

Time itself is not the fourth dimension, but emerges due to motion along fourth space dimension

Time cannot be separated from motion, and without motion the concept of time will cease to exist.

INDORE, MADHYA PRADESH, INDIA, March 27, 2023 /EINPresswire.com/ --Mr. Subhajit Waugh, a physicist and scientific officer at the Raja Ramanna Centre for Advanced Technology (RRCAT), has proposed a new theory that time is not the fourth dimension, but arises due to motion along the fourth space dimension. He argues that the fourth dimension is a spacelike dimension, not time-like, and that time is an emergent phenomena.

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Einstien did not defeat time; it was the other way round. Neither is time an illusion as Einstein believed.

Mr. Waugh's theory has sparked

intense debate in scientific community, generating both praise and criticism, and differs from previous theories of time. Historically, Newton's view of time was that time is universal, and is same everywhere. It ticks at a constant rate, and time passes equally and precisely the same for everybody. However, Einstein showed that time is flexible, and time and space inevitably mix together, which can be beautifully summarized in a single equation known as Minkowski SpaceTime Equation (MSTE).

 $ds^2 = dx^2 + dy^2 + dz^2 + (i.c.dt)^2 = dr^2 + (ic.dt)^2$

Einstein's and Newton's views are inherited by the two pillars of modern physics (General Relativity and Quantum Mechanics), and the mismatch has caused the apparently insolvable crisis called 'problem of time'. But it is only 'seemingly impossible' problem. [<u>#Link1</u>]

Mr. Waugh points that something is evident in MSTE. Time is inevitable accompanied with an imaginary sign, which turns the metric (+,+, +, -) instead of (+,+,+,+) when the same equation is rewritten without using the imaginary sign. The mystery of time is shrouded by two (least understood) concepts: imaginary number, and higher dimension. Imaginary number is needed

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Understanding time is key to understand the cradle to grave journey. Failing time after time to unravel time; this time, the time is ripe to unveil time and demystify 'arrow of time'."

Subhajit Waugh

only for an inaccessible higher dimension. The presence of imaginary sign (i) clearly shows that the 3D space (which can accommodate up to three mutually perpendicular axes x, y and z) is actually a 3D hypersheet embedded in a 4th dimension which is inaccessible to humans.

To understand the awesome power of time, one need to understand the divine power that comes with a higher dimension. Since humans cannot fully visualize four dimensions, an analogy must be used. One may imagine the surface of a flat table (representing 2 dimensions) on

which an intelligent ant is crawling outside a circle drawn on the table. Inside the circle is a tiny dot. There is absolutely no way for the ant to reach the dot without crossing the circle. But a (divine) human can touch the dot from above the table without ever touching the circle. In a similar way, a divine being having access to the fourth dimension can remove a person's heart or liver without ever cutting the skin. That is exactly why time flows even in the deepest core of our planet (without worrying about how to penetrate thousands of miles of solid rocks surrounding the earth's core) and even flows relentlessly in the center of the sun. Time flow controls human heartbeat rate (without cutting human skin) and also controls the radioactive decay rate deep inside an atom. This is not magic, but similar to having access to every point on the table top from above.

The ant is only aware of two mutually perpendicular x and y axes. The z axis which is so obvious to humans does not even make sense to that ant. For representing any distance (d) along the z-axis, the ant has to use imaginary numbers (i). Hence, the distance along the z-axis for the ant will be i.d instead of simply d. Now, if the table is moving upwards with velocity v, then the ant will note that as i.v without really bothering to examine what the imaginary sign (i) actually represent. [$\frac{\#Link2}{2}$]

Contrary to popular belief, time itself is not the fourth dimension. This is self-evident since time does not possess the unit of distance (meter or yard or mile) which would have given it the status of a true (space or spatial) dimension.

At its heart, the concept of 'time duration' is shockingly simple. It is the childishly simple formula which is taught in elementary schools worldwide:

Distance (covered) = Velocity X Time Therefore, Time = Distance/Velocity

Time cannot be separated from motion. Without motion the concept of time will cease to exist. But this seems a crazy claim. Why should time be ingrained into everything? After all, the building is not moving, and the chairs and desks are not racing either!

But how can someone be sure of this?

One does not feel the movement of the entire planet earth around the sun. Nor will a common person ever doubt that the entire solar system is moving around the Milky Way galaxy at neck-breaking speed. That is because the building, the chairs and desks are all moving with human beings.

One can take any observer, located anywhere in 3D space, and moving with any possible velocity. Relative to itself, the observer does not move through space (therefore, dx=dy=dz=0, or in other words, dr=0). Hence, the MSTE becomes (putting dr=0):

ds^2= (i.c.dt)^2, Hence, velocity ds/dt = i.c

Therefore, every frame of reference reaches the same conclusion. The presence of i clearly shows that everyone is moving with a velocity c in a direction perpendicular to all three x,y and z axis. The lack of understanding about i=SquareRoot(-1) had led scientists to conclude that the velocity is imaginary (and hence were discouraged from digging deeper). They simply concluded that spacetime is very peculiar (hyperbolic), without questioning why this peculiarity arises.

But every observer can reach the same conclusion only if the entire 3D space is moving in the same direction. Well, it is not 3D space moving. A 3D space moving through 4D hyperspace doesn't make any sense! What is moving is a 3D hypersurface composed of fields, and particles, which are mere resonances/excitations in that field (This is the core statement of Quantum Field Theory). Since stars, planets and humans are made of particles, therefore everything is eternally trapped in 3D fields and move only forwards in time.

This is where it leads to [<u>#Link3</u>], followed by <u>https://doi.org/10.5281/zenodo.7343171</u>

SUGGESTED READINGS https://tinyurl.com/2mfzktfj https://doi.org/10.5281/zenodo.6811311

WATCH https://www.youtube.com/watch?v=YgUchABJ0EQ

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