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Physical Laws, Absolutes, Relative Absolutes and Relativistic Time Phenomena

Antonio Ruggeri
modexp@iafrica.com

Since in the field of knowledge we deal with absolutes, there are absolute laws that contain the truth. A test of their verity is that they not only give true results but permit us to advance. These laws, then, are the foundation at the base of advances and cannot be put aside. Once accepted for what they are, they must become an integral part of our new knowledge. As time passes, they can be expanded or reinterpreted, but never denied. In other words, the previously discovered true knowledge becomes part of a new view and without fail, stands the test of criticism. In the search for a description of reality in the physical universe, the following achievements stand firm in the field of knowledge:

The law of conservation, requiring the concept of substance: the laws of gravity requiring presence of a medium (the Ether), between physical masses: Pythagoras' theorem: the Euclidean definition of space: the use of mathematics (numbers, algebra, calculus): all of them representing the necessary steps leading to true knowledge. These laws together with physical concepts and syntheses, lay the groundwork. They are the tools needed to add many other laws and concepts necessarily associated with our search.

I find it convenient to restrict the mention of the results of further advances to the Cartesian effort leading to the representation of universal reality in three dimensions, to Galileo’s graphics extended by Lorentz in order to take into consideration the speed of a signal when the objects observed are at a great distance from one another. Also to Newton’s ULG, to Einstein’s Law of equivalence and to the efforts he directed to improve on Lorentz's representation, to the Doppler Effect, to the ongoing efforts intended to determine the structure of the atoms, the presence of the open cycle of transformations-degradations based on the existence of the Ether, the conservation of mass and of its spin characteristic and the existence of phenomena of transformation-degradation generated by the gravitational phenomenon producing what is called the gravitational relations between masses, the presence of unstoppable cyclical vibrations inside the mass (also of gravitational character) associated with temporal effects and many other phenomena related to the transformations-degradations and the time involved in their deployment in the presence of different amounts of inertial mass (purely associated to values of relative velocities between objects or in relation to an assumed absolute value).

From the search for the description of universal reality comes the realization that we have to give a true definition for the time phenomenon inside a physical object made of solid (tangible) mass, associated with the presence inside it, of various amounts of inertial mass in various physical circumstances (to which invariably corresponds to the presence of velocity) and to the measurements of the geometric nature at the astronomic level of observation, made at intervals of absolute time and space running at known speed.

This search produces the realization that movements and vibrations, of unstoppable nature are generated by internal transformations-degradations happening at the atomic or macroscopic level of the substance constituting the mass, into different states of existence. To these states, we have to discern the true properties of that which they are endowed and how this enable them to influence natural physical phenomena. These properties must then be based on interrelations between the solid masses, whose presence permeates the universe and the ether surrounding it.

We reach the point where we postulate that the ether or energized space fabric (ESF) is at the beginning, absorbed and transformed into a part of the mass that we call “gravitational mass” and at the end of the open cycle of transformation-degradation, having gone through a concatenation of cause, whose effects have bearing on the physical reality of the objects belonging to the Universe, mass is dissipated by the solid mass as heat.

The nature of physical objects provides us with regular phenomena of different origin, whose representation can be acceded through the expression of concepts in mathematical form. They are called analogies and parallel phenomena. Here are a few of the many possible examples:

Analogy / parallel phenomenon:

- Speed of sound in a medium of given characteristics, its connection with the wavelength of the sound and its frequency, and the Doppler Effect in regard to the wavelength of the sound signal measured in conditions of relative movement.
- Speed of light inside the ether, its connection with the wavelength of light and its frequency and DE with regard to the wavelength measured in conditions assumed to be in relative motion.

- Moons orbiting a large mass as in the case of Jupiter, allowing Galileo to assume by analogy that the Earth as well, was orbiting what he perceived to be a large mass (the Sun).

- Degraded gravitational mass binding atoms and molecules and dissipation of it as m-e endowment of spin bound to the mass of the atoms that after transformation-degradation move in a haphazard fashion.

- Degraded gravitational mass binding neutrons and protons inside the atoms and dissipation of it as pure m-e endowed with spin in the ether/ESF.

- Transformations-degradations taking place in the Borehole/pendulum phenomenon activated by gravity

- Cycle of transformation-degradation also activated by gravity in the form of cyclical vibrations in a mass subjected to precession and in a large gravitational mass (LGM) subjected to its own gravity.

- The hydraulic phenomenon in which the transformation-degradation of gravitational nature occurs, transforming what we call hydraulic load into an equivalent value of kinetic energy of the mass affected.

- The limit phenomenon in which m-e endowed spin as heat is depressed c times and moves at c speed inside the ESF as dissipation.

- The mathematical relations ruling distribution of water flowing inside networks made of conduits under pressure and the related losses of hydraulic head due to friction are the same as those ruling the distribution of voltages and intensities of electric currents subjecting the cables to losses due to Ohm's Law. They describe phenomena in which the physical entities take analogous places.

- Presence of Newton's universal Law (ULG) and analogous ULG of Precession, having the same mathematical expression but different physical meanings of the phenomenon, though the constant remains the same.

- Field of gravity and field of dissipation having the same mathematical expression but different physical meanings of the constants and of the phenomenon in general.

Etc.....

Further on during this presentation, the concept related to analog/parallel phenomena will be useful when dealing with the relativistic time phenomena inside two different masses endowed of different amounts of inertial components.

The phenomena based on known physical laws that can be expressed through equal mathematical relations and physical equivalences, can fill a long list but here I consider that what has been said is enough to display their invaluable contribution to the physical sciences.

We now investigate with the same analogical procedure, the dynamics of physical objects and their temporal relations to a time phenomenon of reference, (the one of the Observer) leading to the real time representation of the presence in the Universe of the said physical objects.

The situation that presently prevails has been introduced by the uncanny capacity of a single individual (Prof. A. Einstein) to produce in the field of knowledge the following declarations without the support of a solid theoretic base:

a) one true Law ($E=Mc^2$) that still needs to be truly investigated and whose meaning needs to be extended to the Law of "increase of the inertial mass with the increase of velocity "(also of his formulation) and to other new concepts such as the spin character of the mass-energy, as presented in the new theory that I developed.

b) one practical exercise: the prediction of the bending of the direction of a light signal when tangentially moving, close to a large gravitational mass.

c) Calculations pretending to explain the precessional phenomenon (lacking universality) which give an illusory formula valid only for the planet Mercury.

d) The unheard of and non-physical assumption that a representation of the physical Universe in real time could be made using a transformation of metric coordinates from a mathematical system of representation including time as a metric coordinate, to another system also including time in a way that the change of representation could envelop the physical changes of universal reality, permitting a representation of the universe in real time.

Space-time is undoubtedly an original concept, very appealing to mathematically-versed individuals, but it has a limited place in physics, where two physical entities, space and substance contained in it in particular conditions permit the general emergence of the time phenomenon on an universal basis. The time phenomenon must nevertheless be restricted to the local conditions prevailing on the mass in which it is observed, and time phenomena in a system are an absolute-relative of the system.

Therefore if we position ourselves as observers inside a system, we relate the absolute-relative time to us and relate the time inside another system to the difference of inertial mass (presence of relative velocity in the second system) between the two systems.

When the phenomenon can be observed in an analog/parallel manner, we have the case of relativistic time, but when this is not possible since the time phenomenon is related to the mass in observation through different criteria or laws like in the case, (basically geometric,)

investigated by Lorentz or the case of geometric temporal bound to gravity which is precession, and other cases whose existence here is only mentioned etc...

Note: In the way it is presented here, only the time phenomenon between two systems made up of masses having inertial mass in different proportions, is an analog/parallel phenomenon.

In space filled with substance, continuous natural processes in the mass that basically are reactions at atomic internal level, are expressed through the concept of transformation-degradation of substance, from one condition to the successive one, tied through causal effect.

And these transformations-degradations (physical phenomena inside the mass in question) must be present on a way that when we compare them, they are related through analog/parallel laws which are immutable. If then, the mass of the system changes its inertial content, all the physical laws are affected in such a way that internally all the physical phenomena (including the one related to the measurement of the time) remain invariable but adjust themselves to the new situation. The time in the system remains an invariable phenomenon for the observer inside it. (We reach the conclusion that the time is invariable inside a physical mass, no matter the contents of inertial mass.)

This, when two systems are concerned (the one at rest containing the observer) permits the comparison of two related time phenomena. The one is related to the observer and the other, relative to the system in motion. The relation between these two measurements of time is called relativistic and the time measured in the second system using the clock of the Observer, is called “relativistic time, t_R “.

The basic transformation-degradation related to the time phenomenon is measured through a device used to produce movement and to report physical information that measures a fixed amount of transformation-degradation. (We call it the time necessary for a fixed amount of transformation-degradation to happen under given physical conditions as measured by a clock).

The present situation in physics is a state extreme confusion due to the acceptance of the space-time intuition.

Given that the assumptions regarding the objects under examination, (i.e. the observer at rest and the object observed moving relatively towards the observer or away from him, therefore containing inertial mass) were the true ones, the representation of objects surrounding the observer, made on a one to one basis, is given by the Lorentz's relations (that can also be described with the use of graphs). In such a representation, the system observed is a sidereal object moving in the direction of the observer or away from him, and the distance is expressed as a polar coordinate of length ρ (always positive). It needs

only the angles θ and φ , in order to give a fixed representation in the universal map. Note : if the object observed is at rest, it is considered to be integral part of the system of the observer in which the speed of light is the constant, c .

The Lorentz's relations, according to Einstein, would reduce the length in real time to $\rho' = \rho - vt$ with regard to an object observed as $\rho = ct$ under geometric-astronomical criteria. The moment the signal was emitted, we have the following equivalences :

1) $c't' = ct - vt$ giving $t'/t = (c-v)/c'$

where according to him

$\rho = ct$, $\rho' = ct'$

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

which according to him, can be expressed as $\rho'/\rho = t'/t$ and the position ρ' would be unequivocally individuated through the angles θ and φ used also for ρ .

This was the first attempt to describe universal reality and we must now analyze its meaning in order to assess if the above interpretation and formulation is true or false.

We can already see from the start that I did not refer the time in 1) as relativistic t_R but I expressed it as t' and I define it here as "Lorentz's time" and this concept is now identified.

First of all, the value of c' represents an equivalence that in Euclidean space is related to Pythagoras' theorem and we must conclude that $0 < v < c$ we also conclude that there is correspondence between v and c and c' and that the relation is an equivalence in physics and a mathematical identity in mathematics and as such, when referred to substance, expresses the principle of conservation and cannot be overlooked in any circumstance:

$$c^2 = c'^2 + v^2$$

Its physical meaning is that if we were able to determine an absolute value of v, the velocity of dissipation that is c for v=0 would become c' for v = v, but now, 1) gives :

2) $ct = vt + c't'$

since $ct = \rho$ is known and vt is the distance covered during the time t by the mass under observation (and represents a geometric statement

which is dependent on the value v that has to be evaluated through observation of the light signal), Tthe balance of the distance :

$$\rho' = \rho - vt = c't'$$

is bound to a value of time t', Lorentz time, at the clock of the observer and is related to the transmission of a signal which as consequence of the Doppler Effect, is under compression if the object observed goes towards the observer (and under expansion in the opposite case).

I give here the solution of the value of v, related to the theory of the Ether/ESF and to the description of the architecture of the atom in the context of the Doppler Effect (DE):

$$\rho = \lambda n \qquad \rho' = \lambda ' n$$

in the same context using the 2) the relative velocity is:

$$3) \qquad v = c (1 - \lambda'/ \lambda)$$

if the movement is towards the Observer and $v = c (\lambda'/ \lambda -1)$ in the opposite case , we have then that 2) becomes :

$$\rho' = c't' = c(1-1 + \lambda'/ \lambda) t = ct \lambda'/ \lambda$$

$$\frac{c't'}{ct} = \frac{\lambda'}{\lambda} = \frac{\rho'}{\rho}$$

now this relation that has been obtained through respect of true laws and must be true. Therefore, the assumption in 1) $\rho' = ct'$ is false .

whereas: $\frac{t'}{t} = \frac{c-v}{c'}$ $\qquad \frac{\rho'}{\rho} = \frac{c't'}{ct} = \frac{c-v}{c}$

But now t' represents the time (read at the clock of the observer) necessary to cover the distance ρ' at the value c' of dissipation coming out of the object observed.

In any case, we do not need to be brought into error since t' can only be read at the clock of the observer (we cannot read simultaneously a clock in S' but even if we managed to read it through experiments prepared *ad hoc*, the clock in S' would be a relativistic clock and of no use).

Now considering that the whole distance $\rho = ct$ is also:

$$t' = \frac{\lambda'}{\lambda}\frac{\rho}{c'} \quad \text{where} \quad c' = f(c,\lambda,\lambda')$$

this amount of time is not the relativistic time as one would like to believe, but still is a very important time value on our quest to achieve the representation of universal reality. It is what I called “Lorentz's time”. Although it depends on the same energetic characteristic of the signal

permitting us determine relativistic time (provided we, the observers, are at rest), it represents the time on our clock that a signal travelling at c' velocity from system S' takes to reach its real time position in the universe in the present.

It is deducted from information received which was sent to us a time t in the past from object S (at rest with respect to us) situated at known distance, emitted at a value of dissipation c, (S belonging to our system and not to S') and from information related to the atoms in the mass of S', permits us to evaluate the values λ and λ'.

Now that we know the position of the object S' under observation we need to know how the time phenomenon runs inside it. This is the true relativistic phenomenon which interests us and will permit us to make further advances in the representation of reality.

The physical phenomena, in O from which we observe, and the ones in system S', are not synchronous (they represent an analog/parallel). Since we assumed that our system O is at rest or near rest and system S' is moving at relative velocity v with respect to us, the mass in S' possesses an amount of inertial mass ΔM to which corresponds the velocity v with respect to us in O, and which is responsible for the time retardation relative to O.

The presence of a ΔM inertial in S' corresponds to a measure of m-e endowment of spin that in the physical world is measured by the effects on the mass (the velocity v in this case) and from it we determine the kinetic value of the m-e associated with movement :

$$\Delta Mc^2 \approx \frac{1}{2} Mv^2 \quad [kJ]$$

This, in non relativistic conditions.
The mass M under observation is made up of a portion, M_0 gravitational-inertial and a portion ΔM only inertial (as described) and will result in :

$$\Delta M_{\,inertial}\,(v) = M - M_0$$

$$(M - M_0)c^2 \approx \frac{1}{2} Mv^2 \quad [kJ]$$

From which :

$$M_0 \approx M\left(1 - \frac{v^2}{2c^2}\right)$$

That is an approximation of the expression :

$$M_0 = M\frac{c'}{c} \qquad M_0 c = M c'$$

An equivalence (which is also an analog/parallel physical phenomenon) representing that for $v \rightarrow c$ the spin characteristic of the mass due to the increase of inertial mass, gradually loses its capacity to interact with the ESF (since c' is dissipation).

After transformation-degradation of the gravitational characteristic, the increase of inertial mass is retarding the temporal phenomena and has a bearing only on the mass in motion relative to the one at absolute rest. Therefore, we can safely say that the relativistic time in respect to M_0 is bound to c', the relativistic velocity of light in system M endowed with inertial mass (which is also a value of dissipation from System M decreasing with the increase inside M of the amount of inertial mass ΔM):

$$\frac{M_0}{M} = \frac{c'}{c} = \frac{t_R}{t}$$

If we were able to determine the absolute value of v we would have the absolute measure of relativistic time through the knowledge of the value v, but our limited knowledge of motion of the observer in O gives us an absolute but local value of c. Therefore, the relativistic time in S' is with respect to the time in O :

$$t_R = \frac{tc'}{c}$$

Where the value v inside c' is obtained through the 3).

We do not have access to the Local Clock in S' but we still can calculate the time phenomenon.

At this point we can say that we made a further step towards representation of universal reality since (through Lorentz) we knew the position of the object and now having determined the (analog/parallel) relativistic phenomenon of the time in S' we know what is going on inside it with respect to our clock. This depends on the fact that we possess the temporal formulation of relativistic time in the function of observable physical values in our system and we can relate it to the measurements of our absolute-relative clock (the clock in our system that depends from a phenomenon in which we can assume v=0).

A lot can be added to these initial intuitions that I am trying to communicate but in conclusion, we have pointed out two relativistic phenomena giving us access to our goal; Lorentz's time and relativistic time. To measure their effects, we needed the use of a device, our local clock, tuned to a physical phenomenon (that can be gravity) in our

system of observation (O that we assumed near rest). Since we do not know for certain if our system is in a perfect state of rest (and we also know that this is not the case), we say that although we can measure absolutes, they are relative to our system, as is time: “an absolute measure relative to our system”.

For the time being, one phenomenon has been set aside since it depends on gravity. We investigated the case between two objects in absence of a gravitational relation between them. It is a precessional phenomenon and is bound to a geometric temporal effect tied to continuous transformation-degradation internal to a mass in orbit. It is also of a relativistic nature and it will be investigated in due course, under General Relativity.

The study of precession brought on the observation that not only is it an universal phenomenon, but a similar phenomenon is present in Large Gravitational Masses and its effect brought me to formulate the amounts of transformation-degradation from internal gravitational mass into heat, and the amounts of its dissipation into the surroundings at c velocity.

Finally, since in these presentations the objects observed were considered point-like, another necessity arose and Pr. A.E. made an attempt to use tensoral calculus, a property of the elasticity theory to complete his presentation of universal reality.

The solutions related to problems of elasticity had been investigated on Earth, in the three dimensional continuum and in most cases they require extremely small deformations that makes unlikely to apply to a theory considering extremes of velocities. In the theory of elasticity, time comes rarely into consideration and phenomena are observed in conditions of simultaneity. What could be changing inside a system in movement is that when it reaches high velocities, the presence of inertial mass pervading the atoms and the bonds between atoms can induce alterations of physical effects. At present, I have no knowledge of these alterations.