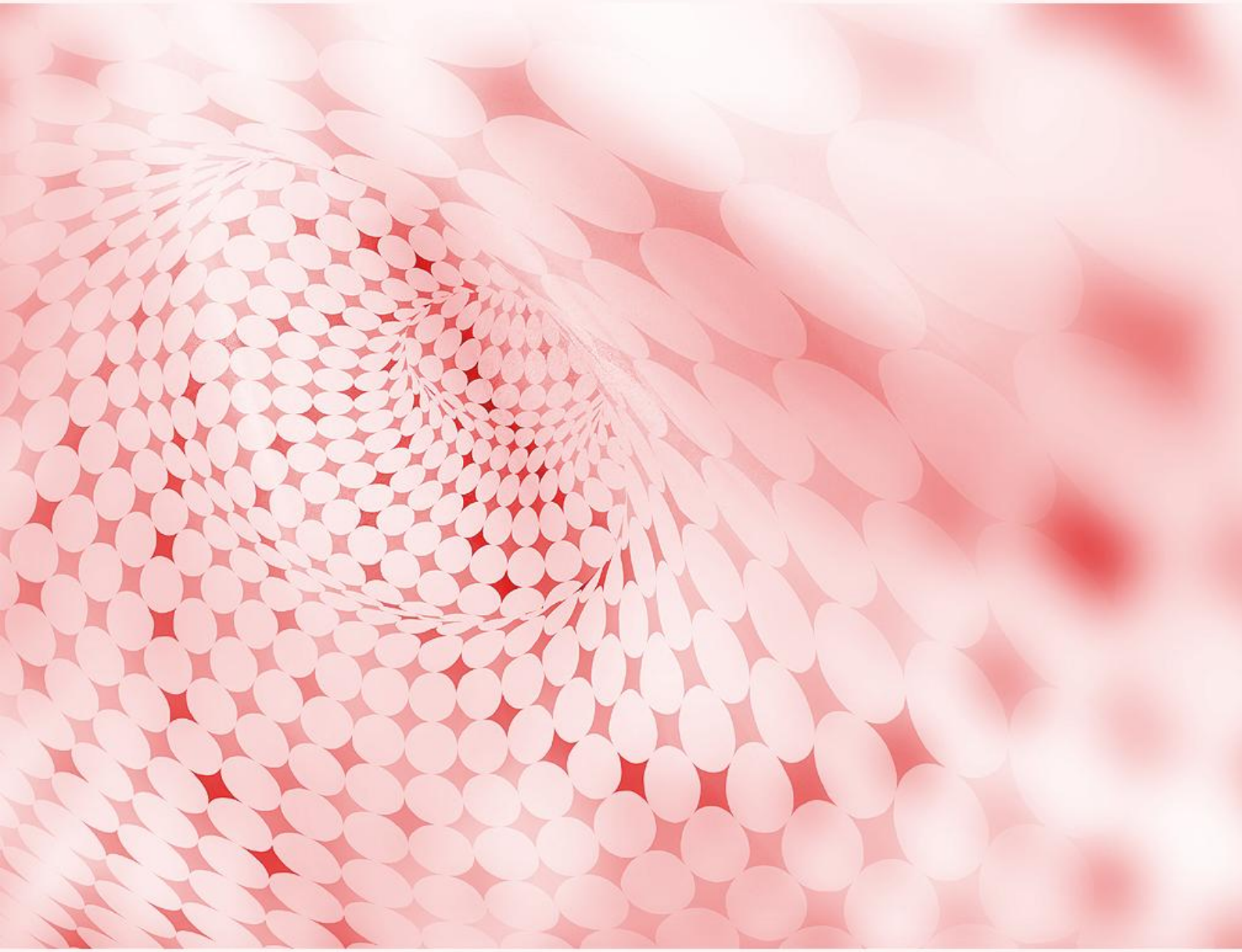


Descrete Time Locations

By Binyamin Tsadik Bair-Moshe

The idea of Discrete Time Locations (DTL) was conceived in 2004 and despite its revolutionary simplicity in providing answers to ongoing questions over current, more accepted approaches, it has yet to gain traction in the theoretical physics community. I have refined the ideas and even developed a method for testing them; however, the mathematics need to be further developed in order to conceive of a specific apparatus.

The concept is perhaps too simple to be true; however, the simplest solution is usually the most elegant.

Because no complex calculations are required to convey the idea, none were included in this introductory paper.

$\upsilon_{max} = \delta r/c$

Preamable

Modern theoretical ideas and metaphors about the nature of the universe have not yet detailed an understanding behind the mechanism of forces.
We take for granted that forces act positively, negatively or not at all on particles in order to sustain the phenomenon that the universe desires to reach its lowest energy state.

Yes, we have defined force carriers, and diagrams about how they mathematically interact, however we have little understanding of the mechanism of action that they undertake.

This paper is an attempt to provide a mechanism for external interaction between various particles, while remaining in our classic 4 dimensional arena of space-time.

Indivisible space and time

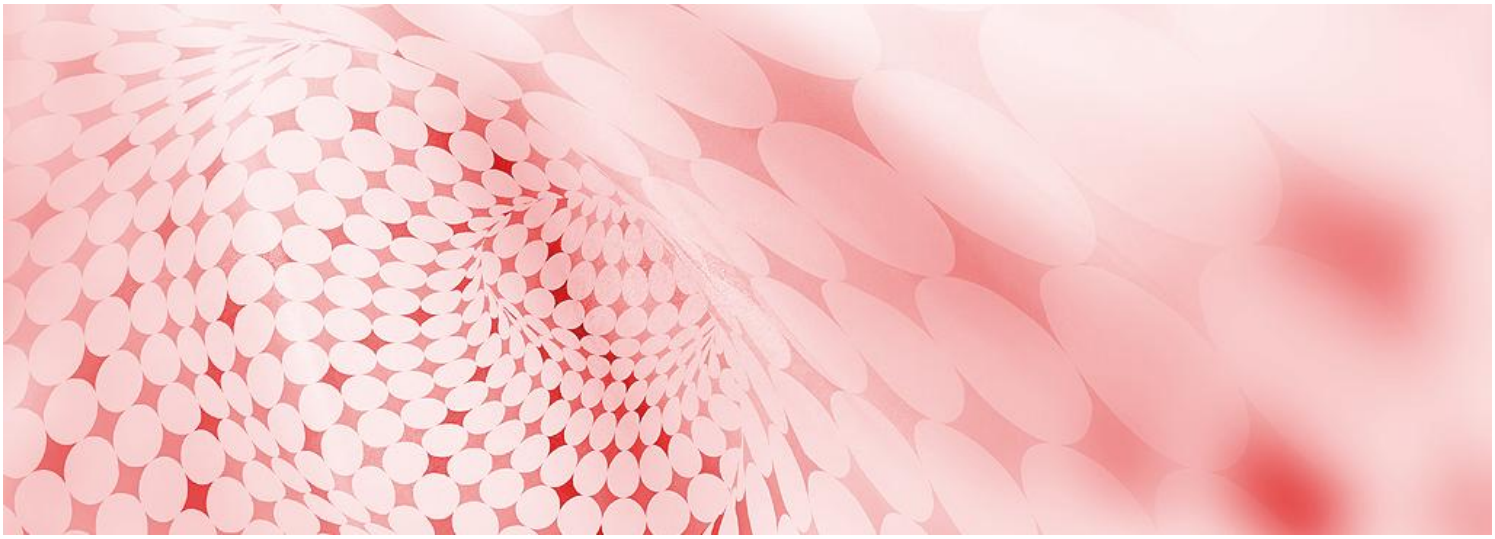
There is a basic problem that the idea of space breaks down when we try to probe smaller and smaller dimensions.

When discussing the smallest possible distance (δr) we can describe a maximum frequency (υ_{max}) that can be the cause of this length. And because we are speaking about a frequency, then it will be subject to the Doppler Effect and time dilation and therefore space itself will change based on our understanding of special relativity.

At this frequency particles will be restricted to a single phase of the frequency at all times.

$\phi = 2\pi$ @ (υ_{max})

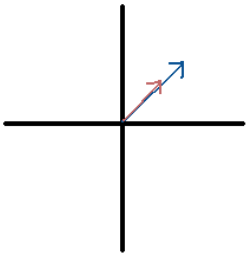
Particles that have oscillations at this frequency will interact with this frequency. The only monophase force that is currently known is the gravitational force.



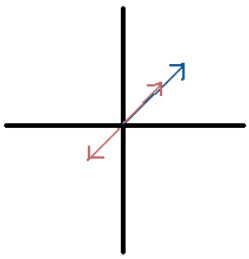
We know that different wave frequencies can occupy the same space and form a superposition. (However and thus far, at higher frequencies this appears not to be the case.) When the maximum frequency is divided by half ($\upsilon_{max} / 2$), then particles will be able to occupy two locations on this wave.

$\phi = \pi$ or 2π @ ($\upsilon_{max} / 2$)

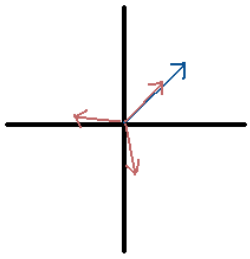
There is a biphase force that is known, this is called the electro-magnetic force.



$\phi = 2\pi$ @ (υ_{max})



$\phi = \pi$ or 2π @ ($\upsilon_{max} / 2$)



$\phi = \pi/3$; $2\pi/3$ or 2π @ ($\upsilon_{max} / 3$)

Similarly when the frequency is one third of the original frequency ($\upsilon_{max} / 3$), there are three places on this frequency that the particle can occupy: 0, δr or $2 \cdot \delta r$ which correspond to the three phases:

$\phi = \pi/3$; $2\pi/3$ or 2π @ ($\upsilon_{max} / 3$)

And yes, there is a triphase force called the nuclear strong force.

Understanding the strength of these forces and their effects can be deduced. My best hypothesis would be that the force strength is proportional to the negative of $\cos(\phi)$. This would make individual triphase particles attract unlike particles and repel like ones.

Further Questions

1. Would it be δr that dictates υ_{max} or the other way around?
2. What other forces could (υ_{max} / n) predict?
3. How can this be tested experimentally? (For those interested, I have several ideas)
4. An astute reader may have noticed that the monophase frequency would always repel, could every particle in the universe be out of phase from one another at this frequency? Or is there another mechanism that can resolve this? I suspect that particles may be always 'trying' to find a balance between their phase forces.

In conclusion

DTL is a possible new approach to reach an understanding of the mechanisms behind the fundamental forces of the universe.

For further study please refer to:

Sample Calculations for DTL

http://vixra.org/abs/1502.0090

Experimental Proposition

http://vixra.org/abs/1502.0205