



The Planet Heating and the Gravity as Simple and Related Kinetic Effects of the Dark Matter. or The Necessary Experimental Verification that the Dark Matter Exists as Kinetic Cause of the Planet Heating and Hence, of the Planet Gravity

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Abstract

In the current view the Gravity is a non-mechanism intrinsic attraction property for anybody of matter, lasting for an infinite time without energy loss in spite of actions, which is physically impossible and hence, a mechanism-type approach for the external cause of gravity is absolutely necessary. Here we show as follows:

- The crucial experiment on the Earth surface which is necessary for proving that the dark matter exists in universe as a field of finely dispersed matter moving in all directions and is penetrating through the body of planets with two major kinetic effects: For a single planet a considerable heating occurs by energy loss along any penetration line of dark matter, and hence a diminished flux of dark matter is outgoing on the other side of the planet. If the planet has a neighboring body of matter this diminished outgoing flux means a dark matter shadowing on the line between these bodies. The overall kinetic effect of this shadowing is to push the two neighboring bodies towards each other, which was interpreted along history as an attraction property intrinsic to matter.
- This kinetic mechanism leads to the mathematical Gravity Law.
- Defining the method for the big-picture knowledge in Physics and in Society as a complement to the science method for detailed knowledge.

The method of broad thinking on each case of major opposing views until we see the big-picture knowledge for such a case: the missing facts, the real problems and solutions. Here we show that only with this method of broad thinking one can find the functional and wise broad views that are necessary to replace the simplistic, insufficient and opposing broad views on gravity, on light, and on society. Therefore, this method must be educated and practiced in society and science.

Keywords: *Mechanism-type model for gravity; Missing experiment/ fact; Broad thinking method on major opposing views; Big picture knowledge; A Mechanism-type model for light; A mechanism-type model for gravity*

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Introduction

In the current view the Gravity is an intrinsic, non-mechanism property of any body of matter for an infinite time. Such an infinite-time property implies an impossible infinitely lasting internal energy for a body. Hence, a mechanism-type approach for gravity, that is a functional view, must be systematically explored and accomplished. However, the method and an example for such an exploration was not clearly defined along history. A partial lesson in this respect can be seen in the slow change, with a lot of opposition, from the caloric fluid to the kinetic theory of heat. We show here first the method and its application for building a mechanism-type view for Gravity, instead of the current view as an impossible internal energy with an infinite duration.

The method and to see the real problem and solution for gravity

In a life-time effort for a functional mechanism-type understanding of light, instead of an impossible view that light spreads like the waves do but nothing oscillates, we recognized the necessary method for the big-picture knowledge in Physics and in Society as a complement to the science method for detailed knowledge. [1-3]. This is the method of broad thinking for recognizing first a relevant case of Major Opposing Views (MOV) in physics, and second for looking at it until we can see the big-picture knowledge for such a case: the missing facts, the real problems and solutions for this case. We show that only with this method of broad thinking one can find the functional and wise broad views that are necessary to replace the simplistic, insufficient and opposing broad views. Below we shortly describe this method and its demonstrations for two cases of MOV: The first case is the MOV for light which are the opposing views on the origin of the diffracted light as wave in and around the diffracting edges, or as non-waves only inside these edges [1-3]. The second case is the MOV of liberals and conservatives in society Our results for from this method demonstration for these cases of MOV are as follows:

- From the MOV on the structure of light we found that it is missing the crucial verification of how light spreads at large distances. We developed this experiment for more than 10 years and although we could not finish it we found the alternative proof (from relatively recent experiments) that there is a total evidence that light does not spread like the waves do. And this evidence led us to a new non-wave and mechanism-type structure for light as a kinetic effect from a moving finely dispersed matter/ dark matter [1,2].
- From the MOV in society we found that the society system is incomplete There are crucially missing the method for stability, and the system for stability that establishes a systematic practice of this method for stability by parties and people, especially before the elections. And we show that this method and stability system are easy feasible [3].

Again, in the case of gravity the MOV are the opposing views on the origin of the gravity phenomenon: the view that gravity is an internal property of any body of matter as a non-mechanism type phenomenon, or an external effect as a mechanism-type kinetic phenomenon based on the Finely Dispersed Matter (FDM, or dark matter). In the present paper we develop the application, as suggested in Ref. of the method of broad thinking to the case of gravity by recognizing the crucial MOV, by recognizing the crucial measurement that is missing for proving the existence of the dark matter as a basis for the heating of the planet and for the gravity, and by recognizing the feasibility of a mechanism-type model for gravity that is based on dark matter [2].

The crucial experiment that is necessary for verifying the existence of the Finely Dispersed Matter (FDM) or the dark matter by its heating effect in the surface layer of the earth.

The main prediction of a mechanism-type structure for light is the existence of the dark matter or FDM The light is the obvious proof that this FDM (or dark matter) exists, similarly with how the wind is an obvious proof that the air exists. This FDM suggests a

mechanism-type approach for gravity, that is gravity is not an intrinsic power of matter, but rather a kinetic effect of the motion of an incoming flux of FDM. Such a mechanism-type approach for gravity limits the attraction energy of a body of matter to the duration of this mechanism, and hence this energy of gravity does not last for an infinite time, which is an impossible physical idea, as in the case of gravity as an intrinsic property of matter [1-3].

A way to verify that the mechanism of gravity is an effect of the FDM motion through matter, is to verify its prediction that FDM loses energy by producing heat when it penetrates in a body of matter. This prediction would allow understanding clearly why the temperature increases in the depth of any big body, such as planets and stars. Such an effect is not a clear effect in the current theories. Currently the heating inside a planet is a complex and unclear result of the high pressure inside the planet and of the presence of radioactive materials.

The experiment for verifying the direct heating effect of FDM and hence, for verifying the existence of the FDM itself, is as follows. Given that the temperature increase in the first km of the earth depth is approximately 250 Celsius, we must build on the earth surface a cylinder of dense earth ground of at least 100 m diameter and 200 m height. The surfaces of the cylinder, including the bottom surface, must be kept at constant temperature. In these conditions an increase in the temperatures on the vertical axis of the cylinder are a demonstration that the heating in the planet is produced by the effect of an external FDM. This is the absolutely necessary detector for the FDM the finely dispersed matter or dark matter. Such a cylinder can be built as a high tower construction in a city, as an agricultural/ crop tower in the field, or from an adequate natural hill in a low mountain.

If the FDM is losing energy to produce heat in the penetration through any body of matter, then two neighboring bodies of matter shade each other in the incoming flux of FDM and hence, they are pushed towards each other as the gravity does and as described below.

The feasibility of a Gravity model that is based on dark matter

The extraordinary prediction described above is that the basis for light and gravity is the moving Finely Dispersed Matter FDM or the dark matter. The above crucial experiment would convince anybody the existence of a field of this FDM (finely dispersed matter/ dark matter), with motion in all directions in all points of the cosmic space, and it would bring a mechanism-type understanding for gravity. As mentioned above, if the FDM is losing energy to produce heat in the penetration through any body of matter, then two neighboring bodies of matter shade each other in the incoming flux of FDM and hence, they are pushed towards each other as the gravity does and as described below. This kind of kinetic mechanism-type understanding of light and gravity is similar in many ways with, and it extends the mechanism type understanding brought by the kinetic theory of heat. If such a moving FDM produces the heat in the interior of the planets including the earth it means that as the size of the body increases, its interior gets hotter. This approach also opens the possibility that variations in the incoming field of the FDM/ dark matter around the earth produce variations in the gravity and the heat inside the earth. This opens the possibility for understanding the climate changes along history as we describe in the next section. We think that the developments on the line of finely dispersed matter which is started here, is very attractive and will take a time for growing to maturity.

We show here how the law of gravity can be related to the penetration of the external field of finely dispersed matter (FDM, dark matter) through two neighboring bodies of matter because a shadowing effect occurs. We show that because of this shadowing effect an isotropic flux of finely dispersed matter that is defined for each small volume in space pushes two bodies of matter towards each other proportionally to its masses and inverse proportional with the square of the distance between their centers. The requirements for

a type of FDM as a basis for gravity are as follows.

- In free space this penetrative FDM is a flow present in any point of the universe and passes in all directions.
- It must penetrate even through bodies of big mass.

There is however, a momentum loss and hence, an energy transfer from the passing FDM to every point in such bodies of matter, i.e. a loss of FDM occurs. When two bodies are at distance r in such a field of FDM, they shadow each other by diminishing the flow of FDM coming on the space between them and hence, each body diminishes the momentum transfer from the FDM in the other body on the path between them. As a result, the two bodies are pushed towards each other. If the effective traversal areas of the two bodies are ΔS_1 and ΔS_2 , then the solid angles that the two bodies see each other are

$$\Delta\Omega_2 = \Delta S_2 / 4\pi r^2 \text{ and } \Delta\Omega_1 = \Delta S_1 / 4\pi r^2 \text{ respectively,}$$

where r is the distance between the two bodies. Hence, the two bodies are shadowing each other from FDM on the line between them, proportionally with these solid angles. At the same time the two forces are proportional respectively with the masses of the two bodies $m_2 = \rho_2 h_2 \Delta S_2$ and hence, the forces that push the two bodies towards each other are respectively and approximately,

$$F_1 \propto \rho_1 h_1 \Delta S_1 \cdot \rho_2 h_2 (\Delta S_2 / (4\pi r^2)) \quad (1)$$

$$F_2 \propto \rho_2 h_2 \Delta S_2 \cdot \rho_1 h_1 (\Delta S_1 / (4\pi r^2)) \quad (2)$$

and therefore,

$$F_1 = F_2 = k \cdot m_1 m_2 / r^2. \quad (3)$$

Here k and is a constant, h and ρ are respectively the effective thicknesses and densities for the two bodies, m are masses, and $F_1 = F_2$. Notice that $\Delta S \neq 0$ in order that $F \neq 0$. Hence the idea of gravity from point-wise masses can only be an approximation.

The climate change effect

Again, one of the main predictions of the FDM approach is that gravity is not an intrinsic power of matter, but rather an external effect of a momentum transfer from the motion of the incoming FDM. If this external FDM flow has a considerable variation, the gravitation and the heating effects modify too. This is in total contrast with the current theory in which gravity is an intrinsic internal property and non-changing property of matter mass. The variations in the FDM field which penetrates the earth must have a correlation with the changes in the universe. Such changes are studied intensely in the current astronomy and they must be extended to include a correlation with variations in the incoming field of FDM. Such a correlation can help predicting and recognizing the start and the end of a climate change [4,5].

Conclusions

The line of analysis in this paper is as follows:

- There is a method for seeing the missing facts, the real problems and solutions at the foundation of physics and society. This is the systematic practice of the Broad Thinking (BT) on the Major Opposing Views (MOV) in physics and in society to see the missing facts at foundation, and the real problems and solutions.
- For light this method shows that there is a missing measurement for the fundamental prediction of the wave theory of light, namely the verification of how light spreads at large distances, namely the verification of the MOV for edge diffraction as

waves and not as waves. The innumerable measurements existing for short distances (diffraction fringes) are not sufficient. We performed this missing measurement for a long time and although we could not finish it due to the lack of resources, we found that there is sufficient undeniable alternative proof and evidence for the non-wave spreading of light.

- Hence, we look a non-wave structure for light and found that a non-wave mechanism-type structure for light must exist based on Finely Dispersed Matter (FDM)/ dark matter. In previous work we developed such a structure for light. If so, this structure for light also suggests the possibility of using the concept of FDM for defining a mechanism-type model for light and gravity.
- For the case of gravity, the MOV are as follows. Is gravity an internal property of matter or an external effect from FDM ? We describe in this paper the crucial experiment on the earth surface that must be performed to prove a mechanism-type for gravity that is based on kinetic effects from FDM.
- This paper shows the quantitative description of the gravity that is based on the kinetic effect of the FDM movement from outside to inside of a body of matter.
- These models for light and gravity become the elementary proof that FDM exists as a basis for universe, similarly with how the wind is the kinetic proof that air exists.
- If this moving FDM exists it must have direct and fundamental consequences for the other parts of physics: atomism, condensed matter and electromagnetism. In the next papers we will analyze with the BT method these consequences for physics.
- In the next paper we will also analyze the application of the BT method on the MOV of liberals and conservatives in society to show the missing fact there: The absolutely necessary system for stability in society which is based on the systematic practice of this BT on the MOV.

A long-term effort is necessary for the systematic education and practice in schools of this line of analysis. Without this education and practice the opposition to functional and common broad views is a normal occurrence, and dysfunctional division is grown This attitude is typical for people educated in a complex paradigm, without a long-term broad thinking on the opposing views of this paradigm.

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