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ABSTRACT

Einstein, in the equations of the General Relativity, departs from three premises: 1/ Equivalence between inertia, gravity and mass. 2/ Distortion of the space for the mass, and equivalence between mass and spatial distortion. 3/ Equivalence between gravity and uniformly accelerated motion. From this viewpoint conceptual and pre-relativist is where I have something to add. I try to postulate the braking effect as equivalent to gravity. Then results it make more understandable the gravity, the inertia, the uniformly accelerated motion and also the mass. In the present moment, at the end of the article, I add some considerations on mass, dark energy and dark matter specially.

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INTRODUCTION

I speak as philosopher specializing in Quantum and Relativist Physics, and present the braking effect as a gravity' s premise. I start from the viewpoint that there is a double-sided aspect to the great discoveries of Physics: the previous axiomatic conception and the subsequent mathematical equations or the objective verification. My goal is to discuss the intuitive aspect of gravity, our understanding of it.

Precedents to Einstein's premises

I will remember: Galileo, Newton and Riemann. Galileo sensed a proportional relationship or equivalence between inertia and mass. Newton established the Law of Gravity and the Laws of Motion. With the Law of Gravity, the proportionality of gravity and mass became clear. With his First Law of Motion, Newton postulated the objects' inertia to remain at rest or in motion. With his Second Law of Motion, Newton established that an object's acceleration was directly proportional to the force that propelled it and inversely

proportional to its mass. Riemann understood a relationship between the forces and the distortion of spatial geometry, and he opened the door for curved space and multiple dimensions within Physics and Mathematics.

Einstein's pre-relativist premises

We can summarize in three premises:

- *Mass is equivalent to inertia, and mass is equivalent to gravity*
- *Mass is equivalent to spatial distortion*
- *Gravity is equivalent to uniformly accelerated motion.*

Einstein's elevator

Concerning the gravity as an equivalent to uniformly accelerated motion, we know the effects of acceleration that simulate gravity. The most famous example is the one about the elevator Einstein explained. The case is that, for Einstein, gravity is a uniformly accelerated motion. In that respect the new premise I am trying to add, the braking effect, adds a different twist: *gravity is not a uniformly accelerated motion, it only attracts in a uniformly accelerated motion.* As, equally,

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gravity is not a spatial distortion, it causes spatial distortion. This is what I will now explain.

Objects that carry gravity themselves

Imagine two continuous force vectors which interact and pull in opposite directions. One acts as the brake of the other. But now let us get closer to the subatomic particle and their surroundings. It is important to conceive the particle as a vibratory complex capable of manifesting itself with its corresponding interactive force. And it is important to conceive the space as a full one, far from the idea of emptiness.

The braking effect

We need two continuous force vectors to interact, pulling in opposite directions, so that one acts as a brake for the other: space and vibratory complex of the particle.

Space

I think that space has a vibratory nature and is expanding. I name vibratory space expanding.

Vibratory complex of the particle

A particle, or its corresponding vibratory complex, is a huge accumulation of energy in an incredibly small space, and this entails the existence of centripetal forces or vectors of containment. I see the interactive forces as a manifestation of this centripetal function.

The braking effect is the interaction of these two vectors: Space and particle's vibratory complex. An space at light velocity. The braking effect, that vibratory complex of the particle exerts on the expanding vibratory space, is gravity.

The braking effect is consistent with the facts

Is consistent with the three aforementioned pre-relativist premises:

The braking effect is consistent with the first premise: Mass is equivalent to inertia, and mass is equivalent to gravity. *The braking effect creates the inertia, the gravity and the mass.* The braking effect is consistent with the second premise: Mass is equivalent to spatial distortion. *The distortion is a consequence of the braking effect as continuous force.* The braking effect is consistent with the third premise: Gravity is a uniformly accelerated motion. *It is capable of conferring a uniformly accelerated attraction motion, due to this constant attraction force. The uniformly accelerated motion is the effect, it is not the cause.* Overall, *the statement that the braking effect, inertia, gravity, spatial distortion, uniformly accelerated motion and mass are equivalent becomes understandable. The Braking effect is consistent with gravity and, from hypothetical manner, I consider that is coherent with the rest of the interactive forces: electromagnetic force, strong nuclear force and weak nuclear force.* From far away it presents itself as gravity-braking, and from up close (next to adequate receptor) it presents itself as the corresponding electromagnetic force, strong nuclear force or weak nuclear force.

How does the braking effect occur

Always as a viewpoint of a philosopher

- *We know about the spin or rotatory effect, and we know about the interactive forces of the vibratory complex of the particle. We can understand that all of this is like the tip of the iceberg of this complex vibratory reality.*
- *The relativist calculations have given the particle a huge concentration of energy, from which the interactive forces are only an insignificant part.*

It makes sense to understand that this great concentration of energy has to involve a revolving aspiration effect, collecting this energy, in order to preserve the difference of energy with respect to the expanding vibratory space.

It makes sense to understand a centripetal vector for the braking effect.

Schrödinger's equation is at the center of the quantum conception

When this undetectable vibratory reality interacts with the suitable recipient, the so called wave collapse takes place.

At this moment the vibratory complex goes from undetectable to presenting itself as material particles, with all their interactive properties, and my understanding is that then the centripetal vector that causes the braking effect manifests itself.

Final considerations

It makes sense to think that a great concentration of energy, like the one that occurs inside the particle, interacts with its surroundings and exerts a braking effect. But I, as a philosopher, what I want principally to emphasize is the braking effect as a schematic mechanism for gravity. And I think that we have a great challenge ahead of us, the mathematical challenge to this new premise—the braking effect. Finally, I consider opportune to mention some ideas or theories that I believe in a similar line than braking effect exposed for me:

- Leonardo Fernández-Jambrina, President of SEGRE, affirms that premise gravity equals uniformly accelerated motion is not a consistent theory.
- There is the Higgs field and the mass formation from that field.
- There is the theory of Puthoff, Haisch and Rueda, and the interaction with Zero-Point-Field.
- There are the scalar theories of gravitation and the theories that make use of a scalar field for the Universe.

Present considerations (September-26-2014)

- The vibratory space expanding has been proved and accepted. In July-2012 was discovered the Higgs' boson and the Higgs' space. A vibratory space demonstrated. Already, at the end of 1999 is observed the acceleration of dist and galaxies. Altogether, a vibratory space expanding, that I speak many years ago.
- Now the Higgs' boson are in study, searching your functions. It is accepted who give mass to particles. I think

that for the braking effect it gives the gravity and at the same time the mass and the inertia.

- Mass is gravity, traslation force and interactive forces, in a vibratory complex, that we perceive as matteria.
- I thing that the vibratory space expanding move also the traslation of the particles in a continous force that tend to acceleration. This acceration can simulate dark energy.

What has been presented as enigmatic dark energy becomes very clear in my Cosmology. It is not necessary to appeal to a new energy: the expanding vibratory space or Higgs field explains everything. The particles that travel through it do so by being transported by the kinetic energy that Higgs bosons confer upon them. That is, these bosons confer two types of perpendicular forces, one for the braking effect and another one for the translation of the particle. And the energy of translation acts with a continuous force, in a way that it confers on the particle a uniformly accelerated motion, with the speed of light as its limit, because it is the expansion speed of the aforementioned space or field. Out of the two forces—braking and translation—the latter prevails, which ultimately results in a Universe with accelerated expansion.

- In a similar way we can understand dark matter: the forces that determine the gravitational braking may vary and should be reviewed according to the pressure and distance. It is easily understandable that in the centers of galaxies, for example, these forces are increased by pressure, which simulate the dark matter halo. Or when the translational force is increased by the distance simultaneously increase the braking effect.

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