

Lorentz Length Contraction (More Discussion)

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Abstract

The Special Theory of Relativity tells us that
The matter is created of electromagnetic wave or at least depend on it
i.e.
The Universe Matter Is Related To Electromagnetic Waves

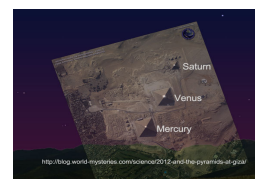
References

Simultaneity Role in The Solar System (SR Discussions)
<http://vixra.org/abs/1911.0280>

Lorentz Length Contraction Analysis (SR Discussions) (Part III)
<http://vixra.org/abs/1911.0234>

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The Assumption Of S. Virgin Mary.
Written in Cairo – Egypt
24th November 2019 (S. George)



1- Introduction

My previous paper

Lorentz Length Contraction Analysis (SR Discussions) (Part III)

<http://vixra.org/abs/1911.0234>

had discussed the question:

WHAT does happen for the particle own nature, if this particle suffers from Lorentz length contraction effect?

The current paper discusses the next question:

WHY does particle suffer from Lorentz length CONTRACTION effect, if this particle travels by speed of light (approximately)?

Why this question is important? Because we can't see the data direction!

If we accelerate a particle, so we provide energy to this particle, so logically this particle mass may be increased because the particle own energy is increased

But why the length is contracted? The particle has more energy, means, it should have more mass, more volume and increasing in particle different data....so the particle length should be longer and not contracted.... !

I have read many ideas about SR – this reading caused shock for me –

The authors deal with relativistic effects as illusion of measurements!

(1st Equation)

$$m = \frac{m_0}{\sqrt{1 - (v^2/c^2)}}$$

(2nd Equation)

$$T = \frac{T_0}{\sqrt{1 - (v^2/c^2)}}$$

(3rd Equation)

$$\gamma = \frac{1}{\sqrt{1 - (v^2/c^2)}}$$

The people think simply these equations are for illusion of measurements!

Particle mass, length and time are never changed and what we measure by our devices are mere illusions! Simply the theory is emptied of its concepts!

Let's see some explanations about Lorentz length contraction from famous books to see if really there's a contradiction in opinions between different famous authors.

(1st Reference) -Mechanics -Berkely Physics Course Volume 1

Page No. 330-331 (last Paragraph)

This is the famous Lorentz-Fitzgerald contraction of a rod moving parallel to its length with respect to the observer. One may worry at this point whether the rod has "actually contracted." **Of Course Nothing Physical has happened To The Rod**, but the process of measurement in the moving frame has given a different result. For a discussion of the figures of rapidly moving objects as photographed with a camera, see the excellent review by Weisskopf. It has been shown, for example, by calculation of trajectories that a moving sphere will photograph as a sphere and not as an ellipsoid.

(2nd Reference)

University of Nebraska - Lincoln

An Introduction to the Special Theory of Relativity

Robert Katz- **Page No. 36**

Is the moving rod really contracted in its direction of motion? Is time really dilated? These questions depend on what is meant by really. In physics what is real is identical with what is measured.

There is no way to assign properties to a rod or to a clock or to an electron except through measurement. **In This Sense The Phenomena We Have Discussed As Time Dilation And The Lorentz Contraction Are Real.**

(3rd Reference)

Costas Christodoulides

The Special Theory of Relativity Foundations, Theory, Verification, Applications

Page 70 – **Last Paragraph**

It Must Be Understood That Nothing Happens To The Rod Due To Its Motion Which Causes Its Contraction. There is no change in its atomic structure, for example. The difference in the results of the measurements of the length in the two frames of reference may be understood if we examine the moments in time at which the measurements were made, as these are observed in the two frames of reference. In frame S' , the measurements at the points $x_0 A$ and $x_0 B$ were both performed at time t_0 .

The times at which the measurements were seen to be performed in frame S , are, respectively,

(4th Reference)

The Special Theory Of Relativity- Lecture Notes prepared by J D Cresser

Department of Physics- Macquarie University-

Page 22

This phenomenon is known as the Lorentz-Fitzgerald contraction. It is not the consequence of some force 'squeezing' the rod, **But It Is A Real Physical Phenomenon With Observable Physical Effects.** Note however that someone

who actually looks at this rod as it passes by will not see a shorter rod. If the time that is required for the light from each point on the rod to reach the observer's eye is taken into account, the overall effect is that of making the rod appear as if it is rotated in space

(6th Reference)

Albert Einstein Book

Relativity: the special and the general theory

Translated by robert w. lawson, University of Sheffield Introduced by nigel calder

Page No. 49

If we now assume that the relative distances between the electrical masses constituting the electron remain unchanged during the motion of the electron (rigid connection in the sense of classical mechanics), we arrive at a law of motion of the electron which does not agree with experience. Guided by purely formal points of view, H. A. Lorentz was the first to introduce the hypothesis that the form of the electron experiences a contraction in the direction of motion in consequence of that motion, the contracted length being proportional to the expression

$$\sqrt{1 - \frac{v^2}{c^2}}$$

This hypothesis, which is not justifiable by any electrodynamical facts, supplies us then with that particular law of motion **Which has Been Confirmed With Great Precision In Recent Years.**

Discussion

Why is the special theory of relativity (SR) so difficult to be understood?

It's easy question...!

While we don't know how the matter is created? Or how Particle data is created?

Einstein didn't fight in this point at all!

He simply left it behind – and move further – tells us that –particle data – which we don't know how is created?!- will be changed because of the high velocity motion!

What's the relationship between the motion velocity with the particle data?! No answer

The particle data change provides more puzzles! We can't see the consistency why these specific 3 data should be changed because of the higher velocity motion?!

We can't know if they are real changes or illusions of measurements? And we can't see a clear direction for these changes enable us to see the real reason behind!

Let's try with many of these questions in following – may this discussion help us to see much better what really Einstein wanted to tell us

2- Methodology (Methodology Is Repeated In All My Papers) It's written in

Why Don't We Understand The Solar System Geometry? <http://vixra.org/abs/1911.0018>

3- The Special Theory Of Relativity Analysis

3-1 Preface (more questions)

3-2 The Available Answers

3-1 Preface

My basic work is planets data analysis, I try –for example- to know why Saturn diameter is created =120536 km? in data analysis we interest strongly for the data direction – **For Example**

$$\frac{25.2 \text{ Mars axail tilt}}{23.4 \text{ Earth axail tilt}} = \frac{26.7 \text{ Satrun axail tilt}}{25.2 \text{ Mars axail tilt}} = \frac{28.3 \text{ Neptune axail tilt}}{26.7 \text{ Satrun axail tilt}} = 1.0725$$

Data Direction Meaning:

The rate 1.0725 is found between 4 values based on 3 equations! It can't be pure coincidence –there's some reason caused this repeated using of the same rate (1.0725) Even if we don't know the reason behind but we see the data direction -

I can –based on that – expect that Neptune axial tilt =28.3 degrees (if I don't know it) based on Saturn axial tilt (26.7 degrees) and the rate (1.0725)

Similar to that –we can't expect the length contraction based on the mass increasing – that because the mass increasing reason –as we have stated- is the particle energy increasing – which finds no consistency with the length contraction

I have tried to explain the data direction meaning –

But

SR still provides many real puzzles & questions ..let's see some of them in following:

Question No.1

In simultaneity, what's the relationship between the event occurrence and our realization of it? i.e. does the event happen independently or dependently on the human realization process?

Question No.2

Can one event be seen as 2 events in 2 different frames

Question No.3

Particle length and mass are effected with high velocity motion –why? note please 2 particle properties are changed for the same reason can't be considered as illusions of measurements! It must be real changes – so why particle properties are changed with high velocity motion?

Question No.4

Particle length and mass as well as distance and time are changed with high velocity! Why Space-time can't define particle mass and length as similar to time and distance on the same coordinates?! Why particle properties were not included in the same coordinates if similar equations define them?

Question No.5

If Particle length and mass are effected by high velocity motion! why we have no equation between them (particle length and mass) – also we know $E=mc^2$ but we have no an equation between particle length and its Energy!

Clearly my mind thinks in data direction – I try to see some data supports each other to see how this data is created and why...

Question No.6

Is length contraction a real contraction occurred for the Particle own length or illusion of measurement?

3-2 The Available Answers

Let's provide some answers we have reach of our discussions to help us next discussions

I- "Is Lorentz Length Contraction A Real Phenomenon Or Illusion Of Measurements?"

These are 2 clear directions, let's try to choose from:

(1st) to accept that – Particle own nature doesn't change and the contracted length is seen as illusion of measurements – which will make the physics measurements methods un-trustee

Or

(2nd) to accept that –Particle own nature changes with particle motion –

I choose the 2nd choice- Why?

Because – the 1st choice tells us that – Particle own nature is defined clearly when no difference in motions velocities between me and this particle – that means – I'm **The Universe Reference Point** – and this is similar to a person looks at a mirror

Specifically for the previous reason we should refuse the assumption that "**Particle Own Nature doesn't Change**" or "**Proper Length L_0 Never Change**"....

Simply these statements are untrue

Our brave action to refuse these statements – produce a real challenge before us –
Because

This argument will lead us automatically to suppose that – **Particle Own Properties Are Created Based On Particle Motion** – which needs a deep analysis to be understood -

Also may particle data is created relative to light velocity and effected by human realization process

Shortly

Matter properties are created depending on 3 factors – at least-

- 1- Matter Own Motion Velocity
- 2- Light Velocity
- 3- Human Realization Process

Conclusion

Particle is created of electromagnetic wave or at least depends on it

II- Why An Electron Or A Subatomic Particle Would Behave Like A Particle And Not Wave When It Is Observed?

(1)

The human body contains electromagnetic pulses – the pulses travels through the human liquids with slow velocity but we know that in vacuum the electromagnetic waves will restore its c velocity- that may suggest the human mind realization process depends on light velocity – and that means we may see the world around us under relativistic effects while we don't know....

(2)

How the human can effect on the subatomic particle?

By knowledge and thinking process!

I suppose the human realization process depends on light velocity (or use light beam) and the thinking process may produce **Light Beams**

So – if the universe is created of electromagnetic waves (light beams) – so the human mind light beam may cause interaction or coherence with universe light beams and by such way the human realization process may effect on the universe around

(3)

Shortly

Based on the previous argument we have to suppose that – the universe of matter is created relative to light velocity and human mind realization process...

Where human realization process itself depends on light

That means

This universe is **A Continuum**

It's NOT separated particles from each other – it's something continuum while the matter is created connecting with the energy depending on light motion and relative to human mind realization process

We live in a house made of our thinking and we think by this house effect on us

It's an environment similar to the sea and fish – but the effect is more deep – so our knowledge is created connecting with this same house

(4)

Now the Equation $E=mc^2$ tells us why it express all matters masses regardless its type – because the light velocity is a player in all matters creation process- the motion is a player where the matter can't produced without motion

OBJECTION

This previous idea must be very imaginary one and untrue – because the universe doesn't change each minute based on the human thinking process...!

How to solve this dilemma?

The change is done based on quantized measurements- the human thinking energy (light beams) is stored and made the change based on quantized measurements...!

....What does that mean? based on public knowledge the universe reacts – the individual person does very little – he needs to make many other believe in his ideas – and by such way the change can be done

III- Are There Relativistic Effects In The Solar Group? (1)

I-Data

(A)

17.4 degrees (inner planets orbital inclinations total) x **0.99** = 17.2 degrees (Pluto orbital inclination)

(B)

23.6 degrees (outer planets orbital inclinations total) x **0.99** = 23.4 degrees (Earth Axial Tilt)

(C)

(180 degrees / π) x **0.99** = 28.3 degrees (Neptune Axial Tilt)

(D)

Earth Moon Distance At Perigee 0.363 mkm = **0.99** x 0.366 mkm (Outer Planets Diameters Total) (**and the moon diameter = 1% of Outer Planets Diameters Total**)

II-Discussion

The previous data is an example of many similar where the rate **0.99** is used frequently as a rate between different planets data – and the question is that **Why This Rate 0.99 Is Used So Frequently In Different Data** (axial tilts – orbital inclinations...etc)? The answer is told by **Einstein himself** – let's read it:

Book / Relativity: The Special and General Theory (Einstein book)

Section 13 (in Fizeau experiment which is repeated frequently by others)

"According to recent and most excellent measurements by Zeeman, the influence of the velocity of flow v on the propagation of light is represented by formula(B)($x'=wt'$) to within **one percent (1%)**

I claim the difference 1% is found in the solar planets data by light motion as in Fizu experiment measurements- someone will refuse, claiming that we have no Fizu experiment here – no light beam –no tube and no liquid-

I don't know how that's happened – but it's a property of light motion – and as in Fizu experiment there was a reason to find this percentages 1% and 99%- this same geometrical reason can be found in the solar planets data and motions to use frequently the rates 99% or 1% which we have seen before– simply we need to analyze and discover how the matter is crated and how the distance is formed and based on such analysis we should find that it's the light motion which creates the using of the rates 99% and 1% in the solar planets data.

IV- Are There Relativistic Effects In The Solar Group? (2)

Particle Kinetic energy (in classical mechanics) = $(mv^2/2)$

Particle Kinetic energy (in SR) = $(mc^2 + E_0) / (1 - v^2/c^2)^{0.5}$

Where is the number (2) which was found in classical mechanics equation? Why this same (2) isn't found in SR Equation?

Because

I-Data

1. Mercury Day Period = Mercury Orbital Period x 2
2. Mercury Jupiter Distance = Mercury orbital circumference x 2

Mercury day needs 5040 seconds to be 176 solar days

3. During 5040 s Mercury moves a distance = Saturn diameter x 2
4. During 5040 s Mars moves a distance = Saturn diameter
5. Saturn Orbital Distance = Mercury Jupiter distance x 2
6. Uranus orbital distance = Saturn orbital distance x 2

II-Discussion

The previous data is an example for using the double value (x 2) in the solar system data –

I don't know why the double value is used such frequently – but what I can conclude is the following:

Planets matters are created based on geometrical rules – that means – no any planet is created by any random process – instead – planets are created by mentioned measurements to be complementary and suitable to each other

So

Because of the used geometrical rules in planets building – the system uses the double value (x 2)

The matter around us (any matter) is created with the planet creation process and based on the same rules

That's why the number 2 is absent in SR equation –

But that tells us SR deals with the matter creation basic rules!

Conclusion

The matter is created of electrometric wave or at least depend on it