

The main results obtained using a new theory of gravitation

We have developed a new theory of gravitation, whose main content is was published in three articles («Measuring gravitational constant and the main the Earth, the Sun and the Moon parameters», «Measuring the main physical and astrophysical constants and other bodies parameters» and «Measuring gravitational waves parameters and the mechanism of the formation of different bodies »). In a full version of the new theory of gravitation is disclosed in the monograph "The laws of motion of bodies," which will be published shortly.

The investigations that have been carried out make possible:

- to elaborate a new theory of gravitation and its mathematical apparatus by equating the new formula of gravitation with Hh. Huygens centrifugal force and with G. Galileo second law of mechanics;
- to give a definition of the mass of a body as matter in abstract form and a weight component of a material body and to show that the existence of gravitational, inertial, relativistic, critical and other kinds of mass is nothing but a physical nonsense;
- to show that the known formulas of centrifugal force, the second law of mechanics, kinetic energy, etc. include the weight of a body with the dimensions of a body mass instead of the mass of a body (instead of 1.0197×10^{-3} g 1g which is actually equal to 1 gcms^{-2} is taken; instead of 1.0197 g one kilogram which is equal to 1000 gcms^{-2} , etc is taken).
- to show that the density of a body is the relation of the weight of a body to the volume of a body and is expressed in $\text{gcm}^{-2}\text{s}^{-2}$, that the existence of the density of body mass is a physical nonsense;
- to show that the least heavy magma fractions are concentrated in the centre of the Earth, as in a milk separation while the heavier fractions are pressed to the Earth crust by centrifugal forces, that's why the average Earth density is $3.45 \text{ gcm}^{-2}\text{s}^{-2}$ and not 5.515 gcm^{-3} ;
- to elaborate new standards of the body weight for the Earth, the Sun and the Moon equal to $980.665 \text{ gcms}^{-2}$, $3.265 \times 10^8 \text{ gcms}^{-2}$ and 19.19 gcms^{-2} , respectively;
- to work out a new standard of the body mass for the Earth, the Sun and the Moon and all the bodies in the Universe equal to 1g;
- to show that gravitational constant found by determining the force of gravity between the Earth and the standard-copy of weight in the International system of units SI, located in Bre-tail pavilion, placed at the distance of the Earth radius is equal to and not to $2.034 \times 10^{17} \text{ cm}^2$ and not to $6.6745 \times 10^{-8} \text{ cm}^3\text{g}^{-1}\text{s}^{-2}$ and to find it one doesn't need mountains, torsional scales or lead plates;
- to show that the new general physical and astrophysical constants can be found using mass, gravity acceleration, distance, velocity, gravitation force and other parameters of various bodies (gravity acceleration of 1g of a body is the relation of a body gravity acceleration to a body mass equal to $2.5645 \times 10^{-22} \text{ cmg}^{-1}\text{s}^{-2}$, etc);
- to show that some new general physical and astrophysical constants can be found using other constants (gravitation field constant of 1 cm^3s^{-2} of a body is the value that is inverse to gravitation field constant of 1g of a body, equal to $9585.5349 \text{ gs}^2\text{cm}^{-3}$ and etc);
- to find the same parameters of bodies in different points of the Universe (the density of lunar soil is equal to $0.065 \text{ gcm}^{-2}\text{s}^{-2}$ on the surface of the Moon while on the Earth surface it is equal to $3.34 \text{ gcm}^{-2}\text{s}^{-2}$, the density of Mars soil on the surface of Mars is equal to $0.264 \text{ gcm}^{-2}\text{s}^{-2}$ while on the Earth surface it is $2.457 \text{ gcm}^{-2}\text{s}^{-2}$, the density of Jupiter soil on Jupiter surface is $246.99 \text{ gcm}^{-2}\text{s}^{-2}$ but it is equal to $0.788 \text{ gcm}^{-2}\text{s}^{-2}$ on the Earth surface, etc);
- to measure parameters of the Earth, the Sun, the centre of the galaxy the Milky Way and other bodies round which other bodies rotate;
- to measure parameters of Mercury, Venus, Phobos and other bodies around which no bodies rotate;
- to find gravitational field parameters of different bodies (gravitational field constants of the Earth, the Sun, the centre of the galaxy the Milky Way are equal to $4.025 \times$

$10^{20} \text{ cm}^3 \text{ s}^{-2}$, $1.33 \times 10^{26} \text{ cm}^3 \text{ s}^{-2}$ and, respectively $1.374 \times 10^{37} \text{ cm}^3 \text{ s}^{-2}$);

- to define more precisely the average orbital velocities of the satellites of asteroids, asteroids, the satellites of dwarf planets, dwarf planets, planetary satellites, planets, comets, stars, the centers of galaxies, conglomeration, conglomeration of galaxies, etc;

- to show that cosmic velocities of the Earth, the Sun and Mars are $7.944 \times 10^5 \text{ cms}^{-1}$, $4.371 \times 10^7 \text{ cms}^{-1}$ and $3.552 \times 10^5 \text{ cms}^{-1}$, respectively and that it is necessary to calculate cosmic velocities for different distances from the given body instead of the first, the second, the third and the fourth velocities of a body;

- to define more precisely the average distances from asteroid satellites to asteroids, from dwarf planets satellites to dwarf planets, from planetary satellites to planets, from comets to stars, from planets to stars, from stars to galaxy centers, from galaxy centers to galaxy accumulation ("axis of evil") etc;

- to show that gravitational radius of the Earth and the Sun are equal to 0.4478193 cm and $1.47975 \times 10^5 \text{ cm}$ but not to 0.887005622 and $2.95325008 \times 10^5 \text{ cm}$, respectively;

- to show that the force of gravitation between two balls in the experiment of H. Cavendish is equal to $1.0847 \times 10^{-10} \text{ gcms}^{-2}$ but not to $6.6742 \times 10^{-8} \text{ gcms}^{-2}$;

- to show that the force of gravitation between the Sun and the Earth is equal to centrifugal force of the Earth and equal to $2.269 \times 10^{24} \text{ gcm s}^{-2}$, and it is equal to the Moon centrifugal force between the earth and the Moon and is $2.02 \times 10^{22} \text{ gcms}^{-2}$ etc.;

- to find parameters of black holes (the mass of the black hole Sagittarius A is equal to $4.769 \times 10^{36} \text{ g}$, the gravity acceleration is $1.223 \times 10^{15} \text{ cms}^{-2}$, the weight is equal to $5.832 \times 10^{51} \text{ gcms}^{-2}$, etc);

- to find gravitation field constant, the mass, the weight and other parameters of atom without using Avogadro constant;

- to show that the dimensions of any physical value are inseparable from its physical essence and to prove the rightness of A. Summerfield in his argument with M. Planck and A. Einstein;

- to find the parameters of gravitational waves generated by the Sun, Mars, Jupiter and other bodies;

- to explain the mechanism of forming a concentration of galaxies, galaxies, stars, comets, planets, planetary rings, planetary satellites, rings of planetary satellites, dwarf planets, satellites of dwarf planets, asteroids, satellites of asteroids and other bodies;

- to explain the mechanism of the motion of Trojan-asteroids which are situated in the vicinity of Lagrange points L_4 and L_5 along the orbits of Jupiter, Mars, Neptune and other bodies;

- to show that the source of gravitation are gravitational waves generated by the mass of immaterial body and that dozens of billions dollars paid by more than twenty states for creating a Great Hadron collider in the search of mythical Higgs bosons were wasted;

- to explain the distribution of rotation momentum between a body of larger mass and bodies with smaller masses and rotating around it (between the Sun and planets, a planet and planetary satellites, an asteroid and asteroid satellites, etc);

- to explain the anomalous displacement of Mercury perihelion and irregular acceleration of Encke comet found by the gravitational waves parameters generated by the Sun and by the fact that the Sun mass is equal to $1.273 \times 10^{30} \text{ g}$, and not to $1.988 \times 10^{33} \text{ g}$;

- to show that dark matter, hidden mass, dark energy and other so-called "anomalies" are the consequence of incorrect measurement of the questionable Newton theory of gravitation and don't exist in reality;

- to show that the mass of a body doesn't depend on the velocity of the body motion;

- to show that the reason of the majority of the failures in studying Mars by cosmic apparatuses (20 missions out of 36) since 1960 to 2003 has been the fact that Mars gravity acceleration is 105.35 cms^{-2} but not 370.0 cms^{-2} ;

- to show that the remnants of Tungus meteorite weren't found because it consisted mainly of atomic nuclei, that on entering the Earth atmosphere were quickly surrounded by electron shells which gave birth to the formation of hydrogen, helium, nitrogen and other gaseous

elements;

- to show that "Pioneers anomaly" was caused by the fact that the Sun gravity acceleration is equal to $3.265 \times 10^8 \text{ cms}^{-2}$ but not to $2.738 \times 10^4 \text{ cms}^{-2}$;
- to show that the International system of units SI, Gauss system (SGS), the System of British units and other systems, where the weight of a body with the body mass dimension is used instead of the mass of a body, don't give any opportunity to perform objective measurements of physical quantities, don't satisfy modern requirements and must be replaced;
- to show that maintenance safety of all atomic power stations is insufficient because in the process of their designing and constructing the weight of a body with the dimension of a body mass was used instead of the mass of a body, this fact being one of the reasons of the explosion of Chernobyl atomic power station in 1986;
- to create the necessary prerequisites to form a unified field theory to unite gravitational and electromagnetic fields.

Obtained using the new formula for the gravitational force between bodies is significantly different from the force in Newton's formula:

- to new formula gives the dimension of force without taking into account gravitational constant;
- to masses of the bodies being attracted are not multiplied by each other but they are multiplied by the respective gravity accelerations and are summed up after that;
- gravitational constant includes only those quantity dimensions which are contained in the new gravitation formula.

The correctness of the new theory of gravitation is confirmed by the density of lunar soil brought to the Earth by American cosmonauts.

If any of the experts suggest the results of our research and a need to explain further any problem related to the theory of gravitation, I am ready to answer any questions.

Thanks in advance for any constructive criticism of the new theory of gravitation.

Your sincerely,
Oleg E. Tsiganok.

49010, Stashkov str. 70,
Dniepropetrovsk-10, Ukraine
Telephone: 380-562-472485
E-mail: tsiganok@i.ua