photon is

$$\Sigma p_{\text{emit}} = \left(1 + \frac{u}{c} \frac{1}{2}\right) p'$$

p' is the basic quantity of ether. According to the parallelogram principle, 1/2 the work of a spinning mass would be converted to the acceleration work, while the other 1/2 would be converted to the frequency times. Then the acceleration work is

$$v' \approx \frac{u}{c} p' \times \frac{1}{2} \times \frac{1}{2}$$

The resultant moving velocity of the emitted photon is

$$\Sigma v_{\text{emit}} = \frac{u}{c} p' \times \frac{1}{2^2} \times \frac{ds}{dM_0} \pm u'$$

u' is the velocity of the prison upon emission. The increment of frequency times is

$$f'_{\text{increment times}} = \frac{u}{c} \Sigma f \times \frac{1}{2} \times \frac{1}{2}$$

The total frequency quantum of the emitted photon is

$$\Sigma f'_{\text{emit}} = \left(1 + \frac{u}{c} \frac{1}{2^2}\right) \Sigma f$$

$$\text{Or } \Sigma f'_{\text{emit}} = \left(1 + \frac{u}{c} \frac{1}{2^2}\right) n$$

Σf is the total energy momentum times of ether photon and $\Sigma f = n$. The frequency manifested by the photon in the ether is

$$f'_{\text{emit}} = \left(1 + \frac{u}{c}\right) f + \frac{u}{c} f \frac{1}{2^2}$$

$$f'_{\text{emit}} = \left(1 + \frac{1}{4} \frac{u}{c}\right) f$$

$$f'_{\text{emit}} = \frac{2^2 c + 2^2 u + u}{2^2 c} f$$

But in the actual situation, the accelerating compression problem in the direction the same as the travelling needs to be considered. Thus the actual velocity shortly after the emission is. The emitting frequency increases in the direction the same as the travelling. This is the blue shift of emission.

$$f'_{\text{emit}} = \left(1 + \frac{1}{4} \frac{u}{c}\right) f + \left(1 + \frac{1}{4} \frac{u}{c}\right) f \times \frac{v''}{c}$$

$$f'_{\text{emit}} = \left(1 + \frac{1}{4} \frac{u}{c}\right) f \times \left(1 + \frac{v''}{c}\right)$$

$$f'_{\text{emit}} = \frac{2^2 c + 2^2 u + u}{2^2 c} f \times \left(1 + \frac{v''}{c}\right)$$

The emitting frequency decreases in the direction opposite to inertial movement. This is the red shift of emission.

$$f'_{\text{emit}} = \left(1 + \frac{1}{4} \frac{u}{c}\right) f - \left(1 + \frac{1}{4} \frac{u}{c}\right) f \times \frac{v''}{c}$$

$$f'_{\text{emit}} = \left(1 + \frac{1}{4} \frac{u}{c}\right) f \times \left(1 - \frac{v''}{c}\right)$$

f is the fundamental frequency of the ether photon, while v'' is the accelerated velocity relative to the accelerated velocity of the

prison. $v_{emit}' = v_{aster\ velocity} + v_{emit\ energy\ velocity}$. That is to say, the current blueshift and redshift velocities are not accurate, because the emitting energy velocity is also included in it. It is not the real velocity of the astral body. The actual velocity is much smaller. The total frequency quantum is invariant.

But any energy filling should have a basic degree. Because of the infinite saturation and touchability of the ether photon as well as the overall dragging of the galaxy, the filling of deceleration could be neglected in certain circumstances. Then the velocity of u is approximately considered as constant. The relationship should be. If the ether's cross-sectional area received by the astral body is S and the ether density received is ρ , then the filling per unit of time t is

$$\Sigma(V)p = S \times ut \times \rho \times \frac{(1 + \frac{u}{c})\rho - \rho'(t)}{(1 + \frac{u}{c})\rho}$$

P' is the density of photons in the prison at time point (t) . $P' \leq (1 + \frac{u}{c}) \rho$. This formula is also suitable to be used as the electric current formula. The emitting process of the photon is a process of increment of both frequency and velocity. It makes the basic energy of momentum photons increase fundamentally in the first time. The emitting principle shows that in the emitting process of a photon from the prison, $\Delta V'$ of the single photon inside the prison changes into $\Delta V''$, while $\Delta S' / n > \Delta S / n$. The energy

momentum of prison $\Sigma p'' > \Sigma P$ emit. Then energy difference would result in momentum exchange. In the time-point momentum collision, (time-point collision is the real collision between actual M_0 . Each collision is a time-point collision) the real point is generated, i.e. the resulting energy difference is $\Delta S' / n - \Delta S'' / n$, 1/2 of which is available for the exchange. The exchanged amount is expressed as $(\Delta S' / n - \Delta S / n) \times 1/2$. Thus, the emitting of the photon is completed.

In the motion process of the prison, there would be internal and external actions. For example, when a prison travels at the velocity two times of light speed, the momentum of inside the prison should be compared with that outside the prison due to synchronization.

$$\begin{aligned}\Sigma p'' &= \left(1 + \frac{u}{c}\right) p' = \frac{c+2u}{c} p' = 3 p' \\ \rho' &= \frac{c+2u}{c} \rho = 3\rho \\ f'_{\text{emit}} &= \frac{c+2u}{c} f = 3 f\end{aligned}$$

The motion of prison is divided into two stages. In the first stage, the velocity is 1 c. Because of the external force, 1 c is added to it. Then it becomes 2c. The momentum of the prison at this moment is.

In the first stage:

$$\Sigma p'' = \left(1 + \frac{u}{c}\right) p' = \frac{c+u}{c} p' = 2 p'$$

In the beginning of the second stage, it increases the pressure for internal change:

$$\Sigma p'' = \left(1 + \frac{u}{c}\right) p' \left(1 + \frac{u}{c}\right) = 2 p' + 2 p' = 4 p'$$

$$\rho' = \left(1 + \frac{u}{c}\right) p'' = 4\rho$$

$$f'_{\text{emit}} = \left(1 + \frac{u}{c}\right) f'' = 4 f$$

In the latter phase of the second stage, it increases the space generated in the previous phase. It increases with the external linear change:

$$\Sigma p''' = \frac{c+u+u}{c} p' = 3p'$$

$$\rho' = \frac{c+2u}{c} \rho = 3\rho$$

$$f'_{\text{emit}} = \frac{c+2u}{c} f = 3f$$

The two parts are different, as a result of the difference between internal and external changes. This is very important when studying the relationship between the changes of prison energy and motion. Especially in the decelerating process, this situation must exist.

Luminescent performance of pulsating star

The following is a relationship diagram between the rotational and translational motions and energy filling of an astral body. It almost conforms to any of the different forms of prison principle. This could be illustrated using the diagram method. For an astral body making the translational motion and rotational motion at the same time, its momentum velocity is actually the translational velocity plus the linear velocity at the rotational position. The

momentum velocity of the outmost edge of the center of the astral body with the radius of R is

$$\mathbf{u} = \mathbf{u} + \mathbf{u}'_{\text{rotational}}$$

The basic formula is written as

$$\frac{1}{r} R = \frac{1}{u'} \mathbf{u}'_{\text{rotational}}$$

$$\mathbf{u} = \mathbf{u} + \left(\frac{1}{r}\right) \mathbf{u}'_{\text{rotational}}$$

Therefore, the total effective momentum velocity of a rotating astral body is different. Under the equivalent conditions, the velocity of the outmost edge of the astral body is the largest (fastest). The velocity of the central part is the smallest (slowest). It is assumed that the translational and rotational linear velocities are identical. Then the momentum velocity closest to the rotational axis is u . The momentum velocity farthest from the axis is $2u$. Thus, the real prison energy of an astral body would be represented as

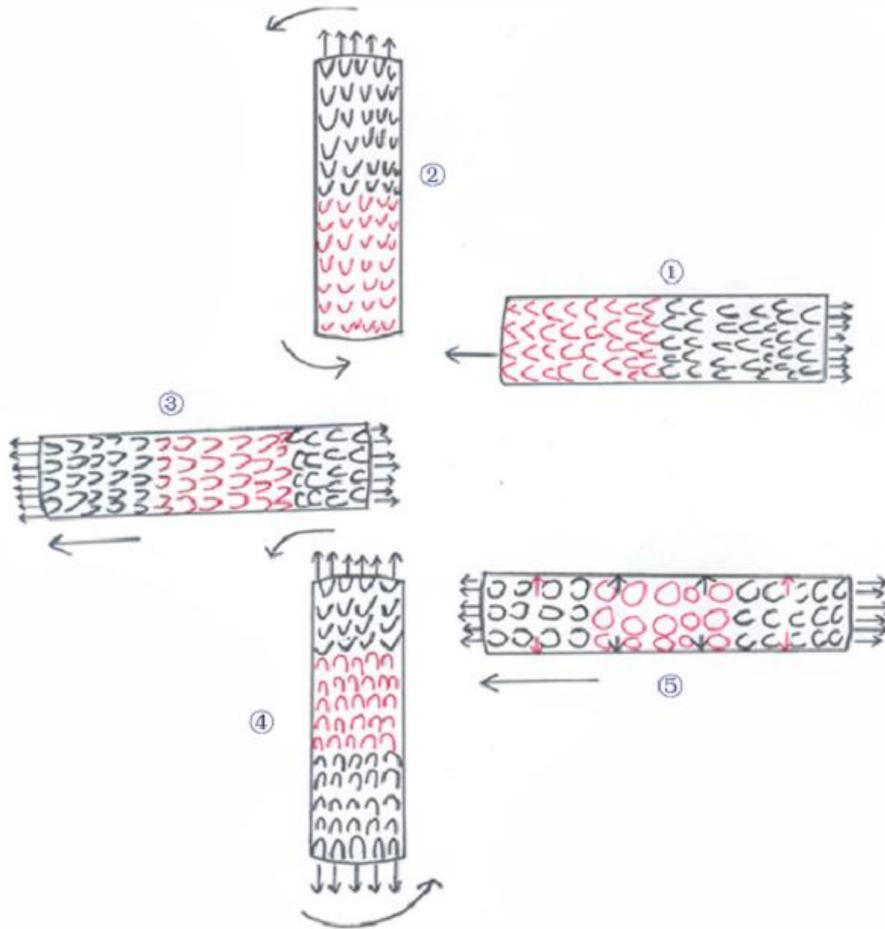
$$p'_{\text{sphere volume position obtain}} = \left(1 + \frac{1}{r}\right) p'$$

$$f'_{\text{sphere volume position}} = \left(1 + \frac{u + \frac{1}{r}u}{c}\right) f$$

The above formula could account for the optical principle that the luminescence frequency of the edge of the sun is smaller than that of the equatorial of the sun. In the following calculation, the maximum resultant linear velocity is calculated to facilitate the understanding. There is a problem of the composition of the rotating positions in the actual situation. But when an astral body does not

rotate, this problem needs not to be considered. Through the research of the expansion degree and the frequency of radiation of an astral body, the important problems such as the volume, density, mass of the astral body could be determined.

The following is the manifestation chart (Fig. 5)



1. Due to the inertial compression, the photons in spiral nest are flattened, forming the vacuum of energy which is void of ether photon. As a supplement, the equivalent ether photon enters. The red part indicates the entering.
2. The prison shows the reversed rotation due to the rotation of the celestial body.
3. The prison successfully rotates in the reverse direction by 180° . At this time, if the speed of the translational motion of the prison (celestial body) slows down, the ether photons in the prison will be further compressed. The ether photons with momentum of equivalent ratio will enter (the blue area denoting the entering).
4. Due to the rotation of the prison field as the quantum body, it continues to rotate, resulting in the reverse rotation for the second time.
5. The prison successfully rotates in the reverse direction again (by 360°). If the speed of the translational movement of the prison (celestial body) slows down, the ether photons in the prison will expand due to inertial deceleration. Then the quantum photons with equivalent ratio will overflow from the prison (celestial body), resulting in the light beam and light radiation of the prison.

It is assumed that the position of the astral body as the prison at 1 (Fig. 5) does not rotate and is stable. In this case, if the astral body is in decelerating motion, then the photon quantum volume and

surface area inside the prison must expand. Because it is a linear velocity, the relation among them could also be directly obtained by the comparison between the original velocity and actual velocity during the deceleration. It should have the same meaning as the velocity of light. The expansion is: the ratio of energy momentums before and after deceleration, i.e. the attenuation amplitude of the increment energy momentum is $\Sigma p' = (1 + \frac{u}{c}) p' + (1 + \frac{u}{c}) M_0 \times u$.

$$\Sigma p \text{ after deceleration} / \Sigma p \text{ before deceleration} = (v' (1 + \frac{u}{c}) \rho' \times M_0 \times u' + v' \frac{u}{c} M_0 \times u)$$

$$/ (v' \frac{u}{c} \rho' \times M_0 \times u + v' \frac{u}{c} M_0 \times u)$$

$$\Sigma p \text{ after deceleration} / \Sigma p \text{ before deceleration} = u' / u$$

The energy momentum attenuation rate of the increment part is:

$$\Sigma p \text{ after deceleration} / \Sigma p \text{ before deceleration} = \{ [v' (1 + \frac{u}{c}) \rho' \times M_0' + v' (1 + \frac{u}{c}) M_0] \times (u - u') \} / (v' (1 + \frac{u}{c}) \rho' \times M_0 + v' (1 + \frac{u}{c}) M_0) \times u.$$

$$\Sigma p \text{ after deceleration} / \Sigma p \text{ before deceleration} = \frac{u - u'}{u}$$

The attenuation rate of the entire energy momentum: $\Sigma p \text{ after deceleration} / \Sigma p \text{ before deceleration} = \frac{u - u'}{c + u}$

In the ether entropy environment, the reduction rate of decelerating inertial energy is: $p \text{ deceleration} = \frac{u - u'}{c} p \text{ original}$.

Because the energy momentum is attenuated is inside the prison, it

could only be converted to energy space expansion, i.e., the expansion of the compressed spiral nest. Therefore, the attenuation rate of the momentum inside the prison is also the energy space expansion rate. Then, there is the following relationship:

$$\Delta v''' = \frac{c+u-u'}{c+u} \Delta v$$

$$\Delta S'' = \frac{c+u-u'}{c+u} \Delta S$$

In the calculation of the emitted photons, the expansion rate should be first considered. For example, the original state of 1 is $u = c$, then 1 begins to decelerate. When the velocity falls to $u = c/2$, the degree of expansion of the photon in the prison results in the opening of the nuclear cage. The light radiation occurs. This calculation is the ideal calculation. The expansion rate of the nuclear cage should be calculated in the actual situation. The momentum frequency of the radiated photon is

$$\Delta v'' = \frac{c+u-u'}{c+u} \Delta v = \frac{3}{4} \Delta v$$

$$\Delta S'' = \frac{c+u-u'}{c+u} \Delta S = \frac{3}{4} \Delta S$$

$$S'_P = \left(S' \frac{2}{\Delta S'} - \frac{u-u'}{c} \Delta S' \right) \times M_0 \times c$$

$$S'_P = S' \frac{1.5}{\Delta S'} \times M_0 \times c$$

Frequency changes from $f' = 2f$ to

$$f'' = 2f - \frac{u-u'}{c} f = \frac{1}{2} f, f'' = \left(1 - \frac{u-u'}{c} \right) f$$

The formula is $f' = \left(1 + \frac{u}{c} \right) f - \frac{u-u'}{c} f = \frac{1}{2} f$

$$P_{\text{obtain}} = p' \frac{u}{c} \times \frac{1}{4} - \left(p' \frac{u}{c} \times \frac{1}{4} \right) \frac{1}{2}$$

$$P_{\text{obtain}} = p' \frac{u}{2^2 c} - \left(p' \frac{u}{2^2 c} \times \frac{u-u'}{c} \right) = p' \frac{u}{2^2 c} \left(1 - \frac{u-u'}{c} \right)$$

In the state of 1 when it does not rotate but directly decelerate, its emitting obtain formula is. Thus, the relationship with the velocity is represented as follows:

$$P_{\text{deceleration obtain}} = p' \frac{u}{2^2 c} \left(1 - \frac{u-u'}{c} \right)$$

$$P_{\text{deceleration obtain}} = \left(1 + \frac{u}{c} \right) p \frac{u}{2^2 c} \frac{u-u'}{c}$$

where P is the basic ether energy. That is to say, the photon radiated by an astral body which directly decelerates would acquire the external energy of $\left(1 + \frac{u}{c} \right) p \frac{u}{2^2 c} \frac{u-u'}{c}$.

$$n_{\text{obtain}} = n \frac{u}{c} \times \frac{1}{4} - \left(n \frac{u}{c} \times \frac{1}{4} \right) \frac{1}{2}$$

$$n_{\text{obtain}} = n \frac{u}{2^2 c} - \left(n \frac{u}{2^2 c} \times \frac{u-u'}{c} \right)$$

It includes 1/2 frequency point energy and 1/2 average translational acceleration energy of the photon.

$$n_{\text{obtain}} = \left(1 + \frac{u}{c} \right) p \frac{u}{2^2 c} \frac{u-u'}{c} \times \frac{1}{2}$$

$$n_{\text{obtain}} = \left(1 + \frac{u}{c} \right) p \frac{u}{2^3 c} \frac{u-u'}{c}$$

$$f \cong \left[n + \left(1 + \frac{u}{c} \right) p \frac{u}{2^3 c} \frac{u-u'}{c} \right]$$

$$v' \cong \left(1 + \frac{u}{c} \right) p \frac{u}{2^2 c} \frac{u-u'}{c} \times \frac{1}{2} \times \frac{ds}{dM_0}$$

$$v' \cong \left(1 + \frac{u}{c} \right) p \frac{u}{2^3 c} \frac{u-u'}{c} \times \frac{ds}{dM_0}$$

The above could be the basic formula for the case of deceleration without rotation. It is suitable for describing the current radiations of some astral body in the decelerating motion.

$$v'' = \left(\frac{1}{8}n \times \frac{ds}{dM_0} + v' \right) - \left(\frac{1}{8}n \times \frac{ds}{dM_0} + v' \right) \times \frac{u-u'}{c}$$

$$v'' = \left(n(c) \frac{u}{2^3 c} \times \frac{ds}{dM_0} + v' \right) - \left(n(c) \frac{u}{2^3 c} \times \frac{ds}{dM_0} + v' \right) \times \frac{u-u'}{c}$$

The other conditions are similar.

(Discussion) The previous section does not consider the expansion to simplify the calculation. But the above-mentioned expansion should be considered in the actual situation, i.e. substituting the expansion rate under spontaneous emission. The previous part of the calculation should be combined to achieve accurate calculation.

Another situation is that an independent astral body could not be dragged by other gravitational force. Then we need to calculate the filling deceleration of the astral body. The problem is that when in position 1, the filling of photon quantum proceeds in proportion while making the decelerating motion at a constant rate. Therefore, the actual calculation should consider momentum deceleration. Suppose the original velocity is u . When the velocity changes to u' , the actual increment inside the prison is. It could be proved that

$$p'''_{\text{compressed}} = n' \times n \times M_0 \times \frac{u+u'}{2} + n' \times M_0 \times \frac{u+u'}{2}$$

$$p'''_{\text{expansion}} = n' \times n \times M_0 \times \frac{u-u'}{2} + n' \times M_0 \times \frac{u-u'}{2}$$

The actual increment

$$p'''_{\text{actual}} = p'''_{\text{compressed}} - p'''_{\text{expansion}} = n' \times n \times M_0 \times \frac{u+u'}{2} +$$

$$\mathbf{n}' \times \mathbf{M}_0 \times \frac{u+u'}{2} - \mathbf{n}' \times \mathbf{n} \times \mathbf{M}_0 \times \frac{u-u'}{2} - \mathbf{n}' \times \mathbf{M}_0 \times \frac{u-u'}{2}$$

$$\mathbf{p}'''_{\text{actual}} = \mathbf{n}' \times \mathbf{n} \times \mathbf{M}_0 \times u' + \mathbf{n}' \times \mathbf{M}_0 \times u'$$

Compared with the original ether field: $\mathbf{p}'''_{\text{actual}} / \mathbf{p}'''_{\text{original}} = (\mathbf{n}' \times \mathbf{n} \times \mathbf{M}_0 \times u' + \mathbf{n}' \times \mathbf{M}_0 \times u') / (\mathbf{n}' \times \mathbf{n} \times \mathbf{M}_0 \times c)$

$$\mathbf{p}'''_{\text{actual}} / \mathbf{p}'''_{\text{original}} = \frac{(n+1)u'}{nc}$$

That is, for an astral body in the decelerating motion, the ratio of the actual motion increment within one time point of moving velocity to that of the ether field is

$$\begin{aligned} \mathbf{p}'_{\text{motion increment ratio}} &= \frac{(n+1)u'}{nc} \mathbf{p}' \\ \mathbf{p}'_{\text{motion increment}} &= \left(1 + \frac{(n+1)u'}{nc}\right) \mathbf{p}' \\ \rho' &= \left(1 + \frac{(n+1)u'}{nc}\right) \rho, \end{aligned}$$

\mathbf{P}' is the basic quantity of the time point. The variation of u and u' is always related to the current motion:

$$\mathbf{p}'''_{\text{compressed}} = \mathbf{n}' \times \mathbf{n} \times \mathbf{M}_0 \times \frac{u+u'}{2}.$$

The original momentum: $\mathbf{p}'''_{\text{original}} = \mathbf{n}' \times \mathbf{n} \times \mathbf{M}_0 \times c$

$$\mathbf{p}'''_{\text{compressed}} / \mathbf{p}'''_{\text{original}} = (\mathbf{n}' \times \mathbf{n} \times \mathbf{M}_0 \times \frac{u+u'}{2}) / (\mathbf{n}' \times \mathbf{n} \times \mathbf{M}_0 \times c)$$

$$\mathbf{p}'''_{\text{compressed}} / \mathbf{p}'_{\text{original}} = \frac{\left(\frac{u+u'}{2}\right)}{c} \mathbf{p}' = \frac{u+u'}{2c} \mathbf{p}'$$

$$\text{i.e., } \mathbf{p}'' = \left[1 + \frac{u+u'}{2c}\right] \mathbf{p}'$$

This is the standard formula of momentum increment for an independent astral body. The following is deceleration plus

expansion at the same time:

$$p'''_{\text{expansion}} = n' \times n \times M_0 \times \frac{u-u'}{2}$$

$$p'''_{\text{compressed}} = n' \times n \times M_0 \times \frac{u+u'}{2}$$

Then, the expanded momentum must be the compressed part.

Then the ratio of decelerating & expansion part to the non-rotational & decelerating compressed increment part is:

$$p'''_{\text{expansion}} / p'''_{\text{compressed}} = (n' \times n \times M_0 \times \frac{u-u'}{2}) / (n' \times n \times M_0 \times \frac{u+u'}{2})$$

$$p'''_{\text{expansion}} / p'''_{\text{compressed}} = \frac{u-u'}{2} / \frac{u+u'}{2}$$

$$p'''_{\text{expansion}} / p'''_{\text{compressed}} = \frac{u-u'}{u+u'}$$

Therefore, in the decelerating galaxy without rotating, its full momentum change formula is written as

$$\Sigma p_{\text{deceleration}} = 1 + \frac{u+u'}{2c} p' - \{ 1 + \frac{u+u'}{2c} p' \} \times \frac{u-u'}{u+u'} \Sigma p$$

$$\text{deceleration} = 1 + \frac{u+u'}{2c} p' \times 1 - \frac{u-u'}{u+u'}$$

This is a standard momentum increment formula for an independent astral body, from which the accurate results could be obtained.

$$\rho' = [1 + \frac{(u+u')}{2c}] \rho \times (1 - \frac{u-u'}{u+u'})$$

The volume and density of photon spiral nest are inverse proportion. In the case of $\rho' = \rho$, $\rho' / \rho = \Delta v / \Delta v'$.

$$\Delta v' = \frac{\rho'}{\rho} \Delta v$$

$$S' = 1 + \frac{u+u'}{2c} S \times \left(1 - \frac{u-u'}{u+u'} \right)$$

$$f \cong \left[1 + \frac{u+u'}{2c} \right] f \times \left(1 - \frac{u-u'}{u+u'} \right)$$

The dark process of photon absorption in the pulsation: according to the law of conservation of momentum, i.e., $M_0 \times c$ is constant, suppose $u = c$. After it is inversely rotated by 180 degree and when the velocity of the prison is slowed down, (U-turn deceleration actually) u becomes smaller. The frontal inertial compression is generated inside the prison. The compression work is

$$p_{\text{compressed}} = \left(1 + \frac{u}{c} \right) n \times M_0 \times (u - u') + \left(1 + \frac{u}{c} \right) \times M_0 \times (u - u')$$

$$p_{\text{compressed}} = 2n + 2 \times M_0 \times (u - u')$$

The based energy momentum of the prison travelling at the velocity of light is

$$p_{\text{basic}} = 2n \times M_0 \times c + 2 \times M_0 \times c$$

$$p_{\text{basic}} = (2n + 2) \times M_0 \times c$$

The ratio between the two is

$$p_{\text{compressed}} / p_{\text{basic}} = \frac{(2n + 2) \times M_0 \times (u - u')}{(2n + 2) \times M_0 \times c} = \frac{u - u'}{c}$$

U is the initial velocity of the photon when the photon is

reversed and decelerated and the photon time is filled in the prison. u' is the current observed velocity. The difference between the two is the reduction. p'' is the energy momentum of the photon inside the prison before being reversed. Therefore, when the velocity of the moving prison begins to slow down, there would be an equivalent amount of photons entering into the prison.

$$P_{\text{deceleration increment}} = p'' \frac{u-u'}{c}$$

$$P_{\text{deceleration total increment}} = \left(1 + \frac{u}{c}\right) P' \left(1 + \frac{u-u'}{c}\right)$$

The energy momentum increment inside the prison $\Sigma p'$ in the decelerating motion is

$$\Sigma p''' = \left(1 + \frac{u-u'}{c}\right) p'' + \left(1 + \frac{u-u'}{c}\right) M_0 \times u'$$

The degrees of space and velocity shrinkage caused by volume deceleration are respectively as follows:

$$\Sigma v_{\text{deceleration space increment}} = \Sigma v \times \left(1 - \frac{u-u'}{c+u}\right)$$

The space generated by deceleration is

$$\Sigma v''_{\text{deceleration space increment}} = \Sigma v \frac{u-u'}{c+u}$$

Σv is the space of the prison. But in this case, the photons in the prison are obviously divided into two areas. The front and back areas are very different. Density, momentum and frequency of the photons of the front part would have the following features. The actual deceleration after reversion by 180 degrees is. The total energy of the front part remains constant, though the ratio varies:

$$P_{\text{deceleration front part}} = \left(1 + \frac{u}{c}\right) P' \left(1 + \frac{u-u'}{c}\right)$$

$$P_{\text{deceleration front part}} = \left(1 + \frac{u-u'}{c}\right) P''$$

$$P_{\text{increment before deceleration}} = \left[\sum v - \sum v \times \frac{u-u'}{c+u} \right] \times \left(1 + \frac{u}{c}\right) P \times \left(1 + \frac{u-u'}{c}\right). P' \text{ as the basic ether value could be also obtained:}$$

$$P_{\text{deceleration front part}} = \left(1 + \frac{u+u-u'}{c}\right) P'$$

$$\rho''' = \left(1 + \frac{u-u'}{c}\right) \rho'$$

$$\rho'''_{\text{deceleration front part}} = \left(1 + \frac{u}{c}\right) \rho \left(1 + \frac{u-u'}{c}\right)$$

ρ as the basic ether value could also be obtained.

$$\rho''' = \left(1 + \frac{c+u+u-u'}{c}\right) \rho$$

$$\Delta v'''_{\text{deceleration front part}} = \left(1 - \frac{u-u'}{c+u}\right) v'$$

$$f''' = \left(1 + \frac{u-u'}{c}\right) f''$$

$$f'''_{\text{deceleration front part}} = \left(1 + \frac{u}{c}\right) f \left(1 + \frac{u-u'}{c}\right)$$

$$\Delta f' = \left(1 + \frac{c+2u-u'}{c}\right) f$$

When $u=c=0$, P' as the basic ether value could be also obtained:

$$P_{\text{deceleration front part}} = \frac{c+u}{c} P' + \frac{c+u}{c} P' \times \frac{u-u'}{c} = 4 P'$$

$$\rho''' = \left(1 + \frac{u-u'}{c}\right) \rho' = 4\rho$$

$$\rho'''_{\text{deceleration front part}} = \left(1 + \frac{u}{c}\right) \rho \left(1 + \frac{u-u'}{c}\right)$$

$$f'''_{\text{deceleration front part}} = \left(1 + \frac{u}{c}\right) f \left(1 + \frac{u-u'}{c}\right) = 4 f$$

Then density, momentum and frequency of the photons of the other area would have the following features: it is always equal to the ratio of the current velocity to the ether. That is to say, the front part compresses and creates space, while the largest intake of the

other part is always equal to the difference between the compressed intake and the expansion intake.

$$P''_{\text{deceleration back part}} = \left(1 + \frac{u'}{c}\right) P$$

$$P_{\text{deceleration total increment}} = \left[\sum v \times \frac{u-u'}{c+u}\right] \times \left(1 + \frac{u'}{c}\right) P$$

$$P''_{\text{deceleration back part}} = \left(1 + \frac{u'}{c}\right) P$$

$$P''_{\text{deceleration back part}} = \left(1 + \frac{u'}{c}\right) \rho$$

$$\Delta v''_{\text{deceleration back part}} = v \times \frac{c}{c+u'}$$

$$\Delta v''_{\text{deceleration back part space}} = \sum v \times \frac{u-u'}{c+u}$$

$$f''_{\text{deceleration back part}} = \left(1 + \frac{u'}{c}\right) f,$$

The difference between the front and back part is

$$P = 1 + \frac{u'}{c} + \frac{u-u'}{c} \quad P = 1 + \frac{u}{c} \quad P$$

$$P = \frac{u-u'}{c} \quad P + \frac{u-u'}{c} \quad P' = \frac{u-u'}{c} \quad P + P'$$

After the reversion by 180 degrees followed by deceleration, there should be a balance point. Under certain conditions, photons would no longer enter into the prison. It could only do the decelerating & expanding motion. This is the basis for the explosion of nova and supernova. The following equation should be met: The

radiation formula is $\left[\sum v \times \frac{u-u'}{c+u} \times \left(1 + \frac{u'}{c}\right) \rho + \sum v \times \frac{u'-u''}{c+u} \times \left(1 + \frac{u''}{c}\right) \rho\right] / \left[\sum v \times \frac{u-u'}{c+u} + \sum v \times \frac{u'-u''}{c+u}\right] \geq \left(1 + \frac{u''}{c}\right) \rho$

ρ

$$\frac{\Delta u}{u-u''} \times \left[\left(1 + \frac{u'}{c}\right) \rho + \left(1 + \frac{u''}{c}\right) \rho\right] \geq \left(1 + \frac{u''}{c}\right) \rho$$

where Δu is the reduction in half of the rotation cycle, which

could be approximated as a constant; u'' is the last observed velocity.

Probably the following could be also obtained:

$$\frac{\Delta u}{u - u''} \times \frac{2c + 2u'' + \Delta u}{c} \rho \geq \frac{c + u''}{c} \rho$$

Before the astral body as the prison rotates to position 5, the back part has to use the front part get the time point reference. Compared with the front part, the back part must also change. Only after satisfying this condition could it be established. The momentum of the entered photons is also compressed and increased. The decelerating expansion will counteract the momentum. The total amount entered is always the product of the total volume of the prison, the compression ratio and the current density. This would be a very important relationship. On the one hand, it could be used to determine the current velocity of the astral body accurately; on the other hand, it also could determine the total evolution time of the astral body.

(Discussion) For the compressed front part, from $\rho''' = (1 + \frac{u - u'}{c}) \rho'$ it could be seen that when $u' = 0$, $\rho''' = 2\rho'$. That is to say, when $u = 0$, the photon density inside the prison changes to be four times of that of the ether field. At this time, due to the equivalent density compression, the spiral nest sphere S changes to

$$S'' \cong S \frac{1}{4}$$

$$S'''_P = S \frac{1}{4} \times \frac{1}{\Delta S} \times M_0 \times c$$

$$S''_P = S' \frac{4}{\Delta S} \times M_0 \times c$$

It can be found that the momentum of the photon inside the prison at ΔS changes into

$$P_{\Delta S} = \frac{4}{\Delta S} \times M_0 \times c$$

$$P_{\Delta S} = \frac{4M_0 \times c}{\Delta S}$$

That is, the times of hitting by momentum impact is doubled for one ΔS , which is four times of that before the compression. It could also changes into

$$P_{\Delta S} = 1 + 1 + \frac{u}{c} + \frac{u-u'}{c} \frac{1}{\Delta S} \times M_0 \times c$$

$$\Sigma p''' = S'' [1 + 1 + (\frac{u}{c} + \frac{u-u'}{c})] \frac{1}{\Delta S} \times M_0 \times c + M_0 \times u'$$

$$\Sigma p''' = 1 + \frac{u}{c} n \times M_0 \times c + M_0 \times u'$$

$$v''' = (1 - \frac{u-u'}{c+u}) \Delta v'$$

That is to say, after the direction of an astral body is reversed by 180⁰ degrees, it would obtain the continuing inertial compression due to deceleration. When the volume of spiral nest in decelerating is compressed, the number of hittings by momentum impact of the photons inside the prison at ΔS would increase in proportion to $(1 + \frac{u-u'}{c})$. This would clearly demonstrate the relationship between the decelerating motion of the prison and the photons inside the prison. When $\Delta S=4$, the phenomenon would appear in the direction of $v = \lambda 4f$. Compared with the phenomenon of four-times frequency wave velocity before compression, the following would occur:

$$f = [1 + 1 + (\frac{u}{c} + \frac{u-u'}{c})] f,$$

Compared with the phenomenon of four-times frequency wave velocity before compression, the equivalent photons inside the prison neutral field, due to the inertial drag compression, must produce the equivalent compression momentum relative to the prison and drag, i.e., to generate the inertial compression momentum the relative to the prison as the reference system. Since

$$\Sigma p'' = S' (1 + \frac{u}{c}) \frac{1}{\Delta S} \times M_0 \times c + M_0 \times u$$

When $u' = 0$, the energy momentum of the photons of the front part of the prison is

$$\Sigma p''' = S'' [1 + 1 + (\frac{u}{c} + \frac{u-u'}{c})] \frac{1}{\Delta S} \times M_0 \times c + M_0 \times 0$$

$$\Sigma p''' = S'' \frac{4}{\Delta S} \times M_0 \times c$$

The increment of the ratio momentum of the front part of the prison is

$$P \text{ increment} = p' \frac{u}{c} + p'' \frac{u-u'}{c} + (p' \frac{u}{c} + p'' \frac{u-u'}{c}) M_0 \times u'$$

$$\Sigma p = [1 + 1 + (\frac{u}{c} + \frac{u-u'}{c})] p' + [1 + 1 + (\frac{u}{c} + \frac{u-u'}{c})] M_0 \times u'$$

$$\Sigma p = 4 p'$$

The increment is exactly 3 times. Then, if the front part of the prison is released in the place without ether, it would emit $\Sigma f = 3n$ frequency quantum, if released in the place with ether, it would emit $\Sigma f = 4n$ frequency quantum. The total energy frequency quantum that is emitted for the ether field is

$$\Sigma f = 3n+0$$

$$\Sigma f = 4n + 0$$

$M_0 \times 0$ does not have linear energy impact.

$$f = \left[\left(1 + \frac{u}{c} \right) \frac{1}{\Delta S} \times M_0 \times c \right] \frac{1}{2} = 2 f/2$$

Energy reserve stage for the supernova

Now the calculation is performed on the overall energy reserve after the reversion by 180 degrees and when the rotation has stopped.

As shown in Figure 3, when a prison is reversed to the position 3, the reversion stops. Then under the condition that the prison is decelerating, the momentum photons would continue to be compressed, and persistently and continually enter into the ether photons. When this situation continues, the prison or the astral body would convert all the motion energy into ether increase for storage. During this period, the photons inside the prison will not be released. In certain circumstances, the prison would store huge amounts of ether photons, which is a huge amount of energy momentum. This is equivalent to the light energy that the sun has radiated is preserved in one time. When the astral body as the prison explodes suddenly, huge amount of light energy and momentum which are preserved over hundreds of millions of years, would be all released. Thus, the

enormous light and heat would be given out, which is the explosion of the supernova. The process also illustrates why it is always dark before supernova explosions.

When it rotates to the position 3, it stops the rotation, which is the way whereby the astral body obtains the prison energy. The uniform method is performed to calculate the deceleration increment problem. Some results could be obtained. At position 3, the astral body does not rotate, and an equivalent amount of ether photons would continue to enter into the prison. The back part must use the front part as the time-point reference. Compared with the amount in the front part, that in the back part must also change, so that it could hold. The photon momentum entering into the prison would undergo a compression plus increment process. The decelerating expansion would counteract the momentum. Then the increment of energy momentum of prison making the decelerating motion $\Sigma p''$ is

$$P_{\text{deceleration increment}} = p'' \frac{u-u'}{c}$$

The increment of energy momentum of the prison in decelerating motion $\Sigma p'''$ is

$$\Sigma p''' = \left(1 + \frac{u-u'}{c}\right) p'' + \left(1 + \frac{u-u'}{c}\right) M_0 \times u'$$

But the photon momentum entering into the prison at this time would also have a compression plus increment process. The decelerating expansion would counteract the momentum. Then the

increment of photon density of the prison in decelerating could be also written as

$$\rho''' = \frac{u-u'}{c} \rho''$$

$$\rho''' = \left(1 + \frac{u-u'}{c}\right) \rho'$$

The decrement is

$$\rho''' = \frac{u-u'}{c} \rho'' \times \left(1 - \frac{u-u'}{u}\right)$$

ρ' is the photon density of the prison before the deceleration. In the approximately homogeneous condition, the photon density of the prison in the decelerating motion is

$$\rho''' = \left(1 + \frac{u-u'}{c}\right) \times \left(1 - \frac{u-u'}{u}\right) \rho'$$

$$\rho''' = \left(1 + \frac{u}{c}\right) \rho \left[1 + \frac{u-u'}{c} \left(1 - \frac{u-u'}{u}\right)\right]$$

The above formula changes into

$$\Sigma p''' = \left(1 + \frac{u-u'}{c}\right) p'' + \frac{u-u'}{c} \rho' \times u + - \left[\frac{u-u'}{c} \rho' \times u - \frac{u-u'}{c} \rho' \times u'\right] + \frac{u-u'}{c} M_0 \times u'$$

$$\Sigma p''' = \left(1 + \frac{u-u'}{c}\right) p'' + \frac{u-u'}{c} \rho' \times u' + \frac{u-u'}{c} M_0 \times u'$$

The general idea could be interpreted as follows:

$$\Sigma p''' = \left(1 + \frac{u-u'}{c}\right) p'' + p \text{ increment} + (- p \text{ expansion}) + \frac{u-u'}{c} M_0 \times u'$$

Because of the complete uniformity of the 0 entropy particle field as well as the complete equivalent uniformity of energy momentum and density, the density could be directly used to calculate the total situation inside the prison. The increment is often

accompanied by decrement. The two formulae could be changed into.

The increment part and loss expansion part:

$$\Sigma p'' = \frac{u-u'}{c} \rho' \times u' + \left[\frac{u-u'}{c} \rho' \times u - \frac{u-u'}{c} \rho' \times u' \right]$$

$$\Sigma p'' = 2 \frac{u-u'}{c} \rho' \times u' - \frac{u-u'}{c} \rho' \times u$$

The original basic value is $\Sigma p' = \left(1 + \frac{u-u'}{c}\right) \rho' \times u$

When the two formulae are combined, the total variation is

$$\Sigma p'' = 2 \frac{u-u'}{c} \rho' \times u' - \frac{u-u'}{c} \rho' \times u + \frac{u-u'}{c} \rho' \times u + 1 \rho' \times u$$

$$\Sigma p'' = 1 \rho' \times u + 2 \frac{u-u'}{c} \rho' \times u'$$

The actual change of the increment is

$$\Sigma p'' = 1 \rho' \times u + 2 \frac{u-u'}{c} \rho' \times u' + 2 \frac{u-u'}{c} M_0 \times u'$$

$1 \rho' = \rho' = \left(1 + \frac{u}{c}\right) \rho$. This formula also shows that after a prison rotates by 180 degrees, it then makes a decelerating motion and its total momentum increment is. After reversion, the basic momentum is $1 \rho' \times u$, and the further increment is $2 \frac{u-u'}{c} \rho' \times u'$. If it continues to make such motion, then when the final velocity is most close to 0, the photons contained in the prison are 6 times the amount in the ether. The front part is the light speed compression momentum two times of the ether amount, (including the advance potential before the explosion) the back part is the photon storage 4 times the ether amount. The total energy is

expressed as

$$\Sigma E = 2M_0 \times c \times n + 2M_0 \times c \times n + 2M_0 \times c + 4 (M_0 \times c \times n) + 4M_0$$

$$\Sigma E = 8M_0 \times c \times n + 2M_0 \times c + 4M_0$$

$$\Sigma E = 8 \frac{u}{c} (M_0 \times c \times n) + 2 \frac{u}{c} M_0 \times c + 4 \frac{u}{c} M_0$$

$$\Sigma E = \frac{m'_v - m''_v}{V_0} \times \frac{de}{dV} [8 \frac{u}{c} (M_0 \times c \times n) + 2 \frac{u}{c} M_0 \times c + 4 \frac{u}{c} M_0] \frac{de}{dV}$$

is the ether space value. This is the energy basis of the explosion of a supernova. Once exploded, it would form a huge forward motion (faster in some direction) plus back-shock motion and optical explosion.

The luminescence process in the pulsation: The astral body is in position 3, and continues to rotate. After reversion by 180 degrees, the whole (360) inertial velocity of the prison continues to decelerate, i.e., when u continues to become smaller, the photons inside the prison would undergo decelerating inertial expansion. At this time, the situation inside the prison would have significant changes. The previously compressed part would be expanded, and the previously expanded part would be compressed.

The inertial expansion of the photons inside the prison would have the expansion energy directly acting on the nuclear cage, to cause the expansion of nuclear cage and molecular cage, making the

cage amplified with higher overflow frequency and high-momentum photons. The astral body reaches the brightest stage. At the same time, the expansion and amplification of the atomic and molecular cages also cause an actual expansion and amplification of the astral body volume, making the manifested volume of the pulsating variable star larger. When the astral body rotates by half a cycle, photons inside the prison would undergo inertial contraction, which is the contraction of energy and momentum. As a consequence, the atomic and molecular cages contract, compressing the energy space of the prison. No or little photons inside the prison would overflow (photon frequency increasing instead). It is the process that the astral body changes to the darkest phase. At the same time, the contraction of atomic and molecular cages also causes the actual contraction of astral body volume, making the manifested volume of the pulsating variable star smaller. This is the basic process and principle of pulsating variable star. The discovery of the basic principle of pulsating variable star is of great significance. The following is established:

- 1 From the brightest luminescence to the darkest luminescence is half a rotation cycle of an astral body.

- 2 From one brightest luminescence to the next brightest luminescence is a rotation cycle of an astral body.

3 The length of the cycle is determined by the volume and the rotation velocity of the astral body. The longer the light variability cycle, the larger the previously stored light energy momentum and the larger the variation of the brightness would be. Otherwise they would be smaller. Secondly, we could calculate the absolute velocity of an astral body according to the formula through the change of photometric frequencies.

The largest amount inside the prison would occur at the expanding momentum decrement of the photons inside the prison, then the obtained deceleration work is all converted into photons of spiral nest Δv and the momentum volume expansion of spiral bubble sphere surface area S' . The expanding work is: it could form light radiation phenomena, which is pulsating luminescence.

$$P_{\text{decelerating expansion}} = \left(1 + \frac{u}{c}\right) P' \left(1 + \frac{u-u'}{c}\right) \times \left(1 - \frac{u-u'}{c}\right)$$

$$P_{\text{increment before deceleration}} = \left[\sum v - \frac{1}{2} \sum v \times \frac{u-u'}{c}\right] \times \left(1 + \frac{u}{c}\right) P \times \left(1 + \frac{u-u'}{c}\right)$$

$$\rho''' = \left(1 + \frac{u-u'}{c}\right) \rho' \left(1 - \frac{u-u'}{c}\right)$$

If the deceleration cycle is identical, it should be also equal to

$$\rho''' = \left(1 + \frac{u}{c}\right) \rho, \text{ but in this period, the actually increased}$$

amount of photons inside the prison is

$$\mathbf{P}_{\text{total deceleration increment}} = \left[\sum \mathbf{v} \times \frac{u-u'}{c+u} \right] \times \left(1 + \frac{u'}{c}\right) \mathbf{P}$$

The original value is $\mathbf{P}_{\text{total deceleration increment}} = \sum \mathbf{v} \left(1 + \frac{u}{c}\right) \mathbf{P}$

The actually expandable space is reduced to

$$\sum \mathbf{v}_{\text{expandable}} = \sum \mathbf{v} - \left(\sum \mathbf{v} \times \frac{u-u'}{c+u} \right) \times \frac{u'-u''}{c+u}$$

Because the cycle is identical, supposing $\frac{u-u'}{c+u} = \frac{u'-u''}{c+u}$, there

is

$$\sum \mathbf{v}_{\text{expandable}} = \sum \mathbf{v} \left(1 - \frac{(u-u')^2}{(c+u)^2}\right)$$

The ratio of expandable space

is

$$\alpha = \sum \mathbf{v} / \sum \mathbf{v}_{\text{expandable}} = \sum \mathbf{v} / \left[\sum \mathbf{v} \left(1 - \frac{(u-u')^2}{(c+u)^2}\right) \right]$$

$$\alpha = \frac{1}{1 - \frac{(u'-u'')^2}{(c+u)^2}}$$

Because of the existence of radius proportional effect of rotating

astral body, the expansion rate changes to $\alpha = \frac{1}{1 - \frac{(u'-u'')^2}{(c+u)^2}} \times$

$$\frac{1}{2}$$

This is the expansion rate of a decelerating pulsating astral body.

That is to say, the overall mass of an astral body could produce the expansion rate in the above formula. There is an expansion of the

pulsating luminescent volume. This expansion in the early stages may only show the counteraction with the gravitational force magnetic chain. When it is larger than the contraction action of the gravitational force on the nuclear cage, which amplifies the nuclear cage, the gap could show the time of photon quantum, thus forming light radiation. If this intensity of expansion could pull apart the quark and gel column, the disruptive nova explosion would occur.

Because of the conversion of the expansion rate, if the expansion force could not pull the cage, then at the degree of 360 the density of a large part of the cage is

$$\rho'''_{\text{deceleration } 360} = \sum v \left(1 + \frac{u}{c}\right) \rho / \sum v \left(1 - \frac{u-u'}{c+u} \times \frac{u'-u''}{c+u}\right)$$

$$\rho'''_{\text{deceleration } 360} = \frac{(c+u)^3}{c[(c+u)^2 - (u'-u'')^2]} \rho$$

Volume is inversely proportional to density:

$$\Delta v''' = \Delta v \frac{c[(c+u)^2 - (u'-u'')^2]}{(c+u)^3}$$

Frequency is proportional to velocity:

$$f'''_{\text{deceleration } 360} = \frac{(c+u)^3}{c[(c+u)^2 - (u'-u'')^2]} f$$

The minimum amount inside the prison would undergo the decelerating compression of the photons. These are all converted to photons in spiral nest Δv . There will be a momentum volume compression at spiral bubble sphere S'. The compression work is

$$P''' \text{ decelerating compression } 360 = \left(1 + \frac{u'}{c}\right) P + \frac{u'-u''}{c} \\ \times \left(1 + \frac{u'}{c}\right) P$$

$$P''' \text{ decelerating compression } 360 = \left(1 + \frac{2u'-u''}{c} + \frac{u'^2-u'u''}{c^2}\right) P$$

$$P''' \text{ decelerating compression } 360 = \left(1 + \frac{2cu'-cu''+u'^2-u'u''}{c^2}\right) P$$

$$\rho''' \text{ decelerating compression } 360 = \left(1 + \frac{2cu'-cu''+u'^2-u'u''}{c^2}\right) \rho$$

$$\Delta v''' = \Delta v \left(\frac{c+u-u'}{c+u}\right)$$

$$f''' = f \left(1 + \frac{2cu'-cu''+u'^2-u'u''}{c^2}\right)$$

After the reversion by 360 degrees, it continues to rotate. At the third 180 degrees, it would undergo the largest amount of compression, accompanied by the minimum expansion. There would be a space difference problem. When the largest volume is expanding, it does not reach the largest degree. But the compression would shrink to the greatest extent. This repeated process creates actual increment acquired differential space, and allows the continuous entrance of the ether photons. The exogenous ether optical quantum is acquired for the radiation of the next layer. This provides the guarantee for cyclic sustained luminescence. It could be

said that when the sun shines, it undergoes the translational deceleration because of the spin. At this time, the exogenous ether light quantum is acquired. This provides the source for continuous solar light and heat energy. This is to say, the sun could give out light and heat sustainably because the sun would convert the energy of translational motion to light radiation. In this case, the formula is more complex. This article would not give the specific formula. But it is very important.

After reversion by a maximum of 360 degrees, if the expansion pressure of photons inside the prison could not break through the strong force of quark to begin light radiation, then after reversion by 360 degrees, the mean of energy momentum of the prison in decelerating motion $\sum p'''$ is the variation of the increment at position 3.

Since the photon number inside the prison is constant, the decelerating expansion energy obtained could only change to the number of space distribution. In the closed prison environment, it could only become the expansion of prison spiral nest. To make the energy compressed in the spiral nest to manifest to the external space, the expansion should be converted to the corresponding equivalent expansion of the prison volume.

$$\Delta v''' = \Delta v \frac{c[(c+u)^2 - (u'-u'')^2]}{(c+u)^3}$$

In order to effectively consider the expansion,

$$\Delta v''' = \Delta v \frac{c[(c+u)^2 - (u'-u'')^2]}{(c+u)^3} \times \left[\alpha / \frac{1}{1 - \frac{(u'-u'')^2}{(c+u)^2}} \times \frac{1}{2} \right]$$

$$v''' = \left(1 + \frac{c+u'-u''}{c+u'} \right) \Delta v'$$

After decelerating expansion, the theoretical density changes to

$$\rho'''_{\text{deceleration } 360} = \frac{(c+u)^3}{c[(c+u)^2 - (u'-u'')^2]} \rho \times \left[\alpha / \frac{1}{1 - \frac{(u'-u'')^2}{(c+u)^2}} \times \frac{1}{2} \right]$$

After the direction of the prison is reversed by 360⁰ degrees, it would acquire continuing decelerating inertial expansion work. When the spiral nest volume in decelerating motion is expanded, the number of hittings by momentum impact of spiral nest photons in the prison at ΔS would decrease, corresponding to $\left[\left(1 + \frac{u}{c} \right) P' \left(1 + \frac{u-u'}{c} \right) \times \left(1 - \frac{u-u'}{c} \right) \right]$. Then the following would occur:

$$f''' = \frac{(c+u)^3}{c[(c+u)^2 - (u'-u'')^2]} f \times \left[\alpha / \frac{1}{1 - \frac{(u'-u'')^2}{(c+u)^2}} \times \frac{1}{2} \right]$$

α is the actual expansion number.

After knowing the volume difference of an astral body before and after volume expansion: $v = v'' - v'$, it could be approximated as the expanded volume of this astral body, equivalent to the total expansion of the whole photons inside the prison. Then the total number of ether photons of the astral body and the overall volume of

this astral body as the prison could be calculated. The total photon number is set to be n, then

$$v = n \times \left(1 + \frac{c + u' - u''}{c + u'}\right) \Delta v'$$

$$n = v / \left(1 + \frac{c + u' - u''}{c + u'}\right) \Delta v'$$

But the compressions among the molecules and atoms are not considered. They could be taken as the approximate values. Calculation could also be done accurately on the basis of atomic and molecular ratios. If in the process of expansion, the volume of nuclear cage could not be amplified in the same ratio due to the short magnetic bonding chain before emitting the photons, then the 360 inertial deceleration photons would undergo momentum expansion, radiating proportional electromagnetic wave and light quantum; n' is the difference between theoretical expansion $v''' \times n$ and the observed expansion $v = v'' - v'$.

$(v''' \times n) - (v'' - v') = n' \times v''$. The emitted energy is

$$\Sigma p_{\text{emit}} = \left[\left(1 + \frac{u - u'}{c}\right) p''' + M_0 \times u''\right] \times n'$$

$$\Sigma p_{\text{emit}} = \left\{[(v''' \times n) - (v'' - v')] \times \rho'''\right\} \times \left[\left(1 + \frac{u' - u''}{c}\right) p'''\right. \\ \left. + M_0 \times u''\right]$$

Summary: As shown in Figure 1, 2, 3, 4 and 5, when an astral body (the prison) could rotate sustainably and continuously, and makes decelerating motion after rotating to position 5, then At position 5 after the last reversion, photons of the whole prison would

decelerate because of inertia. The entire photon series of the prison begin to undergo momentum volume expansion, with the increasing of prison pressure. Then there would be equivalent photons emitted in expansion from the prison. Thus the luminescence and heat radiating phenomenon will be observed. The prison continues to rotate, and is reversed for the second time. After it rotates to position 3, if the astral body continues to decelerate, then the photons inside the prison would undergo inertial compression. The luminescence of the prison stops. It is converted to the equivalent compression of the external ether photons which then enter into the prison. When it continues to rotate to position 5, repeated luminescence appears again. When all the components of an astral body (such as the sun) are the common intersection of two kinds of prisons in different spinning directions, there would be sustainable light and heat radiating phenomenon along with the deceleration of the rotation and the translational motion of the astral body. This is the basic process and basic principle of the photothermal radiation of the astral body. The sun is an typical example.

Therefore, when the prison series are arranged in the same direction without intersection, it would enter into the alternating process of emitting light and heat with prison energy expansion and the dark phases with prison energy contraction due to the rotational

and translational deceleration. This flickering phenomena is the basic process of pulsation. It is also the basic principle of the pulsating star.

Relationship between radioactive decay and the ether prison

According to the strong force formula: V velocity, M mass,

$$p \ 2MV_1 \equiv V \times M \rightarrow + \leftarrow V \times M \neq M V_0 + M V_0 \Leftrightarrow p_0 \neq MV_2$$

$$p \ 4M V \equiv 3V \times M \rightarrow + \quad V \times M \rightarrow = 2 V \times M + 2 V \times M \Leftrightarrow 4V M \rightarrow$$

(2.2)

$$p \ 4M V \equiv 3V \times M \rightarrow + \leftarrow V \times M \neq V \times M + V \times M \Leftrightarrow 2V M \rightarrow \quad (2.3)$$

$$p \ \frac{1}{2} V_2M \equiv V \times M \rightarrow + 0V \times M = \frac{1}{2} V \times M + \frac{1}{2} V \times M \Leftrightarrow \frac{1}{2}$$

$V_2M \rightarrow$

Suppose that in the big bang period, (four photons form a quark) the strong force velocity of big bang is the velocity of light. Then the momentum strong force of quark could be represented as

$$P_{\text{strong force}} = 4M \times c \rightarrow + \leftarrow c \times 4M \neq 4Mc_0 + 4Mc_0 \Leftrightarrow 8M^2c \neq$$

$8 M^2c$. To separate the strong force bonding of this quark, the prison photon momentum required is: $P_{\text{strong force}} = 8M^2c$. The velocity of the momentum photons inside the prison is C. The strong force momentum required to separate this quark is

$$P_{\text{strong force}}^F = \frac{16M_0 \times c}{t}$$

That is to say, to separate these two binding quark (atomic

radioactive decay), there has to be 16 times of light quantum impact on this quark group within a second. $4M_0 \times C$ momentum impact on a momentum surface is obtained from the formula $P \Delta S = \frac{4M_0 \times c}{\Delta S}$. That is to say, in the inner area range of the binding quarks, as long as 4 spiral nest momentum photons exist, the two quarks could be separated, to generate the nuclear radioactive decay. That is,

$$P_{\text{emit}} = \frac{p^F}{p\Delta s} = \frac{16M_0 \times c}{t} / \frac{4M_0 \times c}{\Delta S} = \frac{4\Delta S}{t}$$

$$P_{\text{emit}} = \frac{p^F}{p\Delta s} = \frac{nM_0 \times c}{t} / \frac{M_0 \times c}{\Delta S} = \frac{4\Delta S}{t}$$

Then the motions nuclear radioactive decay and atomic prison in the universe are reasonably related. It could be used to solve some important problems. But the current situation is, only the quarks in the outmost layer of the nucleus could be separated due to the equilibrium, and under normal circumstances, the effective decay could occur after the decelerating motion of the prison, which accords with the current theory.

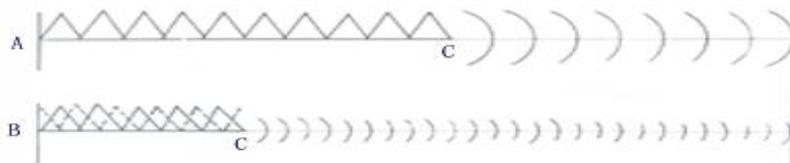
In the ether field, the frequency of every photon in translational motion is attenuated with time. The redshift of wavelength of photons also occurs. Wavelength is only a description of the changing cycle of the vibrational state of photon electromagnetic field.

Summary and discussion of the motion of light particle

In a closed 0 entropy particle swarm energy field in space, energy and momentum could not be exchanged with those outside the ether field. Every momentum particle itself is a space volume field with intrinsic momentum manifestation space and independent range. If the particles inside the prison increase in number and energy, the particle swarm independent space must be compressed. If the particles are decreased in number and energy, the particle swarm independent space must be inertially expanded, but the energy momentum as well as the momentum of a single particle is invariant. Identical momentum and break point amount as well as the identical momentum light velocity are maintained. This shows that in a closed 0 entropy momentum swarm field space, the momentum of the particles is not plastic. Its changes must be real. But for the particles after the spatial compression, a complex number of a range point could be used to represent its intrinsic energy momentum. But for the particles after the spatial expansion, a complex number of a range area could be used to represent its energy momentum. In a prison environment, the manifested field has to conform to the law of conservation of energy, i.e. the law of conservation of energy momentum. When space is compressed, the path is shorter, but with velocity invariant. To run this shortened distance, the apparent velocity must be faster, but the basic velocity of momentum is

invariant. No matter how it is compressed, the velocity of light is certain, but the manifested frequency is varied. The higher photon energy velocity only could be converted to faster lightwave frequency.

This also makes the problem in AB (Figure).



1. If observed from the whole particle size, its momentum volume relative to ether is different. Therefore, when observed from the whole particle, its velocity relative to ether is different. B has to be faster than A by two times to conform to the law of 0 entropy energy conservation.

2. From the perspective of micro path, the trace distance is exactly the same $A=B$.

3. The emitting and transmission of A and B to the ether field are completely the same. From the macroscopic perspective, the velocities are both the velocity of light C

4. A and B exhibit different frequency on both macro and micro scales. Therefore, they could be observed uniformly in terms of frequency.

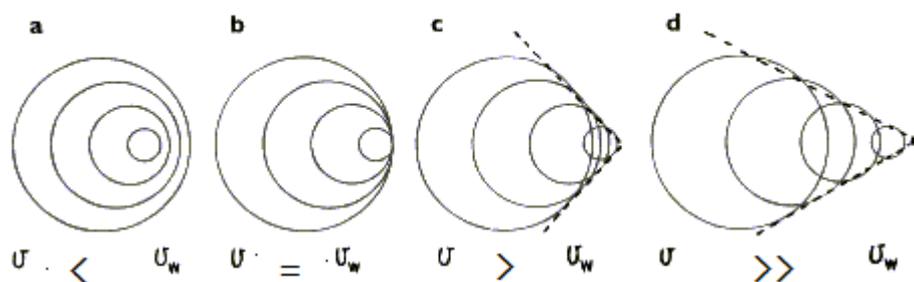
5. The classical information and energy are constant and equivalent.

1. For an ether light quantum to make a translational motion,

the spiral nest must be compressed to become thinner and narrower in the inertial direction.

2. As long as the moving photons are decelerating, the volume must be decelerated, enlarged and expanded, and closer to the moving direction. In the compression direction, the volume is gradually amplified. When the light quantum completely stops moving, the photon quantum in ether field would be in a completely uniform equal amplification state.

3. Both of the two processes approximate wave packet collapse and expansion.



Because of the range characteristics of ether photon, only another motion relative to the ether field, i.e., any $c+u$, could form the three-photon concave wall principle of the energy reset. This is also because of the motion and principle of photon concave wall. Any photon could only radiate towards the front of the moving direction to form electromagnetic wave.

7. Particle property is the primary information of material, and the wave property is the manifestation of particle energy. It is the energy motion, or reciprocating motion of the particle. It is a kind of manifestation method of energy motion law information which is manifested through the medium field swarm.

8. However, the interference entanglement is a small momentum space state. It affects another small momentum space state system by swarm expansion.

9. This field mechanics has joining and retreating characteristics.

10. When it is not looked upon carefully, it is overspeeding. When it is carefully looked upon, its velocity is constant.

1. The photon's $M_0 \times C$ basic value does not change. Otherwise for the O entropy ether field, this is impossible to be completed. That is to say, energy could be changed by changing the manifested space, but not by changing the momentum velocity.

2. The moving mass produces momentum. The amount containing the integer of unit momentum is called the energy. A huge amount of moving mass could be viewed as a momentum. Even the motion of a tiny mass could also be a momentum. The photon is the smallest of the mass, and therefore the product of the lowest velocity and mass of the photon is the smallest unit of momentum.

3. For two completely equivalent materials, if their momentums are exactly the same, the momentum would be identical and constant

after the collision (in the ideal system)

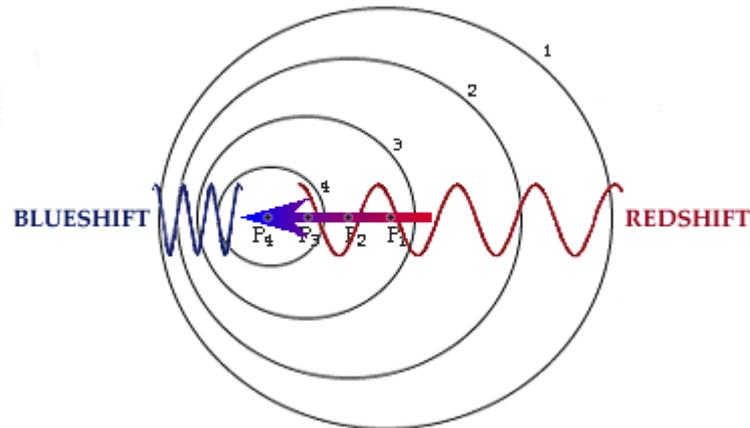
4. For the particles in the O entropy field, the momentum of each particle must be exactly the same, and the mass of each particle must be exactly the same. Therefore, the momentum velocity of a particle must be exactly the same. While in the space equal and greater than the ether structure, the basic momentum ($M_0 \times c$) of light particle is the smallest unit of energy, and also the most basic unit. All energy structures are integers of photon momentum.

5. Due to the spiral nest of photon energy momentum, one $M_0 \times C$ of the photon could be always available to be consumed to change the track. While the remaining $(N-1)$ of $M_0 \times C$ does not change. That is, one $M_0 \times C$ energy momentum lacks one $M_0 \times c$ energy momentum. The change of the vortex ring inertia track is as easy as linear motion turning around. But the turning is not completed with external force but with its internal system.

6. The photons velocity is not the photon momentum velocity. The energy momentum is compressed in a direction or accumulated in a direction. The results could be shown in the form of wave frequency in the field.

7. Chemical bonding force is strong force. Chemical energy is a kind of conversion of photon quantum energy. In the motion of the particle, the mass is not increased.

8. If the basic f value in $(1 + \frac{u}{c}) f$ is to be calculated, the frequency concentration problem of the compressed light quantum in the moving direction should be considered, as shown in figure: Redshift).



For a moving photon, its impact on the ether field and frequency will be centered on the focus in the most forward motion. Then the one-point property of the frequency within the sphere range is formed, and the frequency is increased or decreased geometrically. It may also be the square of $(1 + \frac{u}{c}) f$.

9. Suppose that the basic momentum of photon is Planck's constant, then the basic mass of photon is

$$P = M_0 \times c, M_0 = \frac{p}{c}, \text{ according to matter wave: } p = \frac{h}{\lambda}, m_0 = \frac{p}{c} = \frac{h}{c\lambda}$$

That is because, in the ether saturation energy field, the wavelength in the $c \times \lambda$ does not have to work. While the displacement of the Planck's constant does not have to work either. Then, the actual settlement could directly obtain the following value, and this value is not contrary to the current recognized value.

$$P = M_0 \times c$$

$$M_0 = \frac{p}{c} = \frac{6.63 \times 10^{-34} \text{ J.s}}{299792.458 \text{ m/s}} = 2.211529 \times 10^{-36} \text{ gram}$$

The energy of a single photon is assumed to be about 4×10^{-19} Joule, and the photon is ultraviolet photon. The number of hittings by momentum impact of the photon is

$$\Sigma p' = M_0 \times c \times n$$

$$n = \frac{\Sigma p'}{M_0 \times c} = \frac{4 \times 10^{-19} \text{ J.s}}{6.63 \times 10^{-34} \text{ J.s}} = 6.03318 \times 10^{14}$$

That is to say, the photon with momentum of $6.03318 \times 10^{14} M_0 \times C$ impact times also could do the work of $6.03318 * 10^{-14} M_0 * C$. If the photon is permitted to move freely in the ether field and radiates light frequency, then, it would emit 6.03318×10^{14} frequency.

By $c = \lambda v$, we conclude that $\lambda = c/v$. It also shows that the faster the frequency, the shorter the wavelength. From $f = [1 + 1 + (\frac{u}{c} + \frac{u-u'}{c})] f$, it is concluded that when $\Delta S = 4$, $v = \lambda 4f$ would appear in this direction. It is four times the frequency wave velocity compared with that before the compression. Then the wavelength: $\lambda' = \lambda \frac{1}{4}$, that is to say, it is $\frac{1}{4} \lambda$ compared with that before the compression. From $c = \lambda v$ and $v = c/\lambda$, the ratio of ultraviolet 0.4 micron v' to infrared 0.3 mm v'' is $v'/v'' = \frac{300000}{0.4} / \frac{300000}{3} = \frac{3}{0.4} = 7.5$. This indicates that the frequency of ultraviolet photon

is 7.5 times of the frequency of infrared photon. From $\Sigma S_p' = S \frac{1}{\Delta S} \times M_0 \times c$, it is concluded that the energy value of ultraviolet rays in unit time is 7.5 times of that of the infrared rays.

Now assume there is a galaxy, or an independent astral body. It is decelerating at the speed of etheric canning. Then, without considering the disturbance of electromagnetic wave radiation, the following could be deduced according to the law of conservation of energy:

$$M \times u = (M + n \times M_0) \times u'$$

$$n = \frac{M(u - u')}{u' M_0}$$

This formula is used to calculate the photon number of an astral body. If the electromagnetic wave radiation and transmission is considered, then

$$n = \frac{M(u - u')}{u' M_0} - (n' \times M_0 \times u'')$$

where n' is the photon number in the emitted radiation, and u'' is the photon's etheric velocity.

Doppler effect of the volume of ether

After the medium principle of the ether photons is determined, the volume Doppler effect principle of the ether field could be considered. For example, the volume of the etheric photon of an astral body is $\Sigma \Delta v$. In theory, when the astral body enters into a

new ether space, the ether photon density of the space changes because of the added volume. The density is increased in front of the time. The space is assumed to be Σv , and the ether density is ρ , then

$$\Delta \rho = \frac{\Sigma V \times \rho + \Sigma \Delta V \times \rho}{\Sigma V} = \left(1 + \frac{\Sigma \Delta V}{\Sigma V}\right) \rho$$

$$f'' = \left(1 + \Sigma \Delta V \frac{u}{c}\right) f',$$

Now the question is how to determine the Σv ? Under certain circumstances, it is inversely proportional to the ether disturbance leaving velocity. While in the air compression, there is a sound velocity ratio problem. Then, this formula could be written as

$$f'' = \left(1 + \frac{1}{5} \frac{u}{c}\right) f'$$

By $\Sigma f = n \frac{u}{c} \times \frac{1}{2}$, $1f = \frac{2c}{nu} = \frac{2}{n} c = \frac{c}{n}$ could also be obtained.

Therefore, the photon velocity of a certain frequency could be obtained. This idea could be interpreted as this: as long as the ether photon moves as a whole relative to the ether field, it must radiate electromagnetic wave frequency. But the velocity relative to ether is limited. The lower bound of the velocity is

$$1f = \frac{2c}{nu} = \frac{2}{n} c,$$

It is calculated that

$$n = \frac{\Sigma p'}{M_0 \times c} = \frac{4 \times 10^{-19} \text{ J.s}}{6.63 \times 10^{-34} \text{ J.s}} = 6.03318 \times 10^{14}$$

$$1f = \frac{2c}{nu} = \frac{2}{n}c = 9.9381241 \times 10^{-6} \text{ meter}$$

$$1f = \frac{1}{1000000} m/s \text{ photon mass (probably 0.5)}$$

As long as a photon travels in the ether field at the velocity of 2 millionths of a meter per second, it could radiate one frequency.

Summary: The research on light has already a history of thousands of years. The wave theory, particle theory and wave-particle theory are formed independently. But few people successfully combine these three theories together. From the point of view of the whole article, the root of the wave property of the light and particle stream is the most basic energy momentum and entropy evolution of the particle of the photon with static mass. It makes the individual photon particle have an independent energy-point momentum space manifestation. This is the entropy, momentum and wave-particle two phase of the light particle in the first layer of sense. On the basis of photon saturation ether field, the wave and translational motion of particle stream in the second sense is two independent forms of the same source. The waving in the second sense is the collective behavior of light quantum. The translational motion of the particle stream in the second sense is the individual behavior of light quantum. These could influence each other. This makes the light actually have wave-particle four-phase property. These are the wave property and particle property.

In the current researches dealing with the relationship between electromagnetic photon energy, mass and motion, few people pay attention to the significance of compressed ether. Most people focus on the relationship between large mass and external contact of the ether. No one has ever noticed the ether's relationship with the atomic and molecular space. But it could be judged from atomic and molecular structures that the nucleus also has certain spatial structure. Why could not this be the prison that compresses and blocks the ether? Why could not this become the fundamental source of nuclear energy? Is it right that the first mass point carrier of nuclear energy in the real sense could be found? This is easier to exhibit authenticity than Einstein's mass-energy equation. From this, nuclear energy could also be explained in the nature of classical physics. What is the most primitive, is the most basic.

In the current study of compressible fluid mechanics, it is related to the problem of gravitational force, charge force and elastic force. Therefore, it is difficult to establish a set of perfect formulae. In the previous work of this article, the following three points have been determined, which makes the compression of ether possible:

- 1: The exogenic nature of gravitational force. Gravitational force is the external force responsible for the motions of galaxy, rather than the attribute force of the mass itself.

2: Range of gravitational force, that is, gravitational force has certain range. It is not infinite. Its upper limit is the largest diameter of the independent galaxy. The lower limit is 0.795774729 magneton unit radius.

3: Charge force is a kind of strong force. Strong force has inertial coordinates. In certain circumstances, the action of strong force could be felt.

4: Elastic force is not the attribute force of the mass. The elastic force is the result of gravitational force. Without gravitational force, there would be no elastic force in the mass system.

The mass characteristics of light quantum are very unique. The three all could be invalid in certain space. This creates the conditions for ideal compression of ether.

This article uses the law of conservation of momentum and the law of conservation of energy momentum on the basis of calculation. This may make the calculation simple. In some previous creative work, some people put forward that conversion factor in mass-energy relation and compressibility factor of the theory of relativity could be equivalent. These mean the same thing. The generalized vortex of the compressible flow is defined. This is very innovative and unique.