

# Relativity NBS (Not Bend Space)

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## Abstract

Relativity is generated in this universe and as such should be possible to infer it from the universal gravitational field.

It said that the theory of relativity is a field theory.

Therefore we deduce, special and general relativity from the universal gravitational field. This analysis leads us to the Relativity No Bend Space, NBS.

Special relativity is derived from the concepts of equivalence energy / mass in relativity theory and the equivalent energy / frequency in quantum mechanics.

It verified the compatibility of quantum mechanics, with the new theory of relativity which was impossible to reconcile with the old-relativity

Because it was deduced, a relativity different from that proposed by Einstein and aware that there may be only a single unified physics, decided to analyze the principles that led to Einstein's relativity

**Keywords:** relativity, time, space, gravitational, potential, velocity, speed, energy, mass.

# I

## General relativity inferred from the Universal gravitational potential.

Here relativity is analyzed as field theory leading us to a new and general relativity. New relativities between new variables are deducted.

### Introduction

To better understand the development of the exhibition that follows, it is important to have a clear concept of gravitational potential and gravitational field.

### Introduction

Locally the velocity of “light”,  $C$  is the maximum velocity in any direction of space.

This velocity is the maximum allowed by the universal gravitational field on local.

We are therefore in the presence of an escape potential maximum.

If the light is subject to the gravitational potential of this trail, then any mass is, too.

Locally because  $C$  is the maximum velocity possible, then we will have a escape potential:

$$U_o = C^2$$

$M_u$  - Universal mass radiation which is radiated to the location. (Taking into account the Doppler effect).

$R_u$  - The average emission radius of mass radiation.

$\rho_{abc}$

a - At local reference  $\underline{a}$  (observer)

b - Local observed

c - Velocity measured in  $\underline{b}$  from  $\underline{a}$

$\frac{M_u}{R_u} = \rho_{ooo}$  - Universal density of potential energy at the location  $\underline{o}$ .

$$C^2 = 2 G_o \frac{M_u}{R_u}$$

$$C^2 = 2 G_o \rho_{ooo}$$

## Special relativity

### Same location with different velocities

When a particle, at the same location, moves at a velocity of  $\underline{V}$ , has a potential  $V^2$ , thereby we have a potential of escape given by:

$G_v$  – Universal "constant" gravitational observed in motion referential  $\underline{V}$  from  $\underline{O}$ .

$$U_v = C^2 - V^2$$

$$C^2 - V^2 = 2 G_v \rho_{000}$$

$\rho_{000}$  is constant for the same location in question, we will have the following, dividing one by the other:

$$\frac{U_o}{U_v} = \frac{2G_o \rho_{000}}{2G_v \rho_{000}} = \frac{C^2}{C^2 - V^2}$$

$$\frac{G_o}{G_v} = \frac{C^2}{C^2 - V^2}$$

$$\frac{G_o}{G_v} = \frac{1}{1 - \frac{V^2}{C^2}}$$

$$G_v = G_o \frac{C^2 - V^2}{C^2}$$

The universal gravitational "constant" varies with the velocity of the referential. There is not constant and as such, from now on we came to call, universal gravitation variable.

Now we know the manner in which the gravitational variable in a referential location relates with the gravitational variable in a motion referential at same location.

The value of the gravitational referential in the same place, but with different velocities, is directly proportional to the value of their escape potential.

## Velocities

From the escape potential in referential  $\underline{V}$  assessed in our referential is  $C_o^2$  as our reference in the velocity of light remains  $C_o$ , the escape potential measured in our reference remains  $C_o^2$ .

$$U_o = 2 G_v \rho_{00v}$$

$$G_v = \frac{U_o}{2 \rho_{00v}}$$

$$G_o \frac{C^2 - V^2}{C^2} = \frac{U_o}{2 \rho_{00v}}$$

$$\rho_{00v} = \frac{U_o C_o^2}{2G_o (C_o^2 - V_o^2)}$$

This is de value of  $\rho_{00v}$  assessed in our referential  $\underline{O}$ :

Equivalent value  $U_v$  in our referential:

$$U_v = 2 G_o \rho_{00v}$$

$$U_v = 2 G_o \frac{U_o C_o^2}{2G_o (C_o^2 - V_o^2)}$$

$$U_v = \frac{U_o C_o^2}{C_o^2 - V_o^2}$$

$$C_v = C_o \sqrt{\frac{C_o^2}{C_o^2 - V_o^2}}$$

### Given by relativity of velocities:

If the velocities curve, so the space can't curve.

$$L_v = L_o$$

$$L_v = C_v t_v$$

$$L_o = C_o t_o$$

$$C_v t_v = C_o t_o \quad 1)$$

$$C_v = C_o \sqrt{\frac{C_o^2}{C_o^2 - V_o^2}}$$

$$C_v \sqrt{C_o^2 - V_o^2} = C_o \sqrt{C_o^2} \quad 2)$$

Dividing 1) by 2):

$$\frac{t_v}{\sqrt{C_o^2 - V_o^2}} = \frac{t_o}{\sqrt{C_o^2}}$$

$$\frac{t_v}{t_o} = \sqrt{\frac{C_o^2 - V_o^2}{C_o^2}}$$

$$\frac{t_v}{t_o} = \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

The value found is equal to the value found by Einstein. The value now found was obtained by the universal gravitational potential, which goes to show that relativity is really a field theory.

This method is more satisfactory because the method of Einstein is not taken into account the factor field and is considered the curvature of space which doesn't happen.

## The time and the variable gravitation

$$\frac{G_v}{G_o} = 1 - \frac{V^2}{C^2}$$

$$\frac{t_v}{t_o} = \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

$$\frac{G_v}{G_o} = \frac{t_v^2}{t_o^2}$$

Later on we resume the analysis of relativistic mechanics.\*

## General relativity

### At different locations with referential at relative in rest

Considering the locations “o” and “d”, we will have:

$\rho_{oo}$  – Universal density of potential energy at the location o.

$\rho_{do}$  – Universal density of potential energy at the location d, measured from the referential o.

$$C^2 = 2 G_o \rho_{oo}$$

$$C^2 = 2 G_d \rho_{do}$$

$$2 G_d \rho_{do} = 2 G_o \rho_{oo}$$

$$\frac{G_d}{G_o} = \frac{\rho_{oo}}{\rho_{do}}$$

Now we know the manner in which the gravitational variable of a referential location relates with the gravitational variable of a referential at another location, with one referential at rest in relation to the other.

The value of variable gravitational on all referential in different places at rest is inversely proportional to the pure potential of universal mass in location.

In a universe in expansion, with the largest removal of celestial bodies, the pure potential of universal mass in location will decrease, because  $R_u$  will increase. As we have seen the gravitational variable is inversely proportional to the universal density of potential energy, or the pure potential of universal mass, as this will increase locally. We will explore this topic. Now we are dealing with the relativity.

From the escape potential in referential d assessed in our referential is  $C_o^2$  as our reference in the velocity of light remains  $C_o$ , the escape potential measured in our reference remains  $C_o^2$ .

$$\frac{G_v}{G_o} = \frac{t_v^2}{t_o^2}$$

$$\frac{G_{do}}{G_{oo}} = \frac{t_{do}^2}{t_{oo}^2}$$

$$\frac{G_{do}}{G_{oo}} = \frac{\rho_{oo}}{\rho_{do}}$$

$$\frac{t_{do}}{t_{oo}} = \sqrt{\frac{\rho_{oo}}{\rho_{do}}}$$

### Referential at different locations with velocity V of one in relation to the other

In relation to velocity V

$$\frac{G_v}{G_o} = \frac{C^2 - V^2}{C^2}$$

In relation to the pure potential of universal mass

$$\frac{G_d}{G_o} = \frac{\rho_{oo}}{\rho_{do}}$$

Joined

$$\frac{G_{dv}}{G_{oo}} = \frac{\rho_{oo}}{\rho_{do}} \frac{C^2 - V^2}{C^2}$$

### Time and the universal gravitational variable

In addition to this solution, considering the result obtained before, for the relativity between the gravitational variable, we will have:

$$\frac{t_{dv}^2}{t_{oo}^2} = \frac{G_{dv}}{G_{oo}}$$

$$\frac{t_{dv}}{t_{oo}} = \sqrt{\frac{G_{dv}}{G_{oo}}}$$

$$\frac{t_{dv}}{t_{oo}} = \sqrt{\frac{\rho_{oo}}{\rho_{dv}}}$$

$$\frac{t_{dv}}{t_{oo}} = \sqrt{\frac{\rho_{oo}}{\rho_{odo} \frac{C^2}{C^2 - V^2}}}$$

$$\frac{t_{dv}}{t_{oo}} = \sqrt{\frac{\rho_{oo} C^2 - V^2}{\rho_{do} C^2}}$$

$$\frac{t_{dv}}{t_{oo}} = \frac{t_{do}}{t_{oo}} \frac{t_v}{t_o}$$

Now we have something completely new and more global.

We now know how time relates with the gravitational variable.

I am convinced that this will be one of the most important conclusions to be retained for the future.

Later on we resume the analysis of general relativistic mechanics.\*\*

\*

## Quantity of movement

From first postulate of relativity, the momentum must be constant in all referential.

$$m_v C_v = m_o C_o$$

$$m_v = m_o \frac{t_v}{t_o}$$

$$m_v = m_o \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

$$\rho_{ov} = \rho_{oo} \frac{t_v}{t_o}$$

$$\rho_{oov} = \rho_{oo} \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

Now we can quantify the relativity.

### Energy

$$E_v = m_v C_v^2$$

$$E_v = m_o \frac{t_v}{t_o} C_o^2 \left(\frac{t_o}{t_v}\right)^2$$

$$E_v = E_o \frac{t_o}{t_v}$$

$$E_v = \frac{E_o}{\sqrt{1 - \frac{V_o^2}{C_o^2}}}$$

What is, according to Einstein's relativity.

### Mass

$$= \frac{\dots}{\dots}$$

In this new concept of mass, whenever V inclines to C, then the mass inclines to 0, or inclines to transform itself into energy, because as we have seen, when V inclines to C, energy inclines to infinity.

**Velocity**

$$= \frac{\dots}{\dots}$$

**Quantity of movement**

$$= \frac{\dots}{\dots}$$

Now the quantity of movement is equal to all the referential. Now we check the 1st postulate of relativity.

**The theory of Einstein from this principle.**

He impose the constant speed of light,  $C_0$ :

$$= \frac{\dots}{\dots}$$

**Energy**

$$= \frac{\dots}{\dots}$$

### Masss

$$= \frac{m_0}{\sqrt{1 - \frac{v^2}{c^2}}}$$

As we can see in Einstein's relativity, a curious phenomenon occurs, if V inclines to C,  $m_{rel}$  inclines to infinity. Increasing velocity, increasing energy, but only at the cost of the increase of mass. At the speed of light, mass will never incline to transform itself into energy

### Quantity of movement

$$p = m \cdot v$$

$$= \frac{m_0 v}{\sqrt{1 - \frac{v^2}{c^2}}} \quad - \text{an impossibility}$$

This impossibility was only resolved beginning with the specific case V=0, or in other words, without leaving our referential.

The quantity of movement is not maintained. Are the laws of physics not the same in all referential?

### The local mass which results from the cancelling of a mass with velocity $\underline{V}$ .

- Local mass.

$$= m_0 \cdot \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$= \frac{m_0}{\sqrt{1 - \frac{v^2}{c^2}}}$$

When we cancel the velocity of the particle with velocity  $V$ , its kinetic energy is transformed into local mass.

The total energy is preserved.

Einstein's theory of relativity reached this mass value. It did not obtain the mass at the referential  $\underline{V}$  but instead, the final mass of the particle, when captured by our referential  $V=0$ .

He did not get the mass of reference in motion but the mass equivalent to our benchmark given the constancy of energy.

## The new kinetic

### Uniform movement

**Time:**

$$t_o$$

$$t_v = t_o \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

**Velocity:**

$$V_o$$

$$V_v = \frac{V_o}{\sqrt{1 - \frac{V_o^2}{C_o^2}}}$$

**Space:**

$$L_o = V_o t_o$$

$$L_v = V_v t_v = \frac{V_o}{\sqrt{1 - \frac{V_o^2}{C_o^2}}} t_o \sqrt{1 - \frac{V_o^2}{C_o^2}} = V_o t_o$$

$$L_v = L_o$$

### Varied uniform movement (accelerated)

**Velocity and acceleration:**

$$V_o = a_o t_o$$

$$a_o = \frac{V_o}{t_o}$$

$$V_v = a_v t_v$$

$$a_v = \frac{V_v}{t_v} = \frac{\frac{V_o}{\sqrt{1 - \frac{V_o^2}{C_o^2}}}}{t_o \sqrt{1 - \frac{V_o^2}{C_o^2}}} = \frac{V_o}{t_o (1 - \frac{V_o^2}{C_o^2})}$$

$$a_v = \frac{a_o}{(1 - \frac{V_o^2}{C_o^2})}$$

$$a_v = a_o \frac{t_o^2}{t_v^2}$$

$$V_v = \frac{a_o}{(1 - \frac{V_o^2}{C_o^2})} t_o \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

$$V_v = \frac{a_o}{\sqrt{1 - \frac{V_o^2}{C_o^2}}} t_o$$

$$V_v = \frac{V_o}{\sqrt{1 - \frac{V_o^2}{C_o^2}}}$$

$$V_v = V_o \frac{t_o}{t_v}$$

**Space:**

$$L_o = V_o t_o + \frac{1}{2} a_o t_o^2$$

$$L_v = V_v t_v + \frac{1}{2} a_v t_v^2$$

$$L_v = \frac{V_o}{\sqrt{1 - \frac{V_o^2}{C_o^2}}} t_o \sqrt{1 - \frac{V_o^2}{C_o^2}} + \frac{1}{2} \frac{a_o}{(1 - \frac{V_o^2}{C_o^2})} t_o^2 (1 - \frac{V_o^2}{C_o^2})$$

$$L_v = V_0 t_0 + \frac{1}{2} a_0 t_0^2$$

$$L_v = L_0$$

## Relativistic units

### In the same local, with different velocities, with measures of self referential

As the electrical charges and mass, are energy, then all measurements are similar.

	Referencial <u>0</u>	Referencial <u>V</u>
Energy of mass	$E_0$	$E_v = E_0 \frac{t_0}{t_v}$ ; $E_v = E_0 \sqrt{\frac{C_0^2}{C_0^2 - V_0^2}}$
Mass	$m_0$	$m_v = m_0 \frac{t_v}{t_0}$ ; $m_v = m_0 \sqrt{\frac{C_0^2 - V_0^2}{C_0^2}}$
Speed	$V_0$	$V_v = V_0 \frac{t_0}{t_v}$ ; $V_v = V_0 \sqrt{\frac{C_0^2}{C_0^2 - V_0^2}}$
Acceleration	$a_0$	$a_v = a_0 \left(\frac{t_0}{t_v}\right)^2$ ; $a_v = a_0 \frac{C_0^2}{C_0^2 - V_0^2}$
Length	$L_0$	$L_v = L_0$
Quantity of movement	$P_0$	$P_v = P_0$
Variable gravitational	$G_0$	$G_v = G_0 \left(\frac{t_0}{t_v}\right)^3$ ; $G_v = G_0 \left(\frac{C_0^2}{C_0^2 - V_0^2}\right)^3$
Force	$F_0$	$F_v = F_0 \frac{t_0}{t_v}$ ; $F_v = F_0 \sqrt{\frac{C_0^2}{C_0^2 - V_0^2}}$
Frequency	$\sqrt{0}$	$\sqrt{v} = \sqrt{0} \frac{t_0}{t_v}$ ; $\sqrt{v} = \sqrt{0} \sqrt{\frac{C_0^2}{C_0^2 - V_0^2}}$
Wavelength	$\lambda_0$	$\lambda_v = \lambda_0$
Energy of electric loads	$E_{e0}$	$E_{ev} = E_{e0} \frac{t_0}{t_v}$ ; $E_{ev} = E_{e0} \sqrt{\frac{C_0^2}{C_0^2 - V_0^2}}$
Electric loads	$q_0$	$Q_v = q_0 \frac{t_v}{t_0}$ ; $q_v = q_0 \sqrt{\frac{C_0^2 - V_0^2}{C_0^2}}$
Permeability	$U_0$	$U_v = U_0 \frac{t_0}{t_v}$ ; $U_v = U_0 \sqrt{\frac{C_0^2}{C_0^2 - V_0^2}}$
Electromagnetic field	$B_0$	$B_v = B_0 \frac{t_0}{t_v}$ ; $B_v = B_0 \sqrt{\frac{C_0^2}{C_0^2 - V_0^2}}$

\*\*

## General relativistic mechanics

Relativistic mechanics can be developed from the expression of the conservation of the relationship between energy and frequency of the matter.

### Energy

$$E_v t_v = E_o t_o$$

$$E_v = E_o \sqrt{\frac{C^2 \rho_{odo}}{C^2 - V_d^2 \rho_{ooo}}}$$

Therefore we consider:

$$E_o = m_o C_o^2$$

$$E_v = m_v C_v^2$$

$$m_v C_v^2 t_v = m_o C_o^2 t_o$$

### Quantity of movement

$$m_v \cdot C_v = m_o C_o$$

Substituting in the expression of the conservation of energy:

$$(m_v C_v) C_v t_v = (m_o C_o) C_o t_o$$

$$(m_o C_o) C_v t_v = (m_o C_o) C_o t_o$$

$$C_v t_v = C_o t_o$$

We make two conclusions:

1st - Velocity curves solely because time curves which leads to a different nature for the light.

$$C_v = C_o \frac{t_o}{t_v}$$

$$C_v = C_o \sqrt{\frac{C^2 \rho_{odo}}{C^2 - V_d^2 \rho_{ooo}}}$$

It is evidence C curve, also V curve, because we are talking about speeds.

$$V_v = V_o \frac{t_o}{t_v}$$

$$V_v = V_o \sqrt{\frac{C^2 \frac{\rho_{odo}}{\rho_{ooo}}}{C^2 - V_d^2}}$$

2<sup>a</sup>- Space does not curve.

$$C_v t_v = L_v$$

$$L_v = C_o \sqrt{\frac{C^2 \frac{\rho_{odo}}{\rho_{ooo}}}{C^2 - V_d^2}} t_o \sqrt{\frac{\rho_{ooo}}{\rho_{odo}} \frac{C^2 - V_d^2}{C^2}}$$

$$L_v = C_o t_o$$

$$L_o = C_o t_o$$

$$L_v = L_o$$

### Mass

$$m_v C_v^2 t_v = m_o C_o^2 t_o$$

$$m_v = \frac{m_o C_o^2 t_o}{C_v^2 t_v}$$

$$m_v = \frac{m_o C_o^2 t_o}{\left(C_o \frac{t_o}{t_v}\right)^2 t_v}$$

$$m_v = \frac{m_o t_v}{t_o}$$

$$m_v = m_o \sqrt{\frac{\rho_{ooo}}{\rho_{odo}} \frac{C^2 - V_d^2}{C^2}}$$

Going back to quantity of movement:

$$m_v \cdot C_v = m_o \sqrt{\frac{\rho_{ooo}}{\rho_{odo}} \frac{C^2 - V_d^2}{C^2}} C_o \sqrt{\frac{C^2 \frac{\rho_{odo}}{\rho_{ooo}}}{C^2 - V_d^2}}$$

$$m_v \cdot C_v = m_o C_o$$

**Relativistic units between different references, with measurement made from our reference.**

$$G_v = G_0 \left(\frac{t_0}{t_v}\right)^2 \quad ; \quad G_v = G_0 \frac{C_0^2}{C_0^2 - V_0^2}$$

**Relativistic units between different references in motion, with measurement made from the reference in motion, with the same density of potential energy.**

$$U_o = 2 G_o \rho_{ooo}$$

$$U_o \left(\frac{t_0}{t_v}\right)^2 = 2 G_v \rho_{ooo} \frac{t_v}{t_0}$$

$$G_v = G_o \left(\frac{t_0}{t_v}\right)^3$$

**Relativistic units between different references in motion, with measurement made from dereference in motion, with different density of potential energy.**

$$G_{dv} = G_{co} \left(\frac{t_{co}}{t_{dv}}\right) \left(\frac{t_{co}}{t_{dv}}\right)^3 \rho_{dv}$$

$$G_{dv} = G_{co} \sqrt{\frac{\rho_{co}}{\rho_{dv}}} \left(\frac{C^2 - V_d^2}{C^2 - V_c^2}\right)^3$$

**Relativists units. In different locations (o, d), with different speeds (0, V).**

$\rho_{ooo}$  – Universal density of potential energy ( $M_u/R_u$ )

	Referential <u>0,0</u>	Referential <u>d, V</u>
Energy of mass	$E_{00}$	$E_{dv} = E_{00} \frac{t_{00}}{t_{dv}} ; E_{dv} = E_{00} \sqrt{\frac{\rho_{d0}}{\rho_{00}} \frac{C^2}{C^2 - V_d^2}}$
Mass	$m_{00}$	$m_{dv} = m_{00} \frac{t_{dv}}{t_{00}} ; m_{dv} = m_{00} \sqrt{\frac{\rho_{00}}{\rho_{d0}} \frac{C^2 - V_d^2}{C^2}}$
Velocity	$V_{00}$	$V_{dv} = V_{00} \frac{t_{00}}{t_{dv}} ; V_{dv} = V_{00} \sqrt{\frac{\rho_{d0}}{\rho_{00}} \frac{C^2}{C^2 - V_d^2}}$
Acceleration	$a_{00}$	$a_{dv} = a_{00} \frac{t_{00}^2}{t_{dv}^2} ; a_{dv} = a_{00} \frac{\rho_{d0}}{\rho_{00}} \frac{C^2}{C^2 - V_d^2}$
Length ( independent from V)	$L_o$	$L_d = L_o \frac{t_o^2}{t_d^2} ; L_d = L_o \frac{\rho_{d0}}{\rho_{00}}$
Quantity of movement	$P_{00}$	$P_v = P_o$
Variable gravitational	$G_{00}$	$G_{dv} = G_{co} \left(\frac{t_{co}}{t_{dv}}\right) \frac{t_{co}^3}{\rho} \frac{1}{v} ; G_{dv} = G_{00} \sqrt{\frac{\rho_{d0}}{\rho_{00}} \left(\frac{C^2 - V_d^2}{C^2}\right)^3}$
Force	$F_{00}$	$F_{dv} = F_{00} \frac{t_{00}}{t_{dv}} ; F_{dv} = F_{00} \sqrt{\frac{\rho_{d0}}{\rho_{00}} \frac{C^2}{C^2 - V_d^2}}$
Frequency	$\sqrt{00}$	$\sqrt{dv} = \sqrt{00} \frac{t_{00}}{t_{dv}} ; \sqrt{dv} = \sqrt{00} \sqrt{\frac{\rho_{d0}}{\rho_{00}} \frac{C^2}{C^2 - V_d^2}}$
Wavelength	$\lambda_{00}$	$\lambda_{dv} = \lambda_{00} \frac{t_{00}^3}{t_{dv}^3} ; \lambda_{dv} = \lambda_{00} \frac{\rho_{d0}}{\rho_{00}}$
Energy of electric loads	$E_{e00}$	$E_{edv} = E_{e00} \frac{t_{00}}{t_{dv}} ; E_{edv} = E_{e00} \sqrt{\frac{\rho_{d0}}{\rho_{00}} \frac{C^2}{C^2 - V_d^2}}$
Electric loads	$q_{00}$	$q_{dv} = q_{00} \frac{t_{dv}}{t_{00}} ; q_{dv} = q_{00} \sqrt{\frac{\rho_{00}}{\rho_{d0}} \frac{C^2 - V_d^2}{C^2}}$
Permeability (dependent from V)	$U_o$	$U_v = U_o \frac{t_o}{t_v} ; U_v = U_o \sqrt{\frac{C^2}{C^2 - V_d^2}}$
Permeability (dependent from $\rho$ )	$U_o$	$U_d = U_o \frac{t_d}{t_o} ; U_d = U_o \sqrt{\frac{\rho_{00}}{\rho_{d0}}}$
Electromagnetic field	$B_{00}$	$B_{dv} = B_{00} \frac{t_{00}}{t_{dv}} ; B_{dv} = B_{00} \sqrt{\frac{\rho_{d0}}{\rho_{00}} \frac{C^2}{C^2 - V_d^2}}$

## Gravity

$$g_{dv} = g_{co} \left(\frac{t_{co}}{t_{dv}}\right)^4 \left(\frac{t_{co}}{t_{dv}}\right)^2 \frac{1}{v}$$

$$g_{dv} = g_{co} \left( \frac{\rho_{dv}}{\rho_{oo}} \right)^2 \frac{C^2 - V_d^2}{C^2 - V_o^2}$$

### **Text experiments, to be carried out**

Many will argue with all the experiences to date show that the curvature of space.

We don't know how they fit, when we have seen in Chapter I of the impossibility of the curvature of space.

Some of the known experiments are devoid of any significant results.

The justification of their results must have another explanation.

### **Rotational platforms.**

Older experience, proving this theory, was held in rotational platforms. The value found directly is only possible of this actual theory doesn't require the use of any inertial transformations.

Deny the directly result found in the rotational platform is denying the principles of relativity.

### **Variation of the period of a pendulum in time**

**It is made to study the variation of atomic time measurement for the same number of periods of a pendulum during the year.**

The period of a pendulum with amplitude of 60 ° is given by:

$$T_o = 2\pi \sqrt{\frac{L_o}{g_o}} \left( 1 + \frac{\theta^2}{16} \right)$$

$$L_t = L_o \frac{\rho_t}{\rho_o}$$

$$g_t = g_o \left( \frac{\rho_o}{\rho_t} \right)^2 \frac{C^2 - V_o^2}{C^2 - V_t^2}$$

$$T_t = T_o \sqrt{\frac{\frac{\rho_t}{\rho_o}}{\left( \frac{\rho_o}{\rho_t} \right)^2 \frac{C^2 - V_o^2}{C^2 - V_t^2}}}$$

$$T_t = T_o \left( \frac{\rho_t}{\rho_o} \right)^{\frac{3}{2}} \sqrt{\frac{C^2 - V_t^2}{C^2 - V_o^2}}$$

To a pendulum with L = 0,80 m

Measurement of atomic time in 2000 periods of the pendulum.

### Results that are expected to find:

Between the Aphelion and Perihelion, the clocks to 2000 periods of a pendulum with amplitude of  $30^\circ$  and  $L=0,80$  m, will advance 2.832 nanoseconds.

The 4th of each month, approximate value.

(461 ; 464 ; 466 ; 478 ; 480 ; 483 ) total: 2.832 nanoseconds.

The 4th of each 3 month, exact value.

(1.391 ; 1.441) total: 2.832 nanoseconds.

Between the Perihelion and Aphelion, the clocks to 2000 periods of a pendulum with amplitude of  $30^\circ$  and  $L=0,80$  m, will delay 3.190 nanoseconds.

The 4th of each month, approximate value.

( -543 ; -540 ; -537 ; -526 ; -523 ; -521) total -3.190 nanoseconds.

The 4th of each 3 month, exact value.

(-1.620 ; -1570) total: -3.190 nanoseconds.

The delay after one year will be 358 nanoseconds.

This is certainly the experience easier and cheaper to make as a proof of this theory.

The time of that experiment: 1 hour and 50 seconds.

### Change the radius displacement, of charged particles in the particle accelerator.

Until this day, was incomprehensible to increase the radius described by the charged particles in particle accelerators.

We analyze the behavior of particles in the light of relativity NBS

$$R_o = \frac{m_o V_o}{|q_o| B_o}$$

In accelerates particles, the magnetic field is not relativistic because it is stopped.

$$R_v = \frac{m_v V_v}{|q_v| B_o}$$

$$R_v = \frac{m_o \frac{t_v}{t_o} V_o \frac{t_o}{t_v}}{|q_o| \frac{t_v}{t_o} B_o}$$

$$R_v = \frac{m_o V_o}{|q_o| \frac{t_v}{t_o} B_o}$$

$$R_v = \frac{m_o V_o t_o}{|q_o| B_o t_v}$$

$$R_v = R_o \frac{t_o}{t_v}$$

$$R_v = R_o \sqrt{\frac{C_o^2}{C_o^2 - V_o^2}}$$

The radius described by the particles is inversely proportional to the particle proper time. The radius increases.

### Measuring the speed of light in different references

Another confirmation of this theory, happen to measure the speed of light in different referential.

As we all know today, there are two places to which mankind goes to which have different times to those on Earth. We are of course referring to the space station and to the Moon.

To clarify the above, we give some interim results in the article titled "The curvature of the time under the action of a gravitational field"

To a photon with very low energy.

Place the surface with rotation Ref: Earth time in Ecuador, h = 0	Advance the clock for a day, for the time on Earth nanoseconds	Speed of light m/s	Differential C local - C Earth m/s	Modification of the length a) Partes	Apparent speed of light. m/s	Differential apparent local C - C Earth m/s
Earth	0	299.792.458,49	0,00	0,00000E+00	299.792.458,49	0,00
Space station h=380 km	-24.936	299.792.458,58	0,087	-7,82827E-11	299.792.458,60	0,110
Satellite h=20.200 km	38.556	299.792.458,36	-0,134	-1,05811E-09	299.792.458,67	0,183
Moon	56.007	299.792.458,30	-0,194	-1,30661E-09	299.792.458,69	0,197
Orbit around the Sun h=2.000.000km	-69.650.115	299.792.700,16	241,674	1,45563E-06	299.792.378,07	-80,419
Mercury	-1.974.340	299.792.465,34	6,851	3,00701E-08	299.792.456,33	-2,164
Venus	-484.218	299.792.460,17	1,680	7,40788E-09	299.792.457,95	-0,541
Mars	487.881	299.792.456,80	-1,693	-7,89836E-09	299.792.459,17	0,675

a) - The atomic radius varies with the potential of pure mass universal. Not vary with speed. An instrument that is carried to measure the speed of light will also do so. When considering the size it would have on Earth we get the apparent speed of light.

As we will see in the same article, the speed of light on Earth will also vary throughout time. It currently decrease around -0.009808 m/s by year, (-1 m/s in the next 102 years).

If we repeat the experiment in 1976 by the English group, Woods and Others, which concludes that the speed of light would be  $299.792.458.8 \pm 0.2$  m / s, it appears that the value measured today, 31 years later, varying 0.32 m / s which are already outside the margin of error.

. We believe that, given the time elapsed; it should repeat the experiment under the same conditions of 1976.

**Gravitational variable and the value of Earth's gravity:**

Local	Gravitational Variable	Gravity
Earth	6,672600000E-11	9,81000000
Moon	6,672599987E-11	1,625823365
Mercury	6,672600457E-11	3,593434092
Venus	6,672600112E-11	8,866856290
Mars	6,672599887E-11	3,771988088

Other measurements that can check this theory is summarized below.

**The annual removal in planetariums systems.**

	Distance (m)	Apparent		Real	
		Annual Removal (m)	Velocity removal (m/s)	Annual Removal (m)	Velocity removal (m/s)
Moon-Earth	384.467.001	0,0380		<b>0,025156379</b>	-
Earth-Sun	1,49600E+11	14,58		<b>9,79</b>	-
Sun-Centre of Milk Way	2,83822E+20	2,76553E+10	876,34	1,857101E+10	588,48
Diameter Milk Way	9,36612E+20	9,12624E+10	2.891,93	6,12843E+10	1.941,98
<b>Hubbell Law</b> (m/s *Mpc)	3,08568E+22	3,00665E+12	95.274,99	2,01902E+12	<b>63.878,84</b>
Universe	1,45641E+26 15394275057,44 al	9,46070E+15al	299.792.458,80	9,46070E+15al	299.792.458,51

Real - Considering the curvature of the time.

**Planets in solar system**

**Increased of radius and period translation**

Planet	Radius (m)	Orbit radius (m)	Translation velocity (m/s)	Translation period (anos)	Real removal from Sun (m)	Radius contraction Sun + Planet (m)	Superficial removal Sun/Planet (m)	Delay time translation (Seg.)	Annual average removal from Sun (m)
Earth	6.378.136	1,49600E+11	29.785,85	1	9,79	0,05	9,83	0,001549	9,79
Mars	3.370.000	2,28000E+11	24.127,28	1,88	28,07	0,16	28,23	0,005482	14,93
Jupiter	69.900.000	7,78000E+11	13.061,29	11,86	603,73	7,05	610,78	0,217802	50,90
Saturn	58.500.000	1,43000E+12	9.634,03	29,55	2.765,23	43,12	2.808,35	1,352481	93,58
Neptune	22.100.000	4,50000E+12	5.430,87	164,98	48.576,13	1.278,84	49.854,98	42,146420	294,44

# Restricted relativity inferred from concepts of the mass-energy equivalence in theory of relativity, of energy - frequency in quantum mechanics.

**The notion of what is the time.**

## Introduction

Einstein introduced the concept that any mass has an associated energy and vice versa. This relationship is expressed by the formula of equivalence:

$$E = m C^2$$

Any energy is associated with its intrinsic frequency, and this energy, according to quantum mechanics, should be proportional to the frequency and is related in the form:

$\nu$  - Intrinsic frequency of energy

$$E = h \nu$$

T - period of the electromagnetic wave (time):

$$\nu = \frac{1}{T} \text{ - inverse of the period.}$$

The period in a referential has to be necessarily proportional to the time of referential.

$$T = y t$$

$$\nu = \frac{1}{y t}$$

$$E = \frac{h}{y t}$$

$$E t = \frac{h}{y}$$

h and y are constant.

$$\frac{h}{y} = k$$

$$E t = k$$

If this relationship is a constant in a referential, should be so in all referential.

$\_0$  - On the referential O. At rest.

$\underline{V}$  - On the referential  $\underline{V}$ , moving with speed  $\underline{V}$ .

$$E_v t_v = K$$

$$E_o t_o = K$$

$$E_v t_v = E_o t_o$$

## Relativistic mechanics

The relativistic mechanics can be developed from the previous term.

### Energy

$$E_v t_v = E_o t_o$$

$$E_v = E_o \frac{t_o}{t_v}$$

$$\frac{t_o}{t_v} = \frac{E_v}{E_o}$$

$$\frac{t_o}{t_v} = \frac{h\nu_v}{h\nu_o}$$

$$\frac{t_o}{t_v} = \frac{\sqrt{v}}{\sqrt{o}}$$

$$\frac{t_v}{t_o} = \frac{\sqrt{o}}{\sqrt{v}}$$

### Now I really know why time curved.

When we change the energy of matter, kinetic energy, changes its energy and thus changes its frequency.

The increased power is a reduction of the time.

An increase in energy, moor frequency, corresponds to a reduction in time. Time its invert proportional to frequency. Time is a property of matter of its energy level. We have concept of time because we are matter.

Therefore we consider:

$$E_o = m_o C_o^2$$

$$E_v = m_v C_v^2$$

$$m_v C_v^2 t_v = m_o C_o^2 t_o$$

### Quantity of movement

Through the 1st Postulate of Einstein, with which I completely agree, the quantity of movement must be constant in all the referential.

$$m_v \cdot C_v = m_o C_o$$

$$m_v = m_o \frac{C_o}{C_v}$$

### Velocity

Replacing in the expression of the proportion of energy - frequency:

$$(m_v C_v) C_v t_v = (m_o C_o) C_o t_o$$

$$(m_o C_o) C_v t_v = (m_o C_o) C_o t_o$$

$$C_v t_v = C_o t_o$$

We make two conclusions:

1st - Velocity curves solely because time curves which leads to a different nature for the light.

$$C_v = C_o \frac{t_o}{t_v}$$

It is evidence C curve, also V curve, because we are talking about speeds.

$$V_v = V_o \frac{t_o}{t_v}$$

It would be like having an "absolute" velocity of the constant light which is read with a different value at each referential due to the curved time of the referential itself.

"Absolute", only in the inverse concept of "relative". A reference to an imaginary constant time the velocity of light would always be constant.

Light runs the same course in the equivalent curved times of all the referential, not in the unit of time, but the light run course in the curved times equivalent to all the referential, is constant.

### Mass

$$m_v C_v^2 t_v = m_o C_o^2 t_o$$

$$m_v = \frac{m_o C_o^2 t_o}{C_v^2 t_v}$$

$$m_v = \frac{m_o C_o^2 t_o}{\left(C_o \frac{t_o}{t_v}\right)^2 t_v}$$

$$m_v = \frac{m_o t_v}{t_o}$$

In this new concept of mass, whenever V inclines to C, then the mass inclines to 0, mass inclines to transform itself into energy, because as we have seen, when V inclines to C, energy inclines to infinity.

### **Going back to quantity of movement**

$$m_v \cdot C_v = \frac{m_o t_v}{t_o} C_o \frac{t_o}{t_v}$$

$$m_v \cdot C_v = m_o C_o$$

Now the quantity of movement is equal to all the referential.

### **Considerations**

As we can see quantum mechanics, is in line with the new relativity.

### III

## Critical analysis of Einstein's relativity principles

### The current paradigm

Einstein's postulates:

#### 1st - Postulate

**The laws of Physics are the same in all inertial referential. This is true both for mechanics and for electromagnetism.**

The laws of Physics are certainly the same in all referential, because if this was not so, we would not have physics.

#### 2nd - Postulate

**The velocity of light in a vacuum is constant ( $c \approx 300.000$  km/s) regardless of the velocity of the observer, (and the source).**

For the 1st postulate there is no repair.

The laws of physics are certainly the same in any reference, as if it were we would not physical.

For the 2nd postulate there are some doubts, which are the reason for writing this article.

### Einstein's method:

Now we apply the same reasoning used by Einstein to calculate the curvature of time and the curvature of space.

Let us bring here, the famous example of the observation of a light signal emitted within a train, which is emitted from the floor of the train in the direction of the roof, where there is a mirror that reflects back to the floor of the train.

The phenomenon is interpreted by an observer on the train stopped, referential  $\underline{V}$ , and other in the train in motion, referential  $\underline{Q}$ .

- The observer  $\underline{Q}$  in motion will observe the light path indicated on the left.
- The observer  $\underline{V}$ , stopped, see the route indicated on the right.

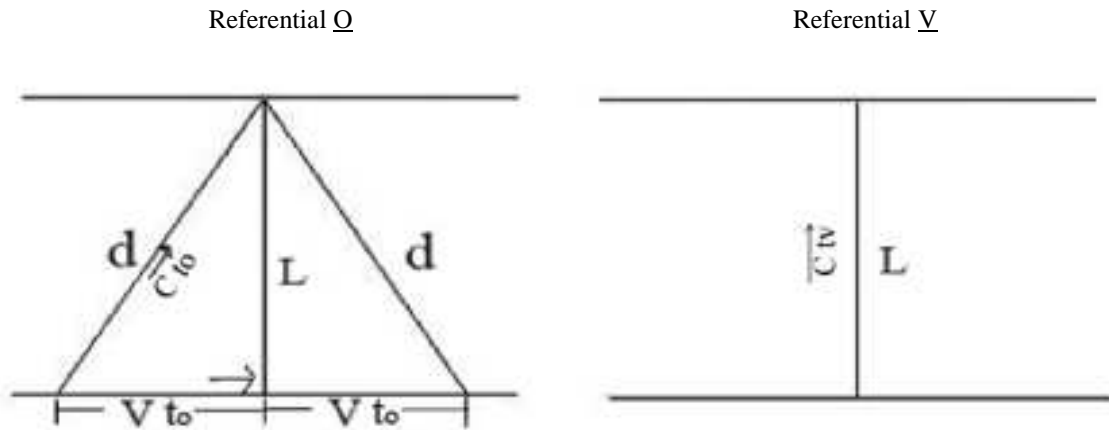


Figure 1.

Our stopped referential  $\underline{V}$ , is the result of an initial in motion referential  $\underline{Q}$ .

To the observer who is in referential  $\underline{V}$  (right).

The time of go and return is given by:

$$L_V = L$$

$$t_V = \frac{2L}{c}$$

$$C = \frac{2L}{t_V} \quad \text{a)}$$

$$2L = t_V C$$

If we look to this model, to the referential moving Einstein uses  $\underline{L}$ .

**- L is the length not curved.**

That is the analysis of referential in motion  $\underline{V}$  Einstein used the length not curved.

**To the observer who is in referential  $\underline{Q}$  (left).**

The time of go and return is given by:

$$L_o = L$$

$$S = 2d = 2\sqrt{L^2 + \left(\frac{V t_o}{2}\right)^2}$$

$$t_o = \frac{2\sqrt{L^2 + \left(\frac{V t_o}{2}\right)^2}}{c}$$

$$t_o = \frac{2L}{\sqrt{C^2 - V^2}}$$

$$\sqrt{C^2 - V^2} = \frac{2L}{t_o} \quad \text{b)}$$

$$2L = t_o \sqrt{C^2 - V^2}$$

**He equated the lengths:**

$$L_V = L_o$$

$$2 L = 2 L$$

$$t_V C = t_o \sqrt{C^2 - V^2}$$

$$t_V = t_o \sqrt{1 - \frac{V^2}{C^2}}$$

$$\frac{t_V}{t_o} = \sqrt{1 - \frac{V^2}{C^2}}$$

**The time curve, with the premise that L not curve.**

The space in this model is not curved.

The value found for the curvature of time is only possible with equal lengths, lengths not curved.

On the other hand velocity is always given by the ratio between length and the time it takes to go that length.

**At referential Y, a) the velocity of light it C.**

**At referential Q, b) the velocity of light it  $\sqrt{C^2 - V^2}$**

**Einstein's reasoning for lengths.**

**The 2nd postulate of Einstein leads, a length.**

It is incomprehensible experience in which Einstein based its conclusion that the velocity of light was constant in all references.

From the experiments conducted on Earth, our reference, the only possible conclusion to draw is that the velocity of light is independent of the direction of propagation.

How is equal in all directions the only possible conclusion is that the velocity of light depends only on the velocity of the reference.

Later we analyze the problem.

The distance is given by:

$$L_V = t_V C$$

$$L_o = t_o C$$

$$L_V = \frac{t_V}{t_o} L_o$$

$$t_V = t_o \sqrt{1 - \frac{V^2}{C^2}}$$

$$L_V = t_o \sqrt{1 - \frac{V^2}{C^2}} C$$

$$L_V = L_o \sqrt{1 - \frac{V^2}{C^2}}$$

The space come curved?

**This contrasts with the premise to the calculation of the curvature of the time when the space is considered not curved.**

**To determine the space curved Einstein enters with the curvature of the time factor that derives from spaced not curved.**

In the curvature of the time assumed  $2L_V = 2L$  and  $2L_o = 2L$ . To obtain the value of the curvature was assumed  $2L=2L$ , then  $L_V = L_o$ .

**This famous expression of the curvature of space is a mathematical impossibility.**

**A curved space can't be generated by a space not curved.**

The space in the same model can't be simultaneously, curved and not curved at the same time.

Einstein can't propose a model in which space does not curve, using the curvature of the time generated in this model of equally spaced, to calculate and define a curved space.

We are convinced that this manipulation was not intentional.

Consider the constant velocity of light in all referential is the source of the problem.

## Mathematical proof

$$L_V = \frac{t_V}{t_o} L_o$$

$$L_V = \frac{\frac{2 L_V}{C}}{\frac{2 L_o}{\sqrt{C^2 - V^2}}} L_o$$

$$C = \sqrt{C^2 - V^2}$$

It's impossible.

If he had considered the length curved, the calculation for the motion referential  $\underline{V}$ , would conclude,

$$t_V = t_o.$$

**Let's see what happens with the speed in this model.**

In the moving referential we have:

$$L_V = t_V C_V$$

In the referential at rest we have:

$$L_o = t_o C_o$$

In equating the lengths:

$$t_V C_V = t_o C_o \quad 1)$$

From the curvature of the time (equating the lengths too):

$$t_V C = t_o \sqrt{C^2 - V^2} \quad 2)$$

Dividing 1) by 2):

$$\frac{C_V}{C} = \frac{C_o}{\sqrt{C^2 - V^2}}$$

$$C_V = \frac{C_o}{\sqrt{1 - \frac{V^2}{C^2}}}$$

**We conclude that within this model we find, the relativity between the velocity of light.**

**Let us now consider what will happen when the direction of light coincide with the direction of displacement V.**

**Einstein's reasoning.**

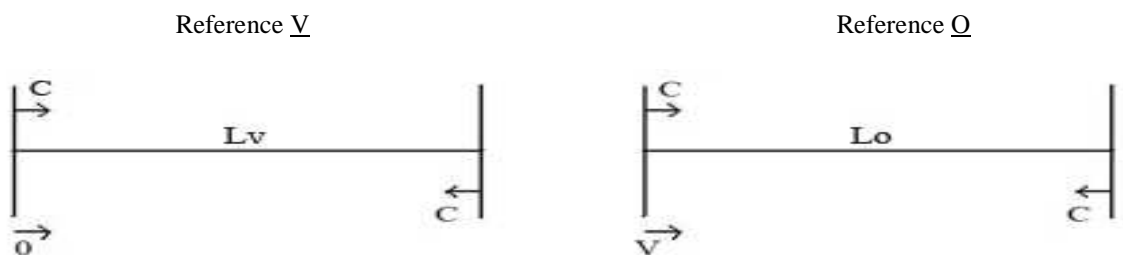


Figure2.

To the observer who is in referential V, (left).

The time of go and return is given by:

$$t_v = \frac{2L}{C}$$

$$2L = t_v C$$

To the observer who is in referential Q, (right).

The time to go is given by:

$$t_{o1} = \frac{2L}{C-V}$$

The time to return is given by:

$$t_{02} = \frac{2L}{c+v}$$

$$t_0 = t_{01} + t_{02} = \frac{2Lc}{c^2 - v^2}$$

$$t_0 = \frac{t_v c}{c^2 - v^2}$$

$$\frac{t_v}{t_0} = \frac{c^2 - v^2}{c^2}$$

### Einstein's reasoning for lengths.

Einstein goes further.

$$\frac{t_v}{t_0} = \frac{c^2 - v^2}{c^2}$$

$$t_v c = (t_0 \sqrt{c^2 - v^2}) \left( \frac{\sqrt{c^2 - v^2}}{c} \right)$$

$$L_v = t_v c$$

$$L_o = t_0 \sqrt{c^2 - v^2}$$

$$L_v = L_o \frac{\sqrt{c^2 - v^2}}{c}$$

But if you look at the 1st model:

$$t_v c = t_0 \sqrt{c^2 - v^2}$$

$$L_v = L_o$$

$$L_o = L_o \frac{\sqrt{c^2 - v^2}}{c}$$

$$c = \sqrt{c^2 - v^2}$$

It's impossible.

### The 2nd postulate of Einstein leads, a length.

The distance is given by:

$$L_v = t_v c$$

$$L_o = t_o c$$

$$L_v = \frac{t_v}{t_o} L_o$$

$$L_v = \frac{c^2 - v^2}{c^2} L_o$$

This curvature of space has nothing to do with what we are accustomed.

## **But we can't lose the principle of reasoning.**

In the first model, Einstein, study the curvature of time and concludes:

$$\frac{t_V}{t_0} = \sqrt{\frac{C^2 - V^2}{C^2}}$$

We maintain consistency, and to study the curvature of time for the 2nd model.

As we have seen:

$$\frac{t_V}{t_0} = \frac{C^2 - V^2}{C^2}$$

We found one, bending time, different from the 1st model.

If we notice the different curves we find for the time, are for different angles between the direction of displacement and direction of the ray of light.

Einstein chose to analyze the angle  $\frac{\pi}{2}$  between the displacement and the ray of light to study the curvature of time, without realizing the selection criterion.

Why not the angle 0 to study the curvature of the time?

Why not another any angle, through, in random order?

The curvature of time can't depend on the direction of displacement, only depends on the speed, regardless of their direction.

There must be any one phenomenon that has not yet managed.

We now need to study the model in all its dimensions.

Let us study the model in which the angle between the ray of light and the displacement is a variable.

Perhaps looking at the general term we reach any conclusion.

## **For the time and space**

Let us bring here, the famous example of the observation of a light signal emitted within a train, which is emitted from the floor of the train in the direction of the roof, where there is a mirror that reflects back to the floor of the train.

Let's allow the movement of the train is not only in the direction perpendicular to the ray of light or the direction of the light ray itself.

We deduce the general expression of the curvature of time, depending on the angle between the direction of the displacement with the direction of the ray of light.

We consider the direction of the ray of light fixed and vary the direction of displacement.

### The new proposal

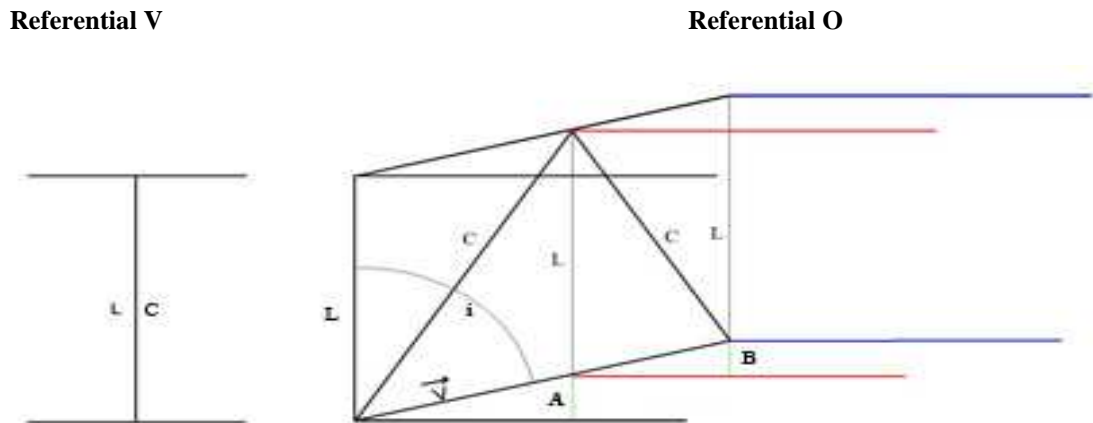


Figure3.

To the observer who is in referential V (left).

The time of go and return is given by:

$$t_V = \frac{2L}{c}$$

$$C = \frac{2L}{t_V}$$

$$2L = C t_V$$

For the referential V, with time  $t_V$  Einstein considered the speed of light in our referential  $C_V$  takes the value C.

$$C_V = C$$

If we look to the curvature of the time, to the referential moving Einstein uses **L**.

**- L is the length not curved.**

That is the analysis of referential in motion V Einstein used the length not curved.

To the observer who is in referential O (right).

The time of go and return is given by:

$$t_{O1} = \frac{L + V \cos(i) t_{O1}}{\sqrt{C^2 - V^2 (\sin(i))^2}}$$

$$t_{O1} = \frac{L}{\sqrt{C^2 - V^2 (\sin(i))^2} - V \cos(i)}$$

$$t_{o2} = \frac{L - V \cos(i) t_{o2}}{\sqrt{c^2 - v^2 (\sin(i))^2}}$$

$$t_{o2} = \frac{L}{\sqrt{c^2 - v^2 (\sin(i))^2} + V \cos(i)}$$

$$t_{o1} + t_{o2} = t_o = \frac{2 L \sqrt{c^2 - v^2 (\sin(i))^2}}{c^2 - v^2 (\sin(i))^2 - v^2 (\cos(i))^2}$$

$$t_o = \frac{2 L \sqrt{c^2 - v^2 (\sin(i))^2}}{c^2 - v^2 ((\sin(i))^2 + (\cos(i))^2)}$$

$$t_o = \frac{2 L \sqrt{c^2 - v^2 (\sin(i))^2}}{c^2 - v^2}$$

$$t_o = \frac{2 L \sqrt{c^2 - v^2 (\sin(i))^2}}{c^2 - v^2}$$

Here **L** is not curved.

**Equating the lengths:**

$$\frac{t_V}{t_o} = \frac{c^2 - v^2}{\sqrt{c^2 - v^2 (\sin(i))^2}}$$

For this expression there are a multitude of solutions to the curvature of the time.

The choice of Einstein now seems random, as for the curvature of the time chose  $\mathbf{i} = \frac{\pi}{2}$  and the space  $\mathbf{i} = \mathbf{0}$ .

**If  $\mathbf{i} = \mathbf{0}$ :**

$$\frac{t_V}{t_o} = \frac{c^2 - v^2}{c^2}$$

**If  $\mathbf{i} = \frac{\pi}{2}$ :**

$$\frac{t_V}{t_o} = \sqrt{\frac{c^2 - v^2}{c^2}}$$

This value is only possible with the space not curved.

In the interval between  $\mathbf{0}$  and  $\frac{\pi}{2}$  would have a very solutions.

But so it is not.

**The time of a referential can only depend on the speed of displacement of the observer referential and not the direction of displacement.**

Cannot be, the emission of a ray of light, in any direction, in motion referential, the cause of change in their own, time curved.

If the time of the referential, does not depend on the direction of its displacement, then the factor Sin (i) has to be eliminated in the expression.

For any angle (i):

$$t_o = \frac{2 L \sqrt{C^2 - V^2}}{C^2 - V^2}$$

$$t_o = \frac{2 L}{\sqrt{C^2 - V^2}}$$

$$\frac{2 L}{t_o} = C_o$$

$$C_o = \sqrt{C^2 - V^2}$$

This is the speed of light measured by an observer at  $\underline{O}$ , with velocity V in the time  $t_o$  at a referential  $\underline{O}$ ,  $C_o$ .

Solving now the expression and substituting 2L.

$$\frac{t_V}{t_o} = \frac{C^2 - V^2}{C \sqrt{C^2 - V^2}}$$

$$\frac{t_V}{t_o} = \sqrt{\frac{C^2 - V^2}{C^2}}$$

**The time curve, with the premise that  $\underline{L}$  not curve.**

The time is independent of the direction of displacement of the referential.

The time in referential only depends on the value of the speed of displacement of the referential.

Given the uncertainty we feel in the options of Einstein, the curvature of the time deducted or was a coincidence or a result of a priori knowledge of that.

The independence of the referential time relative to the direction of the light ray makes it clear that the space does not curve.

Now, we know the value of the curvature of the time, whatever the direction of movement.

### **Velocity:**

In the moving reference we have:

$$L_V = t_V C_V$$

In the frame at rest we have:

$$L_o = t_o C_o$$

In equating the lengths:

$$t_V C_V = t_o C_o \quad 1)$$

From the curvature of the time:

$$t_V C = t_o \sqrt{C^2 - V^2} \quad 2)$$

Dividing 1) by 2):

$$\frac{C_V}{C} = \frac{C_o}{\sqrt{C^2 - V^2}}$$

$$C_V = \frac{C_o}{\sqrt{1 - \frac{V^2}{C^2}}}$$

We can only find the value we found for the curvature of the time, if the space does not curve.

The time is independent of the direction of displacement of the referential.

The only time depends solely on the value of the forward speed of the referential of the observer.

Only the curvature of time and no curvature of space its able to respond to the principles of relativity.

Now we know the value of the curvature of the time, whatever the direction of movement.

This shows the curvature of time depending on the non curvature of space, which forces the curvature of speeds.

We can conclude that the velocity of light, is relativistic, is not constant in all referential.

The value of the velocity curve, in inverse proportion, to the time curved of the referential.

It follows that the space is constant, not curve.

Note: In experiments on the speed of light in time, what changed was the direction of the ray of light and not the referential. The only possible conclusion is that the velocity of light did not change with the change in the direction on propagation. Not understand how they drew the conclusion that the velocity of light was the same in all referential. No change of the referential, not out of the Earth.

**Consider a ray of light emitted at one end of ruler over this and that is reflected at the other end to its point of origin.**

K - Is the coefficient of curvature of the time:

$$C_V = \frac{C}{K}$$

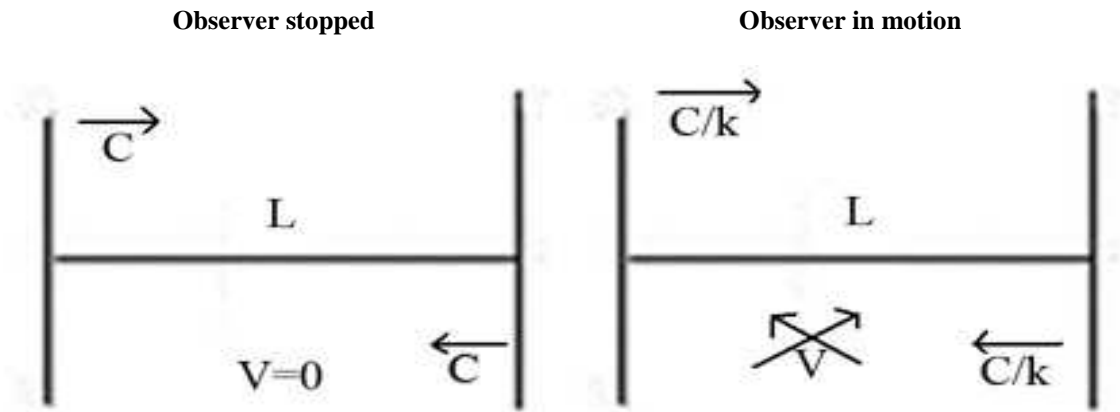


Figure4.

### Ruler stopped

To observer stopped.

$$t_o = \frac{2L}{c}$$

To one observer in motion at speed V:

The direction of V is random.

$$t_v = \frac{2L}{\frac{c}{K}}$$

$$t_v = \frac{2LK}{c}$$

$$t_v = t_o K$$

$$K = \frac{t_v}{t_o}$$

$$\frac{c}{K} = \frac{c}{\frac{t_v}{t_o}}$$

$$C_v = \frac{c}{K} = \frac{ct_o}{t_v}$$

$$C_v t_v = C_o t_o$$

$$L_v = L_o$$

### Ruler in motion

If we consider the ruler moving at the velocity  $V_1$  in the direction of the displacement along the ruler, we get precisely the same conclusion.

To observer stopped.

$$t_o = \frac{2LC}{C^2 - V_1^2}$$

$$2L = \frac{C^2 - V_1^2}{C} t_o$$

To one observer in motion at velocity V

The direction of V is random.

$$t_v = \frac{2LC_v}{C_v^2 - V_1^2}$$

$$t_v = \frac{2L \frac{C}{K}}{\frac{C^2 - V_1^2}{K^2}}$$

$$t_v = \frac{\frac{C^2 - V_1^2}{C} t_o CK}{C^2 - V_1^2}$$

$$t_v = t_o K$$

$$t_v = t_o \sqrt{1 - \frac{V^2}{C^2}}$$

The curvature of time is unique to the observer and is independent of the velocity of the ruler and only depends on the velocity of displacement of the observer.

If the observer moves at the same velocity and direction of the ruler, the curvature of the time, due to the velocity of the observer, and is independent of the velocity of the ruler.

The method proposed by Einstein was not the best.

If the space does not curve so we have a serious problem with the 2nd postulate of Einstein.

The 2nd postulate is wrong.

So we have a problem with the constancy of the velocity of light at all referential.

We have to admit, a different velocity of light to the referential motion,  $C_V$  concerning the velocity of light to the referential  $C_o$  at rest.

Later we will confirm the value of the curvature of time based on the universal gravitational potential.

### **Let us analyze the reality.**

We now know that space does not curve and as such we have:

### Time

$$\frac{t_v}{t_o} = \sqrt{\frac{C^2 - V^2}{C^2}}$$

### Space

$$L_o = t_o C_o$$

$$L_v = t_v C_v$$

$$L_v = t_o \sqrt{1 - \frac{V^2}{C^2}} \frac{C_o}{\sqrt{1 - \frac{V^2}{C^2}}}$$

$$L_v = L_o$$

### Velocity

$$t_v C_v = t_o C_o$$

$$C_v = C_o \frac{t_o}{t_v}$$

$$C_v = \frac{C_o}{\sqrt{1 - \frac{V^2}{C^2}}}$$

All velocities will come curved in referential motion.

$$V_v = \frac{V_o}{\sqrt{1 - \frac{v^2}{C^2}}}$$

Regardless of the referential, we will always:

$$\frac{V_o^2}{C_o^2} = \frac{V_v^2}{C_v^2}$$

## IV

### **The new principles of relativity NBS ( No Bend Space)**

**The universe we live is the universal gravitational field.**

Relativity has to be a field theory.

We will deduct the following articles relativity from the perspective of relativistic energy and quantum energy, subject to the universal gravitational field and deduce the general relativity from a field theory.

The deduction of relativity as a field theory seems of utmost importance, because the current method this view is implied but not clearly.

#### **New principles of the theory of relativity**

**1st Postulate it the same.**

**Space does not curve, time curve.**

The second postulate will have to be re-written:

**2nd Postulate: The velocity of light in a vacuum, in the current curved time of our referential is 300.000 Km/s. The curse of light in a vacuum is constant in relation to the equivalent and simultaneous curved times of any referential.**

Or:

**Light runs the same course in the equivalent and simultaneous curved times of all the referential.**

**In our referential, the current velocity of light is 300.000 Km/s.**

#### **Conclusions**

##### **Space and time**

The space run by light in the equivalent curved times of all referential will be the same.

The velocity of light itself, "absolute to a absolute time", is invariant in the universe, in each referential will have a different unit reading because with the curvature of time, when we divided the quantity run by the unit of time, we will have different quantifications.

$$\frac{L}{t_v} \neq \frac{L}{t_o}$$

$$C_v \neq C_o$$

The space-time curvature, entity which has accompanied us for so long, will have to be abandoned because only time curve.

Now galaxies that move at a greater velocity are further from the centre of the Big-Bang, in any referential.

One day we will be able to travel close to the velocity of light and go on a long trip. If we followed the previous theory, we would practically stay at home.

**The revolution is felt at a level of astrophysics.**

After all we have the local relativity, the local equivalent of general relativity, responding to local issues, because in our place with  $V = 0$ , the space in Einstein's theory does not curve and therefore the theory responds to local needs.

Einstein's relativity doesn't respond correctly when we left for the universe.

As we shall see in later articles opens up a window for reconciliation of all physical and much more information.

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