



RESEARCH ARTICLE

NEW EVTD2 PHYSICS: APPROACH OF GRAVITY BY THE EXISTENCE OF THREE BLACK HOLES ON THE MASS CENTERS' AXES. THE FREE FALLING IS A PARTICULAR CASE

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ABSTRACT

Attributing the existence of three black holes on the two mass centers of gravity axis allows a more refined understanding of the gravity phenomenon. In the New Physics EVTD² is the objects' blackbody photon emission that actually creates photonic quantum fields, called gravitational in classical physics, who can generate mini black holes (MBH) that are electromagnetic effects. They appear, on the one hand, inwardly of the body in their centers of gravity (with pseudo-symmetry), and secondly, to the outside space, in zero resulting potential O between the two masses. So, the three MBH combine their effects, based on electromagnetism, in generating gravity of the general case but, also for the more particular, the free fall of bodies. Thus gravitation could link to electromagnetism and it no longer represent an independent force, but to attach, through its electromagnetic context, to the association electro-weak force. The uniqueness of the bodies' free-fall case consists in almost juxtaposition of point O with the mass center of gravity of falling body, so it is inside of it. Therefore, the falling body mass itself does not matter for the acceleration of fall: indeed the balance is then in the attraction of MBH, for example those of the Earth on the other MBH, almost confused in the falling mass.

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INTRODUCTION

This paper continues the recent works (Conte and Roşca, 2017; Conte and Roşca, 2017; Conte and Roşca, 2017; Roşca and Conte, 2017; Roşca and Conte, 2017 and Conte and Roşca, 2015) to refine the best understanding of gravity in general and, its special case: the bodies free fall on Earth and on Moon, for example. It was suggested, by adapted calculi, that a mini black hole (MBH) was likely to exist on and around the zero resulting potential O . This is also arising of the photonics nature and, therefore, quantic gravitational fields that allow destructive interference of these photons to the point O , which suggest, in addition, a concentration of energy resulting from these destructive interference at this point O : hence the existence of a suitable MBH (Conte and Roşca, 2017; Conte and Roşca, 2017; Conte and Roşca, 2017; Roşca and Conte, 2017; Roşca and Conte, 2017 and Conte and Roşca, 2015). Photons are emitted by the masses according to their emission surfaces to their equivalent black body temperature T_e . As regards the specific case of body free fall it was found and referred to, that the corresponding point O was located within the falling mass.

The distance between O and the center of gravity of many masses, in free fall, does not exceed, by calculation, a few tens of microns. Thus it is then a different situation from the general case in which the point O is located clearly outside of the two masses on the centers of gravity axis. Also it was suggested, by assumption, in all masses with a pseudo center of symmetry would exist in this center such MBH (Conte and Roşca, 2017; Conte and Roşca, 2017; Conte and Roşca, 2017; Roşca and Conte, 2017; Roşca and Conte, 2017 and Conte and Roşca, 2015), more or less important following the mass value of the body. This is linked to the work (Roşca and Conte, 2008), "on the emergence of black holes within the EVTD²entities theory". But this study was limited to a comprehension test on the supposed existence of very intense black bodies that would be present in the hearts of pseudo symmetrical galaxies, for example. Since the understanding has grown in condensed matter itself by analogy, it presenting a pseudo symmetry. This from emissive body photon radiation of different sizes such as mainly the stars in a galaxy and especially the electrons of the constituent atoms, emitters of electromagnetic waves, in large numbers in condensed matter, having mass and also a quasi-symmetry.

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Analog description of black holes generation in galaxies and in quasi-symmetrical bodies

For each of the two cases cited in this paragraph title, *the emergence of black holes starts in the very small entities EVTD². This has nothing to do with the collapse of a large mass which would generate a black hole.* We must remember that the theory EVTD² structure the space-time in fully quantum way (time and size) and in energy h because it comes from the basic way of electromagnetism. *So photonic emissions from their surfaces (black body equivalent) temperatures T_e are integrated and perfectly superimposed in the electromagnetic quantum space.* The cosmos as well as within the condensed matter (in both cases less than 5 % of actual volume occupation (Durr *et al.*, 2008) by the various corpuscular constituents) allow a fairly good transmission of the photons in these two types of spaces. The regular distribution of electrons in condensed matter of a rounded celestial body let us pretend that the center of gravity may be a pseudo-symmetry center. So in that common center, the right conditions are made to create the appearance of a black hole, analogy with (Roşca and Conte, 2008). This, by parallelism of parts of the photonic gravitational equipotential surfaces in EVTD². It may therefore be a good energy compaction and so, there is no more beyond photonic compliant transmission because *there is destructive interference of all photons arriving at MBH in the O area.* So there is in the MTN incident photon energies which are transformed into another form of energy in agreement with the principle "nothing is lost but everything is transformed".

Thus the formed black hole can no longer emit electromagnetic waves as is seen nowadays, with no real classic explanation. But then this leads to the following question: what is this new transformation energy? It seems likely that the latter is a calorific form (heat). But then, a new question: why the concentration of heat does not generate equivalent black body photon radiation? By the EVTD² entities theory it is easy to respond that these entities do not have condensed matter (with atoms and electrons) but which are filled with what we called the *Substratum*, which can be assimilated to dark matter of current physics and, which is ultimately the substrate of all spaces in EVTD² entities theory (Conte and Roşca, 2015). Then, *this MBH may not emit any radiation and this fully justifies its name of the black hole.* In the next logical step it therefore happens, by this reasoning, *suggesting that the centers of gravity of almost symmetrical masses would be occupied by black holes* as the heart of galaxies or the centers of the Earth and the Moon, among others. Knowing that a black hole has attractive forces that are still called gravitational and because of its possible existence in the center of the masses *that would explain, briefly and generally, the consequently participation of masses to physical phenomena involved in gravitation.* But it must be added to this that greater the mass of a body and having more electrons and, more the corresponding forth of central black hole will grow in photon energy, especially regarding equivalent black body temperatures as it can be seen for the planets and the Sun.

Indeed for the last one, *an active black hole in its center could explain its characteristics and its gravitational force that are very important in the Solar system.* Similarly to its equivalent black body temperature T_e that would be around 6100 K as it has been used in (Conte and Roşca, 2017; Conte and Roşca, 2017; Conte and Roşca, 2017; Roşca and Conte, 2017; Roşca and Conte, 2017 and Conte and Roşca, 2015).

The Earth and the Moon have T_e respectively of 254 K and 84.6 K, as determined by calculi (Conte and Roşca, 2017; Conte and Roşca, 2017; Conte and Roşca, 2017; Roşca and Conte, 2017; Roşca and Conte, 2017 and Conte and Roşca, 2015). *It is found that their masses (total number of electrons) are, in this order regressive, where from confirmation of the decrease of their respective T_e .* Nevertheless questioning are still after all these explanations about the characteristics of black holes. That is why these, if they are not made up of condensed matter would they have gravitational abilities? The new EVTD² Physics can recently answer by using the equivalent black body surface temperature T_e that have been for rightly used, *in new "hybrid" relationships equivalent of Newton² and also of Coulomb* (Conte and Roşca, 2017), where the $\sigma \cdot T_e^4$ of two kinds of body pairs are used instead of the masses and charges. These shows that *the masses are not necessarily required to characterize the gravity* and thus, a MBH at some T_e (by the intrinsic heat of his *Substratum*) there is also perfect (Conte and Roşca, 2017). With this feature it can produce gravitational phenomena which is also accredited by the current physics but in another way.

The three MBH alignment on the bodies gravity centers axis

The new conception of gravity involves three black holes that combine their effects to cause the two bodies in a mutual attraction force of the same intensity. These black holes are jointly required, as discussed further, to try to explain the best the free fall of masses uniformly accelerated by the same planet or satellite (the Moon). In *the general case of gravitation, the black hole having the most important role among the three, is the one which is positioned on the point O* (zero resulting potential) and, this would only by its position between the two masses, which places it most closer to each involved mass bodies. It therefore has more effect than the two photon emitting bodies can have on one another as they are, between them, being more distant. Especially since the circumstances of a more effective black hole are met (Conte and Roşca, 2017; Conte and Roşca, 2017; Conte and Roşca, 2017; Roşca and Conte, 2017; Roşca and Conte, 2017 and Conte and Roşca, 2015) to the point O , *it follows that this is the element "main engine" of the phenomenological normal gravity.* Indeed, as we have shown in previous works, mainly in (Conte and Roşca, 2015) *is to point O that the quantum levels of reciprocal photon emission from each of the objects have the same wavelength on axis centers.* As a first example, determinations of reciprocal potential levels for a differential of a quantum value h , from the Earth and the Moon arriving in O , have the same value (Conte and Roşca, 2017) (1) and, secondly, for the Sun-Earth duet was obtained for the two reciprocal lengths in their respective O points: the value given by the equation (2):

$$d_{n_0-1} - d_{n_0} = d_{r_0-1} - d_{r_0} = 1.989896 \cdot 10^{-31} \text{m} \quad (1)$$

$$d_{n_0-1} - d_{n_0} = d_{r_0-1} - d_{r_0} = 1.113137 \cdot 10^{-31} \text{m} \quad (2)$$

Thus the interferences in O are perfectly destructive and their energies annihilate to transform, perhaps in rotation work of MBH as some current hypotheses suggest. So we can say, as in works (Roşca and Conte, 2017 and Conte and Roşca, 2015) that the black hole, which would be present at each of the gravity centers of the two bodies, is itself accordingly attracted, by the action of MBH in O , like a fluid stream attracting floating body (Conte and Roşca, 2018). This view confirms the supremacy of MBH located in zero resulting

potential, compared to black holes in centers of each of the quasi-symmetrical bodies.

Particular situations for the free fall of bodies on Earth and Moon

As noted above, it is in the position of point O within the falling mass and in the immediate vicinity of its center of gravity that lies the main change compared to the circumstances of the new general gravitation following T_e of the considered bodies (described above). The quasi coincidence of the point O with the gravity center of the falling mass causes a major reduction of the displacement for the mass gravity center towards O , as both are separated by only a few dozen microns. Therefore *the fall of the mass above the soil, towards and relative to the MBH placed in O , is more reduced, it is even unimportant in itself. It is, somehow, a synchronous fall of the gravity center and of the point O , which is here intimately associated, materializing the masses free fall, which is why the values of the last are not involved in this particular phenomenon.* So regardless of the falling mass is the gravitational attraction of the Earth's mass (MBH in its center since the stars are generally almost spherical), for example, which draws together the point O and the gravity centers of all masses in this experience. Thus the characteristics of free fall, for many different masses, are identical and depend only on the one hand, on the large mass of the attractive star and on the other, on its radius.

Conclusion

A new conception of various cases illustrating the gravity between masses or photon emissions generators according T_e equivalent black body, is developed here. Newton forces, or forces from T_e of considered objects surfaces (Conte and Roşca, 2017) allow to just realize the observations and findings concerning this phenomenon in physics. The gravity approach with three black holes on the axis of masses gravity centers allows understandings that are more related to physical intrinsic phenomena with these common effects continuously over time. Gravity would not only result from the implications of the concerned body masses but also and especially from the circumstances of three MBH existence: one at each center of gravity and one in O , the zero resulting potential point. The fact that mini black holes (MBH) would be automatically generated to the symmetry centers of masses having some surface equivalent temperature T_e specifies a new origin of black holes very different from the current conception in classical physics, and this leads to the taking account and use of the New Physics EVTD².

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