Paradox of Relativity

Henry Gu Cao[1]

[1]Deerfield High School, Deerfield, IL, USA

Abstract: Relativity's Special and General Theory are not valid theories as constant one-way speed of light postulate is contradictory. This paper gives one page explanation that even a high school student can understand.

Keywords: *Relativity, Unified Field Theory, The Alpha Torque, ToE, One-Way Speed of Light*

1. Introduction

Relativity's Special and General Theory are based on following constant one-way speed of light postulate:

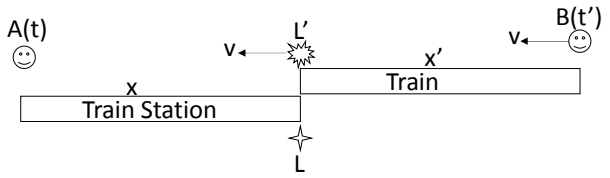
The speed of light in a vacuum is the same for all observers, regardless of their relative motion or of the motion of the source of the light.

This paper studies the above postulate and finds that it makes the heart of Relativity theories' Lorentz Transformation paradoxical.

2. Two Observers and Two Light Sources

The follow is a simplified case for constant one-way speed of light postulate:

There are two persons. One is A on the train station, another is B on a train. There are two light sources, one is a fixed light post L beside the track, another is a fixed light L' at the head of train. The train is moving toward the station at speed of v. The distance of AL and BL' is the same according to measurement readings. When L and L' meets, both lights flash. Both A and B see lights from L and L' at the same time according to their clocks. Based on the postulate: "regardless of their relative motion or of the motion of the source of the light", coordinate x is for both L and L' in Station reference frame; coordinate x' is for both L and L' in Train reference frame. Direction of x and x' are different, we simply make their values positive by making observers as origins. Right direction (from A to L) for x is positive and left direction (from B to L') for x' is positive.



2. Lorentz Transformation Paradox

There are two symmetrical cases (e.g. [1]):

Case 1:

Light source is L.

x is coordinate of L in station reference frame. t is time in station reference frame.

x' is coordinate of L in train reference frame. t' is time in train reference frame.

Case 2:

Light source is L'.

x is coordinate of L' in station reference frame. t is time in station reference frame.

x' is coordinate of L' in train reference frame. t' is time in train reference frame.

Simplified Lorentz transformation (e.g. [2]) for case 1:

$$t' = d(t - xv/c^2) \quad (1)$$

$$x' = d(x - vt) \quad (2)$$

For case 2:

$$t = d(t' - x'v/c^2) \quad (3)$$

$$x = d(x' - vt') \quad (4)$$

Or:

$$t = d(d(t - xv/c^2) - d(x - vt)v/c^2)$$

$$x = d(d(x - vt) - vd(t - xv/c^2))$$

The above equations indicated that two inertial systems are unrelated. The solution is,

x = ct

d = 1

v=0 or v=2c

v is less than c, v=2c above is ignored.

It contradicts the assumption that the train is moving.

3. Conclusions

Both Relativity's Special and General Theory use Lorentz transformation to study the relationships between two inertial systems. If constant one-way speed of light postulate is invalid, then, Relativity theories are falsified (e.g. [1], [3]-[6]). The Unified Field Theory (e.g. [7], [8]-[11]) is a good alternative.

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