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## Part 2 of 2

- Basic acronyms used and related definitions

**Ether/ESF** or **ESF** mass-energy in pristine undisturbed status absorbed by the gravitational component of the physical mass and is the substance occupying the Euclidean space at the base of the physical processes

**M**, physical generic mass

**M<sub>HM</sub>**, physical mass (notation usually used for masses of medium size like the planets of our solar system containing in various proportions and conditions all the masses listed below, except Dissipation which is mass-energy coming out of it absorbed and interacting with the ESF )

**M<sub>LGM</sub>** physical mass as a Large Gravitational Mass.

**M<sub>RM</sub>** or **ΔM<sub>RM</sub>** mass energy gravitational-inertial in the status of neutrons.

**M<sub>ESCE</sub>** or **ΔM<sub>ESCE</sub>** inertial mass-energy non gravitational (is mass-energy like all the others) belonging to the physical mass but reacting with the ESF, through the release by transformation of the Spin character, and causing in the physical mass a retardation of the physical phenomena including time as relative measure of transformation retarded by its presence.

**M<sub>ESCM</sub>** or **ΔM<sub>ESCM</sub>** mass-energy in the status similar to neutrons gravitational-inertial (is the mass gluing together the neutrons in the atomic nucleus ).

**M<sub>0</sub> = M<sub>RM</sub> + M<sub>ESCM</sub>** total of gravitational-inertial mass inside the physical mass

**M<sub>ESSP/Heat</sub>** or **ΔM<sub>ESSP/Heat</sub>** or the **Heat** as mass-energy giving the physical characters of Heat to a mass and residing inside it, but not bound to it, is not gravitational and inertial to some extent

**Dissipation** is mass-energy in the status of Heat diluted by presence of transformation in contact with the Ether/ESF is not gravitational and not inertial since like the ESF is a status of mass-energy that only exists in the Euclidean space

**Note:** the physical mass is the result of presence in a volume of various states of mass-energy each capable to undergo transformation-degradation

$$\mathbf{M}_{HM} = \mathbf{M}_0 + \Delta\mathbf{M}_{ESCE} + \Delta\mathbf{M}_{ESSP/Heat}$$

Purported solutions of problems, and oversights, in the presentation of theories related to physical Sciences and presentation of some basic concepts.

- A big-bang theory cannot be accepted since in the way it was presented the centrist perception could not be avoided, and as consequence of conclusions reached in this paragraph we have centrist perception in whatever point of the universe we move, a fact that could give to an observer, the permanent impression that a big-bang was originated in the point of the universe where he is, no matter where he moves.

If for big-bang is intended an explosion in the classic meaning, the mechanism of the explosion can be a highly debated issue, but the end results are unquestionable since from the point of explosion are moving away chunks of physical mass, containing high amounts of inertial mass  $\Delta M_{ESCE}$  (or mass-energy in the inertial status called kinetic since causes movement) and therefore they are moving at high speed (certainly much higher than the escape velocity but very much lower than  $c$ ) and containing a huge amount of heat (in the compressed status of mass-energy free from the physical mass) which was developed by internal transformation but trapped in the physical mass and coming out with it at the moment of the explosion, this heat is released from the chunks of physical mass and is coming out in relativistic conditions as dissipation.

Unless the chunks of mass were large enough (the size of stars), so that under the effect of their own gravity they would have resulted able to produce their own signals (dissipation), after a limited period of time they would have shed the heat trapped in their mass, which was carried by them at the moment of the explosion (as mass  $\Delta M_{ESSP/Heat}$ ) and would have carried on moving towards all the radial directions without producing detectable signals.

Over and above when we compare, the largest explosion (the supposed big-bang) to analogous explosions of novae and supernovae we can see that the mass does not disappears from the center of the explosion and we observe, that the gravity retains a large amount of it, which after explosion tends to regroup into a physical mass smaller than the original one but certainly huge in size.

How comes that we have no evidence of such hypothetic very large object? And is claimed that signals that were emitted a long time ago are still lingering in the universe whilst detected by us in a position from which we receive them like if the original explosion originated exactly where we are.

The whole lot of claims is sounding lame and entirely unphysical.....

It cannot be doubted that all these claims have great appeal especially for people who have a preformed centrist idea about the position of our Earth in the universe.

I personally not only do not have reason to believe but my enquiries delving in the subject convinced me that there was no big-bang, ever, and that the solution lies in accepting that the light, that we receive, was dissipated from objects far from us, whose conditions of movement does not reflect that of an explosion originated far away from them, and reached us, after being subjected to what can be called dispersion, a phenomenon increasing the wavelength of the light towards the red end of the spectrum and beyond whilst it travels the large expanses of the Euclidean space, it happens that with the increase of distances from us, the objects which dissipate, eventually result situated at a distance from which we detect their signals beyond the red, on the spectral band of the microwaves, and with the increase of distances the signals are becoming increasingly feeble and progressively are detected in the range of radio waves until our instruments cannot find trace of them any more.

The argument is more complex and forces us to correct the readings of the wavelengths deduced from the Lorentz's diagrams, but for the moment it is felt that what has been said is enough to make a point.

### **The measurement of absolute local time using Newton's ULG how it can be considered universal time and how it fits in the relativistic time phenomena**

The fact that we move, can be deduced geometrically during the course of celestial events by the astronomers but in the architecture of the universe the movements of systems not always can be reduced to simple orbital paths induced by gravitation around very large masses.

Nevertheless in the conditions approximated to quiet in which our solar system is presently, we measure the time through the return to collimation in the orbital path which is a phenomenon related to deployment of the Static Force over an object in orbit, and corresponds to the transformation-degradation measuring Newton time, that for our use at present we have assumed absolute universal, and in base of the method (Newton's ULG) chosen in the measurement of the time is a transformation not affected by presence of inertial amounts of mass-energy  $\Delta M_{ESCE}$ - as mentioned below:

- a) The  $\Delta M_{ESCE-0}$  orbital is corresponding in terms of equivalence to the physical content of Total Force or physical units of kinetic energy, causing the orbital velocity.
- b) the  $\Delta M_{ESCE-v}$  corresponding to the undisclosed velocity at which the solar system moves, (both velocities introducing a degree of uncertainty that exclude the possibility that our system can be considered in quiet and in considering the measures made in our system, we must remember that presence of these inertial mass-energies only permit us to approximate universal measurements of time).

The Static Force (is generated by the constant absorption of the ESF by a large mass  $M_{LGM}$  justifying Newton's constant  $k$  of absorption (a redefinition of  $G$ ), justifying a constant minimal particular transformation-degradation affecting internally the physical mass of the object in orbit, but the end product of the static Force as a transformation, by definition does not produce inertial mass in the status  $\Delta M_{ESCE}$  in the object in orbit (and consequently does not affect the value of the orbital velocity).

We have that the Static Force in circular orbit, through the constant radius of the orbit can be related to another constant, "the value of the constant orbital velocity".

$$a(r_{\text{Sun-Earth}}) = \frac{v_{0\text{Earth}}^2}{r_{\text{Sun-Earth}}}$$

Where to "Sun-Earth", to extend the meaning of this relation, we can substitute "LGM-Satellite".

The geometric value of space run at orbital velocity in the unit of time, then, is the reference based on which, the clock (a device based on a physical transformation-degradation) synchronized to the phenomenon (also associated to a very minimal internal transformation of the neutronic mass of the whole planet) measures the unit of time.

$v_0$  is the orbital velocity and is a relativistic value since its field of existence is  $0 < v_0 < c$  but we here use in many cases, classic formulations since we deal with  $v_0 \ll c$ .

Results that based on the data at our disposal in a system in which the orbits of the planets are close to circular, the orbital velocity of any of the planets is the phenomenon that in respect of the above formulation, can be used (with good approximation), as reference for the gravitational transformation happening inside its central mass and affecting the whole system in the unit of time (the unit of time should be the return in successive collimation of the Earth considered concentrated on a point, with an object far enough and with the sun, approximately every four years but we split it arbitrarily in seconds to have a relation to the daily rotation of Earth and we extend it to all the other planets in nearly circular orbit around the same  $M_{0LGM}$ ).

The above presentation considered the gravitational mass  $M_{0LGM}$  of the central Large mass (the sun in our case) as the only value of physical mass (excluding the  $\Delta M_{ESCE}$  corresponding to the drifting of the solar system) and the static Force  $a(r)$  was related to the gravitational unit of mass contained in the physical mass  $M_{HM}$  of the planet since the  $\Delta M_{ESCE}$  also contained inside it is not gravitational, whilst the value of time obtained corresponded to an absolute local measurement of a physical entity (the velocity  $v_0$ ):

$$v_{0\text{-PLANET}} = \sqrt{\frac{kM_{LGM}}{4\pi r}} \quad \text{m/sec}$$

Note: a clock in any Planet of the system with an  $M_{LGM}$  in the center, synchronized to the movement at  $v_0 \sim \text{const}$  will measure the second of time.

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Now, if we consider another system similar to ours, central  $M_{LGM}$ , planets orbits and everything else, (far enough from us so that we can represent both our system and the other one concentrated in a point, and for a start we assume that these points are moving at different absolute speed along the line joining their centers, since they are endowed of a difference of mass-energy inertial that determines the relative velocity), the time inside them will run at different pace, but only an external observer in real conditions of absolute quiet, measuring absolutes that are true universal ones (whose system can also be assimilated to a point) will be able to determine time discrepancies (the relativistic time) in absolute universal time between himself and the time separately measured in each of these two systems each retarded by amounts of  $\Delta M_{ESCE-V}$  corresponding to the velocity  $v$  which in this case is a velocity in absolute conditions of observation and can be related to the true value  $\Delta M_{ESCE-V}$ .

We, then, are faced by the impossible task to determine from inside our system in movement the  $v$  (relative to the other system observed also in movement) and to calculate the true relativistic time discrepancy between a system and another we need a reference to a system in quiet.

We have only one alley available, if we want to make measurement of systems in movement in relativistic conditions, and it requires the assumption that one system (our system) is in quiet, assuming then that in our system we are measuring true universal absolutes which will constitute our standard reference.

We know that this requires an approximation and after due consideration, mostly based on the fact that astronomic observations are pointing to our presence in the Euclidean space in a status near to quiet we assume that our system (the solar system) is in absolute quiet.

In these uncertain conditions we cannot determine the simultaneous presence of our system and of the other under observation in the universal reality, because to calculate it from the data that we can get we also need a point of reference in which the universal time is available, but once made the assumption that our system is in quiet we act as we were capable to do so from our point of representation.

The necessary conclusion is that (since Lorentz's diagrams are diagrams intended to deduct through geometric transformations, the simultaneous presence in real time of two objects, one of which is considered in quiet), the relativity of times inside two or more systems and the exact determination of simultaneous distance of existence from knowledge of distance in simultaneity of observation of a signal traveling at  $c$  speed, can be formulated but never resolved in absolute since we do not have access to that info.

Now with the assumptions made I solve the problem of simultaneity in a situation in which I can say that I can use the formulae of the relativistic time and the graphics of Lorentz's to my advantage (see graphics on page 13 where I as observer in  $O$  am represented by a point marked in "real representation").

Note: in the graphics above mentioned an observer perceives himself in a status of quiet (real in  $O$  or virtual in  $S$  as shown) and the relativistic time

difference in the other system, is **not “always a retardation”** as it is affirmed at present since the formula of Lorentz's using the relative velocity  $v_L$  that we can obtain independently with use of the following formula based on the Doppler effect from each system (where  $v_L$  in the system in quiet is measured in real conditions and in the other in virtual conditions):

$$v_L = c \left( 1 - \frac{\lambda'}{\lambda} \right)$$

The  $v_L$  has to be associated to substance in terms of mass-energy equivalent contained in an object in movement and if that is not done the result is a concept of reciprocity of positions that has not physical reason to be in the universal reality and creates the false opinion that both observers in their system see the time in retardation in the other system.

We approach here the problem of simultaneities defining at first the concepts used and the first and most important concept is the Lorentz's time phenomenon representing an external measurement related to the dissipation, or signal, coming out of a system S in movement at speed  $c - v_L < c'$  and bridging over the distance of geometric simultaneity of existence S'O in real time at conventional  $c'$  speed (as measured from O).

Note: (The distance of geometric simultaneity of existence will take  $t_L$  seconds, at the universal clock of the observer in O, if spanned at  $c'$  speed).

We do not worry for the moment about what happens inside the system S since the only physical value necessary to us in O, is the measure (obtained with astronomical measures of geometric data) of the distance of simultaneity of observation in the present in our surroundings of a signal emitted at  $c$  speed a time  $t$  in the past from a point S distant SO from us.

We have that at the time  $t$  in the past the signal traveling at the maximum speed  $c$  allowed by the presence of the ESF reaches us in O in the present and we perceive it in simultaneity with our surroundings, whilst we also are aware that, the system S has moved at  $v_L$  speed spanning a geometric distance  $SS' = v_L t$  and we can find it ( we know that is there but have no way to see it physically ) at the geometric distance of simultaneity of existence S'O .

We now want to represent from the info gathered, as mentioned, the geometric distances of simultaneity of existence for the two systems and to do so we have two physical ways to represent it ( see the Graphic of simultaneities or extended Lorentz's graphic on page 11 ) , obtained extending the time of travel of a signal received at present to an interval of time  $2t$  in the past where at distance of geometric simultaneity of existence  $S''O = v_L t + SO$  was simultaneously emitted from both systems, one of which endowed of velocity  $v_L$  and correspondingly of mass-energy  $\Delta M_{ESCE}$  and the other considered to be in quiet .

Through that graphic we can deduct equal simultaneous conditions of existence in the present, at distance S'O from S and OS' from O through a similar but physically different set of observations.

**Lorentz's time phenomenon is necessity to measure the universal time  $t_L$  necessary to bridge a fixed and known space distance (the distance of simultaneity of existence) run at a speed  $c'$ .** Note: Lorentz's time is a conventional manner to measure in units of universal time a distance run at  $c'$  speed, in effects the phenomenon is not described by a signal moving at  $c'$  for a time  $t_L$  but by a signal coming out of a physical system S where the presence of a  $\Delta M_{ESCE}$  has reduced the speed of light to  $c'$  and the local time reads slow (in respect of the universal measurement of time in the system O ):

$$\frac{t_{\text{IN...S}}}{t_{\text{RLG...IN...O}}} = \frac{c'_{\text{IN...S}}}{c_{\text{IN...O}}}$$

And since the dissipation at  $c'$  happens in the space surrounding the system O after coming out of a system S where  $c'$  is the speed of light and the temporal phenomenon is retarded, when the system S releases a signal at  $c'$  speed, it does it at slow rate from the instant  $t=0$  to  $t=t$  and the expansion of the said signal (or the distance traveled during  $t$  seconds) is;

$$S'O = (c-v_L) t$$

Whilst the system S (or physical mass S) travels a distance  $SS'$  at  $v_L$  during the same time interval  $t$ .

in the system O we read real values in universal units (and if we want to represent the distance of simultaneity of existence, run at  $c$  universal speed of the light, in the graphic we will have to note :

$$S'O = c t_{RR}$$

but if we choose to represent the same length run at  $c'$  the clock in O will read in universal units of time conventionally called  $t_L$ , therefore we have that the geometric distance of simultaneity of existence  $S'O$  in the Euclidean space can be expressed in function of three different speeds :

$$S'O = (c - v_L) t = c t_{RR} = c' t_L$$

These are velocities in the Euclidean space through which we can represent the geometric distance of simultaneity of existence.

Nevertheless physical true velocity of an expanding signal riding a mass moving at  $v_L$  is  $(c - v_L)$  and this satisfies the condition of absolute universal condition of maximum speed  $c$  of absorption of mass in the status inertial only (that causes velocity) and of the balance dissipation  $c'$  inside the system in movement by the ESF.

The signal coming out in expansion at  $(c - v_L)$  speed from the system S traveling at  $v_L$  speed moves at a combined speed  $c$  and reaches O during an

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interval of time  $t$  and the signal coming out of  $O$  in quiet at  $c$  speed also takes a time  $t$  to bridge the same distance  $OS$  in the opposite direction.

If the distance  $S'O$  is supposed bridged at  $c'$  speed the time necessary to do so would be  $t_L$  seconds also in universal time, whereas the physical phenomenon happens at velocity  $(c-v_L)$  during a time  $t$  :

$$\frac{c't_L}{(c-v_L)t} = 1$$

An expression that gives the ratio of two equal distances but also the ratio between the Lorentz's time  $t_L$  necessary to bridge a distance  $S'O$  at  $c'$  speed and the universal time necessary to bridge the same distance at true physical dissipation speed  $(c-v_L)$ :

$$\frac{t_L}{t} = \frac{(c-v_L)}{c'}$$

Where must be noted that:

$$v_L = c \left( 1 - \frac{\lambda'}{\lambda} \right)$$

$0 < v_L < c$  and since  $v_L$  is real for the system  $O$  in quiet and virtual when measured inside  $S$  in movement and subjected to the same limitations in real terms and in virtual the ratio of  $\lambda'/\lambda$  also remains invariant in both cases, bringing us to consider that a Doppler effect can be described by an invariant ratio in these two different but dependent physical conditions

In conventional universal time we could say that the distance of geometric simultaneity of existence is  $t_{RR}$  against a distance  $t$  of geometric simultaneity of observation in  $O$  of a signal coming from a time  $t$  in the past.

Note: we can say that Lorentz's time measures a distance of simultaneity of existence in the Euclidean space through a standard (non physical) relativistic value of reference  $c'$  of velocity (belonging to the system  $S$ ) of the light inside the system  $O$  that keeps reducing in relation of the increase of the inertial mass contained in the system  $S$  whilst, for these calculations, the time retardation to which  $S$  is subjected is not taken into account.

Note: the Lorentz's graphic is describing realities of existence in the Euclidean space from the point of view of two systems (or objects) see graphic of simultaneities .

Note: the maximum physical absolute speed of the signal emitted is  $c$  independently from the conditions of movement (content of  $\Delta M_{ESCE-V}$ ) since  $c$  it is a limit of absorption and interaction of the ESF with the system in

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dissipation in which there is also presence of inertial  $\Delta M_{\text{ESCE-V}}$  we have that the following expression justifies the phenomenon:

$$v_L t + (c - v_L) t = ct$$

$c'$  speed is the velocity of light inside a system in movement as measured from a system in quiet and dissipation as measured from the same system in quiet comes out at velocity  $(c - v_L)$  from a physical mass object in movement at  $v_L$  physical speed. Dissipation represents emission of mass energy expanding in all directions coming out of a mass that can be in quiet or in movement therefore can be observed independently in any position of the Euclidean space surrounding the object in dissipation .

Inside a physical system in movement the local observer measures locally all the physical constants with their absolute values  $c, t, \lambda, \lambda'$  since he is not feeling the effect due to presence of inertial mass  $\Delta M_{\text{ESCE}}$ , (we can say that the values that he measures are in virtual units in respect of their true value in universal units and that the system is in relativistic conditions of existence) .

Though the time inside a system in movement as measured at the local clock by an observer inside the system is absolute and invariable, the phenomena, including the time that he measures in respect of those measured by an observer inside a system in absolute quiet are slowed down.

Note: the above is a condition entitling us to say that units of absolute local time inside the system  $S$  in movement (measured through Newton's time phenomenon related to the ULG) make us as observers inside it perceive the physical constants with the same invariable values of a mass in quiet  $c, t, k, \lambda$  etc... what gives away the status of a virtual measurement is the beefed up intensity of the signal caused by dissipation received from a system  $O$  and vice versa an observer in  $O$  receives signals at reduced intensity when comparing the dissipation received from an object in movement with the one received from a similar object in quiet .

Masses which move at speed higher than  $c$  in absolute universal speed are to be located in the realm of fantasy and the  $c$  known to us is the true absolute  $c$  measured in conditions of time invariance inside our system, which is not in quiet, since, as explained earlier, presence of inertial mass as mass-energy  $\Delta M_{\text{ESCE}}$  does not affect physical measurements made inside our system which result absolute to us whatever the condition of movement and notwithstanding we know and can measure some of our motion respect to other objects, we never will be able to know our absolute motion (though we can determine that our system is closer to absolute quiet than other systems observed).

The result is that in these conditions and in any circumstance, from our system, we only can make absolute physical measurements, which do not exactly correspond to the real physical conditions to which we are subjected in respect of the absolute universal (we are in a virtual condition of absolute local to our system, and if we want to make measurements we must assume that we are in a condition of quiet in which our measurements of universal constants are true ).

Once assumed that we are in a condition of absolute quiet in O we cannot invert the positions of O and S in the Lorentz's graphic since O is a mass assumed (approximately) in conditions of absolute quiet and S is in movement and contains an amount of substance in the status of  $\Delta M_{ESCE}$  responsible through the effect that the ESF has on it for the development of the velocity  $v_L$  that O does not have and this creates the conditions in which the physical mass that exists in O cannot be physically inverted with the one in S.

Note: as an example masses inside the system O are dissipating at c speed and masses inside the system S at  $c'$  speed when transformation of units in universal values are made, but in the system S the time is in retardation and interchange of the speed  $c'$  requires further reduction to  $(c-v_L)$  speed, these conditions cannot be exchanged unless when we change position we change the physical status of O and of S (and this change has no merit in physical terms).

An additional point is that from O we have two conditions of simultaneity, the one regarding the observation that permits us to see the system S as it was when the signal was emitted from it that I called simultaneity of observation (or simultaneity of image received from a fixed distance at a fixed speed c a time t in the past with the images observed in our immediate surroundings at the moment of the observation) and the geometric position S' of the system S that is in geometric simultaneity of existence in the Euclidean space, at the instant of observation made in the system O.

Both simultaneities are geometric and at a fixed instant when observed from O the system S gives these two different geometric distances of simultaneity in the Euclidean continuum.

The simultaneity problem contemplates that at the same instant in which a signal comes out of S a signal comes out of O and whilst the signal from S moves at c speed with a movement compounding two relativistic phenomena, the movement at velocity  $v_L$  and the dissipation at  $c'$  speed inside S in coming out of it is reduced to  $(c-v_L)$  by the presence of a retarded time phenomenon in the system S in movement, from which is coming out, in the other hand when we consider the signal that comes out of O it is dissipated at c universal speed.

At a distance of simultaneity of existence S is receiving a signal from O  $S'O = c t_{RR} = c' t_L$  having run a distance  $SS'$  during a time  $v_L t$  whilst the incoming signal moving towards S at c speed takes only  $t_{RR}$ , the graphic of simultaneities explains why.

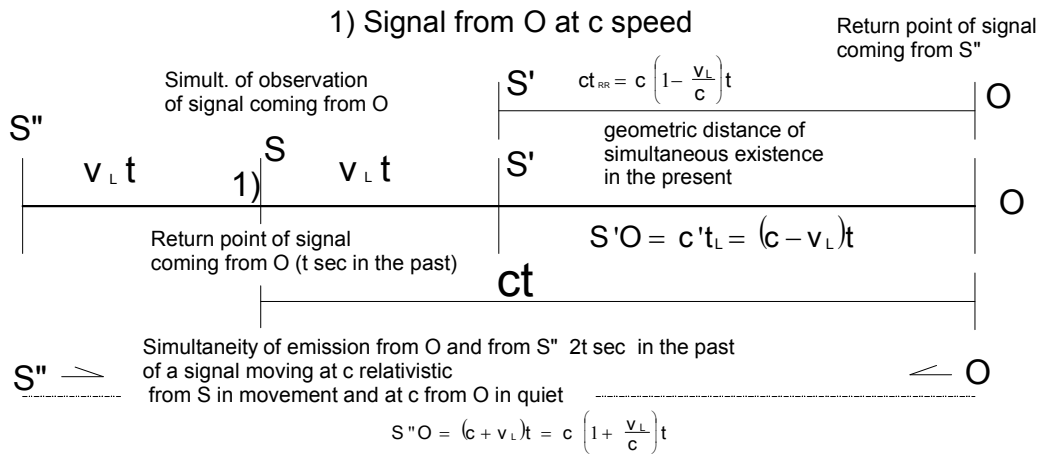
Note: this possibility to sum velocities of physical masses in real time and signals coming out them resulting from the fixed capacity of the ESF to interact up to a fixed maximum universal value c over a mass and producing

the speed  $v_L$  at the reduced dissipation bound to presence of  $v_L$  mentioned above is solving the problem as per graphic of simultaneities.

Geometric measurements of simultaneity are intimately dependent from a fixed simultaneity of presence in  $S''$  inside the Euclidean space at a universal time  $2t$  in the past.

After a time  $t$  in the past a simultaneity of observation is made in first stage in  $S$ , of the signal coming from  $O$  and in simultaneity of time (geometric simultaneity of observation and of existence of  $O$  made in  $S$ , since  $O$  is immobile), in a second stage the signal coming from  $S''$  lands in  $S'$  and the signal coming from  $O$  is substituted with the signal coming out of  $S$ , in the circumstances justified by the presence of the ESF returns in  $O$  at  $c$  speed and is observed at  $t=0$  in the present.

### Graphic of geometric simultaneities of existence



A similar fate is encountering the signal coming out of  $S$  in  $S''$  at a time  $2t$  in the past, it is received in  $O$  after a time  $(1 + v_L/c)t$  has elapsed and the signal coming out of  $O$  expands at  $c$  speed meeting  $S$  in  $S'$  after a time  $(1 - v_L/c)t$ .

Summing the whole we obtain that  $S$  has moved in  $S'$  in the present where resides at geometric distance of simultaneity of existence equal to the one that  $O$  perceives at the time  $t=0$ .

The signal is received in virtual conditions inside  $S$  where the observer measures a  $v_L$  and a time  $t$  that if measured in  $S$  at the clock of the Observer in  $O$  is  $t_{RLG} = (c/c')t$ , since  $S$  sees the universal time of  $O$  go faster than his virtual  $t$  and since the maximum velocity of the light in  $S$  is now scaled down to  $c'$  also  $v_L$  results scaled down to  $v_L'$  giving :

$$v_L t = v_L' t_{RLG}$$

It shows that although there is no reciprocity of the physical phenomenon we achieve our goal encapsulating the Lorentz's phenomenon duly corrected in function of the presence and effects of the ESF over a mass producing dissipation whilst loaded with mass-energy  $\Delta M_{ESCE}$ .

The conditions that maintain the relativism, inside the systems cannot be considered separately, in view of the phenomena related to the interactions above mentioned, the relations of relativity between the two masses are as follows and definitely, not interchangeable.

In real representation the following relativistic relations are maintaining invariance of geometric measurements in the Euclidean space are valid and physically can be referred to what happens inside the systems as well :

$$\frac{c'}{c} = \frac{t}{t_{RLG}} = \frac{t_R}{t}$$

The meaning of the above relations is that if the Euclidean distance SO requires t seconds to be bridged at c speed, to be bridged at c' in universal units inside the system S traveling at  $v_L$  speed absolute will require  $t_{RLG}$  universal seconds a fact of which the internal observer in S is not aware of, since for him the time phenomenon is retarded and in one of his seconds he sees the light bridge the distance c .

Note: this simple observation points to the fact that the integrity of the Euclidean space is invariably preserved.

All this being justified from the fact that in S due to presence of inertial  $\Delta M_{ESCE}$ , all the internal physical transformations are observed in retard, at a clock that retards in the same terms.

Where c is the speed of light in a system O in quiet, the passage of t units of time at a local clock in O will correspond to a passage of:

$$t_R = \frac{c'}{c} t$$

units of time in a system S endowed of inertial mass-energy  $\Delta M_{ESCE}$  in which the speed of light is c', (two negative effects due to presence of inertial  $\Delta M_{ESCE}$  , c becomes c' and the time measure by the local clock in S retards (associated to other peculiar effects due to movement induced by presence of  $\Delta M_{ESCE}$  ,such as the reduced dissipation coming out of S at a reduced time rate which is representing the completion of the fixed interaction the ESF can have with the  $\Delta M_{ESCE}$  inside the mass S and the heat contained inside it and with a presence of  $0 < v_L < c$  that justifies the fact that the ESF has a further character of fabric that opposes movement .

At this point is almost matter of fact to relate the two distances of simultaneity,  $\rho$  and  $\rho'$  of S when the phenomenon is observed from O (see page 7) :

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$$\frac{S'O}{SO} = \frac{\rho'}{\rho} = \frac{(c-v_L)t}{ct} = \frac{c-v_L}{c} = 1 - \frac{v_L}{c}$$

the Doppler Effect helps to understand that we are in the right track since its expression of measured  $\lambda$  values from a mass in absolute quiet helps to get the value of  $v_L$  and fixes the absolute limits of existence of  $v_L$  to  $0 < v_L < c$  :

$$v_L = c \left( 1 - \frac{\lambda'}{\lambda} \right)$$

And substituting  $v_L$  in the above ratio:

$$\frac{S'O}{SO} = \frac{\rho'}{\rho} = \frac{\lambda'}{\lambda}$$

Since in S moving at velocity  $v_L$  towards O we must be able to measure the same value of  $v_L$  in absolute we have reason to affirm that the above invariant ratio has the same expression in virtual conditions of measurement.

Nevertheless in the Lorentz's representation, the signal when received by S in movement from O in stationary conditions of quiet though maintaining the ratio  $\lambda'/\lambda$  (displacement towards the violet range of the spectrum), contains more Dominant Force (power) than the one received by O in a stationary condition of quiet from S , for two reasons:

- a) The source O dissipates (in physical universal absolute measurement) at c speed in the first case and at  $c'$  speed (further reduced by time retardation to  $(c-v_L)$  in the second case.
- b) The time inside S is in retardation and during an unit of time t in S is received an amount of mass-energy in dissipation increased by the factor  $t_{RLG}/t = c/c'$

The constancy of the ratio  $\lambda'/\lambda$  gives in S a signal shifted on the violet range of the spectrum and a Dominant Force related to the signal more intense of the one S would have received from O if both O and S had been in conditions of quiet.

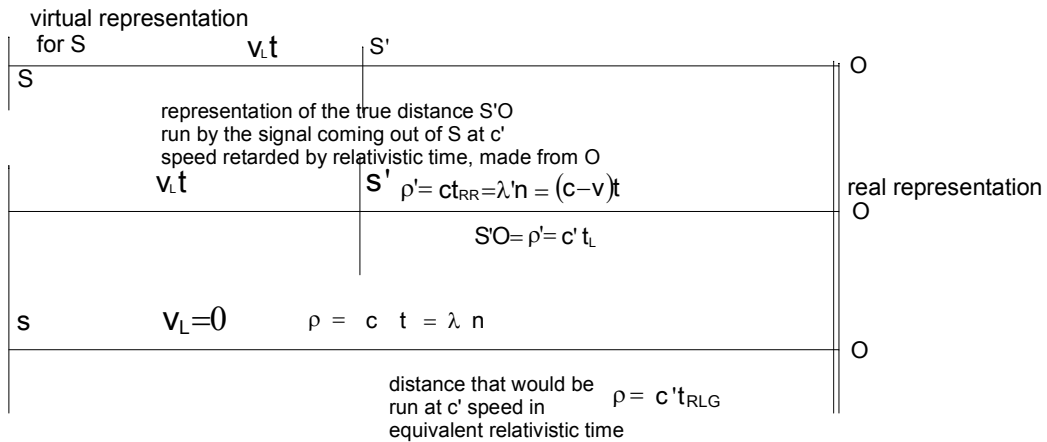
We can now relate with the due changes back to the situation in which the signal is coming from S moving towards us( as stationary observers in O) and due to presence of a fixed velocity  $v_L$  is also shifted towards the violet range of the spectrum.

**The dissipation as observed from us in O is at a local  $c'$  inside the system S whereas in S the time is in relativistic retardation**, and dissipation is further reduced by this retardation coming out of the whole system at  $(c-v_L)$  speed of expansion in the system O as explained .

Simultaneity is geometric and defines existence in the Euclidean space of a physical mass, and the limits of representation through physical transformation require the presence of an absolute physical reference constituted by presence of the immobile ESF and a mass O in conditions of immobility.

In this second case the signal coming out of S is carrying a value of Dominant Force (or power) reduced by presence of  $v_L$  that corresponds to presence of  $\Delta M_{ESCE}$  in S and retards the physical phenomena still maintaining the displacement of the wave signals towards violet range of the spectrum .

Note: This reduction of Dominant Force or dissipation at  $(c - v_L)$  when compared with the conditions of reference considering the objects S observed moving towards O , and O in which the observer resides in a reasonable status of immobility is a phenomenon worth of investigation in the condition that the system S moves away from O.



Note:  $c, t, \lambda, \lambda'$  etc are true universal values to the observer in O and virtual values to the observer in S but can be translated into universal values  $c', t_{RLG}, t_L$  etc.. through considerations of relativistic nature.

Observing from O, with Lorentz's diagram, we are enabled to obtain a geometric transformation **in polar coordinates** representing passage from a known distance  $\rho$  that was called geometric distance of simultaneous observation of images in O to a geometric distance  $\rho'$  still in the Euclidean space in conditions of geometric simultaneity of existence of S in S' where the S has moved at  $v_L$  speed during the time interval  $t$  traveled at  $(c - v_L)$  speed .

whilst the image riding the system S has expanded along a radius S'O and has reached us the position of S is at distance S'O (that we in O can only calculate but not observe).

One last consideration is nevertheless necessary and consists of the fact that if we as observers realize that ours is a virtual situation ( assuming that we are in S our measurements will be absolute but they will not reflect the universal absolute in respect of which our condition is relativistic and virtual ),

there will be a need to switch our position from virtual to real in the above graphic.

This can be readily obtained taking into account that in our system the clock is in retard in respect of a standard point of reference that can be considered in absolute conditions of quiet and the true dissipation is not  $c$  but  $c'$  that gives an effect that we cannot measure since in our system  $S$  we can measure only  $c$  but the measures and observations we make (in virtual conditions) can be used as references helping us to deduct the true conditions of observation that an observer in  $O$  would have of our system, as discussed.

The time retardation in our system, associated with the fact that the true speed of light for us is  $c'$  permits us to develop the calculations giving us a distance of simultaneity of existence also from a point of observation situated in  $S$  which must coincide with the one obtained measuring from  $O$ :

Real measurements in  $O$  and virtual measurements in  $S$  of the distance  $SS'$  also coincide as per graphic above:

$$\begin{aligned}v_L &= c(1 - \lambda'/\lambda) \\SS' &= v_L t \\S'O &= SO (\lambda'/\lambda) = c (\lambda'/\lambda) t\end{aligned}$$

Whilst the observer in  $S$  perceives in virtual reality  $O$  moving at  $v_L$  towards him .

Reference to the relativistic time in  $S$  in which observations made by an internal observer are virtual, to the “universal “ time of  $O$ , regard an operation that in the Euclidean continuum filled of a substance that can be subjected to transformations from a status of existence to another could be defined as a transformation of coordinate representation from a geometric system to another in which the laws ruling the physical transformations of the substance remain unvaried but subjected to the time phenomenon in their development and this phenomenon depends from the ratio in the physical mass of the gravitational-inertial content  $M_0$  of the mass-energy in this status over the amount of the inertial mass-energy  $\Delta M_{ESCE}$  (the portion determining movement).

A condition is established by the fact that a system present as result of ongoing gravitational transformations of ESF defined as physical mass considered in absolute conditions of quiet (“in quiet”) inside the substance ESF measures real true and trustable physical values of transformation called “universal” and as soon transformation changes the physical make up of the physical mass in quiet also the condition of quiet is affected and to detect movements and changes of geometric positions we are forced to enquire about the physical status of the system in reference to data at our disposition and the interaction it has with the ESF and to a basic absolute without which our measurements would come to nothing.

This condition of a system is called “relativistic” and in cases also “virtual” and the substitution(transformation) of virtual values measured by us with real “universal” must be done taking this into account.

The operating procedures described above, have to do with relative movements in the Euclidean space and give a geometric value when a distance is measured in absolute units of time and speed, these values are virtual if the system is in movement and universal if the system is in quiet etc...

The comprehension of the relativistic time phenomenon affecting internally the two systems in conditions of comparison, helps to further the representation of the universal reality in real time.

Once this is done the conditions are set for us not only to calculate as observers, the distance of geometric simultaneity of existence of an object observed in our present whilst we are in conditions of quiet but if we realize that we are endowed of velocity (for example astronauts in a spaceship moving at relativistic speed in respect of a system that can be considered in quiet ) we can determine the real distance of simultaneity from the object observed from measurements made in the spaceship in movement, duly related to the absolute measurements of the real universal values .

The two geometric simultaneities measured from inside the spaceship in virtual conditions and in universal units of measurement must indeed coincide:

$$S'O = c(\lambda'/\lambda) t = c'(\lambda'/\lambda) t_{RLG} = c' t_L$$

The observer in O nevertheless sees S moving towards him at  $v_L$  whilst dissipating at  $c'$  speed from a system in time retardation and when the signal reaches him two geometric simultaneities happen to be ( as earlier mentioned in this presentation ), the distance  $\rho$  ( simultaneity of observation of a signal which coming out of a physical mass that travels at  $v_L$  travels at the compounded maximum velocity  $c$  allowed by the physical presence of the ESF and since after a time  $t$  traveled at  $v_L$  the system S is to be found at a geometric distance of simultaneity of existence  $\rho'$  from the system O, the ratio of the two simultaneities  $\rho'$  and  $\rho$  becomes:

$$\frac{\rho'}{\rho} = \frac{(c-v_L)t}{c t} = \frac{c-v_L}{c} = 1 - \frac{v_L}{c} = \frac{\lambda'}{\lambda}$$

Which can be written as well :

$$\frac{\rho'}{\rho} = \frac{(c-v_L)t}{c t} = \frac{ct_{RR}}{ct} = \frac{t_{RR}}{t}$$

Where  $t_{RR}$  is intended the reduced universal time necessary to run the distance of simultaneity at  $c$  speed, the definition of the standard of time that is the "universal time" solves the problem since now a ratio of geometric distances run at conventional velocity  $c$  gives us the ratio of the geometric simultaneities in this case of observation, and we can write the same

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expression in the following manner if in place of  $c$  we use conventionally the relativistic velocity of dissipation  $c'$  : ( since :  $ct = c' t_{RLG}$  )

$$\frac{\rho'}{\rho} = \frac{ct_{RR}}{ct} = \frac{c't_L}{c't_{RLG}} = \frac{t_L}{t_{RLG}}$$

In which the ratio of distances run at the same velocity  $c'$  (that changes all the time for each different object  $S$  observed moving at different velocity  $v_L$ ) adds to the basic concept of using universal time measurements to measure of distances run at the same speed.

In the case in which the two objects are in nearly circular orbit, as mentioned, the presence of clocks synchronized to the orbital velocity will give a uniform measure of time for the whole system as I mentioned that in the representation of Lorentz's in which the whole system was assimilated to a point, the time was measured inside the whole system through the use of Newton's ULG .

Now in these orbital conditions results very difficult to pinpoint relativistic phenomena, except when we are in presence of recurring collimation of the two objects with the central  $M_{LGM}$ .

Collimation is a condition in which the two objects moving at constant orbital velocities, measuring, in synchrony through the orbital velocity, the constant physical transformation associated to the time phenomenon are expected to return in alignment after a number of orbital runs where they are in a position in which they are to be considered exempt from the Lorentz's time relativistic phenomenon (all the simultaneous distances if not very great are nearly coincident), nevertheless the return in alignment is marred by a geometric phenomenon consisting of advance in the orbital path between two or more successive concomitant collimations of objects in orbit with a far object and the sun.

Note: two successive collimations that happen in time synchronism can be considered a situation in which the geometric simultaneities of Lorentz's graphics as presented above are nearly coincident (since the distances of simultaneity, for a short time interval can be almost equal ) and the clocks result synchronized in measuring the same time intervals putting the two objects in a condition of relative immobility exempt from the Lorentz's representation ) but the expected collimation as described here never happens since another phenomenon of relativistic nature intervenes, it was noted in the case of the expected collimation Earth-Mercury and called "Precession" .

To it another effect can be associated, since the geometric advance carries the clock measuring the Newton's time inside the object observed.

## Simultaneity at large

The use of universal time to measure from inside a system in quiet physical constants associated to transformations, and the determinations of geometric data (distances, angles made independently with astronomical methods and used as necessary reference) and the possibility to extend these data through geometric transformations giving us the possibility to determine distances of geometric simultaneity of observation and of presence in the Euclidean space in real time is the method that permits us to achieve representation of the universal reality in real time.

Note: I want now avoid unnecessary complications, therefore I only mention that the observer does not need to be in quiet since can be able to judge if he is moving, through astronomic measurements and through the status of dissipation of the objects in his surroundings which object is in quiet and refer to it transforming the data he has gathered from virtual to real, (nevertheless this at present is an hypothetical situation since an observation made in these conditions would require high values of relativistic speed at which the observer would perceive the objects coming towards him emitting at higher frequencies than the one of reference a signal more intense than the one expected in the case his system was in conditions of quiet or near them).

This representation permits us not only to determine the distances of simultaneity of existence but to describe how the time phenomenon and the other physical phenomena inside the objects observed evolve locally in virtual time and to refer the virtual time to real time and to have an insight about the manner in which an observer inside the object observed perceives (in various cases of reference), his own reality inside a space of Euclidean characters.

The observations of various objects each in conditions of relative movement made from the point of view of an observer in quiet, is the one more interesting to us since we can assume to be close to that condition and they can be related to us geometrically in conditions of simultaneity of existence (through the Lorentz's graphics extended to the three-dimensional Euclidean space) deducting from the geometric distance of simultaneity of observation the geometric distance of simultaneity of existence of each object (one by one) which data can be united together in building a three-dimensional geometric map of instant simultaneity of existence of the objects observed.

The phenomena examined are fitting well as analogism, with the description of the precessional phenomena which also have a geometric side and a relativistic temporal side and are part of the representation of the universal reality (in the cases in which they cannot be overlooked).

Note: after representing the real time geometric positions of the objects observed (simultaneity of existence) made representing the objects in point-form fashion, if we zoom into the points under examination we discover that they are systems (as assumed) in which the Newton's time phenomenon rules uniformly at a rate determined by presence of inertial component (and, if as part of this exercise we want to represent in more details the local realities we can focus our attention to the transformations due to gravitational nature of the large gravitational mass  $M_{LGM}$  central to the system observed, already available to us for a  $M_{LGM}$  in quiet, and obtaining in this manner an insight not only of the of the phenomenon making a star but what happens to it when moving in relativistic conditions ).

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Note: more involved gravitational situations involving clusters of large masses orbiting each other in more complex fashion, represent a general condition that here is only mentioned. .

Note: if we want to observe and be observed we cannot do so unless we are at safe distance from the scorching source of dissipation sending the signals to the other system and the near circular orbital conditions of movement create in our case on Earth, the ideal situation both for the observation (since for very large distances the diameter of our orbit can be overlooked and we can consider ourselves residing in a system concentrated in a point close to a condition of quiet where time and other physical constants associated to transformations are universal ).

### **Olbert's paradox**

If now in these conditions we observe far away objects in apparent movement leading them away from us in all radial directions in a relation of increase of velocity proportional to the distance from us, the inference would be that we are in a center of some sort, from which all the objects move away.

At this point is to Olbert's paradox that we must direct our attention since Olbert pointed out that due to dispersion, to which the light results subjected, we do not receive the light from distant objects at the same wavelength it had at the origin.

The dispersion is an effect increasing with the distance from the source of dissipation of the signal (the light in our case) and is associated to increase of wavelength.

We see now that the big-bang hypothesis, not only requires that objects move away from us at speed increasing with the distance from us in our point of observation, but has to be associated with our presence in a place, at the centre of the explosion (or near it, since our system is not in absolute quiet, and in the interim between the explosion and now our system must have drifted from the center of the explosion leaving us in doubt in regard to its position and our relative velocity and our gravitational relation with the hypothetical central mass left behind by the explosion ).

In that hypothetic center should be also present huge local densities of masses aggregated under the effect of their own gravity that all along from the moment of the explosion should have carried on falling back one against the other whilst reassembling to form an enormous conglomeration of mass.

Note: this representation at the most can fit our presence in our Galaxy which then could be the result of a separate explosion and not of the great explosion generating the whole universe since in that case an enormous number of galaxies should be gravitating around a super-galaxy etc...

Whereas the hypothesis of galaxy formation better fits the suggestion that from continuous formation of neutronic dust through the gravitational absorption of ESF and successive development of atoms (starting from hydrogen) huge clouds of mass condense under the action of gravity until from gravitational condensation large physical masses start to take shape, and due to gravitational internal forces start transformations producing heat

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and associated dissipation whilst initial hydrogen atoms join to form heavier ones and physical masses become the stars that we observe.

The whole is leading to the present situation, which is the one we continuously observe, when looking at the night sky.

The above presentation taking into account Olbert's paradox, says that, with masses all around us substantially in conditions of relative quiet respect to us, from the point of observation that we have in our solar system and from any other point inside any other systems we invariably perceive in a situation of centrism.

This return to centrism, but only in terms of representation that justifies the increase, due to dispersion, of wavelengths of signals reaching us, (producing the displacement of wavelength that is usually attributed to a Doppler effect justified by movement away from us ) fits well with the observation that though the quantum of light that we receive substantially exists outside the time phenomenon, if occasionally some physical presence disturbs it, in reentering in the universal reality (through time phenomenon, and only during extremely limited time intervals) would be subject to transformation-degradation increasing its wavelength (and dispersion would occur through emission of smaller quanta).

In conclusion we, on Earth, make absolute measurements in a condition of quiet close to absolute and our measurements approximated to "universal" measurements are made as we were in absolute quiet and only perceive the universe in a centrist fashion since the light coming to us is subjected to dispersion which is a phenomenon that makes us believe that all the objects sending us light signals are moving away from us in function of the distance, whereas the phenomenon is the evidence that statistically a quantum of light along its path has the probability to be disturbed in a way that increase of wavelength, corresponding to a transformation-degradation associated to dispersion of mass-energy is dependent from the distance run.

Now if we say that all the masses at increasing distances move away with increasing velocity from the point where we are, any other observer in any other point of the universe should be able to say the same thing, and this is unacceptable.

Note: physical mass moving away from us at a speed getting close to  $c$  in respect to us is progressively dissipating at  $c' \rightarrow 0$  (in the conditions above referred ) and from Lorentz's graphic the geometric transformation requires a  $t_L \rightarrow \infty$  that comes into effect when the system  $S$  moves away at  $c$  speed from the point on  $S$  :

$$t_L = \sqrt{\frac{C+V_L}{C-V_L}} t$$

this makes a possibility that signals emitted a time  $t$  universal after the supposed big-bang explosion took place, from objects moving away from us at very high speed and emitted at reduced speed  $c'$  and reduced power of dissipation could be still lingering on their way back to us at present (in  $t_L \gg t$ )

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in the form of very faint signals of very low power received at high wavelengths.

Note: this possibility comes out if we extend Lorentz's diagrams using a  $v_L$  directed away from the observer.

The background signals that we receive and the above interpretation of the Lorentz's time phenomenon have prompted the hypothesis of the big bang and a closer examination could be determinant in proving that the big bang did not take place and what we essentially receive are emissions originated by objects in a status near to quiet which due to the great distance are reaching us as signals of longer wavelength due to the dispersion that took place along the way.

Necessity forces us to accept that we are subjected to a physical illusion which must be properly interpreted through the phenomenon of dispersion with the comment that we share it with any observer in any place of the universe from a point of observation in which, he is also measuring only absolutes in systems which can be considered in quiet (universal absolutes).

Note: the above comment is not taking into account that other observations especially the ones considering the intensities of the signals in respect of signals of reference can give more info in regard of the status of movement undergone by the objects we observe and tell us what is the status of our motion (see reference to Dominant Forces, page 12 ).

The other hypothesis which consider the big-bang to be not an explosion but simply an expansion of substance which at first concentrated into a primeval egg and after reaching a point of extreme compression, started to expand becoming the physical universe surrounding us, has no physical appeal in the description of the natural world and is just a return to fantasies generated by poetic tales intending to describe the creation.

### **Concluding:**

- a) we have the capacity to measure absolutes and we are in the condition to consider ourselves in relative quiet, and having assumed that we are not moving at excessive absolute velocity (though we are not capable to determine its value) we are not able to make universal measurements but we can make the assumption that our measurements can approximate them, if we consider (after due evaluation) that our system is moving at not excessive velocity proximal to a status of quiet .
- b) we are using the measurements of time referred to Newton's phenomenon in our place inside our system, and considering that in our system (large central mass and satellites in circular orbits), we share the measurement of the time made through Newton ULG with the other components of the system in uniformly constant fashion, we can assume that we can consider our system concentrated in a point in absolute quiet in which the time measured is the universal time.

In this situation our purpose is the simultaneous representation of the universal reality in real time and in geometric terms inside the Euclidean space, from a fixed point of observation where we measure with

instruments that give us physical info related to mass-energy transformations happening in variable fashion in accordance to the status and the size of the physical mass in which the observation is made.

In the attempt to solve problems of representation of status of masses in different physical conditions the first necessity is in fixing a reference and this is done assuming that our system is in quiet and measuring the Euclidean distance of reference as best as we can through methods that are little affected from temporal phenomena.

After that we can start to proceed measuring physical phenomena in our system and relate them to the info coming out from other systems in the manner explained in this presentation etc...

This enables us to deduct from measurements related to transformations of physical nature geometric transformation of the geometric distance of simultaneous observation of signals coming at fixed  $c$  speed from known distances into the correspondent geometric distance of simultaneous existence (as described) .

Some more info regarding the method I used :

We start our task inside this Euclidean universe and measure distance  $ct = \rho$  (for example with the method of the parallax ) but we still are stuck to a situation of approximation since the time  $t$  we measure on Earth "is not" the universal time but it is only "close to it " is a relativistic measure of time, is a value :

$$a) \quad t_{RLG} = \frac{c}{c'} t \approx t$$

That since we do not know the absolute value  $v_L$  of our system but we can assume that the ratio  $c/c'$  is very close to the unity the above  $t_{RLG}$  has been approximated to the universal time  $t$  that is a measure of time obtained through the return of our conditions in orbit to a recurrent collimation with a far away object and the sun (considering the sun and all the satellites and objects in his system in absolute condition of quiet when restricted to a point ), a phenomenon tied up to a physical transformation of almost insignificant magnitude released by the static Force in orbit described by the ULG of Newton.

After that we make measurements of time and consider distances that permit us to consider the whole gravitational system to which we belong, concentrated on a point.

The approximation made in a) is within a context of  $c' \sim c$  since we assumed that the relativistic absolute velocity of our system is a low value in respect of the condition of quiet but a similar approximation cannot be done ( as it appears that has been done in a context in which our system is in quiet and velocities  $v_L$  of objects observed are high in value since then  $c'$  cannot be approximated to  $c$  and with  $c' \ll c$  the to assume  $c' \sim c$  has no merit.

Once we assumed the validity of the approximation made in a) above we need not to make further approximations and use the Lorentz's transformation obtained in function of the existence of the ESF (as part of this presentation) :

$$\frac{\rho'}{\rho} = \frac{ct_{RR}}{ct} = \frac{t_{RR}}{t} = \frac{c't_L}{c't_{RLG}} = \frac{t_L}{t_{RLG}} = \frac{c't_L}{ct} = \frac{(c-v_L)t}{ct}$$

We can use arbitrarily any of these representations but then we need to specify the unit of measure in which a space distance is traveled which if is  $c$  gives us a reading of geometric transformation from  $t$  in universal time to  $t_{RR}$  also in universal time and if the basic distance traveled in the universal unit of time is  $c'$  gives us a reading of geometric transformation from  $t_{RLG}$  to  $t_L$  also in universal time.

If we use the same units in the ratios we can dispense the common unit and represent a ratio of times run at the same speed with a ratio of distances but if we want ratios representing different distances run at different speeds we must define at what speed they were run and the time intervals necessary to do so, or if we want a representation of two different distances run at identical time intervals we just need to say at what speed it happened , Example:

$$b) \quad \frac{\rho'}{\rho} = \frac{c't_L}{ct} = \frac{c-v_L}{c} \frac{t}{t} = \frac{c-v_L}{c}$$

That for two identical distances run at different speed is giving a ratio of different times read at the universal clock equal to the inverse ratio of the speeds :

$$\frac{t_L}{t} = \frac{c-v_L}{c'}$$

This by all means is a valid representation but in the theory of Lorentz adopted by Einstein to  $c't_L$  in the ratio of simultaneous distances, was substituted  $ct_L$  :

$$\frac{\rho'}{\rho} = \frac{ct_L}{ct} = \frac{t_L}{t} = \frac{c-v_L}{c'}$$

The reason of this assumption has never been disclosed and after that both of them struggled to come to terms with this incoherence.

- c) The universe is full to infinity and not expanding since it cannot expand into something that is called vacuum.

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The reasoning behind this is that vacuum in a space totally devoid of substance is a category of the mind necessary in mathematics but has no physical justification.

- d) Explosions are at the base of fast transformations-degradations originated by sudden internal changes of status of the m-e producing the large Dominant Force that we perceive as explosion since the surrounding physical environment is unprepared to oppose a Large Dominant Force without disruption, explosions happen continuously and are part of the universal reality,  
Novae, supernovae are examples of sudden release by the physical mass of Large Dominant Forces) and our solar system could one day be the place or near the place of an explosion.