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How the Universe Works. Part III. Philosophical Content and Physical Nature of Thermal Energy. Intellect of Space.

CORRESPONDENCE



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ABSTRACT

Thermal energy, along with electromagnetic energy, is one of the most common factors of interaction in nature. Filling all the space free from material bodies, being the mover of all interaction processes, energy provides the power and intellectual and organizational support of the Universe. Despite the extremely wide use of thermal energy in all spheres of human existence, there are a few aspects of not entirely correct interpretation of its philosophical essence and physical nature. There is no thorough explanation of the physical nature of thermal energy flows, especially in terms of their interaction with magnetic, according to the law of conservation of energy and its regeneration. Several key properties of thermal energy require significant reassessment, especially in terms of the unity of the material world and energy interaction. The thermal state of open space, the role of...

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RESEARCH ARTICLE

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Thermal energy, along with electromagnetic energy, is one of the most common factors of interaction in nature. Filling all the space free from material bodies, being the mover of all interaction processes, energy provides the power and intellectual and organizational support of the Universe. Despite the extremely wide use of thermal energy in all spheres of human existence, there are a few aspects of not entirely correct interpretation of its philosophical essence and physical nature. There is no thorough explanation of the physical nature of thermal energy flows, especially in terms of their interaction with magnetic, according to the law of conservation of energy and its regeneration. Several key properties of thermal energy require significant reassessment, especially in terms of the unity of the material world and energy interaction. The thermal state of open space, the role of temperature in interaction processes in the context of heat transfer and distribution through cold space from the star to the Earth's surface remains a mystery. What is the difference between the speed of light and energy transfer? Based on the theory of a single material-energy body, the topic of philosophical rethinking of the physical nature of matter, especially its components – matter and energy, is extremely relevant in this context. The universe is single and self-sufficient, which can only conditionally be divided into separate zones of force and organizational influence. However, the laws in it operate equally without any exceptions. Energy, being the mover and driving force of all processes in nature, the means of action of Newtonian force, dictates the laws of the space of the Universe and controls all processes in nature. There is no process that would occur without the effective influence of energy.

Keywords: *Space, energy regeneration, energy utility, intellect, information, speed, temperature*

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1 Introduction

The space of the Universe is a holistic material-energy body, the functionality of which is based on intellectual and informational support, the carrier of which is light. Light is an intellectual-organizational part of the energy-power balance of the Universe, the carrier of intelligence. It is a separate specific state of existence of matter and acts as the basis of the intellectual and informational component of space. In terms of its properties, light has no analogues in space. Light cannot be in a state of motion or rest, therefore it exists in a state of information transmission. The validity of information can be relevant only at the moment of its transmission. The very next moment the entire universe will be in a completely different material-energy state, different from the previous one. In this respect, the importance of the cause-and-effect relationship should be especially emphasized. This is due to the fact that the previous state of the material-energy body of the Universe is the informational basis of subsequent changes that will necessarily be a consequence of the previous state. Against this background, the role of time and its influence on the change of the material state of space are insignificant. Space is a material structure with an extremely high level of intelligence, the functionality of which is ensured by the energy-informational support of the processes of interaction on a constant basis. The process of information dissemination is characterized by its quantity and relevance.

The entire universe is filled to the brim with Elementary Particles of energy by means of which the processes of transmission from one EP to others occur. EPs of energy are active components of the universe - carriers of Newton's force. It is thanks to the available force that electromagnetic pulses are transmitted from one particle to another, since charged particles of electromagnetic energy are carriers of the force power. J Maxwell [2] pointed this out. The physical characteristics of the transmission process are the frequency of wave oscillations and their force, which are transmitted in space with the highest logistic speed of the unit vector of the transmission direction, which is $299\,792\,458\text{ m} \cdot \text{s}^{-1}$. A characteristic feature of the dissemination of information by means of light is the factor of multi-vector, that is, the transmission occurs in all directions of space simultaneously. That is why this process is more appropriate to consider as a state of existence, but in no way can it be interpreted as state of movement with a certain speed.

At the same time, light transmission can occur in a limited space through fiber optics or metal conductors in which the direction of transmission will be in only limited directions. Through metal conductors or even the body of the earth, light is also transmitted in the form of information at the same speed. Having overcome hundreds of kilometers through metal wires being invisible it turns into light in lighting devices, which allows them to navigate in darkness.

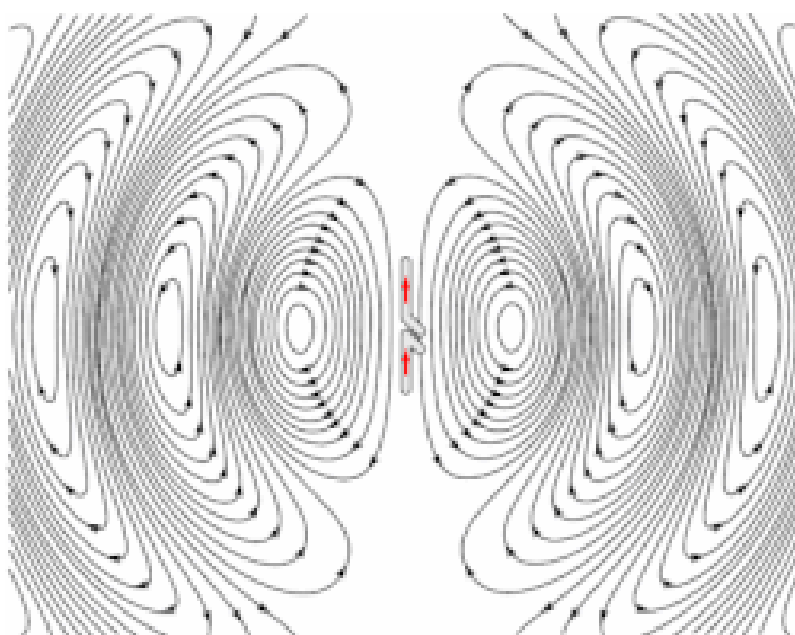
Light is a special state of existence of matter, which not only illuminates the room, but also perfectly copes with the role of so-called Artificial Intelligence. For “Homo Sapiens” it is AI, for nature it is one of the states of existence of matter - the state of the Information provision of the Universe. Light has no reference systems, since it is an expression of information and serves as a reference system for all other processes. Being part of the radiation balance of the space of the Universe, EP of information in the form of electromagnetic wave radiation fills the entire space, ensuring its trouble-free functioning.

2 Space - material intellect - informational structure.

Hypothesis: The space of the Universe is a highly organized informational and intellectual structure, the functionality of which is provided by an unprecedentedly high level of intelligence, which covers all processes of interaction on a permanent basis.

Matter is the carrier of intelligence, while the EPs (Elementary Particles) - the forces of energy through pressure serve as a means of information transmission and its distribution. The instrument of information transmission is the EPs of energy that ensures the maintenance of the information balance of space on a permanent basis. Therefore, information is a continuous process of intellectual exchange between all participants in the interaction. Since many individual components participate in the process of information exchange, there is a constant update of the current state of the information content in the context of its change. All organs of perception of a living organism perceive only a meager part of the information about the change in the state of the surrounding environment. However, this information is objective, and quite sufficient for full orientation in the surrounding environment. Information, being one of the main components of space, does not move but is in a state of constant interaction with the information space around it, constantly changing according to the cause-and-effect relationship. Against the background of a stationary space in which an event occurs, material objects perform a movement that in physical content is a moving energy flow of force carriers. In addition to the function of power providing to the space, the EPs of energy perform the function of distributing information by transferring it to adjacent energy EPs “from hand to hand”. This is what ensures the totality of information accessibility for all users, which eliminates competitive struggle and failures in the operation of space. The entire space, down to the smallest gap, is filled with EPs of energy that exchange information about each event they do. According to Maxwell J. [2] theory, the carriers of EP of light are photons or electrons, which, combining into flows of electromagnetic energy, distribute information throughout space. (Figure 1) Despite the extremely widespread use of electromagnetic energy in both energy and computer science, the physical nature of this phenomenon has not been studied sufficiently.

Light is not only a carrier of information but is one of the means of expressing the intellectual and informational state of a certain area of space and serves as the intellectual basis for the interaction of material components there. The information function is the main natural function of light. Light is only a part of solar radiation, which exists in a state of performing the work of storing, transmitting and distributing information. It is an informational and intellectual part of radiation and acts as a separate functional state.



Linked media: Open animated GIF

Figure 1. Animation of radiation and propagation of radio waves during transmission.
https://en.wikipedia.org/wiki/File:Dipole_xmting_antenna_animation_4_408x318x150ms.gif

An animation of the radio wave transmission process with conventional electric field lines is illustrated in Figure 1 (Wikipedia, 2015), The physical content of this work lies in the process of information transfer and its interchange, redistribution between all participants in the process.

The change in the magnitude of the force in the magnetic body of outer space, which is extremely sensitive, is transmitted from one EP to another, propagating pulses simultaneously in all directions around. A metallic conductor transmits these signals along the body of the conductor, only because the gaseous mixture of air is a poor conductor of the flow of electric current. This serves as additional evidence of the existence of other natural tools for transmitting information, which is absolutely necessary for the information provision of space.

EP of energy that are carriers of force having been combined into an energy flow are the driving force for the movement of material objects. Simultaneously with the force support of the interaction, they also provide their information support. That is, photons provide information on how and in what way to perform the work of the interaction process. At the same time, EP of energy, by the action of force flows, by means of the available force, ensures the performance of work. This explains the dualistic nature of energy. The speed of information propagation is $299\,792\,458\text{ m} \cdot \text{s}^{-1}$ and is the highest speed of process execution in nature. However, the process of information propagation that occurs due to the transmission of impulses has nothing to do with the process of movement. EP of energy, by the action of the force available in them, causes the physical movement of the energy flow, which performs the work of moving the material body, because that is energy has got the power for it. The speed of movement of the material body will be equal to the amount of the available dynamic driving force of the energy flow that moves the material body. The greater the amount of force, the greater the speed of movement. The movement of the material body and its speed is provided by the force of the energy flow. This is a dynamic power process with the performance of the work of movement, while the dissemination of information by means of transmission of electromagnetic pulses has a different physical nature and functionality. Therefore, it is extremely necessary to differentiate the process of movement of energy flows from the process of informational transmission, especially against the background of the fact that these processes occur simultaneously and are closely interconnected. However, the speed of information transmission is many orders of magnitude faster than the speed of movement of power energy flows. This is explained by the need for timely information support for the process of performing an action in order to comply with the principle of cause and effect.

Light as a means of transmitting information in the form of electromagnetic pulses is not a power component of energy. If a command is transmitted from the control point to an automated spacecraft to perform certain maneuvering actions, then this will be a command to launch power maneuvering jet engines. The power of electromagnetic pulses of information provides exclusively the transmission of information about what to do and how. To perform the maneuver, the design provides power equipment with an independent energy source. Electromagnetic pulses of information propagated by light are low-current. Therefore, the current strength propagated by light does not pose any threat to life. Moreover, all life-giving processes are based precisely on low-current information support.

3 Plasma - the mother agent of space.

The physical state of individual material bodies is extremely diverse and differs in physicochemical properties depending on the so-called aggregate state. The aggregate state of material bodies depends on the interaction of the number of elementary particles (EPs) of warm centrifugal energy with the number of EPs of magnetic centripetal energy, which simultaneously interact in the energy body. Therefore, all material bodies, all matter in the Universe, depending on the thermal state, can be in solid, liquid and gaseous states. At certain stages, all materials are liquids. Their fluidity depends exclusively on their thermal state. A special level of fluidity characterizes plasma - a special state of matter with a high, but unstable level of energy supply. This is a separate and so special aggregate state, which is characterized by specific physical properties. The combination of high electrical conductivity in an ultrahigh temperature environment is the most significant distinctive property of plasma. It is known that to maintain the thermonuclear fusion reaction, it is necessary to reduce the distances between the reactants to the required minimum. However, it is the thermal energy with centrifugal force that prevents this convergence. This convergence is achieved due to the ultra-high density of the plasma, which is supported by the corresponding magnetic pressure, the direction of which is centripetal. Artificial technologies currently available can contain plasma in a limited volume using super-powerful electric magnets. The centripetal force in the magnetic body of a star is due to the magnitude of its mass, what is the nature state of plasma. It is the large mass of stars that provides a large amount of additional centripetal energy, which is able to support the ultra-high magnetic pressure.

Against the background of large losses of force of the power of energy due to information radiation and work performed in the processes of interaction in the surrounding space, the question arises as to what has provided capability to the continuous existence of stars for billions of years. After all, stars emit a colossal amount of energy constantly. According to the law of conservation of energy, it is impossible to create an additional amount of it. Energy is a quantitative value, which means its quantitative finiteness. If energy constantly left the body of a star in unlimited quantities, then after hundreds or even tens of years it would be left without energy, which would lead to its collapse. That is why, in order to avoid the destruction of stellar systems, there must be a process of energy regeneration, which consists in returning the energy thrown into space back to the body of the star. Because the energy in space did not disappear, it simply turned into a different quality.

Materia, being a unified material energetic body, consists of matter, which is the basis for building the mass of a star, and energy. The mass of matter of a body of star radiates EPs of energy - carriers of centrifugal force into interplanetary space. At the same time, through the stars magnetic poles - EPs of energy of the centripetal direction of action return back to the mother body of star. The interaction of these different forces is very effectively combined in the plasma of a stellar body. The mass of a star, under the action of centripetal pressure, creates extremely dense matter in the form of plasma. To prevent the collapse of matter from excessive compression, centrifugal thermal energy is used, which keeps the components at an appropriate distance. The interaction of these opposite interaction factors transforms metals into a gaseous state of plasma, thus ensuring not only the functionality of individual atoms, but also their regeneration. Plasma in a philosophical aspect is the mother state of Matter from which all matter of the Universe originates, in the body of which conditions are created for the regeneration of both matter in general and energy in particular.

4 Matter and energy regeneration process in the plasma of a star.

Energy has a unique nature. The individual components of its composition, being carriers of force, differ only in the direction of their action. The interaction of these differently directed components in the aggregate creates pressure. The body of the Sun, like every star, rotates around its axis. The core of the star is a magnetic body of extremely high density, consisting of metallic plasma. The main component of the core should most likely

be iron-metal plasma with an extremely high density. The star's body, due to its rotational motion around its own axis of rotation, acts as an energy generator and works on the principle of an energy pump, in which the star's body plays the role of a rotor. The core of this rotor is a plasma-metal structure with a high magnetic potential, which is in a solid state, due to its ability to compress and be in an incompletely ionized state. In addition, the temperature of the cores of stars is much lower than the temperature of the plasma of the outer layers of the star's body. However, the density of the core due to high pressure is enormous and depends on the mass of the star. The magnetic core is a source of gravity, due to which a conditional magnetic vacuum is created at the poles of the star.

It should be especially underlined that the magnetic body of the star is in a state of rotational motion on a constant basis. The average logistic velocity of the components of the magnetic flux of the core must be extremely high. According to Bernoulli's law [9], due to the high velocity of the magnetic flux, the base pressure B_0 in the core decreases, which creates a negative pressure difference between the pressure in the star's core and outside. This significantly affects the overall thermal regime of the core due to a decrease in thermal pressure, since a decrease in the base pressure, accordingly, leads to a decrease in temperature. This explains the phenomenon due to which the temperature of the core of the star orders of magnitude is lower than the temperature of its body.

Due to that pressure difference through the magnetic poles of the star along its magnetic axis to the star's core, a magnetic energy flow with a minimized pressure of B_0 is pumped into its body. This flow is formed due to the previously spent thermal energy that has lost its centrifugal power. The harvester of EPs of energy that collects the magnetic EPs from the vast interplanetary space into the magnetic flow is performed by magnetic centripetal concentrators - the role of which is played by famous black holes. A black hole by its physical nature is an electromagnetic vortex that arises due to a high concentration of EPs of magnetic energy. The increase in the power of the magnetic flux in certain areas of space leads to the creation of centripetal magnetic pressure with extremely high values. As a result, there is a difference in the pressures of the magnetic flux and the gravitational pull of the star at the pole.

Due to the powerful interaction of the pressure force of the magnetic flux and the gravitational force of the star at a certain distance from the poles, a large amount of centripetal magnetic energy creates a centripetal magnetic vortex which, due to the enormous speed of movement, reduces the energy pressure along the axis of rotation to the minimum possible parameters. In addition, the black hole, due to centripetal acceleration, performs the function of separating EPs of magnetic energy from EPs of thermal energy, which is extremely necessary in terms of preventing destruction the centrifugal energy flows. This has all the hallmarks of being manageable as a highly organized intellectual process.

All this allows to fit the maximum amount of energy EPs at a minimum volume. The created magnetic flow connects to the input pole of the star, which creates the most efficient access of the energy flow to the magnetic body of the star. IEP of thermal energy is precisely due to centripetal acceleration that there are no EPs of thermal energy in the body of a black hole at all. In space as well as in the Earth atmosphere there is a huge number of such vortices of intermediate sizes that are barely or non-noticeable to "Homo Sapiens". However, this does not exclude their existence.

The star's core acts as the core of the generator's rotor. Under the action of centripetal pressure, the magnetic energy flow creates conditions for maintaining a thermonuclear reaction. This reaction leads to the release of a certain (large) amount of heat in the form of energy, the carriers of which are EP of thermal energy (Figure 2). By all indications, the star should have exploded. But this does not happen, primarily because in the rotor body the centripetal magnetic flux changes its direction of action to the opposite, that is, centrifugal. Thanks to this wonderful mechanism, the centripetal energy in the core body changes to centrifugal thermal. Due to the rotational motion of the star's body, the plasma flow receives additional centrifugal acceleration, due to which the dynamic velocity of the plasma flow increases dramatically. As a result, each EP of energy receives an additional portion of the force power with the centrifugal action vector. The principle of operation is the same as that of an electric current generator, and especially a centrifugal water pump. If in a water pump, water molecules are given centrifugal acceleration due to the centrifugal acceleration of the energy flow, then in the case of a star it is an avalanche of moving energy of plasma flow, which moves with centrifugal acceleration from the core to the surface of the star.

Thus, centrifugal thermal energy released in the process of thermonuclear fusion is ejected outside the star's body avoiding its collapse. These coronal eruptions are combined with plasma boiling processes, which are similar to boiling water in a water boiler. In the process of boiling, the plasma vapor that is released loses centrifugal acceleration. From this moment on, the vapor begins to separate into separate fractions. The main fraction is an energy flow of centrifugal thermal energy directed away from the star's body into open space. This flow is extremely diverse and includes the entire spectrum of radiation. The star, like every celestial body, including the Earth, has its own atmosphere, which enriches its constant composition with powerful vapor emissions of a mixture of ions and thermal energy. Passing through the atmospheric layers, the ion-material mixture condenses and falls in the form of ion rain on the surface. Due to secondary radiation and a drop in pressure, the mass cools down, turning into a gas-liquid mixture, which returns to the surface with metal and mineral rains. Part of the matter in the form of a mixture of gases and ions that creates the atmosphere of the star. The energy released from the ions due to secondary radiation joins the general energy flow, supplementing them with new elementary particles (EPs) of energy. As it moves away from the surface of the star, part of the ion-vapor mixture oxidizes and condenses to a crystalline state and falls out in the form of metal hail.

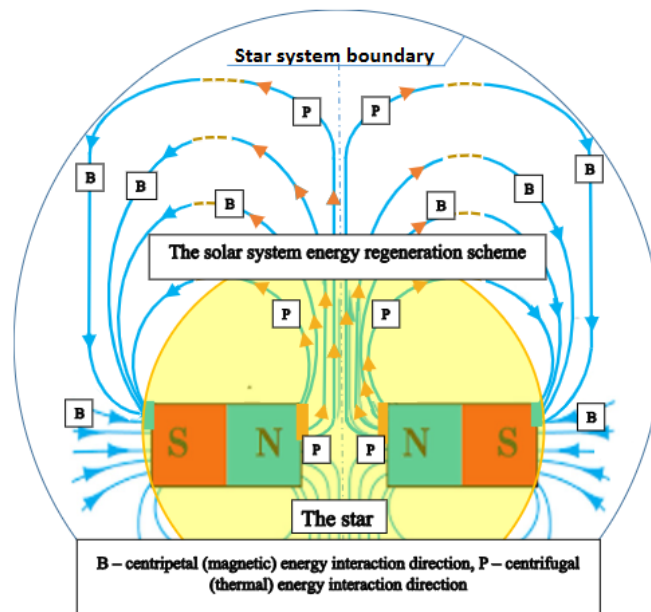


Figure 2. The principle of converting centrifugal (thermal) energy into centripetal (magnetic) one in the Stellar system and its regeneration

Outside the atmosphere of the star, plasma ions cannot exist. Moving away from the surface, even the lightest of them, having lost their energy, remain in the atmosphere. It is thanks to this phenomenon that outer space remains empty of material parts in terms of individual molecules and atoms. Energy, having its own inertial force provided by the body of the star as part of energy flows, continues its movement in the direction from the star as shown in Figure 2. On its way, this centrifugal energy does a huge amount of work to ensure the functionality of all interaction processes in space, including the rotation of planets in their orbits. Having spent its own force for the processes of interaction, the forceless energy carrier shells fall under the influence of the centripetal force of gravity of the star. By changing the direction of action, the same EP that was a carrier of heat, having lost it, changed its direction to centripetal and became magnetic. Thanks to the force of the centrifugal direction, having traveled billions of kilometers, it returned to the body of the star to receive a new charge. This serves as another confirmation that the EP of energy are carriers of force which are universal units of the universe. Having lost the force of the centrifugal direction, they do not cease to exist. This is the process of the perpetual motion machine, which works on the principle of matter transformation, based on thermonuclear fusion reactions. In nature, there will always be an amount of matter at its disposal that can be transformed into a new quality, thus ensuring the process of energy transformation through its regeneration. It is impossible to stop this process, because the energy available in space is more than enough to ensure movement as a result of interaction. Having performed work, energy does not die but passes into another quality, continuing its action in a different direction. Accordingly, the space of the universe, existing on the principle of cause and effect, functions outside of time and other reference systems created by humanity for its own use.

Space, being the container of everything thanks to intelligence and a sufficient amount of energy, has a significant ability to regenerate by converting centripetal magnetic energy into thermal energy by changing the direction of action to the centrifugal one. In parallel with the processes of energy regeneration in the star, processes of restoration of damaged atomic structures take place, which eliminates their aging. It is thanks to the regeneration processes that the faultless functional ability of star systems and the generation of a sufficient amount of *thermal energy* for their functionality are ensured.

5 Thermal Energy

The main components with which Matter consists of are substance and energy. The dominant modern scientific theory claims that Matter itself is the conductor of energy. For example, the pressure of water in pipes is supposedly created by water. However, this is not so. Water, like every material body, participates in the processes of energy interaction, since its atoms and molecules, according to scientific research, consist of energy by more than 90%. But the only conductor of energy in nature is energy itself.

It so happened that in scientific practice there is no clear distinction between the concepts of "Matter" and "Substance". Matter and substance are closely related concepts in scientific practice. Matter is a generalized basic concept that refers to everything that exists in the space of the Universe, which has mass and occupies a certain volume of space. Matter is the forming basis of a material body regardless of its size, that is, what material bodies consist of. It follows from this that Matter does not exist outside material bodies. Therefore, all Matter in the universe is concentrated exclusively in material bodies regardless of their size. Therefore, Matter is the main component in the construction of space.

The main distinguishing characteristic of Matter and, accordingly, of a material body is the presence of weight. The phenomenon of weightlessness in open space does not mean the absence of weight at all. The weight of a body is determined by the force of attraction of

centripetal magnetic energy that acts in the body on a permanent basis and depends on its quantity in the internal structure of the atomic and molecular structures of the material body. In open space, two independent forces act on each material body, which by their nature act in opposite directions. The forces of the centripetal direction of interaction, being the basis of the magnetic force spectrum, are the basis of the gravitational force of attraction. These centripetal forces are in constant interaction with the thermal energy flow of the centrifugal direction. Being components of a single energy complex, these extremely powerful forces are in the process of interaction on a permanent basis. These multidirectional forces interact with each other on a conflict-free basis, ensuring the stability of the construction of the space of the universe. It is thanks to the constant interaction of the centrifugal thermal energy flow and the centripetal magnetic one that a state of equilibrium is created in the space of open space, which makes all celestial bodies weightless. This factor creates conditions for the free movement of all celestial bodies in open space.

Near the surface of the earth, the force of centripetal pressure, unlike the centrifugal force, is a constant value. The weight of the body will depend on the ratio of the content of the number of EPs of thermal centrifugal energy to the amount of EPs of centrifugal magnetic involved in the structure of intraatomic and interatomic bonds in the molecules of the body. The greater the percentage of EPs of thermal centrifugal energy, the lower the weight of the material body. Therefore, with the same volume, the weight of a feather or an oxygen molecule will always be much lighter than the weight of a piece of metal. An iron molecule is heavier than an oxygen molecule by exactly the same amount as the centripetal force of the iron molecule is stronger than the centripetal force of the oxygen molecule. The centripetal force of a molecule is exactly the force with which the mass of the molecule attracts the mass of the earth's body to itself. In outer space the weight of feathers is equal to the iron, just because the centripetal force is equal to centrifugal one.

Matter, being one of the components that create space, is not a unitary unit. It consists of two components - substance and energy. Substance is the basic, actually existing part of Matter, which is the carrier of mass. This is a quantitative characteristic of one of the components of matter, which, however, does not exist independently in nature. Each elementary particle of substance has energy poles in its composition, with the help of which it has the ability to combine into material compounds. The physical essence of an elementary particle of substance is that it emits EPs of forces on a constant basis. While remaining energetically neutral and passive. Positive poles emit EPs of forces in a centrifugal direction, while negative ones emit centripetal ones. It is also important to understand that the negative (minus) pole is always directed towards the center of mass of the material body of the earth or star. Two or more EPs of substance are connected to each other according to the principle of valence using poles. To do this, the positive and negative poles must be brought closer to the minimum required distance at which the process of interaction and mutual exchange of information is possible. After that, the forces of interaction of the positive and negative poles enter into an interaction reaction, which leads to the connection of the EPs of substance into a unified structure. Bonds at the microscopic energy level are the most powerful in terms of their power, because they work at distances that are too short for material components. It is extremely difficult to break such bonds in the structural structure of atoms. The processes of connecting the EPs of substance of most atoms of chemical elements are possible only in the plasma state in the bowels of supermassive stars at ultrahigh pressure parameters. Modern technologies are capable of structural restructuring of the nuclei of only some chemical elements at a fairly low technological level. How powerful the bonds are in the structural structure of metal atoms is a question of the future.

It is obvious that the connections between individual particles of matter are maintained not by rods and orbitals or other conventional terms used by science, but by the force of mutual attraction. This force is not only powerful but also extremely long-lasting. The absolute majority of the structures of the nuclei of chemical elements in the mass of the earth have not undergone any changes during the entire period of its existence, which is commensurate with the concept of eternity. The energy forces that maintain the integrity of the structural structure of atoms do not age because such is their nature. These forces are provided by the EPs of energy that are the carriers of force. (Figure 3). In nature, there is a certain number of different in structural structure and number of poles of both directions of the EP of Matter. It is the number of poles and the direction of action of their force that are decisive in determining the valence of chemical elements.

The number of poles of both directions of action is a defining characteristic of each individual type of elementary particles of substance. The connection of different in structure of the EPs of substance is ensured by the interaction of the EP of energies with each other, which are compatible carriers of information and interaction force at the same time. Therefore, regardless of the structural structure, the exchange of information on the suitability for interaction takes place first of all. It is known that some atoms of chemical elements do not enter into the process of interaction with each other under any conditions. This is because their energy poles are not compatible for interconnection. The force implementation of the connection processes becomes possible only after a full analysis of suitability. This explains the diversity and sometimes complexity of technological processes within which certain chemical reactions or technological processes occur. It is also known that it is impossible to deceive the intelligence of nature with human tricks. Technological processes invented by mankind are ways to cooperation and are one of the algorithms for communication with the intelligence of nature. Despite the variety of interaction conditions, Newton's force is the only type of EPs of force in nature. One EP of force can act exclusively in one direction. But a large number of multidirectional forces in the process of interaction with each other create in stationary conditions of a closed volume a pressure that acts equally in all directions. In an unlimited volume of space in the process of interaction of multidirectional forces the dominant direction of action is determined which leads to the creation of a force energy flow. (Formula 6, 7)

All EPs of energy, being carriers of Newtonian force, have a unified physical nature. At the same time, the reaction to their action of the material components themselves that take part in the interaction processes is extremely diverse. The action of EPs of thermal energy of the centrifugal direction of action, which is the building block of the volume of material objects, along with an increase in the volume, causes a change in its thermal state. At the same time, EPs of magnetic energy of the stationary state of permanent magnets create a stationary magnetic state of a material object. This occurs due to the centripetal direction of action of the EP of force. The moving magnetic flux creates an electric current that radically changes the physical state and properties of the material object. They change due to the centripetal action of the force of magnetic energy, which leads to physical compression of the material body and an increase in magnetic pressure in it.

EPs of energy, regardless of the direction of action of the force, are carriers of information. According to the cause-and-effect relationship, both force and information are components of EPs of energy. Force and information act in close interaction, practically simultaneously performing the role inherent in each. If information, acting first, determines how to perform the process, at the same time force performs this work itself. The higher the quality of the information, the higher the quality of the execution. An analogue can be modern automated production lines for

which programs are created by people. It is possible to build an entire automated enterprise with thousands of executive mechanisms. But all these mechanisms will not work without intellectual information support provided by previously created programs. Natural processes occur according to the same scheme. Intellectual and information support is primary in all interaction processes. However, the perfection and efficiency of the execution of natural processes is incomparably higher than industrial analogues created by man. However, thanks to the inherent “Homo Sapiens” intellect, an effective system of exploitation of the intellect of nature has already been created, which creates exceptional opportunities for the exploitation of natural intellect in Humans own interests.

One of the main characteristics of the energy state of matter is its thermal state. Energy state of individual physical objects differs in physicochemical properties depending on the aggregate state. The aggregate state of material bodies depends on the interaction of the number of elementary particles (EPs) of thermal centrifugal energy to the number of EPs of magnetic centripetal energy that simultaneously interact in an isolated energy body. The primary energetic state of Matter is plasma, which by its properties is its mother state. The main property of that state is ability to regeneration. This property manifests itself in prevention the aging of matter, due to which the space of the universe is in a working condition at all stages of its existence. This once again confirms the axiom of the incompatibility of time and the objectively existing material world.

All material bodies, the Matter of the universe as a whole, depending on the thermal state can be in gaseous, liquid and solid states. At certain stages, all materials are liquids, therefore their fluidity depends exclusively on their thermal state.

The thermal state of an energy body, regardless of its physical content, depends on the content of the EPs of thermal centrifugal energy. The carriers of the force of interaction in nature are EPs of energy. While the carriers of the force of magnetic centripetal interaction are EPs of magnetic energy - electrons, the carriers of the force of centrifugal thermal interaction are EPs of thermal energy - photons. Elementary particles of energy are not corporeal by their nature; therefore, they are invisible to the organs of vision. But they are a force component of a physically unified matter. It is the Matter that emits EPs of energy on a constant basis to ensure constant force and intellectual interaction in the universe. Emitting EPs of energy is the state of existence of EPs of substance what makes substance to be EP of Matter. EPs of magnetic energy and EPs of thermal energy differ radically in their functional characteristics and the nature of their influence on material bodies. Matter has an exceptional ability to transmit its own force of interaction to distances in the universe that are unimaginable for human consciousness, practically without moving. Unlike the EPs of energy involved in providing structural force bonds in atomic-molecular bonds, the other part of the energy is free and fills the entire space free from matter. This part of the energy ensures the interaction of celestial bodies and related systems in the open space. It is not easy to imagine with what colossal force the meager EPs of energy in their huge quantities provide space for ensuring the interaction with each other all material bodies. However, their quantity and power are quite enough for the interaction with each other both, miniature atoms as well as for galaxies colossal in mass and physical dimensions This is Nature in its own Power. Photons are the only carriers of the force of thermal interaction in nature. At the same time, the carriers of the force of magnetic interaction of the centripetal direction are electrons. These forces of interaction act simultaneously on a constant basis, ensuring the universality of the Universe. The division of the universal Newtonian force into photons and electrons is to a certain extent conditional. This is permissible in scientific practice and is associated with an improvement in the interpretation of the physical essence of the process. However, acting in the centripetal direction, Newtonian force generates the phenomenon of magnetism, while the centrifugal direction of action causes a thermal effect in nature, which is accompanied by a change in the volumetric parameters of material bodies or a change in the pressure value. Image obtained by scientists from the University of Liverpool is a clear example of the real existence of a photon - a physical energy body of thermal energy. (Figure 3). Yuen B., (2024)

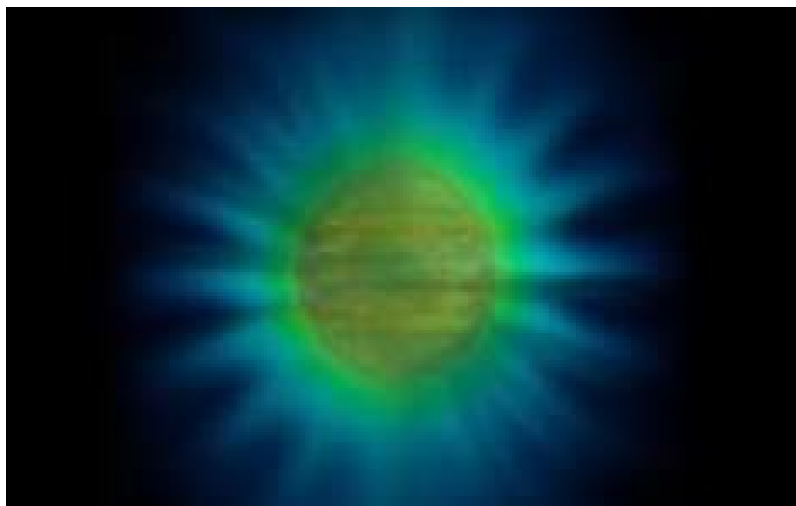


Figure 3. Photo of Photon Body

It is photons that are carriers of the force of thermal energy, Newton's forces, which, quantitatively combining into flows, create Pascal's pressure, which was the first to explain and introduce into scientific practice the interaction of force flows by means of force

$$P = \frac{F}{A} \quad (1)$$

where P is the magnitude of the combined EP of energy flow, F is the magnitude of the Newtonian force, which is a measure of the physical ability to perform an action, A is the cross-sectional area of the body on which the force is directed.

At this stage, it is necessary to especially emphasize the multifunctionality of photons, whose functions also include the transmission of information by means of light. This is a parallel independent process that requires a separate detailed description.

Thermal energy, like magnetic energy, exists exclusively in the state of transmitting the force of interaction. The physical content of energy is the ability to perform an action, to cause movement of material bodies due to the existing force acting in a certain direction. Physical movement is inherent in individual EP of energy as part of the energy thermal or magnetic flow. The energy flow can be static or dynamic. In nature, interaction processes occur on a constant basis. The force of gravity of the earth acting in the centripetal direction counteracts the force of thermal energy that always acts from the center of the earth. If the pressure force of the magnetic downward flow in the earth's atmosphere counteracts the pressure force of the centrifugal energy of the upward flow with the same value $F_l = F_t$, then there will be a complete absence of movement of air masses. But this happens only theoretically, because due to the interaction of forces in the opposite direction, under the influence of the unevenness of the earth's surface and other obstacles, air masses move in all directions on a constant basis. Single stone can lie motionless on the surface of the earth for thousands of years, however this does not deny the interaction of forces keeping it quiet.

The properties of dynamic flow motion for fluids were described by Bernoulli D., (2026) in his interpretation of the law of conservation of energy, which was further developed by Euler L., (2026)

$$\frac{\rho}{2} V^2 + h\rho z + P_0 = \text{const} \quad (2)$$

This law in a modified version best describes the dynamic moving flow of EP of energy, such as the flow of charged EP of magnetic energy of electric current. Oryabko V., (February 2025). Based on the above conclusions of the unity of the physical nature of energy, electric current is nothing more than the flow of EPs of magnetic energy. Replacing Euler's symbolism with the symbolism used in electrodynamics, (Formula 2) will be of the following form.

$$h\rho z + B_0 + \frac{\rho}{2} I^2 = \text{const} \quad (3)$$

where $B = P$ is the value of the total pressure of energy flow in the system, $B_0 = P_0$ is the value of internal pressure in the conductor, pipe, the value of the dynamic pressure (head), $I = V$ is the value of the current velocity - speed, k is the value of the resistance coefficient.

From the above

$$h\rho z + P_0 + \frac{\rho}{2} V^2 = h\rho z + B_0 + \frac{\rho}{2} I^2 \quad (4)$$

The dynamic part of the energy force pressure

$$P_d = \frac{k}{2} V^2 \quad (5)$$

Having replaced the value of the hydraulics pressure value with the equivalent force value we get,

$$\frac{F_d}{S} = \frac{k}{2} V^2 \quad (6)$$

After the appropriate transformations, we obtain the value of the moving dynamic force of the thermal flow

$$F_d = \frac{k}{2} S V^2 \quad (7)$$

where F_d - the magnitude of the dynamic driving force under the action of which the movement of the flow of elementary particles occurs. It so happened that in electrodynamics the magnitude denoted by the symbol I is called the magnitude of the current strength, although in physical essence it is the magnitude of the velocity of the flow of charged particles.

The Bernoulli-Euler law of conservation of energy best describes the movement of elementary (charged) particles of magnetic energy - electric current, since here the movement of EPs of magnetic energy in its pure form occurs. In the initial form with water (Formula 3) there is a flow of liquid, which is a mixture of material molecules and free EPs of thermal and magnetic energy of the flow. This is example which clear evidence of the unity of energy and, accordingly, the unity of all laws of motion of energy flows in nature. Newton's force in electrodynamics, being a universal unit of space of the Universe, has the same nature as in hydraulics, and acts according to the same single laws of nature.

Energy is one and in nature acts as a single complex of interaction between the forces of magnetic interaction of the centripetal direction and thermal interaction of the centrifugal direction. The Bernoulli-Euler law describes the principles of interaction of multidirectional forces. In theory, there are two types of energy flows: magnetic and thermal, which differ only in symbolism. In theoretical calculations, the definition of the pressure of the heat flow by Pascal's formula $P = F/A$, and the definition of the pressure of the magnetic flow by formula $B = F/A$ are widely used. This is acceptable in scientific practice and even useful, provided that energy in nature is unified. The application of Bernoulli's principle to electric current assumes, first of all, that electric current is a moving flow of magnetic energy. Any liquid consists of at least 90% of the energy of the two closely related types listed above. The flow of a liquid is an energy flow. The law of conservation of energy must be considered from the point of view of the unity of energy, which with its forces matter to act and creates conditions for the formation of energy flows. The force of the energy flow of an electric current, according to the existing definition, is the rate of charge transfer by particles that create a current through the cross-section of the conductor. $I = Q/t$, Electric current, (March 2026). This is one of the signs of dynamic magnetic flux - the main sign of an electric current. The Joule-Lenz law, (May 2026) $Q = I^2 R t$ directly indicates the connection between electrodynamics and thermodynamics. All energy processes operate according to single laws.

As part of the dynamic energetic flow, energy acts as a moving dynamic force that, by combining certain quantity of the EPs of force, creates pressure. The physical content of energy is the transfer of pressure force and performance (work) through the performance of movement by material bodies. There is no fixed speed of movement of EPs of energy, or light, and even more so of a material body in nature. It is impossible to accelerate a

material body to the speed of light transmission, since there are no energy flows of EPs of energy in nature that would move at such a speed. The movement of a material body at a speed higher than the speed of the energy flow is impossible in the absence of a moving force of the corresponding value. It is the movement of a material body that is the movement of an energy flow, since every material body more than 90% consists of energy. The highest theoretically proven speed of a material body at present can be considered the value of the third escape velocity for Earth, which is 16.65 km/s. This value of speed is equivalent to the speed of energy flow.

According to scientific experiments, sunlight reaches the Earth's surface in an average of 500 seconds. At the same time, magnetic storm flows reach the Earth in several days. It is obvious that information about these events on the surface of the Sun arrives at a speed of $299\,792\,458\text{ m} \cdot \text{s}^{-1}$. However, magnetic energy flows themselves moving much slower and most importantly with different speeds, which are, according to Wikipedia, 400-1000 km/s. That is, they reach the Earth in one or two days. This was established by many years of research by the Space Weather Prediction Center. They cite evidence according to which, "...The largest storms that result from these conditions are associated with solar coronal mass ejections (CMEs) where a billion tons or so of plasma from the sun, with its embedded magnetic field, arrives at Earth. CMEs typically take several days to arrive at Earth, but have been observed, for some of the most intense storms to arrive in as short as 18 hours". NOAA: (April 2026) According to the testimony of an authoritative institution, as a result of that coronary ejection, billions of tons of mass of the sun supposedly would have left its body. That was during a few days of a magnetic storm only. But this is an obvious false. This information should indicate that during a certain number of such storms, the Sun or any other stars in space should cease to exist altogether, and all their mass would have dissolved somewhere in interplanetary space. But this worthless statement contradicts not only the truth, but even common sense.

Magnetic storm, regardless of its size, is a flow of magnetic energy that reaches the surface of the earth. A coronal mass ejection is accompanied by a powerful release of energy of all spectra. However, it is well known, if a volcano erupts on earth, this does not mean that ash and smoke from it reach the moon. All know it is impossible. So, all mass carrier material particles had to settle on the surface of the sun or stay in the atmosphere. Only energy exclusively is emitted beyond the solar atmosphere, which ultimately after long journey throw the space will returns back to the parent star body. Energy is a massless component of matter, and this is an extremely important factor. The energy in its turn is a carrier of force that is registered by instruments. it is clear that, the sun does not lose any pace of mass.

Although the fact that coronal emissions are visually fixed on the sun with the help of telescopes after 500 seconds, energy flows moving with extremely different speeds reach the earth within several days. This once again indicates that the light that conveys the visibility of visual images of energy emissions in 8 minutes is informational flows that have nothing to do with power of energy flows. The logistic speed of movement of power of flows of EPs of energy in open space is from 400 to 1000 km/s. In metal conductors under Earth conditions, according to experimental studies, their speed of movement is only a few meters per second. All this indicates the insignificance of the statement that energy moves at the speed of light. Light is a separate state of existence of intellectual matter, which exists in the form of transmission and distribution of information. Substance, which is the carrier of mass, energy which is the carrier of the force of interaction, light - a means of transmitting information - are different in nature components of matter, different states of its existence.

It is important to understand that EPs of energy are massless carriers of force. If photons, or electrons as energy quanta, had a mass, even the most insignificant, moving at the so-called speed of light and in such colossal quantities over an infinitely long period of time, then all stars would lose their mass in short time. In this case, all of outer space would have to turn into a jelly-like mass without stars and planets. However, it is likely that the masses of the stars have even increased due to the fall of asteroids, fragments and even cosmic dust onto their surfaces. The speed of 300,000 km/s is the speed of pressure force transfer in the process of interaction of material objects. But the transfer of the force of interaction and the physical movement of a body in the process of movement are completely different physical and philosophical categories. The transfer of force occurs in the process of so-called radiation, which can occur regardless of the moving state of material bodies. But the main thing in this context is something else. Where in the case of a hypothetical movement EPs of energy should had fled? Where are these EPs of energy were needed? Each individual astronomical system of the Universe has its own amount of energy necessary for its own functioning. Any changes in their energy capacity would lead to catastrophic consequences. The stability of the functioning of the Solar System in our time is ensured precisely by the stability of its energy capacity. But this was not always the case, as evidenced by the traces of colossal natural cataclysms. Oryabko V. (Dec.2025)

In the Universe, information is constantly exchanged between individual star systems. A small star in the night sky indicates the amount of information that a giant-sized superstar is sending us. Most of them, even though the telescopes, look like fog. The universe is energetically and informationally self-sufficient, because it is filled to the brim with energy. The energy available in space is enough to ensure the performance of all interactions, all processes, including biological life. Each system in the universe uses its own amount of energy, which is constant throughout its existence, since the amount of energy is proportional to the amount of matter. In order to change the amount of energy in the solar system, for example, it must be taken from somewhere. However, it is impossible to create energy. Hypothetically, this is possible if a certain amount of energy with an equivalent of matter is taken from another system, which is equivalent to the fact that the earth will somehow take energy from Venus or Mars. However, this is absolutely not realistic...

6 Thermal Radiation

Thermal radiation, which should be especially pay attention, is the basis of the thermal energy flow. At the same time, to fully ensure the implementation of the process, nature uses its own additional tools. One of the well-known and sufficiently studied tools for energy radiation is the transfer of the force of the energy flow by means of pressure already described above. Radiation is not a separate means of interaction and acts in one complex with the transfer of information. That is, unlike the practice of Subjective Reality, a star emits a certain amount of energy in a targeted manner, for interaction with a specific object, sending information in advance. It is meant that in the process of radiation, the EPs of the energy pressure force is simultaneously released, as well as information for what this force is intended. What is the structural construction and principles of functionality of the EPs of light - photon is the task of the physics of the future. (Figure 3) But light and energy have different physical natures. In a completely dark, opaque room, in the absence of light, you can feel the thermal flow of thermal energy from the heat source present in the room. This is one of the proofs of their natural differences. It is clear that the amount of energy produced by the sun for Pluto, for example,

cannot be used by the satellite of Venus just because the satellite is closer to the sun. Each of these bodies uses the amount of energy produced for each individual object. Such clear interaction is forced and extremely necessary to exclude chaos. Chaos in natural processes is excluded and not permissible at all. Nature ever knows what to do and how and when. Therefore, one extremely important factor in the interaction is the distribution of both the number and the power of energy flows. Thanks to this, from year to year, the nature of the earth stably receives exactly the amount of energy that is generated precisely to maintain its functioning. Otherwise, life on earth would either freeze on or burn out.

The entire space, whether of the solar system or the Universe as a whole, being filled to the brim with energy, is under constant pressure of various and constantly changing magnitudes. Energy pressure in the form of light pressure was predicted by J. Maxwell (Oct. 2012) and experimentally confirmed by P. Lebedev in (1901) which is direct evidence of the existence of force of energy flows throughout space.

One of the known and studied means of energy distribution in the open space from the source of generation is the transfer of the force of the energy flow by means of pressure. Thermal radiation occurs by means of the transfer of the force of pressure from the source. Oryabko V, (Sept. 2025). The nature of energy is dualistic. In parallel with the transfer of the force of pressure of energy, there is a physical movement of the flows of thermal energy in the centrifugal direction, which consists of the EPs of energy of the carriers of the Newtonian force of interaction. As part of the energy flows of the so-called solar wind, they perform colossal work to organize the movement of all celestial bodies from planets to individual asteroids, and even cosmic dust. The action of the force flows remains invisible to the organs of vision, but the work done as a result of their interaction is visible. Each of the planets or other cosmic bodies does not move by itself, but under the action of energy flows, which are a powerful tool of each star in organizing the work of the star systems as a whole.

EPs of energy acquire a state of motion due to the difference in pressure, which implies the presence of the action of a directed force. A separate EP of heat, having left the atmosphere of the parent body of the star (the sun), moves in a centrifugal direction until its force is used in a certain objective process of interaction. Due to the productive work of the star on the regeneration and emission of EPs of energy into space, the energy flow of thermal energy is created, which is a continuous quantity of power energy bodies of centrifugal force carriers. The thermal energy flow is a powerful energy body, which, however, does not manifest itself in open space until the moment of the interaction process for which they are actually generated. Non-competitive process of distributing the amount of energy sufficient for the full implementation of each process clearly demonstrates the extremely high intellectual and organizational level of the distribution itself and its full provision. Despite the massive number of energy users, there is enough not only for massive objects, but also for individual objects of space dust. This emphasizes complete self-sufficiency of space and its ideal performance ability.

7 Thermal Interaction

By itself, the EP of thermal energy is neither a carrier of heat nor temperature nor even light which is the subjective perception of the processes of interaction of the biological organism with the energy environment. It is known that between the sun and the earth there is a colossal amount of thermal energy, but the space of space is cold. However, if a separate atom of a chemical element which is a full-fledged material body is placed in outer space, then despite the astronomical cold, the temperature of the atom can rise to hundreds of degrees. Another indicator will be an impressive increase in the volumetric characteristics of the body of the atom. EP of thermal energy freely penetrates the body of the atom, because the body of the atom consists of more than 90% energy. Since the energy pressure in the cold body of the atom will be much lower than the pressure in the heat flow around it, the atom will absorb energy until the internal pressure in the atom equals the pressure in the surrounding space. This example is the reason to believe that the force of energy pressure in open space is extremely high. It follows that the pressure of light predicted by Maxwell and measured by his followers is the weak current pressure of light - that part of the energy flow that performs the work of transmitting and distributing information. The flow of thermal energy forces is the moving part of the energy flow of the EPs of the centrifugal force, which is extremely powerful. The force of this flow performs the physical work of all interaction processes according to the information provided by the flow of light. It is this force that creates the movement of planets, star systems and galaxies. EPs of thermal energy play an extremely important role in nature as a volume builder (Figure 4). Each EP of heat, being a carrier of physical volume, penetrating the body of an atom due to centrifugal force increases the volume of the atom itself (or a material body, regardless of size). Therefore, the volume of the atom will increase in accordance with the number of individual units of absorbed volumes. As the atom cools, EPs of volume will leave the body of the atom, which will definitely lead to a loss of spatial volume (Figure 4).

Regarding the space of outer space, the thermal state and, accordingly, the temperature of open space do not exist, with the exception of individual material components. The parameters of the thermal state are the properties of an energy body with a high concentration of matter, which is the Earth enveloped in a dense atmosphere. But due to the fact that the concentration of matter in open space is extremely low, especially in comparison with similar characteristics on Earth, neither the thermal state nor its measurements exist in it. Neither radiant radiation nor any other radiation can serve as a thermal background of open space. Thermal state or temperature is a measure of the amount of energy in a material body. Radiation is the process of releasing energy by a material body. Thermal radiation, being the basis of the thermal energy flow, is neither a carrier of heat nor temperature. It is a carrier of information and force of energy and serve as a means of transmitting action of energy flow, acting as the engine of all interaction processes in nature.

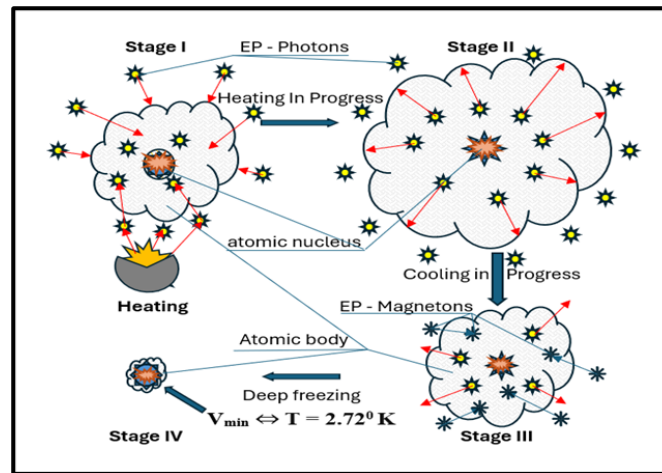


Figure 4. Illustrated diagram of the transformation of the volume of the energy body of an atom and its thermal state during an isobaric process.

8 Temperature

Temperature is another measurement of the thermal energy state, which, unlike volume and pressure, does not have its own natural material basis, since it does not have the ability to exert any influence on the physical state of matter other than the function of volume and pressure.

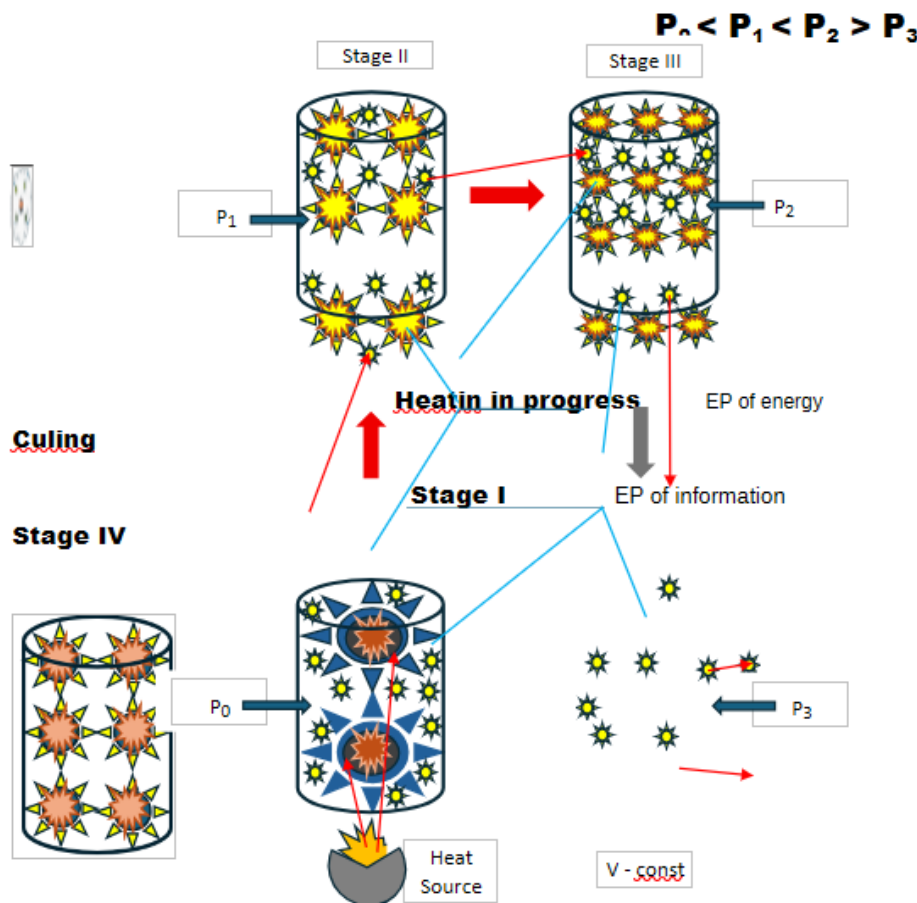


Figure 5. Illustrated diagram of the dependence of the temperature value on the pressure force and density of the EPs of thermal energy in an isolated energy body of the material environment.

Therefore, it has no relation to the thermal regime of space as a physical category. A thermometer measures its own temperature, as a measure of the magnitude of its own state. Theoretically, it is possible to somehow measure the thermal state and temperature of an individual molecule of hydrogen, or helium, or a speck of space dust. So, their temperature can reach hundreds, even thousands of degrees on the illuminated side, while

remaining immersed in a cold void. But this temper will not extend to space. Because the temperature is a measure of the density of EPs of thermal energy exclusively in a material body.

Temperature is a mathematical indicator of the change in the thermal state of a material body under the influence of a change in the density of the free thermal energy and their action, which causes a change in the pressure in the material medium and a change in its volumetric and physicochemical characteristics. Therefore, the change in temperature has no relation to the thermal regime of space as a physical category. Therefore, with a colossal amount of thermal energy in outer space, it is absolutely cold. The thermal state and, accordingly, the temperature of outer space do not exist, because these parameters are properties of an energy body with a high concentration of matter. But due to the fact that the concentration of matter in it is extremely low, especially in comparison with similar characteristics on Earth, neither the thermal state nor its measurements exist in outer space. Theoretically, it is possible to measure in some way the thermal state and temperature of an individual molecule of hydrogen, or helium, or a speck of space dust. Their temperature can reach hundreds, even thousands of degrees on the illuminated side. However, this will not affect the space around in any way.

Temperature is not a material state but is an indicator of measurement in a man-made system for measuring the thermal state of material bodies created by Human for own purpose. Being an indicator of measuring the thermal state of material bodies, temperature can act as an equivalent of the density of free elementary particles of thermal energy contained in a material body. (Figure 5) The greater the concentration of the bodies of EPs of energy force, the greater the temperature indicator will be. At the same time, it is also the main characteristic of pressure. The amount of EPs of thermal energy depends on the size of the physical volume of each material body (with a variable pressure value). However, temperature is not practiced as an indicator of density but is a separate subjective mathematical tool for accounting for the thermal state, which, combining all objective indicators, has become extremely widespread in practical use. The change in volumetric characteristics and, accordingly, temperature are derivatives of the action of the force that creates pressure. But temperature indicators, being a measure of the density of EPs of thermal energy in a material body, are absent in open space at all, since they are another tool for measuring the thermal state of exclusively material body only. The temperature indicators are valid with a constant magnitude of the pressure force of the magnetic flux of the Earth's gravity near its level of surface of sea. With a change in height above sea level, they lose their reality, what is true near the surface, which is primarily due to a change in the density of the material medium.

Charles's law states that in the absence of temperature, the formula loses its meaning.

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2} \quad (8)$$

This convincingly demonstrates that formula (7) is valid only under the condition $T \neq 0$. As is known from the practice of measurement according to the Celsius system, the freezing point of water is precisely the temperature $T = 0$. This contradiction indicates the artificiality and subjectivity of temperature measurement. All physical processes successfully pass the zero barrier of each of the existing measurement systems, regardless of the mathematical conditions. It follows from the formula that volume and pressure are force characteristics of the thermal state of a material body. At the same time, temperature, having no physical content, is exclusively a measure, a digital and mathematical characteristic of its thermal state. The volume of an energy body, in contrast to temperature, is its real physical state, which is characterized by the physical dimensions with which it fills the space.

9 Thermal Energetic Flow

The root cause of all movement and chaotic movement of atoms and molecules in matter, according to the law of conservation of energy, must be energy. According to this same law, the energy that moves these molecules cannot arise by itself. For this, there must be a source that emits this energy. Only as a result of a direct effect on atoms or molecules do they begin physical movement. Therefore, a change in the thermal state of a material body involves the radiation of energy in the form of a heat flux from an external source by means of transmitting the force pressure of photons - carriers of thermal energy. It is known that in nature there are two types of energy radiation flows in parallel - magnetic and thermal. Energy is unified stuff, so that in nature it acts as a single complex of interactions in nature. But it is imperative to take into account that the nature of electromagnetic energy in terms of the principle of action on material objects is significantly different from thermal. Lightning strikes during a thunderstorm or electrical discharges, unlike melting metals, forest fires as examples in nature vividly illustrate the difference in their action in nature. It is obvious that thermal energy cannot be electromagnetic at the same time. Therefore, thermal radiation cannot be interpreted as electromagnetic radiation in any way. The carriers of magnetic energy are magnetons or electrons - elementary particles of magnetic interaction energy - the vector of action of the force of which is always centripetal, directed towards the center of mass of the earth. Oryabko V. (February 2025), While the vector of action of the EPs of thermal force by the previous definition is centrifugal.

The thermal flow of thermal energy in the form of a flow of EP of thermal energy is extremely widespread in nature. First of all, it is the main means of transportation and distribution of thermal energy in open space. In the complete absence of material components and even in conditions of their low concentration, the possibility of transporting thermal energy by convection is impossible. Therefore, the only means of transportation and distribution is heat flow consisting exclusively of free EPs of thermal energy. Oryabko V.(September 2025). EP of energy is combined into dynamic flows and thus spreads from the star to the moment of performants of work. Some parts of them reaches the very outskirts of the solar system.

The same processes of heat flow take place in the conditions of the Earth. From the source of thermal energy, especially a powerful one, there is a movement of the heat flow of EPs of thermal energy. But such flows are short-lived as they dissolve in the material environment. Part of the EPs of heat is absorbed by molecules of matter and performs the work of volumetric expansion of material objects and becomes inert. This part of the energy causes the activation of thermal motion, primarily of atomic and molecular structures. In liquids and gases, this activation leads to a significant intensification of thermal motion, which is sometimes called chaotic. But nature is not characterized by chaos. Thermal motion of atomic and molecular structures occurs at a high intellectual and organizational level. The rules of thermal motion are dictated by Newton's force.

Thermal motion of molecules and atoms in liquids and gases occurs exclusively under the influence of the interaction of two types of energy - thermal and magnetic.

A special form of interaction of multidirectional types of energy flows is plasma, the property of which was previously described. Under the conditions of the Earth's gravity, the direction of action of the EPs of force of magnetic energy is always directed towards the center of the Earth. It is well known how accurate horizon and vertical line in nature is. At the same time, the direction of action of the EPs of force of thermal energy is always centrifugal. The interaction of these multidirectional forces occurs throughout the Universe on a constant basis. Due to the absorption of EP of heat by a molecule of matter, it increases in volume, which causes a reaction of resistance of neighboring molecules, which become crowded together. In liquids and gases, heated molecules, due to the additional amount of centrifugal force, move in the direction from the center of the Earth. But others become an obstacle, since the colder ones are directed towards the center. As the amount of centrifugal energy increases, the water molecule becomes lighter than the air molecules becoming into a steam. Passing into a gaseous state, water goes through into the process of boiling. Sometimes processes of energy exchange leads to heat loss in the process of transition from one molecule to another.

If the process of the liquid heating occurs in a closed volume of the boiler, then due to the increase in the amount of heat, molecules become close critically. This causes a resistance reaction expressed by an increase in pressure value. (Figure 5, 6) With constant support of the heating process by accumulating the number of elementary volumes of heat leads to the collapse of the container. Elementary particles of the volume spread into the environment. The movement of molecules sometimes becomes so intense that it becomes similar to chaotic in terms of being completely disorganized. But everything happens exactly the opposite. Each molecule is an equal participant in the movement as part of a single heat flow. Due to the amount of force it has, it provides itself with its own path of movement. Due to centrifugal forces, they cannot collide. This is a planned movement without any hint of chaos, clearly regulated by the magnitudes of the multidirectional forces of interaction. Chaos in nature is excluded. The diversity and multidirectionality of individual energy flows is the result of their interaction with each other. The convergence of two molecules leads to a forced passage safely along with each other, which leads to harmonious coexistence.

If two or more tanks are connected by a thermal energetic pipe as shown in Figure 6, then the heat flows will connect all the tanks, despite the fact that the heat (energy) source is concentrated under the bottom of one of them. But there is one very significant feature here. Despite the fact that the tanks are connected by a thermal energetic pipe, heated liquid molecules cannot physically move from one tank to another. The direction of action of the centrifugal force is directed vertically upwards. This force does not allow heated water molecules to move downwards. However, despite the fact that upon the upper part it is hot, the lower part of the boiler will remain cold. As it heats up, against the background of increasing pressure, an increase in thermal indicators is observed in the adjacent tank without a heat source as well. In parallel, the pressure indicators will also be equalized. The question arises as to how the hot water from the top of the boiler moved through the layer of cold water concentrated in the lower part of the units and in the connecting pipeline. Simple, thanks to the wisdom of nature. the heat flow in the liquid molecules does not have the ability to move from the top of the boiler to the bottom and move through the energy pipe to another container, as this contradicts the law of centrifugal energy to act exclusively in the direction from the center of the earth.

But nature has its own tools with which it can overcome all obstacles. At constant volume, pressure becomes the main operating factor. Due to heating with an increase in the number of EP units of volume in the boiler, the water molecules become compressed throughout the system, which leads to an increase in pressure in both containers. An increase in pressure in the boiler according to Gay-Lussac's Law [7] (March 2026), leads to a change in pressure in the whole system.

$$\frac{P_1}{T_1} = \frac{P_2}{T_2} \quad (9)$$

The increase in pressure in both vessels causes the temperature to rise in there. However, the hot molecules of water will concentrate in the upper part of both vessels. The liquid in second vessel will heat up too, but its temperature will always be slightly lower than the temperature of the first one due to heat loss to the environment and some work performed. The processes will continue until the system reaches thermodynamic equilibrium after the heating stops.

Thus, the thermal motion of molecules and atoms in a liquid occurs exclusively under the influence of the interaction of two types of energy - thermal and magnetic. However, thermal motion, being a consequence of the action of the energy force from an external source, does not take a direct part in the process of energy transfer. The only role of thermal motion is the transportation of EPs of thermal energy both in a free state and in the composition of atoms and molecules over a distance. However, the process of transferring EPs of energy in the composition of molecules by convection has nothing to do with the process of energy transfer in the process of radiation. Convection is one of the natural ways of spreading and distributing energy by transporting it as part of convective flowing over a distance. This is a form of thermal energy flow involving both free EPs of thermal energy and EPs of energy involved into interatomic and intermolecular bonds within atomic and molecular structures. This form is important and extremely common for the aggregate states of liquids, gases, and especially plasma. in nature. It is the high concentration of the content of EP of energy free from internal structural bonds that creates the conditions for the movement of large masses of water in ocean currents and air masses in wind flows. However, about energy transfer, the only means of energy transfer is the transfer of force pressure in the heat energy flow. This process is described in detail by Pascal's law. Pascal B., (May 2025)

Thermal radiation is a physical process of releasing thermal energy in the process of performing interaction. That is, every interaction in nature is accompanied by an exchange of energy. The energy source radiates an excess in the form of EP of thermal energy into the environment in most cases without address, provided that the thermal pressure of energy inside the system P_{int} exceeds the similar pressure in the environment P_{ext} . ($P_{int} > P_{ext}$) This is the only root cause of thermal radiation. When $P_{int} = P_{ext}$ the system is in thermal equilibrium, while under the condition $P_{int} < P_{ext}$ the environment becomes a source.

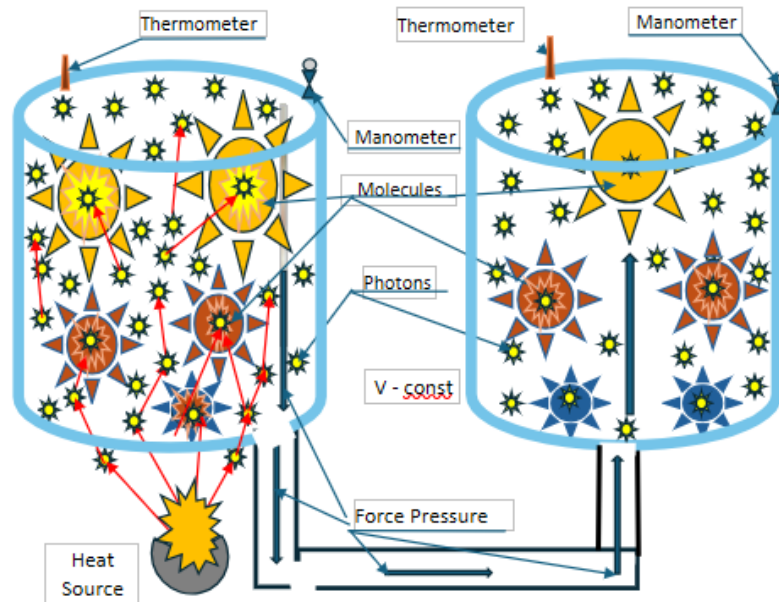


Figure 6. Illustrated diagram of the transformation of photon pressure force into pressure and temperature values.

10 Thermal Energetic Pipe

Closed systems with an outer materially impermeable shell are called thermal energy pipes with an outer shell. Such systems are able to resist the convection dissipation of thermal energy contained in the structural construction of gases and liquids. These can be various artificial products, such as pipes or containers for storing and transporting both thermal energy and its transportation over a distance. As a result of filling the energy pipe with additional EPs of thermal power units of heat carriers, the outer shell of the pipe creates a physical reaction of resistance. As a result of the centrifugal action of the EPs of thermal energy on the outer shell and the counteraction of the shell reaction of the centripetal direction, as a result of the interaction, pressure is created. The more EPs of thermal energy with the centrifugal direction are placed into the energy pipe, the greater the pressure itself will be. Therefore, the pressure depends on the content of the EPs of thermal energy, since the substance itself is energetically passive by its nature. It is known that pressure acts equally in all directions. This is explained by the fact that each force particle counteracts all particles in the system. Since their forces are added, together they create a collective combined force acting in the system. The outer shell of the energy pipe, being impermeable to material components such as liquids and gases, is easily permeable to thermal energy, because the energy conductor is energy itself. Due to the high energy content in the structural construction of the atomic and molecular structures of the energy pipe material, they retain high thermal conductivity. The energy conductivity of pipe materials can be different. But there are no energy-impermeable materials resistant to thermal conductivity since all materials contain thermal energy in their structure. When the system is heated from an external source, the number of volumetric units of EPs of thermal energy increases. EPs of thermal energy, being elastic by construction, are forcibly compressed, which leads to an increase in pressure.

In a state of motion, the energy pressure force in the energy pipe is divided into two components. The first of them provides interaction with the shell of the energy pipe. The other part is converted into a moving dynamic force which in practice is called the speed of movement. This process is described by Bernoulli's law. (Formula 3-6)

11 Thermal state

Thermal state is a temperature-volumetric state of matter characterized by the content of free EP of thermal energy with a constant or variable amount of magnetic energy EPs. This expressed by their quantitative value and multidirectional interaction forces in an isolated material-energy body. By their physical nature, these thermal energy EPs, being carriers of centrifugal force, are elementary structural units - building blocks of the volume of a material body. It is from them that the spatial volume of not only individual material bodies but also the entire universe is built. However, to ensure force balance, magnetic centripetal energy forces act in opposition to centrifugal forces. The interaction of multidirectional force flows on a constant basis ensures the stability of the structural construction of spatial material structures on a constant basis. The action of centrifugal forces of interaction prevents excessive compression of material structures under the action of powerful centripetal forces of gravitational attraction. This ensures the elasticity and flexibility of material objects. The action of the forces of magnetic energy of the centripetal direction prevents excessive expansion of material structures at ultra-high thermal indices and maintains the universe in constant volumes, as well as

preventing various kinds of deformations and distortions of the body of space itself. It is known that it is impossible to violate in nature as horizon as vertical, which is one of the convincing arguments for the inviolability of the structural construction of space. So that these are the EPs of heat in combination with the EPs of magnetic energy, filling all free space between material bodies to the smallest gap. Based on the law of conservation and transformation of energy, it is impossible to create an additional amount of energy, since space does not have additional resources for its creation. It is thanks to the process of energy regeneration described above that the stability of space is ensured. Space is a volumetric material-energy structure with act according with its own intellectual ability and control all processes in.

A prerequisite for changing the thermal state of a spatial unit and its volume in the direction of increase must be the presence of an external energy source. To increase the volume of the space of the Universe with a stable amount of centripetal magnetic energy, a necessary condition would be the creation of an additional amount of EPs of centrifugal energy. Where in the Universe is a stokehold, which would produce such a colossal amount of EP of heat from nothing? Does such a thing exist at all - the answer is unequivocally negative. This would contradict the law of conservation of energy. Without increasing the magnitude of the pressure force of the thermal energy of the centrifugal direction of action, the increase in the volume of the space of the Universe even by one cubic millimeter is impossible. This is evidenced by Formula 8 and a number of laws of thermodynamics. If several galaxies in space are moving in different directions, this in no way means a change in the volume of space. This is an objective natural process that in no way affects either the integrity of space or its volume. The Earth, together with other planetary systems, for example, perform an organized rotational motion without affecting the size of the solar system in any way. Similarly, if a certain number of galaxies in the space of the universe move in a certain direction, then after thousands, perhaps millions of years, moving along elliptical orbits, they will change the direction of their movement to the opposite. In this regard, it should be emphasized that each of the set of galaxies belongs to a single energy body of the space of the Universe. The space of the Universe is a dominant and self-sufficient structure; therefore, its intellectual support and gravitational force are enough to ensure the stable execution of all processes. It is nature!!!

The thermal state of a material body in the conditions of the Earth in some aspect is significantly different from the state in the conditions of open space. As previously noted, matter consists of substance and energy. All material objects, including stars and planets, and the Universe as a whole, are interconnected by forces of interaction and are clearly governed by the laws of nature, which are based on the intellectual properties of energy. The entire space between the star and planetary systems is filled with energy. This energy is the internal energy of the solar system, which serves to ensure the interaction of material bodies with the star, as well as between all other material bodies to ensure external connections between all separate material bodies.

All units of substance of the Universe is concentrated in material bodies and exist in a dense energy environment that it itself creates to ensure stable interaction with the environment. Part of the energy, unlike free, is bound to ensure internal connections in the structural construction of material bodies and provides all internal connections between its individual elements (Figure 7).

12 Forces of interaction of internal connections

The forces of interaction energy between individual components of matter at the microscopic level are the most powerful forces in nature. This is due to the high concentration of the EPs of energy of the force carriers in a microscopic volume. From a gaseous state, a methane molecule or a hydrogen atom may turn into an ice cube by cooling, but this will not lead to its destruction. This indicates that the energy of the internal bonds of atoms and molecules remains in their structure even at $T = 2.72\text{K}$ and below. To destroy the interatomic bonds of a methane molecule, (Figure 7) for example, it is necessary to heat it, spending an equivalent amount of thermal energy.

This is due to the fact that the absorption of a critical amount of EPs of energy - volume carriers will lead to an increase in the distances between atoms to the critical limit for a given molecule beyond which it collapses and ceases to exist. The amount of EPs of thermal energy that was involved in the construction of the internal molecular structure is radiated into the environment and converted into free one. However, heating an individual atom even to ultra-high temperatures does not lead to the destruction of its structure. On the contrary, this provides atoms with a special form of existence in the form of plasma. Plasma is a special state of existence of matter - the mother state that provides material components with recovery when damaged and regeneration their energy state. Inside atoms there is actually a considerable number of microscopically small material and energy components. The nuclei of atoms are to be reliably protected from external influences by a dense multilayer energy shell, which is extremely difficult to destroy. This has been proven by scientific experiments. At present, only the nuclei of several elements are subject to scientific research for destruction and their synthesis. Artificial synthesis of helium nuclei is becoming an engineering practice. But under what conditions is the synthesis of gold, iron or titanium nuclei possible - a question of the future.

According to Charles's Law (Formula 6). at a temperature of $T = 0$ matter should have not existed. However, temperature itself, being a conditional subjective factor, just a figure does not in any way affect the thermal state of material bodies. At a temperature of $T = 0\text{C}$, water freezes, which indicates the fictitiousness of the temperature gradation of the thermal state of material bodies. The temperature, $T = 0\text{K}$, should mean the complete absence of thermal energy in the internal structure of atoms in general. This would lead to the complete absence of the real spatial volume of matter. The volume of the body would decrease to under its critical value. This would lead to the loss of the material thermal state by the atom, below which matter could not exist. But despite mathematical reservations in open space there are countless material units that are in a surprisingly stable state. It is obvious that even in a state close to absolute zero, the material is kept intact while preserving its real volume, which can be observed. This is evidence of the imperfection of human knowledge, and in no way indicates the imperfection of the intelligence of the Universe. This indicates the real thermal state of matter and the full preservation of the amount of EPs of thermal energy in the composition of molecules and atoms. It is the presence of EPs of thermal energy of internal bonds that provides the material body with the minimum necessary thermal and volumetric state below which the existence of *Materia* would be impossible. The force of the centrifugal direction of action of EPs of thermal energy is being involved in the internal structure of atoms

Hypothesis: Both the heat state and the temperature in open space except for material components that are present in the environment around do not exist. The thermal characteristics, heat state are valid exclusively for volumetric material bodies.

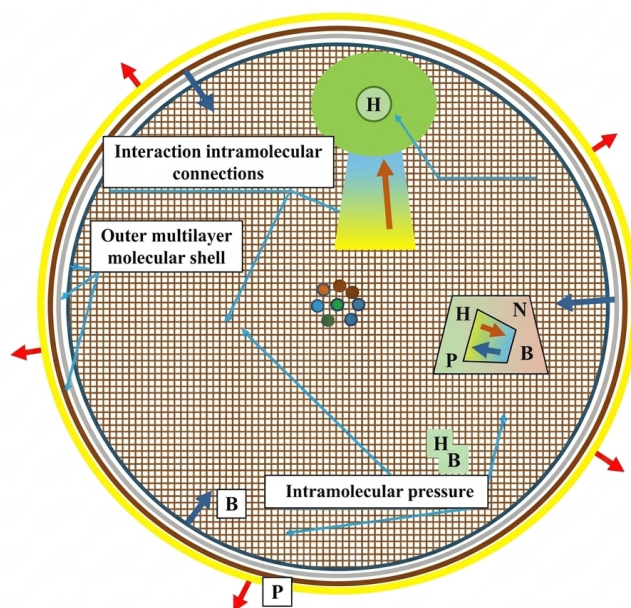


Figure 7. Illustrated diagram of the construction of internal bonds of an isolated energetic body of a methane molecule. **B** – Centripetal magnetic energy force action direction. **P** – Centrifugal thermal energy force action direction.

This indicates the real thermal state of matter and the all necessary preservation of the certain amount of EPs of thermal energy in the composition of molecules and atoms. It is the presence of EPs of thermal energy of internal bonds that provides the material body with the minimum necessary thermal and volumetric state below which the existence of matter would be impossible. The force of the centrifugal direction of action of EPs of thermal energy is involved in the internal structure of atoms, molecules, as well as in the crystalline intermolecular structures of material bodies, and is critically necessary in their construction. Beyond the critical limit of the content of bound internal energy, the material object would cease to exist. This would have led to a change in the forms of existence of matter, and would be, and to different energy states. But it should have involved the restructuring of the construction of the energy state of matter - different from the thermal one. However, at present, the prerequisites for the existence of matter outside the thermal state are not observed.

According to the existing theory, the existence of the thermal paradox is explained by the presence in space of a hypothetical relict radiation whose temperature is $T = 2.72$ K, which is considered the lowest temperature of space. That is, it is "... the Cosmic Microwave Background (CMB) what means the cooled remnant of the first light that could ever travel freely throughout the Universe. This 'fossil' radiation, the furthest that any telescope can see, was released soon after the Big Bang." EESA: (2026)

But radiation is not a physical state of energy or moreover *Materia* existence. This is only the name of one of the stages of the process of energy transfer in nature. The thermal state is inherent exclusively to material bodies. Energy can heat a material body by performing work to increase its volume. However, energy cannot heat radiation, which is energy, since energy flows do not have a thermal state. In outer space, there is more than enough thermal radiation flow. But space itself is cold. But space is cold only because there are practically no material bodies in it. It is thanks to this phenomenon that solar radiation heats the earth, leaving outer space outside the thermal state. Moreover, all radiation exists outside of time, really existing only at the moment of transmission. In the next moment, due to the continuity of radiation, the processes will be absolutely different. Nature has no basket for storing energy. Accordingly, the thermal state at $T = 2.72$ K can be theoretically precisely the thermal state of individual atoms in outer space at which they are still able to radiate thermal energy. *No radiation beyond the material components in space can have a thermal state.*

Thermal radiation of a material body at a critical temperature is not relict but exists in real time. At this temperature might be, the material body loses the last number of free EPs of thermal energy. This will correspond to the smallest possible volume of the body. But even in such a state, the material body is held together by interatomic and intermolecular internal bonds that have the strength to perform work. For a methane molecule (Figure 7) at such temperatures, the aggregate state will change, but its molecule will remain intact due to the action of internal bonds provided by the interaction between EPs of thermal and magnetic energy. In a molecule in a thermal state at $T = 2.72$ K, the highest concentration of EPs of centripetal magnetic energy will be present. The indicator of the minimum thermal state will be variable for different types of material bodies. But in a thermal state at a temperature of

$$T = 0$$

K, the existence of a material state of the body mathematically is denied.

13 Conclusion

Based on the theory of a single material-energy body, the topic of philosophical rethinking of the physical nature of matter, especially its components - matter and energy, is extremely relevant. The universe united by a single space is a self-sufficient extremely active intellectual-informational structure, which can only be conditionally divided into separate zones of force and organizational influence of energy.

Thermal energy, along with electromagnetic energy, is one of the most common factors of interaction in nature. Filling all the space free from material bodies, the space between atomic components, energy provides the power and intellectual-organizational support of the entire material world.

From the point of view of a single energy body of the space of the universe and the unity of energy based on the law of its conservation, the contradictions of the inconsistency of the laws of electrodynamics and magnetism with the laws of classical physics that have existed for a century, and a half are considered insignificant. The laws of motion of the magnetic dynamic flow of electric current are ideally described by the Bernoulli-Euler laws the same way as processes of thermodynamic flows. It is necessary to attribute speed of energetic flows to the category of dynamic moving process the active component of which is Newtonian force – the universal unit of the Universe.

Intellectual and informational provision of space provided by light (not only) occupies a special place in the processes of interaction. It is an extremely important factor due to which the error-free continuous functioning of all interaction processes is ensured. Being a carrier of information and one of the fillers of space, light in its physical properties and principles of interaction is fundamentally different from all known states of existence of material components. The speed of information propagation by means of electromagnetic impulses is the highest and has no analogues in nature. According to the cause-and-effect relationship, this is necessary precisely in the aspect that the informational provision of the process must precede the process itself. This factor puts the state of information transmission in the category of a special state of existence of energy as a separate component of matter. However, the speed of transmission by means of force has nothing to do with the speed of movement in terms of the physical movement of energy flows. EC energy, due to the available power, performs the work of transmitting information by means of light moving at speeds of various magnitudes, sometimes even in state of rest. J. Maxwell predicted the pressure of light. But at that time there was no correct understanding of the role of force and pressure in the processes of interaction with electromagnetism inclusive.

The transmission of information by optical telegraph by means of light has existed since the time of Napoleon. But the transmission of information by means of electromagnetic pulses was introduced by mankind in practice in 1844 from the moment when the first phrase “What hath God wrought!” (2022), marked the beginning of the era of the algorithm of communication with the intelligence of nature. But until now, the intelligence of “Homo Sapiens” does not recognize the existence of the intelligence of nature and the informational space thanks to which this gift of God became a reality. Recognition of the process of transmitting and distributing information by means of light and electromagnetic pulses as a separate state of existence of matter is a necessity. Light energy and electromagnetic pulses are a versatile expression of a single essence that is not limited to these two. According to Maxwell, light is a wide range of electromagnetic pulses that are provided in the process of transmitting electromagnetic energy of both the magnetic and thermal spectrum. It is the EPs of energy with their force that are capable of providing power support for electromagnetic pulses. At the same time, in this way, a unique process of spreading information pulses simultaneously in all directions of space is provided. It becomes clear how functionally and intellectually perfect what “God wrought!” is, and how wide intellectual possibilities this “NO IDEA” space has given humanity. In the physical plan, the transmission process occurs due to the transmission of information pulses by means of Newtonian force, creating pressure that has an exceptional ability to act equally and simultaneously in all directions. This confirms the universality and exclusivity of the information support of interaction processes in nature by means of the force of energy pressure, which refers it to a special form of existence of Materia – “Materia Intellectualis” which is the basis of the Subjective reality of the Universe.

It is obvious that the subjective reality created by humanity on Earth and its supremacy in space, which is obvious, puts subjective reality at the top of the reality of the entire Universe. The Universe, being a highly organized structure with a high level of intellectual support, has all the signs of a clearly controlled highly organized structure.

Against the background of scientific achievements of the last decades, it becomes obvious what a colossal amount of energy space possesses. But despite all its power, this energy with its powerful force does not act destructively. No matter how vulnerable, fragile the life of an individual biological organism may be, the surrounding space itself from year to year independently creates and constantly supports all the possibilities for the safe existence of life processes as a whole. All this is perceived as if it should be so. But neither on the Moon, nor on Mars, nor Venus, nor in any other similar place are there such conditions.

Oxygen independently, without outside intervention, supports combustion, creating comfort in life. Water, if necessary, extinguishes this combustion. A pile of metal wrapped in a plastic shell called a computer solves a colossal number of extremely complex problems, using a meager amount of energy for this...

However, for Human himself, even the languages of primates, or other life forms that exist in parallel with the existence of “Homo Sapiens”, are completely inaccessible. Not to mention hieroglyphs, or some other texts that have come down to us from the distant past. Therefore, the around life exists independently, without any support from the “Human Genius”. It is obvious that human geniuses are absolutely useless for them.

All the processes around are too complex to be performed without constant external intellectual and physical support. Humans are simply unable to see this, just as they are unable to see the chemical processes that are constantly occurring around them. This is intellectual blindness. So, if Humans are unable to communicate even with animals with whom they have lived in the same environment for millennia, then the existence of communication with a higher intelligence... is in great question.

The law of conservation of energy described by Bernoulli, D. (March 2026) and perfected by Euler is one of the fundamental laws of physics. Newton's force is a key physical unit in the interpretation of all physical processes - the universal unit of space of the universe. The theory of relativity is built on a hypothetical theory of singularity that excludes the operation of the laws of physics. However, if the laws of physics in the theory of singularity and, accordingly, in the theory of relativity do not operate, this puts this theory outside physics by definition. Similar theoretical developments are permissible in mathematics, in particular in geometry, but they contradict the foundations of physics, which is absolutely illogical.



Figure 8. Reality Structure

One of the indicators of formula $E = mc^2$ is the physical quantity of the speed of light. The concept of speed as a physical category is a hypothetical unit that does not exist in nature and is only a tool for measuring the amount of motion without taking into account the force component. In the physical context, which is especially important, speed is a dynamic moving force, or the process of moving an energy force flow. Moreover, there is no certain constant in nature that would determine the amount of motion as a constant value, as suggested in the above formula. So, speed is a variable value, the value of which depends on the magnitude and amount of force and the direction of its action. The speed of information transmission is the speed of transmission of power of information pulses. This process does not involve motion as a physical movement of energy flows at all. The speed of motion and the transmission frequency are completely different physical categories. The frequency of pulse transmission cannot be measured in km/s. From this it follows that the value of the speed of light is an unintentional falsification. Therefore, the energy formula $E = mc^2$ does not meet the criteria of truth. Energy is a process of interaction of multidirectional forces, with informational intellectual support is the basis of the functioning of the space of the Universe. Geometry, which the theory of relativity appeals to, can act as a tool for scientific physical research, provided that the theory corresponds to philosophy and the laws of physics. Physics, outside the laws of physics, loses its scientific meaning.

Energy carriers are EP of forces. These are massless EP carriers of the force of interaction whose function is to ensure the intellectual and functional ability of the space of the Universe. Part of the EP of force, both magnetic and thermal, are bounds in the construction of internal structural bonds in the structural construction of atoms, molecules, multimolecular structures and structures of individual material bodies. This part of the EPs is not able to leave the structure in which it is involved until this structure is destroyed. The other part of the energy is EPs of forces that are free and not involved in the structural bonds of the construction of material objects. It is this part of the EPs of energy that creates energy flows, which in the process of interaction with each other create atmospheric and solar winds, water currents, electromagnetic flows of electric current and other natural phenomena. Being massless, EPs of energy, unlike EP of substance, are carriers of weight. In the conditions of the Earth, the weight of EP of energy is the magnitude of the force with which the EP of force attracts the material body of the Earth to itself. That is why on the Moon this force is negligible. In open space, the interaction of the centripetal and centrifugal forces of different directions creates a state of weightlessness. In this regard it is not clear what mass is meant in the above energy formula.

There is also no proven case that would confirm the deformation of space. Space, being the container of everything, has a colossal power and intellectual resource sufficient for the full functioning of all processes, both at the level of elementary particles and at the level of interaction between galaxies colossal in size. The concept of interaction in space without force interaction does not meet the main criterion of scientific research - the criterion of truth.

It is well known that radio signals from the Earth find and successfully contact receivers installed in artificial devices located in space on the very outskirts of the solar system at a distance of billions of kilometers. Radio signals from devices in response successfully send users highly

intelligent scientific information or photographs from the surface of Mars or from the surrounding space. This is a direct evidence factor of the existence of a high level of intelligence in space, as well as a high level of its own informational support. The ability of space to perceive, deliver and process information is obvious. If space did not have its own intelligence, all these operations would be simply impossible.

Information, although transmitted by force, is not by its nature a carrier of force, is not a force structure. This is intelligence - a special form of existence of matter which, together with energy, fills the entire space. Human is not able to see the process of information transmission physically, as well as forces, because limitations, partial intellectual blindness do not allow this. But without intellectual informational support of space, life on Earth would not exist at all. To assume that the entire space of the Universe serves only the information flows of terrestrial civilization is incompatible with the philosophy of scientific research.

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