

**In1976 Jiang Found The New Gravitational Formula, It Is The Greatest Gravitational Discovery That Was Ever Made  
(Beyond the Newtonian Gravitational Theory and Overthrow the Einstein Gravitational Theory)  
All the world dark matter, dark energy, and gravitational waves detection experiments and all colliders should be closed.**

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**摘要 (Abstract):** 整个宇宙是由可观测亚光速物质和不可观测超光速物质组成的。我们只研究亚光速物质, 没有研究超光速物质。但超光速世界存在, 人们用亚光速手段研究超光速世界, 只能得出错误结果, 对引力研究就是一个明显例子。超弦论, 万有理论, 大爆炸, 黑洞, 夸克, 引力波, 暗物质, 暗能量, 量子通信, 量子纠缠等都是猜想, 不可观测的和不存在的,

[Jiang Chunxuan (蒋春暄). **In1976 Jiang Found The New Gravitational Formula, It Is The Greatest Gravitational Discovery That Was Ever Made (Beyond the Newtonian Gravitational Theory and Overthrow the Einstein Gravitational Theory) All the world dark matter, dark energy, and gravitational waves detection experiments and all colliders should be closed.** *Academ Arena* 2017;9(17s): 45-66]. (ISSN 1553-992X). <http://www.sciencepub.net/academia>. 7. doi:[10.7537/marsaaj0917s1707](https://doi.org/10.7537/marsaaj0917s1707).

**关键词 (Keywords):** 宇宙; 亚光速; 物质; 世界; 存在; 超弦论; 万有理论; 大爆炸; 黑洞; 夸克; 引力波; 暗物质; 暗能量; 量子通信; 量子纠缠

**In 1975 we established the new space-time theory, which is foundations of particle physics and cosmology. We deduce new gravitational formula. We prove that in the universe there are no dark matter and no dark energy. No quarks, no gluons, no quantum gravity, no supersymmetry, no superstring, no gravitational waves, no black holes, no big bang and inflation. These conjectures do not exist.**

Newtonian gravity formula is based on empirical observation by what Newton called induction. Newtonian did not explain what is gravity? how it works? Hence his theory of gravity is only a conjecture. In general theory of relativity there is no gravity formula. Einstein theory of gravitation is based on the principle of equivalence (the happiest thought of my life) and mathematical aids to the formulation of generally covariant equations which are wrong, to see the new gravitational formula (7). Hence Albert Einstein general theory of relativity is a 100% wrong. The BIG Bang and inflation are 100% wrong. We prove that gravitons are unobservable tachyons. But mainstream scientific community do not accept the tachyonic theory. Hence many theories are wrong. Break the symmetry, Nambu reasoned, and you get particles with mass, 2008 Nobel physics prize, it is symmetry breaking in superconductivity, it is wrong theory. Break the symmetry, Englert and Higgs reasoned, the Higgs mechanism that endows fundamental particles with mass, 2013 Nobel physics prize, the Higgs field can not explain the origin of its own mass, Higgs model is not answer to the origin of mass. it is the wrong theory. All spontaneous symmetry-breaking is wrong. The origin of mass is one of the central unresolved questions in modern physics. In 1976 we suggest the theory of the origin of mass. We prove that the origin of mass is the tachyonic and gravitational field, which endows the observable particles with mass to see the new gravitational formula (7). For example The solar system is the origin of the earth mass, the earth acquires mass from it.

In 2012 in CERN the proton-proton collisions produce only the electrons and positrons, not decay to electrons and positrons, not Higgs particles. Therefore 2013 Nobel prize in physics is wrong. The standard model describes the elementary particles which is wrong. The electron-positron collisions produce unstable particles and unobservable particles, not quarks. The proton-antiproton collisions produce the electrons, positrons and unstable particles, unobservable particles, not quarks.

CONJECTURE: In CERN at 14-100 TeV proton-antiproton collisions produce only electrons and positrons not Higgs particles and other particles. One do not get new results from CERN experiments. It shows that the proton is composed of two electrons and three positrons. It shows that all particles are composed of the electrons and positrons (Chun-Xuan Jiang, A simple approach to the computation of the total number of hadronic constituents in Santilli model, hadronic journal 3,256-292(1979))(Chun-Xuan Jiang, A mathematical model for particle

classification, Acta Mathematica Scientia,8,133-144(1988))(Chun-Xuan Jiang,The Jiang periodic table of the elements,

<http://www.vixra.org/pdf/1302.0157v1.pdf>). We prove that the proton is most stable. The gluons do not exist. The strong interaction is the gravity interaction(Jiang Chun-Xuan, Determination of proton and neutron radii,APEIRON,vol.3,Nr.3-4July-Oct,125-126(1996))(<http://www.vixra.org/pdf/1007.0058v1.pdf>).the particle and element classifications have the same mathematical model. The quarks and asymptotic freedom do not exist. The gravitons can be converted into the electrons and positrons which are the basic building blocks of the elementary particles.

The gravitational waves do not exist and unobservable. In the universe there are no dark matter and dark energy. Yet no-one has ever seen an isolated quark, because quark does not exist.

Einstein believes the tachyon does not exist, which is wrong. Physical Review Letters and Phys.Rev published many mistakes articles, some even won the Nobel prize. But they are not published the tachyonic papers.21<sup>st</sup> century physics is the tachyonic era. 1995-2014 Awards for Essays on Gravitation were 100% wrong.

Jiang prove that the gravitational theory is tachyonic one and deduce the new gravitational formula(7) including Newtonian gravitational formula .Physicists do not understand and study tachyonic theory. Their research results are almost wrong. Quantum information, entanglements, black hole, the Big Bang, dark matter and dark energy, a theory of everything, the superstring theory, supersymmetry and gravitational wave do not exist.To date no gravitational wave detections have been made. Cosmic background radiation does not exist. The spontaneous symmetry-breaking is nonexistence .The Higgs particles can not endow all particles with mass. The quark-gluon plasmas do not exist.

The particles with mass are observable. The particles without mass are unobservable.The photon is observable which has mass. The photon without mass is unobservable. For new gravitational formula(7),it is accepted as being self-evident.<http://vixra.org/pdf/1310.0060v1.pdf>

本文彻底否定爱因斯坦广义相对论，黑洞是广义相对论一个推论,广义相对论是错的那末黑洞也是错的,所以霍金看到本文后,于 2014-01-24 宣布他提出黑洞不存在。说明本文在国外上网广泛宣传和 Google 网报道已在起作用。

牛顿并没有说明引力是什么？因此他的引力理论仅是一个猜想。爱因斯坦引力理论基础是惯性质量等于引力质量，这是不成立的，引力速度是光速，因此他的广义相对论引力理论是 100%错的,<thought experiment> does not exist。1933 年爱因斯坦说：“可是创立(广义相对论)的基本原理蕴藏于数学之中，因此，在某种意义上来说，我认为纯粹推理可以掌握客观现实，这正是古人所梦想的。”20 世纪所有理论物理学家沿着这思路研究物理，例如微分几何，从广义相对论得出黑洞暗物质暗能量，这些都不存在。1905 年爱因斯坦指出超光速不存在，到今天国内外没有多少人研究超光速理论，得出一个错误结果：超光速粒子是虚质量。1975 年蒋春暄建立亚光速和超光速统一理论,1976 年证明引力是超光速转动产生向心力，并得出新引力公式。牛顿引力公式是新引力公式一个特例，国外对这新引力公式评价:It is accepted as being self-evident(它被认为不言而喻的)。2012-04-19 我们重写 1976 年论文。

整个宇宙是由可观测亚光速物质和不可观测超光速物质组成的。我们只研究亚光速物质，没有研究超光速物质。但超光速世界存在，人们用亚光速手段研究超光速世界，只能得出错误结果,对引力研究就是一个明显例子。超弦论，万有理论,大爆炸，黑洞，夸克，引力波，暗物质，暗能量，量子通信，量子纠缠等都是猜想，不可观测的和不存在的，美国 Physical Review Letters and Phys.Rev 发表大量错误的论文，许多错误成果还获得诺贝尔奖，这就是当代物理学和天文学现状。本文在国际很快传播，我们相信他们能够理解本文，会对当代物理学提出质问？20 世纪物理学许多问题没有解决是没有考虑超光速问题，宏观和微观物质稳定性都是由我们不能观测超光速粒子完成。21 世纪物理学以这篇文章作为突破口开始进入超光速时代。这将改变整个物理学的面貌，这工作从中国开始,这是物理学发展进入一个新时代。完成 20 世纪开创量子力学和相对论统一的工作。希望中国政府支持这一划时代的工作。

$$\bar{F} = -\frac{mc^2}{R}$$

**Deduction of New Gravitational Formula:**  
(theory of the origin of mass)

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Gravity is a great mystery. No one has since given any machinery. In this paper we give a simple machinery. Gravity is the tachyon centripetal force, that is gravity ,rather than the dark matter..

Anybody may understand gravitation.

The gravitational waves do not exist and unobservable. In the universe there is no dark matter.

Using the tardyon and tachyon coexistence principle [1]

$$u\bar{u} = c^2 \tag{1}$$

where  $c$  is light velocity in vacuum,  $u \leq c$  tardyon velocity and  $\bar{u} \geq c$  tachyon velocity.

$$\bar{F} = -\frac{mc^2}{R}$$

We deduce a new gravitation formula:

**Figure 1** shows that the rotation  $\omega$  of body  $A$  emits tachyon mass  $\bar{m}$ , which forms the tachyonic and gravitational field and gives the body  $B$  revolutions  $u$  and  $\bar{u}$ .

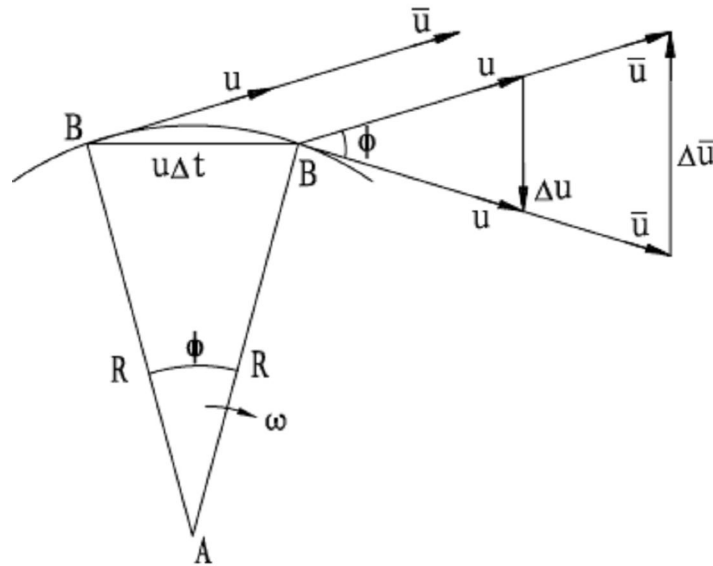


Fig.1. On body  $B$   $\frac{du}{dt}$  and  $\frac{d\bar{u}}{dt}$  coexistence [2]

<http://www.vixra.org/pdf/1205.0094v2.pdf>

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = \frac{\Delta u}{u} \tag{2}$$

From (2) it follows the tardyon centripetal acceleration on the body  $B$  [2-6],

$$\frac{du}{dt} = \lim_{\substack{\Delta u \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta u}{\Delta t} = \frac{u^2}{R} \tag{3}$$

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = -\frac{\Delta \bar{u}}{\bar{u}} \tag{4}$$

From (4) and (1) it follows the tachyon centrifugal acceleration on the body  $B$  [2-6],

$$\frac{d\bar{u}}{dt} = \lim_{\substack{\Delta \bar{u} \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta \bar{u}}{\Delta t} = -\frac{u\bar{u}}{R} = -\frac{c^2}{R} \tag{5}$$

On body  $B$   $\frac{du}{dt}$  and  $\frac{d\bar{u}}{dt}$  coexistence.

From (3) it follows the tardyon centrifugal force on body  $B$  [2-6],

$$F = \frac{M_B u^2}{R} \tag{6}$$

where  $M_B$  is body  $B$  inertial mass.

From (5) it follows the tachyon centripetal force on body  $B$ , that is gravity [2-6],

$$\bar{F} = -\frac{mc^2}{R} \tag{7}$$

where  $m$  is the gravitation mass converted into by tachyon mass  $\bar{m}$ , which is unobservable, but  $m$  is observable, The equivalence principle does not exist, The Aberlt Einstein gravitational theory is a 100% wrong,  $\bar{m}$  is the tachyonic and gravitational field, which is the origin of mass, which endows all particles with mass, for example the sun is origin of the earth mass. The earth acquire mass from sun. All spontaneous symmetry-breaking is wrong. Higgs particles do not exist, 2013 Nobel physics prize is wrong.

On body  $B$   $F$  and  $\bar{F}$  coexistence.

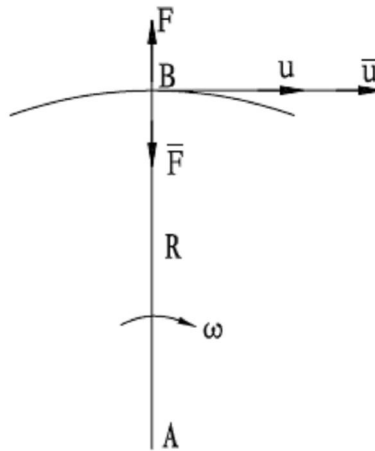


Fig.2. On body  $B$   $F$  and  $\bar{F}$  coexistence[2].

From Fig. 2, it follows

$$F + \bar{F} = 0 \tag{8}$$

From (6), (7) and (8) it follows

$$\frac{m}{M_B} = \frac{u^2}{c^2} \quad (9)$$

Body  $B$  increases mass  $m$  and centrifugal force is greater than gravitation force, then body  $B$  expands outward. [5,6]

From (7) it follows Newtonian gravitation formula. The  $m$  is proportional to body  $A$  mass  $M_A$ , in (9)  $m$  is proportional to  $M_B$ , is inversely proportional to the distance  $R$  between body  $A$  and body  $B$ . It follows

$$m = k \frac{M_A M_B}{R} \quad (10)$$

where  $k$  is constant

Substituting (10) into (7) it follows the Newtonian gravitation formula [2-6]

$$\bar{F} = -G \frac{M_A M_B}{R^2} \quad (11)$$

where  $G = kc^2 = 6.673 \times 10^{-8} \text{ cm}^3 / \text{g} \cdot \text{sec}^2$  is gravitation constant.

## References

- [1] Chun-Xuan Jiang, A theory of morphisms between the tardyon and tachyon, Wuli(physics), (Chinese), 4. (175)119-125. In this paper we prove that if Quantum entanglement is non-local, then we cannot be directly measured quantum entanglement. In China this article named pseudo science.
- [2] Chun-Xuan Jiang, On nature for gravitation, J. Beijing observatory (Chinese), 7(1976)32-38. <http://www.vixra.org/pdf/1205.0094v2.pdf>  
We prove that gravity is non-local and tachyon gravitational velocity is tachyon. This paper is the first human to a true description of gravitation. We open the mystery of gravity. In China this article named pseudo science.
- [3] Chun-Xuan Jiang, An approach on the nature of attractive force, Potential science (Chinese), 4(1982)19-20.
- [4] Chun-Xuan Jiang, A unified theory of the gravitational and strong interactions, Hadronic J., 24(2001)629-638. gravity and strong force are tachyonic one.

$$F = -mc^2/R$$

- [5] Chun-Xuan Jiang, An equation that changed the universe:

<http://www.wbabin.net/ntham/xuan150.pdf>

<http://www.vixra.org/pdf/1007.0018v1.pdf>

- [6] Chun-Xuan Jiang, All eyes are on the elusive Higgs and neutrinos, We prove that Higgs boson does not exist.

<http://vixra.org/pdf/1203.0040v2.pdf>

Conclusion: superstring theory, the theory of everything, the Big Bang, quarks, black holes, gravitational waves, dark matter, dark energy, quantum information, quantum entanglement are guess, unmeasurable and do not exist. They do not study the tachyonic theory, so these results are wrong. Now all physics has to be rewritten, and almost all work done on relativity has to be discarded. If you want to become the twenty-first century great physicist, then you should learn and study the tachyonic theory and its application.

## A New Universe Model

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We suggest a new universe model [1-4]. The universe has no beginning and no end. The universe is infinite, but it has a center consisting of the tachyonic matter, which is strong gravitational field(SGF), which governs motion of the whole universe. Therefore the universe is stable and harmonious..... In the sun there is a center consisting of the tachyonic matter with SGF, which governs the motion of the solar system. therefore the solar system is stable and harmonious. In the earth there is a center consisting of the tachyonic matter with SGF, which governs the motion of the earth and the moon. Therefore earth is stable and harmonious. In the moon there is a center consisting of the tachyonic matter with SGF, which governs the motion of the moon. Therefore moon is stable and harmonious. In atom there is a center consisting of the tachyonic matter with SGF, which governs the motion of the atom. Therefore atom is stable and harmonious. The tachyonic theory governs the amazing harmony of the whole universe from the smallest to largest scales. In the universe there are no dark matter, no dark energy, no gravitational waves and quantum gravity. The big bang is the conjecture which does not exist.

In the Universe there are two matters[1-4]: (1) observable subluminal matter called tardyons(locality) and (2) unobservable superluminal matter called tachyons(non-locality). They coexist in motion. In the universe there are no dark matter and dark energy.

What are tachyons? Historically tachyons are described as particles which travel faster than light. Tachyon as particle with imaginary mass which is wrong. In our theory tachyon has no rest time and no rest mass[1]. It is unobservable. Tachyons can be converted into tardyons and vice versa. Tardyonic rotating motion produces the centrifugal force but tachyonic rotating motion produces the centripetal force that is gravity. Using the coexistence principle of tardyons and tachyons we deduce the new gravitational formula:  $\bar{F} = -mc^2 / R$ . We establish the expansion theory of universe without dark matter and dark energy. We unify the gravitational interaction and the strong interaction. We explain the behavior of the entire universe from the smallest to the largest scales. In the universe there are no quarks and no Higgs particles. We prove the Einstein's principles of equivalence is nonexistent. Therefore the general theory of relativity is wrong. In the universe there are no black holes. The geometrization of all physical fields is mathematical guesses which has no physical reality, because they do not consider and understand the tachyonic theory.

If quantum teleportation, quantum computation and quantum information are action-at-a-distance then they are unobservable.

### References

- [1] C. X. Jiang, Wuli (Physics) (Chinese), 4, 119-125 (1975).
- [2] C. X. Jiang, J. Beijing Observatory (Chinese), 7, 32-38(1976).
- [3] C. X. Jiang, Hadronic J. 24, 629-638 (2001).
- [4] C. X. Jiang, <http://www.wbabin.net/math/xuan58.pdf>.

## Determination of Proton and Neutron Radii

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In note we calculate Proton and Neutron radii[1,2]  
The Newtonian gravitation formula has the following form .

$$F = -G \frac{M_1 M_2}{R^2} \quad (1)$$

We assume

$$G = K_0 \rho_1 \rho_2 \quad (2)$$

Where  $\rho_1$  and  $\rho_2$  denote the densities of both  $M_1$  and  $M_2$  separately. Using the Cavendish experiment we determine  $K_0$ . In (2)  $G = 6.7 \times 10^{-8} \text{ cm}^3/\text{g sec}^2$  and the density of lead  $\rho_1 = \rho_2 = 11.37 \text{ g/cm}^3$ . From (2) we have

$$K_0 = 5.2 \times 10^{-10} \text{ cm}^9/\text{g}^3 \text{ sec}^2 \quad (3)$$

Thus,  $K_0$  is new gravitational constant.

By using (2) we determine the proton radius  $\gamma_p$ . From (2) we have

$$\gamma_p = \left( \frac{9K_0 m_p^2}{16\pi^2 G_s} \right)^{1/6} \quad (4)$$

In the nucleus the strong interaction prevails. We have [3].

$$\frac{\text{strong interaction}}{\text{gravitational interaction}} = \frac{G_s}{G} = 10^{38} \quad (5)$$

where  $G_s = 6.7 \times 10^{30} \text{ cm}^3/\text{g sec}^2$ . We know the proton mass  $m_p = 1.67 \times 10^{-24} \text{ g}$ . From (4) we obtain the proton radius

$$\gamma_p = 1.5 \times 10^{-15} \text{ cm} = 0.015 \text{ fm} \quad (6)$$

In the same way we have the neutron radius

$$\gamma_n = 1.5 \times 10^{-15} \text{ cm} = 0.015 \text{ fm} \quad (7)$$

Pohl, et al measure the proton size 0.03 fm[4].

Inside atom there are no gluons and quarks, we prove that the strong interaction is the gravitational interaction. All spontaneous symmetry-breaking is wrong.

### References

- [1] Jiang,Chun-Xuan. Determination of proton and neutron radii,Apeiron,3,Nr.3-4,126(1996).
- [2] Jiang,Chun-Xuan,A unified theory of the gravitational and strong interactions, Hadronic J.,24,629-638(2001).
- [3] Elementary Particle Physics Pancl et al., Elementary Particle Physics (Physics Throught the 1990s) National Academy Press, 1986.
- [4] Pohl,R.et al,The size of the proton, Nature 466,213-217(2010)

## The Jiang Periodic Table Of The Elements

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**Abstract:** Using the stable number theory we calculate the best electron configurations of the elements and not from experimental data[6-8,10]. We make the Jiang periodic table of the elements[10].

In studying the stability of the many-body problem we suggest two principles [1-10].

(1) The prime number principle. A prime number is irreducible in the integers, it seems therefore natural to associate it with the most stable subsystem. We prove that 1, 3, 5, 7, 11, 23, 47 are the most stable primes.

(2) The symmetric principle. The most stable configuration of two prime numbers is then stable symmetric system in nature. We prove that 2, 4, 6, 10, 14, 22, 46, 94 are the most stable even numbers.

By using the prime number principle and the symmetric principle we calculate the best electron configurations of the elements. Total quantum number  $n$  and orbital quantum number  $l$  determine the best electron configurations of the elements

$$n = 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \dots$$

Electron shells:  $K \quad L \quad M \quad N \quad O \quad P \dots$

$$2(2l+1) = 2 \quad 6 \quad 10 \quad 14 \quad 18 \quad 22 \dots$$

Electron subshells:

$$s \quad p \quad d \quad f \quad g \quad h \dots$$

An atomic subshell that contains its full quota of electrons is said to be closed. A closed  $s$  subshell ( $l=0$ ) holds two electrons, a closed  $p$  subshell ( $l=1$ ) six electrons, a closed  $d$  subshell ( $l=2$ ) ten electrons, a closed  $f$  subshell ( $l=3$ ) fourteen electrons, these subshells are the most stable, a closed  $g$  subshell ( $l=4$ ) eighteen electrons is the most unstable. Using the symmetric principle it has been proved the  $2(2l+1) = 2, 6, 10$  and 14 are stable and  $2(2l+1) = 18$  is unstable[1-10]. The  $s, p, d$ , and  $f$  subshells are stable and the  $g$  subshell is unstable.

From 1 to 92 of the atomic numbers every subshell is stable. It has been proved that the last stable element that occurs naturally is uranium with an atomic number of 92 and there are only 92 stable elements in nature.

Since  $5g$  subshell is unstable, the elements 93-110 are unstable. Since  $5g$  is unstable,  $6s, 6p, 6d, 6f, 6g$  and  $6h$  subshells are unstable. Therefore the elements 111-182 are unstable..

Using the 1s, 2s, 3s, 4s, and 5s of electron configurations[6-8,10] we make the Jiang periodic table of elements with five periods. The sequence of period lengths is 2, 8, 18, 32, 50. Table 1 shows the relationship between the outermost subshell electron configurations and the Jiang periodic table. The Jiang periodic table reflects the order in which atomic orbitals are filled. The s orbitals are filled in the two rows. The p orbitals are filled in the six rows. The d orbitals are filled in the ten rows. The f orbitals are filled in the fourteen rows. The g orbitals are filled in the eighteen rows.

Using this method[1-10] we can study the particle classification[11,12]. It is the best theory of elementary particles. In CERN at 14-20 Tev proton-antiproton collision produce only electrons and positrons.



Table 1. The Jiang periodic table of elements.

Atomic Orbitals	Outermost Subshell electrons	1. Period	2. Period	3. Period	4. Period	5. Period
s	1 2	1 H 2 He	3 Li 4 Be	11 Na 12 Mg	29 Cu 30 Zn	61 Pm 62 Sm
p	1 2 3 4 5 6		5 B 6 C 7 N 8 O 9 F 10 Ne	13 Al 14 Si 15 P 16 S 17 Cl 18 Ar	31 Ga 32 Ge 33 As 34 Se 35 Br 36 Kr	63 Eu 64 Gd 65 Tb 66 Dy 67 Ho 68 Er
d	1 2 3 4 5 6 7 8 9 10			19 K 20 Ca 21 Sc 22 Ti 23 V 24 Cr 25 Mn 26 Fe 27 Co 28 Ni	37 Rb 38 Sr 39 Y 40 Zr 41 Nb 42 Mo 43 Tc 44 Ru 45 Rh 46 Pd	69 Tm 70 Yb 71 Lu 72 Hf 73 Ta 74 W 75 Re 76 Os 77 Ir 78 Pt
f	1 2 3 4 5 6 7 8 9 10 11 12 13 14				47 Ag 48 Cd 49 In 50 Sn 51 Sb 52 Te 53 I 54 Xe 55 Cs 56 Ba 57 La 58 Ce 59 Pr 60 Nd	79 Au 80 Hg 81 Tl 82 Pb 83 Bi 84 Po 85 At 86 Rn 87 Fr 88 Ra 89 Ac 90 Th 91 Pa 92 U
g	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18					93 Np 94 Pu 95 Am 96 Cm 97 Bk 98 Cf 99 Es 100 Fm 101 Md 102 No 103 Lr 104 Rf 105 Db 106 Sg 107 Bh 108 Hs 109 Mt 110 Ds

**References**

- [1] Jiang, Chun-xuan. A new theory for many-body problem stabilities. (Chinese) Qian Kexue 1, 38-48 (1981).这是多体新理论,基本粒子是多体问题,元素是多体问题.生物是多体问题,化学是多体问题,
- [2] Jiang, Chun-xuan. On the symmetries and the stabilities of  $4n+2$  electron configurations of the elements. Phys. Lett. 73A, 385-386(1979).
- [3] Jiang, Chun-xuan. The application of stable groups to biological structures. Acta Math. Sci. 5, 243-260(1985).
- [4] Jiang, Chun-xuan. The prime principle in biology (Chinese), J. Biomath, 1, 123-125(1986).
- [5] Jiang, Chun-xuan. A mathematical model for particle classification. Hadronic J. Supp. 2, 514-522(1986).
- [6] Jiang, Chun-xuan. On the limit for the periodic table of the elements. Apeiron Vol. 5 Nr. 1-2, 21-24(1998).
- [7] Jiang, Chun-xuan. Foundations of Santilli's isonumber theory Part 1. Algebras, Groups and Geometries. 15, 351-393 (1998).
- [8] Jiang, Chun-xuan. Foundations of Santilli Isonumber Theory with applications to new cryptograms, Fermat's theorem and Goldbach's Conjecture.pp.85-88. Inter, Acad, Press. 2002. MR2004c:11001. <http://www.i-b-r.org/docs/jiang.pdf>
- [9] Jiang, Chun-xuan. The prime principle and the symmetric principle in clusters and nanostructures. <http://vixra.org/pdf/1004.0043v1.pdf>.
- [10] Jiang, Chun-xuan, The Jiang periodic table of elements. <http://www.vixra.org/pdf/1302.0157v1.pdf>
- [11] Jiang, Chun-Xuan, A simple approach to the computation of the total number of hadronic constituents in Santilli model, Hadronic J, 3(1979)256-292.
- [12] Jiang, Chun-Xuan, A mathematical model for particle classification, Acta Math. Scientia, 8(1988)133-144.

$$\bar{F} = -mc^2/R$$

**An equation that changed the universe:**

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**Abstract:** This paper explains the behavior of the entire universe from the smallest to the largest scales, found an equation that changed the universe:  $\bar{F} = -mc^2/R$ , established the expansion theory of the universe without dark

matter and dark energy, and obtained the expansion acceleration:  $g_e = u^4/C^2R$ . It shows that gravity is action-at-a-distance and that a gravitational wave is unobservable. Thus, a new universe model is suggested that the universe has a center consisting of the tachyonic matter..

Conjecture: in CERN at 14-20 Tev proton-antiproton collisions produce only electrons and positrons. It shows that the proton is composed of electrons and positrons and all particles are composed of the electrons and positrons[8,9]. Inside atom there are no quarks. We prove that the origin of mass is the tachyonic and gravitational field to see Fig.2. The sun is the origin of the planet mass, the planet acquire mass from the sun to see table 1. All spontaneous symmetry-breaking is wrong. We prove that in the universe there are no dark matter and dark energy.

### Introduction

According to Jiang idea[1], in the Universe there are two kinds of matter: (1) observable subluminal matter called tardyons(locality) and (2) unobservable superluminal matter called tachyons(nonlocality). They coexist in motion. What are tachyons? Historically tachyons are described as particles which travel faster than light. Describing tachyon as a particle with an imaginary mass is wrong[2]. In our theory[1] tachyon has no rest time and no rest mass. It is unobservable. Tachyons can be converted into tardyons and vice versa. Tardyonic rotating motion produces the centrifugal force but tachyonic rotating motion produces the centripetal force which is force of gravity. Using the coexistence principle of tardyons and tachyons it follows that

an equation that changed the universe:  $\bar{F} = -mc^2/R$ . We establish the expansion theory of a universe without dark matter and dark energy. We obtain the expansion acceleration:

$$g_e = u^4/C^2R$$

We unify the gravitational theory and particle theory and explain the behavior of the entire universe from the smallest to the largest scales. The geometrization of all physical fields is a mathematical guess which has no basis in physical reality, because it does not consider and understand the tachyonic theory. It shows that gravity is action-at-a-distance and that a gravitational wave is unobservable. We suggest a new universe model that the universe has a centre consisting of the tachyonic matter.

**An equation that Changed the Universe:**  $\bar{F} = -mc^2/R$

We first define two-dimensional space and time ring[1]

$$z = \begin{pmatrix} ct & x \\ x & ct \end{pmatrix} = ct + jx, \quad (1)$$

where  $x$  and  $t$  are the tardyonic space and time coordinates,  $c$  is light velocity in vacuum,

$$j = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$$

(1) can be written in Euler form

$$z = ct_0 e^{j\theta} = ct_0 (\text{ch } \theta + j \text{sh } \theta), \quad (2)$$

where  $ct_0$  is the tardyonic invariance, and  $\theta$  is the tardyonic hyperbolic angle.  
From (1) and (2) it follows

$$ct = ct_0 \operatorname{ch} \theta, \quad x = ct_0 \operatorname{sh} \theta \quad (3)$$

$$ct_0 = \sqrt{(ct)^2 - x^2}. \quad (4)$$

From (3) it follows

$$\theta = \operatorname{th}^{-1} \frac{x}{ct} = \operatorname{th}^{-1} \frac{u}{c}. \quad (5)$$

$$\operatorname{ch} \theta = \frac{1}{\sqrt{1-(u/c)^2}} \quad \text{and} \quad \operatorname{sh} \theta = \frac{u/c}{\sqrt{1-(u/c)^2}}.$$

where  $c \geq u$  is the tardyonic velocity,  
The  $z$  denotes space-time of the tardyonic theory.

Using the morphism  $J: z \rightarrow jz$ , it follows

$$jz = \bar{x} + jc\bar{t} = \bar{x}_0 e^{j\bar{\theta}} = \bar{x}_0 (\operatorname{ch} \bar{\theta} + j \operatorname{sh} \bar{\theta}), \quad (6)$$

where  $\bar{x}$  and  $\bar{t}$  are the tachyonic space and time coordinates,  $\bar{x}_0$  is tachyonic invariance,  $\bar{\theta}$  tachyonic hyperbolic angle.

From (6) it follows

$$\bar{x} = \bar{x}_0 \operatorname{ch} \bar{\theta}, \quad c\bar{t} = \bar{x}_0 \operatorname{sh} \bar{\theta}. \quad (7)$$

$$\bar{x}_0 = \sqrt{(\bar{x})^2 - (c\bar{t})^2}. \quad (8)$$

From (7) it follows

$$\bar{\theta} = \operatorname{th}^{-1} \frac{c\bar{t}}{\bar{x}} = \operatorname{th}^{-1} \frac{c}{\bar{u}}. \quad (9)$$

where  $\bar{u} \geq c$  is the tachyonic velocity,

$$\operatorname{ch} \bar{\theta} = \frac{1}{\sqrt{1-(c/\bar{u})^2}} \quad \text{and}$$

$$\operatorname{sh} \bar{\theta} = \frac{c/\bar{u}}{\sqrt{1-(c/\bar{u})^2}}.$$

The  $jz$  denotes space-time of the tachyonic theory. Both the  $z$  and the  $jz$  form the entire world but the  $jz$  world is unexploited and unstudied.

Figure 1 shows the formulas (1)-(9).  $J: z \rightarrow jz$  shows that a tardyon can be converted into a tachyon, but  $j: jz \rightarrow z$  shows that a tachyon can be converted into a tardyon.  $u = 0 \rightarrow u = c$  is a tardyonic velocity, but  $\bar{u} = \infty \rightarrow \bar{u} = c$  is a tachyonic velocity, which coexist. At the  $x$ -axis we define the tachyonic length

$$\bar{x}_0 = \lim_{\substack{\bar{u} \rightarrow \infty \\ t \rightarrow 0}} \bar{u}t = \text{constant}. \quad (10)$$

where  $t$  is the rest time.

Since at rest the tachyonic time  $t = 0$  and  $\bar{u} = \infty$ , it shows that the tachyon is unobservable. In the rest system the tachyonic motion is an action-at-a distance motion. This simple thought made a deep impression on me. It impelled me toward the tachyonic theory[1].

Assume  $\theta = \bar{\theta}$ , from (5) and (9) it follows that the tardyonic and tachyonic coexistence principle[1,3,4]

$$u\bar{u} = c^2. \quad (11)$$

Differentiating (11) by the time, it follows

$$\frac{d\bar{u}}{dt} = -\left(\frac{c}{u}\right)^2 \frac{du}{dt} \tag{12}$$

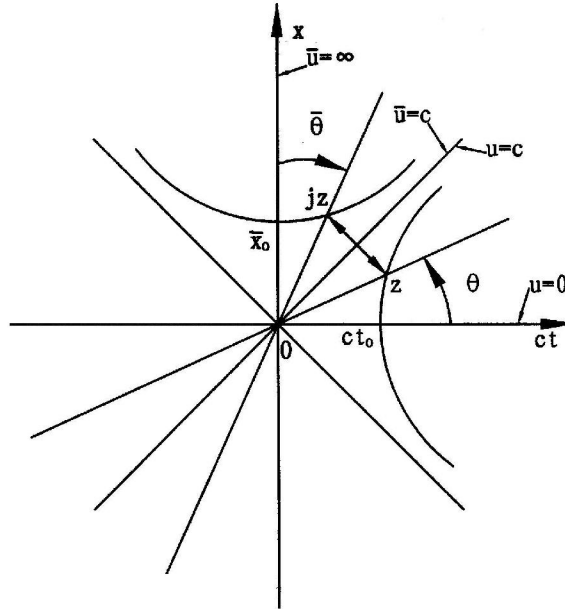


Fig. 1. Minkowskian spacetime diagram

$$\frac{du}{dt} \text{ and } \frac{d\bar{u}}{dt}$$

can coexist in motion, but their directions are opposite.

We study the tardyonic and tachyonic rotating motions. The tardyonic rotation produces centripetal acceleration

$$\frac{du}{dt} = \frac{u^2}{R} \tag{13}$$

where  $R$  is rotating radius.

Substituting (13) into (12) it follows that the tachyonic rotating produces centrifugal acceleration

$$\frac{d\bar{u}}{dt} = -\frac{c^2}{R} \tag{14}$$

It is independent of tachyonic velocity  $\bar{u}$ , only inversely proportional to radius  $R$ .

(13) and (14) are dual formulas, which have the same form. It is unique and perfect. From (13) it follows the tardyonic centrifugal force

$$F = \frac{Mu^2}{R} \tag{15}$$

where  $M$  is the inertial mass.

From (14) it follows the tachyonic centripetal force, that is gravity

$$\bar{F} = -\frac{mc^2}{R} \tag{16}$$

where  $m$  is the gravitational mass converted into by tachyonic mass  $\bar{m}$  which is unobservable and the origin of particles mass. It endows the particles with mass, but  $m$  is observable.

Whether  $u = 0$  or  $u \neq 0$ , all matter produces gravity. (15) and (16) are dual formulas, which have the same

form. (16) is a new gravitational formula called an equation that changed the universe. This simple thought made a deep impression on me. It impelled me toward a theory of gravitation. It has simplicity, elegance and mathematical beauty. It is the foundations of gravitational theory and cosmology. In the universe there are two main forces: the tardyonic centrifugal force (15) and tachyonic centripetal force (16) which make structure formation of the universe.

Now we study the freely falling body. Tachyonic mass  $\bar{m}$  can be converted into tardyonic mass  $m$ , which acts on the freely falling body and produces the gravitational force

$$\bar{F} = -\frac{mc^2}{R}, \quad (17)$$

where  $R$  is the Earth radius.

We have the equation of motion

$$\frac{mc^2}{R} = Mg, \quad (18)$$

where  $g$  is gravitational acceleration,  $M$  is mass of freely falling body.

From (18) it follows the gravitational coefficient

$$\eta = \frac{m}{M} = \frac{Rg}{c^2} = 6.9 \times 10^{-10} \quad (19)$$

Eötvös(1922) experiment  $\eta \sim 5 \cdot 10^{-9}$  and Dicke experiment  $\eta \sim 10^{-11}$  [5]. Since the gravitational mass  $m$  can be transformed into the rest mass in freely falling body, we prove that the freely falling bodies fall with the same acceleration. We define Einstein's gravitational mass  $M_g = M_i + m$  and inertial mass  $M_i = M$  [6]. It follows

$$M_g > M_i \quad (20)$$

Therefore it shows that the principle of equivalence is nonexistent.

### The expansion theory of the universe without dark energy

The Big Bang threw all the matter in the universe outwards. Both Newton's and Einstein's theories of gravity predict that the expansion must be slowing down to some degree: the mutual gravitational attraction of all the matter in all the galaxies should be pulling them inwards. But measurements of distant supernovae show just the opposite[7]. All the matter in the universe appears to be accelerating outwards. Its speed is picking up. There is no agreement yet about how to explain these mysterious observations. Now we explain our accelerating universe.

Using (16) we study the expansion theory of the Universe. Figure 2 shows a expansion model of the Universe.

The rotation  $\omega_1$  of body  $A$  emits tachyonic flow, which forms the tachyonic field. Tachyonic mass  $\bar{m}$  acts on body  $B$ , which produces its rotation  $\omega_2$ , revolution  $u$  and gravitational force

$$\bar{F}_1 = -\frac{mc^2}{R}, \quad (21)$$

where  $R$  denotes the distance between body  $A$  and body  $B$ ,  $m$  is gravitational mass converted into by tachyonic mass  $\bar{m}$  which is unobservable but  $m$  is observable.

$$F_1 = \frac{M_B u^2}{R}, \quad (22)$$

The revolution of the body  $B$  around body  $A$  produces the centrifugal force

where  $M_B$  is the inertial mass of body  $B$ ,  $u$  is the orbital velocity of body  $B$ .

At the  $O_2$  point we assume

$$F_1 + \bar{F}_1 = 0 \quad (23)$$

From (23) it follows that the coexistence of the gravitational force and centrifugal force.

From (21)-(23) it follows the gravitational coefficient

$$\eta = \frac{m}{M_B} = \left(\frac{u}{c}\right)^2. \tag{24}$$

At the  $O_3$  point the tachyonic mass  $\bar{m}$  can be converted into the rest mass  $m$  in body  $B$ , it follows

$$F_2 = \frac{M_B u^2}{R} + \frac{m u^2}{R}. \tag{25}$$

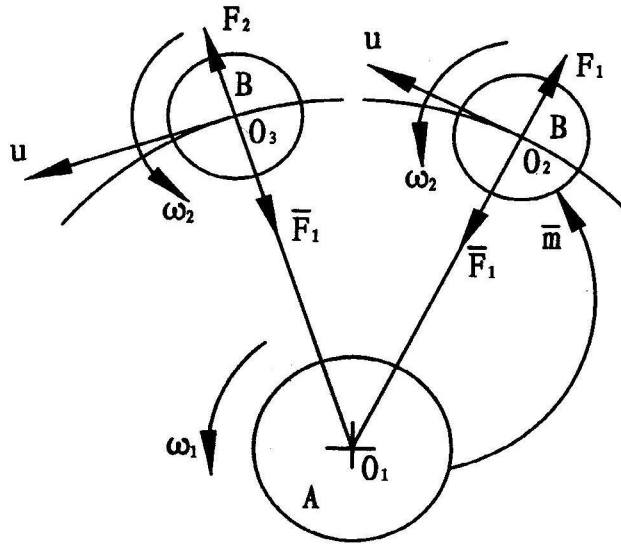


Fig. 2. A expansion model of the Universe

Since  $F_2 + \bar{F}_1 > 0$ , centrifugal force  $F_2$  is greater than gravitational force  $\bar{F}_1$ , then the body  $B$  expands outwards and its mass increases. This is a expansion mechanism of the Universe. From (21)-(23) we have

$$F_2 + \bar{F}_1 = \frac{m u^2}{R} = M_B g_e. \tag{26}$$

From (26) we obtain the expansion acceleration

$$g_e = \frac{m u^2}{M_B R}. \tag{27}$$

Substituting The sun (24) in (27) we obtain

$$g_e = \frac{u^4}{C^2 R}. \tag{28}$$

If body  $A$  is the Earth, then body  $B$  is the Moon; if body  $A$  is the Sun, then body  $B$  is the Earth; ... It can explain our accelerating universe. In this model universe there are no dark matter and no dark energy. This simple thought made a deep impression on me. It impelled me toward a expansion theory of the universe without dark matter and dark energy.

If the body  $A$  is the Sun and body  $B$  is the planet. We calculate the gravitational coefficients  $\eta$  as shown in table 1.

Table 1: Values of the gravitational coefficients  $\eta$ 

Planet	$u$ (km/sec)	$\eta(10^{-10})$
Mercury	47.89	255.2
Venus	35.03	136.5
Earth	29.79	98.7
Mars	24.13	64.8
Jupiter	13.06	19.0
Saturn	9.64	10.3
Uranus	6.81	5.2
Neptune	5.43	3.3
Pluto	4.74	2.5

Since gravitational mass  $m$  can be transformed into the rest mass in body  $B$ , we define Einstein's gravitational mass  $M_g = M_i + m$  and inertial mass  $M_i = M_B$  [6].

It follows

$$M_g > M_i \quad (29)$$

Therefore it shows that the principle of equivalence in the Solar system is nonexistent. Of all the principles at work in gravitation, none is more central than the principles of equivalence[5], which could be wrong.

The tachyonic mass  $\bar{m}$  can be converted into electrons and positrons which are the basic building-blocks of elementary particles [8,9]. From (21) it follows Newtonian gravitational formula. The  $m$  is proportional to  $M_A$ , which denotes inertial mass of body  $A$ , in (24)  $m$  is proportional to  $M_B$ , is inversely proportional to the distance  $R$  between body  $A$  and body  $B$ . It follows

$$m = k \frac{M_A M_B}{R} \quad (30)$$

where  $k$  is a constant.

Substituting (30) into (21) it follows Newtonian gravitational formula[3,4]

$$\bar{F}_1 = -G \frac{M_A M_B}{R^2} \quad (31)$$

where  $G = kc^2$  is a gravitational constant.

We have Einstein's gravitational mass

$$M_g = M_i + m = M_i(1 + \eta) \quad (32)$$

Substituting (32) into (31) it follows Newtonian generalized gravitational formula

$$\bar{F}_1 = -G \frac{M_A(1 + \eta_A)M_B(1 + \eta_B)}{R^2} \quad (33)$$

where  $\eta_A$  and  $\eta_B$  denote gravitational coefficients of body  $A$  and body  $B$  separately.

Assume  $\rho_A$  and  $\rho_B$  denote the densities of body  $A$  and body  $B$  separately. In the same way from (33) it follows unified formula of the gravitational and strong forces [4]

$$\bar{F}_1 = -G_0 \frac{\rho_A M_A(1 + \eta_A)\rho_B M_B(1 + \eta_B)}{R^2} \quad (34)$$

where  $G_0 = 5.2 \times 10^{-10} \text{ cm}^9/\text{g}^3 \cdot \text{sec}^2$  is a new gravitational constant.

In the nucleus exists the strong interactions. It follows[4]



$$\frac{\text{Strong interaction}}{\text{Gravitational interaction}} = \frac{G_s}{G_g} = 10^{38} \quad (35)$$

where  $G_g = 6.7 \times 10^{-8} \text{ cm}^3/\text{g} \cdot \text{sec}^2$  and  $G_s = 6.7 \times 10^{30} \text{ cm}^3/\text{g} \cdot \text{sec}^2$

In the nucleus we assume  $\rho_A = \rho_B = \rho$ . From (34) it follows

$$G_s = G_0 \rho^2 \quad (36)$$

From (36) it follows the formula of the particle radii

$$r = 1.55[m(\text{Gev})]^{1/3} \text{ jn}, \quad (37)$$

where  $1 \text{ jn} = 10^{-15} \text{ cm}$  and  $m$  (Gev) is the mass of the particles.

From (37) it follows that the proton and neutron radii are  $1.5 \text{ jn}$  [4,10]. Pohl et al measure the proton diameter  $3 \text{ jn}$  [11].

We have the formula of the nuclear radii [12]

$$r = 1.2(A)^{1/3} \text{ fm}, \quad (38)$$

where  $1 \text{ fm} = 10^{-13} \text{ cm}$  and  $A$  is its mass number.

It shows that (37) and (38) have the same form. The particle radii  $r < 5 \text{ jn}$  and the nuclear radii  $r < 7 \text{ fm}$ .

Similar to equation (10) we define the tachyonic momentum of a string length  $\bar{x}_0$  [1,4].

$$\bar{P}_0 = \lim_{\substack{m_0 \rightarrow 0 \\ \bar{u} \rightarrow \infty}} m_0 \bar{u} = \text{const}, \quad (39)$$

where  $m_0$  is tachyonic rest mass.

Since  $\bar{u} \rightarrow \infty$  and  $t = 0$ , tachyon has no rest mass and no rest time, it shows that tachyon is unobservable, that gravity is action-at-a-distance and gravitational wave is unobservable. If quantum teleportation, quantum computation and quantum information are the tachyonic motion [13], then they are unobservable. Therefore the entanglements do not exist.

A new universe model

From above we suggest a new universe model. The universe has no beginning and no end. The universe is infinite, but it has a centre consisting of the tachyonic matter, which dominates motion of the entire universe. Therefore the universe is stable....In the sun there is a centre consisting of the tachyonic matter, which dominates motion of the sun system. In the earth there is a centre consisting of the tachyonic matter, which dominates motion of the earth and the moon. In the moon there is a centre consisting of the tachyonic matter, which dominates motion of the moon. In atomic nucleus there is a centre consisting of the tachyonic matter, which dominates motion of the nucleus. Therefore atomic nuclei are stable.

## Conclusion

Special relativity is the tardyonic theory. Einstein pointed out that velocities greater than that of light have –as in our previous results–no possibility of existence [14], which could be wrong. But gravitation is the tachyonic theory and an action-at-a-distance.

What is gravity? Newton wrote, “I have not been able to discover the cause of those properties of gravity from phenomena, and I frame no hypotheses ...”. Einstein’s theory of general relativity answered Newton’s question: mass causes space-time curvature which is wrong. Gravity is the tachyonic centripetal force.

Where did we come from? Where are we going? What makes up the universe? These questions have occupied mankind for thousands of years. Over the course of history, our view of the world has changed. Theologians and philosophers, physicists and astronomers have given us very different answers. Where did we come from? We answer this questions this way  $\bar{m} \rightarrow m$ , tachyons  $\rightarrow$  tardyons, that is gravitons can be converted into the electrons and positrons which are the basic building-blocks of particles. Where are we going? We answer this question this way  $m \rightarrow \bar{m}$ , that is the tardyons produce tachyons. The tardyons and tachyons make up the Universe.

Jiang found a gravitational formula[3] :  $\bar{F} = -\bar{m}c^2/R$ , where  $\bar{m}$  is the tachyonic mass. In 2004 Jiang studied the Universe expansion and found  $\bar{F} = -mc^2/R$ , where  $m$  is gravitational mass converted into by tachyonic mass  $\bar{m}$ .

### References

- [1] Jiang,C-X.A theory of morphisms between the tardyons and tachyons,Wuli (Physics) (Chinese), 4, (1975)119-125.
- [2] Mignani,R.and Recami,E,Classical theory of tachyons( Special relativity extended to superluminal frames and objects).Rivista Del Nuovo Cimento,4,(1974)209-290.
- [3] Jiang,C-X,On nature of gravity, J. Beijing Observatory (Chinese), 7,(1976)32-38.
- [4] Jiang,C-X.,A unified theory of the gravitational and strong interactions, Hadronic J.,Vol.24(2001)629-638.
- [5] Misner,C.W.et al(eds). Gravitation,Preman,1050.1973.
- [6] Einstein,A.The Meaning of relativity(6-th ed., Chapman and Hall,London),56.1967.
- [7] Perlmutter,S. Supernovae, dark energy, and the accelerating universe, Physics Today,(2003)53-59.April.
- [8] Jiang,C-X.A simple approach to the computation of the total number of hadronic constituents in Santilli model, Hadronic J,Vol.3,(1979)256-292.
- [9]Jiang,C-X.,A mathematical model for particle classification, Acta Math.,Scientia,Vol.8,(1988)133-144.
- [10] Jiang,C-X.,Determination of proton and neutron radii,APEIRON,Vol.3 Nr.3-4July-Oct.(1996)126
- [11] Pohl,R.et al,The size of the proton, Nature 466,(2010)213-216.
- [12] Beiser,A,Concepts of modern physics,McGRAW-Hill Book Company,371.1973.
- [13] Horodecki,R,et al(eds). Quantum entanglement, Rev. Mod. Phys., Vol.81, No. 2.(2009) 865-942.
- [14] Einstein,A.Zur Elektrodynamik bewegter Korper,Ann.Phys.,17,(1905)891-921.

$\bar{F} = -\frac{mc^2}{R}$   
**Deduction of New Gravitational Formula:**  
 (theory of the origin of mass)

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**Abstract.** The origin of mass is one of the central unresolved questions in modern physics. We suggest the theory of the origin of mass. we prove that the origin of mass is the tachyonic and gravitational field, the particles obtain mass from it, Higgs particles do not exist, we deduce the new gravitational formula. Gravity is the tachyon centripetal force rather than the dark matter .Anybody may understand it.All spontaneous symmetry-breaking is wrong. 2013Nobel physics prize is wrong.

Using the tardyon and tachyon coexistence principle [1-5]

$$u\bar{u} = c^2 \tag{1}$$

where  $c$  is light velocity in vacuum,  $u \leq c$  tardyon velocity and  $\bar{u} \geq c$  tachyon velocity.

$$\bar{F} = -\frac{mc^2}{R}$$

We deduce a new gravitation formula:

**Figure 1** shows that the rotation  $\omega$  of body  $A$  emits tachyon mass  $\bar{m}$ , which forms the tachyon and gravitation field and gives the body  $B$  revolutions  $u$  and  $\bar{u}$ .

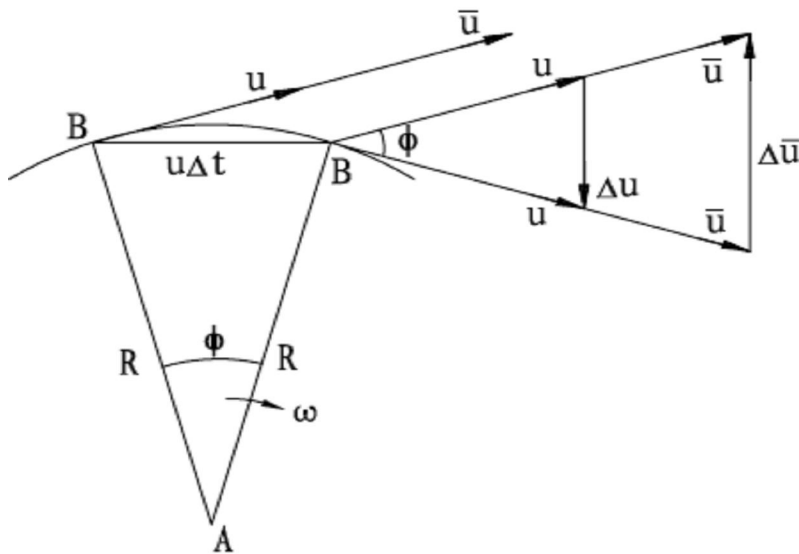


Fig.1. On body  $B$   $\frac{du}{dt}$  and  $\frac{d\bar{u}}{dt}$  coexistence [2].

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = \frac{\Delta u}{u} \tag{2}$$

From (2) it follows the tardyon centripetal acceleration on the body  $B$  [2-4],

$$\frac{du}{dt} = \lim_{\substack{\Delta u \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta u}{\Delta t} = \frac{u^2}{R} \tag{3}$$

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = -\frac{\Delta \bar{u}}{\bar{u}} \tag{4}$$

From (4) and (1) it follows the tachyon centrifugal acceleration on the body  $B$  [2-4],

$$\frac{d\bar{u}}{dt} = \lim_{\substack{\Delta \bar{u} \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta \bar{u}}{\Delta t} = -\frac{u\bar{u}}{R} = -\frac{c^2}{R} \tag{5}$$

On body  $B$   $\frac{du}{dt}$  and  $\frac{d\bar{u}}{dt}$  coexistence.

From (3) it follows the tardyon centrifugal force on body  $B$  [2-4],

$$F = \frac{M_B u^2}{R} \tag{6}$$

where  $M_B$  is body  $B$  mass.

From (5) it follows the tachyon centripetal force on body  $B$ , that is gravity [2-4],

$$\bar{F} = -\frac{mc^2}{R} \tag{7}$$

where  $m$  is the gravitation mass converted into by tachyon mass  $\bar{m}$  which is unobservable and the origin of mass, it endows particles with mass, Higgs particles do not exist, but  $m$  is observable.

On body  $B$   $F$  and  $\bar{F}$  coexistence.

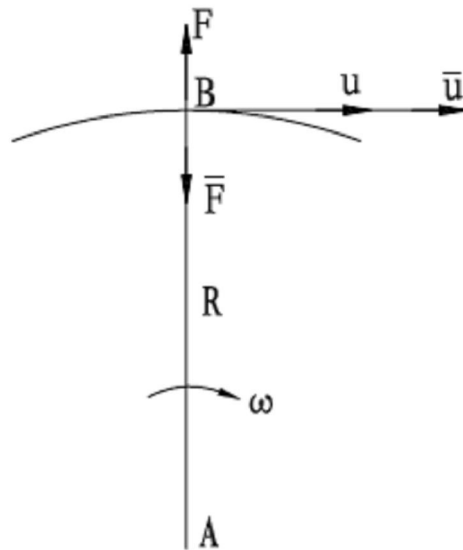


Fig.2. On body  $B$   $F$  and  $\bar{F}$  coexistence[2].

From Fig. 2, it follows

$$F + \bar{F} = 0 \tag{8}$$

From (6), (7) and (8) it follows

$$\frac{m}{M_B} = \frac{u^2}{c^2} \quad (9)$$

Body  $B$  increases mass  $m$  and centrifugal force is greater than gravitation force, then body  $B$  expands outward.

From (7) it follows Newtonian gravitation formula. The  $m$  is proportional to body  $A$  mass  $M_A$ , in (9)  $m$  is proportional to  $M_B$ , is inversely proportional to the distance  $R$  between body  $A$  and body  $B$ . It follows

$$m = k \frac{M_A M_B}{R} \quad (10)$$

where  $k$  is constant

Substituting (10) into (7) it follows the Newtonian gravitation formula [2-4]

$$\bar{F} = -G \frac{M_A M_B}{R^2} \quad (11)$$

where  $G = kc^2 = 6.673 \times 10^{-8} \text{ cm}^3 / \text{g} \cdot \text{sec}^2$  is gravitation constant.

### References

- [1] Chun-Xuan Jiang, A theory of morphisms between the tardyon and tachyon, physics(Chinese), 4. (1975)119-125.  
 [2] Chun-Xuan Jiang, On nature for gravitation, J. Beijing observatory (Chinese), 7(1976)32-38.<http://www.vixra.org/pdf/1205.0094v2.pdf>  
 [3] Chun-Xuan Jiang, An approach on the nature of attractive force, Potential science (Chinese), 4(1982)19-20.  
 [4] Chun-Xuan Jiang, A unified theory of the gravitational and strong interactions, Hadronic J., 24(2001)629-638.

- [5] Chun-Xuan Jiang, An equation that changed the universe:  $\bar{F} = -\frac{mc^2}{R}$   
<http://www.vixra.org/pdf/1007.0018v1.pdf>

### Acknowledgments

The author is greatly indebted to Professor Walter H.G.Lewin for his emails.

From: "Walter H.G.Lewin" [lewin@space.mit.edu](mailto:lewin@space.mit.edu)

Publish this in a refereed journal and once it is accepted buy yourself a first class ticket to Stockholm to pick up Nobel prize for physics.

From: "Walter H.G.Lewin" [lewin@space.mit.edu](mailto:lewin@space.mit.edu)

Dear Jiang

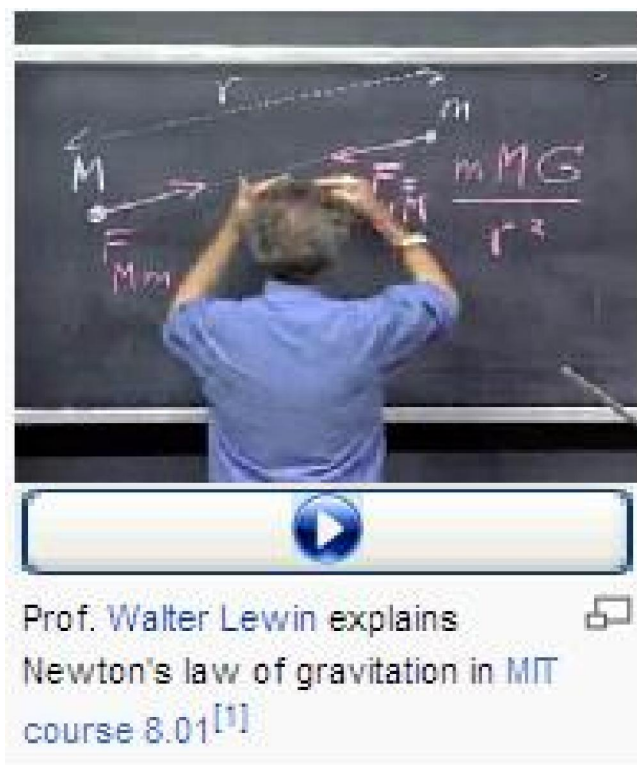
Thank for your email.

I suggest you submit your theory to a refereed journal. If it is accepted, then buy yourself a plane ticket to Stockholm to pick up a Nobel prize.

.....

Greetings.

蒋春暄研究方法: 他用他的思维和方法研究自然界, 至于其他人研究自然界的思维和方法他并不关心. 所以在他的论文中几乎没有其他人的参考文献.



#### 参考文献 (References)

- 1 R. M. Santilli, Isonumbers and genonumbers of dimension 1, 2, 4, 8, their isoduals and pseudoduals, and "hidden numbers" of dimension 3, 5, 6, 7, Algebras, Groups and Geometries 10, 273-322(1993).
- 2 蒋春暄, Foundations of Santilli's isonumber theory, Part I: Isonumber theory of the first kind, Algebras, Groups and Geometries, 15, 351-393 (1998).
- 3 蒋春暄, Foundations of Santilli's isonumber theory, Part II: Isonumber theory of the second kind, Algebras Groups and Geometries, 15, 509-544 (1998).
- 4 蒋春暄, Foundations of Santilli's isonumber theory. In: Fundamental open problems in sciences at the end of the millennium, T. Gill, K. Liu and E. Trel (Eds) Hadronic Press, USA, 105-139 (1999).
- 5 蒋春暄, Foundations of Santilli's isonumber theory, with applications to new cryptogrms, Fermat's theorem and Goldbach's conjecture, International Academic Press, America-Europe-Asia(2002) (also available in the pdf file <http://www.i-b-r.org/jiang>. Pdf).
- 6 <http://www.google.com>. 2017.
- 7 <http://www.yahoo.com>. 2017.
- 8 <http://www.baidu.com>. 2017.
- 9 <http://www.sciencepub.net>. 2017
- 10 蒋春暄, 超复变理论, 预印本, 1989。
- 11 蒋春暄, 费马大定理已被证明, 潜科学, 2(1992)17-20。预印本(英文), 1991年12月。
- 12 蒋春暄, 三百多年前费马大定理已被证明, 潜科学, 6(1992)18-20.1659年费马证明了  $n=4$ , 因此费马证明了他的猜想。
- 13 蒋春暄, 费马大定理费马证明, 预印本(英文), 1992年3月。
- 14 蒋春暄, 费马方程因子分解, 预印本(英文), 1992年5月。

5/7/2017