A Simple Mechanism for Gravitation

Chun-Xuan, Jiang (蒋春暄)

Institute for Basic Research, Palm Harbor, FL34682-1577, USA
And: P. O. Box 3924, Beijing 100854, China (蒋春暄，北京 3924 信箱，100854)
jiangchunxuan@sohu.com, cxjiang@mail.bcf.net.cn, jcxuan@sina.com, Jiangchunxuan@vip.sohu.com,
jcxxxx@163.com

Abstract: 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.
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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.
Anybody may understand gravitation.
Using the tardyon and tachyon coexistence principle [1]

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

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

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

We deduce the new gravitation formula: .

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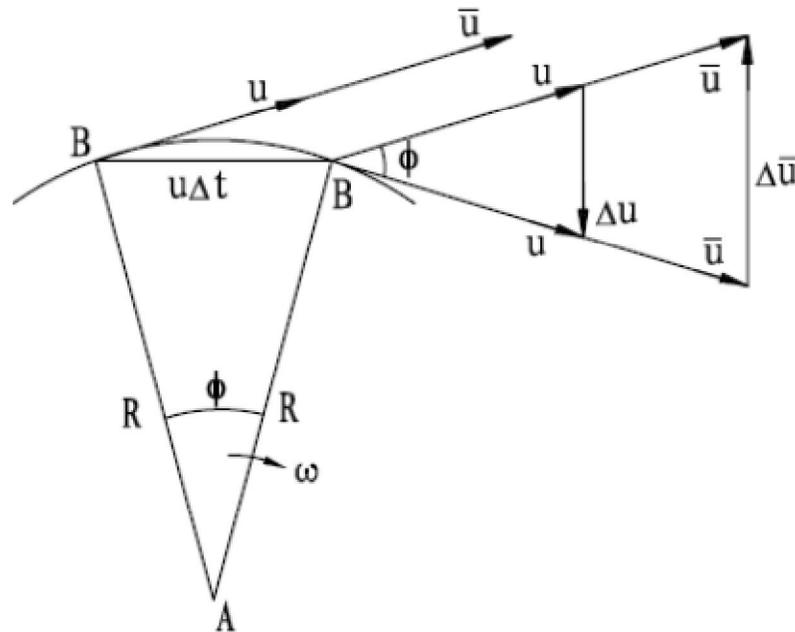

Fig.1. On body B $\dfrac{du}{dt}$ and $\dfrac{d\bar{u}}{dt}$ coexistence [2].

From Fig. 1 it follows

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

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

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

From Fig. 1 it follows

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

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

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

On body B $\dfrac{du}{dt}$ and $\dfrac{d\overline{u}}{dt}$ coexistence.

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

$$F = \frac{M_B u^2}{R}$$,   （6）

where M_B is body B mass.

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

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

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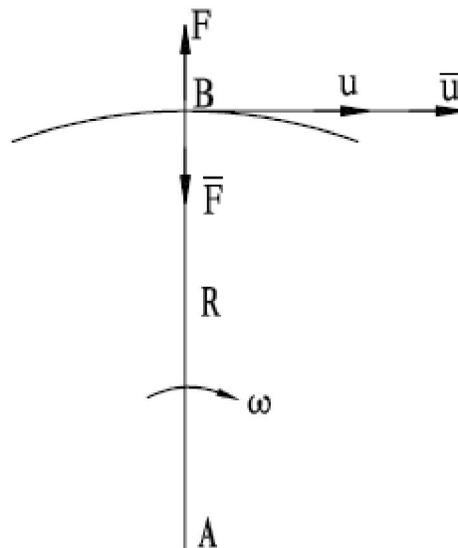

Fig.2. On body B F and $\overline{F}$ coexistence[2].

From Fig. 2, it follows

$$F + \overline{F} = 0$$.   （8）

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

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

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

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

$$m = k\frac{M_A M_B}{R}$$,   （10）

where k is constant

Substituting (10) into (7) it follows the Newtonian gravitation formula [2-5]

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

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

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