

# New Gravitational Theory

Chun-Xuan Jiang(蒋春暄)  
P.O.Box 3924, Beijing 100854, P. R. China  
123jiangchunxuan@gmail.com

Newtonian gravity law is based on empirical evidence, not speculative theory.Newtonian did not explain what is gravity?how it works? Hence his theory of gravity is only a conjecture.Einstein theory of gravitation is based on inertial and gravitational mass are equal(the happiest thought of my life) which does not exist. Hence his theory of gravity is a 100% wrong.

Einstein believes the tachyon does not exist,which is wrong.Physical Review Letters and Phys.Rew published many mistakes articles,some even won the Nobel prize.But they are not published the tachyonic theory articles.21<sup>st</sup> century physics is the tachyonic era. Jiang prove that the gravitational theory is tahyonic one and deduce the new gravitational formula including Newtonian gravitational formula.Physicists do not understand and study tachyonic theory.Their research results are almost wrong.Quantum information,black hole,the Big Bang, dark matter and dark energy,quarks, a theory of everything,the superstring theory,supersymmetry and gravitational wave do not exist.For new gravitational formula,it is accepted as being self-evident.

## Deduction of New Gravitational Formula: $\bar{F} = -\frac{mc^2}{R}$

Chun-Xuan Jiang  
P.O.Box 3924, Beijing 100854, P. R. China  
123jiangchunxuan@gmail.com

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.

Anybody may understand gravitation.

Using the tardyon and tachyon coexistence principle [1]

$$u\bar{u} = c^2 \quad (1)$$

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

We deduce a new gravitation formula:  $\bar{F} = -\frac{mc^2}{R}$ .

**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  $\bar{u}$ .

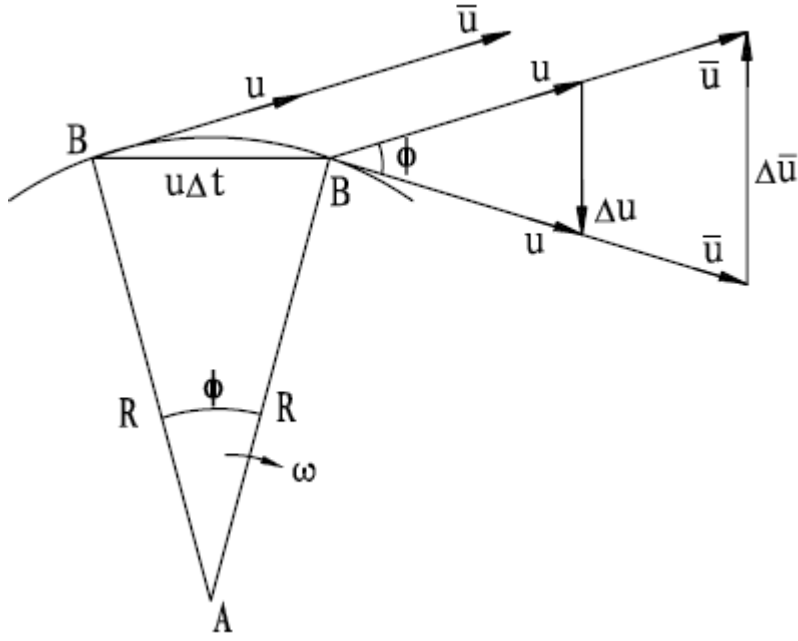


Fig.1. On body  $B$   $\frac{du}{dt}$  and  $\frac{d\bar{u}}{dt}$  coexistence [2].

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = \frac{\Delta u}{u} . \quad (2)$$

From (2) it follows the tardyon centripetal acceleration on the body  $B$  [2-5],

$$\frac{du}{dt} = \lim_{\substack{\Delta u \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta u}{\Delta t} = \frac{u^2}{R} . \quad (3)$$

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = -\frac{\Delta \bar{u}}{\bar{u}} . \quad (4)$$

From (4) and (1) it follows the tachyon centrifugal acceleration on the body  $B$  [2-5],

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

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

From (3) it follows the tardyon centrifugal force on body  $B$  [2-5],

$$F = \frac{M_B u^2}{R} , \quad (6)$$

where  $M_B$  is body  $B$  mass.

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

$$\bar{F} = -\frac{mc^2}{R}, \quad (7)$$

where  $m$  is the gravitation mass converted into by tachyon mass  $\bar{m}$  which is unobservable but  $m$  is observable.  $\bar{m}$  give all particles mass. On body  $B$   $F$  and  $\bar{F}$  coexistence.

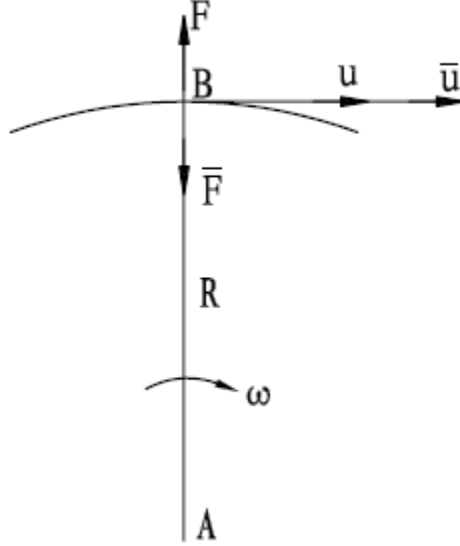


Fig.2. On body  $B$   $F$  and  $\bar{F}$  coexistence[2].

From Fig. 2, it follows

$$F + \bar{F} = 0. \quad (8)$$

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 [2-5]

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

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

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- [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.
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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.