

## Notes: Time As An Energy Wave

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### ABSTRACT

Here outlined is the idea of considering time as an energy wave that helps the motion of matter, an idea of a scientist in Japan; Talaaki Musha, who's correspondence with me, lead me to consider the possibility if one could use the energy of time, if indeed it has a energy, would lead to the possibility of manipulating time. Everything in this paper is purely speculative, as it is not known if time as an energy wave actually exist?

**Keywords:** advanced waves; time as an energy wave; Tolmans paradox

### INTRODUCTION

In my correspondence with a scientist in Japan; Talaaki Musha [1] he happened to mention that as a student, he wrote a paper (never published) considering time as a energy wave, that helps matter in its motion. That he obtained Lorenz transform from this assumption. From this I wrote back suggesting the idea that if time is a energy, that one can do things with energy, such as work, with the possibility on manipulating time, if of course such an energy of time existed in nature?

He wrote back saying his student paper is in his home town, that he does not know if he has it. that it was a long time ago when he wrote it. I was eager for him in sending details mathematically, so I wrote to him sending a paper, 'Wave function of the universe[2], by J.B.Hartle and S.W.Hawking. That this may be helpful in him considering and finding a mathematical expression of time as a energy wave. He wrote back saying it may help him and began work on the idea. In more recent correspondence he wrote saying of his work in progress, that he is encountering difficulties mathematically, that considering the model of time, of our present now, and of the past and future, that if we have technology to penetrate a potential barrier from the present universe, and past and future universe by a tunnel effect, then time travel is considered possible. But that it is very difficult to explain this by mathematical equation.

It was Takaaki Musha's idea of considering time as a energy wave, but my idea that if such a thing existed in nature one might be able to manipulate time, to which he has been encountering difficulty to find a mathematical equation of this. But that I don't have his equation for this, so that this paper is very speculative.

### CONSIDERATIONS ON TIME AS AN ENERGY WAVE

If time is an energy wave that helps the movement of matter, one might be able to manipulate this energy to travel through time, but the problem here is how can one have access to this energy, and not having a set of equations does not help at all. One can take the approach of substituting t for E for energy in an equation to see how it behaves or makes any sense? If one applies time as an energy wave to Tolmans paradox, substituting t for E what would it imply?

For sending a signal faster than light, we have the following expressions of Tolmans paradox. Einstein's 1907 thought experiment of how faster than light signals lead to paradoxes of causality. For sending a signal faster than light  $\Delta t = t - t^\circ = \frac{B-A}{a}$  The arrival at B is given by velocity  $a$ , and event A is the cause of B. This inertial frame moving with relative velocity  $v$ , the time of arrival at B is given according to the Lorentz transformation:

$$\Delta t' = t' - t^\circ = \frac{t^\circ - vB/c^2}{\sqrt{1 - v^2/c^2}} - \frac{t^\circ - vA/c^2}{\sqrt{1 - v^2/c^2}}$$

$$= \Delta t' = \frac{1 - av^2/c^2}{\sqrt{1 - v^2/c^2}} \Delta t$$

If  $a > c$  then certain values of  $v$ , can make  $\Delta t'$ , negative, in other words the effect arises before the cause in this frame. Substituting  $\Delta t$  for  $\Delta E$ , where  $\Delta E$  is the energy wave of time we have;

$$\Delta E' = \frac{1 - av^2/c^2}{\sqrt{1 - v^2/c^2}} \Delta E$$

By substituting  $\Delta E$  for  $\Delta t$ , the energy wave would appear before it set off, and its energy would be negative? You can apply Tolmans paradox to the behaviour of advanced waves, in fact this is found in the work of Bajlo's experiments[3][4] is the first person to detect advanced waves, where the advanced waves are detected before they had set off, just as is confirmed in the expressions of Tolmans paradox. But dose substituting t, for E as the time energy wave, make sense to the equation of time dilation?

$$t' = \frac{t}{\sqrt{1 - v^2/c^2}}$$

And substituting t, for E;

$$E' = \frac{E}{\sqrt{1 - v^2/c^2}}$$

Dose this really make sense? This equation is similar to the equation for energy;

$$E = \frac{m^{\circ}c^2}{\sqrt{1 - v^2/c^2}}$$

Is it really sensible to include this substituting time as an energy, to describing time dilation? Somehow it implies that the energy of time slows down close to the speed of light, but this can only apply to normal energy, but dose it applies to time as an energy? At the speed of light, time is frozen, for a photon in its frame travelling say, 10,000 light years, 10,000 light years would be but an instant for the photon. Time as an energy wave might then be frozen from the point of view of a photon? But faster than light, time as an energy wave would travel backwoods. But as I don't have Takaaki Musha's equations of time as an energy, my whole approach here may be wrong?

One could use the simple equation for work,  $W=pt$ , where  $p$ = power and  $W$  = work, and substituting  $t$ , for  $E$  as the time energy wave, we have  $W=pE$ . Making  $E$  the subject, we have  $E= W/p$ . But it does not show how one can have access to this energy wave of time. This illustrates that such simple equations do not tell us how to get the energy of time, to do work? One can take a different approach and view the energy of time existing in the 4th dimension, with the other 3 dimensions of space,  $x, y, z$ . This may be a better approach, but how would we get access to this energy from the 4th dimension?

But in what sense does this energy wave of time exist in reality, because science has not detected such a thing. But if it's true, then this energy remains hidden. If one finds an equation for it, like Takaaki Musha is trying to do, then there's a possibility of finding a way to detect it in nature, and doing an experiment to test this out, then if one got positive results this would open up the possibility to manipulate time.

In finding such an equation, should show why scientists have not been able to detect this energy before. But if time dose has an energy wave, and it exists, that means we might be able to manipulate time. Just as no one had yet detected advanced waves before, till Bajlo, detected such advanced waves in his experiments and showed why no one had yet detected it before, this same example should follow if time dose has an energy?

### CONCLUSIONS

It is not known if time as an energy wave ever exists in nature, but if one can obtain a mathematical expression for it in a set of equations, one will then have something more to work on and with the possibility to test out these assumptions experimentally from the equations. And if such experiment confirmed or not is discovered, it may be a new form of energy, and lead us on the road to manipulating time. This whole paper has been totally speculative in nature, and I leave it open to anyone to consider.

### REFERENCES

- [1] Dr. Takaaki Musha obtained his Doctoral degree from Shinshu University. Formerly he worked as a senior research scientist at the Technical Research & Development Institute of MoD in Japan. Presently, he is a director of Advanced Science-Technology Research Organization.
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