Chapter 12

The Second Inconsistency of Relativity

The term "inertia" is more properly understood as shorthand for "the principle of inertia" as described by Newton in his First Law of Motion: an object not subject to any net external force moves at a constant velocity. Thus, an object will continue moving at its current velocity until some force causes its speed or direction to change. By $P = mv$ and $F = ma$ mass can be the quantitative measure of a body's inertia that is of its resistance to being accelerated. While Einstein's special relativity did significantly change the meaning of many Newtonian concepts such as mass, energy, and distance, Einstein's concept of inertia remained unchanged from Newton's original meaning. Mass is partly "given" to particles from the Higgs field, via the Higgs bosons which contains the relative mass in the form of energy. The process of giving a particle mass is known as the Higgs effect.

12.1 Inconsistency of the Infinite Establishment of Relativity and the Infinite Relative Coordination System

In §1, I had discussed the formula for classical special relativity, $k = \frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$, where the value of k increases and moves closer to infinity, when the speed v approaches the speed of light c. This "infinity" introduces to physics the so-called "destructive infinity" mentioned in §2. However, a significant hidden meaning of such divergence to endless infinity is that the classical principle of relativity has to be strictly and uncompromisingly applied. CFLE theory, however, is able to correct the problematic factor in the formula

$$k = \frac{1}{\sqrt{1-\frac{v^2\alpha}{c^2}}} \qquad 12\text{-}1$$

Another significant positive meaning of this formula is that it reveals established limits for the application of the relativity principle. Namely, there are established limits in the mass increase

$$m = \frac{m_o}{\sqrt{1-\frac{v^2\alpha}{c^2}}}$$

in the time dilatation

$$T = \frac{T_o}{\sqrt{1-\frac{v^2\alpha}{c^2}}}$$

and in the length contraction

$$L = L_o\sqrt{1-\frac{v^2\alpha}{c^2}}$$

Thus, outside of these established limit ranges, the relativity principle cannot be applied. Therefore, light speed is not constant for high energy particles. light speed is constant only for photon.

Furthermore, speed of free gluon (cf.§7) and galaxon (cf.§11) is faster than light speed. This means that light speed is not general absolute speed in the universe.

Therefore, when object move over light speed, tachyon problem, imaginary mass problem and causality problem cannot occur by another special relativity($k = \frac{1}{\sqrt{1-\frac{v^2\alpha}{c^2_{galaxon,cosmoson}}}}$) with another mass less gauge boson speed that is faster than photon speed that is called speed of mass less electromagnetic gauge boson $c_{electromagnetic} = 2.99792458 \times 10^8$ m/s. Quantized relativistic effect from Einstein's special relativity is continued by another special relativity.

Speed of galaxon (cf.§11.18) is

$$c_{galaxon} = 4.889655 \times 10^{17}\text{ms}^{-1} \qquad \text{11-18-2-3}$$

These established limits of electromagnetic special relativity of Einstein occur naturally as part of quantum theoretical property. However, the essential significance of such established limits is that all physical entities in the universe require an absolute coordination system. In the force line elements theory of relativity, the fact that our cosmos require an absolute coordination system cannot be avoid or ignored.

Of course, the ether of the past age is not an absolute coordination system. Because of the duality nature of the photon, especially light as

a particle, there is no need for the existence of any medium for the wave nature of a photon to move. Therefore, in this chapter, I will only point out the misunderstandings surrounding the Big-Bang theory. That is, when described by classical general relativity, describe the Big-Bang is said to have "started as a singularity without a center, where space swelled up like a balloon and with it time started" and furthermore, that "it is major misunderstanding that there was simply a lump of mass somewhere in space where the Big-Bang started."

CFLE theory, however, maintains that "somewhere in the universe, there was a lump of mass that swelled up (like the fragment of a bomb) and with it started time, and the center point of the universe is at that very place where the swell began."

12.2 Tests for the Existence of the Absolute Coordination System

In CFLE theory, massive particles can travel with the speed of light, or even faster than the speed of light, because the theory explains that the relativistic effect occurs by the charge screening ability of force lines and force line elements. According to this theory, massive particles become the bar mass state or seed state when given enough energy. Because the seed has no force lines and force line elements, the relativity principle does not establish itself. Therefore, CFLE theory can predict that a particle, given enough energy, can move with the speed of light or faster than the speed of light.

This situation can be simulated by a phase change, like when heat is removed or added to a sample of matter without a change in temperature. Figure 12-2-1 gives a temperature-change graph according to addition of heat to 1 kg of ice.

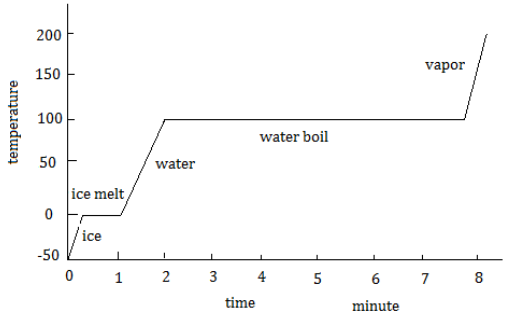

Figure 12-2-1

With the initial temperature at –50°C, and the specific heat of ice being 0.5 kcal·kg^{-1}C^{-1}, each kilocalorie of added heat increases the temperature by 2°C. The temperature increase stops at 0°C, and during this state, an additional 80 kcal of heat is required to change the 0°C ice to 0°C water. When the temperature reaches 100°C, it remains at this value until 540 kcal of heat is added, after which the boiling water then starts to vaporize.

Keeping with this scenario, because the force interval constant in CFLE theory is $N = 1.190208 \times 10^7$ (the strength that starts the seed state for a gravitrino), we can define the speed of light to start at $0.0000000^7 9C \approx 1C$. Likewise, the value is $0.00...0^{14}\,9C \approx 1C$ for a weaktrino, $0.00\ldots 0^{21}\,9C \approx 1C$ for a neutrino, and $0.00\ldots 0^{28}\,9C \approx 1C$ for an electron.

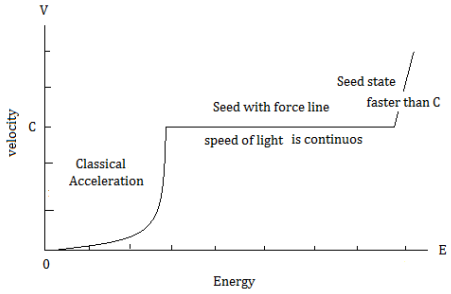

Figure 12-2-2

Therefore, in CFLE theory, in order to move faster than speed of light, the key point is only the energy level. The possible maximum energy of a current accelerator is $\sim 10^{14}$eV. Thus the critical mass of a particle that can move faster than the speed of light at this energy is

$$m_{\text{seed}} = \frac{2E}{v^2} = 3.565 \times 10^{-22}\ \text{kg}$$

We can test this using the weaktrino, given its seed mass of (cf. §6) $m_{\text{seed}} = 9.109 \times 10^{-31}$ kg and rest mass of $m_{\text{rest}} = 6.433 \times 10^{-45}$ kg. (Such an experiment is called the "over the speed of light" or OSOL experiment.)

Can we detect this weaktrino? The answer is, probably yes.

If not, do we have any experiment to prove the existence of an absolute coordination system in the universe? Fortunately, we have a natural

accelerator with an energy level of 10^{20} eV or above, the so-called cosmic accelerator. This accelerator emits ultra-high energy cosmic rays that can bring definitive evidence about the absolute coordination system, with its important cosmic news.

However, instead of the weaktrino, existence of the Higgs boson that can give mass to every particle was proved by the CMS and ATLAS experiment at CERN in 2012. This means that the Higgs boson can establish partly resistance material for inertia (see Figure 12-2-3). However, neutral Higgs boson or Higgs field should not be surely absolute coordination system that Isaac. Newton wants to find.

To understand the Higgs mechanism and Newton's inertia (Figure 12-2-3) simply:

1. Imagine that a room full of journalists quietly chattering is like space filled only with the Higgs field.

2. A well-known scientist, Albert Einstein, walks in, creating a disturbance as he moves across the room, and attracting a cluster of admirers with each step.

3. This increases his resistance to movements – in other words, he acquires mass, just like a particle moving through the Higgs field. This mechanism is none other than mechanism of Newton's inertia

4. If a rumour crosses the room……

5. …it creates the same kind of clustering. But this time among the journalists themselves. In this analogy, these clusters are the Higgs particles.

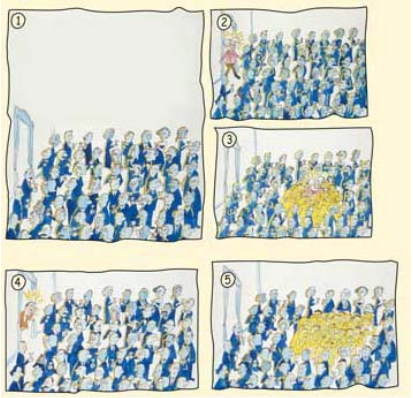

Figure 12-2-3: The Higgs mechanism

Vacuum expectation value of Higgs field that is called generally inertial field is changed by spontaneous symmetry breaking. Because of this energy change must be exist such Higgs boson and goldstone boson from inertial field. Existences of such particles deny Einstein-Minkowski empty space. Here we can find physical essence of inertia.

When goldstone boson produce by gold stone theorem , this goldstone boson is absorbed by gauge boson(cf.§6) or fermion as Figure 12-2-4.

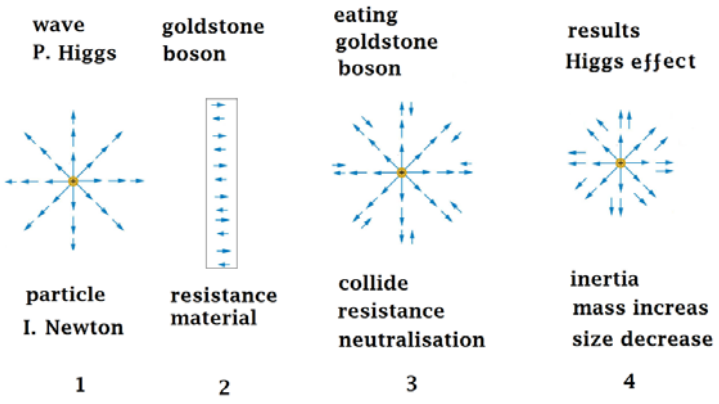

Figure 12-2-4

This process is none other than gauge boson collides with goldstone boson similar as atmospheric entry of space vehicle as figure 12-2-5.

Figure 12-2-5

Here, space vehicle play roll of gauge boson, air in atmosphere play roll of goldstone boson as resistance material.

Simply speaking, gauge boson eaten up goldstone boson and obtains mass as figure 12-2-6

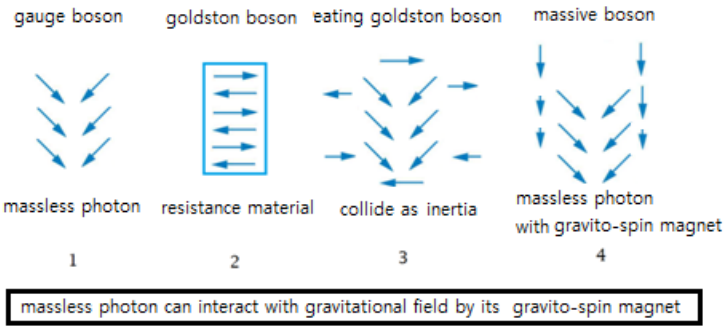

Figure 12-2-6

However, the Higgs field's effect on particles was described only as drag effects, including analogies of "syrup" or "molasses" , but these cannot be resistive material by conflict with Newton's third law.

Figure 12-2-6 shows difference between inertial field and Higgs field. Essence of identity of Newton's inertia is that is inertial field as universal mass giver with electromagnetic property $\varepsilon_o\mu_o$of vacuum as mentioned end of this book in Cauda Physica Mathematica i_e.

This real physical process is none other than mass increase by relativistic effect and same time physical process of this collision is called inertia by resistance material as absolute coordination system that I .Newton wanted to find.

12.3. Solving the GZK Paradox and its Meaning

The Greisen–Zatsepin–Kusmin (GZK) limit is a theoretical upper limit on the energy of cosmic rays coming from a distant source. The limit was independently computed in 1966 by Kenneth Greisen, Georgy Zatsepin, and Vadim Kusmin, based on interactions between cosmic rays and photons of the cosmic microwave background radiation (CMB) via Δ resonance. That is,

$$\gamma_{\mathrm{CBM}} + \mathrm{P} \rightarrow \Delta\Gamma\Delta^h \rightarrow P + \pi^h \qquad 12\text{-}3\text{-}1$$

$$\gamma_{\mathrm{CBM}} + \mathrm{P} \rightarrow \Delta\Gamma\Delta^h \rightarrow n + \pi^h \qquad 12\text{-}3\text{-}2$$

$$\mathrm{S} = m_p^2 + 2E_p\epsilon(1 - \cos\theta) \qquad 12\text{-}3\text{-}3$$

where θ is the angle between 2 protons,

ϵ is the photon energy $\epsilon = 6.3 \times 10^{-4}$ eV 12-3-4

and E_p is the proton energy.

Therefore, the required energy for creating a pion is

$$E_p = \frac{m_\pi}{4\epsilon}(2m_p + m_\pi) \cong 5 \times 10^{19} \text{ eV} \quad 12\text{-}3\text{-}5$$

Δ^+(1232 MeV) resonance in an accelerator is well known to be 520 μb.

$\frac{C}{H_0}$ = 4000 Mpc, H_0 = 75 km/Mpc

When considering photon energy of the CMB and the process

P + $\gamma_{\text{CMB}} \rightarrow P + e^+ + e^-$, the total cutoff energy is

$$E_p \cong 3 \times 10^{19} \text{ eV} \quad 12\text{-}3\text{-}6$$

This formula contains all the results of special relativity and particle physics. The formula predicts that cosmic ray with energy over the threshold energy of 5×10^{19}eV would interact with the CMB photon γ_{CMB} to produce pions via Δ^+ resonance.

However, a number of observations have been made by cosmic ray observations experiments that appear to show cosmic rays from distant sources with energies above this limit. This is called the GZK paradox or cosmic ray paradox.

The first such observation of a cosmic ray with energy exceeding 1.0×10^{20} eV (16J !!!) was made by Dr. John D. Linsley and Livio Scarsi at the Volcano Ranch experiment in New Mexico in 1962. Cosmic rays with even higher energy have since been observed by the Akeno Giant Air Shower Array (AGASA) in Japan, and the Pierre Auger Observatory in Argentina. The so-called "Oh-My-God" particle was observed on the evening of 15 October 1991 over the Dugway Proving Ground, Utah. Its energy proved to be around 3×10^{20} eV. It was a proton traveling at about ~ 5×10^{-24} m/s slower than the speed of light ($V = 0.00 \ldots 0^{22}9C$).

Since the first observation by the University of Utah's Fly's Eye cosmic ray detector, at least 15 similar events have been recorded, confirming the phenomenon. The Fermi Gamma-ray telescope launched in June 2008 will also provide this data. Such observations appear to contradict the predictions of special relativity and particle physics as they are presently understood.

In 2010, the final results of the High Resolution Fly's Eye (HiRes) experiment reconfirmed the earlier results of the GZK cutoff. A number of possible explanations for these observations have been put forward (e.g., instrument error, doubly special relativity, relation with dark matter, etc.), but none of these can thoroughly resolve the GZK paradox. Therefore, this paradox remains listed among the unsolved problems in physics, asking "why is it that some cosmic rays appear to possess energies that are theoretically too high, given that there are no possible near-Earth sources and that rays from distant sources should have scattered off the cosmic micro wave back ground radiation?"

But according to CFLE theory, the answer to this question is simple and clear: "Einstein's special relativity is wrong." Because all former experiments about special relativity were only in the low energy limit (cf. Figure 12-2-2), physicists were obliged to hold fast to the belief that Einstein's special relativity is absolutely correct, and thus based on this belief, the GZK paradox prevailed.

Here, an important point is that such observed ultra-high energy cosmic rays above the GZK limit are the first experimental evidence for the existence of an absolute coordination system. More important is that, in the viewpoint of CFLE theory, this ultra-high energy of cosmic rays can be applied to the OSOL experiment. The 3×10^{20} eV = 48 J energy means

$$M = \frac{2E}{C^2}$$

$$= 1.068 \times 10^{-15} \text{ kg} \qquad 12\text{-}3\text{-}7$$

In other words, a cosmic ray particle with mass $m = 1.068 \times 10^{-15}$ kg can be accelerated to the speed of light by energy of 3×10^{20} eV.

Because the seed mass of a neutrino is $m = 1.291 \times 10^{-16}$ kg (rest mass, $m = 7.655 \times 10^{-38}$kg; cf §6.6), we can do the OSOL experiment. CFLE theory predicts that

$$v^2 = \frac{2E}{m}$$

$$= \frac{2(48\ \mathrm{J})}{1.291 \times 10^{-16}\ \mathrm{kg}}$$

$$= 7.436 \times 10^{17}\ \mathrm{m/s}$$

$$v = 8.623 \times 10^{8}\ \mathrm{m/s}$$

$$= 2.876C$$

$$\approx 3C \qquad \text{12-3-8}$$

However, admittedly, from the start of cosmic ray observations to the present, we still do not know exactly what the component particles of a cosmic ray are. Therefore, this research field, which is attracting hot attention, is full of interest, with fruitful results to be a certainty in the future.

Because photon can have rest mass by spin magnetic force line elements (cf.§18.8) near the Sun, Einstein's special relativity is wrong.

Einstein's special relativity is only electromagnetic special relativity.

Light (only electromagnetic mass less gauge boson) speed is not absolute fast speed. Another kind of mass less gauge boson from another force can move own gauge boson speed by gluo-magnetic, galactro-magnetic and cosmotro-magnetic special relativity.

When object move over light speed, special theory of electromagnetic relativity is not established. Therefore, causality problem and tachyon problem cannot occur.

Because speed of faster than light speed is only slow speed in another special relativity.

Einstein's mass energy equivalence formula is

$$E = m_o c^2$$

Proton's rest mass energy by Einstein's relativity theory is

$$E= (10^{-27}kg\ )(3\times 10^{8})^{2} = 10^{-10}J = 10^{9}eV \qquad 12\text{-}3\text{-}9$$

However, Proton's rest mass energy by CFLE theory (cf.§7) is

$$E= (10^{-27}kg\ )(4\times 10^{10})^{2} = 10^{-6}J = 10^{13}eV \qquad 12\text{-}3\text{-}10$$

This means that Einstein's special relativity is wrong.

Cosmos and galaxy are large but light speed is too slow to visit, investigate and come back to Earth. Such huge unbalance of universe is unbelievable and unacceptable for evolution for life to continue.

Future of the Sun and Earth is already fixed. That is "After fusing helium in its core to carbon, the Sun will begin to collapse again, evolving into a compact white dwarf star after ejecting its outer atmosphere as a planetary nebula. Any planets that survive this process will continue to orbit this body, but will receive little thermal radiation and become frigid bodies. Over time intervals of around 30 trillion years, the Sun will undergo a close encounter with another star. As a consequence, the orbits of their planets can become disrupted, potentially ejecting them from the system entirely."

From such fall to escape we need free inter galactic space travel with speed faster than light. However, Einstein's special relativity doesn't permit travel faster than lights. This idea from special relativity is worse than idea of flat Earth from Dark Age. At that time European afraid ocean to voyage because of fall of ocean edge. However, present time mankind cannot even dream to space voyage across Milky Way galaxy for another Earth to find because of fall of Einstein's light speed.

Why we have to believe and hang on such hopeless Einstein's theory of relativity as scientists of old age enjoy hang on its old idea?