Temporal Movement is the Cause of Particle Motion. The Physical Time Has a Shape: It is Curved in Due to Gravity and Curved Out Due to Anti-Gravity

Prasenjit Debnath

PhD Student, NIT Agartala, India

Abstract: *Trees can never travel to USA. The whole life of trees is in the same place although it is not entirely correct, but it is human psychologically correct because we cannot anticipate Earth's rotation, revolution around the Sun and we even cannot anticipate Sun's revolution around the Milky Way, a cosmic year. So, everything moves, but trees generally do not move within the Earth. The speed of revolution of Earth is approximately 30 kilometers per second with the speed at perihelion is 30.3 kilometers per second and the speed at the aphelion is 29.3 kilometers per second. The typical time it takes to read a sentence is about 15 seconds, the Earth will have moved through space by about 450 kilometers or about the width of the state Ohio. In this paper I will prove that temporal movement is the cause of particle movement. I will also show that the physical time has a shape, the physical time curved in due to gravitational force and it is curved out due to Anti-gravitational force. The space-time is a straight line in a uniform temporal flow and it is non-linear (either curvature or chaotic) in a non-uniform temporal flow*

Keywords: Anti-gravitational force, Perihelion and Aphelion, A cosmic year, The physical time, Earth rotation and revolution

1. Introduction and Theory

The total time taken by Earth to complete one revolution around the Sun is 365.2422 days or 8766 hours [1, 2].

Figure: Earth's Perihelion and Aphelion

Speed of revolution $= \dfrac{Dis \tan ce}{Time} = \dfrac{942,000,000}{8766}$ km/sec
$= 107,000$ km/hr. $= 30$ km/sec [3, 4]. Although the speed is at perihelion (about 147 million kilometers or 91 million miles from the point of focus) is 30.3 km/sec [5, 6] and at aphelion (about 152 million kilometers or 95 million miles from the point of focus) is 29.3 km/sec [7, 8].

Let a particle is moving from space point p_1 to p_2 during time interval between T_1 to T_2, the speed v is

$$v = \frac{p_2 - p_1}{T_2 - T_1}$$

$$or, v = \frac{p_{21}}{T_{21}} \qquad (1)$$

Where $p_{21} = p_2 - p_1$ and $T_{21} = T_2 - T_1$

$$or, p_{21} = v \times T_{21} \qquad (2)$$

When $T_{21} = 0$, then in equation (1) the velocity becomes infinite. It is absurd because the Universal speed limit of the Universe is constant, the speed of light C (3, 00, 000 kilometers/second or 1, 86, 000 miles per second) [9, 10]. The speed of light is the maximum possible velocity of a particle because the physical time does not stop anywhere. For, $T_{21} = 0$, velocity will be infinite where current physical laws break down. If we take the maximum velocity possible, the speed of light C, then the equation (2) becomes,

$$p_{21} = C \times T_{21} \qquad (3)$$

If T_{21} is zero, no matter what is the velocity from zero to C, p_{21} is also zero. It implies that if time stops flowing, a particle will stop moving to attain absolute rest. It also implies that at a particular time instant, the Universe is stagnant or at absolute rest. If time flows from one time instant to the other time instant, the Universe will move to one point of absolute rest to another point of absolute rest. Only movement of a particle comes into play when time flows. If time flows uniformly, i.e. T_{21} is linear, then, in equation (3), p_{21} is also linear. It implies that in a uniform time flow, the movement of a particle through space is a straight line. For uniform time flow, space-time is a straight line. Space-time is a straight line as long as time flow is uniform. The space-time is a curve only when time is not uniform. Because mass is either compressed or elongated space fabric, the mass will move as long as time flows, that is the reason nothing is stagnant or in absolute rest in the Universe. To be at absolute rest, time needs to stop flowing at any part of the Universe. The physical time slows down near any mass [11, 12]; the mass also displays gravitational force [13, 14]. Any other mass revolving any mass has an

elliptically curved revolution [15, 16]. Thus space-time is a curve under the influence of gravity [17, 18]. Space-time curvature is the effect of the cause gravity. Gravity is the effect of the cause mass. Mass is the effect of the cause space deformation. Slowness of time-flow is directly proportional to the amount of space deformation (mass). Thus, the time further slows down under the huge mass. According to Newton second law of motion-

$$F = ma \qquad (4)$$

Where F is the force acted, m is the mass on that the force is applied, a is the acceleration of the mass.

According to the Newton first law of motion-

$$F \infty \frac{1}{d^2} \qquad (5)$$

Where F is the force acted, d is distance between the two masses. If any movement of mass is the effect of the cause time-flow, acceleration is the effect of non-uniform time-flow which is nothing but gravitational effect (the force acted on one mass due to another mass). Thus, any force like gravity is nothing but the slowness of time. In other words, the gravity or any other force is the effect of the cause slowness of time under the influence of mass. Thus, temporal slowdown under the influence of mass is nothing but gravity. Acceleration is the effect of non-uniform time flow under the influence of mass. As gravity is the effect of the cause temporal slowdown, it only seems like elliptical orbit due to gravitational force; it is actually non-linear path due to non-uniform time-flow. Thus, temporal movement is inversely proportional to the square of the distance.

$$T_{non-linear} \infty \frac{1}{d^2} \qquad (6)$$

Where $T_{non-linear}$ is the non-linear time flow due to mass.

According to the equation 1, T_{21} is less (because of temporal slowdown as Earth closer to Sun) in the perihelion makes the velocity of earth more (30.3 km/sec) and T_{21} is more (because less temporal slowdown as Earth is furthest from the Sun) in the Aphelion makes the velocity less (29.3 km/sec).

$$v \downarrow = \frac{p_{21}}{T_{21} \uparrow} \qquad \text{At Aphelion}$$

$$v \uparrow = \frac{p_{21}}{T_{21} \downarrow} \qquad \text{At Perihelion}$$

Where, $v \uparrow$ is the increment in velocity (acceleration) and $v \downarrow$ is the decrease in velocity (deceleration). $T_{21} \uparrow$ is the increment in temporal flow and $T_{21} \downarrow$ is the decrement in temporal flow. So, there is nothing called gravitational force, it is the effect of the cause temporal slowdown under the influence of mass or masses. Any external force applied is nothing but trying to change the rate of temporal flow (to change the temporal frequency). If we change the velocity of a vehicle from 60 km/sec to 90 km/sec, we think that it is a tremendous change [19, 20], but for celestial perspective, we hardly change anything, and temporal frequency is hardly changed to a different value but anyway we changed even a very little in the temporal frequency.

2. Temporal Movement in the Black Hole

The masses nearby are spiral into the black hole [21, 22] because of the extreme curvature of temporal movement, space-time looks like spiral into the black hole. In the black hole, the rate of change of time itself forms a closed loop which we are not used to [23, 24]. That is the reason that time looses its significance inside the black hole psychologically [25]. Because of the closed loop temporal movement, spiral into the black hole makes irretrievable information lost there [26]. There must be a threshold value of time curvature to be comprehended by psychology. More than that threshold value, everything looks like spiral into the black hole and irretrievable information lost. Black holes are not so black; it radiates Hawking's radiation along the event horizon. Thus, the black hole looks like natural oven of mass-to-energy conversion, how much it takes in, that much it takes out as radiation. It takes low energy particle (ordinary mass) and it gives high energy particle (pure energy) obeying the Einstein Mass-Energy equivalence equation-

$$E = mC^2 \qquad (7)$$

3. Conclusion

Rate of change of space-time is always a straight line for uniform temporal movement. Rate of change of space-time is a curvature or chaotic due to non-uniform temporal movement under the presence of mass or masses. In the presence of considerable amount of mass, significant slowdown of time occurs to become a non-linear time $T_{non-linear}$ which is inversely proportional to the square of the incremental distance from the center of the mass (in equation 6) which is nothing but the gravitational force. Acceleration is nothing but further slowdown of temporal movement. We feel positive force, when time slows down. We feel negative force when time accelerates. Due to temporal slowdown, gravity exists of a mass and motions of other masses are curved in. Again, due to temporal frequency acceleration, anti-gravity exists of an anti-mass and motions of other anti-masses are curved out. Thus motion of particle occurs due to time-flow, and the physical time has a shape. The space-time is curved in due to temporal slowdown (gravity of a mass) and space-time is curved out due to temporal frequency acceleration (anti-gravity of an anti-mass).

4. Acknowledgment

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Author Profile

Prasenjit Debnath born in Agartala, Tripura, India on 15th of March 1979. He is pursuing PhD degree in the Department of Physics in National Institute of Technology Agartala (NIT Agartala), India.