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SHORT COMMUNICATION

The theory of the Newton's law of universal gravitation as a phenomenon of repulsion describing the proper state of the existing universe

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ABSTRACT

The paper describes the logical and at the same time the proper theory of the Newton's law of universal gravitation in the universe. It presents the observed principles of "attraction" as a phenomenon of repulsion based on the difference of dark matter pressure. This paper proves in theory that the phenomenon of "gravitation", as a phenomenon of attraction, does not exist (no mechanisms) and is mistakenly confused with the phenomenon of repulsion.

Keywords: Copernicus, Newton, Einstein, Borowski's Theory of Gravitation, dark matter, pseudo-gravity, repulsion, dark matter pressure, classical theory of gravitation, quantum theory of gravity

1. INTRODUCTION

The first scientific work (*De revolutionibus orbium coelestium*) on the movement of planets in the solar system was presented by the Polish astronomer Nicolaus Copernicus from Toruń in 1543 [1]. In 1612, the Italian physicist, mathematician and astronomer Galileo Galileo published "Discourse on Floating Bodies" (*Discorso intorno alle cose che stanno in su l'acqua,*

o che quella si muovono), thus confirming the rightness of the theory of Nicolaus Copernicus from 1543. The English scholar Isaac Newton published his scientific work entitled “Philosophiæ Naturalis Principia Mathematica” in 1687 [2], in which he presented the law of universal gravitation, as well as the laws of motion that underlie the classical mechanics. In 1916, Albert Einstein published the theory of general relativity (Die Grundlage der allgemeinen Relativitätstheorie) [3], in which he presented the thesis that the force of gravity results from local space-time geometry. He also showed in it the way (cause) of attraction, as the curvature of space-time by large mass objects. However, the mechanism of attraction (reason or cause of attraction) of material bodies has not been presented.

In the paper by Tomasz Borowski entitled “Actual Picture of the Law of Universal Gravitation and the Quantum Gravity Theory Describing the Real State of the Universe” [4], the “theory of gravity” was presented as a phenomenon of repulsion on the basis of the difference in dark matter pressure, which explains the essence of the universe in a simple way. More information published in the world of science expressing the proper state in the universe could not be found [5]. The following paper outlines the essence and mechanism of the phenomenon of “gravity” as repulsion.

2. THE REAL STATE OF THE UNIVERSE

The concept of the mechanism of existence of planetary systems and galaxies is presented in a simple way in Figures 1-4.

2. 1. The real state of the planetary system with a circular orbit

This concept is based on the movement of planets around the sun by means of the difference in dark matter pressure, Figure 1.

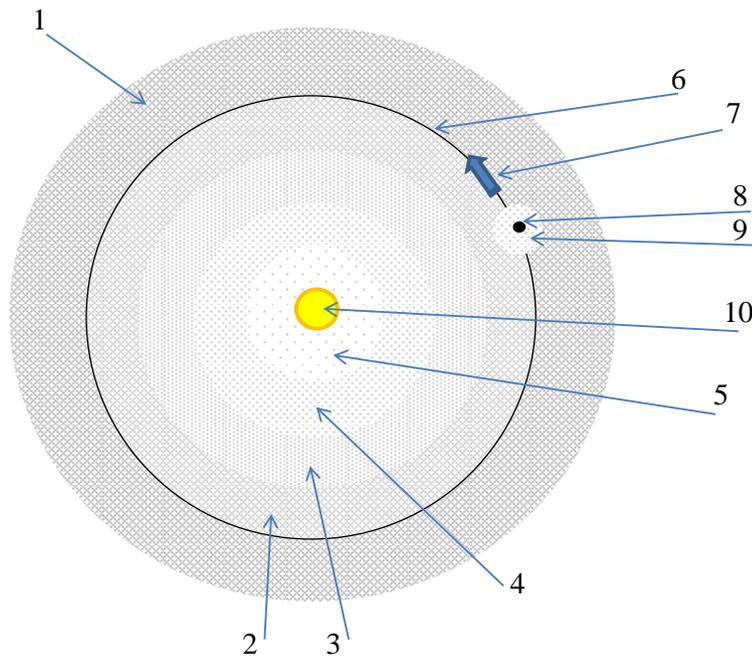


Fig. 1. Outline of the structure of the solar system and the mechanism of planet movement on the circular orbit. 1, 2, 3, 4, 5 – difference in the pressure of dark matter, 6 – the planet’s orbit, 7 – direction of the planet’s movement, 8 – a planet, 9 – lower local pressure of dark matter produced by this planet inside the planetary system, 10 - a sun.

The entire planetary system is located and moves in the solvent, which is dark matter. The pressure of dark matter increases (Fig. 1: $5 < 4 < 3 < 2 < 1$) the more the point is away from the material mass (planets, sun, comets, etc.). The pressure of dark matter decreases (Fig. 1: $1 > 2 > 3 > 4 > 5$) the more we are closer to the material mass (planets, sun, comets, etc.).

2. 2. The real state of the planetary system with an elliptical orbit

This concept is based on the movement of planets around the sun by means of the difference in dark matter pressure, Figure 2.

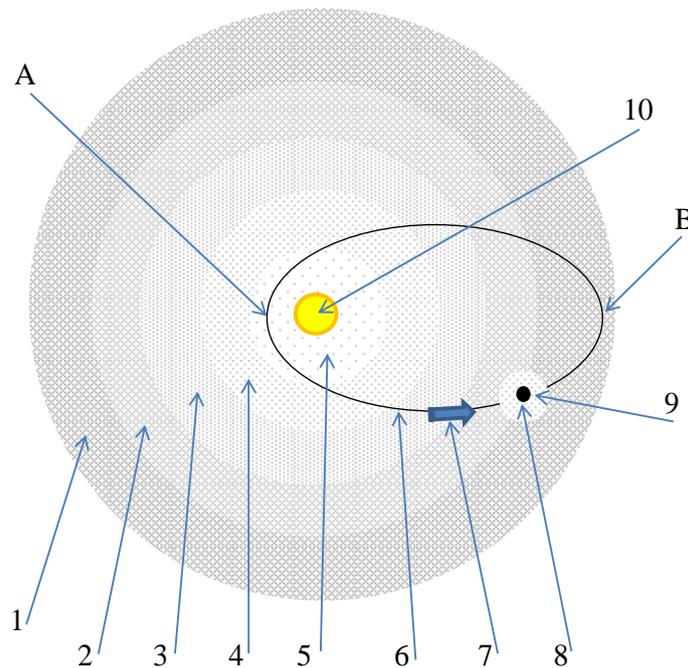


Fig. 2. Outline of the structure of the solar system and the mechanism of planet movement on the elliptical orbit. 1, 2, 3, 4, 5 – difference in the pressure of dark matter, 6 – the planet's orbit, 7 – direction of the planet's movement, 8 – a planet, 9 – lower local pressure of dark matter produced by this planet inside the planetary system, 10 – a sun, A - maximum velocity of the planet (minimum pressure of dark matter), B - minimum velocity of the planet (maximum pressure of dark matter).

The velocity of a moving planet on an elliptical orbit at point A (Fig. 2) is maximal, because there is potentially the lowest pressure of dark matter. At point B (Fig. 2), the velocity of a moving planet on an elliptical orbit is minimal, because there is potentially the highest pressure of dark matter.

2. 3. The real state of the system around a galaxy

Like planetary systems, the galactic system is located in the solvent of dark matter. In the outer part of the galaxy there is a higher pressure of dark matter than inside the galaxy. Consequently, the galaxy forms a composite whole, Figure 3.

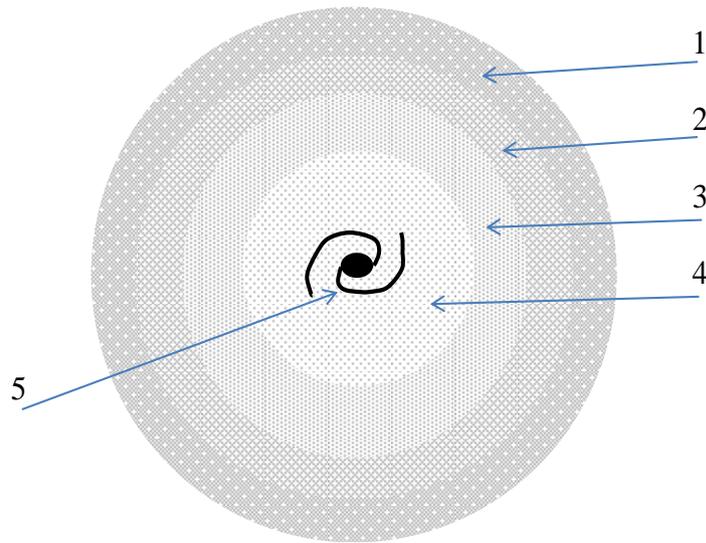


Fig. 3. Outline of the structure of the system around the galaxy. 1, 2, 3, 4 – difference in the pressure of dark matter, 5 – a galaxy (e.g. a spiral galaxy).

2. 4. The real state of the system around a cluster of galaxies

There is dark matter between the galaxies. Outside the galaxy clusters, the pressure of dark matter is higher than inside the cluster that causes the galaxy clusters to exist in agglomerations, Figure 4.

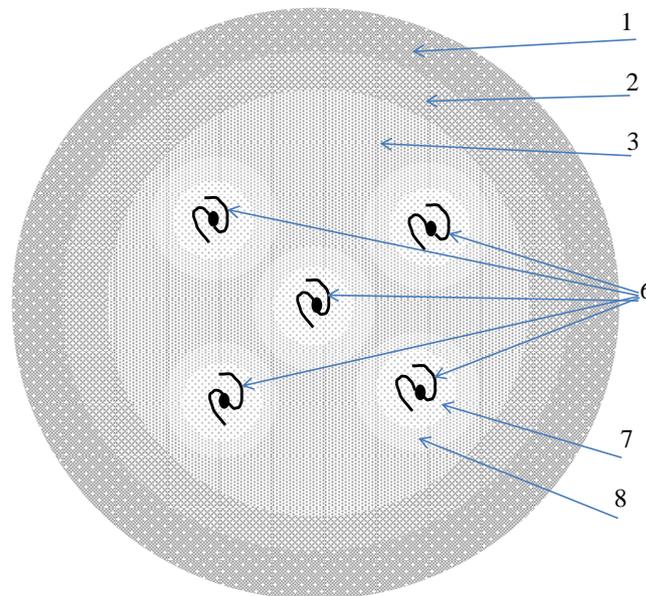


Fig. 4. Outline of the structure of the galaxy cluster. 1, 2, 3 – difference in the pressure of dark matter; 7, 8 – lower local pressure of dark matter produced by galaxies inside the system of galaxy clusters; 6 - galaxies (e.g. spiral galaxies).

2. 5. Expansion of the universe

Edwin Hubble proved that the universe expanding [6-8]. It can be concluded thus that the expansion is caused by the difference in dark matter pressure, because outside the universe the pressure of dark matter is lower or it does not occur at all (ideal vacuum or a state of physical zero, and more broadly there is not even physical zero, therefore the rate of expansion of the universe is growing [9]).

3. THE MECHANISM OF GRAVITATIONAL ATTRACTION AS REPULSION

What causes pressure differences and thus the movement of matter in the universe?

The following figure shows the mechanism of pressure difference around material masses.

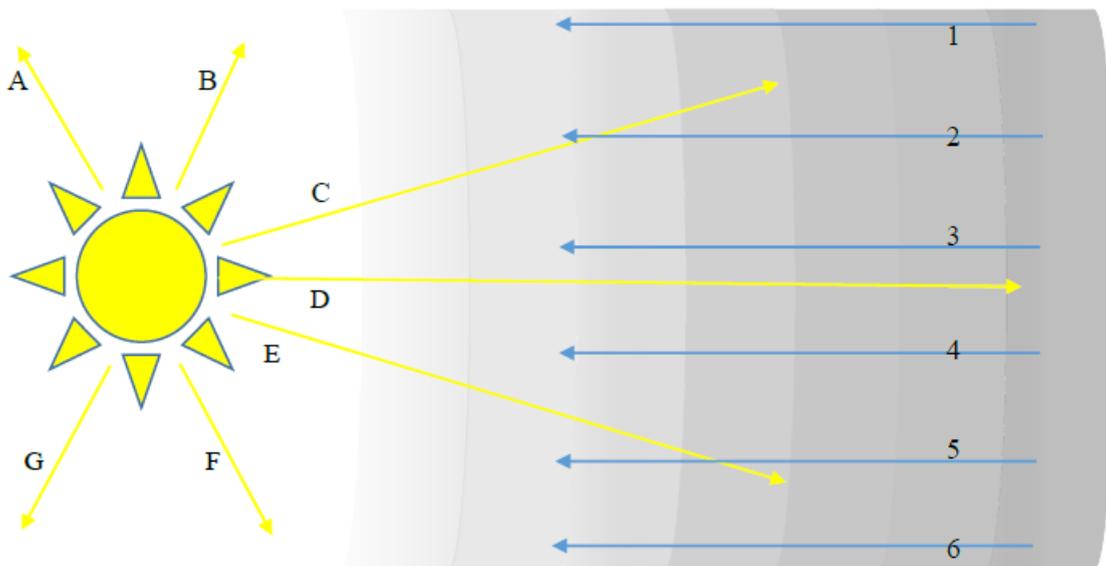


Fig. 5. The mechanism of dark matter pressure mechanism. A-G – emitted radiation in the form of energy quanta ($h\nu$), 1-6 – direction of dark matter movement from a place of higher pressure to a place with lower pressure.

Every material body emits quanta of energy ($h\nu$), in the form of radiation. This radiation causes the dark matter to be repulsed from the material mass (Fig. 5. A-G). Thus, the pressure of dark matter is higher the more the point of observation is away from the material body, because the intensity of radiation is lower. The closer to the material mass is the point of observation, the more the intensity of radiation increases and thus the value of the dark matter pressure decreases.

Such a mechanism of the phenomenon of dark matter pressure difference presents the simplicity of the solution of the law of Newton's universal gravitation in the universe as a phenomenon of repulsion.

4. CONCLUSION

Gravitation is phenomenon of repulsion based on the movement of objects resulting from the difference in dark matter pressure, which can be mistakenly observed and misinterpreted as a phenomenon of attraction.

The presented new theory of gravitation does not undermine in any way Newton's or Einstein's merits, but only organises the definition and presents the mechanism of the Newton's law of universal gravitation in the universe as a phenomenon of repulsion.

References

- [1] Nicolai Copernici torinensis (1543). De revolutionibus orbium coelestium. Libri VI, The Publisher: Johannes Petreius, Norymberga,
- [2] Newton, I. (1687). Philosophiae naturalis principia mathematica. Imprimatur S. Pepys. Reg. Soc. Preses. Julii 5. 1686. Londini, Jussi Societatus Regiae ac Typis Josephi Streater. Prostat apud plures Bibliopolas. Anno MDCLXXXVII
- [3] Einstein, E. (1916). Die Grundlage der allgemeinen Relativitätstheorie. *Annalen der Physik*, vol. 354, Issue 7, pp. 769-822
- [4] T. Borowski, Actual Picture of the Law of Universal Gravitation and the Quantum Gravity Theory Describing the Real State of the Universe. *International Letters of Chemistry, Physics and Astronomy*, Vol. 16, pp. 44-53, 2013. <https://doi.org/10.18052/www.scipress.com/ILCPA.16.44>
- [5] M. A. Persinger, Quantitative Support for Borowski's Theory of Gravitation. *International Letters of Chemistry, Physics and Astronomy*, Vol. 17, pp. 67-71, 2013. <https://doi.org/10.18052/www.scipress.com/ILCPA.17.67>
- [6] Hubble, E. P. (1929). A spiral nebula as a stellar system, Messier 31. *The Astrophysical Journal* 69: 103. doi:10.1086/143167
- [7] Edwin Hubble (1929). A relation between distance and radial velocity among extragalactic nebulae. *Proceedings of the National Academy of Sciences*, Volume 15, Issue 3, pp. 168-173 <https://doi.org/10.1073/pnas.15.3.168>
- [8] W.L. Freedman, B.F. Madore. The Hubble Constant. *Annual Reviews of Astronomy and Astrophysics*, 2010, 48, 673.
- [9] Adam G. Riess, Alexei V. Filippenko, Peter Challis, Alejandro Clocchiatti, Alan Diercks, Peter M. Garnavich, Ron L. Gilliland, Craig J. Hogan, Saurabh Jha, Robert P. Kirshner, B. Leibundgut, M. M. Phillips, David Reiss, Brian P. Schmidt, Robert A. Schommer, R. Chris Smith, J. Spyromilio, Christopher Stubbs, Nicholas B. Suntzeff, and John Tonry. Observational Evidence from Supernovae for an Accelerating Universe and a Cosmological Constant. *The Astronomical Journal*, Volume 116, Number 3, 1009-1038, 1998 September