

## Does Particle Data depend On Its Motion? (Lorentz Transformations Analysis)

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### Abstract

My basic work is "Planet Data Analysis" –  
Specifically I try to know how planet data is created? – that's why my regular questions are – How the matter is created? Why Earth Circumference =40080 km? Why Saturn diameter =120536 km? or Why Jupiter Mass =1898 x10<sup>24</sup> kg? I search behind the planet data to know how this data is created...  
Then I have discovered one important Discovery, let's refer to it in following:

### Puzzled Data

(A/B) =1.0725

A & B are different distances in the solar system...

Specially 18 distances of the solar system internal and orbital distances are rated to each other with this same rate 1.0725

i.e.

40% of all the solar system distances are rated to each other with 1.0725 .....why??

(These distances are provided in appendix no. 1 of this paper)

All answers – whatsoever its form – give one meaning – (Pure Coincidences)!

Simply no one knows how the planet orbital distance is defined nor why these distances are rated to each other by this same rate 1.0725!

### General Effect

Because the rate 1.0725 is used with 18 distances which = 40% of all distances – I had to conclude that – this rate is not created by any planet effect – it's not related to any specific planet – on the contrary – this rate is a general effect found in the solar system -

That means –

A general force or cause effect on the whole solar system –causes this rate 1.0725.

What's this general effect?

At this junction I had to suppose that – the rate 1.0725 is found as Lorentz Length Contraction Rate –

i.e.

There are relativistic effects in the solar system (generally) and these relativistic effects caused the rate 1.0725 to be created as Lorentz Length Contraction Rate (Hypothesis)

## Lorentz Transformations

Lorentz Transformations are 3 equations :

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

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

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

4 values are changing by high velocity motion  
Time – Distance – Particle Length – Particle Mass

Einstein had used 2 values (Distance & Time) to create the space-time geometry – and he claimed that –particle space & time values are function in its motion velocity (even without explanation why?)

But

Einstein simply had ignored the other 2 values which are Particle Length and Mass  
If we follow Einstein steps in explanation – so we will reach to the conclusion that –  
**Particle own data is a function of its motion**

Simply because

Particle length and mass are changed with particle high velocity motion

Then we had to ask the question...

Is Lorentz length contraction a real phenomenon or illusion of measurements?

The physics textbooks contradict each other in answer – and in appendix No.2 of this paper I provide the references which show the clear contradicting answers!

After fighting we reach to the conclusion that the contraction is a real phenomenon and particle own length is changed by particle high velocity motion...

Because

- (1) The measurements show this contraction and in physics what's measured is what's real
- (2) If we consider the length contraction is an illusion of measurements, that tells Particle properties correct definition is found when no difference in motions velocities between me and this particle, which supposes that **I'm The Universe Reference Point** – that's similar to a person looks at mirror – which pushes us to refuse the claim that the contraction is an illusion of measurement

Particle Mass discussion is similar to the previous one – so particle data (length and mass) is changed with high velocity motion.

That creates more complex situation – because – based on this conclusion – Particle Own Data must be created as a function of this particle motion!  
That's why Particle own length is contracted with high velocity motion

If we use this conclusion for The Solar Planet – we will have serious problem – because

Based on this conclusion – Particle mass (Planet Mass) is created as a function of its motion – means the motion was found before the mass

So – **How Does Planet Move?**

Where we consider that planet motion is a result of masses gravity forces between this planet and the sun – now the mass is created based on the motion which prevent the masses gravity explanation

Now let's summarize the questions in following:

### **Question No. 1**

Why does Particle Own Nature change with Particle Motion Velocity?

i.e.

**Is Particle data a function of This Particle Motion?**

### **Question No. 2**

Can Lorentz Transformations help us to know how the matter is created?

### **Question No. 3**

Are the rated distances by the same rate 1.0725 which are provided in appendix No. 1 of this paper – can be a proof that – there are relativistic effects in the solar system?

Please help and give your opinion...

Kind regards

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**Appendix No. 1**  
**Planets Orbital And Internal Distances**

**I- Data (Group No. 1)**

- Mercury Neptune Distance = **Saturn** Pluto Distance
- Mercury **Saturn** Distance = Neptune Pluto Distance
- **Saturn** Orbital Distance = **Saturn** Uranus Distance  
= Mercury Orbital Circumference  
= 2 Mercury Jupiter Distance  
= Pluto Eccentricity Distance
  
- Jupiter Pluto Distance = Uranus Neptune Circumference
- Earth Neptune Distance = Mercury Saturn Circumference (Error 0.5%)
- Jupiter Uranus Distance = Jupiter Saturn Circumference (Error 1.5%)

**More Data**

- Mercury Jupiter Distance = Mars Orbital Distance  $\times \pi$
- Earth Neptune Distance = Mercury **Saturn** Distance  $\times \pi$
- Jupiter Uranus Distance = Venus Jupiter Distance  $\times \pi$
- Jupiter Pluto Distance = Uranus Neptune Distance  $\times \pi$
- Uranus Pluto Distance = Earth Orb. Circumference  $\times \pi$
- Neptune Orb. Distance = **Saturn** Orb. Distance  $\times \pi$
- Pluto Orbital Distance = Earth Orb. Circumference  $\times \pi$

**Why These Distances Are Equal?**

## Group No. 2

1.  $\frac{\text{Earth Daily Motion } 2.58 \text{ mkm}}{\text{Moon Orbital Circumference } 2.41 \text{ mkm}} = 1.0725$  (No Error)
2.  $\frac{\text{Apogee orbital radius } (406000 \text{ km})}{\text{Total Solar Eclipse radius } (378500 \text{ km})} = 1.0725$  (No Error)
3.  $\frac{778.6 \text{ mkm Jupiter Orbital Distance}}{720.3 \text{ mkm Jupiter Mercury distance}} = 1.0725$  (0.7%)
4.  $\frac{720.3 \text{ mkm Jupiter Mercury distance}}{670 \text{ mkm Jupiter Venus Distance}} = 1.0725$  (No Error)
5.  $\frac{670 \text{ mkm Jupiter Venus Distance}}{629 \text{ mkm Jupiter Earth Distance}} = 1.0725$  (0.6%)
6.  $\frac{\text{Saturn Orbital Distance } (1433.5 \text{ mkm})}{\text{Sarurn Venus Distance } (1325.3 \text{ mkm})} = 1.0725$  (Error 0.8%)
7.  $\frac{\text{Saturn Earth Distance } (1284 \text{ mkm})}{\text{Sarurn Mars Distance } (1205.6 \text{ mkm})} = 1.0725$  (Error 0.7%)
8.  $\frac{\text{Uranus Orbital Distance } (2872.5 \text{ mkm})}{\text{Uranus Mars Distance } (2644 \text{ mkm})} = 1.0725$  (Error 0.7%)
9.  $\frac{\text{Jupiter Orbital Circumference } (4894 \text{ mkm})}{\text{Neptune Orbital Distance } (4495.1 \text{ mkm})} = 1.0725$  (Error 1.5 %)

## **Why These Distances Are Not Equal?**

### **II- Discussion**

The previous data is clear and we have seen it before – so let's summarize the idea:

The solar planets have 45 orbital & internal distances

30 of them are equal each other (Data Group no.1)

And

18 of them are rated to each other by the rate 1.0725 (Data Group no.2)

Let's ask

### **Why These Distances (Groups No.1) Are Equal?**

And

## Why The Others (Group No.2) Aren't?

Because

### These Distances Are Light Beams Reflected To Each Other

But

The distances in Group no. 2 –

These distances are 2 types of distances – half of them pass through another frame – because we deal with light motions – and because of their passing through another frame they suffered from length contraction effect with rate 1.0725

The distances rest half didn't pass through this frame – and they didn't suffer from any length contraction effect –

That produces the rate 1.0725 which we see in the previous data, this rate is found by relativistic effects... How?

Velocity  $v=0.99c$  will produce a length contraction effect with rate =7.1

So

$$\frac{7.1}{100} + 1 = 1.0725$$

The rate 1.0725 depends on the high velocity  $v=0.99c$

But the rate isn't used directly but used by some complex geometrical process..

So the previous distances tells that –

### The Planets Motions Are Equivalent To Light Motions

Please review

Why Don't We Understand The Solar System Geometry?

<http://vixra.org/abs/1911.0018>

Let's see the rate 1.0725 in one new equation to be sure that this rate is found as a general effect in the solar group and not specific for any planet...

### Equation (I)

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

### II-Discussion

How to explain Equation No. (I)? Let's try to do that in following:

(I claim that the rate 1.0725 is found As Length Contraction Effect Rate)

- Neptune Axial Tilt 28.3 degrees is the master value in this equation because Neptune reflected Jupiter energy toward the solar inner planets
- Neptune Axial Tilt 28.3 degrees will be contracted with the rate 1.0725 to produce 26.7 degrees (Saturn Axial Tilt) (and that may explain why Neptune orbital distance = Saturn Orbital Distance x  $\pi$ )

Then

- Saturn Axial Tilt 26.7 degrees will be contracted by the same rate (1.0725) to produce 25.2 degrees (Mars Axial Tilt) (that may explain Why Mars Orbital Circumference = Saturn Orbital Distance=1433.5 mkm)

Then

- Mars Axial Tilt 25.2 degrees will be contracted (1.0725) to produce 23.4 degrees (Earth Axial Tilt) (that explain Why Earth Orbital Distance = Earth Mars Distance x Mars Orbital Inclination)

For Relativistic Effects Discussion Please Review

A Summary Of My Research -Part 3- (Relativistic Effects Discussion)

<http://vixra.org/abs/1907.0523>

### A Conclusion

The Rate 1.0725 in the solar system geometry is found as a general effect on the solar system geometry – it's not related to any specific planet, instead, It's a general rate found effective on the solar system data generally

My Explanation is that – this rate 1.0725 is found as a length contraction effect – but if this explanation is incorrect- the data still needs explanation – because we have almost 40% of all solar planets distances are rated by this same rate

## Appendix No. 2 Physics Textbooks Comments on Lorentz Length Contraction

### **(1<sup>st</sup> 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.

### **(2<sup>nd</sup> 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.**

### **(3<sup>rd</sup> 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,



**(4<sup>th</sup> Reference)**

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

**Department of Physics- Macquarie University-**

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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

**(5<sup>th</sup> 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**.